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LAST REVIEW: 20. 09. 2023

In DME, we understand that in order to mould different plastic parts, you need to build and maintain not only simple mould designs, but often those with more complex or unique internal construction and mechanical layout.

We have built a broad range of high precision components for this. Among the core elements, you will find ejectors of various types, guiding elements, mould cooling components, screws, locating rings, springs, date stamps, pre-engineered components, and many others, available in a variety of ISO and DIN standards.

DME stands as your reliable partner, offering expertise, wide portfolio of standard high precision components, fast deliveries, and excellent quality. Next to standard range, we are able to provide customized components and engineered solutions.

Our experts are always ready to support you in choosing the right components and solutions for your project.

DME has been in business for almost 80 years, and you can rely on our industry experience.

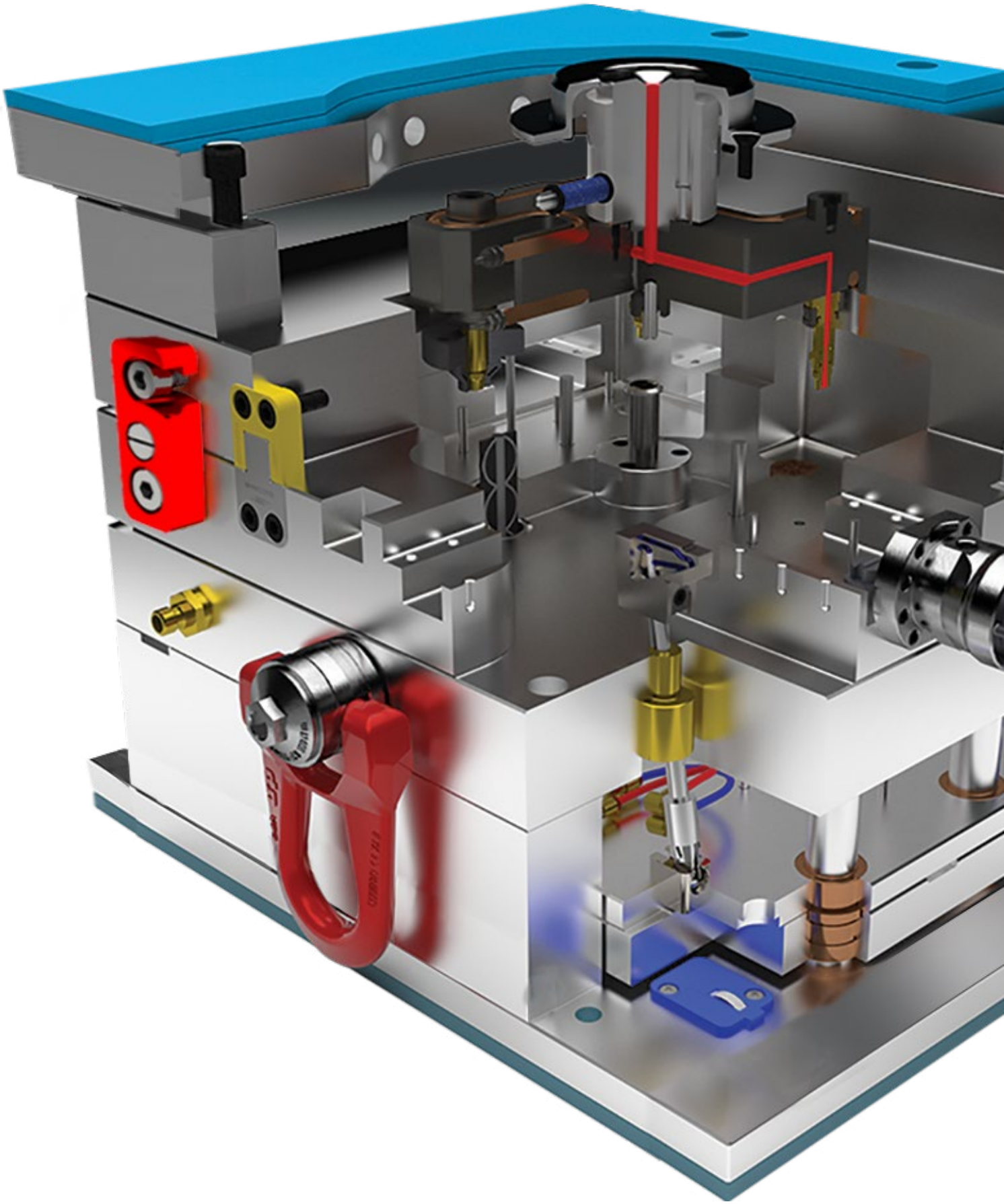
Imagine the future where industries work together committed to preserve resources, reduce waste and create high value products with greater longevity...

In DME we believe in building the Sustainable Future through Innovation. We work with our partners daily to prove that Less is More: reducing energy consumption, bringing down material waste and optimizing the manufacturing process while increasing productivity and output.

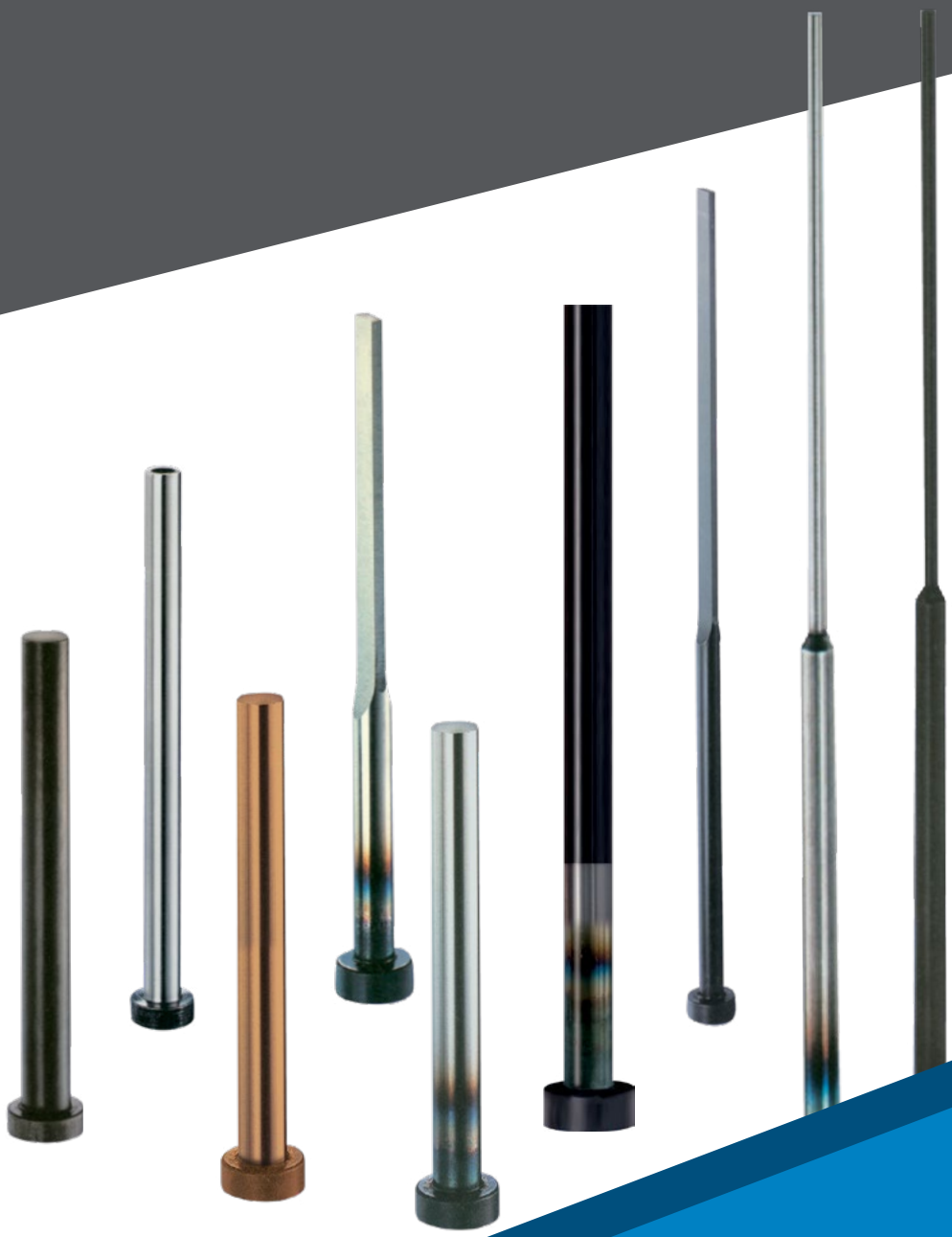
The Future is Ours, the future is DME

DME stands for:

- *Highest quality of operational excellence*
- *Leading product development and testing options*
- *State-of-the-art European manufacturing facilities*
- *All major mould base standards available in over 25 steel grades*
- *Certified European steel*
- *Special machining in high precision as per customer specifications*
- *Widest off-shelf range of standard mould components in the industry*
- *Innovative digital platform: eSTORE and 3D libraries*



DME



MOULD EJECTION

CAD reference point

CONTENT

Ejector Pins

Ejector Sleeves

Inch Ejector Pins

Technical Data

CAD reference point

C
TC
CH
CH-DLC
FK
FW

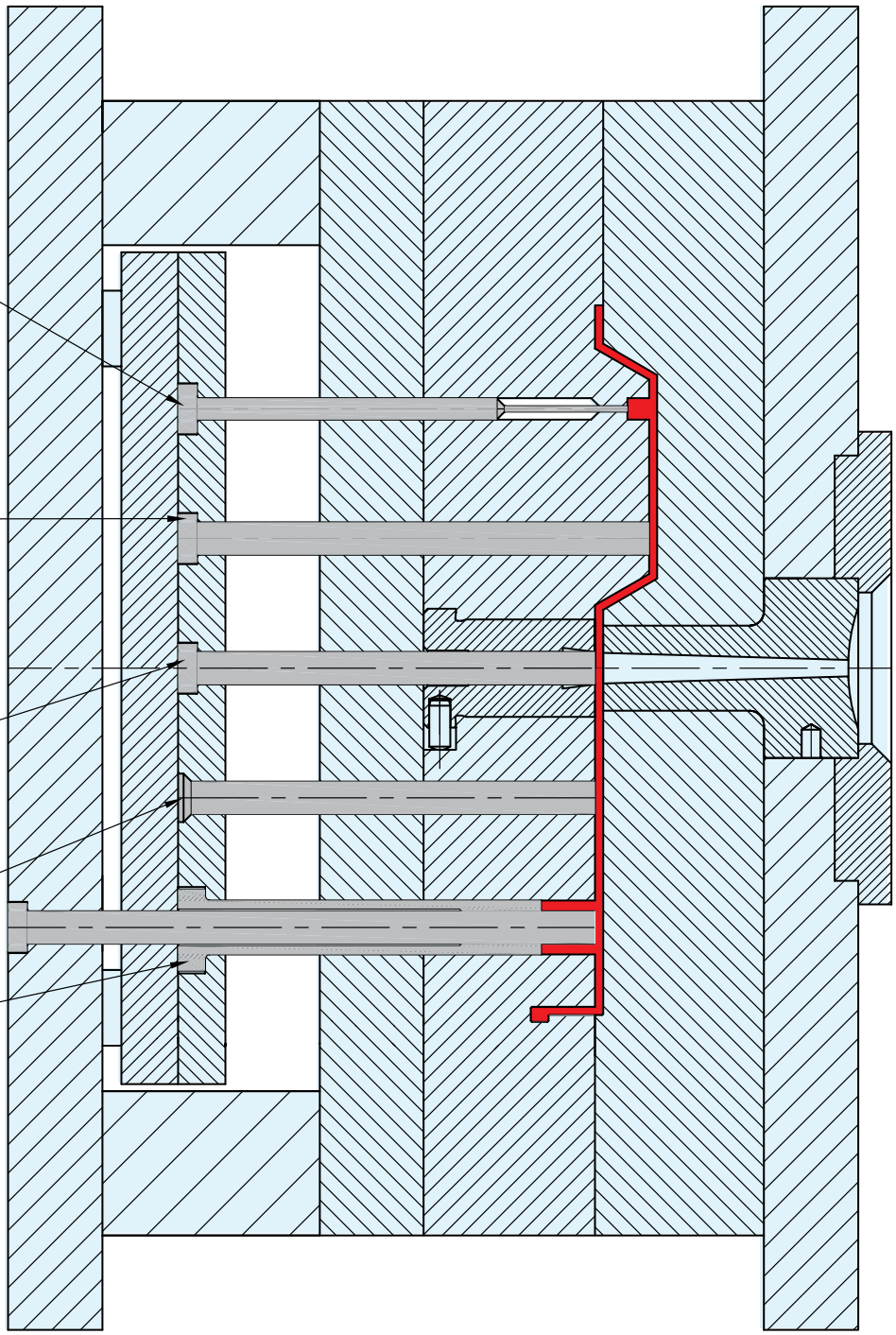
A
EOA
TA
AH
A-EX
C-EX
THX
AH DLC
ERF

AHX
PCM
CX

D

S
KS
S*

AW



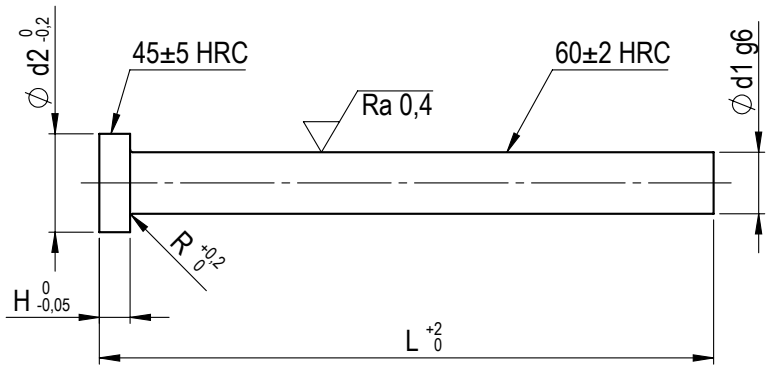
CAD reference point

EJECTOR PINS

During plastic injection moulding and die casting operations, no other single mould or die component takes the beating ejector pins take. They're always on the move. Always fighting friction. Thermal stress. Mechanical stress. And therefore, they're always in danger of galling, seizing, bending or breaking if they're not made of high quality steel with uniform strength - if they're not hot-forged properly - or if they're not nitrided to exact specifications for case depth and hardness. Heads annealed for easy machining.

EJECTOR PINS

TYPE AH - HARDENED **EAH28**



Standard: DIN1530 / ISO6751
Mat.: 1.2210 (60 ±2 HRC)
Max. Temp: 250 °C

Order example for ejector with d1 = **0,4 mm** and L= **100 mm: REF*LLLL** (L= 100mm / **0100**) **EAH2800-400100**

REF	d1	d2	H	R	L														
					40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000
EAH2800-40LLLL	0,4	2,5	1,2	0,2					•										
EAH2800-50LLLL	0,5	2,5	1,2	0,2					•										
EAH2800-60LLLL	0,6	2,5	1,2	0,2					•										
EAH2800-70LLLL	0,7	2,5	1,2	0,2					•										
EAH2800-80LLLL	0,8	2,5	1,2	0,2	•	•	•	•	•	•	•	•							
EAH2800-90LLLL	0,9	2,5	1,2	0,2					•			•							
EAH2801-00LLLL	1,0	2,5	1,2	0,2	•	•	•	•	•	•	•	•							
EAH2801-10LLLL	1,1	2,5	1,2	0,2	•	•	•	•	•	•	•	•							
EAH2801-20LLLL	1,2	2,5	1,2	0,2	•	•	•	•	•	•	•	•							
EAH2801-30LLLL	1,3	3,0	1,5	0,2	•	•	•	•	•	•	•	•							
EAH2801-40LLLL	1,4	3,0	1,5	0,2	•	•	•	•	•	•	•	•							
EAH2801-50LLLL	1,5	3,0	1,5	0,2	•	•	•	•	•	•	•	•	•						
EAH2801-60LLLL	1,6	3,0	1,5	0,2	•	•	•	•	•	•	•	•							
EAH2801-70LLLL	1,7	3,0	1,5	0,2	•	•	•	•	•	•	•	•							
EAH2801-80LLLL	1,8	3,0	1,5	0,2	•	•	•	•	•	•	•	•							
EAH2801-90LLLL	1,9	3,0	1,5	0,2	•	•	•	•	•	•	•	•							
EAH2802-00LLLL	2,0	4,0	2,0	0,2	•	•	•	•	•	•	•	•	•	•					
EAH2802-10LLLL	2,1	4,0	2,0	0,2						•	•	•		•					
EAH2802-20LLLL	2,2	4,0	2,0	0,2				•	•	•	•	•	•	•					
EAH2802-30LLLL	2,3	4,0	2,0	0,2						•		•		•					
EAH2802-40LLLL	2,4	4,0	2,0	0,2						•		•		•					
EAH2802-50LLLL	2,5	5,0	2,0	0,3	•	•	•	•	•	•	•	•	•	•					
EAH2802-60LLLL	2,6	5,0	2,0	0,3						•		•		•					
EAH2802-70LLLL	2,7	5,0	2,0	0,3				•	•	•	•	•	•	•					
EAH2802-80LLLL	2,8	5,0	2,0	0,3							•		•		•				
EAH2802-90LLLL	2,9	5,0	2,0	0,3							•		•		•				
EAH2803-00LLLL	3,0	6,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•	•	•			
EAH2803-10LLLL	3,1	6,0	3,0	0,3						•	•	•		•					
EAH2803-20LLLL	3,2	6,0	3,0	0,3				•	•	•	•	•	•	•	•				
EAH2803-30LLLL	3,3	6,0	3,0	0,3							•		•		•				
EAH2803-40LLLL	3,4	6,0	3,0	0,3							•		•		•				
EAH2803-50LLLL	3,5	7,0	3,0	0,3	•			•	•	•	•	•	•	•	•				
EAH2803-60LLLL	3,6	7,0	3,0	0,3							•		•		•				
EAH2803-70LLLL	3,7	7,0	3,0	0,3				•	•	•	•	•	•	•	•				
EAH2803-80LLLL	3,8	7,0	3,0	0,3							•		•		•				
EAH2803-90LLLL	3,9	7,0	3,0	0,3							•		•		•				
EAH2804-00LLLL	4,0	8,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•	•	•			
EAH2804-10LLLL	4,1	8,0	3,0	0,3						•	•	•	•	•					
EAH2804-20LLLL	4,2	8,0	3,0	0,3			•	•	•	•	•	•	•	•	•				
EAH2804-30LLLL	4,3	8,0	3,0	0,3							•		•		•				
EAH2804-40LLLL	4,4	8,0	3,0	0,3							•		•		•				
EAH2804-50LLLL	4,5	8,0	3,0	0,3				•	•	•	•	•	•	•	•				
EAH2804-60LLLL	4,6	8,0	3,0	0,3							•		•		•				
EAH2804-70LLLL	4,7	8,0	3,0	0,3				•	•	•	•	•	•	•	•				
EAH2804-80LLLL	4,8	8,0	3,0	0,3							•		•		•				
EAH2804-90LLLL	4,9	8,0	3,0	0,3							•		•		•				

CAD reference point

TYPE AH - HARDENED

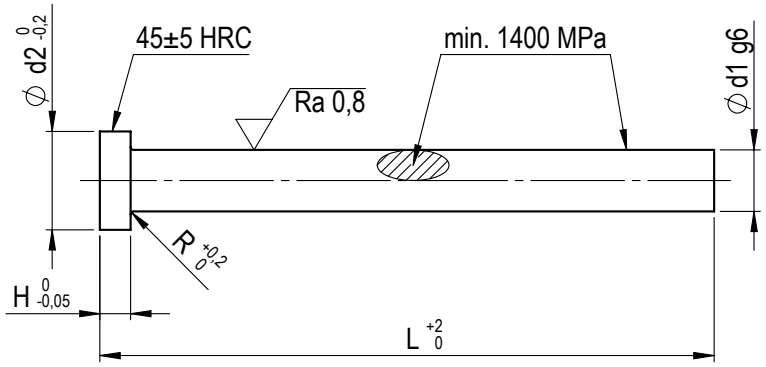
EAH28

REF	d1	d2	H	R	L													
					40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000
EAH2805-00LLLL	5,0	10,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
EAH2805-10LLLL	5,1	10,0	3,0	0,3							•	•	•		•				
EAH2805-20LLLL	5,2	10,0	3,0	0,3				•	•	•	•	•	•	•	•	•			
EAH2805-30LLLL	5,3	10,0	3,0	0,3							•		•		•				
EAH2805-40LLLL	5,4	10,0	3,0	0,3							•		•		•				
EAH2805-50LLLL	5,5	10,0	3,0	0,3					•	•	•	•	•	•	•	•			
EAH2805-60LLLL	5,6	10,0	3,0	0,3							•		•		•				
EAH2805-80LLLL	5,8	10,0	3,0	0,3							•		•		•				
EAH2806-00LLLL	6,0	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
EAH2806-10LLLL	6,1	12,0	5,0	0,5							•	•	•		•				
EAH2806-20LLLL	6,2	12,0	5,0	0,5				•	•	•	•	•	•	•	•	•	•		
EAH2806-30LLLL	6,3	12,0	5,0	0,5							•		•		•				
EAH2806-40LLLL	6,4	12,0	5,0	0,5							•		•		•				
EAH2806-50LLLL	6,5	12,0	5,0	0,5					•	•	•	•	•	•	•	•			
EAH2806-60LLLL	6,6	12,0	5,0	0,5							•		•		•				
EAH2806-80LLLL	6,8	12,0	5,0	0,5							•		•		•				
EAH2807-00LLLL	7,0	12,0	5,0	0,5					•	•	•	•	•	•	•	•	•		
EAH2807-20LLLL	7,2	12,0	5,0	0,5								•	•	•					
EAH2807-50LLLL	7,5	12,0	5,0	0,5					•	•	•	•	•	•	•				
EAH2808-00LLLL	8,0	14,0	5,0	0,5	•		•	•	•	•	•	•	•	•	•	•	•	•	•
EAH2808-10LLLL	8,1	14,0	5,0	0,5								•							
EAH2808-20LLLL	8,2	14,0	5,0	0,5			•	•	•	•	•	•	•	•	•	•	•	•	
EAH2808-50LLLL	8,5	14,0	5,0	0,5				•	•	•	•	•	•	•	•	•	•		
EAH2809-00LLLL	9,0	16,0	5,0	0,5					•	•	•	•	•	•	•	•	•		
EAH2810-00LLLL	10,0	16,0	5,0	0,5	•			•	•	•	•	•	•	•	•	•	•	•	•
EAH2810-10LLLL	10,1	16,0	5,0	0,5								•							
EAH2810-20LLLL	10,2	16,0	5,0	0,5				•	•	•	•	•	•	•	•	•	•		
EAH2810-50LLLL	10,5	16,0	5,0	0,5					•	•	•	•	•	•	•	•	•		
EAH2811-00LLLL	11,0	16,0	5,0	0,5					•	•	•	•	•	•	•	•	•		
EAH2812-00LLLL	12,0	18,0	7,0	0,8	•			•	•	•	•	•	•	•	•	•	•	•	•
EAH2812-10LLLL	12,1	18,0	7,0	0,8								•							
EAH2812-20LLLL	12,2	18,0	7,0	0,8					•	•	•	•	•	•	•	•			
EAH2812-50LLLL	12,5	18,0	7,0	0,8					•	•	•	•	•	•	•	•	•		
EAH2814-00LLLL	14,0	22,0	7,0	0,8				•	•	•	•	•	•	•	•	•	•	•	•
EAH2816-00LLLL	16,0	22,0	7,0	0,8				•	•	•	•	•	•	•	•	•	•	•	•
EAH2818-00LLLL	18,0	24,0	7,0	0,8					•	•	•	•	•	•	•	•	•		
EAH2820-00LLLL	20,0	26,0	8,0	1,0					•	•	•	•	•	•	•	•	•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TYPE AHX - PRE-HARDENED **ERA05**



Standard: DIN1530 / ISO6751
Mat.: 1.2344, pre-hardened
Max. Temp: 500-550 °C

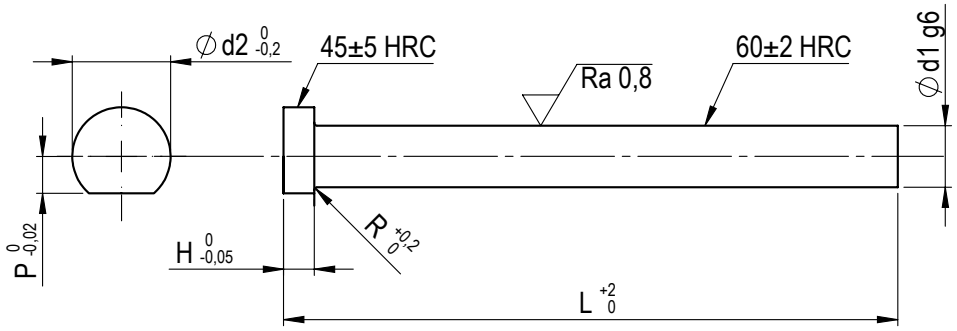
Order example for ejector with d1 = **1,0 mm** and L= **100 mm: REF*LLLL** (L= 100mm / **0100**) **ERA0501-000100**

REF	d1	d2	H	R	L														
					60	63	80	100	125	160	200	250	315	350	400	500	630	800	1000
ERA0501-00LLLL	1,0	2,5	1,2	0,2				•	•	•	•								
ERA0501-50LLLL	1,5	3,0	1,5	0,2				•	•	•	•								
ERA0502-00LLLL	2,0	4,0	2,0	0,2			•	•	•	•	•	•	•						
ERA0502-20LLLL	2,2	4,0	2,0	0,2				•	•	•	•								
ERA0502-50LLLL	2,5	5,0	2,0	0,3				•	•	•	•	•	•						
ERA0502-70LLLL	2,7	5,0	2,0	0,3				•	•	•	•	•	•						
ERA0503-00LLLL	3,0	6,0	3,0	0,3		•	•	•	•	•	•	•	•		•	•			
ERA0503-20LLLL	3,2	6,0	3,0	0,3				•	•	•	•	•	•		•				
ERA0503-50LLLL	3,5	7,0	3,0	0,3				•	•	•	•	•	•		•	•			
ERA0503-70LLLL	3,7	7,0	3,0	0,3				•	•	•	•	•	•		•				
ERA0504-00LLLL	4,0	8,0	3,0	0,3	•	•	•	•	•	•	•	•	•		•	•	•		
ERA0504-20LLLL	4,2	8,0	3,0	0,3	•	•	•	•	•	•	•	•	•		•				
ERA0504-50LLLL	4,5	8,0	3,0	0,3				•	•	•	•	•	•		•				
ERA0505-00LLLL	5,0	10,0	3,0	0,3			•	•	•	•	•	•	•		•	•	•	•	
ERA0505-20LLLL	5,2	10,0	3,0	0,3				•	•	•	•	•	•		•	•			
ERA0505-50LLLL	5,5	10,0	3,0	0,3				•	•	•	•	•	•		•	•			
ERA0506-00LLLL	6,0	12,0	5,0	0,5			•	•	•	•	•	•	•	•	•	•	•	•	
ERA0506-20LLLL	6,2	12,0	5,0	0,5				•	•	•	•	•	•		•	•	•		
ERA0506-50LLLL	6,5	12,0	5,0	0,5				•	•	•	•	•	•		•	•			
ERA0507-00LLLL	7,0	12,0	5,0	0,5				•	•	•	•	•	•		•	•	•		
ERA0507-50LLLL	7,5	12,0	5,0	0,5				•	•	•	•	•	•		•	•			
ERA0508-00LLLL	8,0	14,0	5,0	0,5				•	•	•	•	•	•		•	•	•	•	•
ERA0508-20LLLL	8,2	14,0	5,0	0,5				•	•	•	•	•	•		•	•	•	•	
ERA0508-50LLLL	8,5	14,0	5,0	0,5				•	•	•	•	•	•		•	•	•		
ERA0509-00LLLL	9,0	14,0	5,0	0,5				•	•	•	•	•	•		•	•	•		
ERA0509-50LLLL	9,5	14,0	5,0	0,5				•	•	•	•	•	•		•	•			
ERA0510-00LLLL	10,0	16,0	5,0	0,5				•	•	•	•	•	•		•	•	•	•	•
ERA0510-20LLLL	10,2	16,0	5,0	0,5				•	•	•	•	•	•		•	•	•	•	
ERA0510-50LLLL	10,5	16,0	5,0	0,5				•	•	•	•	•	•		•	•	•		
ERA0511-00LLLL	11,0	16,0	5,0	0,5				•	•	•	•	•	•		•	•	•		
ERA0512-00LLLL	12,0	18,0	7,0	0,8				•	•	•	•	•	•		•	•	•	•	•
ERA0512-20LLLL	12,2	18,0	7,0	0,8				•	•	•	•	•	•		•	•	•	•	
ERA0512-50LLLL	12,5	18,0	7,0	0,8				•	•	•	•	•	•		•	•	•	•	
ERA0514-00LLLL	14,0	22,0	7,0	0,8				•	•	•	•	•	•		•	•	•	•	•
ERA0516-00LLLL	16,0	22,0	7,0	0,8				•	•	•	•	•	•		•	•	•	•	•
ERA0518-00LLLL	18,0	24,0	7,0	0,8				•	•	•	•	•	•		•	•	•	•	•
ERA0520-00LLLL	20,0	26,0	8,0	1,0				•	•	•	•	•	•		•	•	•	•	•
ERA0525-00LLLL	25,0	32,0	10,0	1,0						•	•	•	•		•	•	•	•	•
ERA0532-00LLLL	32,0	40,0	10,0	1,0							•	•	•		•	•	•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

EJECTOR PIN TYPE AH WITH ANTI-TWIST — EAV



Standard: DIN1530 / ISO6751
Mat.: 1.2210 (60 ±2 HRC)
Max. Temp: 250 °C
Type AH

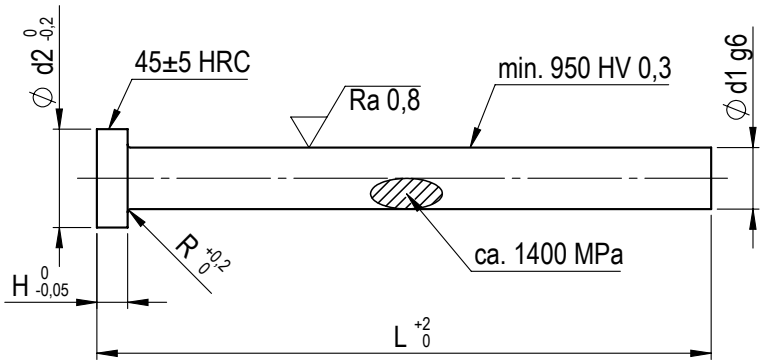
Order example for ejector with d1 = **2,0 mm** and L= **100 mm: REF*LLLL** (L= 100mm / **0100**) **EAV02-000100**

REF	d1	d2	P	H	R	L					
						100	125	160	200	250	400
EAV02-00LLLL	2,0	4,0	1,50	2,0	0,2	•	•	•	•	•	
EAV02-20LLLL	2,2	4,0	1,60	2,0	0,2	•		•		•	
EAV02-50LLLL	2,5	5,0	1,75	2,0	0,3	•		•		•	
EAV02-70LLLL	2,7	5,0	1,85	2,0	0,3	•		•		•	
EAV03-00LLLL	3,0	6,0	2,00	3,0	0,3	•	•	•	•	•	•
EAV03-20LLLL	3,2	6,0	2,10	3,0	0,3	•		•		•	
EAV03-50LLLL	3,5	7,0	2,25	3,0	0,3	•		•		•	
EAV03-70LLLL	3,7	7,0	2,35	3,0	0,3	•		•		•	
EAV04-00LLLL	4,0	8,0	2,50	3,0	0,3	•	•	•	•	•	•
EAV04-20LLLL	4,2	8,0	2,60	3,0	0,3	•		•		•	
EAV04-50LLLL	4,5	8,0	2,75	3,0	0,3	•		•		•	
EAV05-00LLLL	5,0	10,0	3,50	3,0	0,3	•	•	•	•	•	•
EAV05-20LLLL	5,2	10,0	3,60	3,0	0,3	•		•		•	
EAV05-50LLLL	5,5	10,0	3,75	3,0	0,3	•		•		•	
EAV06-00LLLL	6,0	12,0	4,00	5,0	0,5	•	•	•	•	•	•
EAV06-20LLLL	6,2	12,0	4,10	5,0	0,5	•		•		•	
EAV06-50LLLL	6,5	12,0	4,25	5,0	0,5	•		•		•	
EAV07-00LLLL	7,0	12,0	4,50	5,0	0,5	•		•		•	
EAV08-00LLLL	8,0	14,0	5,00	5,0	0,5	•	•	•	•	•	•
EAV08-50LLLL	8,5	14,0	5,25	5,0	0,5		•			•	
EAV09-00LLLL	9,0	14,0	5,50	5,0	0,5		•			•	
EAV10-00LLLL	10,0	16,0	6,00	5,0	0,5	•	•	•	•	•	•
EAV12-00LLLL	12,0	18,0	7,00	7,0	0,8	•	•	•	•	•	•
EAV14-00LLLL	14,0	22,0	8,50	7,0	0,8	•		•		•	•
EAV16-00LLLL	16,0	22,0	9,50	7,0	0,8	•		•		•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TYPE EOA - PLASMA NITRIDED **EOA05**



Standard: DIN1530/ISO6751
Mat.: WAS (~1.2344), pre-hardened
Max. Temp: 500-550 °C

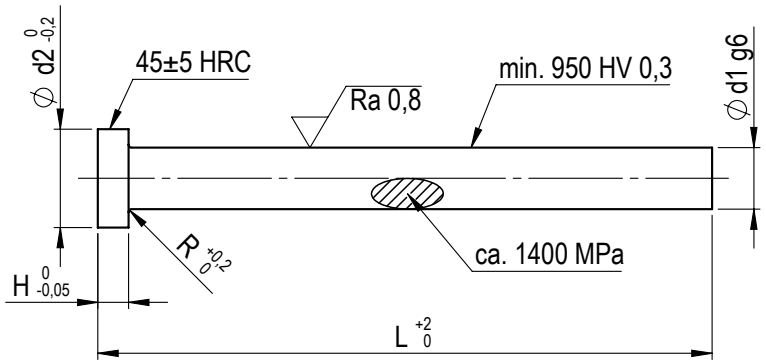
Order example for ejector with d1 = **1,5 mm** and L= **100 mm: REF*LLLL** (L= 100mm / **0100**) **EOA0501-500100**

REF	d1	d2	H	R	L										
					100	125	160	200	250	315	400	500	630	800	1000
EOA0501-50LLLL	1,5	3,0	1,5	0,2	•	•	•	•	•						
EOA0502-00LLLL	2,0	4,0	2,0	0,2	•	•	•	•	•	•	•				
EOA0502-20LLLL	2,2	4,0	2,0	0,2	•	•	•	•	•	•					
EOA0502-50LLLL	2,5	5,0	2,0	0,3	•	•	•	•	•	•					
EOA0502-70LLLL	2,7	5,0	2,0	0,3	•	•	•	•	•	•					
EOA0503-00LLLL	3,0	6,0	3,0	0,3	•	•	•	•	•	•	•	•			
EOA0503-20LLLL	3,2	6,0	3,0	0,3	•	•	•	•	•	•	•				
EOA0503-50LLLL	3,5	7,0	3,0	0,3	•	•	•	•	•	•	•	•	•		
EOA0503-70LLLL	3,7	7,0	3,0	0,3	•	•	•	•	•	•	•				
EOA0504-00LLLL	4,0	8,0	3,0	0,3	•	•	•	•	•	•	•	•	•		
EOA0504-20LLLL	4,2	8,0	3,0	0,3	•	•	•	•	•	•	•	•			
EOA0504-50LLLL	4,5	8,0	3,0	0,3	•	•	•	•	•	•	•	•			
EOA0505-00LLLL	5,0	10,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•	
EOA0505-20LLLL	5,2	10,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•	
EOA0505-50LLLL	5,5	10,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•	
EOA0506-00LLLL	6,0	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•
EOA0506-20LLLL	6,2	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	
EOA0506-50LLLL	6,5	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	
EOA0507-00LLLL	7,0	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	
EOA0507-50LLLL	7,5	12,0	5,0	0,5	•	•	•	•	•	•	•	•			
EOA0508-00LLLL	8,0	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•
EOA0508-20LLLL	8,2	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
EOA0508-50LLLL	8,5	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
EOA0509-00LLLL	9,0	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
EOA0509-50LLLL	9,5	14,0	5,0	0,5	•	•	•	•	•	•	•				
EOA0510-00LLLL	10,0	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•
EOA0510-20LLLL	10,2	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
EOA0510-50LLLL	10,5	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
EOA0511-00LLLL	11,0	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
EOA0512-00LLLL	12,0	18,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•
EOA0512-20LLLL	12,2	18,0	7,0	0,8	•	•	•	•	•	•	•	•	•		
EOA0512-50LLLL	12,5	18,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	
EOA0514-00LLLL	14,0	22,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•
EOA0516-00LLLL	16,0	22,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•
EOA0518-00LLLL	18,0	22,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•
EOA0520-00LLLL	20,0	26,0	8,0	1,0		•	•	•	•	•	•	•	•	•	•
EOA0525-00LLLL	25,0	32,0	10,0	1,0			•	•	•	•	•	•	•	•	•
EOA0532-00LLLL	32,0	40,0	10,0	1,0				•	•	•	•	•	•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TYPE A - NITRIDED — EPA05



Standard: DIN1530 / ISO6751
Mat.: 1.2344, pre-hardened
Max. Temp: 500-550 °C

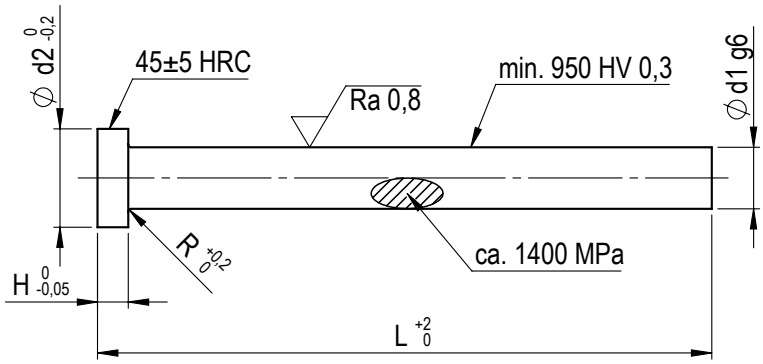
Order example for ejector with d1 = **1,0 mm** and L= **100 mm: REF*LLLL** (L= 100mm / **0100**) **EPA0501-500100**

REF	d1	d2	H	R	L													
					100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000
EPA0501-00LLLL	1,0	3,0	1,5	0,2	•		•											
EPA0501-20LLLL	1,2	3,0	1,5	0,2	•		•											
EPA0501-50LLLL	1,5	3,0	1,5	0,2	•	•	•	•										
EPA0501-60LLLL	1,6	3,0	1,5	0,2			•											
EPA0501-70LLLL	1,7	3,0	1,5	0,2	•			•										
EPA0502-00LLLL	2,0	4,0	2,0	0,2	•	•	•	•	•	•								
EPA0502-20LLLL	2,2	4,0	2,0	0,2	•	•	•	•	•	•								
EPA0502-50LLLL	2,5	5,0	2,0	0,3	•	•	•	•	•	•								
EPA0502-70LLLL	2,7	5,0	2,0	0,3	•	•	•	•	•	•								
EPA0503-00LLLL	3,0	6,0	3,0	0,3	•	•	•	•	•	•	•	•						
EPA0503-10LLLL	3,1	6,0	3,0	0,3			•		•									
EPA0503-20LLLL	3,2	6,0	3,0	0,3	•	•	•	•	•	•	•							
EPA0503-50LLLL	3,5	7,0	3,0	0,3	•	•	•	•	•	•	•							
EPA0503-70LLLL	3,7	7,0	3,0	0,3	•	•	•	•	•	•	•							
EPA0504-00LLLL	4,0	8,0	3,0	0,3	•	•	•	•	•	•	•	•	•					
EPA0504-10LLLL	4,1	8,0	3,0	0,3					•									
EPA0504-20LLLL	4,2	8,0	3,0	0,3	•	•	•	•	•	•	•	•	•					
EPA0504-50LLLL	4,5	8,0	3,0	0,3	•	•	•	•	•	•	•							
EPA0505-00LLLL	5,0	10,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•				
EPA0505-10LLLL	5,1	10,0	3,0	0,3		•			•									
EPA0505-20LLLL	5,2	10,0	3,0	0,3	•	•	•	•	•	•	•	•	•					
EPA0505-50LLLL	5,5	10,0	3,0	0,3	•	•	•	•	•	•	•	•						
EPA0506-00LLLL	6,0	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•			
EPA0506-10LLLL	6,1	12,0	5,0	0,5					•									
EPA0506-20LLLL	6,2	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•					
EPA0506-50LLLL	6,5	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•					
EPA0507-00LLLL	7,0	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•					
EPA0507-50LLLL	7,5	12,0	5,0	0,5	•	•	•	•	•	•	•	•						
EPA0508-00LLLL	8,0	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•	•		
EPA0508-10LLLL	8,1	14,0	5,0	0,5			•		•									
EPA0508-20LLLL	8,2	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•				
EPA0508-50LLLL	8,5	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•					
EPA0509-00LLLL	9,0	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•					
EPA0509-50LLLL	9,5	14,0	5,0	0,5	•	•	•	•	•	•	•	•						
EPA0510-00LLLL	10,0	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•	•	•	
EPA0510-10LLLL	10,1	16,0	5,0	0,5					•									
EPA0510-20LLLL	10,2	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•				
EPA0510-50LLLL	10,5	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•					
EPA0511-00LLLL	11,0	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•					
EPA0512-00LLLL	12,0	18,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•	•	•	
EPA0512-20LLLL	12,2	18,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•				
EPA0512-50LLLL	12,5	18,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•				
EPA0514-00LLLL	14,0	22,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•	•	•	
EPA0514-20LLLL	14,2	22,0	7,0	0,8					•									
EPA0516-00LLLL	16,0	22,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•	•	•	•
EPA0516-20LLLL	16,2	22,0	7,0	0,8					•									
EPA0518-00LLLL	18,0	24,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•			
EPA0520-00LLLL	20,0	26,0	8,0	1,0	•	•	•	•	•	•	•	•	•	•	•	•	•	•
EPA0525-00LLLL	25,0	32,0	10,0	1,0			•	•	•	•	•	•	•	•	•	•	•	•
EPA0532-00LLLL	32,0	40,0	10,0	1,0			•	•	•	•	•	•	•	•	•	•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TYPE TA - BATH NITRIDED — ENA05



Standard: DIN1530 / ISO6751
Mat.: 1.2344, pre-hardened
Max. Temp: 500-550 °

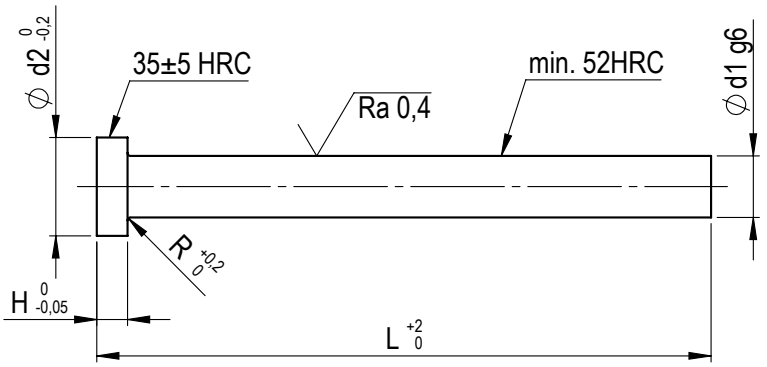
Order example for ejector with d1 = **1,5 mm** and L= **100 mm: REF*LLLL** (L= 100mm / **0100**) **ENA0501-500100**

REF	d1	d2	H	R	L										
					100	125	160	200	250	315	400	500	630	800	1000
ENA0501-50LLLL	1,5	3,0	1,5	0,2	•	•	•	•							
ENA0502-00LLLL	2,0	4,0	2,0	0,2	•	•	•	•	•	•	•				
ENA0502-20LLLL	2,2	4,0	2,0	0,2	•	•	•	•	•	•					
ENA0502-50LLLL	2,5	5,0	2,0	0,3	•	•	•	•	•	•					
ENA0502-70LLLL	2,7	5,0	2,0	0,3	•	•	•	•	•	•					
ENA0503-00LLLL	3,0	6,0	3,0	0,3	•	•	•	•	•	•	•	•			
ENA0503-20LLLL	3,2	6,0	3,0	0,3	•	•	•	•	•	•	•				
ENA0503-50LLLL	3,5	7,0	3,0	0,3	•	•	•	•	•	•	•				
ENA0503-70LLLL	3,7	7,0	3,0	0,3	•	•	•	•	•	•	•				
ENA0504-00LLLL	4,0	8,0	3,0	0,3	•	•	•	•	•	•	•	•	•		
ENA0504-20LLLL	4,2	8,0	3,0	0,3	•	•	•	•	•	•	•				
ENA0504-50LLLL	4,5	8,0	3,0	0,3	•	•	•	•	•	•	•		•		
ENA0505-00LLLL	5,0	10,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•	
ENA0505-20LLLL	5,2	10,0	3,0	0,3	•	•	•	•	•	•	•	•			
ENA0505-50LLLL	5,5	10,0	3,0	0,3	•	•	•	•	•	•	•	•			
ENA0506-00LLLL	6,0	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•
ENA0506-20LLLL	6,2	12,0	5,0	0,5	•	•	•	•	•	•	•	•			
ENA0506-50LLLL	6,5	12,0	5,0	0,5	•	•	•	•	•	•	•	•			
ENA0507-00LLLL	7,0	12,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
ENA0507-50LLLL	7,5	12,0	5,0	0,5				•				•			
ENA0508-00LLLL	8,0	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•
ENA0508-20LLLL	8,2	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	
ENA0508-50LLLL	8,5	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
ENA0509-00LLLL	9,0	14,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
ENA0510-00LLLL	10,0	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•	•	•
ENA0510-20LLLL	10,2	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
ENA0510-50LLLL	10,5	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
ENA0511-00LLLL	11,0	16,0	5,0	0,5	•	•	•	•	•	•	•	•	•		
ENA0512-00LLLL	12,0	18,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•
ENA0512-20LLLL	12,2	18,0	7,0	0,8	•	•	•	•	•	•	•	•	•		
ENA0512-50LLLL	12,5	18,0	7,0	0,8	•	•	•	•	•	•	•	•	•		
ENA0514-00LLLL	14,0	22,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•
ENA0516-00LLLL	16,0	22,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•
ENA0518-00LLLL	18,0	24,0	7,0	0,8	•	•	•	•	•	•	•	•	•	•	•
ENA0520-00LLLL	20,0	26,0	8,0	1,0	•	•	•	•	•	•	•	•	•	•	•
ENA0525-00LLLL	25,0	32,0	10,0	1,0	•	•	•	•	•	•	•	•	•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

ERF - STAINLESS STEEL — ERFAQ



Standard: DIN1530 / ISO6751
Mat.: 1.4125
Max. Temp: 250 °C

Order example for ejector with d1 = **1,0 mm** and L= **100 mm: REF*LLLL** (L= 100mm / **0100**) **ERFAQ01-000100**

REF	d1	d2	H	R	L							
					100	125	160	200	250	315	400	500
ERFAQ01-00LLLL	1,0	2,5	1,2	0,2	•	•	•	•				
ERFAQ01-50LLLL	1,5	3,0	1,5	0,2	•	•	•	•				
ERFAQ02-00LLLL	2,0	4,0	2,0	0,2	•	•	•	•	•	•		
ERFAQ02-50LLLL	2,5	5,0	2,0	0,3	•	•	•	•	•	•		
ERFAQ03-00LLLL	3,0	6,0	3,0	0,3	•	•	•	•	•	•	•	•
ERFAQ03-50LLLL	3,5	7,0	3,0	0,3	•	•	•	•	•	•	•	•
ERFAQ04-00LLLL	4,0	8,0	3,0	0,3	•	•	•	•	•	•	•	•
ERFAQ04-50LLLL	4,5	8,0	3,0	0,3	•	•	•	•	•	•	•	•
ERFAQ05-00LLLL	5,0	10,0	3,0	0,3	•	•	•	•	•	•	•	•
ERFAQ05-50LLLL	5,5	10,0	3,0	0,3	•	•	•	•	•	•	•	•
ERFAQ06-00LLLL	6,0	12,0	5,0	0,5	•	•	•	•	•	•	•	•
ERFAQ06-50LLLL	6,5	12,0	5,0	0,5	•	•	•	•	•	•	•	•
ERFAQ08-00LLLL	8,0	14,0	5,0	0,5	•	•	•	•	•	•	•	•
ERFAQ10-00LLLL	10,0	16,0	5,0	0,5	•	•	•	•	•	•	•	•

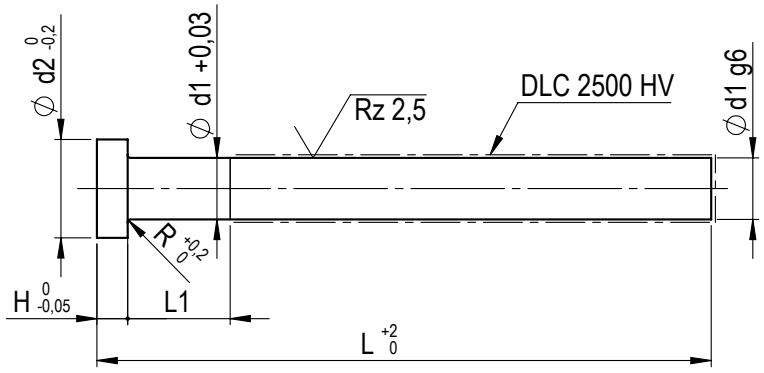
Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

Usage
- for processing plastics with abrasive and corrosive fillers that form acidic gasses
- for use with fire resistant additives
- tools for the medical and food industry
- for moulding of PVC

Features
- high wear resistance
- suitable for polished finish
- longer life of the mould
- excellent dimension stability
- low maintenance and service costs

CAD reference point

TYPE AH - DLC COATED **EDH**



Standard: DIN1530 / ISO6751
Mat.: 1.3505 with DLC coating
Coating thickness: 2-3µm
Max. Temp: 180 °C

Order example for ejector with d1 = **0,8 mm** and L= **80 mm: REF*LLLL** (L= 80mm / **0080**) **EDH00-80080**

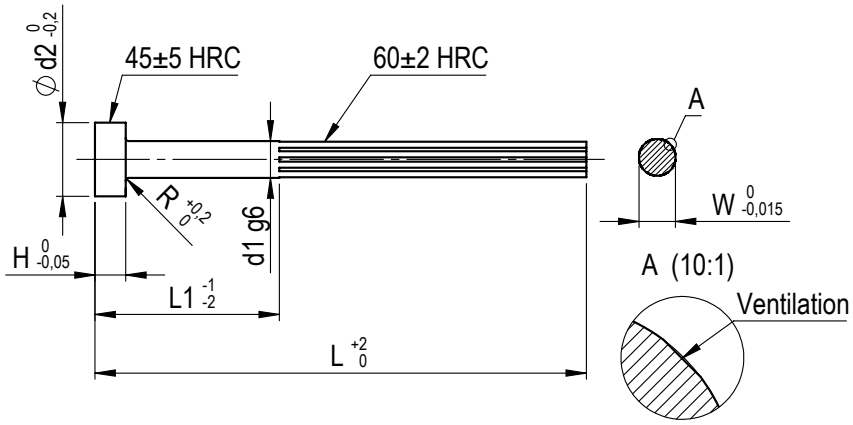
REF	d1	d2	H	R	L2	L								
						80	100	125	160	200	250	315	400	500
EDH00-8LLLL	0,8	2,5	1,2	0,2	5	•	•	•	•					
EDH01-0LLLL	1,0	2,5	1,2	0,2	5	•	•	•	•	•				
EDH01-1LLLL	1,1	2,5	1,2	0,2	5	•	•	•	•	•				
EDH01-2LLLL	1,2	2,5	1,2	0,2	5	•	•	•	•	•				
EDH01-3LLLL	1,3	3,0	1,5	0,2	5	•	•	•	•	•				
EDH01-4LLLL	1,4	3,0	1,5	0,2	5	•	•	•	•	•				
EDH01-5LLLL	1,5	3,0	1,5	0,2	5	•	•	•	•	•	•			
EDH01-6LLLL	1,6	3,0	1,5	0,2	5	•	•	•	•	•	•			
EDH01-7LLLL	1,7	3,0	1,5	0,2	5	•	•	•	•	•				
EDH01-8LLLL	1,8	3,0	1,5	0,2	5	•	•	•	•	•				
EDH01-9LLLL	1,9	3,0	1,5	0,2	5	•	•	•	•	•				
EDH02-0LLLL	2,0	4,0	2,0	0,2	5	•	•	•	•	•	•	•		
EDH02-2LLLL	2,2	4,0	2,0	0,2	5		•	•	•	•	•	•		
EDH02-5LLLL	2,5	5,0	2,0	0,3	5	•	•	•	•	•	•	•	•	
EDH02-7LLLL	2,7	5,0	2,0	0,3	5					•				
EDH02-9LLLL	2,9	5,0	2,0	0,3	5		•							
EDH03-0LLLL	3,0	6,0	3,0	0,3	5	•	•	•	•	•	•	•	•	
EDH03-2LLLL	3,2	6,0	3,0	0,3	5		•	•	•	•	•	•	•	
EDH03-5LLLL	3,5	7,0	3,0	0,3	5		•	•	•	•	•	•	•	
EDH03-7LLLL	3,7	7,0	3,0	0,3	5		•	•	•	•	•			
EDH04-0LLLL	4,0	8,0	3,0	0,3	5	•	•	•	•	•	•	•	•	•
EDH04-2LLLL	4,2	8,0	3,0	0,3	5		•	•	•	•	•	•		
EDH04-5LLLL	4,5	8,0	3,0	0,3	5		•	•	•	•	•	•	•	
EDH04-7LLLL	4,7	8,0	3,0	0,3	5		•		•		•			
EDH05-0LLLL	5,0	10,0	3,0	0,3	5	•	•	•	•	•	•	•	•	•
EDH05-2LLLL	5,2	10,0	3,0	0,3	5		•	•	•	•	•	•		
EDH05-5LLLL	5,5	10,0	3,0	0,3	5,0		•	•	•	•	•			
EDH06-0LLLL	6,0	12,0	5,0	0,5	6	•	•	•	•	•	•	•	•	•
EDH06-2LLLL	6,2	12,0	5,0	0,5	6,0		•	•	•	•	•	•		
EDH06-5LLLL	6,5	12,0	5,0	0,5	6		•	•	•	•	•	•	•	
EDH07-0LLLL	7,0	12,0	5,0	0,5	6,0		•	•	•	•	•	•	•	•
EDH07-5LLLL	7,5	12,0	5,0	0,5	6		•	•	•	•	•			
EDH08-0LLLL	8,0	14,0	5,0	0,5	8,0	•	•	•	•	•	•	•	•	•
EDH08-2LLLL	8,2	14,0	5,0	0,5	8		•	•	•	•	•	•		
EDH08-5LLLL	8,5	14,0	5,0	0,5	8,0		•	•	•	•	•	•		
EDH09-0LLLL	9,0	14,0	5,0	0,5	8	•	•	•	•	•	•	•		
EDH10-0LLLL	10,0	16,0	5,0	0,5	10,0	•	•	•	•	•	•	•	•	•
EDH10-2LLLL	10,2	16,0	5,0	0,5	10		•	•	•	•	•	•		
EDH10-5LLLL	10,5	16,0	5,0	0,5	10,0		•	•	•	•	•	•	•	
EDH12-0LLLL	12,0	18,0	7,0	0,8	12	•	•	•	•	•	•	•	•	•
EDH12-2LLLL	12,2	18,0	7,0	0,8	12,0				•	•		•		
EDH12-5LLLL	12,5	18,0	7,0	0,8	12				•	•	•	•		
EDH13-0LLLL	13,0	18,0	7,0	0,8	13,0		•	•	•	•	•	•	•	
EDH14-0LLLL	14,0	22,0	7,0	0,8	14		•	•	•	•	•	•	•	•
EDH14-5LLLL	14,5	22,0	7,0	0,8	14,0		•	•	•	•	•	•		
EDH16-0LLLL	16,0	22,0	7,0	0,8	16		•	•	•	•	•	•	•	•
EDH20-0LLLL	20,0	26,0	7,0	1,1	20,0		•	•	•	•	•	•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

VENTING EJECTOR PIN F1770

Mat.: 1.2210 (60 ±2 HRC)
Max. Temp: 250 °C



Order example for ejector with d1 = **1,0 mm** and L= **100 mm: REF*LLL** (L= 100mm / **100**) **F177001-0100**

REF	d1	d2	H	R	W	N [1]	L					
							100	160	200	250	315	400
							L1					
							70	100	125	175	235	250
F177001-0LLL	1,0	2,5	1,2	0,2	0,97	4	•		•			
F177001-5LLL	1,5	3,0	1,5	0,2	1,47	4	•		•			
F177002-0LLL	2,0	4,0	2,0	0,2	1,96	4	•	•	•	•		
F177002-5LLL	2,5	5,0	2,0	0,3	2,46	4	•		•			
F177003-0LLL	3,0	6,0	3,0	0,3	2,96	6	•	•	•	•	•	
F177003-5LLL	3,5	7,0	3,0	0,3	3,46	6	•		•			
F177004-0LLL	4,0	8,0	3,0	0,3	3,96	6	•	•	•	•	•	
F177004-5LLL	4,5	8,0	3,0	0,3	4,46	6	•		•			
F177005-0LLL	5,0	10,0	3,0	0,3	4,96	8	•	•	•	•	•	
F177005-5LLL	5,5	10,0	3,0	0,3	5,46	8	•		•			
F177006-0LLL	6,0	12,0	5,0	0,5	5,96	8	•	•	•	•	•	
F177006-5LLL	6,5	12,0	5,0	0,5	6,46	8	•		•			
F177007-0LLL	7,0	12,0	5,0	0,5	6,96	8	•		•			
F177008-0LLL	8,0	14,0	5,0	0,5	7,96	8	•	•	•	•	•	•
F177010-0LLL	10,0	16,0	5,0	0,5	9,96	8	•	•	•	•	•	•
F177012-0LLL	12,0	18,0	7,0	0,8	11,96	8	•	•	•	•	•	•

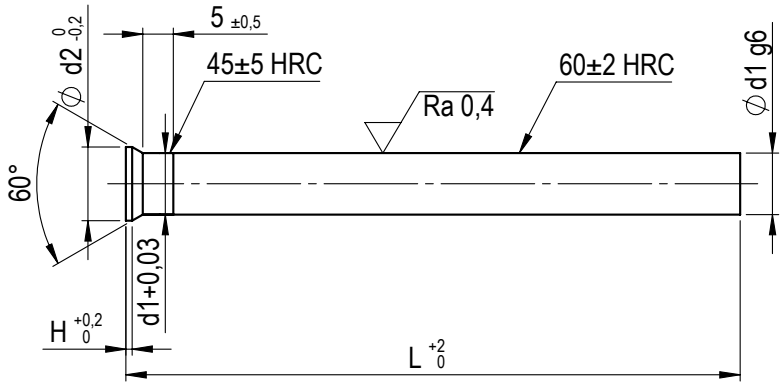
1) N: Number of venting surfaces

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

EJECTOR PINS

TYPE D - HARDENED **EPD28**



Standard: DIN1530-3
Mat.: 1.2067 (60 ±2 HRC)
Max. Temp: 250 °C

Order example for ejector with d1 = **1,0 mm** and L= **63 mm: REF*LLLL** (L= 63 mm / **0063**) **EPD2801-000063**

REF	d1	d2	H	L											
				60	63	71	80	100	125	150	160	175	200	250	315
EPD2801-00LLLL	1,00	1,8	0,5		•	•	•	•	•		•		•		
EPD2801-10LLLL	1,10	1,8	0,5	•	•	•	•	•	•		•		•		
EPD2801-20LLLL	1,20	2,0	0,5		•	•	•	•	•		•		•		
EPD2801-25LLLL	1,25	2,0	0,5	•	•		•	•	•		•		•		
EPD2801-30LLLL	1,30	2,0	0,5	•	•	•	•	•	•		•		•		
EPD2801-40LLLL	1,40	2,2	0,5	•	•	•	•	•	•		•		•		
EPD2801-50LLLL	1,50	2,2	0,5	•	•	•	•	•	•	•	•		•	•	
EPD2801-60LLLL	1,60	2,5	0,5		•	•	•	•	•		•		•		
EPD2801-70LLLL	1,70	2,5	0,5	•	•	•	•	•	•		•		•		
EPD2801-75LLLL	1,75	2,8	0,5	•	•		•	•	•		•		•		
EPD2801-80LLLL	1,80	2,8	0,5		•	•	•	•	•		•		•		
EPD2801-90LLLL	1,90	2,8	0,5	•	•	•	•	•	•		•		•		
EPD2802-00LLLL	2,00	3,0	0,5	•	•	•	•	•	•	•	•	•	•	•	•
EPD2802-10LLLL	2,10	3,2	0,5					•	•		•		•		
EPD2802-20LLLL	2,20	3,2	0,5					•	•		•		•	•	
EPD2802-25LLLL	2,25	3,5	0,5	•			•	•	•		•	•	•		
EPD2802-30LLLL	2,30	3,5	0,5					•	•		•		•		
EPD2802-40LLLL	2,40	3,5	0,5					•	•		•		•		
EPD2802-50LLLL	2,50	3,5	0,5		•		•	•	•	•	•	•	•	•	
EPD2802-60LLLL	2,60	4,0	0,5					•	•		•		•		
EPD2802-70LLLL	2,70	4,0	0,5				•	•	•		•		•	•	
EPD2802-75LLLL	2,75	4,0	0,5	•			•	•	•		•		•		
EPD2802-80LLLL	2,80	4,0	0,5	•				•	•		•		•		
EPD2802-90LLLL	2,90	4,0	0,5					•	•		•		•		
EPD2803-00LLLL	3,00	4,5	0,5	•	•	•	•	•	•	•	•	•	•	•	•
EPD2803-10LLLL	3,10	4,5	0,5					•	•		•		•		
EPD2803-20LLLL	3,20	4,5	0,5					•	•		•		•		
EPD2803-25LLLL	3,25	4,5	0,5	•			•	•	•		•		•		
EPD2803-30LLLL	3,30	4,5	0,5					•	•		•		•		
EPD2803-40LLLL	3,40	4,5	0,5					•	•		•		•		
EPD2803-50LLLL	3,50	5,0	0,5	•		•	•	•	•	•	•	•	•	•	•
EPD2803-60LLLL	3,60	5,0	0,5					•	•		•		•		
EPD2803-70LLLL	3,70	5,0	0,5	•			•	•	•		•		•		
EPD2803-75LLLL	3,75	5,0	0,5	•			•	•	•		•		•		
EPD2803-80LLLL	3,80	5,0	0,5					•	•		•		•		
EPD2803-90LLLL	3,90	5,0	0,5					•	•		•		•		
EPD2804-00LLLL	4,00	5,5	0,5	•	•	•	•	•	•	•	•		•	•	•
EPD2804-10LLLL	4,10	5,5	0,5					•	•		•		•		
EPD2804-20LLLL	4,20	5,5	0,5					•	•		•		•		
EPD2804-25LLLL	4,25	5,5	0,5					•	•		•		•		
EPD2804-40LLLL	4,40	5,5	0,5					•	•		•		•		
EPD2804-50LLLL	4,50	6,1	0,5	•			•	•	•	•	•	•	•	•	
EPD2804-60LLLL	4,60	6,0	0,5					•	•		•		•		
EPD2804-75LLLL	4,75	6,0	0,5					•	•		•		•		
EPD2805-00LLLL	5,00	6,5	0,5	•	•	•	•	•	•	•	•	•	•	•	•
EPD2805-10LLLL	5,10	6,5	0,5					•	•		•		•		
EPD2805-20LLLL	5,20	6,5	0,5					•	•		•		•		
EPD2805-25LLLL	5,25	6,5	0,5					•	•		•		•		
EPD2805-30LLLL	5,30	6,5	0,5					•	•		•		•		

CAD reference point

TYPE D - HARDENED

EPD28

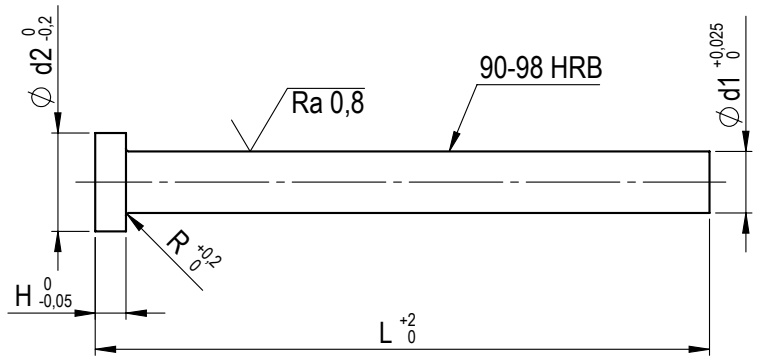
REF	d1	d2	H	L											
				60	63	71	80	100	125	150	160	175	200	250	315
EPD2805-40LLLL	5,40	6,5	0,5					•	•		•		•		
EPD2805-50LLLL	5,50	7,0	0,5	•	•		•	•	•	•	•	•	•	•	•
EPD2805-60LLLL	5,60	7,0	0,5					•	•		•		•		
EPD2805-75LLLL	5,75	7,0	0,5					•	•		•		•		
EPD2806-00LLLL	6,00	8,0	0,5		•	•	•	•	•	•	•		•	•	•
EPD2806-20LLLL	6,20	8,0	0,5					•	•		•		•	•	•
EPD2806-50LLLL	6,50	9,0	1,0					•	•	•	•	•	•	•	•
EPD2807-00LLLL	7,00	9,0	1,0			•	•	•	•	•	•	•	•	•	•
EPD2807-50LLLL	7,50	10,0	1,0					•	•	•	•	•	•	•	•
EPD2808-00LLLL	8,00	10,0	1,0		•	•	•	•	•	•	•	•	•	•	•
EPD2808-20LLLL	8,20	10,0	1,0					•	•		•		•	•	•
EPD2808-50LLLL	8,50	11,0	1,0					•	•		•		•	•	•
EPD2809-00LLLL	9,00	11,0	1,0			•	•	•	•	•	•	•	•	•	•
EPD2810-00LLLL	10,00	12,0	1,0		•	•	•	•	•	•	•	•	•	•	•
EPD2811-00LLLL	11,00	13,0	1,0					•	•		•		•		
EPD2812-00LLLL	12,00	14,0	1,0			•	•	•	•	•	•	•	•	•	•
EPD2814-00LLLL	14,00	16,0	1,5	•			•	•	•	•	•		•	•	•
EPD2816-00LLLL	16,00	18,0	1,5				•	•	•	•	•	•	•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

CORE PINS

TYPE PCM - PERFORMANCE CORE PINS **PCM**



Mat.: Copper-based alloy
Max. Temp: 360°C

Order example for ejector with d1 = **1,5 mm** and L= **80 mm: REF*LLL** (L= 100mm / **0100**) **PCM015100**

REF	d1	d2	H	R	L				
					100	160	200	250	315
PCM015LLL	1,5	3,0	1,5	0,2	•	•			
PCM025LLL	2,5	5,0	2,0	0,3	•	•		•	
PCM030LLL	3,0	6,0	3,0	0,3	•	•		•	
PCM035LLL	3,5	7,0	3,0	0,3	•	•		•	
PCM040LLL	4,0	8,0	3,0	0,3	•	•			•
PCM045LLL	4,5	8,0	3,0	0,3	•	•			
PCM050LLL	5,0	10,0	3,0	0,3	•	•	•		•
PCM060LLL	6,0	12,0	5,0	0,5	•	•			•
PCM070LLL	7,0	12,0	5,0	0,5	•	•		•	
PCM080LLL	8,0	14,0	5,0	0,5	•	•	•		•
PCM100LLL	10,0	16,0	5,0	0,5	•	•	•	•	•
PCM120LLL	12,0	18,0	7,0	0,8	•	•	•	•	•
PCM140LLL	14,0	22,0	7,0	0,8	•				•
PCM160LLL	16,0	22,0	7,0	0,8	•	•			•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

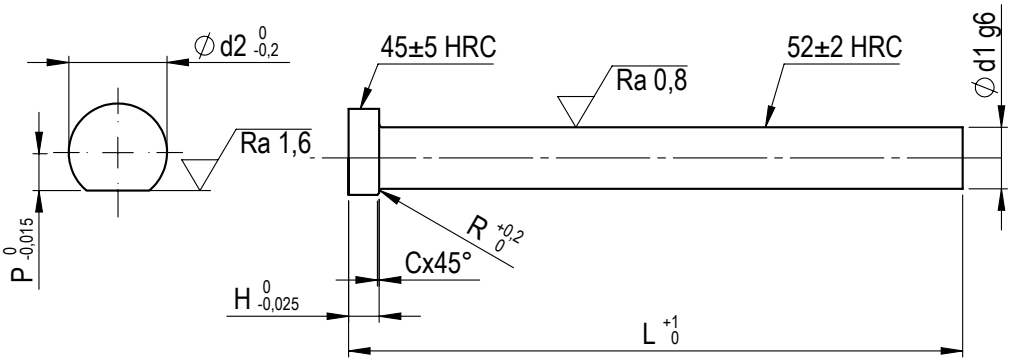
High thermal conductivity pins

Advantages:
- Reduced cycle time
- 5 times better conductivity than steel
- Improved part quality
- Lower machining costs
- Longer service life

CAD reference point

CONTOUR CORE PIN ERV

Mat.: 1.2344



Order example for ejector with d1 = **1,5 mm** and L= **125 mm: REF*LLL** (L= 125mm / **0100**) **ERV05015125**

REF	d1	d2	P	C	H	R	L	
							125	200
ERV05015LLL	1,5	3,0	1,05	0,15	1,5	0,2	•	•
ERV05016LLL	1,6	3,0	1,10	0,15	1,5	0,2	•	•
ERV05018LLL	1,8	3,0	1,20	0,15	1,5	0,2	•	•
ERV05020LLL	2,0	4,0	1,50	0,25	2,0	0,2	•	•
ERV05022LLL	2,2	4,0	1,60	0,25	2,0	0,2	•	•
ERV05025LLL	2,5	5,0	1,75	0,25	2,0	0,3	•	•
ERV05027LLL	2,7	5,0	1,85	0,25	2,0	0,3	•	•
ERV05030LLL	3,0	6,0	2,00	0,25	3,0	0,3	•	•
ERV05032LLL	3,2	6,0	2,10	0,25	3,0	0,3	•	•
ERV05035LLL	3,5	7,0	2,25	0,25	3,0	0,3	•	•
ERV05037LLL	3,7	7,0	2,35	0,25	3,0	0,3	•	•
ERV05040LLL	4,0	8,0	2,50	0,25	3,0	0,3	•	•
ERV05042LLL	4,2	8,0	2,60	0,25	3,0	0,3	•	•
ERV05045LLL	4,5	8,0	2,75	0,25	3,0	0,3	•	•
ERV05050LLL	5,0	10,0	3,50	0,25	3,0	0,3	•	•
ERV05052LLL	5,2	10,0	3,60	0,25	3,0	0,3	•	•
ERV05055LLL	5,5	10,0	3,75	0,25	3,0	0,3	•	•
ERV05060LLL	6,0	12,0	4,00	0,50	5,0	0,5	•	•
ERV05062LLL	6,2	12,0	4,10	0,50	5,0	0,5	•	•
ERV05065LLL	6,5	12,0	4,25	0,50	5,0	0,5	•	•
ERV05070LLL	7,0	12,0	4,50	0,50	5,0	0,5	•	•
ERV05080LLL	8,0	14,0	5,00	0,50	5,0	0,5	•	•
ERV05082LLL	8,2	14,0	5,10	0,50	5,0	0,5	•	•
ERV05085LLL	8,5	14,0	5,25	0,50	5,0	0,5	•	•
ERV05090LLL	9,0	14,0	5,50	0,50	5,0	0,5	•	•
ERV05100LLL	10,0	16,0	6,00	0,50	5,0	0,5	•	•
ERV05102LLL	10,2	16,0	6,10	0,50	5,0	0,5	•	•
ERV05105LLL	10,5	16,0	6,25	0,50	5,0	0,5	•	•
ERV05110LLL	11,0	16,0	6,50	0,50	5,0	0,5	•	•
ERV05115LLL	11,5	16,0	6,75	0,50	5,0	0,5	•	•
ERV05120LLL	12,0	18,0	7,00	0,50	7,0	0,8	•	•
ERV05125LLL	12,5	18,0	7,25	0,50	7,0	0,8	•	•
ERV05140LLL	14,0	22,0	8,50	0,50	7,0	0,8	•	•
ERV05160LLL	16,0	22,0	9,50	0,50	7,0	0,8	•	•

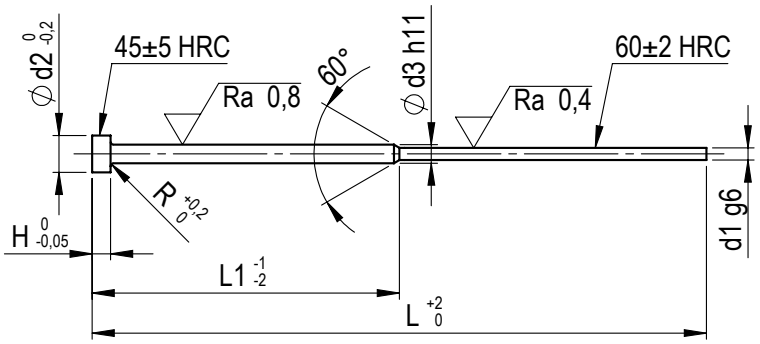
Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

SHOULDERED EJECTOR PINS

TYPE CH - HARDENED **CHE28**

Standard: DIN1530 / ISO8694
Mat.: 1.2067 (60 ±2 HRC)
Max. Temp: 250 °C



Order example for ejector with d1 = **0,5 mm** and L= **80 mm: REF*LLLL** (L= 80mm / **0080**) **CHE2800-500080**
For specification of correct shoulder length please add number 5, 6, 7, or 1. Example **CHE2800-5001606** - (L1= 63mm)

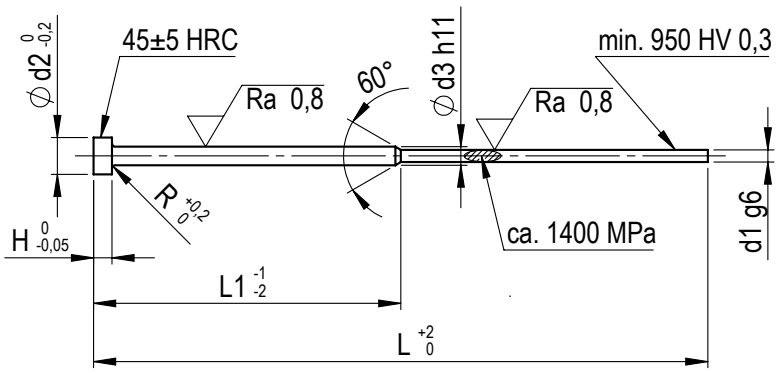
						L											
						60	63	80	100	125	150	160	160	160	200	250	250
						L1											
REF	d1	d2	d3	H	R	25	25	35	50	50	50	50[5]	63[6]	75[7]	75	75[7]	100[1]
CHE2800-50LLLL	0,5	4,0	2,0	2,0	0,2			•	•	•			•	•			
CHE2800-60LLLL	0,6	4,0	2,0	2,0	0,2			•	•	•			•	•	•		
CHE2800-70LLLL	0,7	4,0	2,0	2,0	0,2			•	•	•			•	•	•		
CHE2800-80LLLL	0,8	4,0	2,0	2,0	0,2		•	•	•	•			•	•	•		
CHE2800-90LLLL	0,9	4,0	2,0	2,0	0,2	•	•	•	•	•			•	•	•		
CHE2801-00LLLL	1,0	4,0	2,0	2,0	0,2	•	•	•	•	•		•	•	•	•		
CHE2801-10LLLL	1,1	4,0	2,0	2,0	0,2	•	•	•	•	•	•		•	•	•		
CHE2801-20LLLL	1,2	4,0	2,0	2,0	0,2	•	•	•	•	•	•		•	•	•		
CHE2801-30LLLL	1,3	4,0	2,0	2,0	0,2	•	•	•	•	•			•	•	•		
CHE2801-40LLLL	1,4	4,0	2,0	2,0	0,2	•	•	•	•	•	•		•	•	•		
CHE2801-50LLLL	1,5	6,0	3,0	3,0	0,3	•	•	•	•	•		•	•	•	•		
CHE2801-60LLLL	1,6	6,0	3,0	3,0	0,3	•		•	•	•			•	•	•		
CHE2801-70LLLL	1,7	6,0	3,0	3,0	0,3	•		•	•	•			•	•	•		
CHE2801-80LLLL	1,8	6,0	3,0	3,0	0,3	•		•	•	•			•	•	•		
CHE2801-90LLLL	1,9	6,0	3,0	3,0	0,3	•		•	•	•	•		•	•	•		
CHE2802-00LLLL	2,0	6,0	3,0	3,0	0,3	•		•	•	•	•	•	•	•	•	•	•
CHE2802-10LLLL	2,1	6,0	3,0	3,0	0,3	•		•	•	•	•		•	•	•		
CHE2802-20LLLL	2,2	6,0	3,0	3,0	0,3	•		•	•	•	•		•	•	•		
CHE2802-30LLLL	2,3	6,0	3,0	3,0	0,3	•		•	•	•	•		•	•	•		
CHE2802-40LLLL	2,4	6,0	3,0	3,0	0,3	•		•	•	•	•		•	•	•		
CHE2802-50LLLL	2,5	6,0	3,0	3,0	0,3	•		•	•	•	•	•	•	•	•	•	•
CHE2802-60LLLL	2,6	6,0	3,0	3,0	0,3				•	•			•	•	•		
CHE2802-70LLLL	2,7	6,0	3,0	3,0	0,3				•	•			•	•	•		
CHE2802-80LLLL	2,8	6,0	3,0	3,0	0,3				•	•			•	•	•		
CHE2802-90LLLL	2,9	6,0	3,0	3,0	0,3				•	•			•	•	•		

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TYPE C - NITRIDED — EPC05

Standard: DIN1530 / ISO8694
Mat.: 1.2344, pre-hardened
Max. Temp: 500-550 °C



Order example for ejector with d1 = **0,7 mm** and L= **80 mm: REF*LLLL** (L= 80mm / **0080**) **EPC0500-700080**
For specification of correct shoulder length please add number 5, 6, 7, or 1. Example **EPC0500-8001606** - (L1= 63mm)

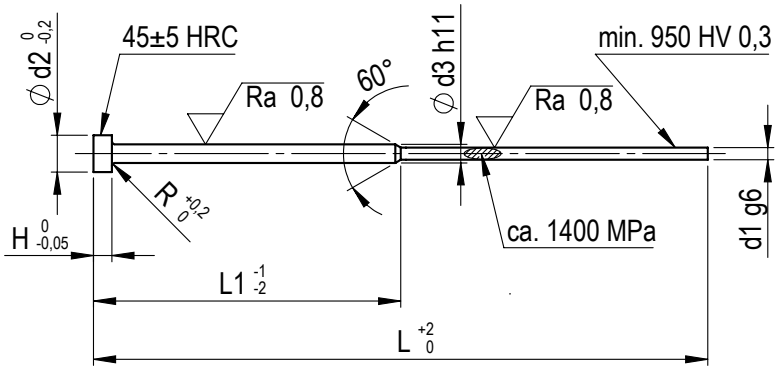
						L											
						80	100	120	125	140	150	160	160	160	200	250	250
						L1											
REF	d1	d2	d3	H	R	35	50	50	50	50	63	50[5]	63[6]	75[7]	75	75[7]	100[1]
EPC0500-70LLLL	0,7	4,0	2,0	2,0	0,2	•	•		•								
EPC0500-80LLLL	0,8	4,0	2,0	2,0	0,2	•	•	•	•	•	•		•	•			
EPC0500-90LLLL	0,9	4,0	2,0	2,0	0,2	•	•	•	•	•	•		•	•			
EPC0501-00LLLL	1,0	4,0	2,0	2,0	0,2	•	•	•	•	•	•	•	•	•	•		
EPC0501-10LLLL	1,1	4,0	2,0	2,0	0,2	•	•	•	•	•	•		•	•	•		
EPC0501-20LLLL	1,2	4,0	2,0	2,0	0,2	•	•		•	•	•		•	•	•		
EPC0501-30LLLL	1,3	4,0	2,0	2,0	0,2	•	•	•	•	•	•		•	•	•		
EPC0501-40LLLL	1,4	4,0	2,0	2,0	0,2	•	•	•	•	•	•		•	•	•		
EPC0501-50LLLL	1,5	6,0	3,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•	•	•
EPC0501-60LLLL	1,6	6,0	3,0	3,0	0,3	•	•		•				•	•	•		
EPC0501-70LLLL	1,7	6,0	3,0	3,0	0,3	•	•		•				•	•	•		
EPC0501-80LLLL	1,8	6,0	3,0	3,0	0,3	•	•		•				•	•	•		
EPC0501-90LLLL	1,9	6,0	3,0	3,0	0,3	•	•		•				•	•	•		
EPC0502-00LLLL	2,0	6,0	3,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•	•	•
EPC0502-10LLLL	2,1	6,0	3,0	3,0	0,3	•	•		•				•	•	•		
EPC0502-20LLLL	2,2	6,0	3,0	3,0	0,3	•	•		•				•	•	•		
EPC0502-30LLLL	2,3	6,0	3,0	3,0	0,3	•	•		•				•	•	•		
EPC0502-40LLLL	2,4	6,0	3,0	3,0	0,3	•	•		•				•	•	•		
EPC0502-50LLLL	2,5	6,0	3,0	3,0	0,3		•	•	•	•	•	•	•	•	•	•	•
EPC0502-60LLLL	2,6	6,0	3,0	3,0	0,3		•		•				•	•	•		
EPC0502-70LLLL	2,7	6,0	3,0	3,0	0,3		•		•				•	•	•		
EPC0502-80LLLL	2,8	6,0	3,0	3,0	0,3		•		•				•	•	•		
EPC0502-90LLLL	2,9	6,0	3,0	3,0	0,3		•		•				•	•	•		
EPC0503-00LLLL	3,0	8,0	4,0	3,0	0,3		•		•				•	•	•		
EPC0503-10LLLL	3,1	8,0	4,0	3,0	0,3		•		•				•	•	•		
EPC0503-20LLLL	3,2	8,0	4,0	3,0	0,3		•		•				•	•	•		
EPC0503-30LLLL	3,3	8,0	4,0	3,0	0,3		•		•				•	•	•		
EPC0503-40LLLL	3,4	8,0	4,0	3,0	0,3		•		•				•	•	•		
EPC0503-50LLLL	3,5	8,0	4,0	3,0	0,3		•		•				•	•	•		

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

SHOULDERED EJECTOR PINS

TYPE TC - BATH NITRIDED **ENC05**



Standard: DIN1530 / ISO8694
Mat.: 1.2344, pre-hardened
Max. Temp: 500-550 °C

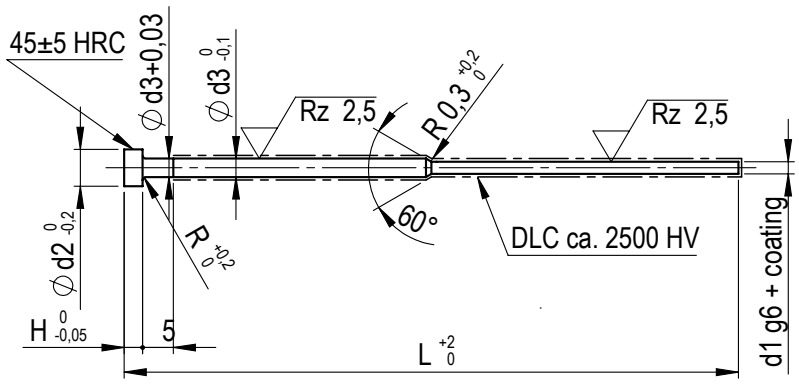
Order example for ejector with d1 = **0,7 mm** and L= **100 mm: REF*LLLL** (L= 100mm / **0100**) **ENC0500-700100**
For specification of correct shoulder length please add number 5, 6, 7 or 1. Example **EPC0500-8001606** - (L1= 63mm)

						L									
						63	80	100	125	160	160	160	200	250	250
						L1									
REF	d1	d2	d3	H	R	25	35	50	50	50[5]	63[6]	75[7]	75	75[7]	100[1]
ENC0500-70LLLL	0,7	4,0	2,0	2,0	0,2			•	•						
ENC0500-80LLLL	0,8	4,0	2,0	2,0	0,2		•	•	•		•	•			
ENC0500-90LLLL	0,9	4,0	2,0	2,0	0,2		•	•	•		•	•			
ENC0501-00LLLL	1,0	4,0	2,0	2,0	0,2		•	•	•	•	•	•	•		
ENC0501-10LLLL	1,1	4,0	2,0	2,0	0,2		•	•	•		•	•	•		
ENC0501-20LLLL	1,2	4,0	2,0	2,0	0,2		•	•	•		•	•	•		
ENC0501-30LLLL	1,3	4,0	2,0	2,0	0,2		•	•	•		•	•	•		
ENC0501-40LLLL	1,4	4,0	2,0	2,0	0,2		•	•	•		•	•	•		
ENC0501-50LLLL	1,5	6,0	3,0	3,0	0,3	•	•	•	•	•	•	•	•	•	•
ENC0501-60LLLL	1,6	6,0	3,0	3,0	0,3		•	•	•		•	•	•		
ENC0501-70LLLL	1,7	6,0	3,0	3,0	0,3		•	•	•		•	•	•		
ENC0501-80LLLL	1,8	6,0	3,0	3,0	0,3		•	•	•		•	•	•		
ENC0501-90LLLL	1,9	6,0	3,0	3,0	0,3		•	•	•		•	•	•		
ENC0502-00LLLL	2,0	6,0	3,0	3,0	0,3		•	•	•	•	•	•	•	•	•
ENC0502-10LLLL	2,1	6,0	3,0	3,0	0,3		•	•	•		•	•	•		
ENC0502-20LLLL	2,2	6,0	3,0	3,0	0,3		•	•	•		•	•	•		
ENC0502-30LLLL	2,3	6,0	3,0	3,0	0,3		•	•	•		•	•	•		
ENC0502-40LLLL	2,4	6,0	3,0	3,0	0,3		•	•	•		•	•	•		
ENC0502-50LLLL	2,5	6,0	3,0	3,0	0,3			•	•	•	•	•	•	•	•
ENC0502-60LLLL	2,6	6,0	3,0	3,0	0,3			•	•		•	•	•		
ENC0502-70LLLL	2,7	6,0	3,0	3,0	0,3			•	•		•	•	•		
ENC0502-80LLLL	2,8	6,0	3,0	3,0	0,3			•	•		•	•	•		
ENC0502-90LLLL	2,9	6,0	3,0	3,0	0,3			•	•		•	•	•		
ENC0503-00LLLL	3,0	8,0	4,0	3,0	0,3			•	•		•	•	•		
ENC0503-10LLLL	3,1	8,0	4,0	3,0	0,3			•	•		•	•	•		
ENC0503-20LLLL	3,2	8,0	4,0	3,0	0,3			•	•		•	•	•		
ENC0503-30LLLL	3,3	8,0	4,0	3,0	0,3			•	•		•	•	•		
ENC0503-40LLLL	3,4	8,0	4,0	3,0	0,3			•	•		•	•	•		
ENC0503-50LLLL	3,5	8,0	4,0	3,0	0,3			•	•		•	•	•		

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TYPE CH - DLC COATED **EDC**



Standard: DIN1530 / ISO8694
Mat.: 1.3505 with DLC coating
Coating thickness: 1,5µm
Coating hardness: ca 2500 HV
Max. Temp: 180 °C

Order example for ejector with d1 = **0,5 mm** and L= **80 mm: REF*LLLL** (L= 80mm / **0080**) **EDC00-50080**

REF	d1	d2	d3	H	R	L 63 / L1 25	L 80 / L1 35	L 100 / L1 50	L 125 / L1 50	L 160 / L1 75	L 200 / L1 75	L 250 / L1 100	L 315 / L1 100
EDC00-50LLL	0,5	4,0	2,0	2,0	0,2		•	•	•	•			
EDC00-60LLL	0,6	4,0	2,0	2,0	0,2		•	•	•	•	•		
EDC00-70LLL	0,7	4,0	2,0	2,0	0,2		•	•	•	•	•		
EDC00-80LLL	0,8	4,0	2,0	2,0	0,2	•	•	•	•	•	•	•	
EDC00-90LLL	0,9	4,0	2,0	2,0	0,2	•	•	•	•	•	•		
EDC01-00LLL	1,0	4,0	2,0	2,0	0,2	•	•	•	•	•	•	•	
EDC01-10LLL	1,1	4,0	2,0	2,0	0,2	•	•	•	•	•	•	•	
EDC01-20LLL	1,2	4,0	2,0	2,0	0,2	•	•	•	•	•	•	•	
EDC01-30LLL	1,3	4,0	2,0	2,0	0,2	•	•	•	•	•	•	•	
EDC01-40LLL	1,4	4,0	2,0	2,0	0,2	•	•	•	•	•	•	•	
EDC01-50LLL	1,5	6,0	3,0	3,0	0,3	•	•	•	•	•	•	•	•
EDC01-60LLL	1,6	6,0	3,0	3,0	0,3		•	•	•	•	•	•	
EDC01-70LLL	1,7	6,0	3,0	3,0	0,3		•	•	•	•	•		
EDC01-80LLL	1,8	6,0	3,0	3,0	0,3		•	•	•	•	•		
EDC01-90LLL	1,9	6,0	3,0	3,0	0,3		•	•	•	•	•		
EDC02-00LLL	2,0	6,0	3,0	3,0	0,3		•	•	•	•	•	•	•
EDC02-20LLL	2,2	6,0	3,0	3,0	0,3			•	•	•	•		
EDC02-50LLL	2,5	6,0	3,0	3,0	0,3			•	•	•	•	•	•

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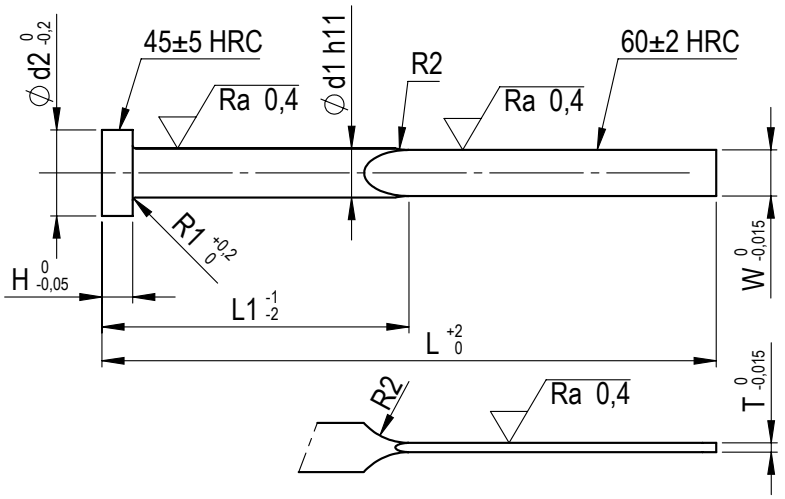
CAD reference point

FLAT EJECTOR PINS

TYPE FK - HARDENED **FK**



Standard: DIN1530 / ISO8693
Mat.: 1.2067 (60 ±2 HRC)
Max. Temp: 250 °C

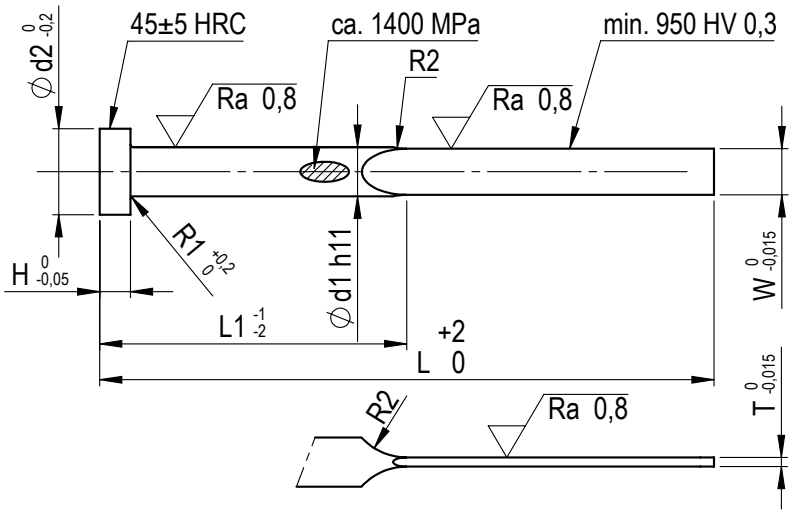
Order example for ejector with T = **0,8 mm;** W = **3,8** and L = **60mm: REF*L** (L= 60mm / **60**) **FKO-83-860**

								L									
								60	63	80	100	125	160	200	250	315	400
								L1									
REF	T	W	d1	d2	H	R1	R2	32	32	40	50	63	80	100	125	160	200
FK0-83-8L	0,8	3,8	4,2	8	3	0,3	10	•	•	•	•	•	•	•			
FK1-03-5L	1,0	3,5	4,0	8	3	0,3	10	•	•	•	•	•	•				
FK1-03-8L	1,0	3,8	4,2	8	3	0,3	10	•	•	•	•	•	•				
FK1-04-0L	1,0	4,0	4,5	8	3	0,3	10					•					
FK1-04-5L	1,0	4,5	5,0	10	3	0,3	10			•	•	•	•	•			
FK1-05-5L	1,0	5,5	5,5	12	5	0,5	10			•	•	•	•	•			
FK1-23-5L	1,2	3,5	4,0	8	3	0,3	10			•	•	•	•				
FK1-23-8L	1,2	3,8	4,2	8	3	0,3	10	•	•	•	•	•	•	•			
FK1-24-5L	1,2	4,5	5,0	10	3	0,3	10			•	•	•	•	•			
FK1-25-5L	1,2	5,5	6,0	12	5	0,5	10			•	•	•	•	•			
FK1-27-5L	1,2	7,5	8,0	14	5	0,5	10				•	•	•	•	•		
FK1-54-5L	1,5	4,5	5,0	10	3	0,3	10			•	•	•	•	•			
FK1-55-5L	1,5	5,5	6,0	12	5	0,5	10			•	•	•	•	•			
FK1-57-5L	1,5	7,5	8,0	14	5	0,5	10				•	•	•	•	•		
FK1-59-5L	1,5	9,5	10,0	16	5	0,5	10						•	•	•	•	
FK2-05-5L	2,0	5,5	6,0	12	5	0,5	10			•	•	•	•	•			
FK2-07-5L	2,0	7,5	8,0	14	5	0,5	10				•	•	•	•	•	•	
FK2-09-5L	2,0	9,5	10,0	16	5	0,5	10						•	•	•	•	•
FK2-011-5L	2,0	11,5	12,0	18	7	0,8	10							•	•	•	•
FK2-015-5L	2,0	15,5	16,0	22	7	0,8	10							•	•	•	•
FK2-511-5L	2,5	11,5	12,0	18	7	0,8	10							•	•	•	•
FK2-515-5L	2,5	15,5	16,0	22	7	0,8	10							•	•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TYPE FW - NITRIDED **FW**



Standard: DIN1530 / ISO8693
Mat.: 1.2344, pre-hardened
Max. Temp: 500-550 °C

Order example for ejector with T = **0,8 mm;** W = **3,5** and L = **63 mm: REF*L** (L= 63 mm / **63**) **FWO-83-563**

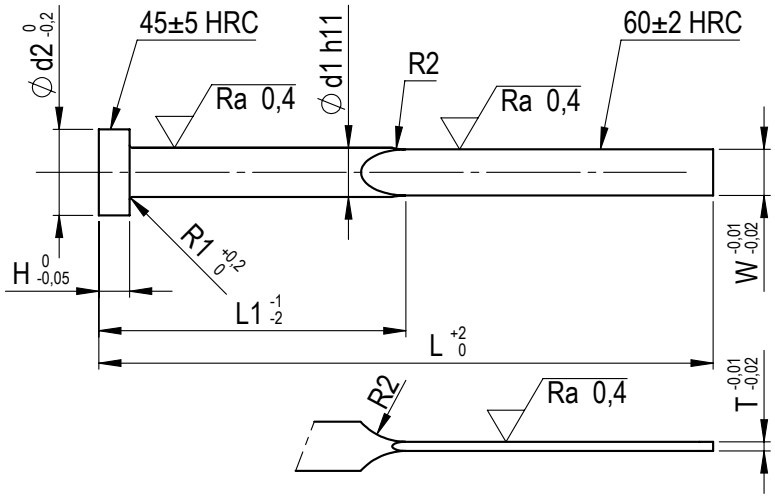
REF	T	W	d1	d2	H	R1	R2	L 60 / L1 32	L 63 / L1 32	L 80 / L1 40	L 100 / L1 50	L 125 / L1 63	L 160 / L1 80	L 200 / L1 100	L 250 / L1 125	L 315 / L1 160	L 400 / L1 200
FW0-83-5L	0,8	3,5	4,0	8	3	0,3	10		•	•	•	•					
FW0-83-8L	0,8	3,8	4,2	8	3	0,3	10	•	•	•	•	•					
FW1-03-5L	1,0	3,5	4,0	8	3	0,3	10	•	•	•	•	•					
FW1-03-8L	1,0	3,8	4,2	8	3	0,3	10	•	•	•	•	•	•				
FW1-04-5L	1,0	4,5	5,0	10	3	0,3	10			•	•	•	•	•			
FW1-05-5L	1,0	5,5	6,0	12	5	0,5	10			•	•	•	•	•			
FW1-23-5L	1,2	3,5	4,0	8	3	0,3	10		•	•	•	•					
FW1-23-8L	1,2	3,8	4,2	8	3	0,3	10	•	•	•	•	•	•	•			
FW1-24-5L	1,2	4,5	5,0	10	3	0,3	10			•	•	•	•	•			
FW1-25-5L	1,2	5,5	6,0	12	5	0,5	10			•	•	•	•	•			
FW1-27-5L	1,2	7,5	8,0	14	5	0,5	10				•	•	•	•	•		
FW1-54-5L	1,5	4,5	5,0	10	3	0,3	10			•	•	•	•	•			
FW1-55-5L	1,5	5,5	6,0	12	5	0,5	10			•	•	•	•	•			
FW1-57-5L	1,5	7,5	8,0	14	5	0,5	10					•	•	•	•		
FW1-59-5L	1,5	9,5	10,0	16	5	0,5	10						•	•	•	•	
FW1-64-5L	1,6	4,5	5,0	10	3	0,3	10			•	•	•	•	•			
FW1-65-5L	1,6	5,5	6,0	12	5	0,5	10				•	•	•	•			
FW1-67-5L	1,6	7,5	8,0	14	5	0,5	10					•	•	•	•		
FW1-84-5L	1,8	4,5	5,0	10	3	0,3	10			•	•	•	•	•			
FW1-85-5L	1,8	5,5	6,0	12	5	0,5	10					•	•	•			
FW1-87-5L	1,8	7,5	8,0	14	5	0,5	10						•	•	•		
FW1-89-5L	1,8	9,5	10,0	16	5	0,5	10							•	•	•	
FW2-05-5L	2,0	5,5	6,0	12	5	0,5	10				•	•	•		•	•	
FW2-07-5L	2,0	7,5	8,0	14	5	0,5	10						•		•	•	•
FW2-09-5L	2,0	9,5	10,0	16	5	0,5	10								•	•	•
FW2-011-5L	2,0	11,5	12,0	18	7	0,8	10								•	•	•
FW2-012-0L	2,0	12,0	12,5	18	7	0,8	10								•	•	•
FW2-015-0L	2,0	15,0	16,0	22	7	0,8	10								•	•	•
FW2-015-5L	2,0	15,5	16,0	22	7	0,8	10								•	•	•
FW2-511-5L	2,5	11,5	12,0	18	7	0,8	10								•	•	•
FW2-512-0L	2,5	12,0	12,5	18	7	0,8	10								•	•	•
FW2-515-0L	2,5	15,0	16,0	22	7	0,8	10								•	•	•
FW2-515-5L	2,5	15,5	16,0	22	7	0,8	10								•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

FLAT EJECTOR PINS

FLAT EJECTOR PIN WITH 2 RADII — F2R



Standard: DIN1530 / ISO8693
Mat.: 1.2210, (60 ±2 HRC)
Max. Temp: 250 °C

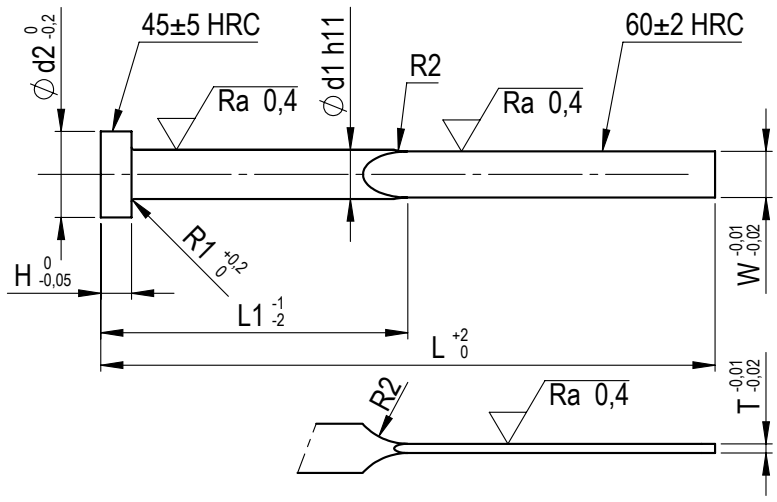
Order example for ejector with T = **0,5 mm;** W = **2,8** and L = **80mm: REF*L** (L= 80mm / **060**) **F2R0-52-8080**

REF	T	W	d1	d2	H	R1	R2	R3	L 63 / L1 30	L 80 / L1 40	L 100 / L1 50	L 125 / L1 60	L 160 / L1 80	L 200 / L1 100	L 250 / L1 125	L 315 / L1 160
F2R0-502-8LLL	0,5	2,8	3,0	6	3	0,3	≥ 50	0,2		•	•	•	•			
F2R0-503-8LLL	0,5	3,8	4,2	8	3	0,3	≥ 50	0,2		•	•	•	•			
F2R0-602-8LLL	0,6	2,8	3,0	6	3	0,3	≥ 50	0,2		•	•	•	•			
F2R0-603-8LLL	0,6	3,8	4,2	8	3	0,3	≥ 50	0,2		•	•	•	•	•		
F2R0-802-8LLL	0,8	2,8	3,0	6	3	0,3	≥ 50	0,2		•	•	•	•	•		
F2R0-803-8LLL	0,8	3,8	4,2	8	3	0,3	≥ 50	0,2	•	•	•	•	•	•	•	
F2R1-002-8LLL	1,0	2,8	3,0	6	3	0,3	≥ 50	0,2			•	•	•	•		
F2R1-003-8LLL	1,0	3,8	4,2	8	3	0,3	≥ 50	0,2	•	•	•	•	•	•	•	•
F2R1-004-5LLL	1,0	4,5	5,0	10	3	0,3	≥ 50	0,2		•	•	•	•	•	•	•
F2R1-005-5LLL	1,0	5,5	6,0	12	5	0,5	≥ 50	0,2		•	•	•	•	•	•	•
F2R1-203-8LLL	1,2	3,8	4,2	8	3	0,3	≥ 50	0,2		•	•	•	•	•	•	•
F2R1-204-5LLL	1,2	4,5	5,0	10	3	0,3	≥ 50	0,2		•	•	•	•	•	•	•
F2R1-205-5LLL	1,2	5,5	6,0	12	5	0,5	≥ 50	0,2		•	•	•	•	•	•	•
F2R1-207-5LLL	1,2	7,5	8,0	14	5	0,5	≥ 50	0,2			•	•	•	•	•	•
F2R1-504-5LLL	1,5	4,5	5,0	10	3	0,3	≥ 50	0,2			•	•	•	•	•	•
F2R1-505-5LLL	1,5	5,5	6,0	12	5	0,5	≥ 50	0,2			•	•	•	•	•	•
F2R1-507-5LLL	1,5	7,5	8,0	14	5	0,5	≥ 50	0,2				•	•	•	•	•
F2R1-509-5LLL	1,5	9,5	10,0	16	5	0,5	≥ 50	0,2					•	•	•	•
F2R2-005-5LLL	2,0	5,5	6,0	12	5	0,5	≥ 50	0,2			•	•	•	•	•	•
F2R2-007-5LLL	2,0	7,5	8,0	14	5	0,5	≥ 50	0,2					•	•	•	•
F2R2-009-5LLL	2,0	9,5	10,0	16	5	0,5	≥ 50	0,2						•	•	•
F2R2-011-5LLL	2,0	11,5	12,0	18	7	0,8	≥ 50	0,2						•	•	•
F2R2-511-5LLL	2,5	11,5	12,0	18	7	0,8	≥ 50	0,2						•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

FLAT EJECTOR PIN WITH 4 RADII — F4R



Standard: DIN1530 / ISO8693
Mat.: 1.2210, (60 ±2 HRC)
Max. Temp: 250 °C

Order example for ejector with T = **0,5 mm;** W = **2,8** and L = **80mm: REF*L** (L= 80mm / **060**) **F4R0-52-8080**

REF	T	W	d1	d2	H	R1	R2	R3	L 63 / L1 30	L 80 / L1 40	L 100 / L1 50	L 125 / L1 60	L 160 / L1 80	L 200 / L1 100	L 250 / L1 125	L 315 / L1 160
F4R0-502-8LLL	0,5	2,8	3,0	6	3	0,3	≥ 50	0,2		•	•	•	•			
F4R0-503-8LLL	0,5	3,8	4,2	8	3	0,3	≥ 50	0,2		•	•	•	•			
F4R0-602-8LLL	0,6	2,8	3,0	6	3	0,3	≥ 50	0,2		•	•	•	•			
F4R0-603-8LLL	0,6	3,8	4,2	8	3	0,3	≥ 50	0,2		•	•	•	•	•		
F4R0-802-8LLL	0,8	2,8	3,0	6	3	0,3	≥ 50	0,2		•	•	•	•	•		
F4R0-803-8LLL	0,8	3,8	4,2	8	3	0,3	≥ 50	0,2	•	•	•	•	•	•	•	
F4R1-002-8LLL	1,0	2,8	3,0	6	3	0,3	≥ 50	0,2			•	•	•	•		
F4R1-003-8LLL	1,0	3,8	4,2	8	3	0,3	≥ 50	0,2	•	•	•	•	•	•	•	•
F4R1-004-5LLL	1,0	4,5	5,0	10	3	0,3	≥ 50	0,2		•	•	•	•	•	•	•
F4R1-005-5LLL	1,0	5,5	6,0	12	5	0,5	≥ 50	0,2		•	•	•	•	•	•	•
F4R1-203-8LLL	1,2	3,8	4,2	8	3	0,3	≥ 50	0,2		•	•	•	•	•	•	•
F4R1-204-5LLL	1,2	4,5	5,0	10	3	0,3	≥ 50	0,2		•	•	•	•	•	•	•
F4R1-205-5LLL	1,2	5,5	6,0	12	5	0,5	≥ 50	0,2		•	•	•	•	•	•	•
F4R1-207-5LLL	1,2	7,5	8,0	14	5	0,5	≥ 50	0,2			•	•	•	•	•	•
F4R1-504-5LLL	1,5	4,5	5,0	10	3	0,3	≥ 50	0,2			•	•	•	•	•	•
F4R1-505-5LLL	1,5	5,5	6,0	12	5	0,5	≥ 50	0,2			•	•	•	•	•	•
F4R1-507-5LLL	1,5	7,5	8,0	14	5	0,5	≥ 50	0,2				•	•	•	•	•
F4R1-509-5LLL	1,5	9,5	10,0	16	5	0,5	≥ 50	0,2					•	•	•	•
F4R2-005-5LLL	2,0	5,5	6,0	12	5	0,5	≥ 50	0,2			•	•	•	•	•	•
F4R2-007-5LLL	2,0	7,5	8,0	14	5	0,5	≥ 50	0,2					•	•	•	•
F4R2-009-5LLL	2,0	9,5	10,0	16	5	0,5	≥ 50	0,2						•	•	•
F4R2-011-5LLL	2,0	11,5	12,0	18	7	0,8	≥ 50	0,2						•	•	•
F4R2-511-5LLL	2,5	11,5	12,0	18	7	0,8	≥ 50	0,2						•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

When you want pins with special shapes such as tapers or contours - special head sizes- special hardness, special material up to any length.

DME has the manufacturing, heat treating and sophisticated quality control equipment to meet your requirements for special ejector pins, core pins or ejector sleeves.

Special pins match the precision manufacturing of all our standards in every detail.

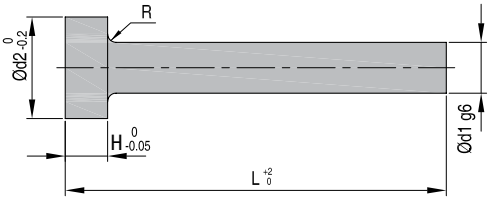
Step 1: Print this form.

Step 2: Specify required tolerances on all dimensions.

Step 3: Contact **DME**

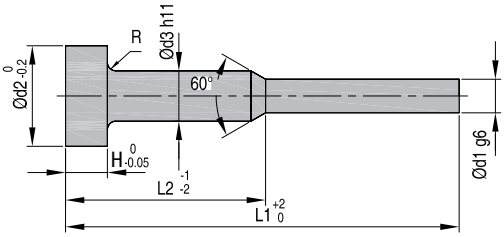
Special Pins

Comments:
.....
.....
Company:.....
Contact:.....
Tel.:.....
Fax:.....
Quantity:.....
Mat.:.....
Hardness:..... HRC
Delivery date:.....
Nitrite: ☐ Yes
Signature:.....
Order Number:.....



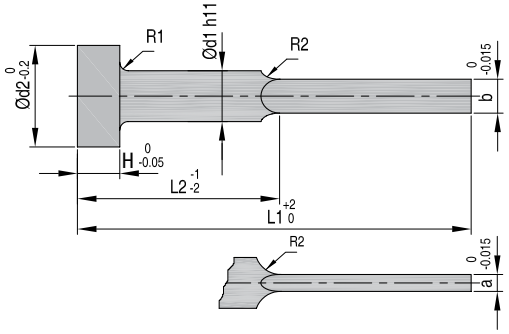
	Dim.	Tol.
d1		
d2		
K		
R		
L		

Comments:
.....
.....
Company:.....
Contact:.....
Tel.:.....
Fax:.....
Quantity:.....
Mat.:.....
Hardness:..... HRC
Delivery date:.....
Nitrite: ☐ Yes
Signature:.....
Order Number:.....



	Dim.	Tol.
d1		
d2		
d3		
L1		
L2		
K		
R		

Comments:
.....
.....
.....
Company:.....
Contact:.....
Tel.:.....
Fax:.....
Quantity:.....
Mat.:.....
Hardness:..... HRC
Delivery date:.....
Nitrite: ☐ Yes
Signature:.....
Order Number:.....



	Dim.	Tol.
d1		
d2		
K		
R1		
R2		
a		
b		
L1		
L2		

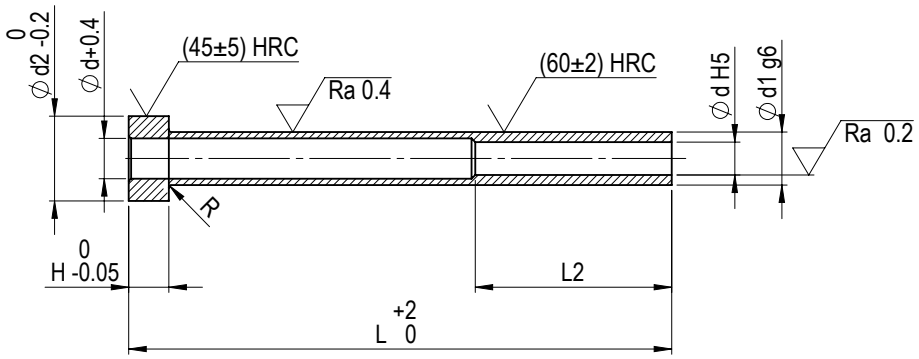
CAD reference point

EJECTOR SLEEVES

DME ejector sleeves are made of the finest grade nitriding steel. They are gun drilled, finish reamed and honed for accurate concentricity of O.D./I.D. over full bearing length. The heads are hot-forged for uniform, consistent tensile strength and longer mould life. The outside surface is nitrided to a hardness of min. 950 HV 0,3 and is honed to minimize wear and give trouble-free performance. Your DME Service Center stocks a wide range of diameters and lengths to suit a variety of applications.

EJECTOR SLEEVES

TYPE KS - HARDENED KS



Standard: DIN16756/ISO8405
Mat.: WS (~1.2067)
Max. Temp: 200-250 °C
Surface roughness: Ra

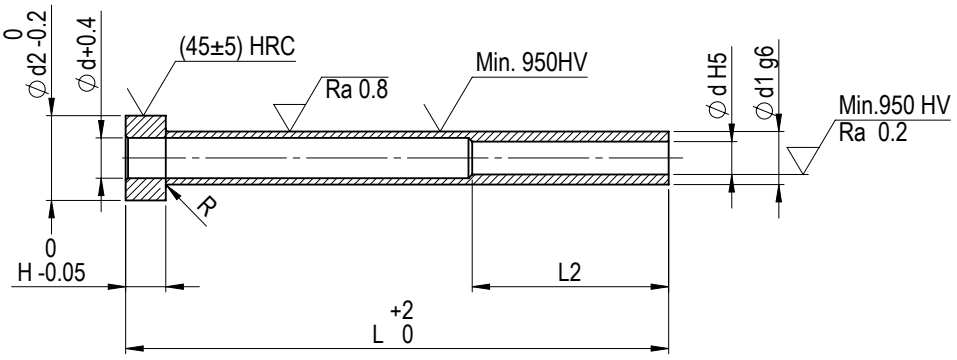
Order example for first item (KS + d + d1 + L): **KS153 75**

d H5	d1 g6	d2 -0,2	L2	R	K -0,05	L^{+0}_{2} 60	75	100	125	150	175	200	225	250	275	300	325	350
1,5	3	6,0	30	0,3	3		•	•	•									
1,6	3	6,0	30	0,3	3				•	•								
1,7	3	6,0	30	0,3	3		•	•	•	•								
1,8	3	6,0	30	0,3	3			•	•	•								
2,0	4	8,0	35	0,3	3	•	•	•	•	•								
2,2	4	8,0	35	0,3	3	•	•	•	•	•								
2,5	5	10,0	35	0,3	3	•	•	•	•	•	•	•						
2,7	5	10,0	45	0,3	3			•	•	•								
3,0	5	10,0	45	0,3	3		•	•	•	•	•	•	•	•	•			
3,2	5	10,0	45	0,3	3		•	•	•	•	•	•	•	•	•			
3,5	6	12,0	45	0,5	5	•	•	•	•	•	•	•	•	•	•	•		
3,7	6	12,0	45	0,5	5			•	•	•						•		
4,0	6	12,0	45	0,5	5	•	•	•	•	•	•	•	•	•	•	•	•	•
4,2	8	14,0	45	0,5	5		•	•	•	•	•	•		•	•	•	•	
4,5	8	14,0	45	0,5	5		•	•	•	•			•					
5,0	8	14,0	45	0,5	5	•	•	•	•	•	•	•	•	•	•	•	•	
5,2	8	14,0	45	0,5	5		•	•	•	•	•	•	•	•				
5,5	8	14,0	45	0,5	5		•	•	•	•	•	•	•	•		•	•	
6,0	10	16,0	45	0,5	5	•	•	•	•	•	•	•	•				•	•
6,2	10	16,0	45	0,5	5			•	•	•	•			•				
6,5	10	16,0	45	0,8	5			•	•	•						•	•	•
8,0	12	20,0	45	0,8	7	•	•	•	•	•	•	•	•	•		•	•	
8,2	12	20,0	45	0,8	7		•	•	•	•	•		•					•
8,5	12	20,0	45	0,8	7		•	•	•	•								•
10,0	14	22,0	45	0,8	7		•	•	•	•								
10,5	14	22,0	45	0,8	7			•	•							•		
11,0	14	22,0	45	0,8	7				•									
12,0	16	22,0	45	0,8	7		•	•										
12,5	16	22,0	45	0,8	7		•	•	•	•	•							
14,0	18	24,0	45	0,8	9			•	•				•					
16,0	20	26,0	50	0,8	9			•								•		
18,0	22	28,0	50	0,8	9			•										

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TYPE S - NITRIDED **S**



Standard: DIN16756/ISO8405
Mat.: WAS (~1.2344)
Max. Temp: 500-550 °C
Surface roughness: Ra

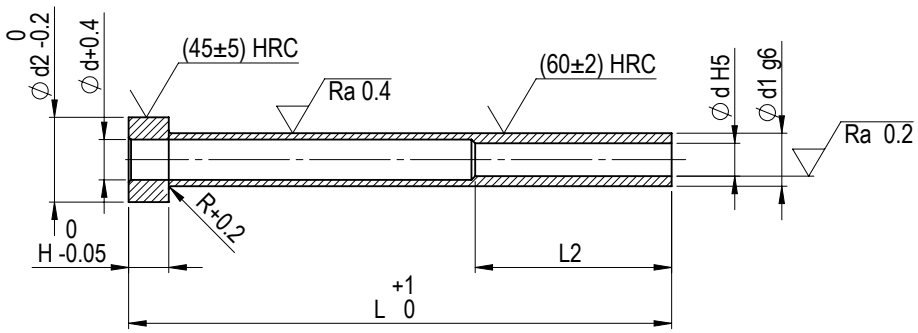
Order example for first item (S + d + d1 + L): **S153150**

d H5	d1 g6	d2 0 -0,2	L2	R	K 0 -0,05	L +0 +2 60	75	80	95	100	110	125	150	175	200	225	250	275	300	325	350
1,5	3-0	6,0	35	0,3	3	•	•	•	•	•	•	•	•								
1,6	3-0	6,0	35	0,3	3		•			•		•	•								
1,7	3-0	6,0	35	0,3	3		•			•		•	•								
1,8	3-0	6,0	35	0,3	3		•			•		•	•								
2,0	4-0	8,0	35	0,3	3		•			•		•	•								
2,2	4-0	8,0	35	0,3	3					•		•	•								
2,5	5-0	10,0	35	0,3	3		•			•		•	•								
2,7	5-0	10,0	45	0,3	3		•			•		•									
2,8	5-0	10,0	45	0,3	3					•		•									
3,0	5-0	10,0	45	0,3	3		•			•		•	•	•							
3,2	5-0	10,0	45	0,3	3		•			•		•	•	•							
3,5	6-0	12,0	45	0,5	5		•			•		•	•	•							
3,7	6-0	12,0	45	0,5	5		•			•		•	•	•	•						
4,0	6-0	12,0	45	0,5	5		•			•		•	•	•	•		•				
4,2	8-0	14,0	45	0,5	5		•			•		•	•	•	•						
4,5	8-0	14,0	45	0,5	5		•														
5,0	8-0	14,0	45	0,5	5		•			•		•	•	•	•		•				
5,2	8-0	14,0	45	0,5	5		•			•		•	•	•	•						
6,0	10-0	16,0	45	0,5	5		•			•		•	•	•	•		•				
6,2	10-0	16,0	45	0,5	5		•			•		•	•	•	•	•	•				
6,5	10-0	16,0	45	0,5	5					•		•									
8,0	12-0	20,0	45	0,8	7		•			•		•	•	•	•	•	•	•	•		•
8,2	12-0	20,0	45	0,8	7		•			•		•	•	•	•	•	•	•			
8,5	12-0	20,0	45	0,8	7																
10,0	14-0	22,0	45	0,8	7					•		•	•	•	•	•	•				
10,2	14-0	22,0	45	0,8	7								•								
10,5	14-0	22,0	45	0,8	7																
11,0	14-0	22,0	45	0,8	7																
12,0	16-0	22,0	45	0,8	7					•		•	•	•	•	•	•	•			
12,5	16-0	22,0	45	0,8	7																
14,0	18-0	24,0	45	0,8	9					•		•	•	•	•	•	•	•	•	•	•
16,0	20-0	26,0	50	0,8	9					•		•	•	•	•	•	•	•	•	•	•
18,0	22-0	28,0	50	0,8	9					•		•	•		•	•	•	•	•	•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

STEPLESS HARDENED EJECTOR SLEEVE **KSS**



Mat.: 1.2210
≈ ISO 8405 (DIN 16756)

REF	d	d1	L	d2	d3	L2	K	R
KSS01503075	1,5	3	75	1,8	6	35	3	0,3
KSS01503100	1,5	3	100	1,8	6	35	3	0,3
KSS01503125	1,5	3	125	1,8	6	35	3	0,3
KSS01503150	1,5	3	150	1,8	6	35	3	0,3
KSS01503175	1,5	3	175	1,8	6	35	3	0,3
KSS02004075	2	4	75	2,4	8	35	3	0,3
KSS02004100	2	4	100	2,4	8	35	3	0,3
KSS02004125	2	4	125	2,4	8	35	3	0,3
KSS02004150	2	4	150	2,4	8	35	3	0,3
KSS02004175	2	4	175	2,4	8	35	3	0,3
KSS02504075	2,5	4	75	2,9	8	35	3	0,3
KSS02504100	2,5	4	100	2,9	8	35	3	0,3
KSS02504125	2,5	4	125	2,9	8	35	3	0,3
KSS02504150	2,5	4	150	2,9	8	35	3	0,3
KSS02504175	2,5	4	175	2,9	8	35	3	0,3
KSS02504200	2,5	4	200	2,9	8	35	3	0,3
KSS03005075	3	5	75	3,4	10	45	3	0,3
KSS03005100	3	5	100	3,4	10	45	3	0,3
KSS03005125	3	5	125	3,4	10	45	3	0,3
KSS03005150	3	5	150	3,4	10	45	3	0,3
KSS03005175	3	5	175	3,4	10	45	3	0,3
KSS03005200	3	5	200	3,4	10	45	3	0,3
KSS03505075	3,5	5	75	3,9	10	45	3	0,3
KSS03505100	3,5	5	100	3,9	10	45	3	0,3
KSS03505125	3,5	5	125	3,9	10	45	3	0,3
KSS03505150	3,5	5	150	3,9	10	45	3	0,3
KSS03505175	3,5	5	175	3,9	10	45	3	0,3
KSS03505200	3,5	5	200	3,9	10	45	3	0,3
KSS04006075	4	6	75	4,4	12	45	5	0,5
KSS04006100	4	6	100	4,4	12	45	5	0,5
KSS04006125	4	6	125	4,4	12	45	5	0,5
KSS04006150	4	6	150	4,4	12	45	5	0,5
KSS04006175	4	6	175	4,4	12	45	5	0,5
KSS04006200	4	6	200	4,4	12	45	5	0,5
KSS04006225	4	6	225	4,4	12	45	5	0,5
KSS04006250	4	6	250	4,4	12	45	5	0,5
KSS04506075	4,5	6	75	4,9	12	45	5	0,5
KSS04506100	4,5	6	100	4,9	12	45	5	0,5

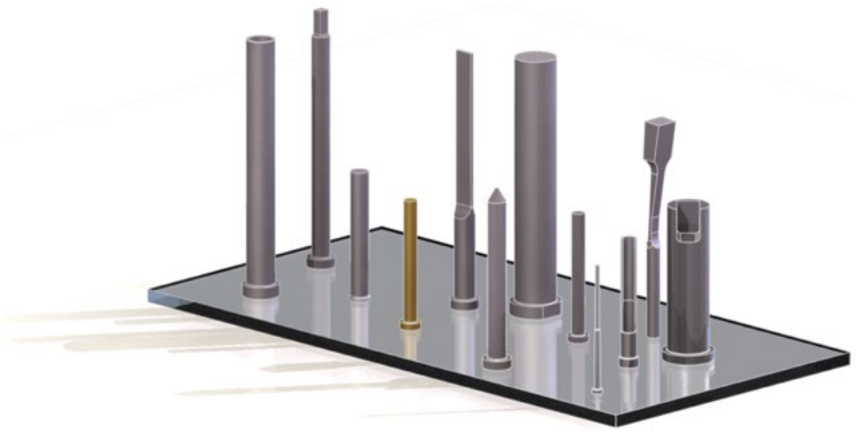
REF	d	d1	L	d2	d3	L2	K	R
KSS04506125	4,5	6	125	4,9	12	45	5	0,5
KSS04506150	4,5	6	150	4,9	12	45	5	0,5
KSS04506175	4,5	6	175	4,9	12	45	5	0,5
KSS04506200	4,5	6	200	4,9	12	45	5	0,5
KSS04506225	4,5	6	225	4,9	12	45	5	0,5
KSS04506250	4,5	6	250	4,9	12	45	5	0,5
KSS05007100	5	7	100	5,3	12	50	5	0,5
KSS05007125	5	7	125	5,3	12	50	5	0,5
KSS05007150	5	7	150	5,3	12	50	5	0,5
KSS05007175	5	7	175	5,3	12	50	5	0,5
KSS05007200	5	7	200	5,3	12	50	5	0,5
KSS05007225	5	7	225	5,3	12	50	5	0,5
KSS05007250	5	7	250	5,3	12	50	5	0,5
KSS05508100	5,5	8	100	5,9	14	50	5	0,5
KSS05508125	5,5	8	125	5,9	14	50	5	0,5
KSS05508150	5,5	8	150	5,9	14	50	5	0,5
KSS05508175	5,5	8	175	5,9	14	50	5	0,5
KSS05508200	5,5	8	200	5,9	14	50	5	0,5
KSS05508225	5,5	8	225	5,9	14	50	5	0,5
KSS05508250	5,5	8	250	5,9	14	50	5	0,5
KSS06009100	6	9	100	6,4	14	50	5	0,5
KSS06009125	6	9	125	6,4	14	50	5	0,5
KSS06009150	6	9	150	6,4	14	50	5	0,5
KSS06009175	6	9	175	6,4	14	50	5	0,5
KSS06009200	6	9	200	6,4	14	50	5	0,5
KSS06009225	6	9	225	6,4	14	50	5	0,5
KSS06009250	6	9	250	6,4	14	50	5	0,5
KSS08012100	8	12	100	8,5	20	50	7	0,8
KSS08012125	8	12	125	8,5	20	50	7	0,8
KSS08012150	8	12	150	8,5	20	50	7	0,8
KSS08012175	8	12	175	8,5	20	50	7	0,8
KSS08012200	8	12	200	8,5	20	50	7	0,8
KSS10014100	10	14	100	10,5	22	50	7	0,8
KSS10014125	10	14	125	10,5	22	50	7	0,8
KSS10014150	10	14	150	10,5	22	50	7	0,8
KSS10014175	10	14	175	10,5	22	50	7	0,8
KSS10014200	10	14	200	10,5	22	50	7	0,8

CAD reference point

When you want pins with special shapes such as tapers or contours - special head sizes- special hardness, special material up to any length.

DME has the manufacturing, heat treating and sophisticated quality control equipment to meet your requirements for special ejector pins, core pins or ejector sleeves.

Special pins match the precision manufacturing of all our standards in every detail.



Step 1: Print this form.

Step 2: Specify required tolerances on all dimensions.

Step 3: Contact **DME**

Special Sleeves

Comments:

.....

.....

.....

Company:.....

Contact:.....

Tel.: .....

Fax: .....

Quantity:.....

Mat.: .....

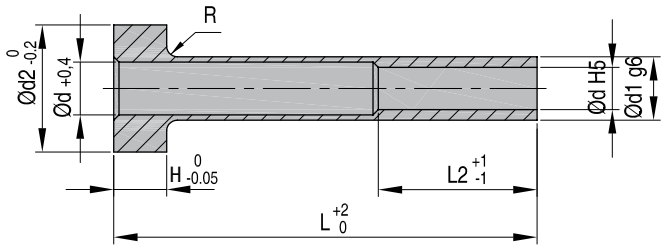
Hardness: ..... HRC

Delivery date: .....

Nitrite: ☐ Yes

Signature:.....

Order Number:.....



	Dim.	Tol.
d1		
d2		
d3		
L		
L2		
K		
R		

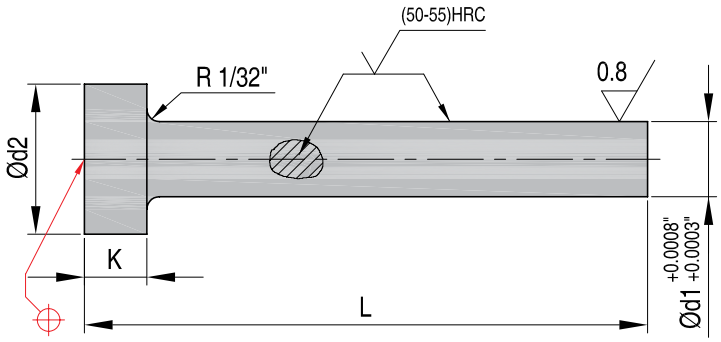
CAD reference point

CAD reference point

INCH EJECTOR PINS

INCHES

TYPE CX - HARDENED CX



Mat.: H 13
Max. Temp: 500-550 °C
Surface roughness: Ra

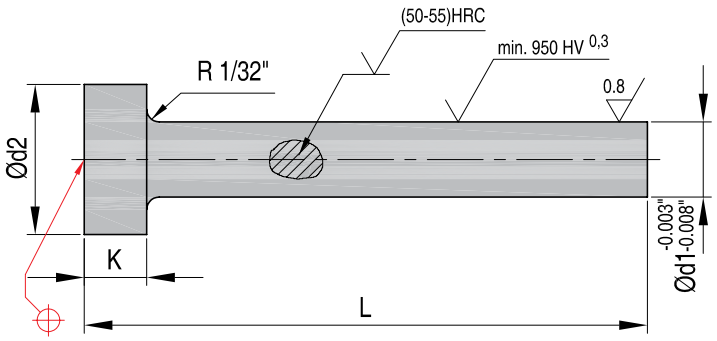
REF	d1 +0,0008" +0,0003"	d2 +0,000" -0,010"	K +0,000" -0,002"	L +0,375" -0,000"			
				3"	6"	10"	14"
CX7M	3/32"	1/4"	1/8"	•	•		
CX8M	7/64"	1/4"	1/8"				
CX9M	1/8"	1/4"	1/8"	•	•	•	
CX10M	9/64"	1/4"	1/8"	•			
CX11M	5/32"	9/32"	5/32"	•			
CX12M	11/64"	11/32"	3/16"	•			
CX13M	3/16"	3/8"	3/16"	•	•	•	
CX14M	13/64"	3/8"	3/16"	•			
CX15M	7/32"	16/32"	3/16"				
CX17M	1/4"	7/16"	3/16"	•	•	•	
CX19M	9/32"	7/16"	1/4"	•	•		
CX21M	5/16"	1/2"	1/4"	•	•		
CX23M	11/32"	9/16"	1/4"	•			
CX25M	3/8"	5/8"	1/4"	•	•		
CX27M	13/32"	11/16"	1/4"				
CX29M	7/16"	11/16"	1/4"				
CX31M	15/32"	3/4"	1/4"				
CX33M	1/2"	3/4"	1/4"	•	•	•	
CX35M	9/16"	13/16"	1/4"		•		
CX37M	5/8"	7/8"	1/4"				
CX41M	3/4"	1"	1/4"				

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TYPE THX - HIGH HARDNESS

THX



Standard: DIN1530/ISO8694
Mat.: H 13
Max. Temp: 500-550 °C
Surface roughness: Ra
Core hardness: 50-55 HRC
Surface treatment: 65-74 HRC

REF	d1	d1 ø tol	d2	K	L +0,375" -0,000"						
					06"	06"OS	10"	10"OS	14"	14"OS	18"
THX03	3/64"	+0,000 -0,001	1/4"	1/8							
THX05	1/16"		1/4"	1/8							
THX06	5/64"		1/4"	1/8							
THX07	3/32"		1/4"	1/8							
THX08	7/64"		1/4"	1/8							
THX09	1/8"	-0,0003 -0,0006	1/4"	1/8	•		•				
THX10	9/64"		1/4"	1/8			•				
THX11	5/32"		9/32"	5/32	•		•				
THX12	11/64"		11/32"	3/16							
THX13	3/16"		3/8"	3/16			•		•		
THX14	13/64"		3/8"	3/16							
THX15	7/32"		13/32"	3/16	•						
THX16	15/64"		13/32"	3/16							
THX17	1/4"		7/16"	3/16	•		•		•		
THX18	17/64"		7/16"	1/4							
THX19	9/32"		7/16"	1/4							
THX20	19/64"		1/2"	1/4							
THX21	5/16"		1/2"	1/4	•						
THX22	21/64"		9/16"	1/4							
THX23	11/32"		9/16"	1/4							
THX24	23/64"		5/8"	1/4							
THX25	3/8"		5/8"	1/4							
THX26	25/64"		5/8"	1/4							
THX27	13/32"		11/16"	1/4							
THX28	27/64"		11/16"	1/4							
THX29	7/16"		11/16"	1/4							
THX30	29/64"		11/16"	1/4							
THX31	15/32"		3/4"	1/4							
THX32	31/64"		3/4"	1/4							
THX33	1/2"	-0,003 -0,008	3/4"	1/4	•		•				
THX34	17/32"		3/4"	1/4							
THX35	9/16"		13/16"	1/4							
THX37	5/8"		7/8"	1/4							•
THX39	11/16"		15/16"	1/4							
THX41	3/4"		1	1/4			•				•
THX45	7/8"		1-1/8"	1/4							
THX47	1"		1-1/4"	1/4							

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

- Higher core hardness makes the THX pins ideal for use in die cast dies or other high temperature applications
- Core hardness of 50-55 HRc minimizes nicking, dishing and bending
- Non-chipping surface treatment of 65-74 HRc alleviates flashing
- Annealed and finished heads permit easy machining
- Centerless ground and polished outer diameter
- Final finish minimizes wear and prolongs pin life

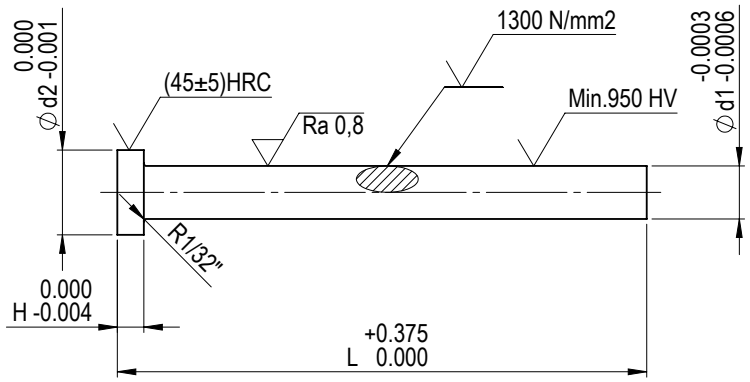
For THX03– THX09 add NS (no shoulder)

CAD reference point

INCHES

TYPE A-EX - NITRIDED

A-EX



Mat.: H 13
Max. Temp: 500-550 °C
Surface roughness: Ra

REF	d1 -0,0003" -0,0006"	d2 +0,000" -0,001"	K +0,000" -0,004"	L +0,375" -0,000"								
				6"	10"	10"OS	14"	14"OS	18"	18"OS	25"	36"
EX3M	3/64"	1/4"	1/8"	•								
EX5M	1/16"	1/4"	1/8"	•								
EX6M	5/64"	1/4"	1/8"	•								
EX7M	3/32"	1/4"	1/8"	•	•							
EX8M	7/64"	1/4"	1/8"	•								
EX9M	1/8"	1/4"	1/8"	•	•		•					
EX10M	9/64"	1/4"	1/8"			•						
EX11M	5/32"	9/32"	5/32"	•	•		•					
EX12M	11/64"	11/32"	3/16"			•						
EX13M	3/16"	3/8"	3/16"	•	•		•		•			
EX14M	13/64"	3/8"	3/16"			•						
EX15M	7/32"	13/32"	3/16"	•	•		•				•	
EX16M	15/64"	13/32"	3/16"									
EX17M	1/4"	7/16"	3/16"	•	•		•		•			
EX18M	17/64"	7/16"	1/4"			•						
EX19M	9/32"	7/16"	1/4"	•								
EX20M	19/64"	1/2"	1/4"			•						
EX21M	5/16"	1/2"	1/4"	•	•		•		•		•	
EX22M	21/64"	9/16"	1/4"			•						
EX23M	11/32"	9/16"	1/4"				•					
EX24M	23/64"	5/8"	1/4"									
EX25M	3/8"	5/8"	1/4"	•	•		•		•		•	
EX27M	13/32"	11/16"	1/4"									
EX29M	7/16"	11/16"	1/4"	•	•							
EX31M	15/32"	3/4"	1/4"									
EX33M	1/2"	3/4"	1/4"	•	•		•		•			
EX35M	9/16"	13/16"	1/4"			•		•				
EX37M	5/8"	7/8"	1/4"	•	•		•		•		•	
EX39M	11/16"	15/16"	1/4"									
EX41M	3/4"	1"	1/4"	•	•		•		•			
EX45M	7/8"	1 1/8"	1/4"							•		
EX47M	1"	1 1/4"	1/4"		•				•			

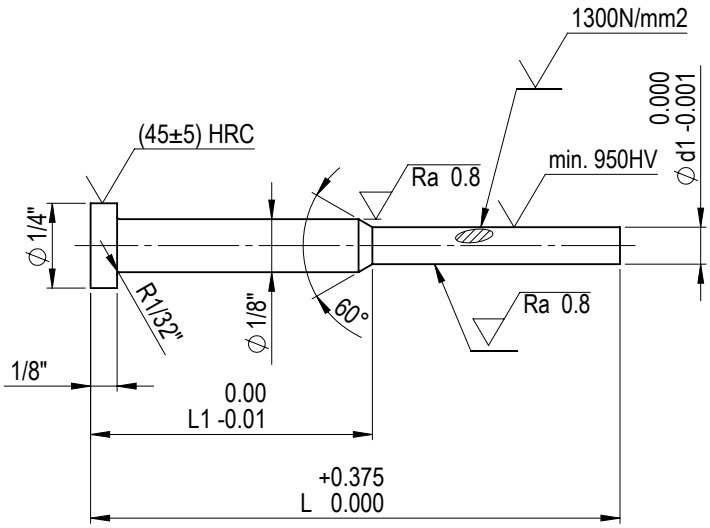
Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

Extra specifications for ordering (online)
EX3M6NS (no shoulder)
EX5M6NS (no shoulder)
EX6M6NS (no shoulder)
EX7M6NS (no shoulder)
EX8M6NS (no shoulder)

CAD reference point

TYPE C-EX - NITRIDED

C-EX



Mat.: H 13
Max. Temp: 500-550 °C
Surface roughness: Ra

REF	d1 +0,000" -0,001"	L 1 +0,375" -0,000"				
		6"	6"OS	10"	10"OS	14"
		L 2 +0,000" -0,010"				
		1/2"	1/2"	1/2"	1/2"	1/2"
EX2M	1/32"	•	•			
EX3M	3/64"	•		•	•	
EX5M	1/16"					•
EX6M	5/64"	•			•	•
EX7M	3/32"	•				•
EX8M	7/64"					

REF	d1 +0,000" -0,001"	L 1 +0,375" -0,000"				
		6"	6"OS	10"	10"OS	14"
		L 2 +0,000" -0,010"				
		2"	2"	2"	2"	2"
EX2M	1/32"		•			
EX3M	3/64"	•		•	•	
EX5M	1/16"	•				•
EX6M	5/64"					
EX7M	3/32"	•		•		
EX8M	7/64"				•	•

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

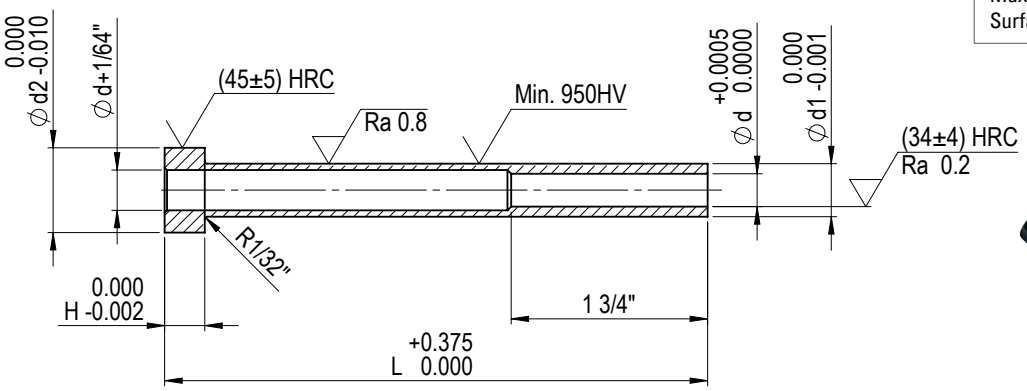
* Extra specifications for ordering (online)
EX3M612SH (= EX3-1/2"/shoulder/M6)
EX3M6 (= EX3-2"/shoulder/M6)
EX3M1012SH (= EX3-1/2"/shoulder/M10)
EX3M1012SHOS (= EX3-1/2"/shoulder/M10OS)
EX3M102SH (= EX3-2"/shoulder/M10)
EX3M10OS (= EX3-2"/shoulder/M10OS)
EX3M14 (= EX3-2"/shoulder/M14)

CAD reference point

INCHES

TYPE S - NITRIDED EJECTOR SLEEVES **S**

Mat.: H 13
Max. Temp: 500-550 °C
Surface roughness: Ra

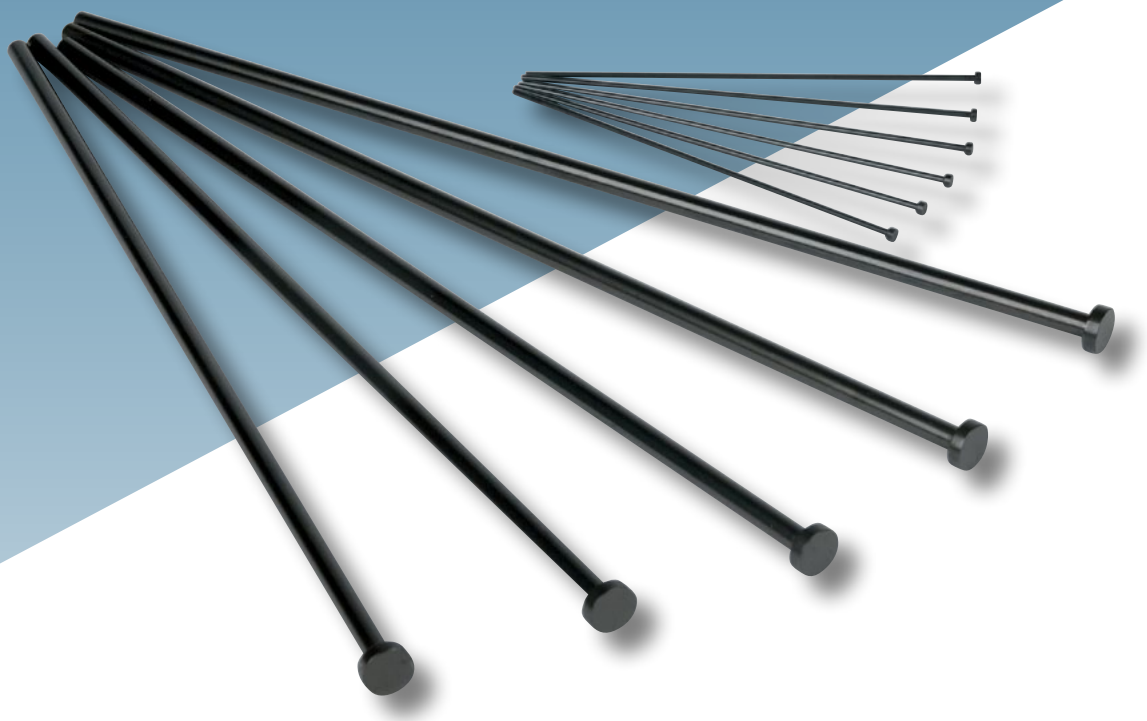


REF	d +0,0005" -0,0000"	d1 +0,0005" -0,0000"	d2 +0,000" -0,010"	K +0,000" -0,002"	L +0,375" -0,000"									
					3"	4"	5"	6"	7"	8"	9"	10"	11"	12"
S13M	3/32"	3/16"	3/8"	3/16"										
S15M	1/8"	7/32"	12/32"	3/16"										
S17M	5/32"	1/4"	7/16"	3/16"						•				
S21M	3/16"	5/16"	1/2"	1/4"										
S23M	7/32"	11/32"	9/16"	1/4"										
S25M	1/4"	3/8"	5/8"	1/4"		•	•	•		•				
S29M	5/16"	7/16"	11/16"	1/4"		•	•			•	•			
S33M	3/8"	1/2"	3/4"	1/4"		•					•			
S37M	7/16"	5/8"	7/8"	1/4"			•							
S39M	1/2"	11/16"	15/16"	1/4"										
S41M	9/16"	3/4"	1"	1/4"										
S45M	5/8"	7/8"	1 1/8"	1/4"										
S47M	3/4"	1"	1 1/4"	1/4"						•				

Ejector pins which are not highlighted can be available as special products. Please ask our Special Project department at DMEEU_SpecialProjects@dme.net.

CAD reference point

TECHNICAL DATA



DEFINITIONS

Brinell Hardness
Brinell hardness can be defined as the amount of force applied by a hard object, such as a steel ball, divided by the area of the indentation that the ball makes in the material. The output is read as a pressure (N/mm2, Kgf/m2, PSI).

Rockwell Hardness
The Rockwell hardness test is based on the differential in the depth of indentation produced on a sample's surface by a primary ("minor") and secondary ("major") load and a specific sized indentor or "penetrator." The difference in penetration depth between the two loads provides the measure of the hardness. The output would be read as a distance (mm, inch). There are several Rockwell scales for different ranges of hardness. The B scale (HRB) is used for soft metals and utilizes a steel ball as the penetrator, while the C scale (HRC) is used for hard metals and utilizes a cone-shaped diamond as the penetrator. Rockwell hardness numbers are not proportional to Brinell hardness readings.

Vickers Hardness
The Vickers hardness test method differs from the Rockwell (HRC) test method by using a square-based diamond pyramid penetrator, and the hardness number is equal to the load divided by the product of the lengths of the diagonals of the square impression. Vickers hardness is the most accurate test method for very hard materials and can be used on thin sheets of material. The output would not be a pressure value since the load is not divided by the area of the indentation.

Tensile Strength
Tensile strength can be defined as the quantity of stress required to overcome a material's resistance to structural failure. Tensile strength is read as a stress or pressure value (N/mm2, Kgf/m2, PSI).

Kilogram-force
The deprecated unit kilogram-force (kgf, often just kg) or kilopond (kp) is defined as the force exerted by one kilogram of mass in standard Earth gravity. Although the gravitational pull of the Earth varies as a function of position on earth, it is here defined as exactly 9.80665 m/s². So one kilogram-force is by definition equal to 9.80665 newtons.[1] The kilogram-force has never been a part of the International System of Units (SI), which was introduced in 1960. The SI unit of force is the newton.

Conversion Table DME Standard Ejector Pins (inches to mm)

Inches	Nominal	mm
3/64	0.046	1,190
1/16	0.062	1,587
5/64	0.078	1,984
3/32	0.093	2,381
7/64	0.109	2,778
1/8	0.125	3,175
9/64	0.140	3,571
5/32	0.156	3,968
11/64	0.171	4,365
3/16	0.187	4,762
13/64	0.203	5,159
7/32	0.218	5,556
15/64	0.234	5,953
1/4	0.250	6,350
17/64	0.265	6,746
9/32	0.281	7,143
19/64	0.296	7,540
5/16	0.312	7,937
21/64	0.328	8,334
11/32	0.343	8,731

Inches	Nominal	mm
23/64	0.359	9,128
3/8	0.375	9,525
25/64	0.390	9,921
13/32	0.406	10,318
27/64	0.420	10,715
7/16	0.437	11,112
29/64	0.450	11,509
15/32	0.468	11,906
31/64	0.480	12,303
1/2	0.500	12,700
17/32	0.530	13,493
9/16	0.562	14,287
5/8	0.625	15,875
11/16	0.687	17,462
3/4	0.750	19,050
7/8	0.875	22,225
1	1	25,400

CAD reference point

HARDNESS CHART - CROSS-REFERENCE (EQUIVALENCES)

Brinell Hardness	Tensile Strength	Vickers Hardness	Rockwell Hardness		Shore Hardness
BHN 10 mm steel ball. 3000 kg load	N/mm2 (MPa)	HV Diamond pyramid 30 kg load	HRC Diamond cone. 150 kg load	HRB 1/16 inch steel ball. 100 kg load	SH
96	343	96	–	55	–
103	363	103	–	61	–
111	402	111	–	66	–
121	432	121	–	70	–
131	471	131	–	74	–
143	510	143	–	78	–
149	530	149	–	80	–
156	540	156	–	82	–
163	559	163	–	85	–
170	579	170	–	88	–
179	598	179	–	89	–
183	608	183	–	90	30
187	628	187	–	91	31
192	638	192	–	92	–
197	657	197	–	93	32
201	667	201	–	94	33
207	687	207	16	95	34
212	697	212	17	96	34
217	716	217	18	97	35
223	736	223	19	98	36
229	765	229	20	99	37
235	775	235	22	100	38
241	795	245	23	100	39
248	814	256	24	101	40
255	834	266	25	102	41
262	853	276	26	103	42
269	883	285	27	104	43
277	903	292	28	105	44
285	932	302	29	107	45
293	952	310	30	108	46
302	981	319	32	109	47
311	1020	327	33	109	48
321	1050	338	34	110	49
331	1079	346	36	110	50
341	1118	359	37	111	52
352	1158	370	38	112	53
363	1197	382	39	112	54
375	1236	394	40	113	55
388	1285	407	41	114	57
401	1334	421	42	114	58
415	1383	437	44	115	60
430	1442	453	45	–	62
444	1491	471	46	–	63
461	1570	491	48	–	66
478	1628	510	49	–	67
495	1717	534	51	–	70
514	1815	566	52	–	73
533		586	53	–	75
546	–	608	54	–	76
559	–	625	55	–	78
571	–	645	56	–	80
583	–	664	57	–	81
594	–	682	58	–	83
606	–	706	59	–	84
616	–	726	60	–	86
627	–	749	61	–	87
636	–	770	62	–	89
649	–	800	63	–	91
660	–	830	64	–	92
670	–	862	65	–	94
680	–	898	66	–	95
689	–	934	67	–	97
700	–	980	68	–	98

All values shown in this chart are approximate and intended only as a reference guide.

CAD reference point

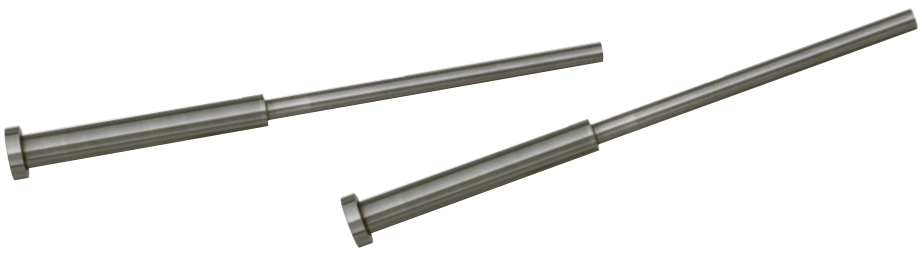
APPENDIX

Corrections to be added to Rockwell "C" readings obtained on cylindricals surfaces

Reading obtained (What we can read in the machine when measuring the hardness)									Actual HRC value
ø 2 mm	ø 3 mm	ø 4 mm	ø 5 mm	ø 6 mm	ø 7 mm	ø 8 mm	ø 9 mm	ø 10 mm	
15,0	18,5	22,0	24,0	25,0	26,0	26,5	27,0	27,5	30
16,5	20,0	23,0	25,0	26,0	27,0	27,5	28,0	28,5	31
18,0	21,0	24,0	26,0	27,5	28,0	29,0	29,5	29,5	32
19,0	22,5	25,5	27,5	28,5	29,0	30,0	30,5	30,5	33
20,5	23,5	26,5	28,5	29,5	30,5	31,0	31,5	32,5	34
21,5	25,0	27,5	29,5	30,5	31,5	32,0	32,5	33,0	35
23,0	26,0	29,0	30,5	31,5	32,5	33,0	33,5	34,0	36
24,5	27,5	30,0	31,5	33,0	33,5	34,0	34,5	35,0	37
25,5	28,5	31,0	33,0	34,0	34,5	35,0	35,5	36,0	38
27,0	30,0	32,5	34,0	35,0	35,5	36,5	36,5	37,0	39
28,5	31,0	33,5	35,0	36,0	37,0	37,5	37,5	38,0	40
29,5	32,5	34,5	36,0	37,0	38,0	38,5	39,0	39,0	41
31,0	33,5	36,0	37,5	38,0	39,0	39,5	40,0	40,0	42
32,0	35,0	37,0	38,5	39,5	40,0	40,5	41,0	41,5	43
33,5	36,0	38,0	39,5	40,5	41,0	41,5	42,0	42,5	44
35,0	37,5	39,5	40,5	41,5	42,0	42,5	43,0	43,5	45
36,0	38,5	40,5	42,0	42,5	43,5	43,5	44,0	44,5	46
37,5	40,0	41,5	43,0	43,5	44,5	45,0	45,0	45,5	47
39,0	41,0	43,0	44,0	45,0	45,5	46,0	46,0	46,5	48
40,0	42,0	44,0	45,0	46,0	46,5	47,0	47,5	47,5	49
41,5	43,5	45,0	46,5	47,0	47,5	48,0	48,5	48,5	50
43,0	44,5	46,5	47,5	48,0	48,5	49,0	49,5	49,5	51
44,0	46,0	47,5	48,5	49,0	49,5	50,0	50,5	51,0	52
45,5	47,0	48,5	49,5	50,5	51,0	51,0	51,5	52,0	53
46,5	48,5	50,0	51,0	51,5	52,0	52,5	52,5	53,0	54
48,0	49,5	51,0	52,0	52,5	53,0	53,5	53,5	54,0	55
49,5	51,0	52,0	53,0	53,5	54,0	54,5	54,5	55,0	56
50,5	52,0	53,5	54,0	54,5	55,0	55,5	56,0	56,0	57
52,0	53,5	54,5	55,5	56,0	56,0	56,5	57,0	57,0	58
53,5	54,3	55,5	56,5	57,0	57,5	57,5	58,0	58,0	59
54,5	56,0	57,0	57,5	58,0	58,5	58,5	59,0	59,0	60
56,0	57,0	58,0	58,5	59,0	59,5	60,0	60,0	60,5	61
57,5	58,5	59,0	59,5	60,0	60,5	61,0	61,0	61,5	62
58,5	59,5	60,5	61,0	61,5	61,5	62,0	62,0	62,5	63
60,0	61,0	61,5	62,0	62,5	62,5	63,0	63,0	63,5	64
61,0	62,0	62,5	63,0	63,5	64,0	64,0	64,5	64,5	65
62,5	63,5	64,0	64,0	64,5	65,0	65,0	65,5	65,5	66
64,0	64,5	65,0	65,5	65,5	66,0	66,0	66,5	66,5	67
65,0	66,0	66,0	66,5	66,5	67,0	67,5	67,5	67,2	68

Cross-Reference Steel Standards

Mat. group	W.NR.	EN	AFNOR	AISI
WS	1.2067	100 Cr 6	100 C6	~L3
	1.2510	100 MnCrW 4	90MCWV 5	O1
	1.2210	115 CrV 3	115 CV 3	L2
WAS	1.2343	X 38 CrMoV 5	Z 38 CDV 5	H11
	1.2344	X 40 CrMoV 5 1	Z 40 CDV 5	H13



CAD reference point

DME

MOULD COMPONENTS

CONTENT

Euro Standard

DME Standard

F-Series

K-Series

Standard Components

Inch

Sliding Units

CAD reference point

Centering devices

Retainers

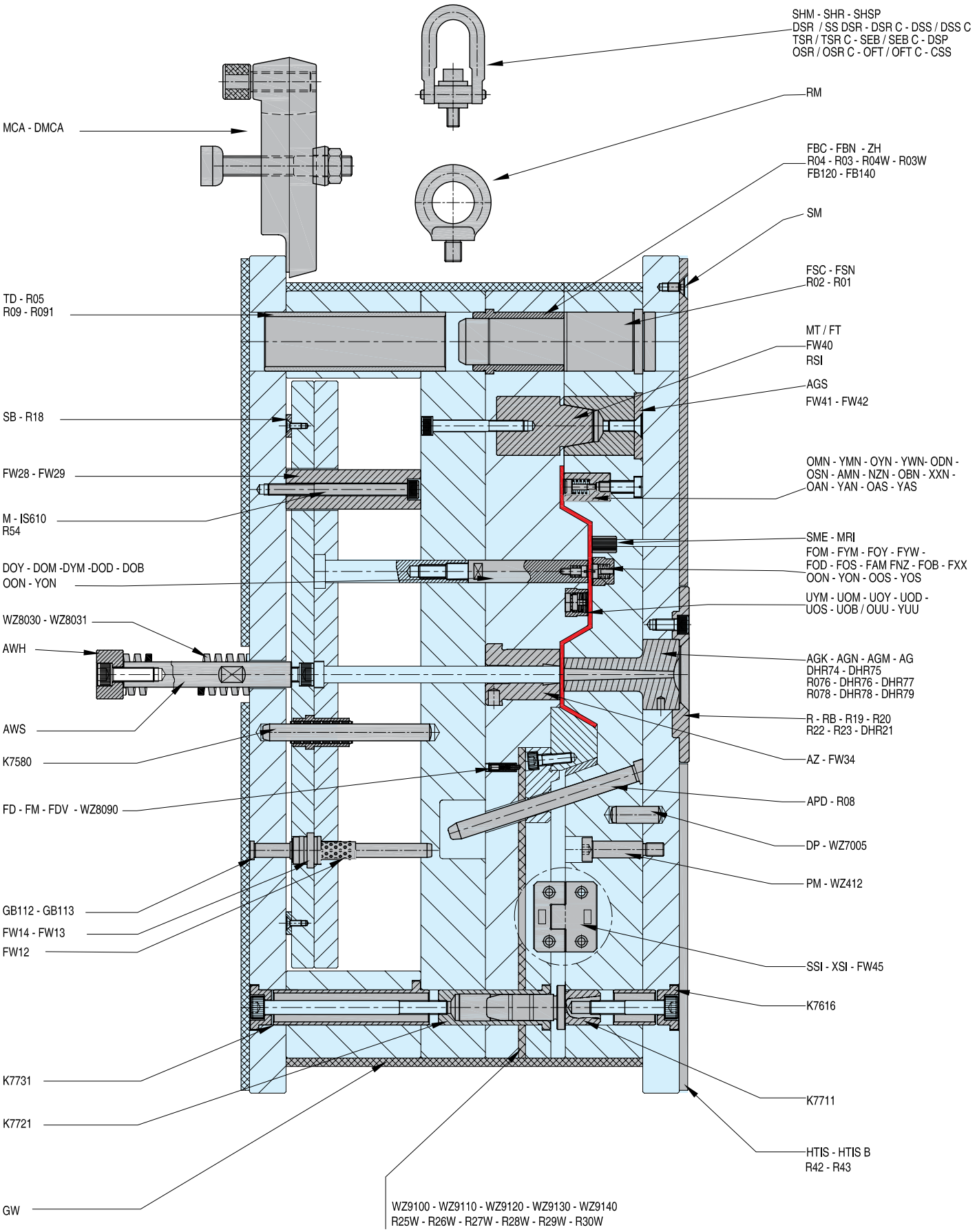
Fasteners

Springs

Insulating Plates

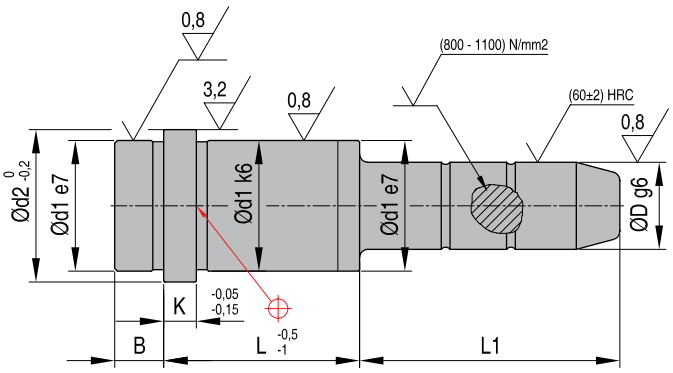
Date Stamps & Inserts

CAD reference point


SHM - SHR - SHSP
DSR / SS DSR - DSR C - DSS / DSS C
TSR / TSR C - SEB / SEB C - DSP
OSR / OSR C - OFT / OFT C - CSS
RM
MCA - DMCA
FBC - FBN - ZH
R04 - R03 - R04W - R03W
FB120 - FB140
SM
FSC - FSN
R02 - R01
TD - R05
R09 - R091
MT / FT
FW40
RSI
AGS
FW41 - FW42
SB - R18
FW28 - FW29
OMN - YMN - OYN - YWN- ODN -
OSN - AMN - NZN - OBN - XXN -
OAN - YAN - OAS - YAS
M - IS610
R54
SME - MRI
FOM - FYM - FOY - FYW -
FOD - FOS - FAM FNZ - FOB - FXX
OON - YON - OOS - YOS
DOY - DOM -DYM -DOD - DOB
OON - YON
UYM - UOM - UOY - UOD -
UOS - UOB / OUU - YUU
WZ8030 - WZ8031
AWH
AGK - AGN - AGM - AG
DHR74 - DHR75
R076 - DHR76 - DHR77
R078 - DHR78 - DHR79
AWS
R - RB - R19 - R20
R22 - R23 - DHR21
K7580
AZ - FW34
FD - FM - FDV - WZ8090
APD - R08
DP - WZ7005
PM - WZ412
GB112 - GB113
FW14 - FW13
FW12
SSI - XSI - FW45
K7616
K7731
K7721
K7711
HTIS - HTIS B
R42 - R43
GW
WZ9100 - WZ9110 - WZ9120 - WZ9130 - WZ9140
R25W - R26W - R27W - R28W - R29W - R30W
R53
R053
SE620 -SE630
SE640
CAD reference point

EURO STANDARD

LEADER PINS R02



Mat.: 1.7131

Order example for first item (R02 + L + D + L1): **R02012009025**
D value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice.

L	D		L1 020	025	030	035	045	050	055	060	065	070	075	085	090	095	d1	d2	K	B
009	09	10	•			•		•									14	16	3	3
012				•			•				•									
017			•	•	•	•		•	•			•	•							
022				•		•			•				•			•				
027			•	•	•		•	•				•			•					
036				•		•	•				•			•						
046					•	•	•					•								
056						•				•										
066							•													

L	D		L1 030	035	045	050	055	065	070	075	085	090	095	105	110	125	135	145	150	155	165	d1	d2	K	B
017	14	15		•			•			•			•									20	25	6	9
022			•			•			•			•			•	•			•						
027			•	•	•			•			•			•		•		•			•				
036				•			•			•			•			•				•					
046				•	•			•			•			•		•		•							
056				•			•			•			•				•								
066							•	•					•			•									
076							•						•												
086							•						•												
096							•						•												
116										•															

L	D		L1 035	045	055	065	075	085	095	105	115	120	125	135	145	155	165	225	245	255	d1	d2	K	B
017	18	20	•		•		•					•	•								26	31	6	9
022			•	•		•		•			•													
027			•	•		•		•		•			•				•	•	•					
036			•		•		•		•		•			•			•	•		•				
046			•	•		•		•		•				•			•		•					
056			•		•		•		•							•								
066			•		•		•		•						•									
076					•		•		•					•	•									
086					•		•		•				•											
096					•				•															
116							•				•													
136														•										

L	D		L1 035	045	055	065	075	085	095	105	115	125	130	135	145	155	165	205	245	285	d1	d2	K	B
017	22	24	•		•		•														30	35	6	9
022			•		•		•			•			•											
024			•	•		•		•		•		•						•	•	•	•			
027			•	•		•		•		•		•						•	•	•	•			
036			•		•		•		•		•			•				•	•	•	•			
046			•	•		•		•		•		•						•	•					
056			•		•		•		•		•							•	•					
066			•		•		•		•								•							
076					•		•		•		•					•								
086					•		•		•					•										
096					•		•		•			•												
116							•				•						•							
136									•					•										
156																	•							

CAD reference point

LEADER PINS R02

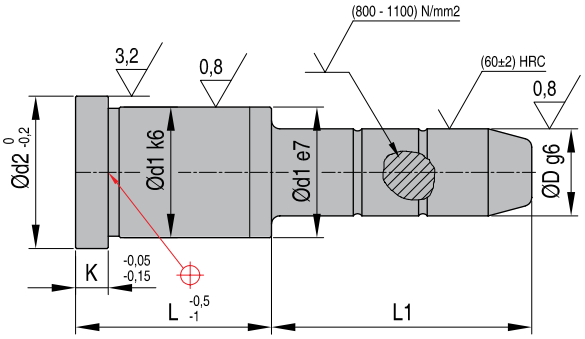
L	D		L1																					d1	d2	K	B
			35	45	55	65	75	85	95	105	115	125	130	135	155	165	175	185	195	205	225	245	255	285	295				
022	30	32	•				•						•													42	47	6	9
027				•		•				•						•		•		•		•		•					
036					•		•		•						•							•		•					
046				•		•		•		•		•				•						•		•					
056					•		•		•		•			•			•					•			•				
066					•		•		•		•			•			•					•			•				
076					•		•		•		•				•						•								
086					•		•		•		•				•						•		•						
096					•		•		•		•				•					•									
116							•				•				•														
136									•		•				•														
156											•				•				•										
196															•														

L	D		L1										d1	d2	K	B
			075	095	115	135	155	165	175	195	215	235	245				
036	40	42	•			•								54	60	10	12
046				•				•									
056			•		•		•			•							
066			•			•											
076			•		•				•								
086			•			•											
096			•		•		•										
116				•		•				•							
136				•		•					•						
156					•		•				•						
196							•			•		•					
246								•					•				

L	D		L1							d1	d2	K	B
			095	115	135	155	175	195	235				
076	50	52	•	•	•		•			66	71	10	12
086			•	•	•								
096				•		•		•					
116				•		•		•					
136					•	•		•					
156								•	•				

CAD reference point

LEADER PINS R01



Mat.: 1.7131 60 HRC

Order example for first item (R01 + L + D + L1): **R01017090 20**
D value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice

L	D		L1 020	025	030	035	040	045	050	055	060	065	070	075	080	085	090	095	105	110	d1	d2	K
012	09	10						•													14	16	3
017			•		•																		
022				•		•				•													
027					•				•														
036				•				•															
046					•			•		•				•									
022	14	15	•			•	•	•	•	•		•	•				•			•	20	25	6
027			•			•	•	•		•		•				•			•				
036			•			•	•	•		•		•		•				•					
046			•			•		•				•				•			•				
056			•			•				•				•				•					
066										•		•						•					
076										•								•					
086										•								•					

L	D		L1 020	035	040	045	050	055	060	065	070	075	080	085	095	105	115	125	135	165	d1	d2	K
022	18	20	•	•	•	•	•	•	•	•	•		•	•			•				26	31	6
027			•	•	•	•	•	•	•	•	•		•	•		•		•					
036			•	•	•	•	•	•	•	•	•	•	•		•		•		•				
046			•			•				•				•		•			•	•			
056			•	•				•				•			•								
066								•				•			•								
076								•				•			•								
086								•							•								
096								•							•								
116								•															

L	D		L1 025	045	050	055	060	065	070	075	080	085	095	105	115	125	135	155	165		d1	d2	K
027	22	24	•	•	•		•	•	•		•	•		•		•			•		30	35	6
036			•	•	•	•	•		•	•	•		•		•		•		•				
046			•	•	•		•	•	•	•	•	•		•		•			•				
056			•	•		•				•			•		•				•				
066						•				•			•										
076			•	•		•				•			•		•								
086						•				•			•										
096						•				•			•										
116										•					•				•				
136																	•						

CAD reference point

LEADER PINS R01

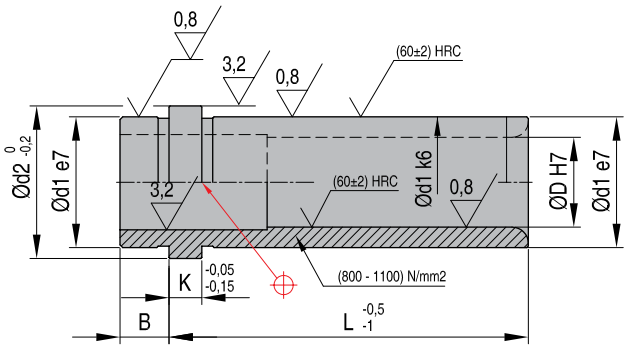
L	D		L1 045	055	065	075	085	095	105	115	125	135	155	165	175	195	225	d1	d2	K
027	30	32	•		•				•					•				42	47	6
036				•		•		•		•			•							
046			•		•		•		•		•			•						
056				•		•		•		•		•			•					
066				•		•		•		•		•			•					
076				•		•		•		•			•				•			
086				•		•		•		•			•	•						
096				•		•		•		•			•							
116						•				•			•							
136								•		•			•							
156										•			•							
196													•			•				

L	D		L1 075	095	115	135	155	175	195	215	235	275	315	d1	d2	K
056	40	42	•		•		•		•					54	60	10
066			•			•										
076			•		•			•								
086			•			•										
096			•		•		•									
116				•		•			•							
136				•		•				•						
156					•		•			•						
196							•		•		•					
096	50	52			•		•		•					66	72	10
116						•	•		•							
136						•	•		•							
156							•		•		•					
196								•	•		•					
096	60	62			•		•		•					80	86	20
116						•	•		•							
136						•	•		•							
156							•		•		•					
196								•	•		•					
246									•		•	•	•			

CAD reference point

LEADER PINS BUSHINGS / EURO STANDARD

LEADER PIN BUSHINGS **R04**



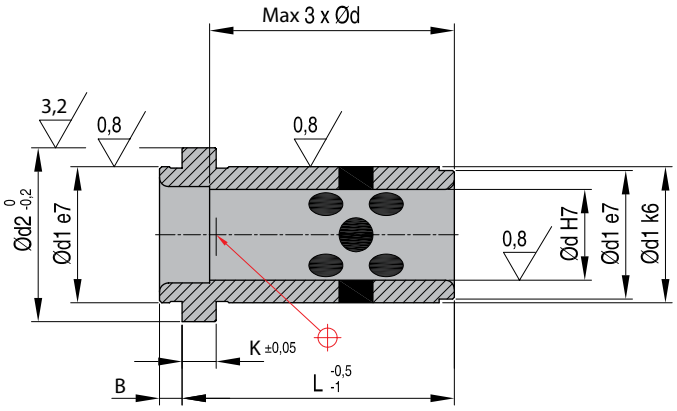
Mat.: 1.7131 60 HRC

Order example for first item (R04 + L + D): **R04012 09**
D value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice

L																				D		d1	d2	K	B
009	012	017	022	027	036	046	056	066	076	086	096	116	136	156	176	196	216	236	246						
•	•	•	•	•	•	•	•	•												9	10	14	16	3	3
	•	•	•	•	•	•	•	•	•	•	•	•								14	15	20	25	6	9
		•	•	•	•	•	•	•	•	•	•	•	•							18	20	26	31	6	9
		•	•	•	•	•	•	•	•	•	•	•	•	•						22	24	30	35	6	9
			•	•	•	•	•	•	•	•	•	•	•	•	•	•				30	32	42	47	6	9
					•	•	•	•	•	•	•	•	•	•		•			•	40	42	54	60	10	12
							•	•	•	•	•	•	•	•	•	•	•	•		50	52	66	72	10	12

SELF LUBRICATING LEADER PIN BUSHINGS **R04 W**

Mat.: 2.0598 + graphite 200HB



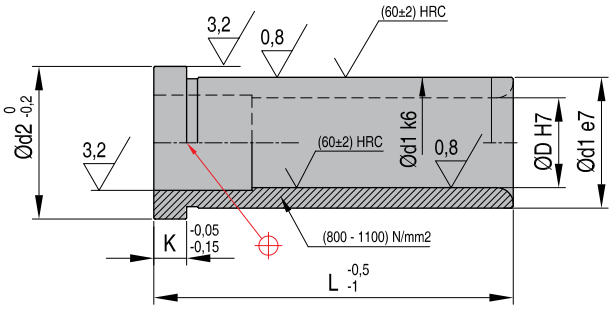
Order example for first item (R04W + d + L): **R04W09 17**
d value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice

d		L																				d1	d2	K	B
		12	17	22	27	36	46	56	66	76	86	96	116	136	156	176	196	216	236	256					
09	10	•	•	•	•	•	•	•														14	18	3	3
14	15	•	•	•	•	•	•	•	•	•												20	25	6	9
18	20		•	•	•	•	•	•	•	•	•											26	31	6	9
22	24			•	•	•	•	•	•	•	•	•	•									30	35	6	9
30	32				•	•	•	•	•	•	•	•	•	•	•							42	47	6	9
40	42					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		54	60	10	12
50	52							•	•	•	•	•	•	•	•	•	•	•	•	•		66	71	10	10

CAD reference point

LEADER PIN BUSHINGS **R03**

Mat.: 1.7131

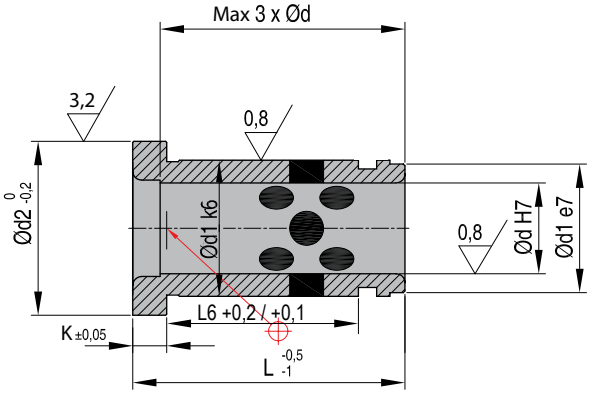


Order example for first item (R03 + L + D): **R03012 09**
D value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice

L																	D		d1	d2	K
009	012	017	022	027	036	046	056	066	076	086	096	116	136	156	196	246					
•	•	•	•	•	•	•	•	•									09	10	14	16	03
		•	•	•	•	•	•	•									12		18	23	06
	•	•	•	•	•	•	•	•	•	•	•						14	15	20	25	06
		•	•	•	•	•	•	•	•	•	•	•					18	20	26	31	06
		•	•	•	•	•	•	•	•	•	•	•	•				22	24	30	35	06
				•	•	•	•	•	•	•	•	•	•	•			30	32	42	47	06
						•	•	•	•	•	•	•	•	•		•	40	42	54	60	10
									•		•	•	•	•	•		50		66	72	10
											•	•	•		•	•	60		80	86	20

SELF LUBRICATING LEADER PIN BUSHINGS **R03 W**

Mat.: 2.0598 + graphite 200HB
Max T° = 300°C



Order example for first item (R03W + d + L): **R03W0917**
d value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice

d		L																		d1	d2	K
		17	22	27	36	46	56	66	76	86	96	116	136	156	176	196	216	236	256			
09	10	•	•	•	•															14	16	3
12		•	•	•	•															18	23	6
14	15	•	•	•	•	•	•													20	25	6
16		•	•	•	•	•	•													22	27	6
18	20	•	•	•	•	•	•	•												26	31	6
22	24		•	•	•	•	•	•	•											30	35	6
30	32			•	•	•	•	•	•	•	•									42	47	6
40	42				•	•	•	•	•	•	•	•	•							54	60	10
50	52						•	•	•	•	•	•	•	•	•	•	•	•	•	66	71	10

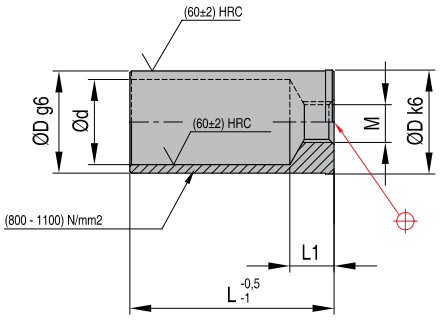
d		L6																	
09	10	11	16	21	30														
12		7	12	17	26														
14	15	7	12	17	26	36	46												
16		7	12	17	26	36	46												
18	20	7	12	17	26	36	46	56											
22	24		11	16	25	35	45	55	65										
30	32			14	23	33	43	53	63	73	83								
40	42				18	28	38	48	58	68	78	98	118						
50	52						38	48	58	68	78	98	118	138	158	178	198	218	238

CAD reference point

LOCATING SLEEVES / EURO STANDARD

LOCATING SLEEVES **R05**

Mat.: 1.7131



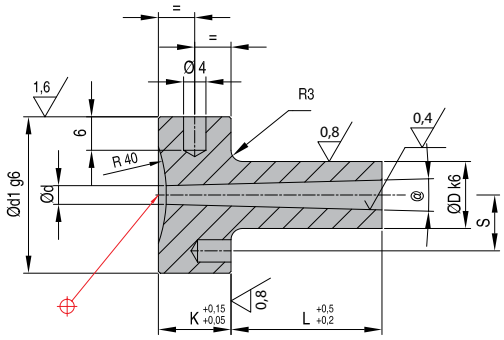
Order example for first item (R05 + D + L): **R05014020**

D	L																								d	M	L1
	020	030	040	050	060	070	080	090	100	110	120	130	140	160	180	200	220	240	260	280	300	320	340	360	380			
014	•	•	•	•	•	•	•		•																	11	6	8
020		•	•	•	•	•	•	•	•	•	•		•	•												16	8	13
026		•	•	•	•	•	•	•	•	•	•	•	•	•	•											21	10	13
030			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•							25	12	13
042			•		•		•		•		•		•	•	•	•	•	•	•		•					33	16	13
054					•		•		•		•			•	•	•	•	•	•	•	•		•	•	•	43	20	16
066																	•		•		•		•	•	•	54	12	18

D	L																								d	M	L1
	020	030	040	050	060	070	080	090	100	110	120	130	140	160	180	200	220	240	260	280	300	320	340	360	380			
042																				•						33	12	12
054																						•				43	12	18
066							•				•			•	•	•		•		•		•				54	12	26

SPRUE BUSHINGS **R078 - DHR78 - DHR79 - R40**

Mat.: 1.2826: ca 54 HRC



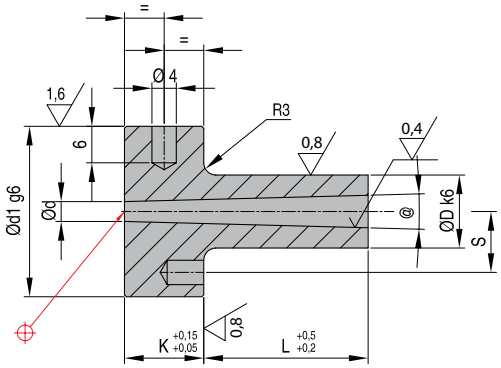
Order example for first item (REF + D + L + d + 40): **R078120272-540** (note: replace decimal point with dash)

REF	D	L								d	d1	K	S	@
		022	027	036	046	056	076	096	116					
R078	12		•	•	•					2,5	28	13	11	1°
			•	•	•	•				3,5				
	18				•	•	•	•		3	38	18	15	
					•	•	•	•		4				
DHR78	12	•	•	•	•					2,5	28	13	11	2°
		•	•	•	•	•				3,5				
	18		•	•	•	•	•	•	•	3	38	18	15	
			•	•	•	•	•	•	•	4				
DHR79	18		•	•	•	•				3,5	38	18	15	3°
			•	•	•	•	•			4,5				
	24				•	•	•			4,5	48	23	20	
						•	•			6,5				

CAD reference point

SPRUE BUSHINGS — DHR74 - DHR75 - R0

Mat.: 1.2826: ca 54 HRC

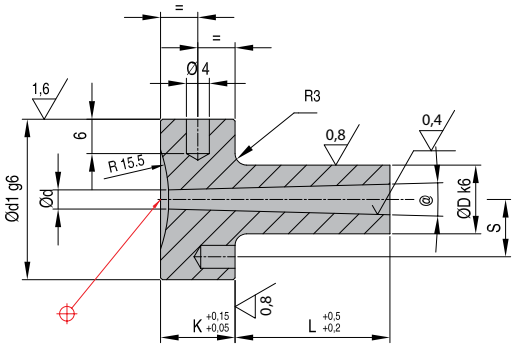


Order example for first item (REF + D + L + d): **DHR74120222-5** (note: replace decimal point with dash)

REF	D	L								d	d1	K	S	@
		022	027	036	046	056	076	096	116					
DHR74	12	•	•	•	•					2,5	28	13	11	2°
	12	•	•	•	•	•				3,5				
	18		•	•	•	•	•	•	•	3,0	38	18	15	
	18		•	•	•	•	•	•	•	4,0				
DHR75	18		•	•	•	•				3,5	38	18	15	3°
	18		•	•	•	•	•			4,5				
	24				•	•	•			4,5	48	23	20	
	24					•	•			6,5				

SPRUE BUSHINGS — R076 - DHR76 - DHR77 - R15,5

Mat.: 1.2826: ca 54 HRC

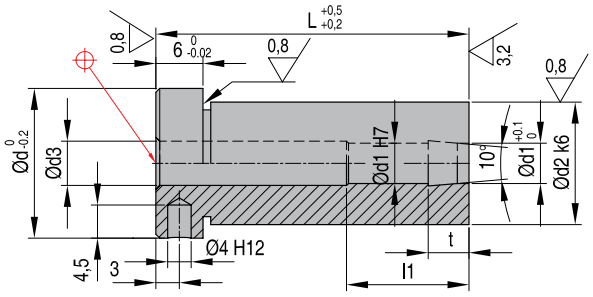


Order example for first item (REF + D + L + d + 15): **R076122722-515-5** (note: replace decimal point with dash)

REF	D	L								d	d1	K	S	@
		22	27	36	46	56	76	96	116					
R 076	12		•	•	•					2,5	28	13	11	1°
			•	•	•	•				3,5				
	18				•	•	•	•	•	3,0	38	18	15	
					•	•	•	•	•	4,0				
DHR76	12	•	•	•	•					2,5	28	13	11	2°
		•	•	•	•	•				3,5				
	18		•	•	•	•	•	•	•	3,0	38	18	15	
			•	•	•	•	•	•	•	4,0				
DHR77	18		•	•	•	•				3,5	38	18	15	3°
			•	•	•	•	•			4,5				
	24				•	•	•			4,5	48	23	20	
						•	•			6,5				

SPRUE PULLER BUSHINGS — FW34

Mat.: 1.2826 - 58 ± 2HRC



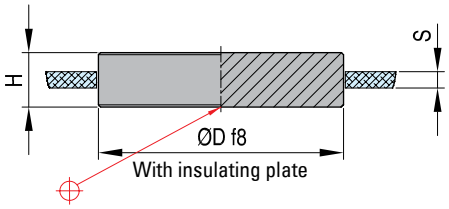
Order example for first item (FW34 + d2 + L): **FW341220**

d2	L										d	d1	d3	l1	t
	20	22	26	27	36	46	56	66	76	96					
12	•	•	•	•	•	•					16	4	4,5	18	7,0
18		•	•	•	•	•	•	•	•		22	6	6,5	28	7,0
24					•	•	•		•	•	28	8	8,5	28	9,5

CAD reference point

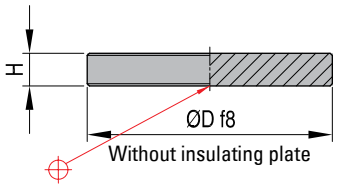
LOCATING RINGS R19

Mat.: 1.1191 (1.1730)



REF	D	H	S
R1904009	40	9	3
R1904013	40	13	7
R1906011	60	11	3
R1906013	60	13	5
R1906014	60	14	6
R1908015	80	15	3
R1909015	90	15	3
R1909017	90	17	5
R1909018	90	18	6
R1909019	90	19	7
R1909021	90	21	8,5
R1909026	90	26	8
R1910018	100	18	6
R1910026	100	26	8
R1911018	110	18	6
R1911021	110	21	8,5
R1911026	110	26	8

REF	D	H	S
R1912021	120	21	8,5
R1912518	125	18	6
R1912520	125	20	8
R1912521	125	21	8
R1912530	125	30	8
R1912521	125	21	8,5
R1915021	150	21	8,5
R1916020	160	20	6
R1916022	160	22	8
R1916030	160	30	8
R1917522	175	22	8
R1917530	175	30	8
R1920022	200	22	8
R1920030	200	30	8
R1925022	250	22	8
R1925023	250	23	8,5
R1925030	250	30	8



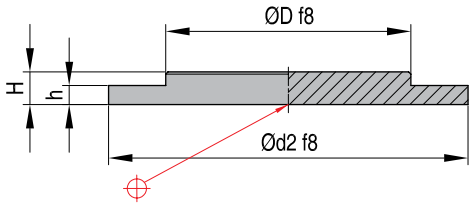
REF	D	H
R1904006	40	6
R1906008	60	8
R1908008	80	8
R1908015	80	8
R1908017	80	8
R1909012	90	12
R1910012	100	12
R1911012	110	12
R1912012	120	12
R1912512	125	12
R1913012	130	12

REF	D	H
R1914012	140	12
R1915012	150	12
R1916012	160	12
R1917512	175	12
R1920012	200	12
R1925012	250	12
R1916014	160	14
R1917514	175	14
R1920014	200	14
R1925014	250	14

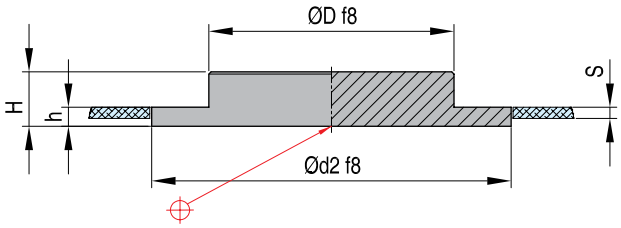
CAD reference point

LOCATING RINGS R20

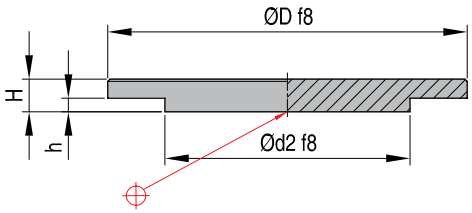
Mat.: 1.1730



REF	D	H	h	d2
R2006008	60	8	4	90
R2008012	80	12	4	90



REF	D	H	h	d2	S
R2006011	60	11	7	90	3
R2006013	60	13	9	90	5
R2008015	80	15	7	90	3
R2008017	80	17	9	90	5



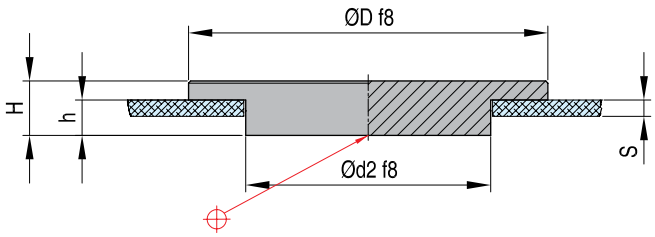
REF	D	H	h	d2
R2012008	120	8	4	90
R2010012	100	12	4	90
R2011012	110	12	4	90
R2012012	120	12	4	90
R2012512	125	12	4	90
R2014012	140	12	4	90
R2015012	150	12	4	90
R2016012	160	12	4	90
R2017512	175	12	4	90
R2020012	200	12	4	90
R2025012	250	12	4	90

CAD reference point

LOCATING RINGS / EURO STANDARD

LOCATING RINGS R20

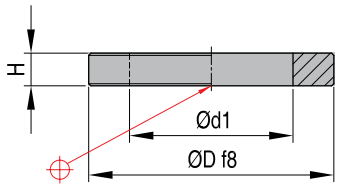
Mat.: 1.1730



REF	D	H	h	d2	S
R2010015	100	15	7	90	3,0
R2010017	100	17	9	90	5,0
R2010019	100	19	11	90	7,0
R2010021	100	21	13	90	8,5
R2011015	110	15	7	90	3,0
R2011017	110	17	9	90	5,0
R2011019	110	19	11	90	7,0
R2011021	110	21	13	90	8,5
R2012015	120	15	7	90	3,0
R2012017	120	17	9	90	5,0
R2012019	120	19	11	90	7,0
R2012021	120	21	13	90	8,5
R2012515	125	15	7	90	3,0
R2012517	125	17	9	90	5,0
R2012519	125	19	11	90	7,0
R2012521	125	21	13	90	8,5
R2016015	160	15	7	90	3,0
R2016017	160	17	9	90	5,0
R2016019	160	19	11	90	7,0
R2016021	160	21	13	90	8,5
R2017515	175	15	7	90	3,0
R2017517	175	17	9	90	5,0
R2017519	175	19	11	90	7,0
R2017521	175	21	13	90	8,5

LOCATING RINGS R22

Mat.: 1.1730

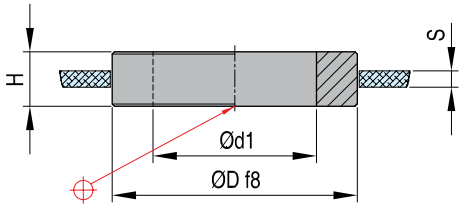


REF	D	H	d1
R2209012	90	12	60
R2210012	100	12	60
R2211012	110	12	60
R2212012	120	12	60
R2212512	125	12	60
R2213012	130	12	60
R2214012	140	12	60
R2215012	150	12	60
R2216012	160	12	60
R2217512	175	12	60
R2220012	200	12	60
R2225012	250	12	60

CAD reference point

LOCATING RINGS R22

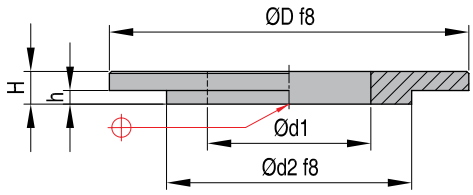
Mat.: 1.1730



REF	D	H	d1	S
R2209015	90	15,0	60	3,0
R2209017	90	17,0	60	5,0
R2209019	90	19,0	60	7,0
R2209020-5	90	20,5	60	8,5

LOCATING RINGS R23

Mat.: 1.1730



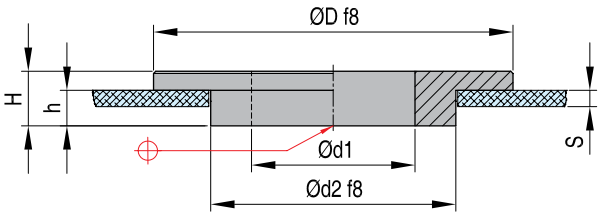
REF	D	H	h	d2	d1
R2310012	100	12	4	90	60
R2311012	110	12	4	90	60
R2312012	120	12	4	90	60
R2312512	125	12	4	90	60
R2314012	140	12	4	90	60
R2315012	150	12	4	90	60
R2316012	160	12	4	90	60
R2317512	175	12	4	90	60

CAD reference point

LOCATING RINGS / EURO STANDARD

LOCATING RINGS R23

Mat.: 1.1730

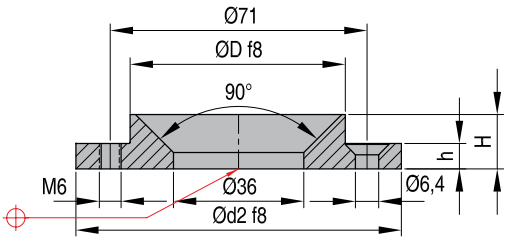


REF	D	H	h	d2	d1	S
R2310015	100	15,0	7	90	60	3,0
R2310017	100	17,0	9	90	60	5,0
R2310019	100	19,0	11	90	60	7,0
R2310020-5	100	20,5	13	90	60	8,5
R2311015	110	15,0	7	90	60	3,0
R2311017	110	17,0	9	90	60	5,0
R2311019	110	19,0	11	90	60	7,0
R2311020-5	110	20,5	13	90	60	8,5
R2312015	120	15,0	7	90	60	3,0
R2312017	120	17,0	9	90	60	5,0
R2312019	120	19,0	11	90	60	7,0
R2312020-5	120	20,5	13	90	60	8,5

REF	D	H	h	d2	d1	S
R2312515	125	15,0	7	90	60	3,0
R2312517	125	17,0	9	90	60	5,0
R2312519	125	19,0	11	90	60	7,0
R2312520-5	125	20,5	13	90	60	8,5
R2316015	160	15,0	7	90	60	3,0
R2316017	160	17,0	9	90	60	5,0
R2316019	160	19,0	11	90	60	7,0
R2316020-5	160	20,5	13	90	60	8,5
R2317515	175	15,0	7	90	60	3,0
R2317517	175	17,0	9	90	60	5,0
R2317519	175	19,0	11	90	60	7,0
R2317520-5	175	20,5	13	90	60	8,5

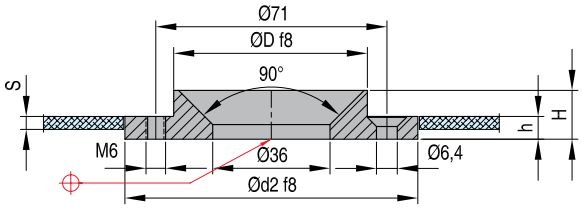
CAD reference point

LOCATING RINGS DHR21



Mat.: 1.1730

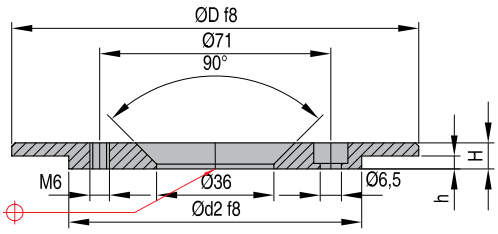
REF	D	H	h	d2
DHR2106008	60	8	4	90
DHR2108012	80	12	4	90



Mat.: 1.1730

REF	D	H	h	d2	S
DHR2106011	60	11	7	90	3
DHR2106013	60	13	9	90	5

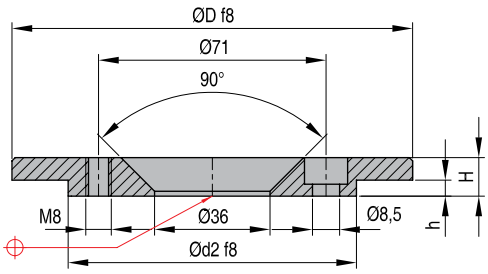
REF	D	H	h	d2	S
DHR2108015	80	15	7	90	3
DHR2108017	80	17	9	90	5



Mat.: 1.1730

CAD reference point

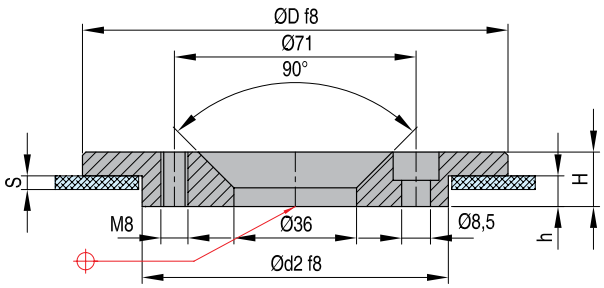
LOCATING RINGS **DHR21**



Mat.: 1.1730

REF	D	H	h	d2
DHR2110012	100	12	4	90
DHR2111012	110	12	4	90
DHR2112012	120	12	4	90
DHR2112512	125	12	4	90
DHR2114012	140	12	4	90
DHR2115012	150	12	4	90

REF	D	H	h	d2
DHR2116012	160	12	4	90
DHR2117512	175	12	4	90
DHR2118012	180	12	4	90
DHR2120012	200	12	4	90
DHR2125012	250	12	4	90



Mat.: 1.1730

REF	D	H	h	d2	S
DHR2110015	100	15	7	90	3,0
DHR2110017	100	17	9	90	5,0
DHR2110019	100	19	11	90	7,0
DHR2110021	100	21	13	90	8,5
DHR2111015	110	15	7	90	3,0
DHR2111017	110	17	9	90	5,0
DHR2111019	110	19	11	90	7,0
DHR2111021	110	21	13	90	8,5
DHR2112015	120	15	7	90	3,0
DHR2112017	120	17	9	90	5,0
DHR2112019	120	19	11	90	7,0
DHR2112021	120	21	13	90	8,5

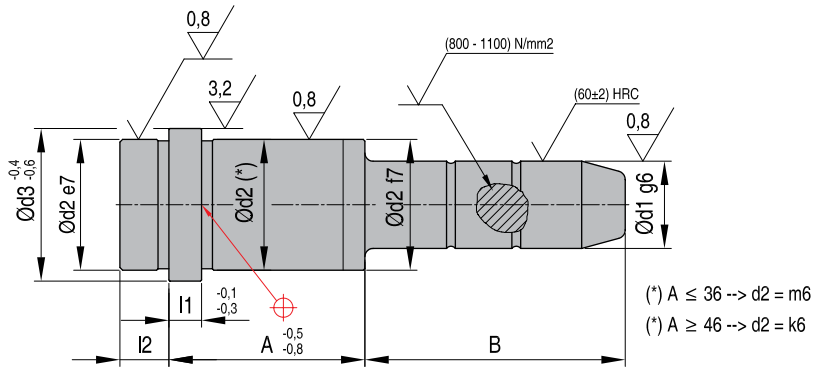
REF	D	H	h	d2	S
DHR2112515	125	15	7	90	3,0
DHR2112517	125	17	9	90	5,0
DHR2112519	125	19	11	90	7,0
DHR2112521	125	21	13	90	8,5
DHR2116015	160	15	7	90	3,0
DHR2116017	160	17	9	90	5,0
DHR2116019	160	19	11	90	7,0
DHR2116021	160	21	13	90	8,5
DHR2117515	175	15	7	90	3,0
DHR2117517	175	17	9	90	5,0
DHR2117519	175	19	11	90	7,0
DHR2117521	175	21	13	90	8,5

CAD reference point

DME STANDARD

LEADER PINS FSC

Mat.: 1.7131



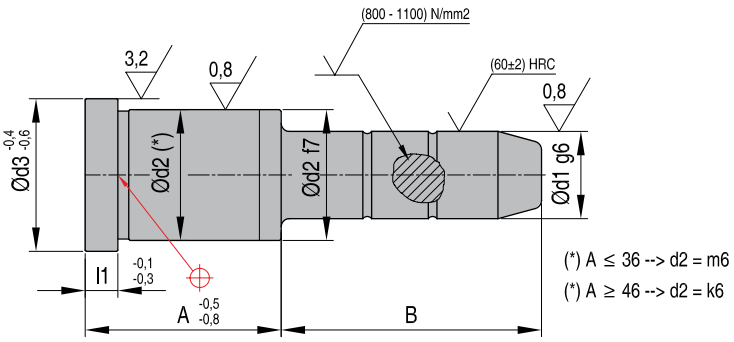
Order example for first item (FSC + d1 + A + B): **FSC91620**
d1 value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice

d1		A	B														d2	d3	l1	l2	Series
			20	26	36	46	56	66	76	86	96	106	126	146	166	186					
9	10	16	•		•			•									14	16	3	3	N 10
		20		•		•		•		•											
		26			•		•														
		36		•		•															
		46			•																
11	12	20	•	•				•									18	22	6	6	N 12
		26		•	•		•				•										
		36			•		•			•											
		46				•		•													
		56			•		•														
15	16	26		•	•	•		•		•				•			24	28	6	9	N 16
		36		•	•	•		•		•			•								
		46			•	•	•		•												
		56			•		•		•												
		66				•			•												
		76					•			•											
19	20	26		•	•	•		•		•		•		•		•	28	32	6	9	N 20
		36		•	•	•		•		•		•		•		•					
		46			•	•		•		•			•		•						
		56			•		•			•											
		66				•		•		•											
		76					•		•		•										
		86						•		•											

d1		A	B														d2	d3	l1	l2	Series
			26	36	46	56	66	76	86	96	106	126	146	166	186	206	246					
23	24	26	•		•		•		•		•		•			•		32	36	6	9	N 25 N 30 N 35
		36	•	•		•		•		•		•		•		•					
		46			•		•		•		•	•		•		•					
		56		•	•	•		•		•		•		•			•				
		66			•		•		•		•										
		76				•		•		•											
		86					•		•		•										
		96				•		•		•		•									
		106							•				•								
		126										•	•								
		146											•								
33	34	36			•		•		•			•			•		•	42	46	6	9	N 40 N 45 N 50 M 55
		56					•			•		•		•		•	•				
		76					•				•		•								
		96					•			•			•								
		106						•			•		•								
		126							•			•	•								
		146							•		•			•							
		166												•							
		186													•						
		206														•					
41	42	36				•				•		•						50	54	6	9	N 60
		56						•				•		•							
		76								•			•								
		96						•		•			•								
		106								•			•								
		126							•				•								
		146								•			•								
		166												•							
		186													•						
		206														•					

CAD reference point

LEADER PINS — FSN



Mat.: 1.7131

Order example for first item (FSN + d1 + A + B): **FSN91626**
d1 value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice

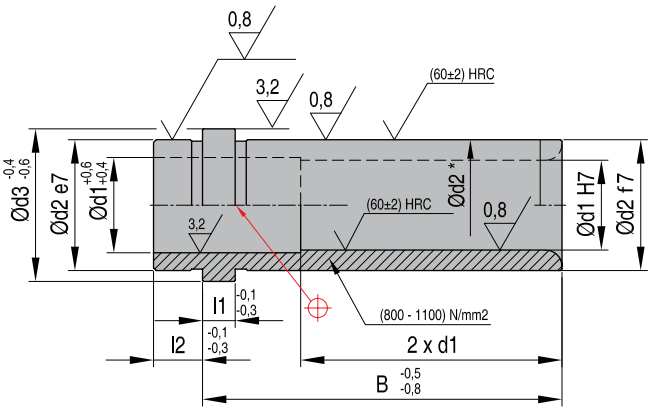
d1		A	B 20	26	36	46	56	66	76	86	106	d2	d3	l1	Series
9	10	16		•		•		•		•		14	16	3	N 10
		20		•		•									
		26		•		•									
		36		•		•									
		46		•		•									
11	12	20	•	•				•				18	22	6	N 12
		26		•	•		•								
		36			•		•								
		46				•		•							
		56			•		•								
15	16	26		•	•	•		•		•	•	24	28	6	N 16
		36		•	•	•		•							
		46			•		•		•						
		56			•		•		•						
		66				•			•						
		76					•			•					

d1		A	26	36	46	56	66	76	86	96	106	126	146	d2	d3	l1	Series
19	20	26	•	•	•		•		•		•			28	32	6	N 20 N 22
		36	•	•	•		•		•		•						
		46		•	•		•		•			•					
		56		•		•			•								
		66			•		•		•								
		76				•		•		•							
		86					•		•								
23	24	26	•		•		•		•		•			32	36	6	N 25 N 30 N 35 D 25
		36	•	•		•		•		•	•	•					
		46			•		•		•		•						
		56		•	•	•		•		•							
		66			•		•		•		•						
		76				•		•		•							
		86					•		•		•						
		96				•		•		•							
		106				•		•	•								
33	34	36			•		•		•			•		42	46	6	N 40 N 45 N 50 N 55 D 30 D 35
		56				•	•			•		•					
		76					•				•		•				
		96					•			•			•				
		106				•		•			•		•				
		126				•			•			•	•				
		146				•			•		•						

d1		A	56	76	86	96	106	126	146	166	186	206	d2	d3	l1	Series
42	41	36	•			•		•					50	54	6	N 60 D 40 D 45
		56		•				•								
		76		•		•			•							
		96		•		•			•							
		106		•		•			•							
		126			•				•							
		146		•		•			•							
49	50	96				•		•			•		60	64	6	D 50 D 55 D 60
		106				•		•			•					
		126				•			•							
		146					•		•							
		166								•						
		186									•					
		206										•				

CAD reference point

LEADER PIN BUSHINGS FBC



(*) B ≤ 36 --> d2 = m6

(*) B ≥ 46 --> d2 = k6

Mat.: 1.7131

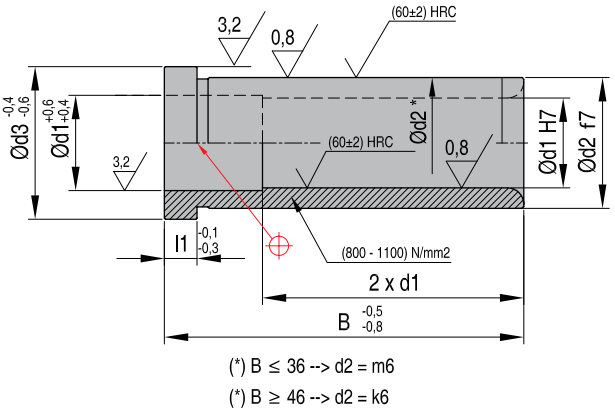
Order example for first item (FBC + d1 + B): **FBC916**

d1 value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice

d1		B																d2	d3	l1	l2	Series
		16	20	26	36	46	56	66	76	86	96	106	126	146	166	186	206					
9	10	•	•	•	•	•												14	16	3	3	N 10
11	12		•	•	•	•	•											18	22	6	6	N 12
15	16	•		•	•	•	•	•	•									24	28	6	9	N 16
19	20			•	•	•	•	•	•	•								28	32	6	9	N 20 N 22
23	24			•	•	•	•	•	•	•	•	•	•	•				32	36	6	9	N 25 N 30 N 35
33	34				•	•	•		•		•	•	•	•	•	•	•	42	46	6	9	N 40 N 45 N 50 N 55
41	42				•		•		•		•	•	•	•	•	•	•	50	54	6	9	N 60

CAD reference point

LEADER PIN BUSHINGS — FBN



Mat.: 1.7131

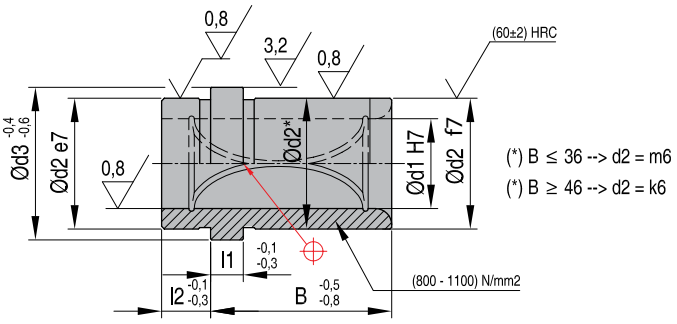
Order example for first item (FBN + d1 + B): **FBN916**
d1 value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice

d1		B																		d2	d3	l1	Series
		16	17	20	22	26	36	46	56	66	76	86	96	106	126	146	166	186	206				
9	10	•		•		•	•	•												14	16	3	N 10
11	12			•		•	•	•	•											18	22	6	N 12
15	16	•	•		•	•	•	•	•	•	•									24	28	6	N 16
19	20		•		•	•	•	•	•	•	•	•								28	32	6	N 20 N 22
23	24		•		•	•	•	•	•	•	•	•	•	•						32	36	6	N 25 N 30 N 35 D 25
33	34					•	•		•		•		•	•	•	•				42	46	6	N 40 N 45 N 50 N 55 D 30 D 35
41	42						•		•		•		•	•	•	•				50	54	6	N 60 D 40 D 45
49	50												•	•	•	•	•	•	•	60	64	6	D 50 D 55 D 60

CAD reference point

LEADER PINS BUSHINGS / DME STANDARD

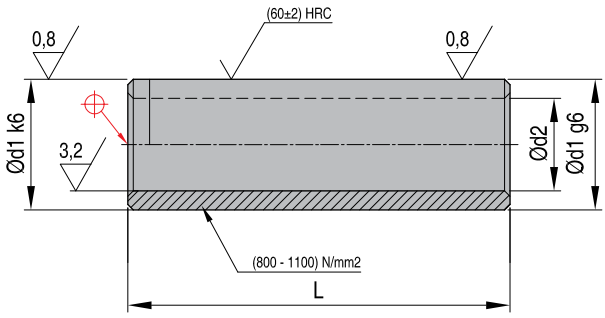
BRONZE PLATED BUSHINGS — GEB



Mat.: 1.7131

REF	d1	B	d2	d3	l1	l2
GEB1616	16	16	24	28	6	9
GEB2026	20	26	28	32	6	9
GEB2426	24	26	32	36	6	9
GEB2436	24	36	32	36	6	9
GEB3436	34	36	42	46	6	9
GEB3446	34	46	42	46	6	9

LOCATING SLEEVES — TD



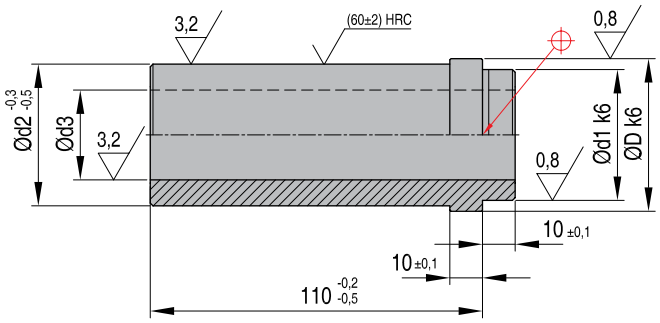
Mat.: 1.7131

Order example for first item (TD + d1 + L): **TD1430**

d1	L																d2	Series
	30	40	46	50	60	66	76	80	86	96	100	120	130	140	160	180		
14	•	•		•	•												11	N 10
18	•		•			•											13	N 12
24	•			•	•		•		•	•							17	N 16
28					•			•			•	•		•			21	N 20 / N 22
32					•						•	•		•	•		25	N 25 / N 30 / N 35
42					•								•		•	•	34	N 40 / N 45 / N 50 / N 55
50					•								•		•	•	43	N 60

CAD reference point

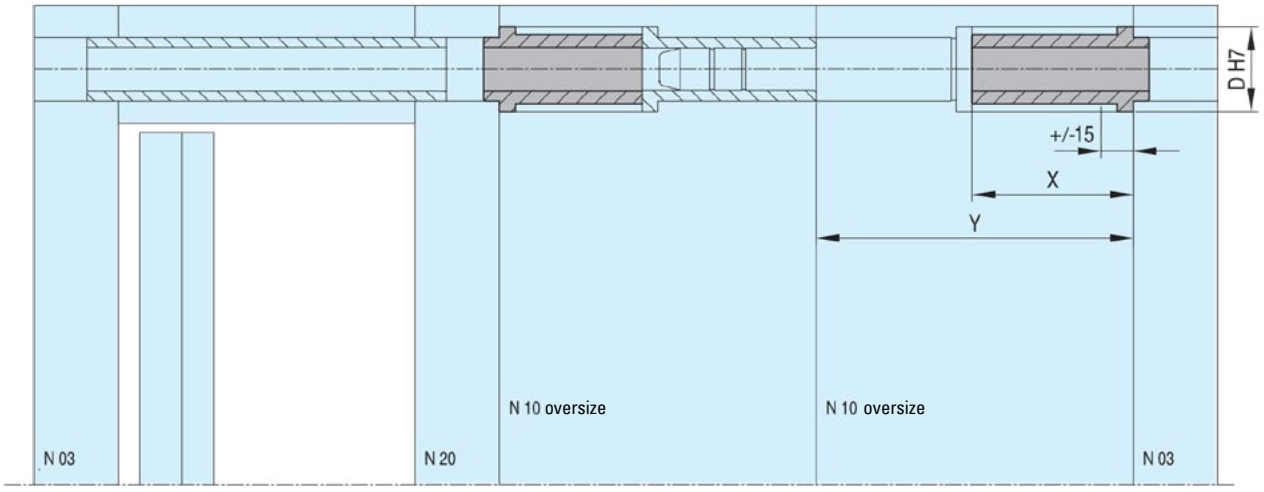
LOCATING SLEEVES ZH



Mat.: 1.7131

REF	D	d1	d2	d3	series
ZH28	28	24	27,5	17	N 16
ZH32	32	28	31,5	21	N 20 / N 22
ZH36	36	32	35,5	25	N 25 / N 30 / N 35
ZH46	46	42	45,5	36	N 40 / N 45 / N 50 / N 55
ZH54	54	50	53,5	43	N 60

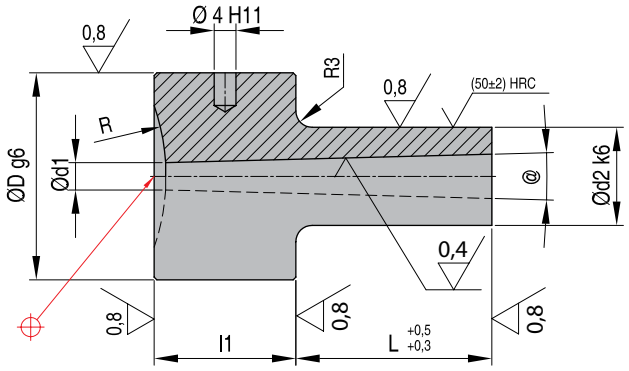
	Y																	
	86	**96**	**106**	**116**	**126**	**136**	**146**	**156**	**166**	**176**	**186**	**196**	**206**	**216**	**226**	**236**	**246**	**256**
D	**X**																	
28	10	20	30	40	50	60	70	80	90	100	110							
32		10	20	30	40	50	60	70	80	90	100	110						
36				10	20	30	40	50	60	70	80	90	100	110				
46								10	20	30	40	50	60	70	80	90	100	110
54								10	20	30	40	50	60	70	80	90	100	110



CAD reference point

SPRUE BUSHINGS — AGK - AGN - AGM - AG

Mat.: 1.2826



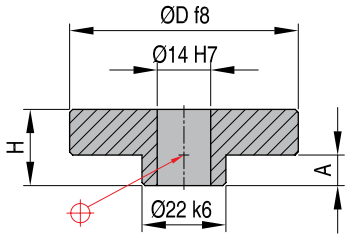
Order example for first item (REF + L + d1 + R): **AGK202-5R0** (note: replace decimal point with dash)

REF	L														d1	R	l1	D	d2	@	Series
	20	26	36	46	56	66	76	86	96	106	116	126	136	156							
AGK	•	•		•											2,5	R0	16	28	12	3°	N 12
	•	•		•												R15,5					
	•	•	•	•	•										3,5	R0					
	•	•	•	•	•											R15,5					
AGN		•		•											2,5	R0	20	38	18	3°	N 16
		•		•												R15,5					
		•		•												R40					
AGN		•	•	•	•	•	•								3,5	R0	20	38	18	3°	N 20 / N 30 / N 35
		•	•	•	•	•	•									R15,5					
		•	•	•	•	•	•									R40					
AGM		•	•	•	•	•	•								3,5	R0	26	38	18	3°	N 20 / N 30 / N 35
		•	•	•	•	•	•									R15,5					
		•	•	•	•	•	•									R40					
				•			•								5,0	R0					
				•			•									R15,5					
				•			•									R40					
AG		•	•	•	•	•	•	•	•	•		•			5,0	R0	26	50	25	2°	N 20 to N 60
		•	•	•	•	•	•	•	•	•		•				R15,5					
		•	•	•	•	•	•	•	•	•		•				R40					
											•		•	•	7,0	R0					
											•		•	•		R15,5					
											•		•	•		R40					

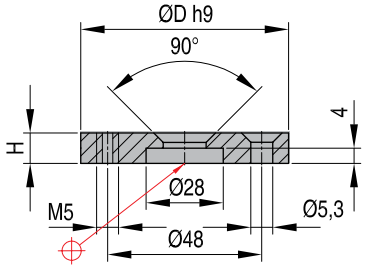
CAD reference point

LOCATING RINGS R

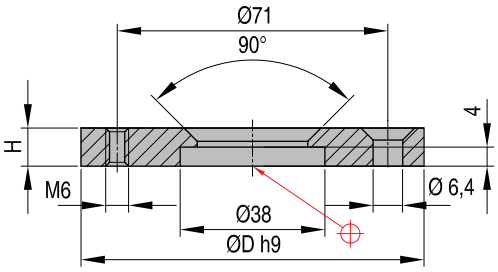
Mat.: St. 37-2



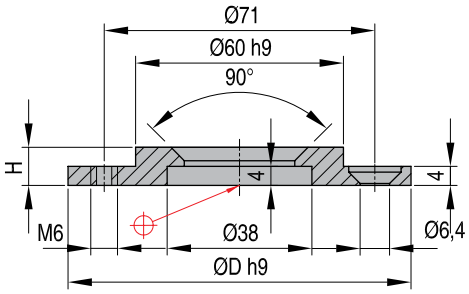
REF	D	H	A	Series
R40	40	12	6	N 10
R60	60	12	6	
R60L	60	12	16	



REF	D	H	Series
R60-12	60	8	N 12



REF	D	H	Series
R90	90	8	N 16



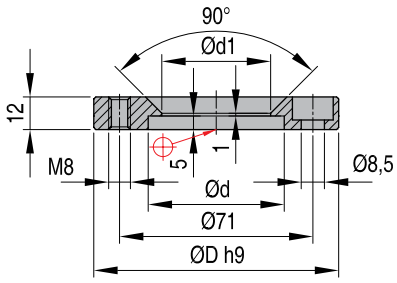
REF	D	H	Series
R91	90	8	N 16

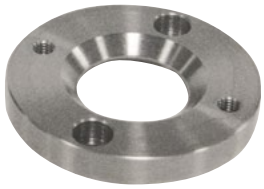
CAD reference point

LOCATING RINGS / DME STANDARD

LOCATING RINGS R

Mat.: St. 37-2

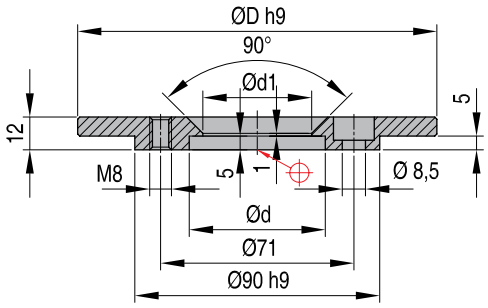




REF	D	d	d1	series
R95	90	50	40	N 20 to N 60

LOCATING RINGS R

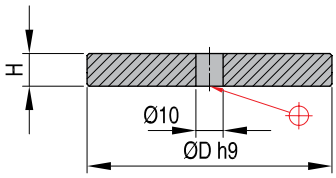
Mat.: St. 37-2



REF	D	d	d1	series
R101	100	50	40	N 16 to N 60
R100	100	38	32	N 16 to N 60
R111	110	50	40	N 16 to N 60
R110	110	38	32	N 16 to N 60
R121	120	50	40	N 16 to N 60
R120	120	38	32	N 16 to N 60
R126	125	50	40	N 16 to N 60
R125	125	38	32	N 16 to N 60
R151	150	50	40	N 16 to N 60
R150	150	38	32	N 16 to N 60
R161	160	50	40	N 16 to N 60
R160	160	38	32	N 16 to N 60
R176	175	50	40	N 16 to N 60
R175	175	38	32	N 16 to N 60
R201	200	50	40	N 16 to N 60
R200	200	38	32	N 16 to N 60
R251	250	50	40	N 16 to N 60
R250	250	38	32	N 16 to N 60
R41	4"	50	40	N 16 to N 60
R4	4"	38	32	N 16 to N 60

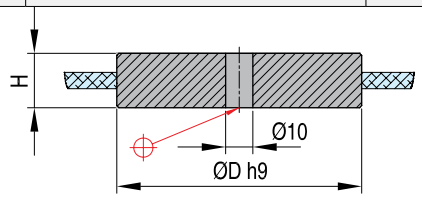
CAD reference point

LOCATING RINGS **RB**

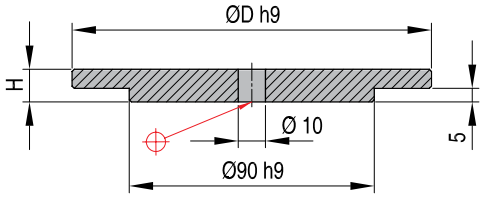


Mat.: St. 37-2

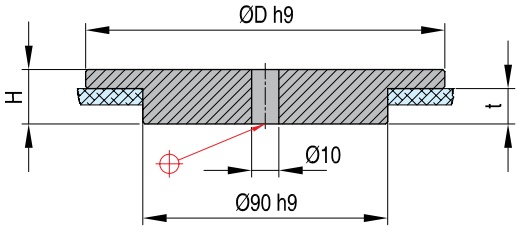
REF	D	H	series
RB608	60	8	N 16 to N 60
RB9012	90	12	



REF	D	H	series
RB9022	90	22	N 16 to N 60



REF	D	H	series
RB10012	100	12	N 16 to N 60
RB11012	110		
RB12012	120		
RB12512	125		
RB15012	150		
RB16012	160		
RB17512	175		
RB20012	200		
RB25012	250		

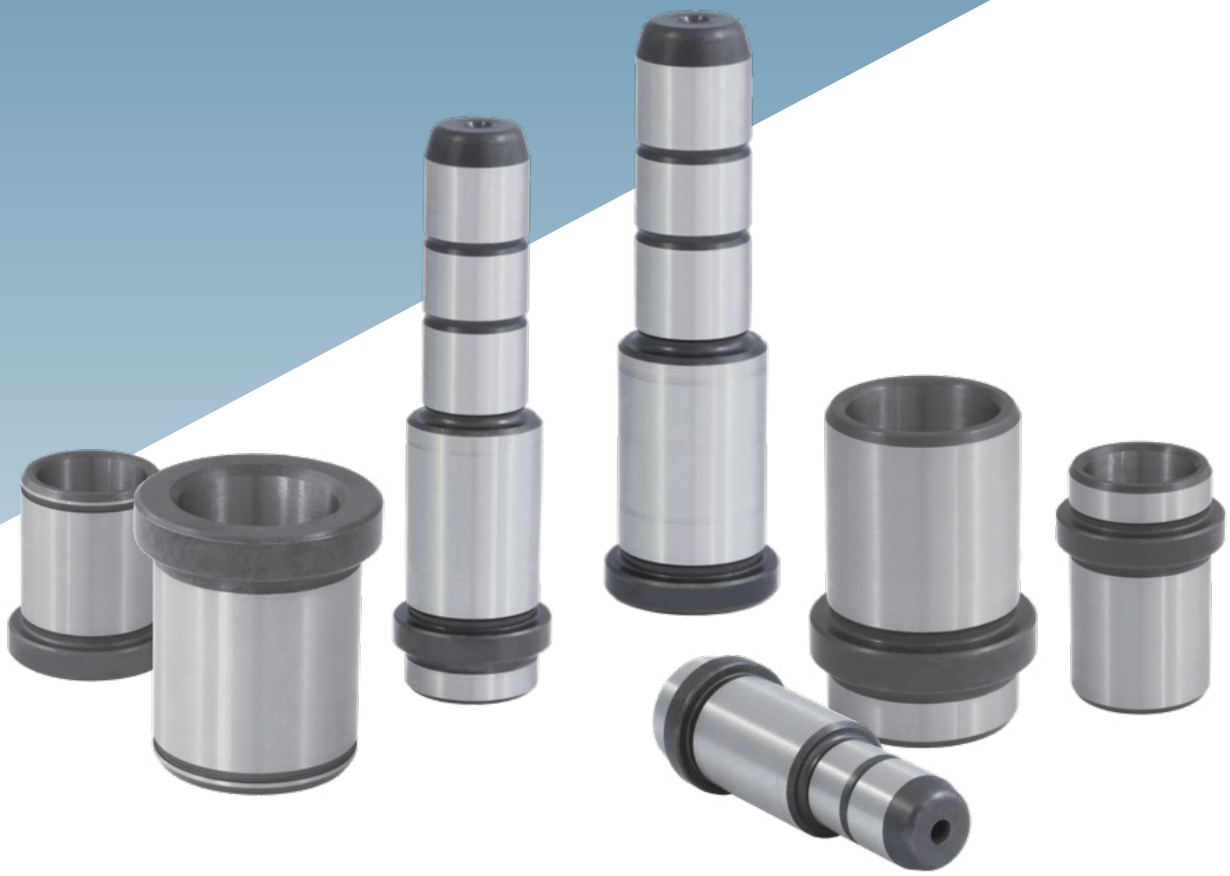


REF	D	t	H	series
RB10018	100	11	18	N 16 to N 60
RB11018	110			
RB12018	120			
RB12518	125			
RB15018	150			
RB16018	160			
RB17518	175			
RB20018	200			
RB25018	250			
RB10022	100	15	22	
RB11022	110			
RB12022	120			
RB12522	125			
RB15022	150			
RB16022	160			
RB17522	175			
RB20022	200			
RB25022	250			

CAD reference point

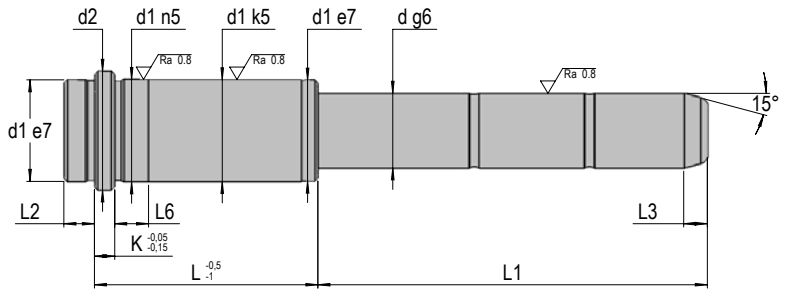
CAD reference point

F-SERIES



LEADER PINS F1000

Mat.: 1.7131 60HRC



Order example for first item (F1000 + d + L + L1): **F1000090120 20**

d		L	L1														d1	d2	K	L2	L3	L6
			020	025	030	035	045	050	055	060	065	070	075	085	090	095						
09	10	012		•		•	•		•		•						14	16	3	3	4	7
		017	•	•	•	•		•	•			•	•									10
		022		•		•			•				•			•						10
		027	•	•	•	•	•	•	•			•	•		•							10
		036		•		•	•		•		•		•	•								10
		046			•	•	•		•			•	•									10
		056				•			•	•			•									10

d		L	L1																						d1	d2	K	L2	L3	L6
			025	030	035	045	050	055	065	070	075	085	090	095	105	110	115	125	130	135	145	150	155	165						
14	15	017			•			•			•			•											20	25	6	9	7	9
		022	•	•	•		•	•		•	•		•	•		•	•	•		•		•								10
		027	•	•	•	•		•	•		•	•		•	•		•	•		•	•		•	•						10
		036	•		•			•			•			•			•	•		•			•							10
		046			•	•		•	•		•	•		•	•		•	•		•	•									10
		056			•			•			•			•			•			•										10
		066			•			•	•		•			•			•	•												10
		076						•			•			•																	10
		086						•			•			•																	10
		096						•			•			•																	10
		116									•			•																	10

d		L	L1																								d1	d2	K	L2	L3	L6
			035	045	055	065	075	085	095	105	115	120	125	135	145	155	165	195	225	235	245	255										
18	20	017	•		•		•		•		•	•	•														26	31	6	9	7	9
		022	•	•	•	•	•	•	•		•			•																		10
		027	•	•	•	•	•	•	•	•	•		•	•		•	•	•	•	•	•											10
		036	•		•		•		•		•			•		•	•	•	•	•		•										10
		046	•	•	•	•	•	•	•	•	•			•		•	•	•		•	•											10
		056	•		•		•		•		•			•		•		•														10
		066	•		•		•		•		•			•	•	•		•														10
		076			•		•		•		•			•	•	•		•														10
		086			•		•		•		•		•	•		•		•														10
		096			•		•		•		•			•		•		•														10
		116					•		•		•																					10
		136					•		•		•			•																		10

d		L	L1																								d1	d2	K	L2	L3	L6
			035	045	055	65	075	085	095	105	115	125	130	135	145	155	165	195	205	235	245	275	285									
22	24	017	•		•		•																				30	35	6	9	7	9
		022	•		•		•		•	•	•		•	•																		10
		027	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•									10
		036	•		•		•		•		•			•		•	•	•	•	•	•	•	•									10
		046	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•		•										10
		056	•		•		•		•		•					•	•	•	•	•												10
		066	•		•		•		•		•					•		•		•												10
		076			•		•		•		•			•	•	•		•														10
		086			•		•		•		•			•		•		•		•		•										10
		096			•		•		•		•	•		•		•		•		•		•										10
		116			•		•		•		•			•		•		•		•												10
		136					•		•		•			•		•		•														10
		156									•					•																10

CAD reference point

LEADER PINS F1000

d		L	L1 045	055	65	075	085	095	105	115	125	130	135	145	155	165	195	205	225	235	245	275	285	295	d1	d2	K	L2	L3	L6
30	32	027	•	•	•	•		•	•	•			•	•		•	•	•		•	•	•	•		42	47	6	9	7	10
		036		•		•		•		•			•				•			•	•	•	•						10
		046	•	•	•	•	•	•	•	•	•		•	•			•			•	•	•	•						10
		056		•		•		•		•		•	•		•		•			•	•	•		•					10
		066		•		•		•		•		•	•		•		•			•	•	•		•					10
		076		•		•		•		•			•				•		•	•		•							10
		086		•		•		•		•			•				•		•	•		•							10
		096		•		•		•		•			•				•	•		•		•							10
		116				•		•		•			•				•			•		•							10
		136						•		•			•				•			•		•							10
		156						•		•			•				•			•									10
		176								•			•				•			•									10
		196								•			•				•			•									10

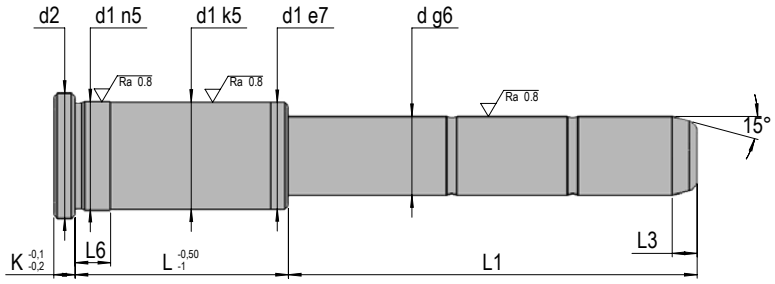
d		L	L1 075	095	115	135	155	165	175	195	205	215	235	245	255	275	d1	d2	K	L2	L3	L6
40	42	036	•	•	•		•										54	59	10	12	7	10
		046	•	•	•		•	•														10
		056	•	•	•		•			•												10
		066	•	•	•	•	•															10
		076	•	•	•		•		•	•												10
		086	•	•	•	•	•			•												10
		096	•	•	•		•			•			•									10
		116	•	•	•	•	•			•			•									10
		136		•	•	•	•			•		•	•									10
		156			•		•			•		•	•									10
		176			•		•			•			•			•						10
		196			•		•			•			•			•						10
		216					•			•		•										10
		236					•				•		•									10
		246						•				•		•								10
		256					•					•			•							10

d		L	L1 075	095	115	135	155	195	235	275	d1	d2	K	L2	L3	L6
50	52	036	•	•	•		•				66	71	10	12	10	10
		046	•	•	•		•									10
		056	•	•	•		•	•								10
		066	•	•	•		•									10
		076		•	•		•	•								10
		086			•		•	•								10
		096			•		•	•								10
		116				•	•	•								10
		136					•	•	•							10
		156					•	•	•							10
		176					•	•	•							10
		196					•	•	•	•						10
		216					•	•	•	•						10
		236					•									10
		246						•								10
		256					•									10

CAD reference point

LEADER PINS F1010

Mat.: 1.7131 60HRC



Order example for first item (F1010 + d + L + L1): **F1010090120 20**

d		L	L1								d1	d2	K	L3	L6
			020	025	030	35	45	50	55	75					
09	10	012		•		•	•		•		14	16	3	4	9
		017	•	•	•	•			•						10
		022		•		•			•						10
		027		•	•	•	•	•	•	•					10
		036		•		•	•		•	•					10
		046			•	•	•		•	•					10
		056				•			•	•					10

d		L	L1																		d1	d2	K	L3	L6
			020	025	035	040	045	050	055	065	070	075	085	090	095	105	110	115	135	155					
14	15	017			•				•			•			•						20	25	6	7	9
		022	•	•	•	•	•	•	•	•	•	•		•	•		•								10
		027	•	•	•	•	•		•	•		•	•		•	•		•	•	•					10
		036	•	•	•	•	•		•	•		•			•			•	•						10
		046	•		•		•		•	•		•	•		•	•		•	•						10
		056	•		•				•			•			•										10
		066							•	•		•			•										10
		076							•			•			•										10
		086							•			•			•										10
		096							•			•			•										10

d		L	L1																				d1	d2	K	L3	L6
			020	035	040	045	050	055	060	065	070	075	080	085	095	105	115	125	135	155	165	195	235					
18	20	017		•				•				•			•									26	31	6	7	9
		022	•	•	•	•	•	•	•	•	•	•	•	•	•		•											10
		027	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•	•					10
		036	•	•	•	•	•	•	•	•	•	•	•		•		•		•	•		•	•					10
		046	•	•		•		•		•		•		•	•	•	•		•	•	•	•	•					10
		056	•	•				•				•			•		•		•									10
		066		•				•				•			•		•		•	•								10
		076						•				•			•		•		•	•		•						10
		086						•				•			•		•		•	•		•						10
		096						•				•			•		•											10
		116										•			•		•											10

d		L	L1																					d1	d2	K	L3	L6
			025	035	045	050	055	060	065	070	075	080	085	095	105	115	125	135	155	165	195	235	275					
22	24	022		•			•				•			•		•								30	35	6	7	10
		027	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•						10
		036	•	•	•	•	•	•		•	•	•		•		•		•	•	•	•	•	•					10
		046	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•					10
		056	•	•	•		•				•			•		•			•	•	•	•						10
		066		•			•				•			•		•			•									10
		076	•		•		•				•			•		•		•										10
		086					•				•			•		•		•	•		•							10
		096					•				•			•		•		•	•		•							10
		116		•			•				•			•		•		•	•									10
		136					•							•		•		•										10
		156					•									•												10

CAD reference point

LEADER PINS F1010

d		L	L1 045	055	065	075	085	095	105	115	125	135	155	165	175	195	225	235	275	d1	d2	K	L3	L6
30	32	027	•	•	•	•		•	•	•			•	•		•		•		42	47	6	7	10
		036		•		•		•		•			•			•								10
		046	•	•	•	•	•	•	•	•	•		•	•		•		•	•					10
		056		•		•		•		•		•	•		•	•		•						10
		066		•		•		•		•		•	•		•	•								10
		076		•		•		•		•			•			•	•							10
		086		•		•		•		•			•	•		•								10
		096		•		•		•		•			•			•								10
		116		•		•		•		•			•											10
		136		•				•		•			•											10
		156		•						•			•											10
		176		•				•		•														10
		196		•				•		•			•			•								10

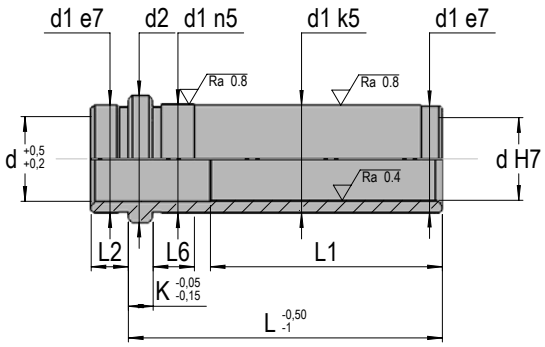
d		L	L1 035	045	055	075	095	115	135	155	175	195	205	215	235	d1	d2	K	L3	L6
40	42	036				•	•	•		•						54	59	10	7	10
		046				•	•	•		•										10
		056				•	•	•		•		•								10
		066				•	•	•	•	•										10
		076				•	•	•		•	•									10
		086				•	•	•	•	•										10
		096				•	•	•		•										10
		116			•	•	•	•	•			•								10
		136			•		•	•	•					•						10
		156			•		•	•		•				•						10
		176			•		•	•												10
		196	•		•		•	•		•		•			•					10
		216					•							•						10
		236	•										•							10
		246		•										•						10
		256			•									•						10

d		L	L1 075	095	115	135	155	175	195	205	215	235	245	d1	d2	K	L3	L6
50	52	056	•	•	•		•							66	71	10	10	10
		066	•	•	•		•											10
		076	•	•	•	•	•	•	•									10
		086	•	•	•		•											10
		096		•	•	•	•	•	•		•							10
		116			•	•	•	•	•		•							10
		136			•	•	•	•	•		•							10
		156				•	•	•	•		•	•						10
		176					•	•	•		•		•					10
		196					•	•	•		•	•	•					10
		216					•	•	•		•		•					10
		236						•	•		•		•					10
		246						•	•		•		•					10
		256						•	•		•		•					10

d		L	L1 115	135	155	175	195	235	275	315	d1	d2	K	L3	L6
60	62	096	•		•		•				80	85	20	10	10
		116		•	•		•								10
		136		•	•		•								10
		156			•		•	•							10
		196		•		•	•	•							10
		246					•	•	•	•					10

CAD reference point

LEADER PIN BUSHINGS F1100



Mat.: 1.7131 60 HRC

Order example for first item (F1100 + d + L): **F1100 14 017**

d		L	d1	d2	K	L1	L2	L6
09	10	012	14	16	3	12	3	7
		017				17		10
		022				22		10
		027				27		10
		036				36		10
		046				36		10
		056				36		10
		066				36		10

d		L	d1	d2	K	L1	L2	L6
14	15	017	20	25	6	17	9	7
		022				22		10
		027				27		10
		036				36		10
		046				46		10
		056				46		10
		066				46		10
		076				46		10
		086				46		10
		096				46		10
		116				46		10

d		L	d1	d2	K	L1	L2	L6
18	20	017	26	31	6	17	9	7
		022				22		10
		027				27		10
		036				36		10
		046				46		10
		056				56		10
		066				56		10
		076				56		10
		086				56		10
		096				56		10
		116				56		10
		136				56		10

d		L	d1	d2	K	L1	L2	L6
22	24	017	30	35	6	17	9	7
		022				22		10
		027				27		10
		036				36		10
		046				46		10
		056				56		10
		066				66		10
		076				76		10
		086				76		10
		096				76		10
		116				76		10
		136				76		10
		156				76		10

d		L	d1	d2	K	L1	L2	L6
30	32	027	42	47	6	27	9	10
		036				36		10
		046				46		10
		056				56		10
		066				66		10
		076				76		10
		086				86		10
		096				96		10
		116				116		10
		136				116		10
		156				116		10
		176				116		10
		196				116		10

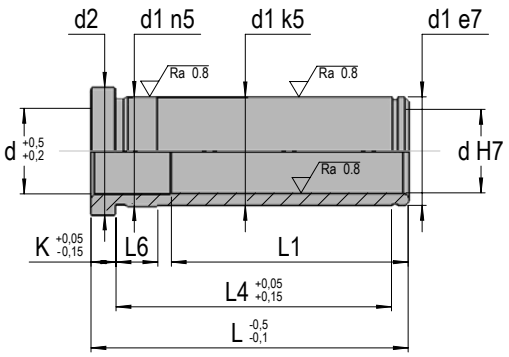
d		L	d1	d2	K	L1	L2	L6
40	42	036	54	59	10	36	12	10
		046				46		10
		056				56		10
		066				66		10
		076				76		10
		086				86		10
		096				96		10
		116				116		10
		136				136		10
		156				136		10
		176				136		10
		196				136		10
		216				136		10
		236				136		10
		246				136		10
		256				136		10

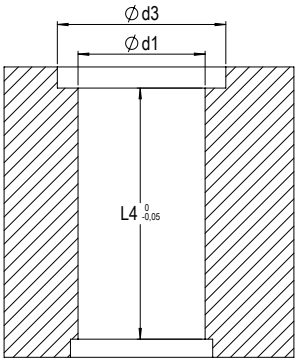
d		L	d1	d2	K	L1	L2	L6
50	52	056	66	71	10	56	12	10
		066				66		10
		076				76		10
		086				86		10
		096				96		10
		116				116		10
		136				116		10
		156				116		10
		176				116		10
		196				116		10
		216				116		10
		236				116		10
		256				116		10

d		L	d1	d2	K	L1	L2	L6
60	62	096	80	86	10	96	12	10
		116				116		10
		136				116		10
		196				116		10

CAD reference point

LEADER PIN BUSHINGS F1110





Mat.: 1.7131

Order example for first item (F1110 + d + L): **F111014012**

d		L	d1	d2	d3	K	L1	L4	L6
09	10	012	14	16	22	3	12	5,5	5,5
		017					17	10,5	10,5
		022					22	15,5	10
		027					27	20,5	10
		036					36	29,5	10
		046					36	39,5	10
		056					36	49,5	10
		066					36	59,5	10

d	L	d1	d2	d3	K	L1	L4	L6
12	012	18	23	-	06	12	-	4
	017	18	23	26,8	6	17	7	7
	022					22	12	7
	027					27	17	10
	036					36	26	10
	046					36	36	10
	056					36	46	10
	066					36	56	10

d		L	d1	d2	d3	K	L1	L4	L6
14	15	012	20	25	-	6	12	-	4
		017	20	25	29	6	17	7	7
		022					22	12	7
		027					27	17	10
		036					36	26	10
		046					46	36	10
		056					46	46	10
		066					46	56	10
		076					46	66	10
		086					46	76	10
		096					46	86	10

d	L	d1	d2	d3	K	L1	L4	L6
16	017	22	27	30,8	6	17	7	7
	022					22	12	7
	027					27	17	10
	036					36	26	10
	046					46	36	10
	056					56	46	10
	066					56	56	10
	076					56	66	10
	086					56	76	10
	096					56	86	10

d		L	d1	d2	d3	K	L1	L4	L6
18	20	017	26	31	35,5	6	17	7	7
		022					22	12	7
		027					27	17	10
		036					36	26	10
		046					46	36	10
		056					56	46	10
		066					56	56	10
		076					56	66	10
		086					56	76	10
		096					56	86	10
		116					56	16	10

d		L	d1	d2	d3	K	L1	L4	L6
22	24	017	30	35	40,5	6	17	6	6
		022					22	11	7
		027					27	16	10
		036					36	25	10
		046					46	35	10
		056					56	45	10

d		L	d1	d2	d3	K	L1	L4	L6
22	24	066	26	31	40,5	6	66	55	10
		076					76	65	10
		086					76	75	10
		096					76	85	10
		116					76	105	10
		136					76	125	10
		156					76	145	10

d		L	d1	d2	d3	K	L1	L4	L6
30	32	027	42	47	55,7	6	27	14	10
		036					36	23	10
		046					46	33	10
		056					56	43	10
		066					66	53	10
		076					76	63	10
		086					86	73	10
		096					96	83	10
		116					96	103	10
		136					96	123	10
		156					96	143	10
		176					96	163	10

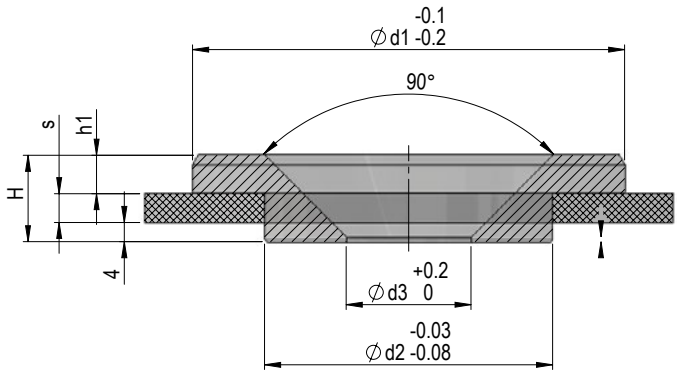
d		L	d1	d2	d3	K	L1	L4	L6
40	42	036	54	59	69,2	10	36	18	10
		046					46	28	10
		056					56	38	10
		066					66	48	10
		076					76	58	10
		086					86	68	10
		096					96	78	10
		116					116	98	10
		136					116	118	10
		156					116	138	10
		176					116	158	10
		196					116	178	10
		216					116	198	10
		236					116	218	10
		246					116	228	10
		256					116	238	10

d		L	d1	d2	d3	K	L1	L4	L6
50	52	056	66	71	82,4	10	56	38	10
		066					66	48	10
		076					76	58	10
		086					86	68	10
		096					96	78	10
		116					116	98	10
		136					116	118	10
		156					116	138	10
		176					116	158	10
		196					116	178	10
		216					116	198	10
		236					116	218	10
		246					116	228	10
		256					116	238	10

d		L	d1	d2	d3	K	L1	L4	L6
60	62	096	80	85	98,1	10	96	78	10
		116					116	98	10
		136					136	118	10
		156					136	138	10
		196					136	178	10
		246					136	228	10

CAD reference point

LOCATING RINGS F1360



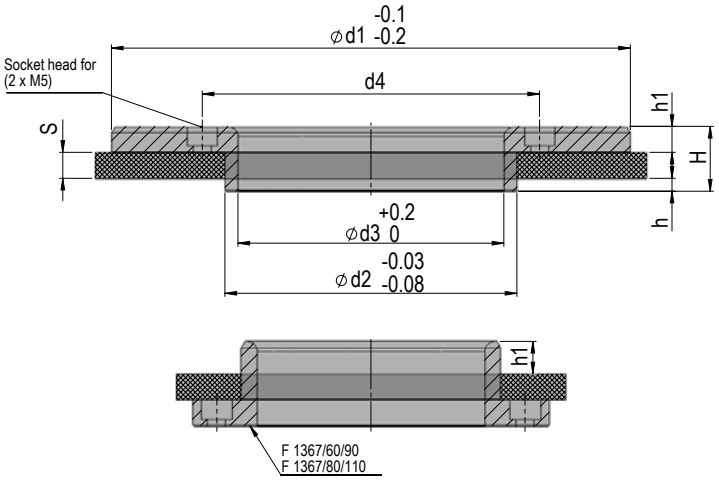
Mat.: 1.1191 (1.1730)

REF	s	d1	d2	d3	H	h1
F13600600602608	-	60	60	26	8	4
F13600600602614	6	60	60	26	14	4
F13600600902608	-	90	60	26	12	8
F13600600902614	6	90	60	26	18	8
F13600900602612	-	90	60	36	12	8
F13600900602618	6	90	60	36	18	8
F13600900603612	-	60	90	26	8	4
F13600900603618	6	60	90	26	14	4
F13600900902612	-	90	90	26	12	8
F13600900902618	6	90	90	26	18	8
F13600900903612	-	90	90	36	12	8
F13600900903618	6	90	90	36	18	8
F13601000902612	-	100	90	26	12	8
F13601000902618	6	100	90	26	18	8
F13601000903612	-	100	90	36	12	8
F13601000903618	6	100	90	36	18	8
F13601100902612	-	110	90	26	12	8
F13601100902618	6	110	90	26	18	8
F13601100902620	8	110	90	26	20	8
F13601100903612	-	110	90	36	12	8
F13601100903618	6	110	90	36	18	8
F13601100903620	8	110	90	36	20	8

REF	s	d1	d2	d3	H	h1
F13601200903612	-	120	90	36	12	8
F13601200903618	6	120	90	36	18	8
F13601200903620	8	120	90	36	20	8
F13601250902612	-	125	90	26	12	8
F13601250902618	6	125	90	26	18	8
F13601250902620	8	125	90	26	20	8
F13601250902630	8	125	90	26	30	18
F13601250903612	-	125	90	36	12	8
F13601250903618	6	125	90	36	18	8
F13601250903620	8	125	90	36	20	8
F13601250903630	8	125	90	36	30	18
F13601600903612	-	160	90	36	12	8
F13601600903618	6	160	90	36	18	8
F13601600903620	8	160	90	36	20	8
F13601750903612	-	175	90	36	12	8
F13601750903618	6	175	90	36	18	8
F13601750903620	8	175	90	36	20	8
F13602001603614	-	200	160	36	14	10
F13602001603622	8	200	160	36	22	10
F13602501603614	-	250	160	36	14	10
F13602501603622	8	250	160	36	22	10

CAD reference point

LOCATING RINGS F1367



Mat.: 1.1191 (1.1730)

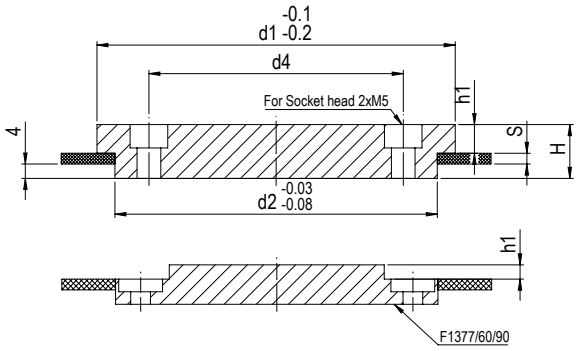
REF	s	d1	d2	H	h	h1
F136706009018	-	60	90	18	8	10
F136706009024	6	60	90	24	8	10
F136706009026	8	60	90	26	8	10
F136708011018	-	80	110	18	8	10
F136708011024	6	80	110	24	8	10
F136708011026	8	80	110	26	8	10
F136710209012	-	101,6 (4")	90	12	4	8
F136710209018	6	101,6 (4")	90	18	4	8
F136710209020	8	101,6 (4")	90	20	4	8
F136711009012	-	110	90	12	4	8
F136711009018	6	110	90	18	4	8
F136711009020	8	110	90	20	4	8
F136711009026	8	110	90	26	4	14
F136712009012	-	120	90	12	4	8
F136712009018	6	120	90	18	4	8
F136712009020	8	120	90	20	4	8
F136712509012	-	125	90	12	4	8
F136712509018	6	125	90	18	4	8
F136712509020	8	125	90	20	4	8
F136712509030	8	125	90	30	4	18

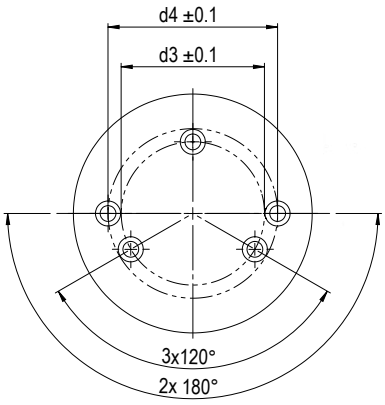
REF	s	d1	d2	H	h	h1
F136712709012	-	127 (5")	90	12	4	8
F136712709018	6	127 (5")	90	18	4	8
F136712709020	8	127 (5")	90	20	4	8
F136716009012	-	160	90	12	4	8
F136716009018	6	160	90	18	4	8
F136716009020	8	160	90	20	4	8
F136716009030	8	160	90	30	4	18
F136717509012	-	175	90	12	4	8
F136717509018	6	175	90	18	4	8
F136717509020	8	175	90	20	4	8
F136717516014	-	175	160	14	4	10
F136717516020	6	175	160	20	4	10
F136717516022	8	175	160	22	4	10
F136720016014	-	200	160	14	4	10
F136720016022	8	200	160	22	4	10
F136720016030	8	200	160	30	4	18
F136725016014	-	250	160	14	4	10
F136725016022	8	250	160	22	4	10
F136725016030	8	250	160	30	4	18

CAD reference point

LOCATING RING WITH NECK AND SCREW HOLES F1377

Mat.: 1.0503 (1.1730)





REF	d1	d2	H	S	d3*	d4**	h1
F137709006012	90	60	12	-	N/A	76	8
F137709006018	90	60	18	6	N/A	76	8
F137706009008	60	90	8	-	N/A	48	4
F137706009014	60	90	14	6	N/A	76	4
F137710009012	100	90	12	-	78	82	8
F137710009018	100	90	18	6	78	82	8
F137711009012	110	90	12	-	78	98	8
F137711009018	110	90	18	6	78	98	8
F137711009020	110	90	20	8	78	98	8
F137712009012	120	90	12	-	78	104	8
F137712009018	120	90	18	6	78	104	8
F137712009020	120	90	20	8	78	104	8
F137712509012	125	90	12	-	78	104	8
F137712509018	125	90	18	6	78	104	8
F137712509020	125	90	20	8	78	104	8

REF	d1	d2	H	S	d3*	d4**	h1
F137712509030	125	90	30	8	N/A	104	18
F137716009012	160	90	12	-	78	128	8
F137716009018	160	90	18	6	78	128	8
F137716009020	160	90	20	8	78	128	8
F137716009030	160	90	30	8	N/A	128	18
F137717509012	175	90	12	-	78	128	8
F137717509018	175	90	18	6	78	128	8
F137717509020	175	90	20	8	78	128	8
F137717516020	175	160	20	6	N/A	144	10
F137717516022	175	160	22	8	N/A	144	10
F137720016014	200	160	14	-	N/A	144	10
F137720016022	200	160	22	8	N/A	144	10
F137725016014	250	160	14	-	N/A	144	10
F137725016022	250	160	22	8	N/A	144	10

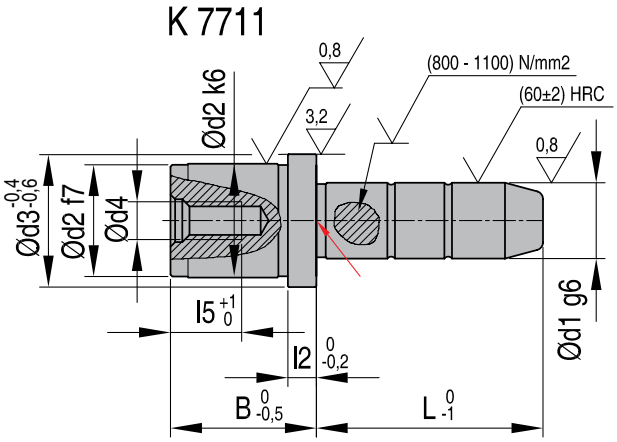
Note:
1. *) d3 = pitch diameter for 3 holes
2. **) d4 = pitch diameter for 2 holes

CAD reference point

K-SERIES

LEADER PINS + SHOULDER PLATES — K7711...EU

Mat.: 1.7131



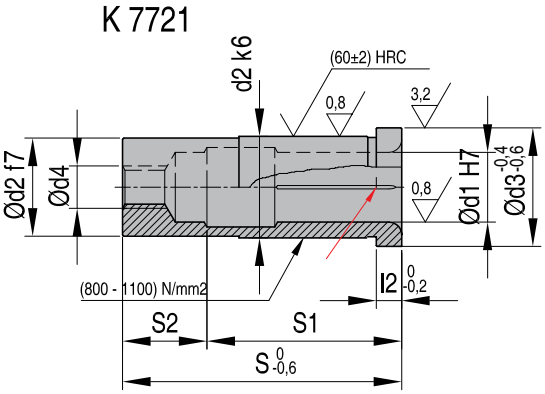
Order example for first item (K7711+ d2 + d1 + B + L + EU): **K771116102030EU**
d1 value must be chosen amongst the two values displayed. It can be anyone of the two, on customers' choice.
This part number includes the leader pins K7711 and the shoulder plates K7616 (with the same d2 diameter as the leader pin). See specifications of K7616 on the next page.
If you only need the leader pin, please order the same part number without EU at the end; example K771116102030.

			L												
d2	d1	B	30	40	50	60	70	80	100	120	140	d3	d4	l2	l5
16	10/11	16	•		•							20	M6	3,5	15
16	10/11	20	•	•	•		•		•			20	M6	3,5	15
16	10/11	26			•							20	M6	3,5	15
16	10/11	30	•				•					20	M6	3,5	15
20	14/15	26	•		•		•					25	M8	6	15
20	14/15	30	•		•	•		•	•	•		25	M8	6	15
20	14/15	40		•								25	M8	6	15
25	18/19	20	•		•							31	M10	6	15
25	18/19	24	•			•						31	M10	6	15
25	18/19	26	•			•						31	M10	6	15
25	18/19	30	•		•	•		•	•			31	M10	6	15
25	18/19	40		•				•		•		31	M10	6	15
32	23/24	40		•						•	•	38	M12	6	22

CAD reference point

LEADER PINS BUSHINGS + SHOULDER PLATES **K7721...EU**

Mat.: 1.7131

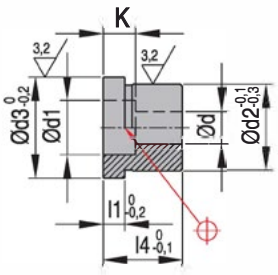


This part number includes the bushing K7721 and the shoulder plates K7616 (with the same d2 diameter as the leader pin).
See specifications of K7616 on the next page.
If you only need the bushing, please order the same part number without EU at the end; example K7721161160.

REF	d2	d1	S	d3	d4	l2	s1	s2	REF	d1
K7721161120	16	11	20	20	M6	3,5	13	7	**K7721161020**	10
K7721161130	16	11	30	20	M6	3,5	20	10	**K7721161030**	10
K7721161140	16	11	40	20	M6	3,5	30	10	**K7721161040**	10
K7721161150	16	11	50	20	M6	3,5	40	10	**K7721161050**	10
K7721161160	16	11	60	20	M6	3,5	50	10	**K7721161060**	10
K7721201530	20	15	30	25	M8	6	20	10	**K7721201430**	14
K7721201540	20	15	40	25	M8	6	30	10	**K7721201440**	14
K7721201550	20	15	50	25	M8	6	40	10	**K7721201450**	14
K7721201560	20	15	60	25	M8	6	50	10	**K7721201460**	14
K7721201570	20	15	70	25	M8	6	60	10	**K7721201470**	14
K7721201580	20	15	80	25	M8	6	70	10	**K7721201480**	14
K7721251930	25	19	30	31	M10	6	16	14	**K7721251830**	18
K7721251960	25	19	60	31	M10	6	46	14	**K7721251860**	18
K7721251970	25	19	70	31	M10	6	56	14	**K7721251870**	18
K7721251980	25	19	80	31	M10	6	66	14	**K7721251880**	18
K7721251990	25	19	90	31	M10	6	76	14	**K7721251890**	18
K7721322470	32	24	70	38	M12	6	54	16	**K7721322370**	23
K7721322485	32	24	85	38	M12	6	67	18	**K7721322385**	23
K77213224105	32	24	105	38	M12	6	86	19	**K77213223105**	23
K77213224110	32	24	110	38	M12	6	91	19	**K77213223110**	23

SHOULDER PLATES **K7616**

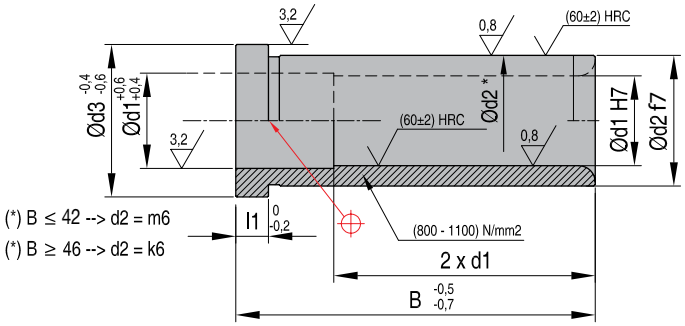
Mat.: 1.7131



REF	d2	d	d1	d3	l1	l4	K
K761616	16	6,6	11	20	3,5	10	6,8
K761620	20	9,0	15	25	6,0	11	8,5
K761625	25	11,0	18	31	6,0	15	10,5
K761632	32	13,5	20	38	6,0	19	12,5

CAD reference point

LEADER PIN BUSHINGS K7661

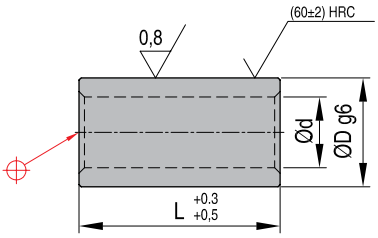


Mat.: 1.7131

REF	d2	d1	B	d3	l1	REF	d1
K7661161116	16	11	16	20	3,5	K7661161016	10
K7661161120	16	11	20	20	3,5	K7661161020	10
K7661161126	16	11	26	20	3,5	K7661161026	10
K7661161146	16	11	46	20	3,5	K7661161046	10
K7661161156	16	11	56	20	3,5	K7661161056	10
K7661201532	20	15	32	25	6	K7661201432	14
K7661201536	20	15	36	25	6	K7661201436	14
K7661201546	20	15	46	25	6	K7661201446	14
K7661201556	20	15	56	25	6	K7661201456	14
K7661201576	20	15	76	25	6	K7661201476	14

REF	d2	d1	B	d3	l1	REF	d1
K7661251926	25	19	26	31	6	K7661251826	18
K7661251936	25	19	36	31	6	K7661251836	18
K7661251942	25	19	42	31	6	K7661251842	18
K7661251946	25	19	46	31	6	K7661251846	18
K7661251952	25	19	52	31	6	K7661251852	18
K7661251956	25	19	56	31	6	K7661251856	18
K7661251976	25	19	76	31	6	K7661251876	18
K7661251996	25	19	96	31	6	K7661251896	18
K7661322452	32	24	52	36	6	K7661322352	23
K7661322462	32	24	62	36	6	K7661322362	23

LOCATING SLEEVES K7731



Mat.: 1.7131

Order example for first item (K7731 + D+ L): **K7731**2015

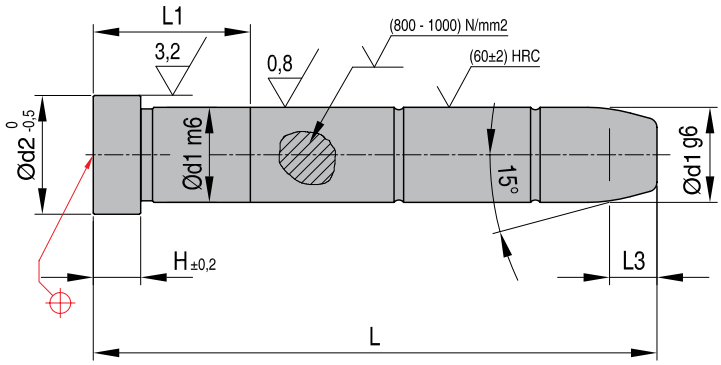
D	L																d
	10	15	20	25	30	35	40	45	50	60	70	80	90	95	100	120	140	
16				•						•	•							12,5
20	•	•	•	•	•	•	•	•	•	•	•	•			•	•		16,5
25	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•		21
32					•				•	•	•	•		•	•	•	•	26

CAD reference point

STANDARD COMPONENTS

LEADER PINS R08

Mat.: 1.7131 60 HRC



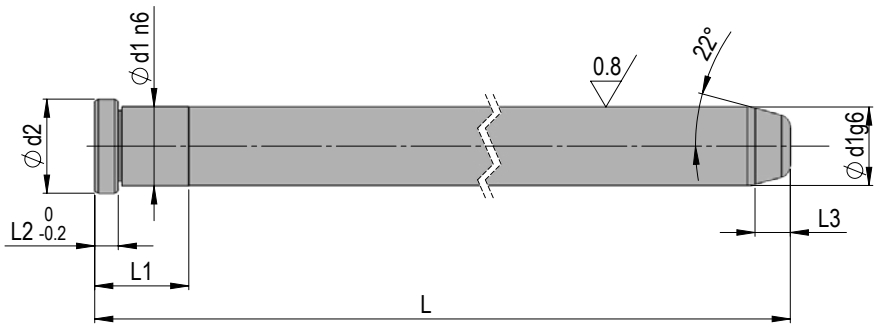
Order example for first item (R08 + d1 + L): **R0810040**

	L1															
	017	017	022	027	027	036	036	046	056	056	056	056	076			
	L															
d1	040	060	080	100	120	140	160	180	200	220	240	300	360	d2	H	L3
10	•	•	•	•										12	3	7
12		•	•	•	•									16	6	7
14		•	•	•	•	•	•							18	8	7
16		•	•	•	•	•	•							20	8	7
18			•	•	•	•	•	•	•					22	8	7
20			•	•	•	•	•	•	•					24	8	7
22				•	•	•	•	•	•	•				26	15	7
24				•	•	•	•	•	•	•				28	15	7
30							•		•		•			36	15	7
32							•		•		•			36	15	7
40									•		•	•		48	15	10
50									•		•	•		58	15	15
60											•	•	•	68	20	20

CAD reference point

ANGLE PINS F1030

Mat.: 1.7131 ≈ 60 HRC

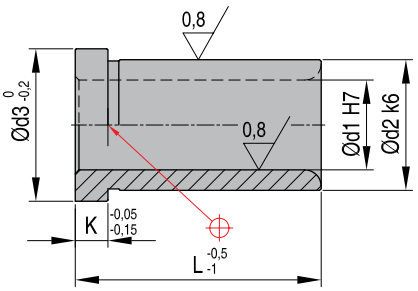


Ordering example for first item (F1030 + d1 + L): **F1030<u>09</u>040**

	L																						d2	L1	L2	L3
d1	40	50	60	70	80	90	100	110	120	140	160	180	200	220	240	250	260	280	300	320	360	400	440				
09	•		•	•	•	•	•		•															11	12	3	4
10	•	•	•	•	•	•	•		•	•	•													12	12	3	4
12		•	•	•	•	•	•	•	•	•	•	•	•											15	17	6	5
14			•	•	•	•	•	•	•	•	•	•	•	•										17	22	8	5
16		•	•	•	•	•	•	•	•	•	•	•	•	•	•		•							19	22	8	5
18			•	•	•	•	•	•	•	•	•	•	•	•	•		•	•						21	22	8	7
20				•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•				23	22	8	7
22					•		•		•	•	•	•	•	•	•		•	•	•	•				25	27	10	7
24					•		•		•	•	•	•	•	•	•		•	•	•	•	•			27	27	10	7
30							•		•	•	•	•	•	•	•		•	•	•	•	•	•	•	35	36	10	7
32							•		•	•	•	•	•	•	•			•		•	•	•		35	36	10	7
40										•	•	•	•	•		•		•		•	•	•	•	45	36	10	7

LEADER PIN BUSHINGS **FB120**

Mat.: 1.7131 ca 720 Hv 30

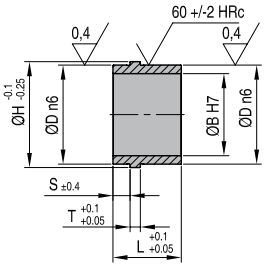


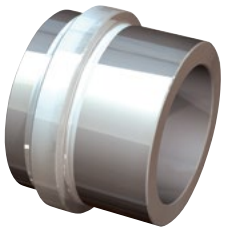
Order example for first item (FB120 + d1 + L): **FB12010012**

d1	d2	d3	K	L											
				12	16	20	28	36	50	70	100	116	156	196	246
10	15	19	4,0	•		•									
12	18	22	4,0	•		•									
14	22	26	4,0		•		•								
16	26	30	4,0		•		•		•						
18	26	30	4,0		•		•		•						
20	30	35	5,0			•		•	•						
22	30	35	5,0			•		•	•						
24	35	40	5,0			•		•	•						
26	35	40	5,0			•		•	•						
30	42	47	5,0					•	•						
40	60	68	15,0							•					
50	70	78	15,0							•					
50	66	72	10,0									•	•	•	
60	80	88	20,0									•	•	•	•
80	100	108	20,0								•				

GUIDE BUSHING **GB1000**

Mat.: 1.7131

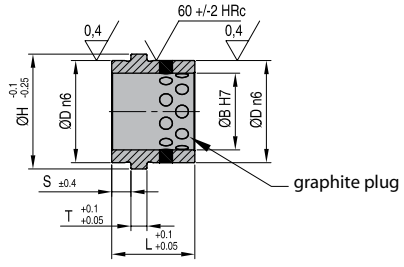




REF	B	D	H	S	T	L
GB1000	24	32	36	6	5	26
GB1001	36	44	48	6	5	30
GB1002	48	58	62	10	6	40

GUIDE BUSHING **GB5000**

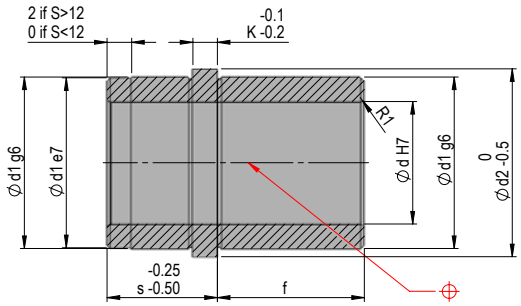
Mat.: 2.0975 - Graphit 200 HB



REF	B	D	H	S	T	L
GB5000	24	32	36	6	5	26
GB5001	36	44	48	6	5	30
GB5002	48	58	62	10	6	40

CAD reference point

BRONZE GUIDE BUSH F1120

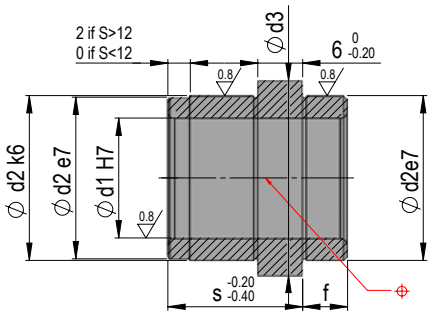


Mat.: 2.0598 200 HB
Max. T.: 200°C

REF	d	d1	f	s	d2	K
F1120100510	10	14	5	10	16	3
F1120100912	10	14	9	12	17	6
F1120100917	10	14	9	17	17	6
F1120101010	10	14	10	10	16	3
F1120120917	12	16	9	17	19	6
F1120121217	12	16	12	17	19	6
F1120141217	14	18	12	17	21	6
F1120141222	14	18	12	22	21	6
F1120141722	14	18	17	22	21	6
F1120181217	18	24	12	17	27	6
F1120181222	18	24	12	22	27	6
F1120181722	18	24	17	22	27	6
F1120181727	18	24	17	27	27	6
F1120182227	18	24	22	27	27	6

REF	d	d1	f	s	d2	K
F1120201722	20	26	17	22	29	6
F1120202227	20	26	22	27	29	6
F1120221722	22	28	17	22	31	6
F1120222227	22	28	22	27	31	6
F1120241722	24	30	17	22	33	6
F1120241727	24	30	17	27	33	6
F1120242227	24	30	22	27	33	6
F1120242736	24	30	27	36	33	6
F1120302227	30	38	22	27	41	6
F1120302736	30	38	27	36	41	6
F1120302746	30	38	27	46	41	6
F1120303646	30	38	36	46	41	6
F1120403646	40	48	36	46	51	6

GUIDE BUSH FOR EJECTION SET F11202



Mat.: 1.7131 ≈ 60 HRC

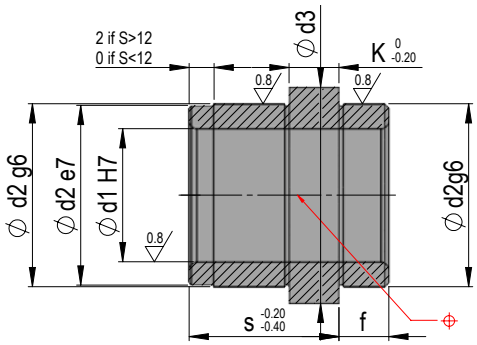
REF	d1	f	s	d2	d3
F11202100912	10	9	12	14	17
F11202100917	10	9	17	14	17
F11202120917	12	9	17	16	19
F11202121217	12	12	17	16	19
F11202141217	14	12	17	18	21
F11202141222	14	12	22	18	21
F11202141722	14	17	22	18	21
F11202181217	18	12	17	24	27
F11202181222	18	12	22	24	27
F11202181722	18	17	22	24	27
F11202181727	18	17	27	24	27
F11202182227	18	22	27	24	27
F11202201722	20	17	22	26	29

REF	d1	f	s	d2	d3
F11202202227	20	22	27	26	29
F11202221722	22	17	22	28	31
F11202222227	22	22	27	28	31
F11202241722	24	17	22	30	33
F11202241727	24	17	27	30	33
F11202242227	24	22	27	30	33
F11202242736	24	27	36	30	33
F11202302227	30	22	27	38	41
F11202302736	30	27	36	38	41
F11202302746	30	27	46	38	41
F11202303646	30	36	46	38	41
F11202403646	40	36	46	48	51

CAD reference point

BALL GUIDE BUSH F11206

Mat.: 1.0503 ≈ 50 HRC / Sint+MoS2
t max. = 250°C



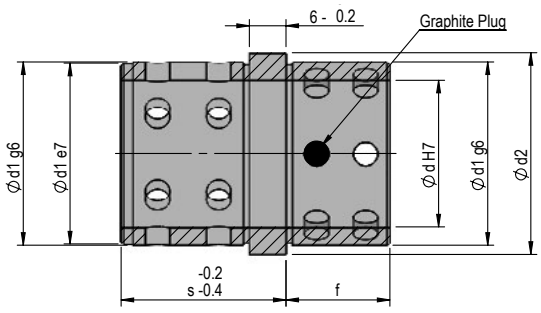
Type 1 - whole part sintered
Type 2 - body 1.0503 + sintered layer on the internal diameter (d1)

REF	d1	f	s	d2	d3	K	Type
F11206100510	10	5	10	14	16	3	1
F11206101010	10	10	10	14	16	3	1
F11206100912	10	9	12	14	17	6	1
F11206100917	10	9	17	14	17	6	1
F11206120917	12	9	17	16	19	6	1
F11206121217	12	12	17	16	19	6	1
F11206141217	14	12	17	18	21	6	1
F11206141222	14	12	22	18	21	6	1
F11206141722	14	17	22	18	21	6	1
F11206181217	18	12	17	24	27	6	1
F11206181222	18	12	22	24	27	6	1
F11206181722	18	17	22	24	27	6	1
F11206181727	18	17	27	24	27	6	1
F11206182227	18	22	27	24	27	6	1

REF	d1	f	s	d2	d3	K	Type
F11206201722	20	17	22	26	29	6	1
F11206202227	20	22	27	26	29	6	1
F11206221722	22	17	22	28	31	6	1
F11206222227	22	22	27	28	31	6	1
F11206241722	24	17	22	30	33	6	1
F11206241727	24	17	27	30	33	6	1
F11206242227	24	22	27	30	33	6	1
F11206242736	24	27	36	30	33	6	2
F11206302227	30	22	27	38	41	6	2
F11206302736	30	27	36	38	41	6	2
F11206302746	30	27	46	38	41	6	2
F11206303646	30	36	46	38	41	6	2
F11206403646	40	36	46	48	51	6	2

BRASS GUIDE BUSH F1125

Mat.: 2.0598 - Graphit 200 HB



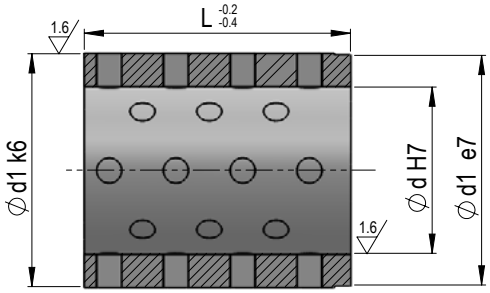
REF	d	d1	f	s	d2
F1125100912	10	14	9	12	17
F1125100917	10	14	9	17	17
F1125120917	12	16	9	17	19
F1125121217	12	16	12	17	19
F1125141217	14	18	12	17	21
F1125141222	14	18	12	22	21
F1125141722	14	18	17	22	21
F1125181217	18	24	12	17	27
F1125181222	18	24	12	22	27
F1125181722	18	24	17	22	27
F1125181727	18	24	17	27	27
F1125182227	18	24	22	27	27
F1125201722	20	26	17	22	29

REF	d	d1	f	s	d2
F1125202227	20	26	22	27	29
F1125221722	22	28	17	22	31
F1125222227	22	28	22	27	31
F1125241722	24	30	17	22	33
F1125241727	24	30	17	27	33
F1125242227	24	30	22	27	33
F1125242736	24	30	27	36	33
F1125302227	30	38	22	27	41
F1125302736	30	38	27	36	41
F1125302746	30	38	27	46	41
F1125303646	30	38	36	46	41
F1125403646	40	48	36	46	51

CAD reference point

SELF LUBRICATING LEADER PIN BUSHINGS F1127

Mat.: 2.0598 ≈ 200HB + graphite



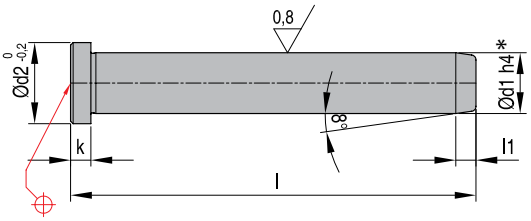
(F1127 + d + d1 + L): **F1127091408**

d value must be chosen amongst the two values displayed. It can be any of the two, on customer´s choice.

d		d1	L							
			08	12	16	20	25	32	40	50
09	10	14	•	•	•					
12		16		•	•	•				
14	15	20		•	•	•				
16		22			•	•	•			
18	20	26			•	•	•	•		
22	24	30				•	•	•	•	
30	32	42					•	•	•	•

CAD reference point

GUIDE PILLARS GB112

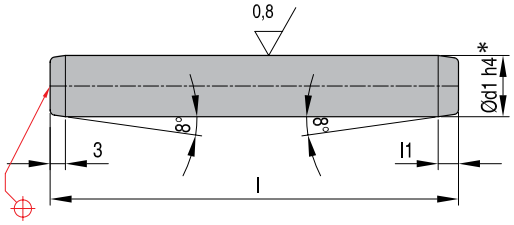


Mat.: 1.7131 -720 HV 30

REF	d1	l	d2	l1	k
GB11212080	12	80	16	4	4
GB11212100	12	100	16	4	4
GB11212120	12	120	16	4	4
GB11218120	18	120	22	7	6
GB11218140	18	140	22	7	6
GB11218160	18	160	22	7	6

REF	d1	l	d2	l1	k
GB11224120	24	120	27	7	6
GB11224160	24	160	27	7	6
GB11224200	24	200	27	7	6
GB11230160	30	160	36	7	6
GB11230200	30	200	36	7	6
GB11230240	30	240	36	7	6

GUIDE PILLARS GB113

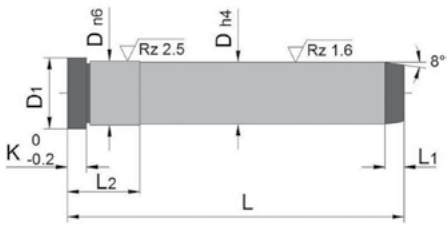


Mat.: 1.7131 -720 HV 30

REF	d1	l	l1
GB11312100	12	100	4
GB11312125	12	125	4
GB11318100	18	100	7
GB11318125	18	125	7
GB11318160	18	160	7

REF	d1	l	l1
GB11324120	24	120	7
GB11324160	24	160	7
GB11324200	24	200	7
GB11330160	30	160	7
GB11330240	30	240	7

GUIDE PILLARS GB114



Mat: 1.7139 ca 700 HV

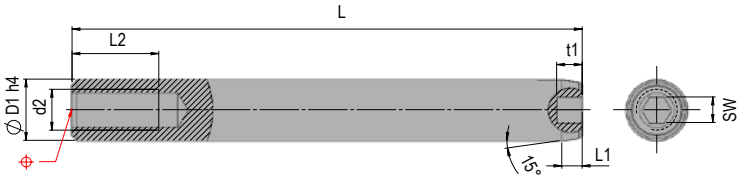
REF	K	L1	L2	D1	D	L
GB11410060	3	4	12	12	10	60
GB11410080	3	4	12	12	10	80
GB11410100	3	4	12	12	10	100
GB11410120	3	4	12	12	10	120
GB11410140	3	4	12	12	10	140
GB11410160	3	4	12	12	10	160
GB11412080	4	4	17	15	12	80
GB11412100	4	4	17	15	12	100
GB11412120	4	4	17	15	12	120
GB11412140	4	4	17	15	12	140
GB11412160	4	4	17	15	12	160
GB11412180	4	4	17	15	12	180
GB11418080	6	5	22	21	18	80
GB11418100	6	5	22	21	18	100
GB11418120	6	5	22	21	18	120
GB11418140	6	5	22	21	18	140
GB11418160	6	5	22	21	18	160
GB11418180	6	5	22	21	18	180

REF	K	L1	L2	D1	D	L
GB11418200	6	5	22	21	18	200
GB11418250	6	5	22	21	18	250
GB11424100	6	6	27	27	24	100
GB11424120	6	6	27	27	24	120
GB11424140	6	6	27	27	24	140
GB11424160	6	6	27	27	24	160
GB11424180	6	6	27	27	24	180
GB11424200	6	6	27	27	24	200
GB11424250	6	6	27	27	24	250
GB11424280	6	6	27	27	24	280
GB11430120	6	7	36	35	30	120
GB11430140	6	7	36	35	30	140
GB11430160	6	7	36	35	30	160
GB11430180	6	7	36	35	30	180
GB11430200	6	7	36	35	30	200
GB11430250	6	7	36	35	30	250
GB11430280	6	7	36	35	30	280
GB11430320	6	7	36	35	30	320

CAD reference point

GUIDE BOLT FOR EJECTOR UNIT — F1040

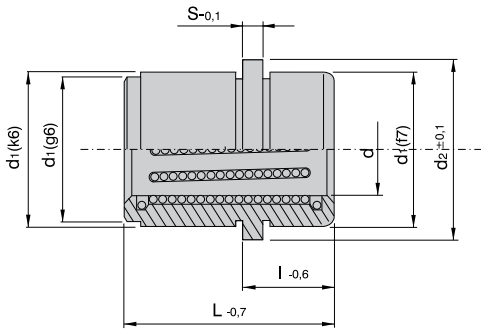
Mat.: 1.7131 60 HRC - 720 HV 30



Order example for first item (F1040 + D1 + L): **F1040**10**060**

D1	L											SW	t1	L1	d2	L2
	60	80	100	120	140	160	180	200	220	250	280					
10	•	•	•	•	•	•						4	4	4	M6	16
12		•	•	•	•	•	•					5	5	4	M8	17
18		•	•	•	•	•	•	•				6	6	5	M10	20
24			•	•	•	•	•	•	•	•		8	8	6	M12	25
30				•	•	•	•	•	•	•	•	8	8	7	M16	30

BALL GUIDED EJECTOR BALL CAGES — FW1213



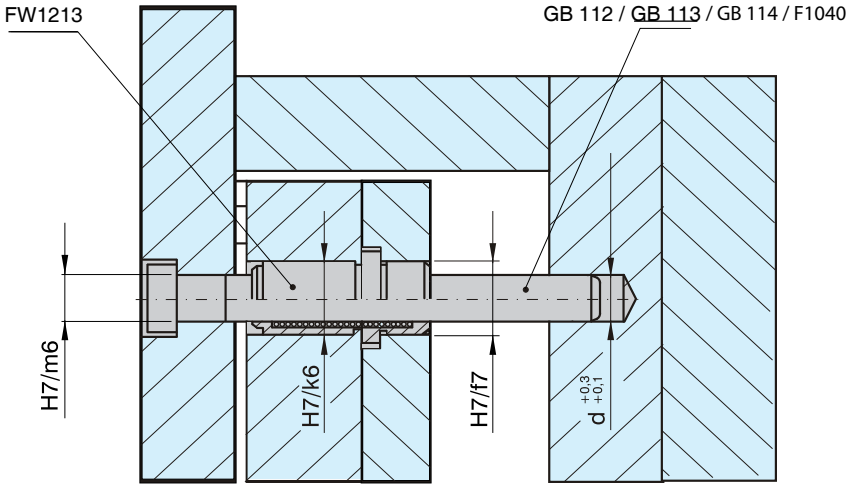
- precise guidance of ejector plates
- specifically developed for Euro mould bases
- unlimited stroke length
- space-saving solution, short ejection possible
- easy installation
- especially useful with two ejector sets in the mould
- high accuracy

Mat.: bushing 1.3505/100Cr6; ball: 1.3505/100Cr6
HRC: bushing 60~62; ball: 62~67

REF	d	d2	d1	s	l	L
FW12131226	12	26	22	6	12	26
FW12131835	18	35	30	6	17	35

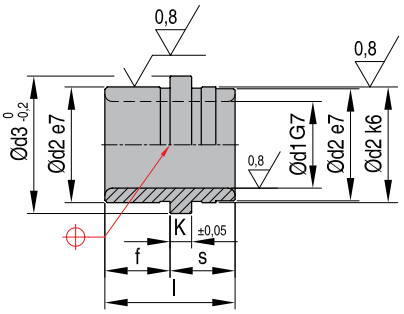
REF	d	d2	d1	s	l	L
FW12132445	24	43	38	6	22	45
FW12133055	30	52	46	6	27	55

Typical application FW1213



CAD reference point

LEADER PIN BUSHINGS **FW14**

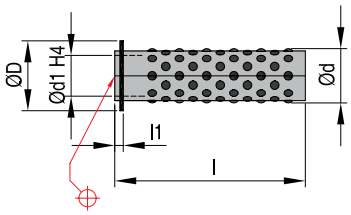


Mat.: Bronze

REF	d1	s	d2	d3	f	K	l
FW141206	12	6	16	19	9	3	15
FW141209	12	9	16	19	12	3	21
FW141212	12	12	16	19	17	3	29
FW141812	18	12	25	29	17	6	29
FW141817	18	17	25	29	22	6	39

REF	d1	s	d2	d3	f	K	l
FW141822	18	22	25	29	27	6	49
FW143017	30	17	42	46	22	6	39
FW143022	30	22	42	46	27	6	49
FW143027	30	27	42	46	36	6	63

BALL CAGES **FW12**



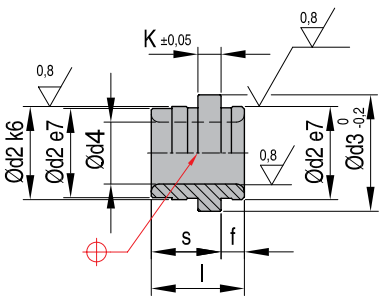
Mat.: Brass Balls: Steel-hardened as per DIN 5401

For ordering a kit consisting of the ball cage + snap ring please use **K** at the end – for instance **FW121256K**.
If you only need the ball cage, please order the same part number without **K** at the end; example **FW121256.**

REF	d1	l	l1	d	D
FW121240	12	40	2,5	16	20,5
FW121256	12	56	2,5	16	20,5
FW121845	18	45	2,8	24	28,6
FW121856	18	56	2,8	24	28,6
FW121871	18	71	2,8	24	28,6
FW122445	24	45	3,6	30	36,5

REF	d1	l	l1	d	D
FW122456	24	56	3,6	30	36,5
FW122471	24	71	3,6	30	36,5
FW122490	24	90	3,6	30	36,5
FW123056	30	56	4,8	38	43,5
FW123075	30	75	4,8	38	43,5
FW123095	30	95	4,8	38	43,5

GUIDE BUSHES FOR BALL CAGES **FW13**



Mat.: 1.7131 - 680 HV 30

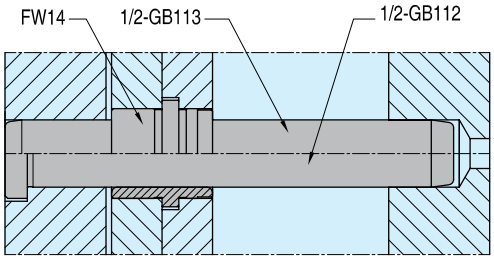
CAD reference point

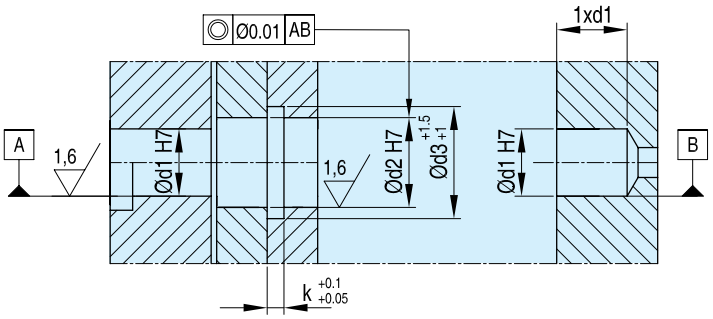
REF	d1	s	d4	d2	d3	f	l	K
FW131218	12	18	16	22	26	6	24	6
FW131823	18	23	24	30	35	11	34	6

REF	d1	s	d4	d2	d3	f	l	K
FW132427	24	27	30	38	43	17	44	6
FW133033	30	33	38	46	52	21	54	6

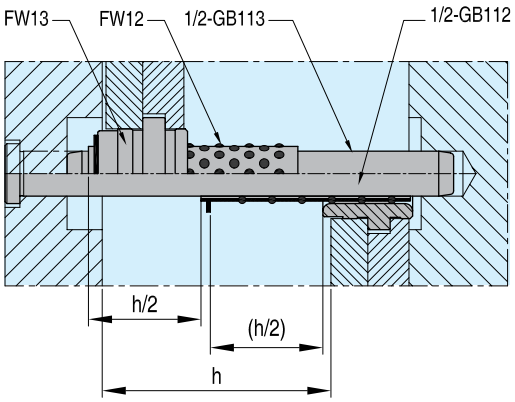
INSTALLATION EXAMPLES GB112 - GB113 - FW12 - FW13 - FW14

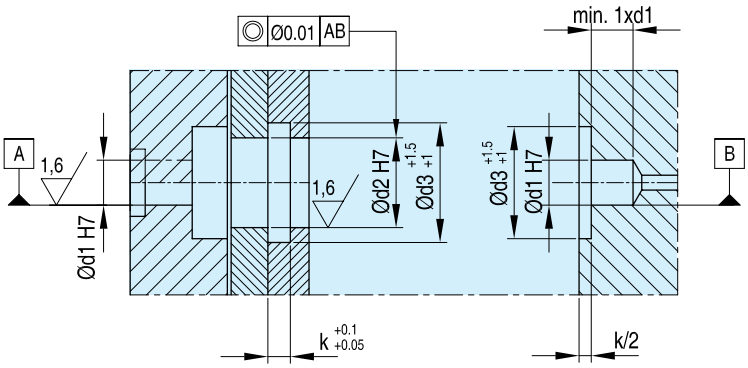
GB 112 - GB 113 - FW 14





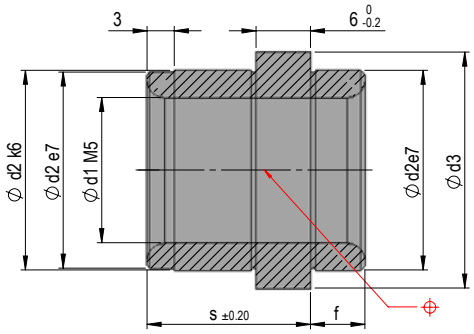
GB 112 - GB 113 - FW 12 - FW13





CAD reference point

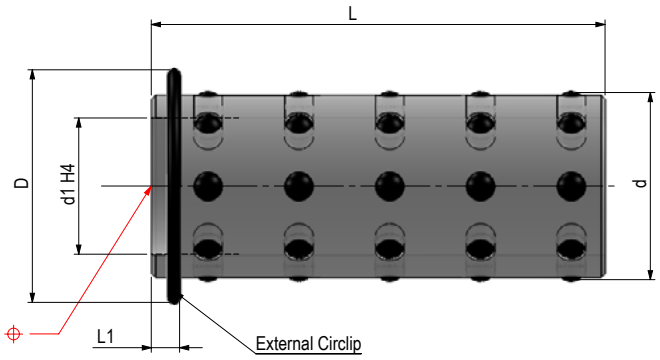
BUSHING FOR BALL CAGE - FOR USE WITH F1332 **F1140**



Mat.: 1.7131 - 680 HV 30

REF	d1	d2	f	s	d3
F114017	17	22	9	17	25
F114024	24	30	12	22	33
F114030	30	38	17	27	41
F114038	38	46	22	32	49

BALL CAGE - FOR USE WITH F1140 **F1332**



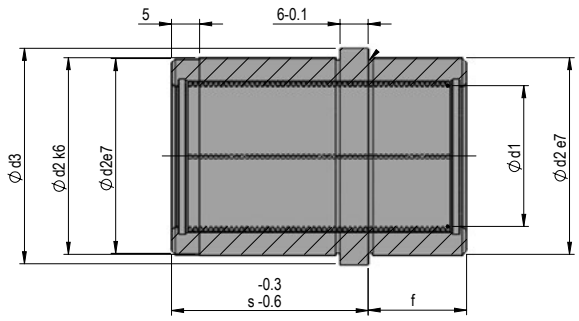
Mat.: Ms / St
Max. T: 150°C

Order example for first item (F1332 + d1 + L): **F1332120 36**

d1	L									d	L1	D
	36	48	52	60	70	76	84	90	110			
12	•	•		•						17	2,5	19,8
18		•		•		•				24	2,8	28,2
24			•		•		•			30	2,8	36,4
30					•			•	•	38	3,8	44,8

CAD reference point

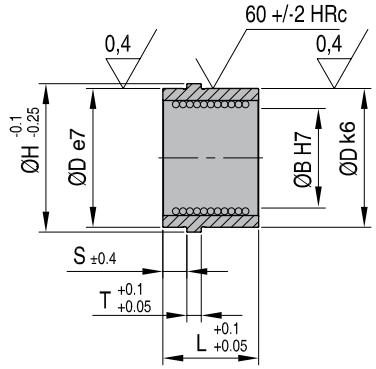
BALL GUIDE BUSH F1144



Mat.: 1.3505 62 HRC / 2.0598
Max. T: 180°C

REF	d1	f	s	d2	d3
F1144100912	10	9	12	17	20
F1144100917	10	9	17	17	20
F1144120917	12	9	17	22	25
F1144121217	12	12	17	22	25
F1144181222	18	12	22	30	33
F1144181722	18	17	22	30	33
F1144241727	24	17	27	38	41
F1144242227	24	22	27	38	41
F1144302232	30	22	32	46	49
F1144302736	30	27	36	46	49

BALL GUIDED EJECTOR BALL CAGES GBBC 1000

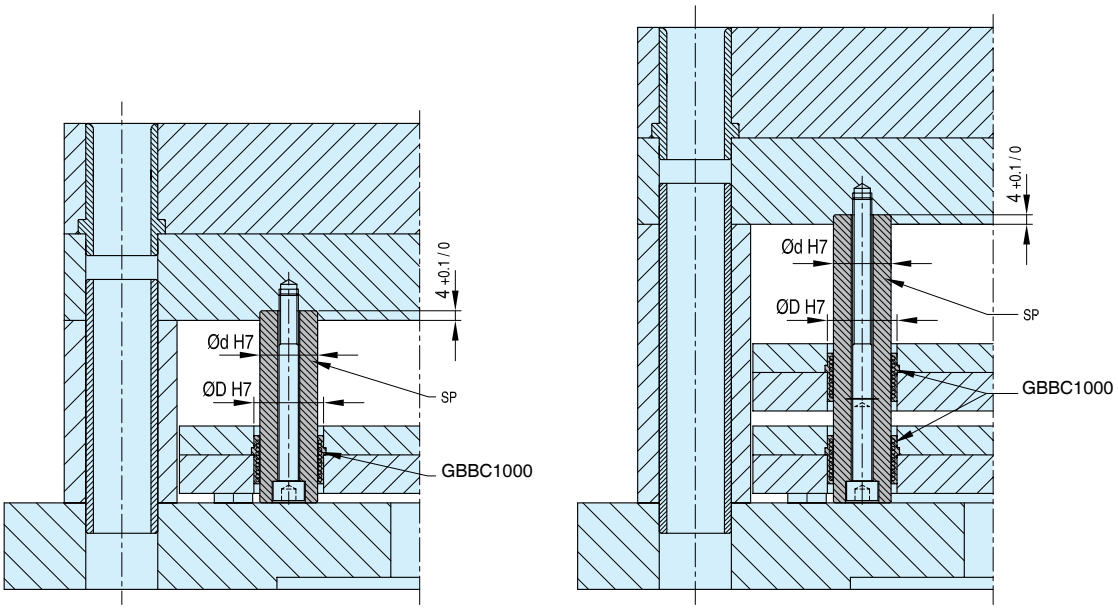


Mat. 1.7131

REF	B	D	H	S	T	L
GBBC1000	24	38	41	6	5	26
GBBC1001	36	54	58	6	5	30
GBBC1002	48	68	73	10	6	40

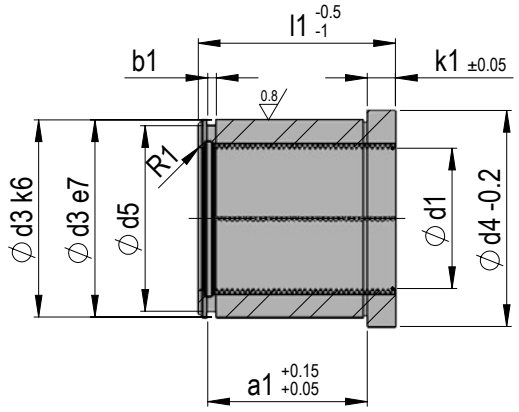
CAD reference point

TYPICAL APPLICATION GBBC 1000 + SP



LINEAR BALL BEARING - FLUSH LOCATION HEAD **K1100**

Mat.: 1.7131 60-62HRC / 3.2315

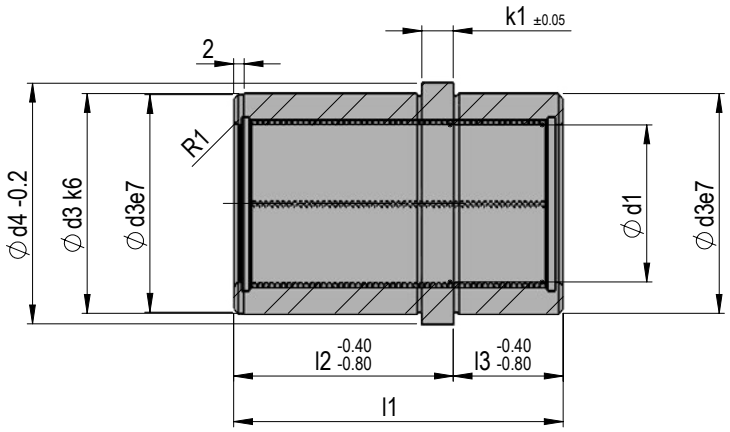


REF	l1	d1	d3	d4	d5	b1	a1	k1
K110002709	27	9	20	25	19	1,30	18,30	6
K110002714	27	14	26	31	25	1,30	18,30	6
K110002718	27	18	30	35	29	1,60	17,60	6
K110003609	36	9	20	25	19	1,30	27,30	6
K110003614	36	14	26	31	25	1,30	27,30	6
K110003618	36	18	30	35	29	1,60	26,60	6
K110003624	36	24	42	47	40	1,85	24,85	6
K110004609	46	9	20	25	19	1,30	37,30	6
K110004614	46	14	26	31	25	1,30	37,30	6
K110004618	46	18	30	35	29	1,60	36,60	6
K110004624	46	24	42	47	40	1,85	34,85	6
K110004632	46	32	54	60	51	2,15	30,15	10
K110005618	56	18	30	35	29	1,60	46,60	6
K110005624	56	24	42	47	40	1,85	44,85	6
K110005632	56	32	54	60	51	2,15	40,15	10
K110006624	66	24	42	47	40	1,85	54,85	6
K110006632	66	32	54	60	51	2,15	50,15	10
K110007624	76	24	42	47	40	1,85	64,85	6
K110007632	76	32	54	60	51	2,15	60,15	10
K110008624	86	24	42	47	40	1,85	74,85	6
K110008632	86	32	54	60	51	2,15	70,15	10
K110009632	96	32	54	60	51	2,15	80,15	10
K110011632	116	32	54	60	51	2,15	100,15	10

CAD reference point

LINEAR BALL BEARING **K13**

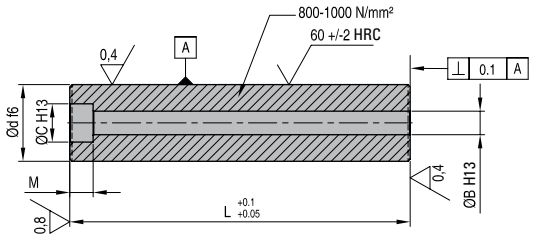
Mat.: 1.7131 60-62HRC / 3.2315



REF	d1	l2	l3	d3	d4	l1	k1
K13101209	10	12	9	20	24	21	6
K13101709	10	17	9	20	24	26	6
K13121709	12	17	9	24	28	26	6
K13121712	12	17	12	24	28	29	6
K13182212	18	22	12	32	36	34	6
K13182217	18	22	17	32	36	39	6
K13241712	24	17	12	39	43	29	6
K13242717	24	27	17	39	43	44	6
K13242722	24	27	22	39	43	49	6
K13302217	30	22	17	50	54	39	6
K13303222	30	32	22	50	54	54	6
K13303627	30	36	27	50	54	63	6
K13362217	36	22	17	56	60	39	6
K13482217	48	22	17	70	74	39	6

GUIDE PILLAR **SP**

Mat.: 1.7131

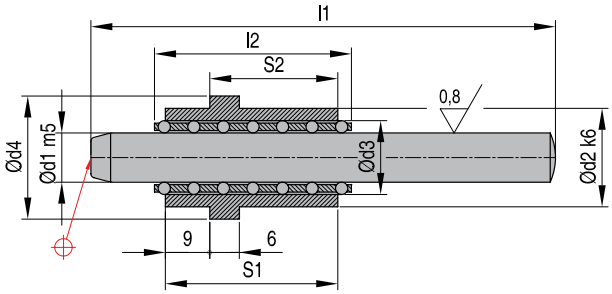


REF	d	L	B	L1	C	Screw
SP24050	24	50	9	9	15	M8 x 60
SP24060	24	60	9	9	15	M8 x 70
SP24070	24	70	9	9	15	M8 x 80
SP24080	24	80	9	9	15	M8 x 90
SP24090	24	90	9	9	15	M8 x 100
SP24100	24	100	9	9	15	M8 x 110
SP24120	24	120	9	9	15	M8 x 130
SP24140	24	140	9	9	15	M8 x 150
SP24160	24	160	9	9	15	M8 x 180
SP24180	24	180	9	9	15	M8 x 200
SP36050	36	50	11	11	18	M10 x 70
SP36060	36	60	11	11	18	M10 x 80
SP36070	36	70	11	11	18	M10 x 90
SP36080	36	80	11	11	18	M10 x 100
SP36090	36	90	11	11	18	M10 x 110
SP36100	36	100	11	11	18	M10 x 120
SP36110	36	110	11	11	18	M10 x 130

REF	d	L	B	L1	C	Screw
SP36120	36	120	11	11	18	M10 x 140
SP36130	36	130	11	11	18	M10 x 150
SP36140	36	140	11	11	18	M10 x 160
SP36160	36	160	11	11	18	M10 x 180
SP36180	36	180	11	11	18	M10 x 200
SP48060	48	60	13	13	20	M12 x 80
SP48070	48	70	13	13	20	M12 x 90
SP48080	48	80	13	13	20	M12 x 100
SP48090	48	90	13	13	20	M12 x 110
SP48100	48	100	13	13	20	M12 x 120
SP48110	48	100	13	13	20	M12 x 130
SP48120	48	120	13	13	20	M12 x 140
SP48130	48	130	13	13	20	M12 x 150
SP48140	48	140	13	13	20	M12 x 160
SP48160	48	160	13	13	20	M12 x 180
SP48180	48	180	13	13	20	M12 x 200

CAD reference point

GUIDED EJECTION SYSTEM **K7580**

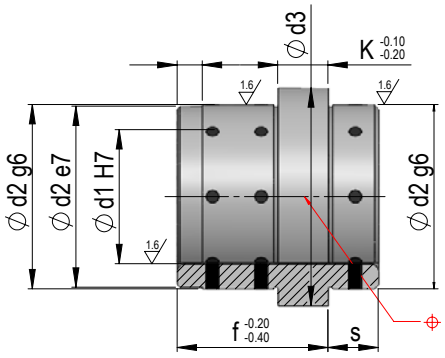


Mat.: 1.7130

Kit K7580 consists of leader pin bushing K7621 + ball cage T7139 + guide pillar Z7900

REF	d1	S2	S1	d2	d3	d4	l1	l2
K75801016	10	16	25	20	15	25	50	40
K75801020	10	20	29	20	15	25	70	40
K75801026	10	26	35	20	15	25	100	40
K75801036	10	36	45	20	15	25	120	40
K75801620	16	20	29	30	22	35	70	45
K75801626	16	26	35	30	22	35	100	50
K75801636	16	36	45	30	22	35	120	60

GUIDE BUSH FOR SUPPORT PILLAR **F1126**



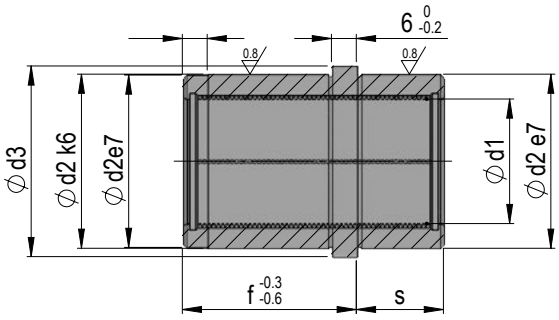
Mat.: 2.0598 ≈ 200HB + graphite

REF	d1	s	f	d2	d3	K
F1126240917	24	9	17	32	36	5
F1126241217	24	12	17	32	36	5
F1126240620	24	6	20	32	36	5
F1126361217	36	12	17	44	48	5
F1126361222	36	12	22	44	48	5
F1126361722	36	17	22	44	48	5
F1126360624	36	6	24	44	48	5
F1126481722	48	17	22	58	62	6
F1126481727	48	17	27	58	62	6
F1126481030	48	10	30	58	62	6

CAD reference point

GUIDE BUSH FOR SUPPORT PILLAR **F1145**

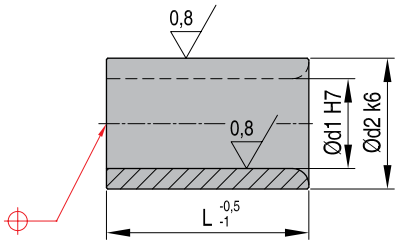
Mat.: 1.3505 ≈ 62 HRC / 2.0598



REF	d1	s	f	d2	d3
F1145241217	24	12	17	38	41
F1145241722	24	17	22	38	41
F1145361722	36	17	22	54	58
F1145362227	36	22	27	54	58
F1145482227	48	22	27	68	73
F1145482736	48	27	36	68	73

LOCATING SLEEVES **FB140**

Mat.: 1.7131 ca 720 Hv 30



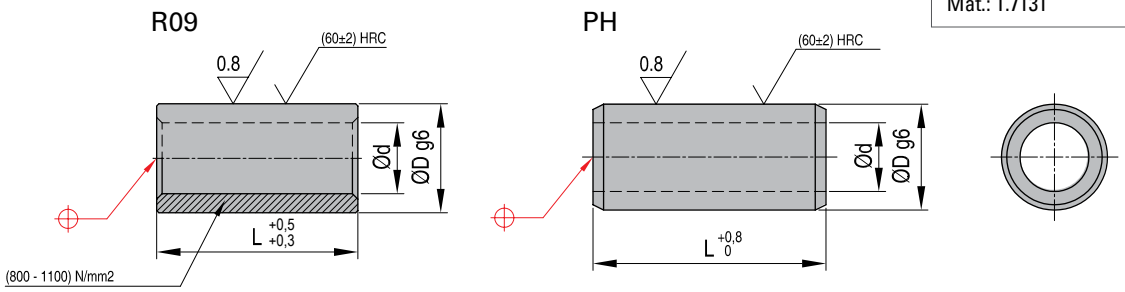
Order example for first item (FB140 + d1 + L): **FB14010012**

d1	L						d2
	012	016	020	028	036	050	
10	•		•				15
12	•		•				18
14		•		•			22
16		•		•		•	26
18		•		•		•	26
20			•		•	•	30
22			•		•	•	30
24			•		•	•	35
26			•		•	•	35
30					•	•	42

CAD reference point

TUBULAR DOWELS **R09 + PH**

Mat.: 1.7131



Order example for first item (R09 + D + L): **R09100 20**

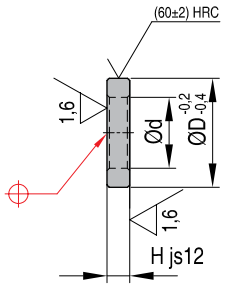
D	L																		d
	020	030	040	050	060	070	080	100	120	140	160	180	200	220	240	260	280	300	
10	•	•	•	•	•	•	•	•	•	•									6,2
14		•	•	•	•	•	•		•	•	•	•							8,5
18			•		•	•	•		•	•	•	•	•	•	•				10,5
24					•		•	•	•	•	•	•	•		•				13,0
30							•	•	•	•	•	•	•	•	•	•	•	•	17,0

Order example for first item (PH + D + L): **PH10 10**

D	L											d
	8	10	12	22	26	28	36	38	48	58	68	
10		•		•	•							6,5
12	•					•						8,5
14		•					•					10,5
18			•					•	•	•	•	13,0
22			•						•	•	•	17,0

DISKS FOR TUBULAR DOWELS **R091**

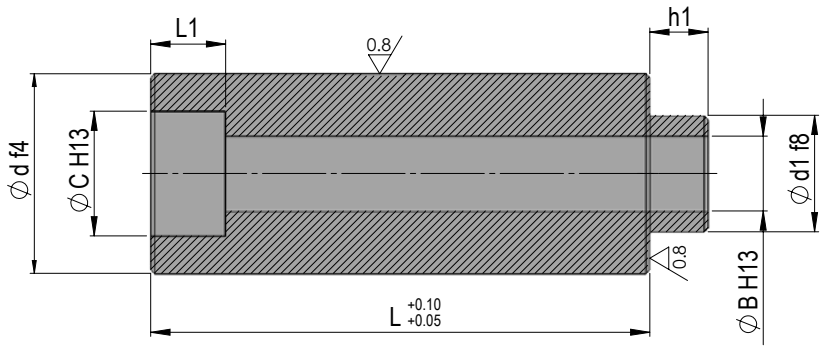
Mat.: 1.7131



REF	D	H	d
R09114003	14	3	6,2
R09118004	18	4	8,5
R09124005	24	5	10,5
R09130006	30	6	13,0
R09140008	40	8	17,0

CAD reference point

SUPPORT PILLAR WITH GUIDING F1512

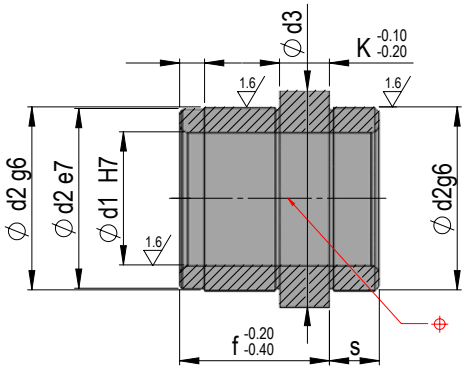


Mat.: 1.1213 ≈ 60 HRC

Order example for first item (F1512 + d + L): **F1512**24**036**

d	L										d1	h1	B	L1	C	Screw
	36	46	56	66	76	86	96	116	136	156						
24	•	•	•	•	•	•	•	•			14	7	9	9	15	M8
36		•	•	•	•	•	•	•	•		18	9	11	11	18	M10
48		•	•	•	•	•	•	•	•	•	20	10	13	13	20	M12

GUIDE BUSH FOR SUPPORT PILLAR F1121

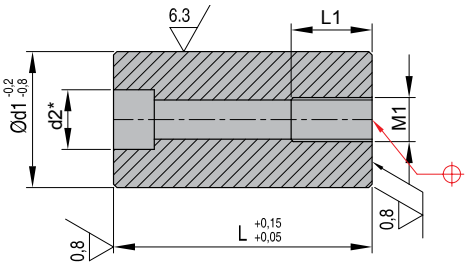


Mat.: 2.0598 ≈ 200HB

REF	d1	s	f	d2	d3	K
F1121240917	24	9	17	32	36	5
F1121241217	24	12	17	32	36	5
F1121240620	24	6	20	32	36	5
F1121361217	36	12	17	44	48	5
F1121361222	36	12	22	44	48	5
F1121361722	36	17	22	44	48	5
F1121360624	36	6	24	44	48	5
F1121481722	48	17	22	58	62	6
F1121481727	48	17	27	58	62	6
F1121481030	48	10	30	58	62	6

CAD reference point

SUPPORT PILLARS R16

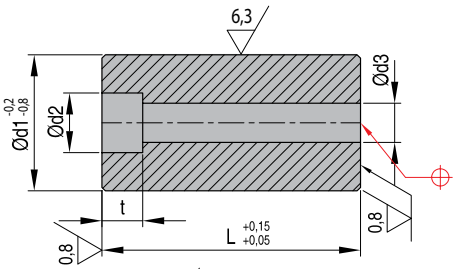


Mat.: 1.1730

Order example for first item (R16 + d1 + L): **R16800076**

d1	L														M1	L1	d2 for socket head cap screw
	036	046	056	066	076	086	096	116	136	156	176	196	236	276			
25	•	•	•	•	•	•	•	•	•	•					M8	16	M6
32	•	•	•	•	•	•	•	•	•	•	•				M10	20	M8
40		•	•	•	•	•	•	•	•	•	•				M10	20	M8
50		•	•	•	•	•	•	•	•	•	•	•			M10	20	M8
60			•	•	•	•	•	•	•	•	•	•	•		M10	20	M8
70				•	•	•	•	•	•	•	•	•	•		M12	25	M10
80				•	•	•	•	•	•	•	•	•	•	•	M12	25	M10
100							•	•	•	•	•	•	•	•	M12	25	M10

SUPPORT PILLARS FW28

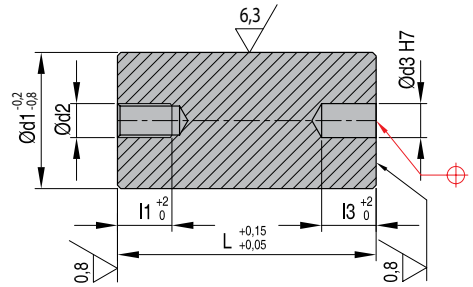


Mat.: 1.1730 - ~640 N/mm²

Order example for first item (FW28 + d1 + L): **FW2832036**

d1	L											d2	d3	t
	036	046	056	066	076	086	096	106	116	126	136			
32	•	•	•	•	•	•	•	•		•		15	9	9
40		•	•	•	•	•	•	•		•		18	11	11
50		•	•	•	•	•	•	•	•	•		20	13	13
63		•		•	•		•	•	•	•	•	20	13	13

SUPPORT PILLARS FW29



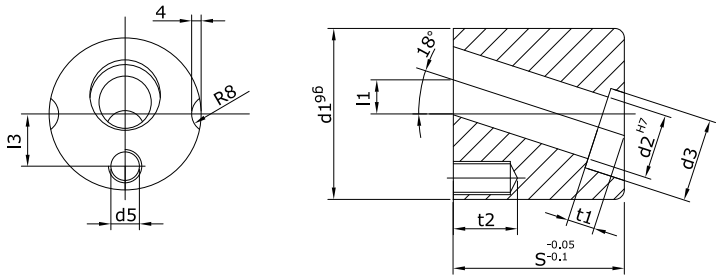
Mat.: 1.1730 - ~640 N/mm²

Order example for first item (FW29 + d1 + L): **FW2932036**

d1	L										d2	d3	l1	l3
	036	046	056	066	076	086	096	106	116	126				
32	•	•	•	•	•	•	•	•		•	M8	8	14	14
40		•	•	•	•	•	•	•		•	M10	10	18	18
50		•	•	•	•	•	•	•	•	•	M10	10	18	18
63		•		•	•		•	•		•	M10	10	18	18

CAD reference point

ANGLE PIN HOUSING **APH**

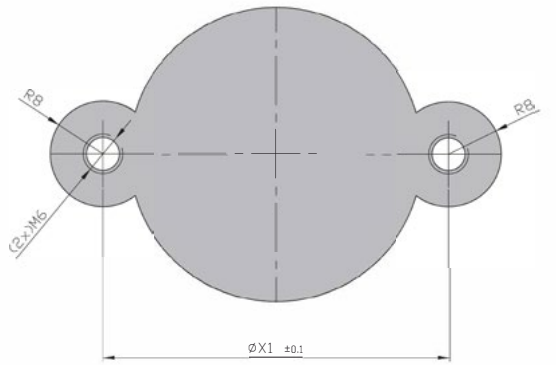


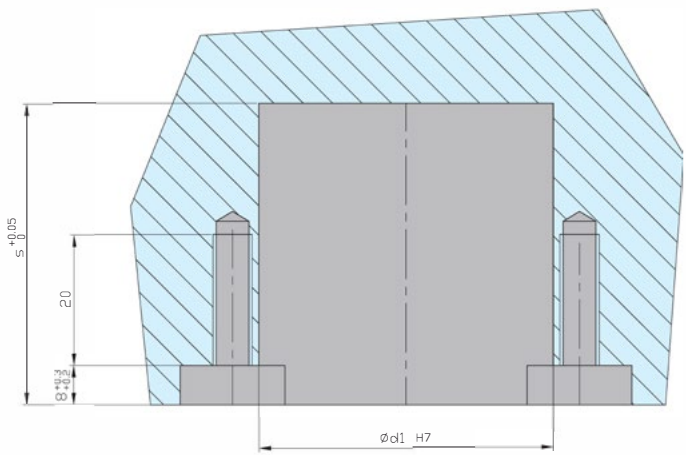
Mat.: 1.7131 (16MnCr5)

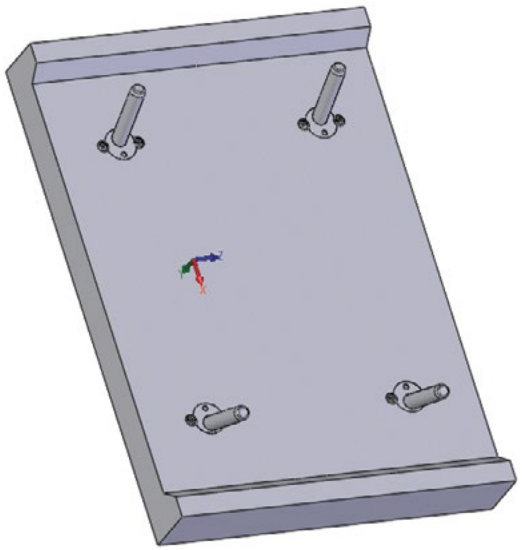
- High precision manufacturing parts
- Machining from the face side only
- Reduce downtime of production with wide range of stock
- Easy and quick change from the front side
- Reduction of manufacturing costs of injection moulding tools
- Small installation area
- Easy mounting and dismounting
- Save time and cost
- Mounting rings (2 pcs) and screws (2 pcs) included

Hardness: 61-63 HRC
Heat treatment: Case hardened
Mounting rings (2 pcs) included

REF	d2	d1	d3	d5	s	l1	l3	t1	t2	X1
APH12	12	32	17	M6	36	6,0	10,0	6	12,0	40
APH14	14	36	19	M8	36	6,0	12,0	8	16,5	44
APH16	16	40	21	M8	46	8,0	13,5	8	16,5	48
APH18	18	40	23	M8	46	8,5	13,5	8	16,5	48
APH20	20	45	25	M8	46	8,5	15,0	8	16,5	53
APH30	30	63	34	M10	66	12	21	15	20	71



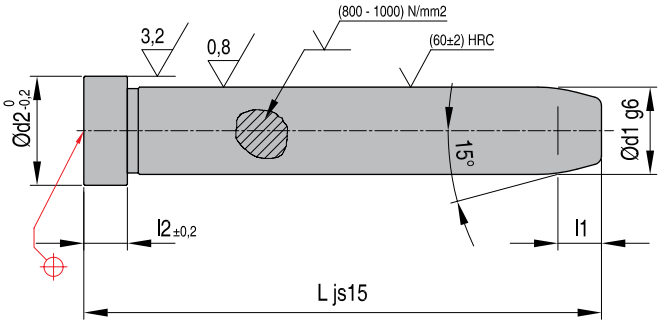




CAD reference point

ANGLE PINS APD

Mat.: 1.7131



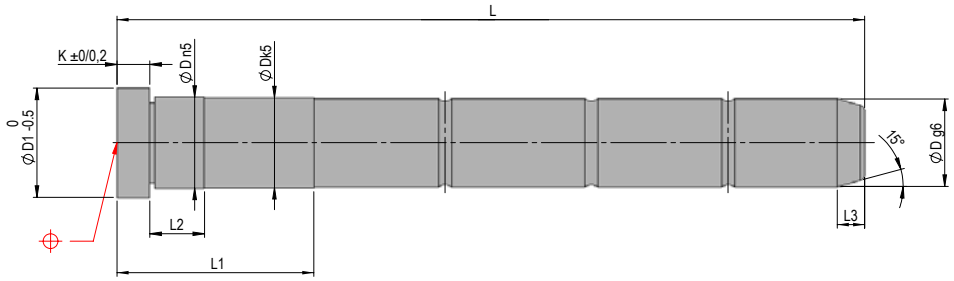
Order example for first item (APD + d1 + L): **APD09040**

d1	L																		d2	l1	l2
	040	060	080	100	110	120	140	160	170	180	200	210	220	230	240	250	260	280			
09	•	•	•	•		•													12	5	3
10	•	•	•	•	•	•	•	•	•										12	5	3
12	•	•	•	•	•	•	•	•											16	5	6
14	•	•	•	•	•	•	•	•		•	•	•	•	•		•			18	6	8
15		•	•	•		•	•	•		•									18	7	8
16	•	•	•	•	•	•	•	•		•	•	•	•	•	•				20	7	8
18		•	•	•	•	•	•	•		•	•	•	•	•		•	•	•	22	8	8
20		•	•	•	•	•	•	•		•	•	•	•	•	•		•	•	24	8	8

d1	L																		d2	l1	l2
	080	100	110	120	140	160	170	180	190	200	210	220	230	240	250	260	270	300	360			
22	•	•	•	•	•	•		•		•	•	•	•	•		•	•	•		26	8	15
24	•	•	•	•	•	•		•		•	•	•	•	•			•	•		28	8	15
26		•		•	•	•		•		•				•			•			30	8	15
30		•		•		•		•		•	•	•		•			•	•	•	34	8	15
32		•		•		•		•		•				•				•	•	34	8	15
34		•		•			•		•		•			•	•			•	•	38	8	15
40						•				•				•				•	•	48	10	15
42						•				•				•				•		48	10	15
50						•				•				•				•	•	58	10	15

CAD reference point

LEADER PINS F1020



Mat.: 1.7131 60 HRC

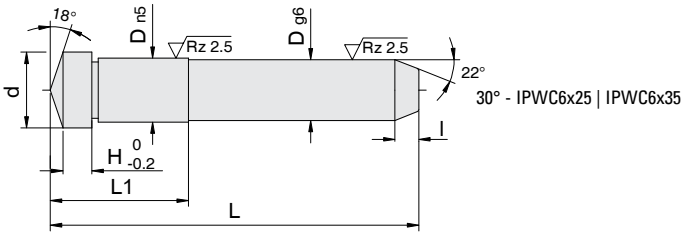
Order example for first item (F1020 + D + L): **F1020090 40**

	L																						
	40	60		80		100		120			140		160			180			200				
	L1																						
D	17	17	22	22	27	22	27	22	27	36	27	36	27	36	46	27	36	46	36	46	56	D1	K	L2	L3
09	•	•		•																		12	3	6	4
							•															12	3	10	4
10	•	•		•																		12	3	6	4
							•		•		•											12	3	10	4
12			•	•		•		•														15	6	6	5
											•		•									15	6	10	5
14			•	•		•		•														17	6	6	5
											•		•			•						17	6	10	5
15			•	•		•		•														18	6	6	5
											•		•									18	6	10	5
16				•		•		•														19	6	6	5
											•		•			•						19	6	10	5
18				•		•		•														21	6	6	7
											•		•			•			•			21	6	10	7
20				•		•		•														23	6	6	7
											•		•			•			•			23	6	10	7
22							•		•		•		•			•			•			25	6	10	7
24							•		•		•		•			•			•			27	6	10	7
30										•		•		•			•		•			35	6	10	7
32										•		•		•			•		•			37	6	10	7
40															•			•		•		45	10	15	10
42															•			•		•		47	10	15	10
50																					•	55	10	15	10
52																					•	57	10	15	10
60																						68	10	15	10

	L																						
	220		250				280			320			360			400			450		500		550
	L1																						
D	36	46	36	46	56	66	46	56	66	46	56	66	56	66	76	56	66	76	66	76	76	86	86	D1	K	L2	L3
09																								12	3	6	4
																								12	3	10	4
10																								12	3	6	4
																								12	3	10	4
12																								15	6	6	5
																								15	6	10	5
14																								17	6	6	5
																								17	6	10	5
15																								18	6	6	5
																								18	6	10	5
16																								19	6	6	5
																								19	6	10	5
18																								21	6	6	7
	•																							21	6	10	7
20																								23	6	6	7
	•		•																					23	6	10	7
22	•		•				•			•														25	6	10	7
24	•		•				•			•														27	6	10	7
30	•		•				•			•			•			•								35	6	10	7
32	•		•				•			•			•			•								37	6	10	7
40		•		•			•				•		•				•		•		•			45	10	15	10
42		•		•			•				•		•				•		•		•			47	10	15	10
50					•			•			•			•			•			•	•		•	55	10	15	10
52					•			•			•			•			•			•	•			57	10	15	10
60						•			•			•			•			•				•		68	10	15	10

CAD reference point

ANGLE PIN WITH COLLAR — IPWC

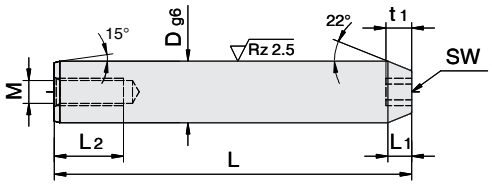


Mat.: 1.7139 ca. 700HV

Order example for first item (IPWC + D + L): **IPWC10040**

D	L																						H	l	L1	d
	025	035	040	050	060	070	080	090	100	110	120	140	160	180	200	220	240	260	280	300	320	360	380				
6	•	•																						2	0,8	12	8
6				•	•	•	•	•	•															2	3	12	8
8			•	•	•	•	•	•	•		•													2	4	12,5	10
10			•	•	•	•	•	•	•		•	•	•											2	4	13	12
12				•	•	•	•	•	•	•	•	•	•	•	•									3	5	17	15
14					•	•	•	•	•	•	•	•	•	•	•	•								3	5	17	17
16					•	•	•	•	•	•	•	•	•	•	•	•	•	•						3	5	22	19
18					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					3	7	22	21
20							•	•	•	•	•	•	•	•	•	•	•	•	•	•				4	7	22	23
22					•		•		•		•	•	•	•	•	•	•	•	•					4	7	27	25
24							•		•		•	•	•	•	•	•	•	•	•	•	•			4	7	27	27
30									•		•	•	•	•	•	•	•		•		•	•	•	5	7	36	35

HEADLESS ANGLE PIN — IPNH



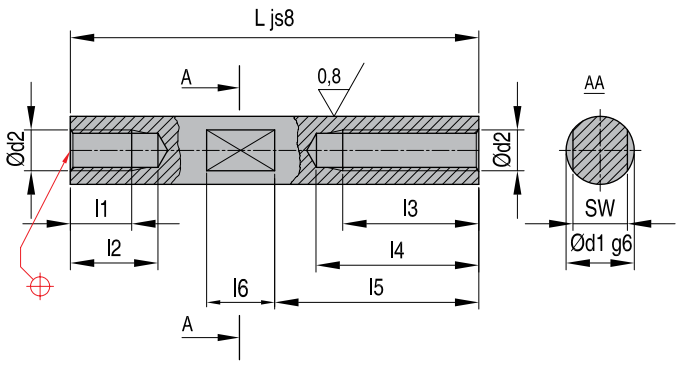
Mat.: 1.7139 ca. 700HV

Order example for first item (IPNH + D + L): **IPNH08040**
Order example for line 18 with M10 (IPNH18M10 + L): **IPNH18M10060**

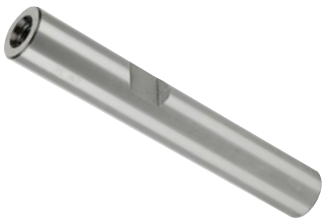
D	L																									M	L2	L1	SW	t1
	040	050	060	070	075	080	090	100	110	120	125	130	140	145	150	160	165	170	180	190	200	210	220	240	260	280					
08	•	•	•	•		•	•	•		•																	5	10	2,3	4	4
10	•	•	•	•		•	•	•		•			•														6	10	4	4	4
12	•	•	•	•		•	•	•	•	•			•			•			•								6	10	5	5	5
14		•	•	•	•	•	•	•	•	•			•			•			•		•						6	10	5	5	5
15		•	•	•		•	•																				8	17	5	5	5
16		•	•	•		•	•	•	•	•		•	•			•			•		•		•	•			8	17	5	6	6
18			•	•		•	•	•	•	•	•		•		•	•		•	•		•		•	•	•		8	17	7	6	6
18			•	•		•	•	•			•		•		•			•									10	17	7	6	6
20			•	•		•	•	•	•		•		•		•		•	•	•	•	•	•	•	•	•	•	10	17	7	6	6
22			•	•		•	•	•		•			•			•			•		•		•	•	•		10	20	7	8	8
24			•			•	•	•		•			•	•		•			•	•	•		•	•	•	•	12	25	7	8	8
30						•	•	•		•			•						•				•	•	•		16	30	7	10	10

CAD reference point

KNOCK OUT RODS **AWS**



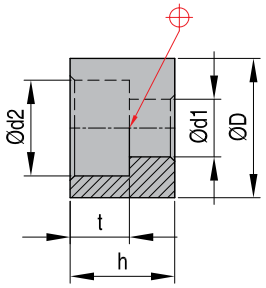
Mat.: 1.7131 - ±58 HRC



Order example for first item (AWS + d1 + L + N): **AWS1060N**

d1	L													d2	l1	l2	l3	l4	l5	l6	SW
	60	70	80	100	120	140	160	180	200	220	240	260	300								
10	•	•	•	•		•								M6	9	14	16	20	30	11	8
14	•		•	•	•	•		•						M8	12	15	16	20	32	13	10
16	•	•	•	•	•	•			•					M10	15	17	20	35	35	16	12
18				•	•	•	•	•	•	•	•			M10	15	17	20	35	35	16	14
20					•	•	•	•	•		•			M12	18	26	25	35	50	16	14
24						•	•	•	•		•	•		M12	18	26	28	36	50	16	17
34							•		•		•	•	•	M16	20	29	30	40	60	16	24

PROTECTIVE CAPS FOR KNOCK OUT RODS **AWH**



Mat.: 1.7131

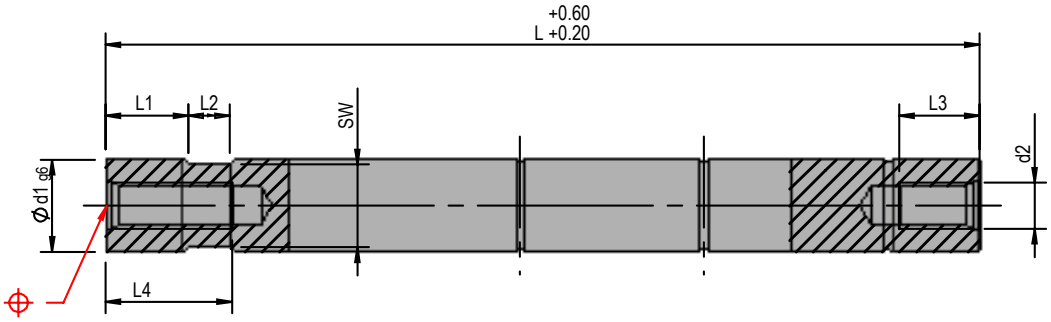
REF	D	d1	d2	h	t
AWH16	16	6,6	11	12	6,8
AWH30	30	11,0	18	16	11,0
AWH35	35	13,5	20	20	13,0
AWH45	45	13,5	20	20	15,0
AWH55	55	17,5	26	30	17,5

CAD reference point

KNOCK OUT RODS

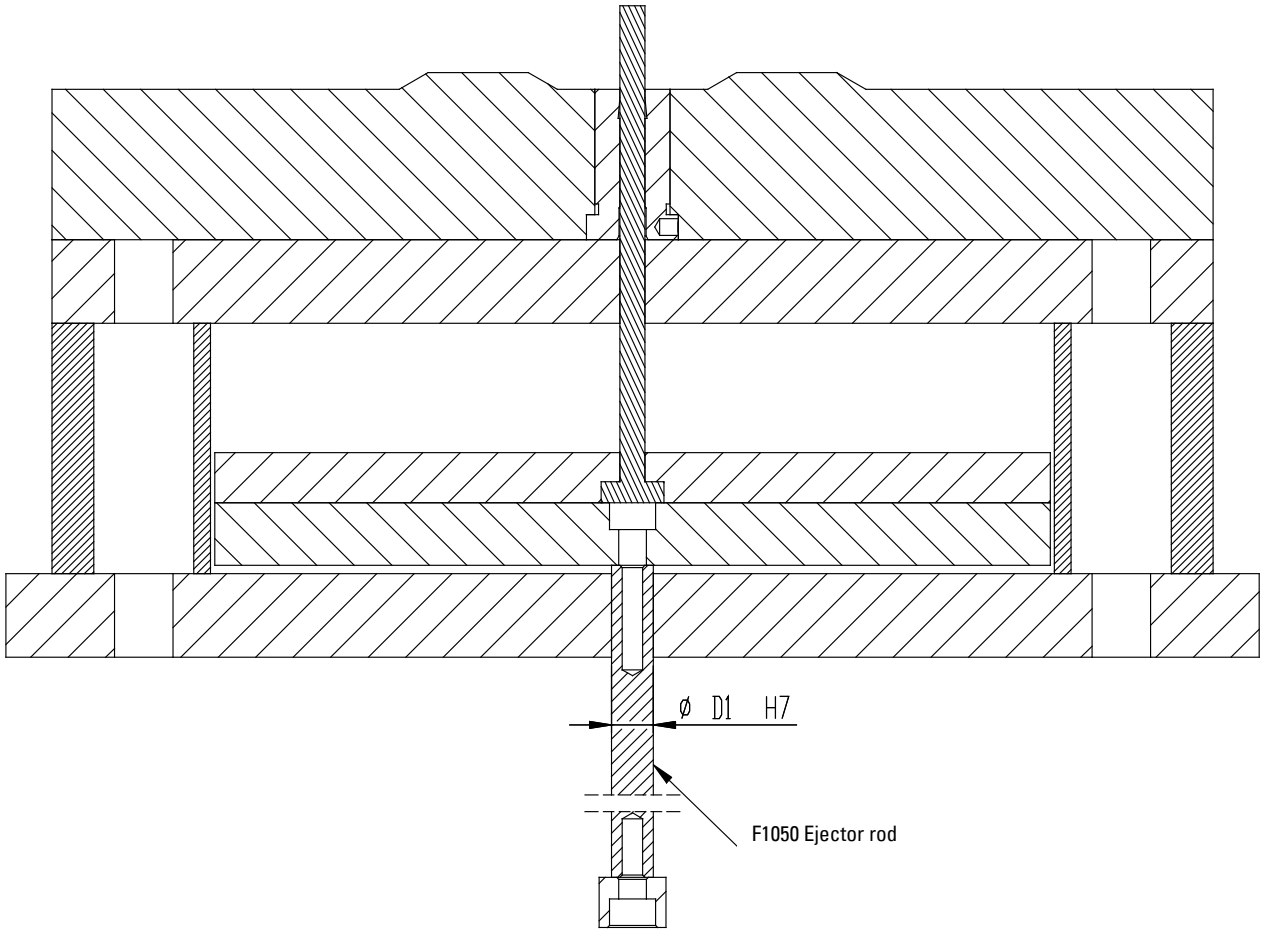
EJECTOR ROD F1050

Mat.: 1.7131 - 680 HV 30



Order example for first item (F1050 + d2 + d1 + L): **F1050061060**

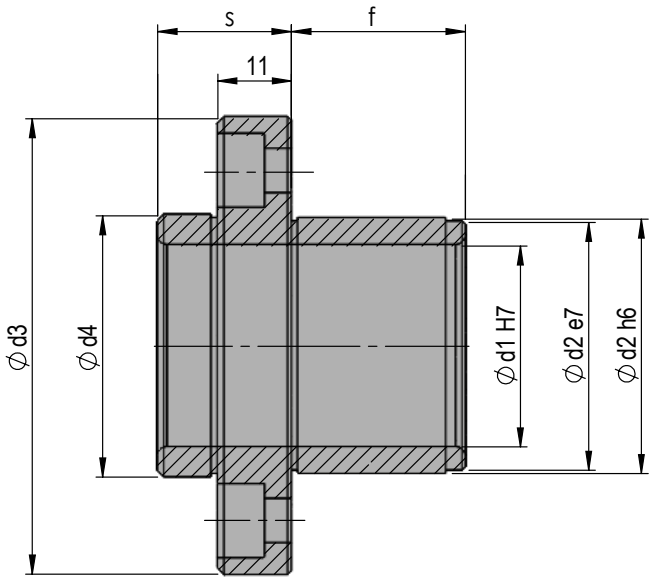
d1	L															d2	L1	L2	L3	L4	SW
	060	070	080	100	120	140	160	180	200	220	240	260	300	340	380						
10	•		•	•	•	•	•									M6	14	8	10	16	8
14	•		•	•	•	•	•	•	•				•			M8	14	8	17	25	12
18		•	•	•	•	•	•	•	•	•	•			•		M10	16	8	20	30	14
18		•	•	•	•	•	•	•	•	•	•			•		M12	16	8	20	30	14
20		•	•	•	•	•	•	•	•	•	•			•		M12	16	10	20	30	17
24		•	•	•	•	•	•	•	•	•	•	•			•	M12	22	12	25	35	19
30				•	•	•	•	•	•	•		•	•	•		M16	28	16	30	45	24
40							•	•	•	•	•	•	•	•	•	M20	36	20	35	55	36

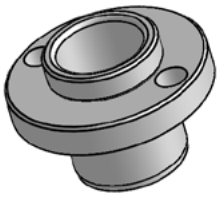


CAD reference point

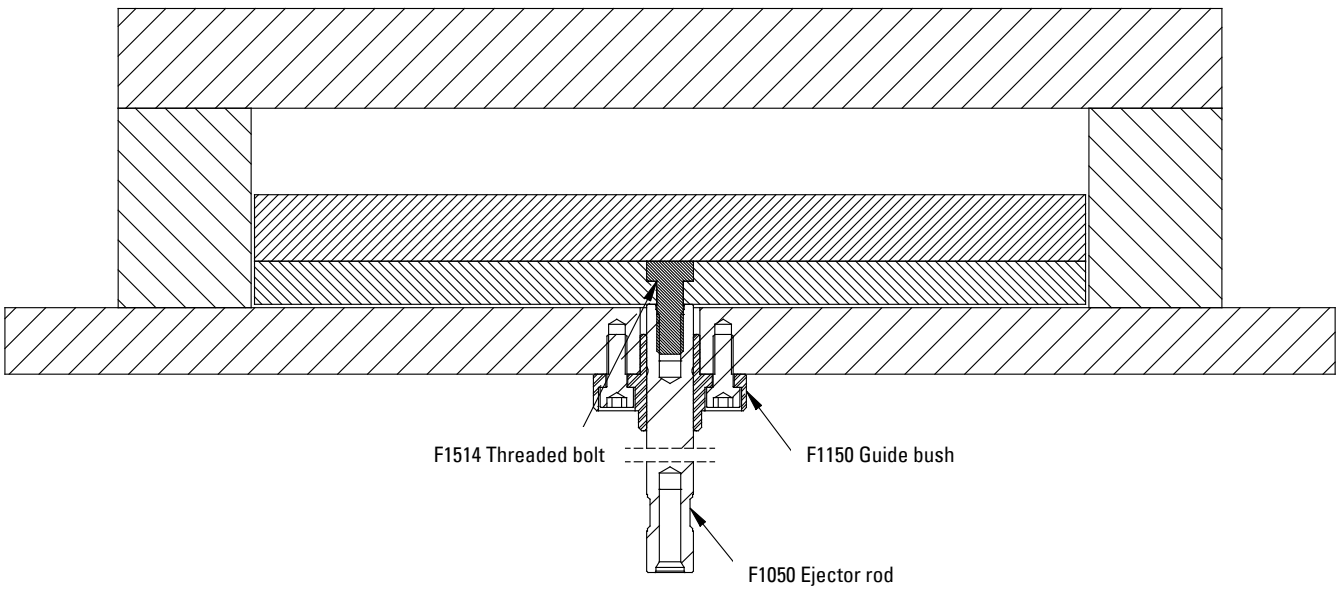
GUIDE BUSH FOR EJECTOR F1150

Mat.: 1.7131 - 680 HV 30





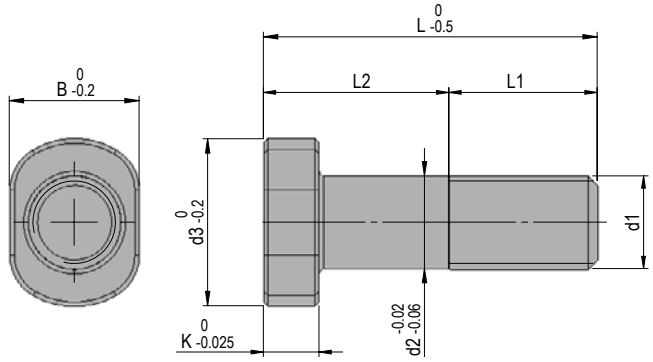
REF	d1	d2	f	s	d3	d4
F115014	14	18	12	17	46	19
F115018	18	24	16	18	52	25
F115024	24	30	21	19	58	31
F115030	30	38	26	20	68	39

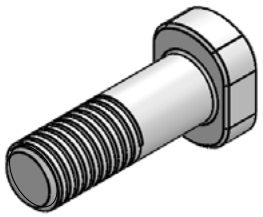


CAD reference point

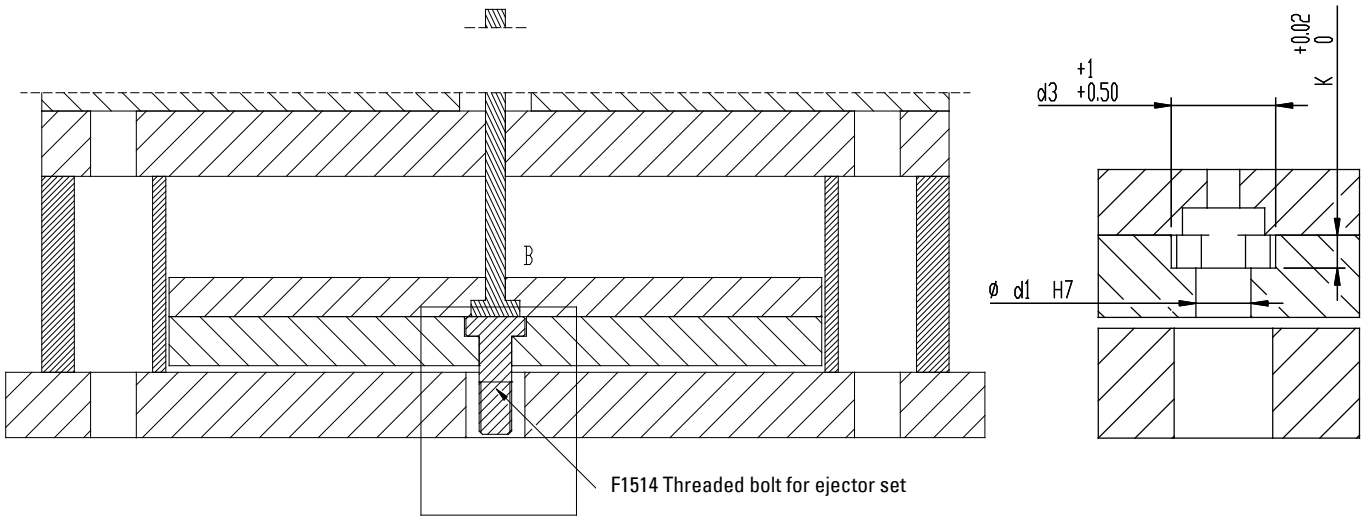
THREADED BOLT FOR EJECTOR SET F1514

Mat.: 1.2312



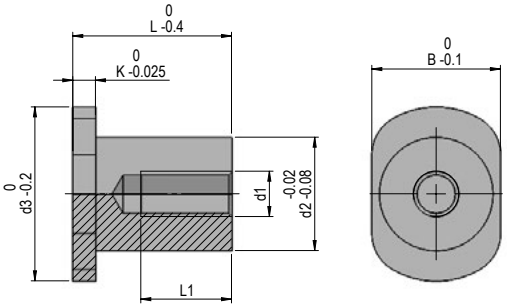


REF	d1	L	L1	L2	d2	K	d3	B
F15140823	M8	23	12	11	8	6	14	11
F15140828	M8	28	12	16	8	6	14	11
F15141026	M10	26	15	11	10	6	18	14
F15141031	M10	31	16	15	10	6	18	14
F15141036	M10	36	16	20	10	6	18	14
F15141235	M12	35	20	15	12	6	22	16
F15141240	M12	40	20	20	12	6	22	16
F15141245	M12	45	20	25	12	6	22	16
F15141254	M12	54	20	34	12	6	22	16
F15141651	M16	51	26	25	16	8	28	22
F15141660	M16	60	26	34	16	8	28	22



CAD reference point

THREADED INSERT FOR EJECTOR SET F1515



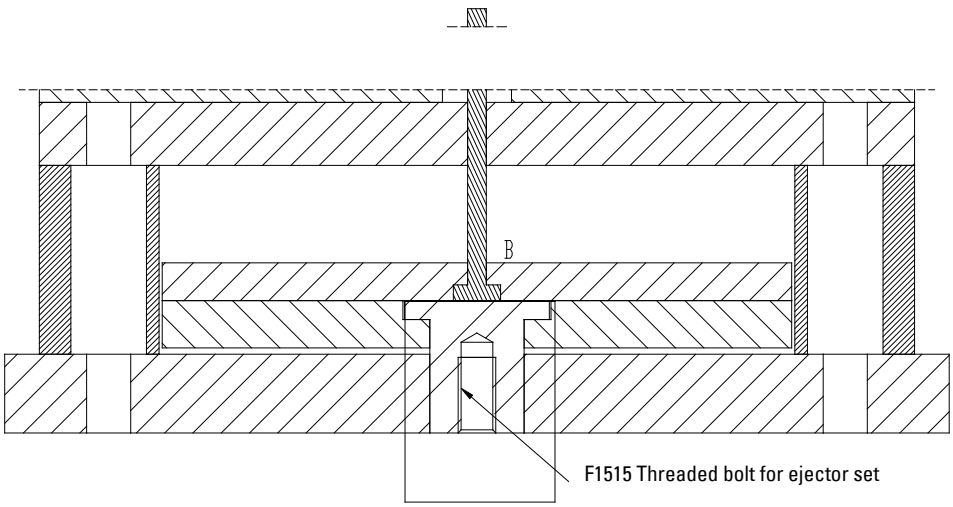
Mat.: 1.7131 660 N/mm2

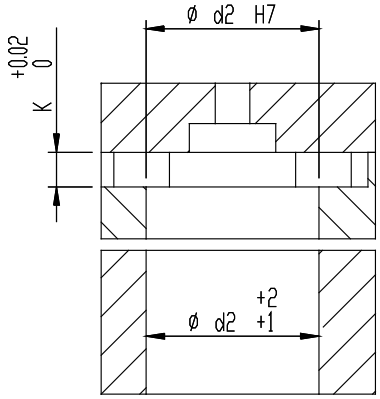
Order example for first item (F1515 + d1 + C* + L): **F1515 10 C 42** (*C - Coarse thread)

d1	L									L1	d2	K	d3	B
	42	47	52	61	66	71	76	85	95					
M10	•	•	•	•						24	30	6	46	34
M12	•	•	•	•	•	•	•	•		24	30	6	46	34
M16	•	•	•	•	•	•	•	•		24	30	6	46	34
M20	•									28	40	6	56	46
		•	•	•	•	•	•	•	•	30	40	6	56	46
M24	•									28	40	6	56	46
		•								33	40	6	56	46
			•	•	•	•	•	•	•	36	40	6	56	46

Order example for first item (F1515 + d1 + F* + L): **F1515 16 F 42** (*F - Fine thread)

d1	L									L1	d2	K	d3	B
	42	47	52	61	66	71	76	85	95					
M16 x 1.5	•	•	•	•						24	30	6	46	34
M18 x 1.5	•	•	•	•						26	30	6	46	34
M20 x 1.5	•									28	40	6	56	46
		•	•	•	•	•	•	•	•	30	40	6	56	46
M22 x 1.5	•									28	40	6	56	46
		•	•	•	•	•	•	•	•	33	40	6	56	46
M24 x 1.5	•									28	40	6	56	46
		•								33	40	6	56	46
			•	•	•	•	•	•	•	36	40	6	56	46

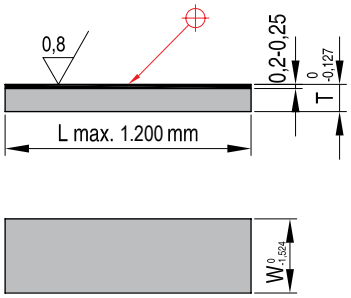




CAD reference point

WEAR STRIPS

WEAR STRIPS, BRONZE PLATED — WZ9100



Mat.: Ck 22/CuSn

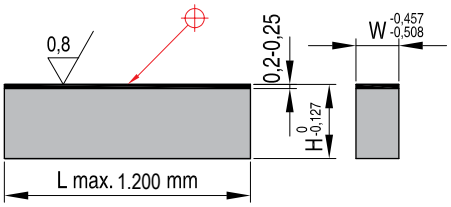
REF x L mm*	T	W
WZ910004025	4	25
WZ910004030	4	30
WZ910004035	4	35
WZ910004040	4	40
WZ910005025	5	25
WZ910005030	5	30
WZ910005040	5	40
WZ910006025	6	25
WZ910006030	6	30
WZ910006040	6	40
WZ910006050	6	50
WZ910006060	6	60
WZ910008025	8	25
WZ910008060	8	60
WZ910008075	8	75

REF x L mm*	T	W
WZ910010025	10	25
WZ910010030	10	30
WZ910010035	10	35
WZ910010040	10	40
WZ910010050	10	50
WZ910010060	10	60
WZ910010075	10	75
WZ910010100	10	100
WZ910010125	10	125
WZ910012060	12	60
WZ910012075	12	75
WZ910012100	12	100
WZ910012125	12	125
WZ910012150	12	150
WZ910012200	12	200

REF x L mm*	T	W
WZ910015025	15	25
WZ910015040	15	40
WZ910015060	15	60
WZ910015075	15	75
WZ910015100	15	100
WZ910015125	15	125
WZ910015150	15	150
WZ910020030	20	30
WZ910020050	20	50
WZ910020060	20	60
WZ910020075	20	75
WZ910020100	20	100
WZ910025025	25	25
WZ910025100	25	100

Please specify desired length at the time of ordering

SLIDE PLATES, BRONZE PLATED — WZ9110



Mat.: Ck 22/CuSn

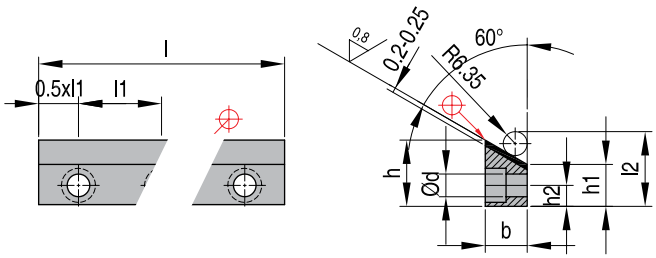
REF x L mm*	T	W
WZ911015025EU	15	25
WZ911025037EU	25	37
WZ911050050EU	50	50

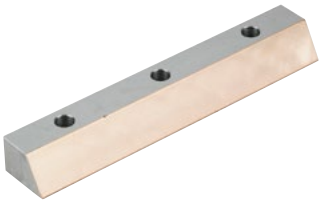
* L mm to be specified

CAD reference point

SLIDE PLATES, V-GIBS, BRONZE PLATED **WZ9120**

Mat.: Ck 22/CuSn





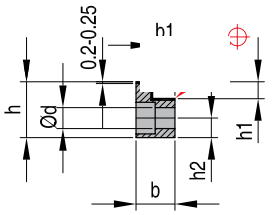
REF	b	d for	h	h1	h2	l	l1	l2	n
WZ9120V05073	15,9	M6	23,4	14,3	7,1	133	44,5	31,60	3
WZ9120V05074	15,9	M6	23,4	14,3	7,1	178	44,5	31,60	4
WZ9120V05075	15,9	M6	23,4	14,3	7,1	222	44,5	31,60	5
WZ9120V06103	19,1	M8	30,0	19,1	9,5	152	50,8	36,40	3
WZ9120V06104	19,1	M8	30,0	19,1	9,5	203	50,8	36,40	4
WZ9120V06105	19,1	M8	30,0	19,1	9,5	254	50,8	36,40	5
WZ9120V07113	22,2	M10	35,0	22,2	11,1	190	63,5	39,57	3
WZ9120V07114	22,2	M10	35,0	22,2	11,1	254	63,5	39,57	4
WZ9120V07115	22,2	M10	35,0	22,2	11,1	317	63,5	39,57	5
WZ9120V08123	25,4	M10	43,2	28,6	14,3	228	76,2	42,90	3
WZ9120V08124	25,4	M10	43,2	28,6	14,3	305	76,2	42,90	4
WZ9120V08125	25,4	M10	43,2	28,6	14,3	381	76,2	42,90	5
WZ9120V10164	31,8	M12	50,1	31,8	15,9	406	101,6	49,10	4
WZ9120V10166	31,8	M12	50,1	31,8	15,9	610	101,6	49,10	6
WZ9120V12206	38,1	M16	63,3	41,3	20,6	610	101,6	58,62	6
WZ9120V12208	38,1	M16	63,3	41,3	20,6	813	101,6	58,62	8
WZ9120V14245	44,5	M16	76,5	50,8	25,4	762	152,4	68,20	5
WZ9120V14248	44,5	M16	76,5	50,8	25,4	1219	152,4	68,20	8
WZ9120V16328	50,8	M20	99,2	69,9	34,9	1219	152,4	87,20	8

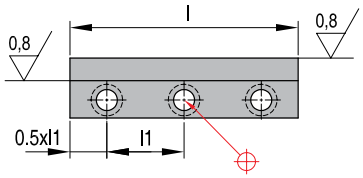
n = number of bore holes

CAD reference point

L-GIBS WITH BORE HOLES, BRONZE PLATED **WZ9130**

Mat.: Ck 22/CuSn



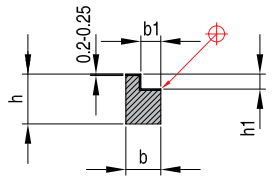


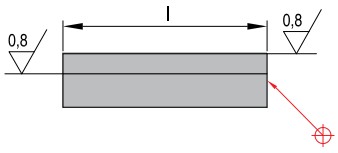
REF	h1 +0,025 -0,025	b1 +0,025 -0,025	h	b ±0,5	l	l1	n	d for	h2
WZ9130L04063	4,76	7,94	19,0	12,7	133	44,5	3	M6	7,1
WZ9130L04064	4,76	7,94	19,0	12,7	178	44,5	4	M6	7,1
WZ9130L04065	4,76	7,94	19,0	12,7	222	44,5	5	M6	7,1
WZ9130L05083	6,35	9,53	25,4	15,9	152	50,8	3	M8	9,5
WZ9130L05084	6,35	9,53	25,4	15,9	203	50,8	4	M8	9,5
WZ9130L05085	6,35	9,53	25,4	15,9	254	50,8	5	M8	9,5
WZ9130L07103	9,53	12,70	31,8	22,2	190	63,5	3	M10	11,1
WZ9130L07104	9,53	12,70	31,8	22,2	254	63,5	4	M10	11,1
WZ9130L07105	9,53	12,70	31,8	22,2	317	63,5	5	M10	11,1
WZ9130L10123	12,70	19,50	38,1	31,8	228	76,2	3	M10	12,7
WZ9130L10124	12,70	19,50	38,1	31,8	304	76,2	4	M10	12,7
WZ9130L10125	12,70	19,50	38,1	31,8	381	76,2	5	M10	12,7
WZ9130L12164	15,88	22,23	50,8	38,1	406	101,6	4	M12	17,5
WZ9130L12166	15,88	22,23	50,8	38,1	610	101,6	6	M12	17,5
WZ9130L16206	19,05	31,75	63,5	50,8	610	101,6	6	M16	22,2
WZ9130L16208	19,05	31,75	63,5	50,8	813	101,6	8	M16	22,2
WZ9130L20245	25,40	38,10	76,2	63,5	762	152,4	5	M16	25,4
WZ9130L20248	25,40	38,10	76,2	63,5	1219	152,4	8	M16	25,4

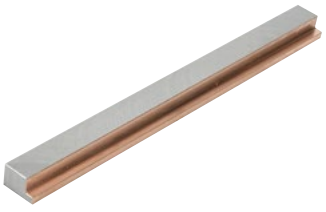
n = number of bore holes

L-GIBS WITHOUT BORE HOLES, BRONZE PLATED **WZ9140**

Mat.: Ck 22/CuSn



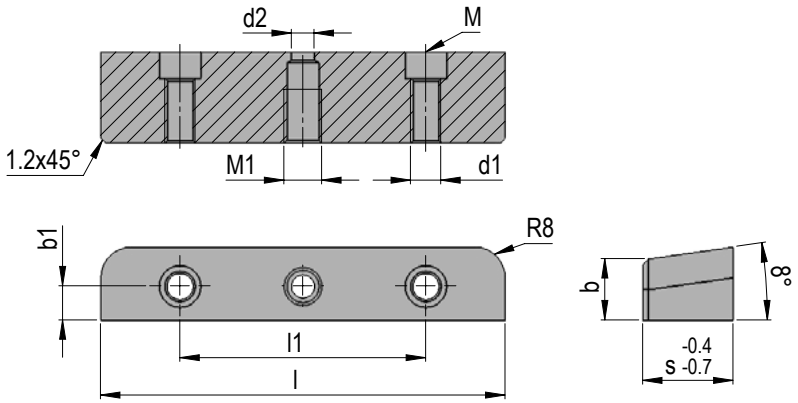




REF	h1 +0,025 -0,025	b1 +0,025 -0,025	h	b ±0,5	l
WZ9140L004065	4,76	7,94	19,0	12,7	222
WZ9140L005085	6,35	9,53	25,4	15,9	254
WZ9140L007105	9,53	12,70	31,8	22,2	317
WZ9140L010125	12,70	19,05	38,1	31,8	381

CAD reference point

POSITIONING WEDGE F2670



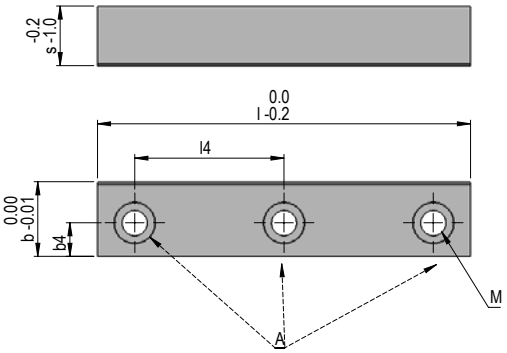
Mat.: 1.2842 ≈ 58 HRC

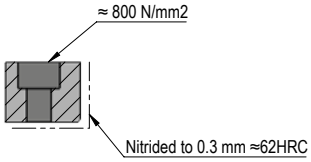
REF	l	l1	b	b1	s	d1	M	M1
F26701305920	59	36	13	7,5	20	M8	M6	M8
F26701305924	59	36	13	7,5	24	M8	M6	M8
F26701305930	59	36	13	7,5	30	M8	M6	M8
F26701308320	83	50	13	7,5	20	M8	M6	M8
F26701308324	83	50	13	7,5	24	M8	M6	M8
F26701308330	83	50	13	7,5	30	M8	M6	M8
F26701311320	113	68	13	7,5	20	M8	M6	M8
F26701311324	113	68	13	7,5	24	M8	M6	M8
F26701311330	113	68	13	7,5	30	M8	M6	M8
F26701607724	77	46	16	9,0	24	M8	M6	M10
F26701607730	77	46	16	9,0	30	M8	M6	M10
F26701607738	77	46	16	9,0	38	M8	M6	M10
F26701610724	107	65	16	9,0	24	M8	M6	M10
F26701610730	107	65	16	9,0	30	M8	M6	M10
F26701610738	107	65	16	9,0	38	M8	M6	M10
F26701613724	137	84	16	9,0	24	M8	M6	M10
F26701613730	137	84	16	9,0	30	M8	M6	M10
F26701613738	137	84	16	9,0	38	M8	M6	M10
F26701910130	101	62	19	10,5	30	M10	M8	M10
F26701910138	101	62	19	10,5	38	M10	M8	M10
F26701910145	101	62	19	10,5	45	M10	M8	M10
F26701913130	131	80	19	10,5	30	M10	M8	M10
F26701913138	131	80	19	10,5	38	M10	M8	M10
F26701913145	131	80	19	10,5	45	M10	M8	M10
F26701916130	161	98	19	10,5	30	M10	M8	M10
F26701916138	161	98	19	10,5	38	M10	M8	M10
F26701916145	161	98	19	10,5	45	M10	M8	M10

CAD reference point

GUIDING STOCK

ONE SIDE GUIDING STOCK WITH HOLES F3141





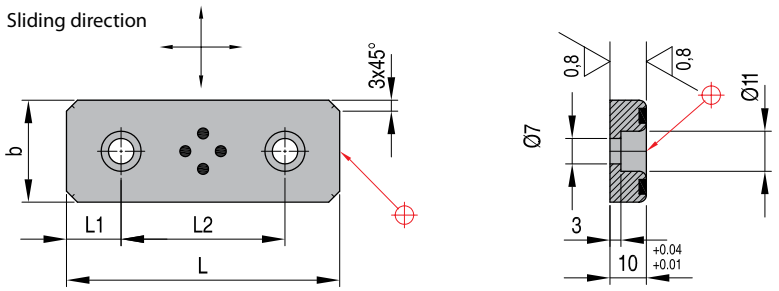
Mat.: 1.7035
Nitrided to 0,1mm 62HRC

REF	b	s	l	b4	l4	A	M	Screw type
F31411606040	16	6	40	6	24,0	2	M5	flat head
F31411606050	16	6	50	6	34,0	2	M5	flat head
F31411606063	16	6	63	6	47,0	2	M5	flat head
F31411606080	16	6	80	6	32,0	3	M5	flat head
F31411608050	16	8	50	6	34,0	2	M5	flat head
F31411608063	16	8	63	6	47,0	2	M5	flat head
F31411608080	16	8	80	6	32,0	3	M5	flat head
F31411608100	16	8	100	6	42,0	3	M5	flat head
F31412012063	20	12	63	9	43,0	2	M6	standard
F31412012080	20	12	80	9	60,0	2	M6	standard
F31412012100	20	12	100	9	40,0	3	M6	standard
F31412012125	20	12	125	9	52,5	3	M6	standard
F31412016080	20	16	80	9	60,0	2	M6	standard
F31412016100	20	16	100	9	40,0	3	M6	standard
F31412016125	20	16	125	9	52,5	3	M6	standard
F31412016160	20	16	160	9	70,0	3	M6	standard
F31412522100	25	22	100	11	76,0	2	M8	standard
F31412522125	25	22	125	11	50,5	3	M8	standard
F31412522160	25	22	160	11	68,0	3	M8	standard
F31412522200	25	22	200	11	58,0	4	M8	standard
F31412530125	25	30	125	11	50,5	3	M8	standard
F31412530160	25	30	160	11	68,0	3	M8	standard
F31412530200	25	30	200	11	58,0	4	M8	standard
F31412530250	25	30	250	11	74,0	4	M8	standard
F31413238160	32	38	160	14	64,0	3	M10	standard
F31413238200	32	38	200	14	84,0	3	M10	standard
F31413238250	32	38	250	14	72,0	4	M10	standard
F31413238315	32	38	315	14	93,0	4	M10	standard

CAD reference point

SELF LUBRICATING FLAT GUIDING STOCK **R25W**

Mat.: GK-CuZn 25A15



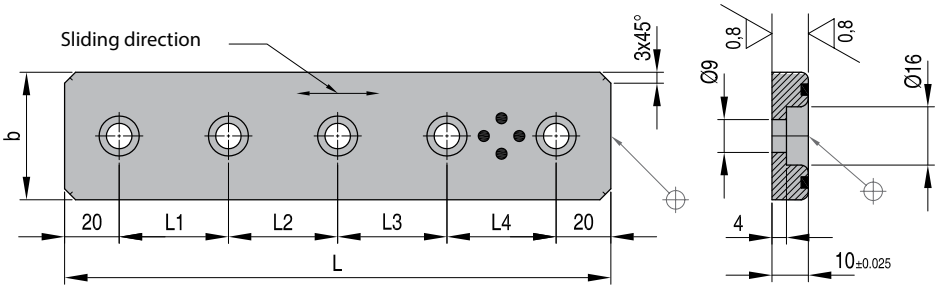
REF *	b	L	L1	L2
R25W18075	18	75	15	45
R25W18100	18	100	25	50
R25W18125	18	125	25	75
R25W18150	18	150	25	100
R25W28075	28	75	15	45
R25W28100	28	100	25	50
R25W28125	28	125	25	75
R25W28150	28	150	25	100

REF *	b	L	L1	L2
R25W38075	38	75	15	45
R25W38100	38	100	25	50
R25W38125	38	125	25	75
R25W38150	38	150	25	100
R25W48075	48	75	15	45
R25W48100	48	100	25	50
R25W48125	48	125	25	75
R25W48150	48	150	25	100

* Sizes without tolerance according to DIN 7168

SELF LUBRICATING FLAT GUIDING STOCK **R26W**

Mat.: GK-CuZn 25A15



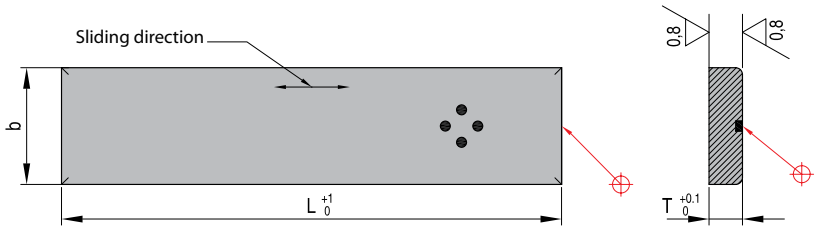
REF (*)	b	L	L2	L1	L3	L4
R26W35100	35	100		60		
R26W35150	35	150	55	55		
R26W35200	35	200	50	50	55	
R26W35250	35	250	70	70	70	
R26W35300	35	300	65	65	65	65
R26W35350	35	350	75	80	75	80
R26W50100	50	100		60		
R26W50150	50	150	55	55		
R26W50200	50	200	50	55	55	
R26W50250	50	250	70	70	70	
R26W50300	50	300	65	65	65	65
R26W50350	50	350	75	80	75	80

* Sizes without tolerance according to DIN 7168

CAD reference point

SELF LUBRICATING FLAT GUIDING STOCK **R27W**

Mat.: GK-CuZn 25A15



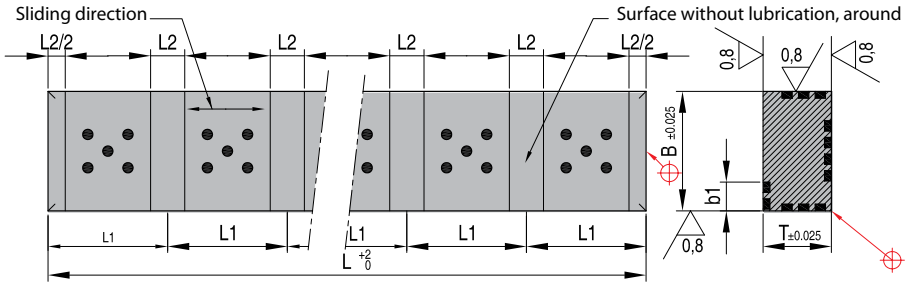
REF*	b	T	L
R27W25005500	25	5	500
R27W30006500	30	6	500
R27W30008500	30	8	500
R27W40008500	40	8	500
R27W40010500	40	10	500
R27W40012500	40	12	500
R27W50012500	50	12	500
R27W60016500	60	16	500
R27W80016500	80	16	500
R27W80020500	80	20	500
R27W25005605	25	5	605
R27W30006605	30	6	605

REF*	b	T	L
R27W30008605	30	8	605
R27W35010605	35	10	605
R27W40008605	40	8	605
R27W40010605	40	10	605
R27W40012605	40	12	605
R27W50010605	50	10	605
R27W50012605	50	12	605
R27W60012605	60	12	605
R27W60016605	60	16	605
R27W80016605	80	16	605
R27W80020605	80	20	605

* Dimensions without Tol. As per DIN 7168 medium

SELF LUBRICATING FLAT GUIDING STOCK **R28W**

Mat.: GK-CuZn 25A15



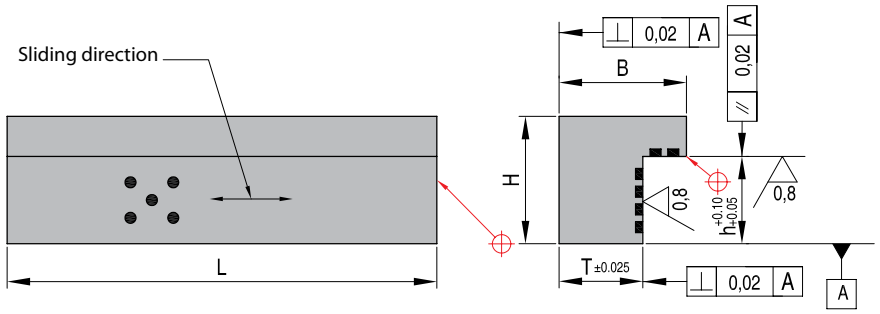
REF*	B	L	T	b1	L1	L2
R28W25-3105	25,3	105	15,3	8	35	8
R28W25-3140	25,3	140	15,3	8	35	8
R28W25-3175	25,3	175	15,3	8	35	8
R28W25-3210	25,3	210	15,3	8	35	8
R28W25-3245	25,3	245	15,3	8	35	8
R28W25-3280	25,3	280	15,3	8	35	8
R28W25-3315	25,3	315	15,3	8	35	8
R28W25-3350	25,3	350	15,3	8	35	8
R28W25-3385	25,3	385	15,3	8	35	8
R28W25-3420	25,3	420	15,3	8	35	8
R28W25-3455	25,3	455	15,3	8	35	8
R28W25-3490	25,3	490	15,3	8	35	8
R28W35-3135	35,3	135	25,3	12	45	10
R28W35-3180	35,3	180	25,3	12	45	10

REF*	B	L	T	b1	L1	L2
R28W35-3225	35,3	225	25,3	12	45	10
R28W35-3270	35,3	270	25,3	12	45	10
R28W35-3315	35,3	315	25,3	12	45	10
R28W35-3360	35,3	360	25,3	12	45	10
R28W35-3405	35,3	405	25,3	12	45	10
R28W35-3450	35,3	450	25,3	12	45	10
R28W35-3495	35,3	495	25,3	12	45	10
R28W45-3165	45,3	165	35,3	16	55	12
R28W45-3220	45,3	220	35,3	16	55	12
R28W45-3275	45,3	275	35,3	16	55	12
R28W45-3330	45,3	330	35,3	16	55	12
R28W45-3385	45,3	385	35,3	16	55	12
R28W45-3440	45,3	440	35,3	16	55	12
R28W45-3495	45,3	495	35,3	16	55	12

* Dimensions without Tol. As per DIN 7168 medium

CAD reference point

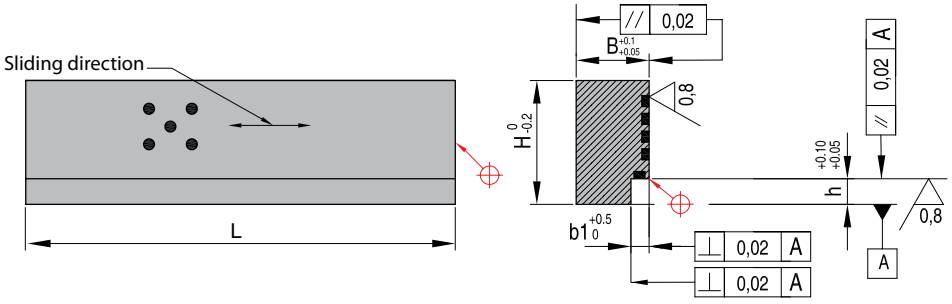
SELF LUBRICATING GIBS WITHOUT SCREW HOLES — R29W



Mat.: GK-CuZn 25A15

REF	B	H	L	T	h
R29W200120500	20	12	500	15	6
R29W200120605	20	12	605	15	6
R29W200121005	20	12	1005	15	6
R29W250150500	25	15	500	18	8
R29W250150605	25	15	605	18	8
R29W250151005	25	15	1005	18	8
R29W300200500	30	20	500	21	12
R29W300200605	30	20	605	21	12
R29W300201005	30	20	1005	21	12
R29W320300500	32	30	500	22	15
R29W320300605	32	30	605	22	15
R29W320301005	32	30	1005	22	15
R29W350350500	35	35	500	23	24
R29W350350605	35	35	605	23	24
R29W350351005	35	35	1005	23	24
R29W500450500	50	45	500	28	25
R29W500450605	50	45	605	28	25
R29W500451005	50	45	1005	28	25
R29W500500500	50	50	500	34	34
R29W500500605	50	50	605	34	34
R29W500501005	50	50	1005	34	34

SELF LUBRICATING FLAT GUIDING STOCK — R30W



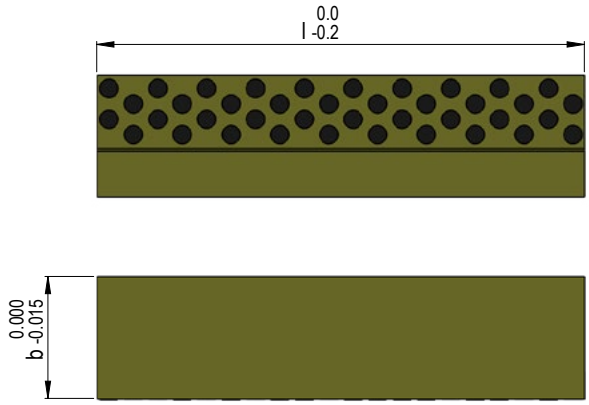
Mat.: GK-CuZn 25A15

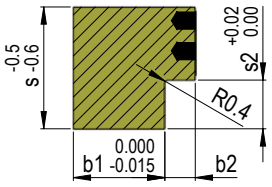
REF	B	H	L	b1	h
R30W20017	20	17	605	5	7
R30W20022	20	22	605	5	7
R30W28027	28	27	605	8	10
R30W28036	28	36	605	8	10
R30W28046	28	46	605	8	10
R30W40066	40	66	605	12	22
R30W40086	40	86	605	12	26

CAD reference point

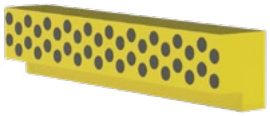
GUIDING STOCKS

ONE SIDE SELF-LUBRICATED GUIDING STOCK WITHOUT HOLES **F3118**





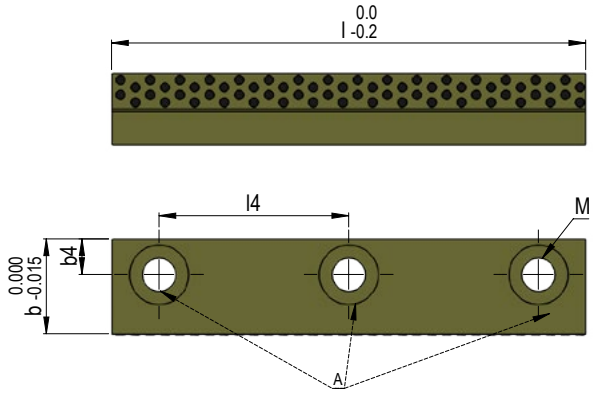
Mat.: 2.0598 ≈ 180 HB / Graphite
Max. T.: 200°C

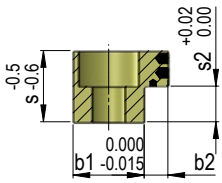


REF	b	s	l	b1	b2	s2
F31181206040	16	12	40	12	4	6
F31181206050	16	12	50	12	4	6
F31181206063	16	12	63	12	4	6
F31181206080	16	12	80	12	4	6
F31181608050	16	16	50	11	5	8
F31181608063	16	16	63	11	5	8
F31181608080	16	16	80	11	5	8
F31181608100	16	16	100	11	5	8
F31182008063	20	20	63	15	5	8
F31182008080	20	20	80	15	5	8
F31182008100	20	20	100	15	5	8
F31182008125	20	20	125	15	5	8
F31182011063	20	20	63	15	5	11
F31182011080	20	20	80	15	5	11
F31182011100	20	20	100	15	5	11
F31182011125	20	20	125	15	5	11
F31182508080	20	25	80	15	5	8
F31182508100	20	25	100	15	5	8
F31182508125	20	25	125	15	5	8
F31182508160	20	25	160	15	5	8
F31182513080	20	25	80	15	5	13
F31182513100	20	25	100	15	5	13
F31182513125	20	25	125	15	5	13
F31182513160	20	25	160	15	5	13
F31183210100	25	32	100	19	6	10
F31183210125	25	32	125	19	6	10
F31183210160	25	32	160	19	6	10
F31183210200	25	32	200	19	6	10
F31183216100	25	32	100	19	6	16
F31183216125	25	32	125	19	6	16
F31183216160	25	32	160	19	6	16
F31183216200	25	32	200	19	6	16
F31184010125	25	40	125	19	6	10
F31184010160	25	40	160	19	6	10
F31184010200	25	40	200	19	6	10
F31184010250	25	40	250	19	6	10
F31184016125	25	40	125	19	6	16
F31184016160	25	40	160	19	6	16
F31184016200	25	40	200	19	6	16
F31184016250	25	40	250	19	6	16
F31185012160	32	50	160	24	8	12
F31185012200	32	50	200	24	8	12
F31185012250	32	50	250	24	8	12
F31185012315	32	50	315	24	8	12
F31185020160	32	50	160	24	8	20
F31185020200	32	50	200	24	8	20
F31185020250	32	50	250	24	8	20
F31185020315	32	50	315	24	8	20

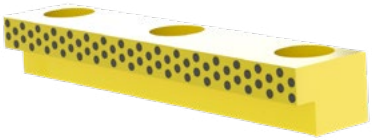
CAD reference point

ONE SIDE SELF-LUBRICATED GUIDING STOCK WITH HOLES F3119





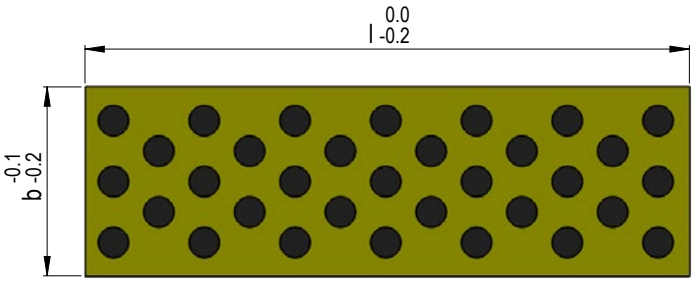
Mat.: 2.0598 ≈ 180 HB / Graphite
Max. T.: 200°C

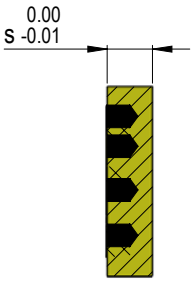


REF	b	s	l	b1	b2	s2	b4	l4	A	M
F31191206040	16	12	40	12	4	6	6	24	2	M5
F31191206050	16	12	50	12	4	6	6	34	2	M5
F31191206063	16	12	63	12	4	6	6	47	2	M5
F31191206080	16	12	80	12	4	6	6	32	3	M5
F31191608050	16	16	50	11	5	8	6	34	2	M5
F31191608063	16	16	63	11	5	8	6	47	2	M5
F31191608080	16	16	80	11	5	8	6	32	3	M5
F31191608100	16	16	100	11	5	8	6	42	3	M5
F31192008063	20	20	63	15	5	8	9	43	2	M6
F31192008080	20	20	80	15	5	8	9	60	2	M6
F31192008100	20	20	100	15	5	8	9	40	3	M6
F31192008125	20	20	125	15	5	8	9	53	3	M6
F31192011063	20	20	63	15	5	11	9	43	2	M6
F31192011080	20	20	80	15	5	11	9	60	2	M6
F31192011100	20	20	100	15	5	11	9	40	3	M6
F31192011125	20	20	125	15	5	11	9	53	3	M6
F31192508080	20	25	80	15	5	8	9	60	2	M6
F31192508100	20	25	100	15	5	8	9	40	3	M6
F31192508125	20	25	125	15	5	8	9	53	3	M6
F31192508160	20	25	160	15	5	8	9	70	3	M6
F31192513080	20	25	80	15	5	13	9	60	2	M6
F31192513100	20	25	100	15	5	13	9	40	3	M6
F31192513125	20	25	125	15	5	13	9	53	3	M6
F31192513160	20	25	160	15	5	13	9	70	3	M6
F31193210100	25	32	100	19	6	10	11	76	2	M8
F31193210125	25	32	125	19	6	10	11	51	3	M8
F31193210160	25	32	160	19	6	10	11	68	3	M8
F31193210200	25	32	200	19	6	10	11	58	4	M8
F31193216100	25	32	100	19	6	16	11	76	2	M8
F31193216125	25	32	125	19	6	16	11	51	3	M8
F31193216160	25	32	160	19	6	16	11	68	3	M8
F31193216200	25	32	200	19	6	16	11	58	4	M8
F31194010125	25	40	125	19	6	10	11	51	3	M8
F31194010160	25	40	160	19	6	10	11	68	3	M8
F31194010200	25	40	200	19	6	10	11	58	4	M8
F31194010250	25	40	250	19	6	10	11	74	4	M8
F31194016125	25	40	125	19	6	16	11	51	3	M8
F31194016160	25	40	160	19	6	16	11	68	3	M8
F31194016200	25	40	200	19	6	16	11	58	4	M8
F31194016250	25	40	250	19	6	16	11	74	4	M8
F31195012160	32	50	160	24	8	12	14	64	3	M10
F31195012200	32	50	200	24	8	12	14	84	3	M10
F31195012250	32	50	250	24	8	12	14	72	4	M10
F31195012315	32	50	315	24	8	12	14	93	4	M10
F31195020160	32	50	160	24	8	20	14	64	3	M10
F31195020200	32	50	200	24	8	20	14	84	3	M10
F31195020250	32	50	250	24	8	20	14	72	4	M10
F31195020315	32	50	315	24	8	20	14	93	4	M10

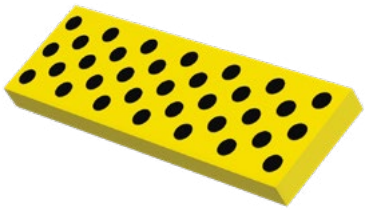
CAD reference point

SELF-LUBRICATED SLIDE PLATE F3172





Mat.: 2.0598 ≈ 180 HB / Graphite
Max. T.: 200°C



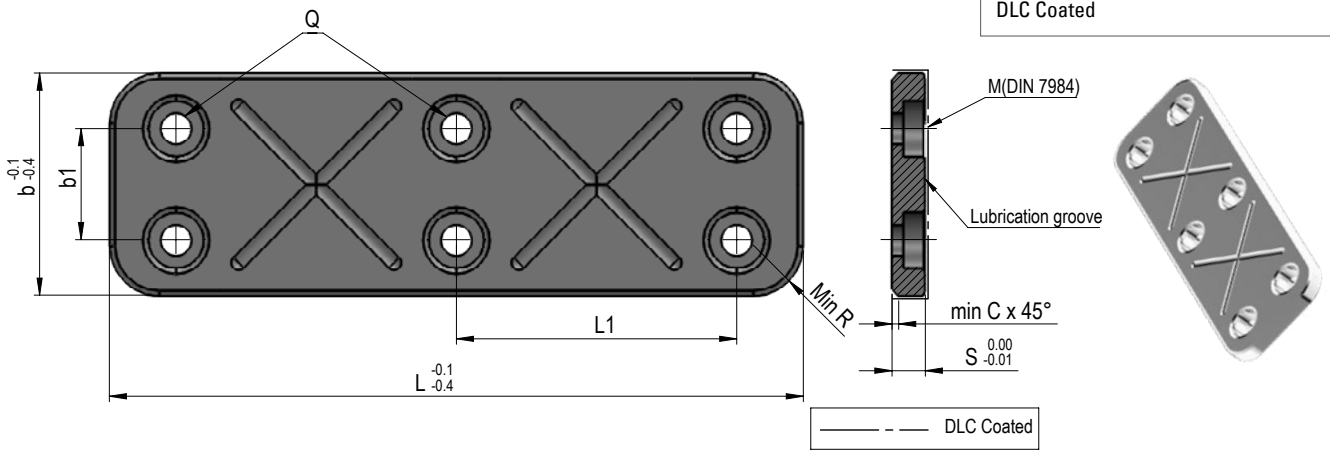
REF	s	b	l
F31721605005	5,0	16	50
F31721606305	5,0	16	63
F31721608005	5,0	16	80
F31721610005	5,0	16	100
F31722005006	6,0	20	50
F31722006306	6,0	20	63
F31722008006	6,0	20	80
F31722010006	6,0	20	100
F31722505006	6,0	25	50
F31722506306	6,0	25	63
F31722508006	6,0	25	80
F31722510006	6,0	25	100

REF	s	b	l
F31722512506	6,0	25	125
F31724008006	6,0	40	80
F31724010006	6,0	40	100
F31724012506	6,0	40	125
F31724016006	6,0	40	160
F31724020006	6,0	40	200
F31726312506	8,0	63	125
F31726316008	8,0	63	160
F31726320008	8,0	63	200
F31726325008	8,0	63	250
F31726331508	8,0	63	315

CAD reference point

FLAT GUIDING STOCK F3174

Mat.: 1.2363 ≈ 58 HRC
DLC Coated



REF	b	S	L	M	Q[1]	R	C	b1[2]	L1
F3174125040	12	5	40	M4	2	3,5	0,8	-	24
F3174125050	12	5	50	M4	2	3,5	0,8	-	34
F3174125063	12	5	63	M4	2	3,5	0,8	-	47
F3174125080	12	5	80	M4	3	3,5	0,8	-	32
F3174165050	16	5	50	M4	2	4,5	0,8	-	34
F3174165063	16	5	63	M4	2	4,5	0,8	-	47
F3174165080	16	5	80	M4	3	4,5	0,8	-	32
F3174165100	16	5	100	M4	3	4,5	0,8	-	42
F3174206040	20	6	40	M5	2	5	0,8	-	20
F3174206050	20	6	50	M5	2	5	0,8	-	30
F3174206063	20	6	63	M5	2	5	0,8	-	43
F3174206080	20	6	80	M5	2	5	0,8	-	60
F3174206100	20	6	100	M5	3	5	0,8	-	40
F3174206125	20	6	125	M5	3	5	0,8	-	50
F3174256040	25	6	40	M5	2	6	0,8	-	20
F3174256050	25	6	50	M5	2	6	0,8	-	26
F3174256063	25	6	63	M5	2	6	0,8	-	39
F3174256080	25	6	80	M5	2	6	0,8	-	56
F3174256100	25	6	100	M5	2	6	0,8	-	76
F3174256125	25	6	125	M5	3	6	0,8	-	50,5
F3174256160	25	6	160	M5	3	6	0,8	-	68
F3174326040	32	6	40	M5	2	7	0,8	-	20
F3174326050	32	6	50	M5	2	7	0,8	-	26
F3174326063	32	6	63	M5	2	7	0,8	-	39
F3174326080	32	6	80	M5	2	7	0,8	-	56
F3174326100	32	6	100	M5	2	7	0,8	-	76

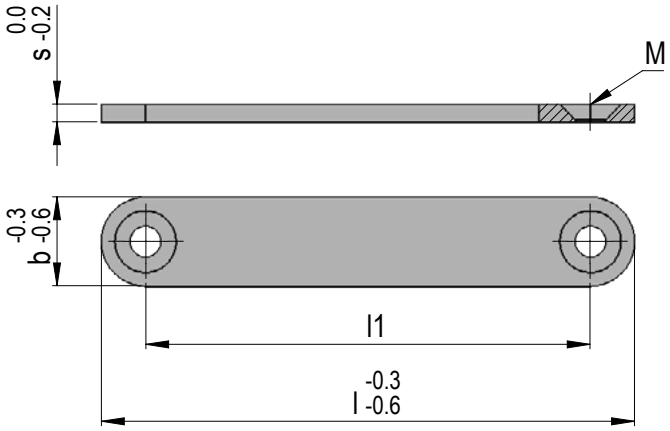
REF	b	S	L	M	Q[1]	R	C	b1[2]	L1
F3174326125	32	6	125	M5	3	7	0,8	-	50,5
F3174326160	32	6	160	M5	3	7	0,8	-	68
F3174326200	32	6	200	M5	3	7	0,8	-	88
F3174406050	40	6	50	M5	4	9	1,2	20	26
F3174406063	40	6	63	M5	4	9	1,2	20	39
F3174406080	40	6	80	M5	4	9	1,2	20	56
F3174406100	40	6	100	M5	4	9	1,2	20	76
F3174406125	40	6	125	M5	6	9	1,2	20	50,5
F3174406160	40	6	160	M5	6	9	1,2	20	68
F3174406200	40	6	200	M5	8	9	1,2	20	58
F3174508063	50	8	63	M6	4	11	1,2	24	39
F3174508080	50	8	80	M6	4	11	1,2	24	56
F3174508100	50	8	100	M6	4	11	1,2	24	76
F3174508125	50	8	125	M6	6	11	1,2	24	50,5
F3174508160	50	8	160	M6	6	11	1,2	24	68
F3174508200	50	8	200	M6	8	11	1,2	24	58
F3174638080	63	8	80	M6	4	11	1,2	35	56
F3174638100	63	8	100	M6	4	11	1,2	35	76
F3174638125	63	8	125	M6	6	11	1,2	35	50,5
F3174638160	63	8	160	M6	6	11	1,2	35	68
F3174638200	63	8	200	M6	8	11	1,2	35	58
F3174808100	80	8	100	M6	4	11	1,2	50	76
F3174808125	80	8	125	M6	6	11	1,2	50	50,5
F3174808160	80	8	160	M6	6	11	1,2	50	68
F3174808200	80	8	200	M6	8	11	1,2	50	58
F3174808250	80	8	250	M6	8	11	1,2	50	72

Note:

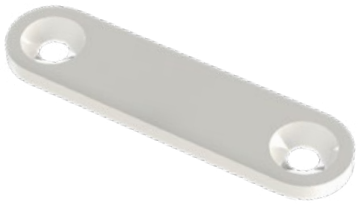
1. Q: number of holes
2. " - " screw holes on centre line

CAD reference point

CABLE RETAINER F2765



Mat.: 3.3206 / anodized



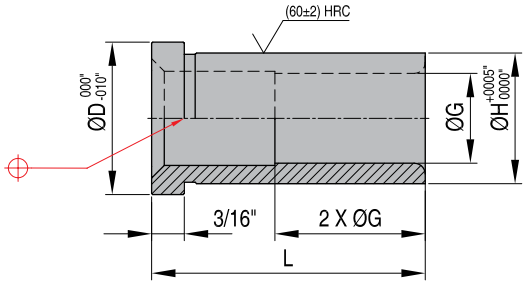
REF	l	l1	b	s	M
F27651020	30	20	10	2	M3
F27651030	40	30	10	2	M3
F27651040	50	40	10	2	M3
F27651050	60	50	10	2	M3
F27651230	42	30	12	3	M4
F27651245	57	45	12	3	M4
F27651260	72	60	12	3	M4

CAD reference point

INCH

LEADER PIN BUSHINGS 5700–5960

Mat.: C1117 - USA



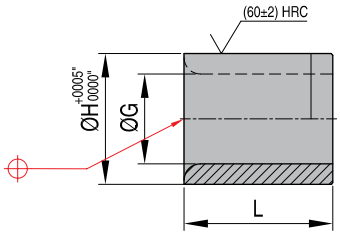
REF	G	L	H	D
5700	3/4"	7/8"	1.1255"	1.302"
5701	3/4"	1 3/8"	1.1255"	1.302"
5702	3/4"	1 7/8"	1.1255"	1.302"
5703	3/4"	2 3/8"	1.1255"	1.302"
5704	3/4"	2 7/8"	1.1255"	1.302"
5705	3/4"	3 3/8"	1.1255"	1.302"
5706	3/4"	3 7/8"	1.1255"	1.302"
5707	3/4"	4 3/8"	1.1255"	1.302"
5708	3/4"	4 7/8"	1.1255"	1.302"
5709	3/4"	5 7/8"	1.1255"	1.302"
5710	7/8"	7/8"	1.2505"	1.427"
5711	7/8"	1 3/8"	1.2505"	1.427"
5712	7/8"	1 7/8"	1.2505"	1.427"
5713	7/8"	2 3/8"	1.2505"	1.427"
5714	7/8"	2 7/8"	1.2505"	1.427"
5715	7/8"	3 3/8"	1.2505"	1.427"
5716	7/8"	3 7/8"	1.2505"	1.427"
5717	7/8"	4 3/8"	1.2505"	1.427"
5718	7/8"	4 7/8"	1.2505"	1.427"
5720	7/8"	5 7/8"	1.2505"	1.427"
5730	1"	7/8"	1.3755"	1.552"
5731	1"	1 3/8"	1.3755"	1.552"
5732	1"	1 7/8"	1.3755"	1.552"
5733	1"	2 3/8"	1.3755"	1.552"
5734	1"	2 7/8"	1.3755"	1.552"
5735	1"	3 3/8"	1.3755"	1.552"
5736	1"	3 7/8"	1.3755"	1.552"
5737	1"	4 3/8"	1.3755"	1.552"
5738	1"	4 7/8"	1.3755"	1.552"
5740	1"	5 7/8"	1.3755"	1.552"
5750	1 1/4"	7/8"	1.6255"	1.802"
5751	1 1/4"	1 3/8"	1.6255"	1.802"
5752	1 1/4"	1 7/8"	1.6255"	1.802"
5753	1 1/4"	2 3/8"	1.6255"	1.802"

REF	G	L	H	D
5754	1 1/4"	2 7/8"	1.6255"	1.802"
5755	1 1/4"	3 3/8"	1.6255"	1.802"
5756	1 1/4"	3 7/8"	1.6255"	1.802"
5757	1 1/4"	4 3/8"	1.6255"	1.802"
5758	1 1/4"	4 7/8"	1.6255"	1.802"
5760	1 1/4"	5 7/8"	1.6255"	1.802"
5770	1 1/2"	7/8"	2.0005"	2.177"
5771	1 1/2"	1 3/8"	2.0005"	2.177"
5772	1 1/2"	1 7/8"	2.0005"	2.177"
5773	1 1/2"	2 3/8"	2.0005"	2.177"
5774	1 1/2"	2 7/8"	2.0005"	2.177"
5775	1 1/2"	3 3/8"	2.0005"	2.177"
5776	1 1/2"	3 7/8"	2.0005"	2.177"
5777	1 1/2"	4 3/8"	2.0005"	2.177"
5778	1 1/2"	4 7/8"	2.0005"	2.177"
5780	1 1/2"	5 7/8"	2.0005"	2.177"
5901	2"	1 3/8"	2.5005"	2.677"
5902	2"	1 7/8"	2.5005"	2.677"
5903	2"	2 3/8"	2.5005"	2.677"
5904	2"	2 7/8"	2.5005"	2.677"
5905	2"	3 3/8"	2.5005"	2.677"
5906	2"	3 7/8"	2.5005"	2.677"
5907	2"	4 3/8"	2.5005"	2.677"
5908	2"	4 7/8"	2.5005"	2.677"
5910	2"	5 7/8"	2.5005"	2.677"
5951	2 1/2"	1 3/8"	3.2505"	3.427"
5952	2 1/2"	1 7/8"	3.2505"	3.427"
5953	2 1/2"	2 3/8"	3.2505"	3.427"
5954	2 1/2"	2 7/8"	3.2505"	3.427"
5955	2 1/2"	3 3/8"	3.2505"	3.427"
5956	2 1/2"	3 7/8"	3.2505"	3.427"
5957	2 1/2"	4 3/8"	3.2505"	3.427"
5958	2 1/2"	4 7/8"	3.2505"	3.427"
5960	2 1/2"	5 7/8"	3.2505"	3.427"

CAD reference point

LEADER PIN BUSHINGS 5500–5510

Mat.: C1117 - USA



REF	G	L	H
5500	0,750″	27/32″	1.1255″
5501	0,750″	1 11/32″	1.1255″
5502	0,875″	1 11/32″	1.2505″
5503	1,000″	1 11/32″	1.3755″
5504	1,250″	1 11/32″	1.6255″
5505	1,250″	1 27/32″	1.6255″
5506	1,500″	1 11/32″	2.0005″
5507	1,500″	1 27/32″	2.0005″
5508	2,000″	3 7/8″	2.5005″
5509	2,500″	4 7/8″	3.2505″
5510	3,000″	4 7/8″	3.7505″

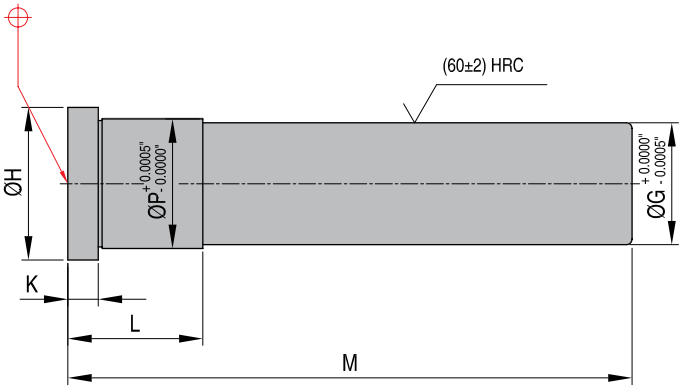
Conversion Table DME (inches to mm)

Inches	Nominal	mm
3/64	0.046	1,190
1/16	0.062	1,587
5/64	0.078	1,984
3/32	0.093	2,381
7/64	0.109	2,778
1/8	0.125	3,175
9/64	0.140	3,571
5/32	0.156	3,968
11/64	0.171	4,365
3/16	0.187	4,762
13/64	0.203	5,159
7/32	0.218	5,556
15/64	0.234	5,953
1/4	0.250	6,350
17/64	0.265	6,746
9/32	0.281	7,143
19/64	0.296	7,540
5/16	0.312	7,937
21/64	0.328	8,334

Inches	Nominal	mm
11/32	0.343	8,731
23/64	0.359	9,128
3/8	0.375	9,525
25/64	0.390	9,921
13/32	0.406	10,318
27/64	0.420	10,715
7/16	0.437	11,112
29/64	0.450	11,509
15/32	0.468	11,906
31/64	0.480	12,303
1/2	0.500	12,700
17/32	0.530	13,493
9/16	0.562	14,287
5/8	0.625	15,875
11/16	0.687	17,462
3/4	0.750	19,050
7/8	0.875	22,225
1	1	25,400

CAD reference point

LEADER PINS 5000–6032 GL



Mat.: C1117 - USA

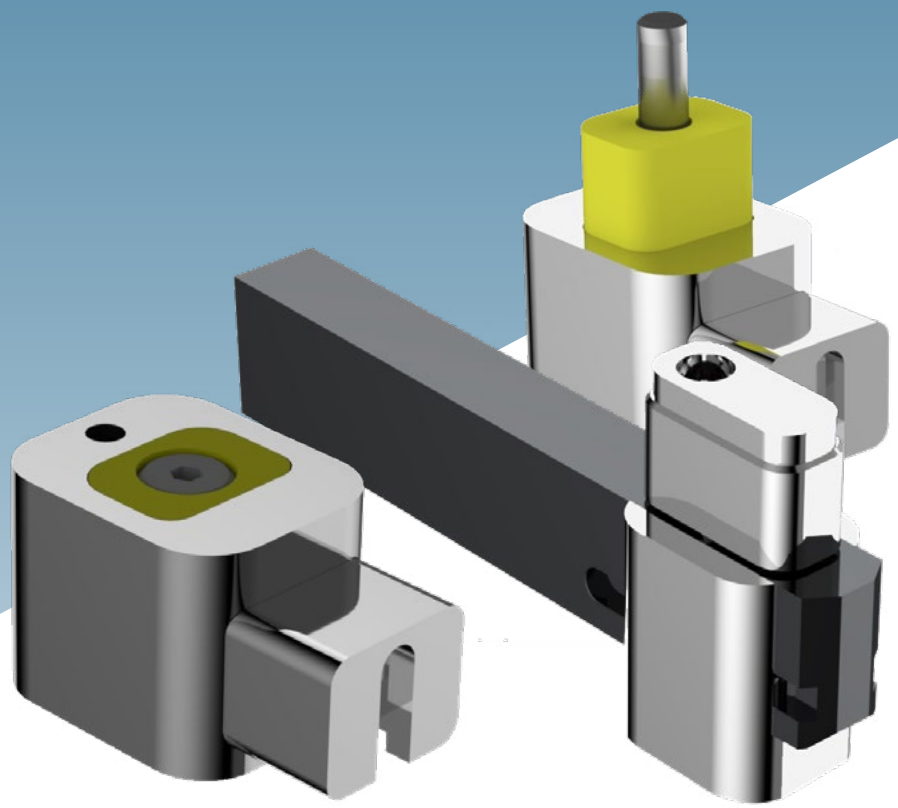
REF	G	M	L	H	K	P
5000GL	3/4"	1 3/4"	7/8"	0,99"	3/16"	0,751"
5001GL	3/4"	2 1/4"	7/8"	0,99"	3/16"	0,751"
5002GL	3/4"	2 3/4"	7/8"	0,99"	3/16"	0,751"
5003GL	3/4"	3 1/4"	7/8"	0,99"	3/16"	0,751"
5004GL	3/4"	3 3/4"	7/8"	0,99"	3/16"	0,751"
5005GL	3/4"	4 1/4"	1 3/8"	0,99"	3/16"	0,751"
5006GL	3/4"	4 3/4"	1 3/8"	0,99"	3/16"	0,751"
5007GL	3/4"	5 1/4"	1 3/8"	0,99"	3/16"	0,751"
5008GL	3/4"	5 3/4"	1 7/8"	0,99"	3/16"	0,751"
5009GL	3/4"	6 1/4"	1 7/8"	0,99"	3/16"	0,751"
5010GL	3/4"	6 3/4"	1 7/8"	0,99"	3/16"	0,751"
5011GL	3/4"	7 1/4"	1 7/8"	0,99"	3/16"	0,751"
5012GL	3/4"	7 3/4"	1 7/8"	0,99"	3/16"	0,751"
5015GL	3/4"	9 1/4"	1 7/8"	0,99"	3/16"	0,751"
5099GL	7/8"	1 3/4"	1 7/8"	1,115"	1/4"	0,876"
5100GL	7/8"	2 1/4"	1 7/8"	1,115"	1/4"	0,876"
5101GL	7/8"	2 3/4"	1 7/8"	1,115"	1/4"	0,876"
5102GL	7/8"	3 1/4"	1 7/8"	1,115"	1/4"	0,876"
5103GL	7/8"	3 3/4"	1 7/8"	1,115"	1/4"	0,876"
5104GL	7/8"	4 1/4"	1 3/8"	1,115"	1/4"	0,876"
5105GL	7/8"	4 3/4"	1 3/8"	1,115"	1/4"	0,876"
5106GL	7/8"	5 1/4"	1 3/8"	1,115"	1/4"	0,876"
5107GL	7/8"	5 3/4"	1 3/8"	1,115"	1/4"	0,876"
5108GL	7/8"	6 1/4"	1 7/8"	1,115"	1/4"	0,876"
5109GL	7/8"	6 3/4"	1 7/8"	1,115"	1/4"	0,876"
5110GL	7/8"	7 1/4"	1 7/8"	1,115"	1/4"	0,876"
5111GL	7/8"	7 3/4"	1 7/8"	1,115"	1/4"	0,876"
5112GL	7/8"	8 1/4"	1 7/8"	1,115"	1/4"	0,876"
5113GL	7/8"	8 3/4"	1 7/8"	1,115"	1/4"	0,876"
5117GL	7/8"	10 3/4"	1 7/8"	1,115"	1/4"	0,876"
5120GL	7/8"	12 1/4"	1 7/8"	1,115"	1/4"	0,876"
5198GL	1"	1 3/4"	1 7/8"	1,240"	1/4"	1,001"
5199GL	1"	2 1/4"	1 7/8"	1,240"	1/4"	1,001"
5200GL	1"	2 3/4"	1 7/8"	1,240"	1/4"	1,001"
5201GL	1"	3 1/4"	1 7/8"	1,240"	1/4"	1,001"
5202GL	1"	3 3/4"	1 7/8"	1,240"	1/4"	1,001"
5203GL	1"	4 1/4"	1 3/8"	1,240"	1/4"	1,001"
5204GL	1"	4 3/4"	1 3/8"	1,240"	1/4"	1,001"
5205GL	1"	5 1/4"	1 3/8"	1,240"	1/4"	1,001"
5206GL	1"	5 3/4"	1 3/8"	1,240"	1/4"	1,001"
5207GL	1"	6 1/4"	1 3/8"	1,240"	1/4"	1,001"
5208GL	1"	6 3/4"	1 7/8"	1,240"	1/4"	1,001"

REF	G	M	L	H	K	P
5209GL	1"	7 1/4"	1 7/8"	1,240"	1/4"	1,001"
5210GL	1"	7 3/4"	1 7/8"	1,240"	1/4"	1,001"
5211GL	1"	8 1/4"	1 7/8"	1,240"	1/4"	1,001"
5212GL	1"	8 3/4"	1 7/8"	1,240"	1/4"	1,001"
5213GL	1"	9 1/4"	1 7/8"	1,240"	1/4"	1,001"
5214GL	1"	9 3/4"	1 7/8"	1,240"	1/4"	1,001"
5215GL	1"	10 1/4"	1 7/8"	1,240"	1/4"	1,001"
5216GL	1"	10 3/4"	1 7/8"	1,240"	1/4"	1,001"
5217GL	1"	11 1/4"	1 7/8"	1,240"	1/4"	1,001"
5218GL	1"	11 3/4"	1 7/8"	1,240"	1/4"	1,001"
5219GL	1"	12 1/4"	1 7/8"	1,240"	1/4"	1,001"
5300GL	1 1/4"	2 3/4"	7/8"	1,490"	5/16"	1,251"
5301GL	1 1/4"	3 1/4"	7/8"	1,490"	5/16"	1,251"
5302GL	1 1/4"	3 3/4"	7/8"	1,490"	5/16"	1,251"
5303GL	1 1/4"	4 1/4"	7/8"	1,490"	5/16"	1,251"
5304GL	1 1/4"	4 3/4"	1 3/8"	1,490"	5/16"	1,251"
5305GL	1 1/4"	5 1/4"	1 3/8"	1,490"	5/16"	1,251"
5306GL	1 1/4"	5 3/4"	1 3/8"	1,490"	5/16"	1,251"
5307GL	1 1/4"	6 1/4"	1 3/8"	1,490"	5/16"	1,251"
5308GL	1 1/4"	6 3/4"	1 7/8"	1,490"	5/16"	1,251"
5309GL	1 1/4"	7 1/4"	1 7/8"	1,490"	5/16"	1,251"
5310GL	1 1/4"	7 3/4"	1 7/8"	1,490"	5/16"	1,251"
5311GL	1 1/4"	8 1/4"	1 7/8"	1,490"	5/16"	1,251"
5312GL	1 1/4"	8 3/4"	1 7/8"	1,490"	5/16"	1,251"
5313GL	1 1/4"	9 1/4"	1 7/8"	1,490"	5/16"	1,251"
5314GL	1 1/4"	9 3/4"	1 7/8"	1,490"	5/16"	1,251"
5315GL	1 1/4"	10 1/4"	1 7/8"	1,490"	5/16"	1,251"
5316GL	1 1/4"	10 3/4"	1 7/8"	1,490"	5/16"	1,251"
5317GL	1 1/4"	11 1/4"	1 7/8"	1,490"	5/16"	1,251"
5318GL	1 1/4"	11 3/4"	1 7/8"	1,490"	5/16"	1,251"
5319GL	1 1/4"	12 1/4"	1 7/8"	1,490"	5/16"	1,251"
5320GL	1 1/4"	12 3/4"	1 7/8"	1,490"	5/16"	1,251"
5322GL	1 1/4"	13 3/4"	1 7/8"	1,490"	5/16"	1,251"
5324GL	1 1/4"	14 3/4"	1 7/8"	1,490"	5/16"	1,251"
5326GL	1 1/4"	15 3/4"	1 7/8"	1,490"	5/16"	1,251"
5402GL	1 1/2"	3 3/4"	1 3/8"	1,740"	5/16"	1,501"
5403GL	1 1/2"	4 1/4"	1 3/8"	1,740"	5/16"	1,501"
5404GL	1 1/2"	4 3/4"	1 3/8"	1,740"	5/16"	1,501"
5405GL	1 1/2"	5 1/4"	1 3/8"	1,740"	5/16"	1,501"
5406GL	1 1/2"	5 3/4"	1 3/8"	1,740"	5/16"	1,501"
5407GL	1 1/2"	6 1/4"	1 3/8"	1,740"	5/16"	1,501"
5408GL	1 1/2"	6 3/4"	1 3/8"	1,740"	5/16"	1,501"

REF	G	M	L	H	K	P
5410GL	1 1/2"	7 3/4"	1 7/8"	1,740"	5/16"	1,501"
5412GL	1 1/2"	8 3/4"	1 7/8"	1,740"	5/16"	1,501"
5414GL	1 1/2"	9 3/4"	1 7/8"	1,740"	5/16"	1,501"
5416GL	1 1/2"	10 3/4"	1 7/8"	1,740"	5/16"	1,501"
5418GL	1 1/2"	11 3/4"	1 7/8"	1,740"	5/16"	1,501"
5420GL	1 1/2"	12 3/4"	1 7/8"	1,740"	5/16"	1,501"
5422GL	1 1/2"	13 3/4"	1 7/8"	1,740"	5/16"	1,501"
5424GL	1 1/2"	14 3/4"	1 7/8"	1,740"	5/16"	1,501"
5626GL	2"	15 3/4"	1 7/8"	2,240"	5/16"	2,001"
5606GL	2"	5 3/4"	1 7/8"	2,240"	5/16"	2,001"
5608GL	2"	6 3/4"	1 7/8"	2,240"	5/16"	2,001"
5610GL	2"	7 3/4"	1 7/8"	2,240"	5/16"	2,001"
5612GL	2"	8 3/4"	1 7/8"	2,240"	5/16"	2,001"
5614GL	2"	9 3/4"	1 7/8"	2,240"	5/16"	2,001"
5616GL	2"	10 3/4"	1 7/8"	2,240"	5/16"	2,001"
5618GL	2"	11 3/4"	1 7/8"	2,240"	5/16"	2,001"
5620GL	2"	12 3/4"	1 7/8"	2,240"	5/16"	2,001"
5622GL	2"	13 3/4"	1 7/8"	2,240"	5/16"	2,001"
5624GL	2"	14 3/4"	1 7/8"	2,240"	5/16"	2,001"
5626GL	2"	15 3/4"	1 7/8"	2,240"	5/16"	2,001"
5632GL	2"	18 3/4"	1 7/8"	2,240"	5/16"	2,001"
5806GL	2 1/2"	5 3/4"	2 3/8"	2,740"	5/16"	2,501"
5808GL	2 1/2"	6 3/4"	2 3/8"	2,740"	5/16"	2,501"
5810GL	2 1/2"	7 3/4"	2 3/8"	2,740"	5/16"	2,501"
5812GL	2 1/2"	8 3/4"	2 3/8"	2,740"	5/16"	2,501"
5814GL	2 1/2"	9 3/4"	2 3/8"	2,740"	5/16"	2,501"
5816GL	2 1/2"	10 3/4"	2 3/8"	2,740"	5/16"	2,501"
5818GL	2 1/2"	11 3/4"	2 3/8"	2,740"	5/16"	2,501"
5820GL	2 1/2"	12 3/4"	2 3/8"	2,740"	5/16"	2,501"
5822GL	2 1/2"	13 3/4"	2 3/8"	2,740"	5/16"	2,501"
5824GL	2 1/2"	14 3/4"	2 3/8"	2,740"	5/16"	2,501"
5826GL	2 1/2"	15 3/4"	2 3/8"	2,740"	5/16"	2,501"
5828GL	2 1/2"	16 3/4"	2 3/8"	2,740"	5/16"	2,501"
5832GL	2 1/2"	18 3/4"	2 3/8"	2,740"	5/16"	2,501"
6012GL	3"	8 3/4"	2 1/8"	3,365"	1/2"	3,001"
6016GL	3"	10 3/4"	2 1/8"	3,365"	1/2"	3,001"
6020GL	3"	12 3/4"	2 1/8"	3,365"	1/2"	3,001"
6024GL	3"	14 3/4"	2 1/8"	3,365"	1/2"	3,001"
6028GL	3"	16 3/4"	2 1/8"	3,365"	1/2"	3,001"
6032GL	3"	18 3/4"	2 1/8"	3,365"	1/2"	3,001"

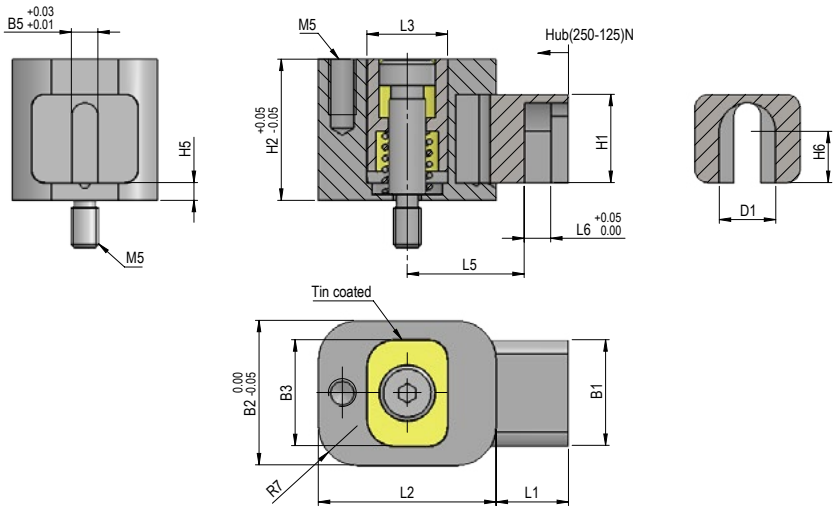
CAD reference point

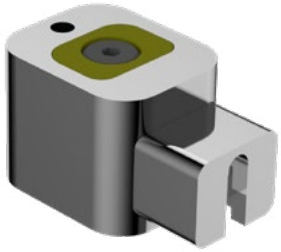
SLIDING UNITS



SLIDING UNIT WITH RETURN SPRING F3070

Mat.: 1.7228, 1.2344

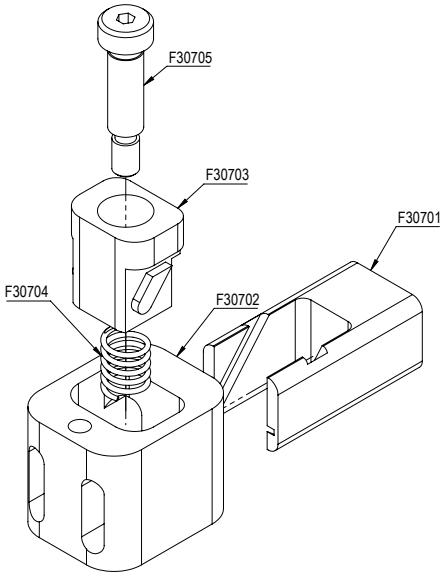


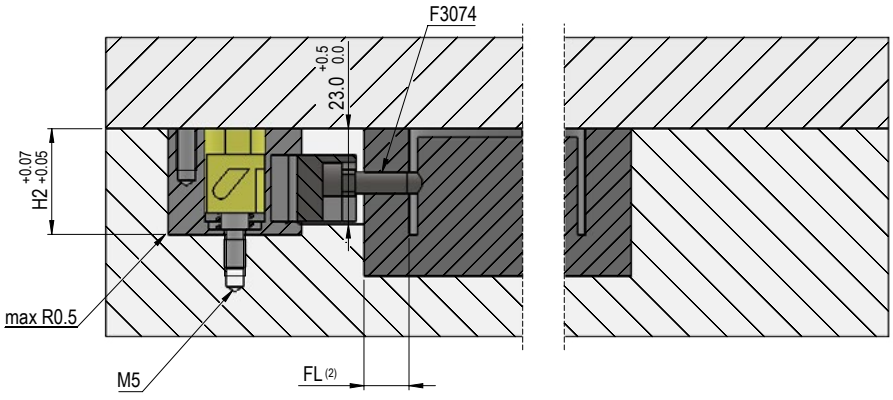


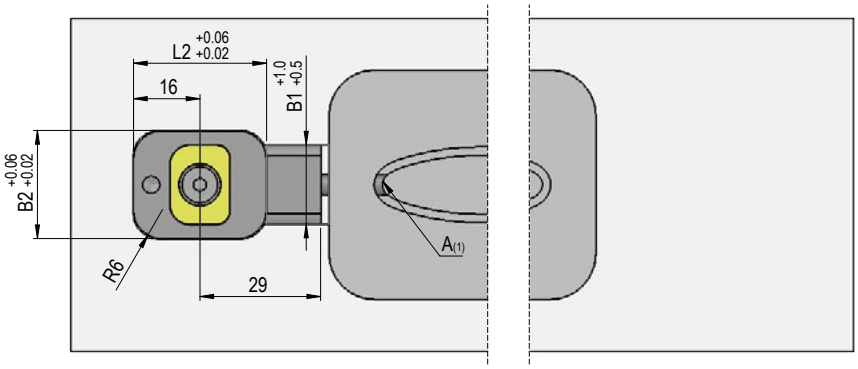
REF	Stroke	D1	L6	H6	B5	H5	B1	L1	H1	L5	B2	L2	H2	B3	L3
F307005-80	5,8	10,16	4,78	9,22	4,76	3,18	19	13	15,88	21,03	26	32	25,4	19,1	14,5

Note:

1. A: Stop position, 275 N max. load
2. FL: Guiding length min 1.5x core diameter
3. 2x return spring F30704 in the delivery



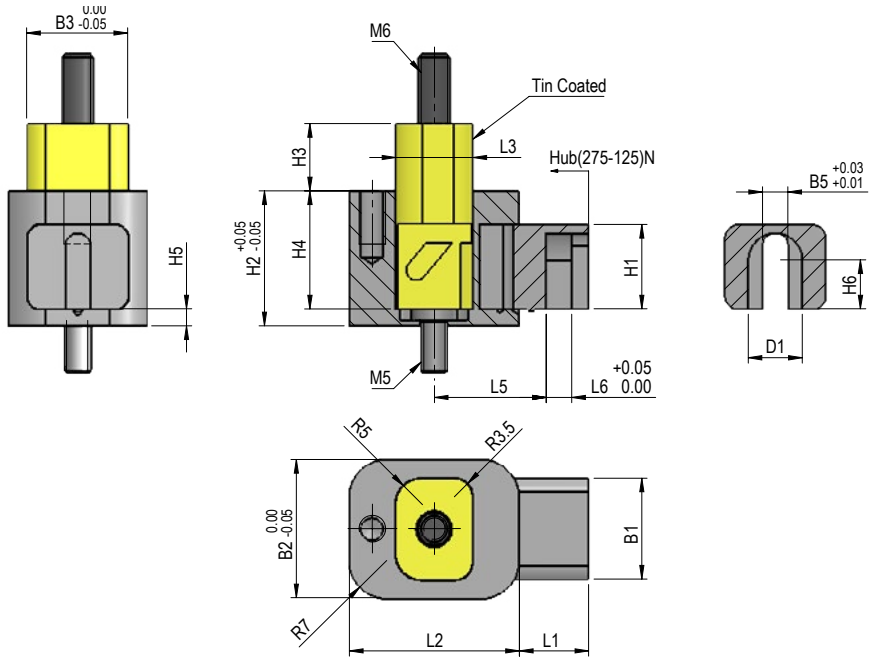


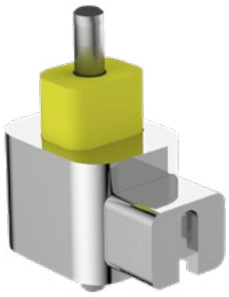


CAD reference point

SLIDING UNIT WITH PULL BACK F3072

Mat.: 1.7228, 1.2344

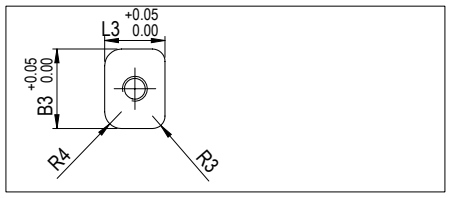


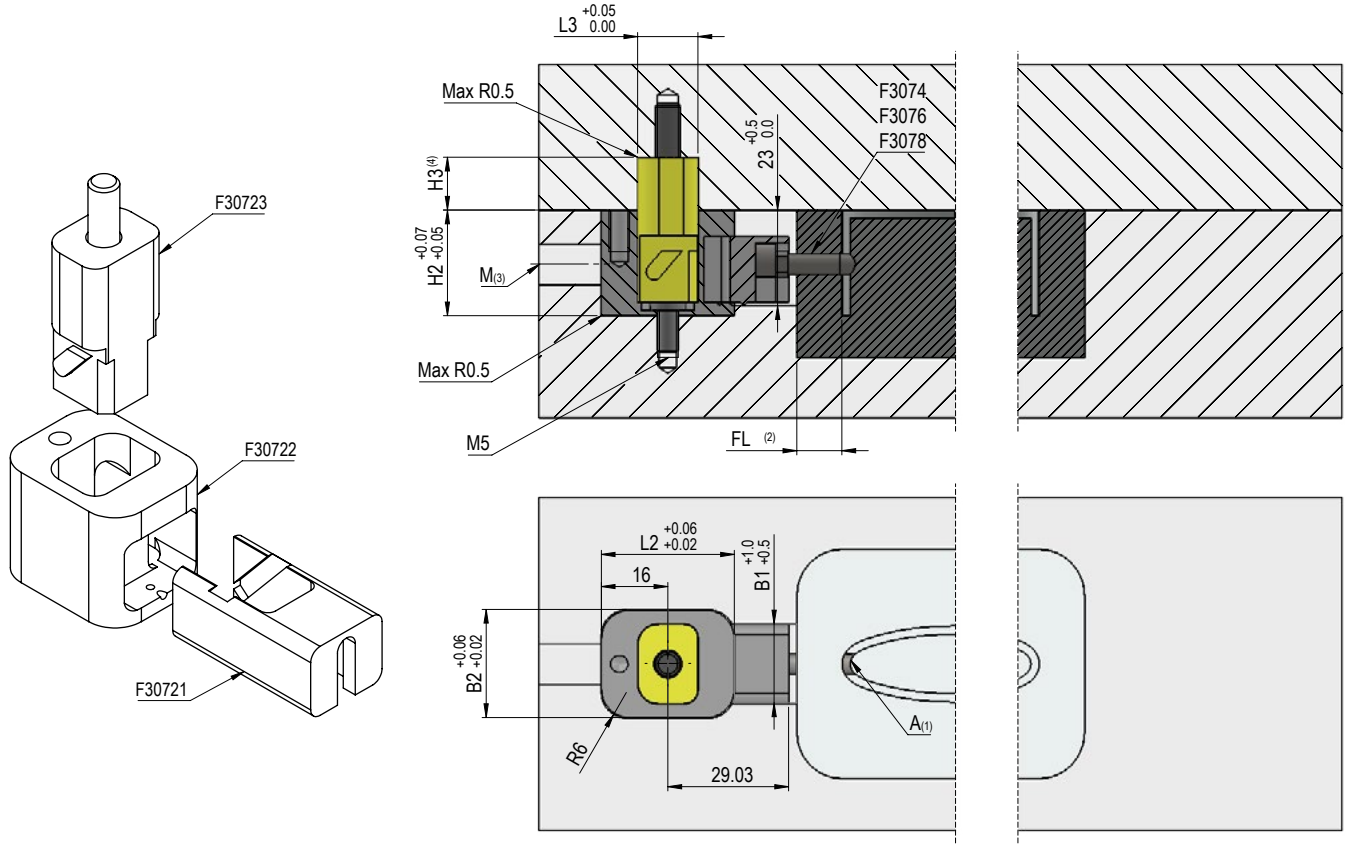


REF	Stroke	H3	D1	L6	H6	B5	H5	B1	L1	H1	L5	B2	L2	H2	B3	L3	H4
F307205-8012-70	5,8	12,7	10,16	4,78	9,22	4,76	3,175	19	13,02	15,88	21,03	26	32	25,4	19,1	14,5	22,23
F307205-8077-80	5,8	77,8	10,16	4,78	9,22	4,76	3,175	19	13,02	15,88	21,03	26	32	25,4	19,1	14,5	22,23

Note:

1. A: Stop position, 275 N max. load
2. FL: Guiding length min 1.5x core diameter
3. M: Fitting hole for core pins exceeding length 44
4. H3: Provide preload on core if necessary

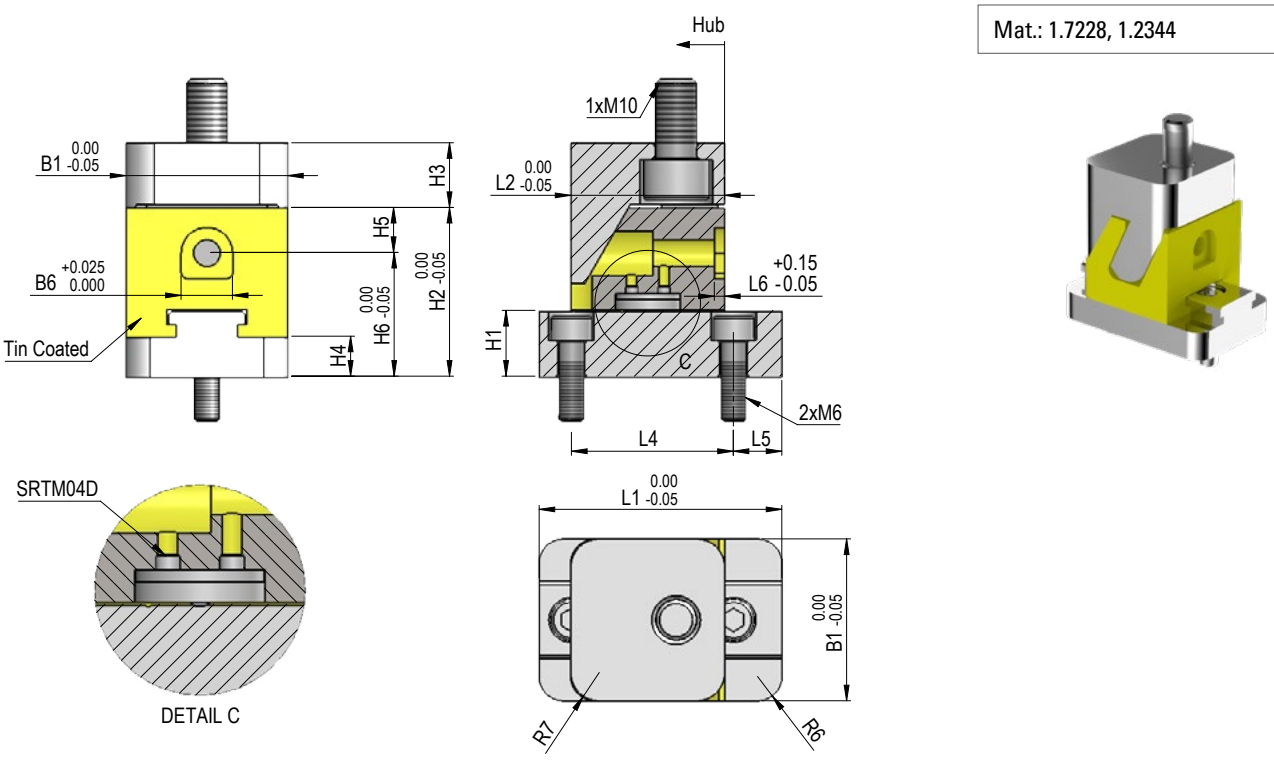




CAD reference point

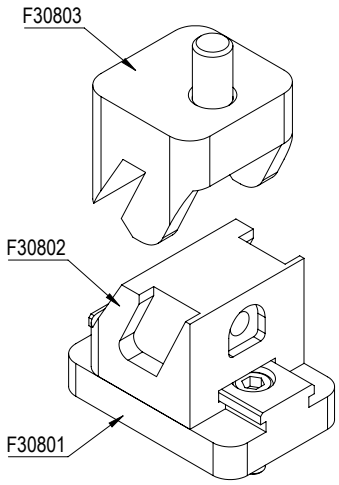
SLIDING UNIT WITH COTTER F3080

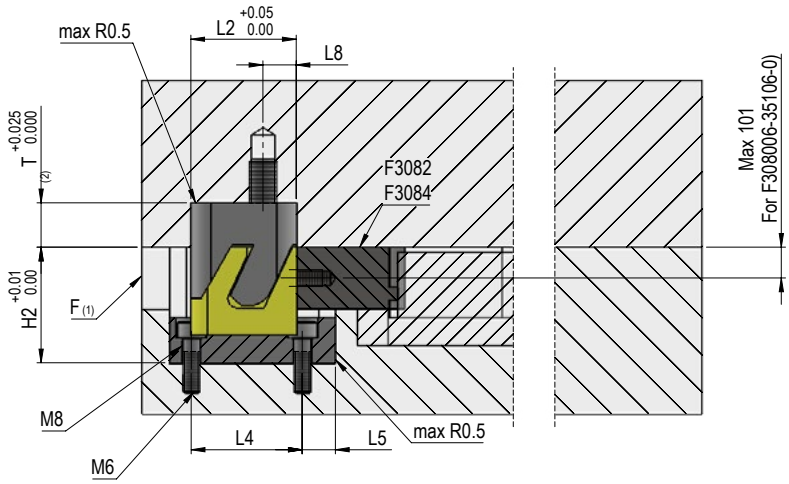
Mat.: 1.7228, 1.2344

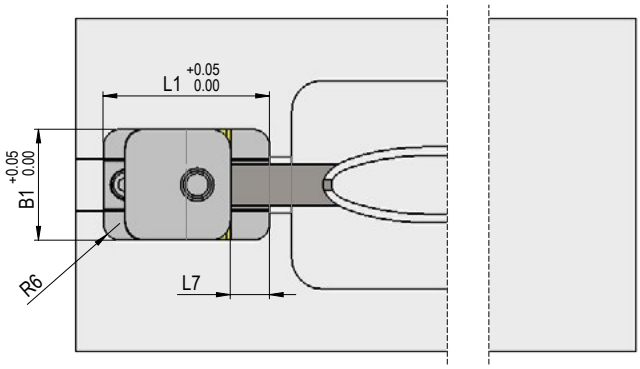


REF	Stroke	H3	L7	B6	L6	H6	L8	H5	L4	H1	L5	H4	L2	B1	L1	H2
F308006-35016-0	6,35	16	14,15	12,7	2,5	30,6	12	11,1	40	16,3	12	9,9	38	40	60	41,7
F308006-35106-0	6,35	106	14,15	12,7	2,5	30,6	12	11,1	40	16,3	12	9,9	38	40	60	41,7
F308018-00020-5	18	20,5	6	12,7	2,5	34,8	14	11,35	42	20,6	12	14,1	40	40	64	46,15

Note:
1. FL: If required provide clearance for assembly
2. T: If required provide Preload on the core

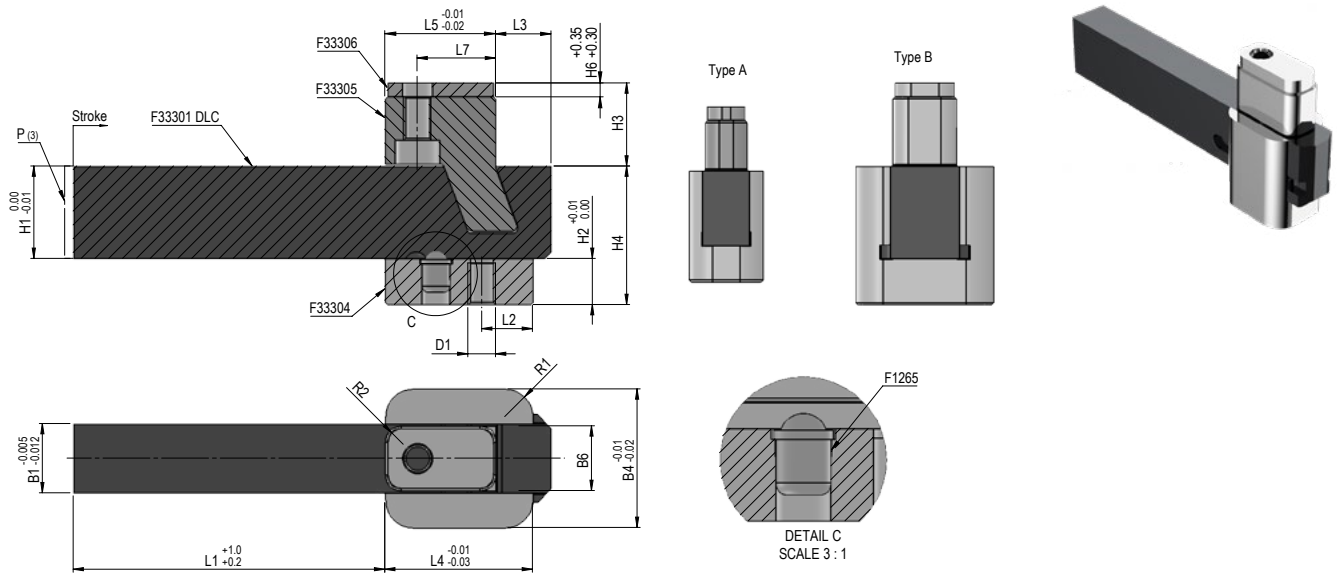






CAD reference point

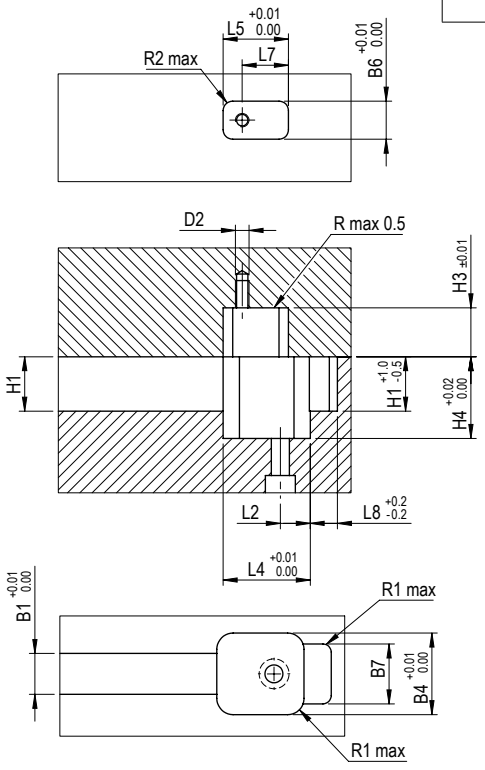
COMPACT NARROW SLIDE UNIT F3330



REF	Type	H1	B1	Stroke	B4	L4	R1	H2	H4	D1	L2	B6	L5	R2	L7	L1	H6(1)	L3	H3	D2	B7	L8(2)
F333016102-7	A	16	10	2,7	16	20	5	8	24	M6	5,5	9	20	3	15	60	3	5	14	M4	12	8,3
F333018113-4	B	18	11	3,4	25	25	6	10	28	M6	7,5	10	20	3,5	15	67,5	3	8,5	18	M4	18	7,6
F333020154-4	B	20	15	4,4	30	32	6	10	30	M6	11	14	24	3,5	17	67,5	3	12	18	M5	22	9
F333025185-4	B	25	18	5,4	36	40	6	13	38	M8	15	17	30	3,5	22	70	3	16	18	M6	25	11,8
F333028226-4	B	28	22	6,4	40	40	7	12	40	M8	10	21	30	4	23	80	3	13	18	M6	28	10,2

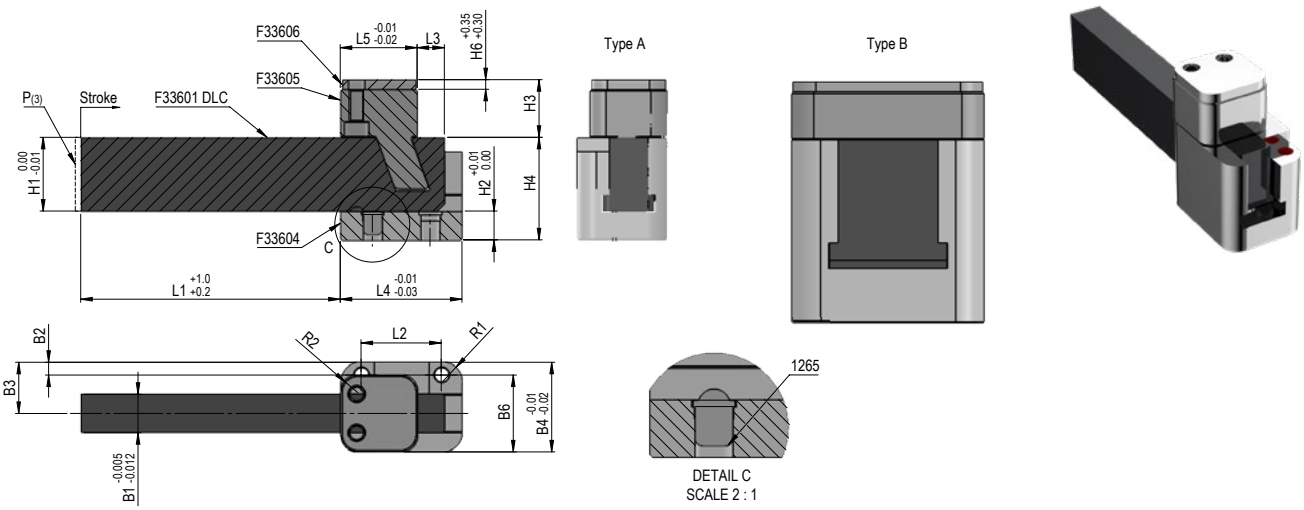
Note:
1. H6: With allowance for adjusting
2. L8: Stopper
3. P: Preload

Preload	
P(3)	H6
0,02	3,055
0,04	3,11
0,06	3,165



CAD reference point

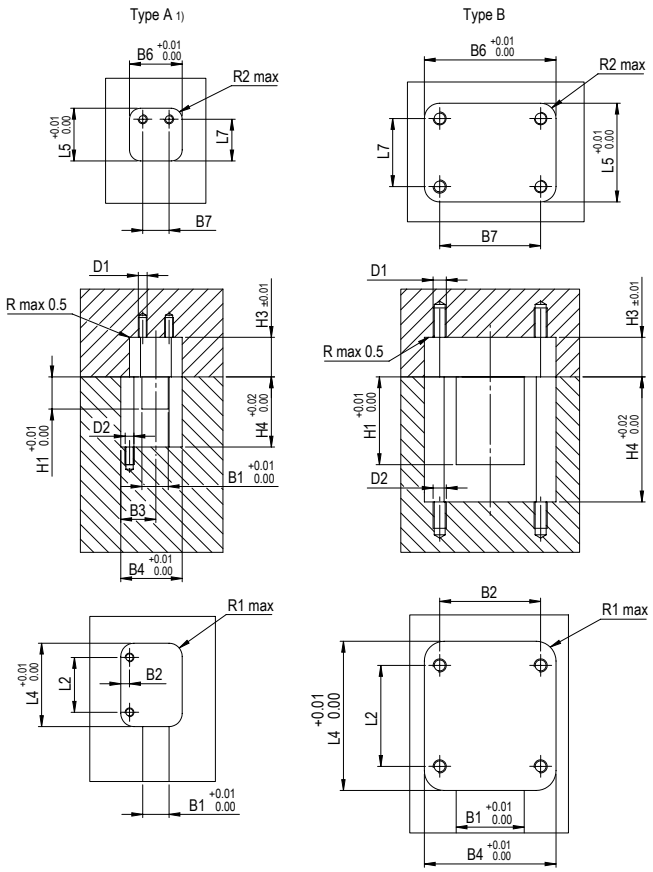
COMPACT SLIDE KIT F3360



REF	Type	H1	B1	Stroke	B4	L4	B3	R1	H2	B2	H4	L2	B6	L5	R2	L1	H6(2)	L3	H3	D1	D2	B7	L7
F3360231204_9	A	23	12	4,9	28	38	16	6	9	4	32	25	24	24	5	81	3	8,5	18	M4	M4	12	19
F3360302206_9	A	30	22	6,9	42	50	25	7	12	7	42	34	34	32	6	105	3	10,5	18	M4	M4	20	25
F3360403117_4	B	40	31	17,4	60	68	30	9	17	46	57	46	60	45	7	131	3	5	18	M6	M6	46	31

Note:
1. H6: With allowance for adjusting
2. L8: Stopper
3. P: Preload

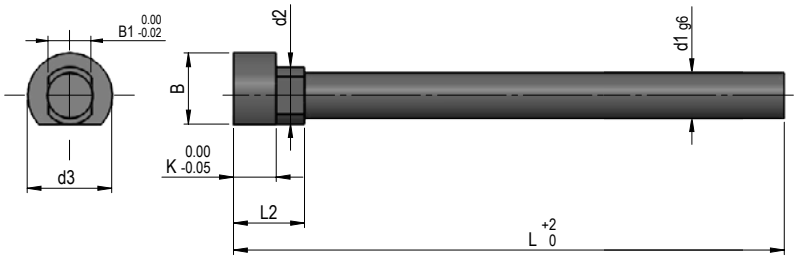
Preload	
P(3)	**H6**
0,02	3,055
0,04	3,11
0,06	3,165



CAD reference point

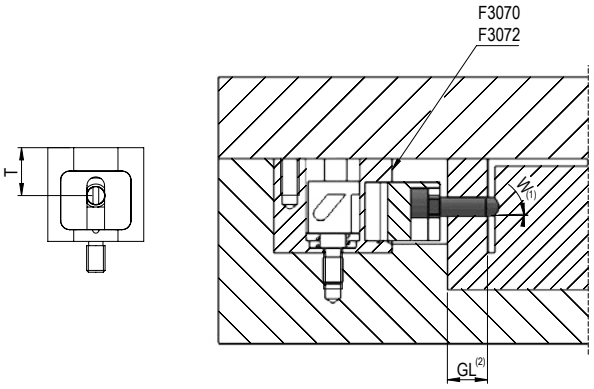
CORE PIN FOR F3070, F3072 — F3074

Mat.: 1.3343 ≈ 62 HRC



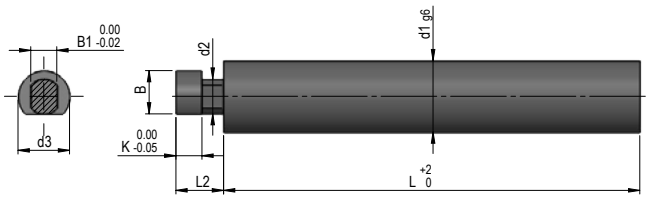
REF	d1	L	min. T	max. T	d3	K	B1	B	d2	L2
F307405076	5	76	12,7	19,05	9,4	4,75	4,76	7,9	6,3	7,9
F307410076	10	76	12,7	17,4	9,4	4,75	4,76	7,9	6,3	8,7

1) W: For use with F3070 min. 2°
2) GL: Guiding length min. 1.5 x core diameter



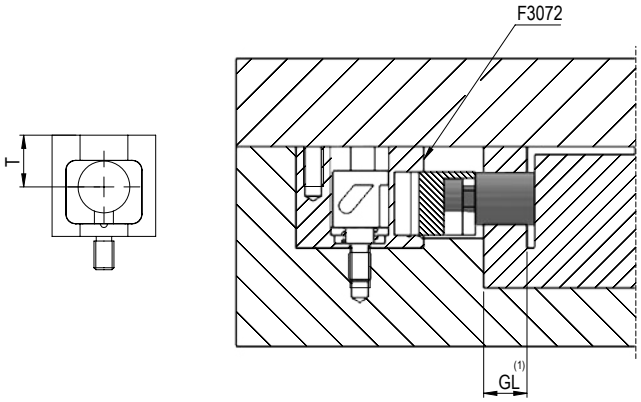
ROUND CORE FOR F3072 — F3076

Mat.: 1.3343 ≈ 62 HRC



REF	d1	L	Min. T	Max. T	d3	K	B1	B	d2	L2
F307613076	13	76	12,7	17,4	9,4	4,75	4,75	7,9	6,3	8,7

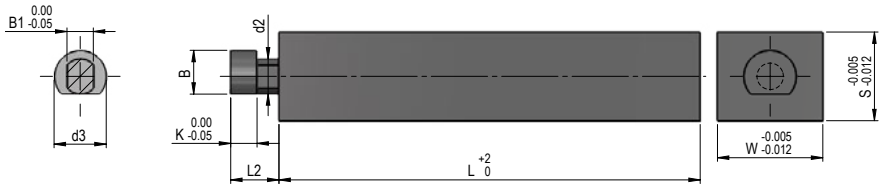
1) GL: Guiding length min. 1.5 x core diameter

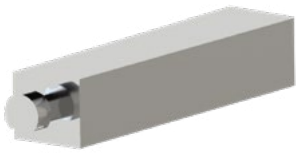


CAD reference point

RECTANGULAR CORE FOR F3072 — F3078

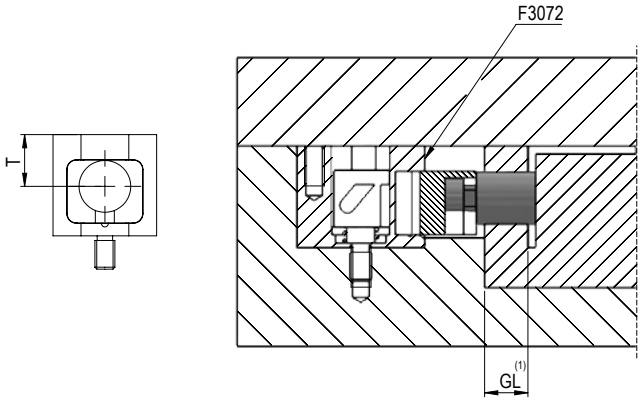
Mat.: 1.2343 ≈ 52 HRC





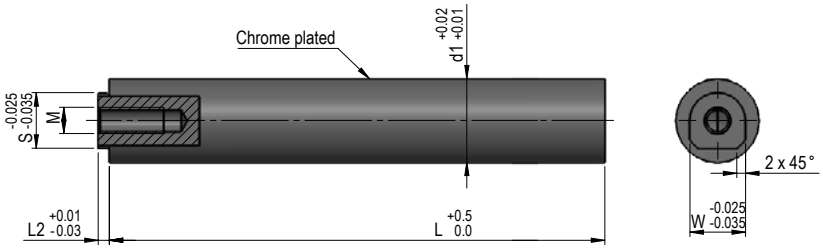
REF	W	S	L	min. T	max. T	d3	K	B1	B	d2	L2
F30781916076	19	16	76	12,7	17,4	9,4	4,75	4,75	7,9	6,3	8,7

1) GL: Guiding length min. 1.5 x b1



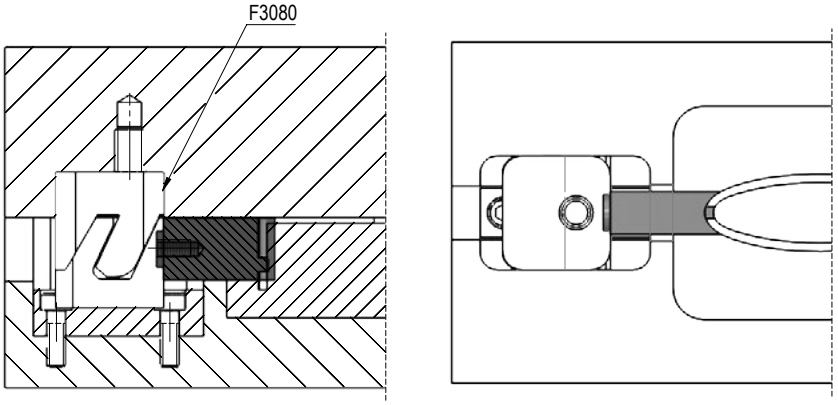
CORE PIN FOR F3080 — F3082

1.3343 » 60 HRC



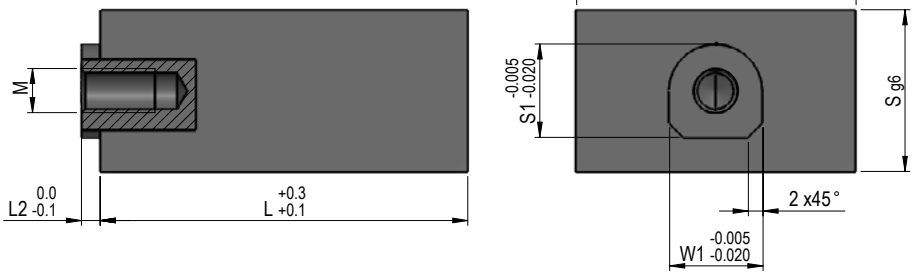
REF	d1	L	M	W	L2	S
F308219152	19	152	M 6	12,7	2,5	12,7

1) GL: Guiding length min. 1.5 x core diameter

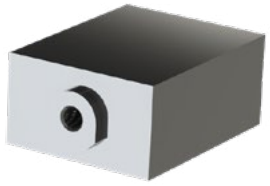


CAD reference point

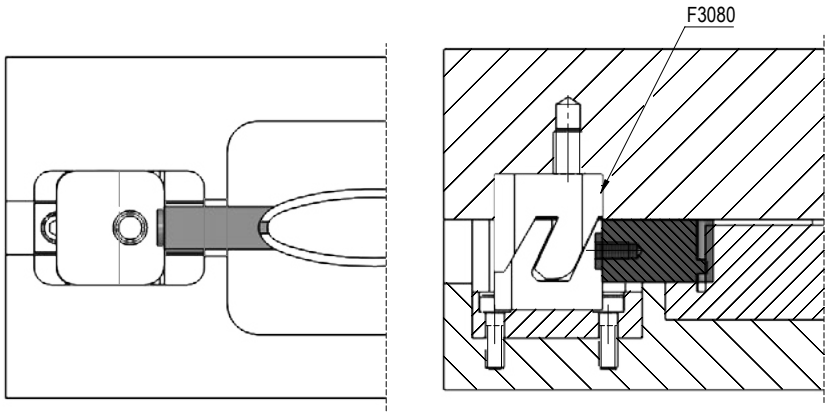
RECTANGULAR CORE FOR F3080 — F3084



1.2311 ≈ 1080 N/mm2
1.2343 ESU ≈ 53 HRC



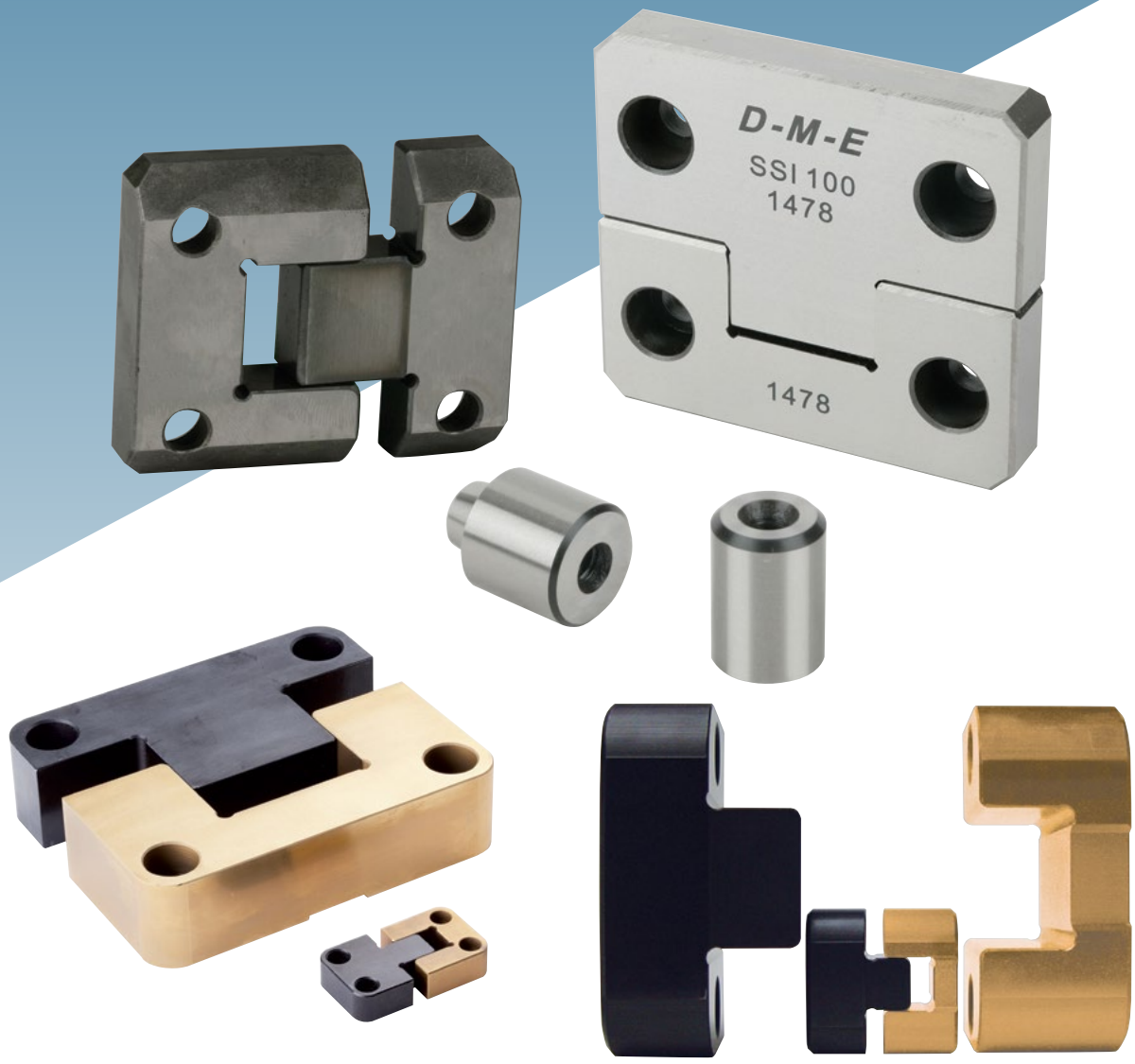
REF	W	S	L	Steel	M 6	W1	L2	S1
F308438221252311	38	22	12,5	1.2311	M6	12,7	2,5	12,7
F308438225002311	38	22	50	1.2311	M6	12,7	2,5	12,7
F308438221252343	38	22	12,5	1.2343 ESU	M6	12,7	2,5	12,7
F308438225002343	38	22	50	1.2343 ESU	M6	12,7	2,5	12,7



CAD reference point

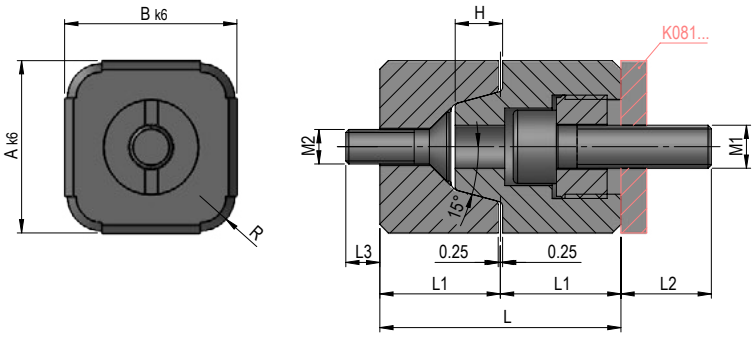
CAD reference point

CENTERING DEVICES

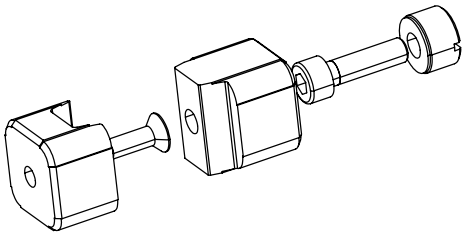


INTERLOCK SET, TRAPEZOIDAL — K060

Mat.: 1.2343 / 53 HRC

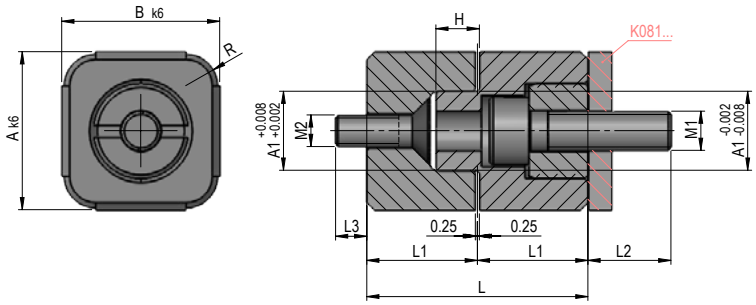


REF	A	B	R	H	L1	L3	L2	L	M2	M1
K0602020	20	20	4	5,5	14	4	10	28	M4	M5
K0602525	25	25	5	7,5	16	8	13	32	M5	M6
K0603232	32	32	6	9,5	18	12	15	36	M6	M8
K0604040	40	40	6	11,5	22,5	14	17	45	M8	M10

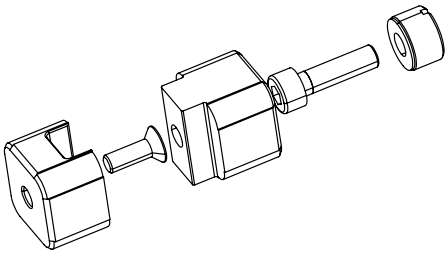


INTERLOCKS SET, STRAIGHT, DLC COATED — K082

Mat.: 1.2343 with DLC coating



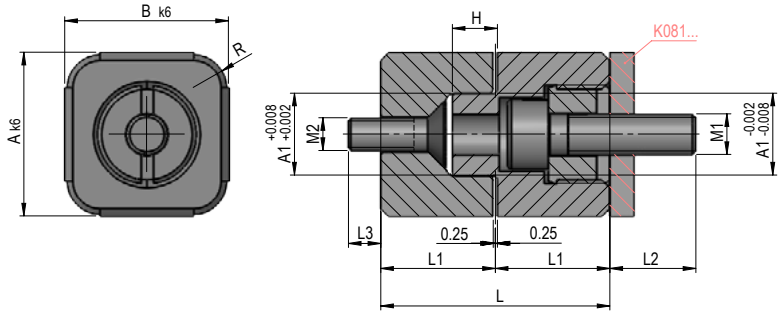
REF	A	B	R	H	L1	A1	L3	L2	L	M2	M1
K0821616	16	16	3	4,5	12	8	3	8	24	M3	M3
K0822020	20	20	4	5,5	14	10	4	10	28	M4	M5
K0822525	25	25	5	7,5	16	12	8	13	32	M5	M6
K0823232	32	32	6	9,5	18	16	12	15	36	M6	M8
K0824040	40	40	6	11,5	22,5	20	14	17	45	M8	M10



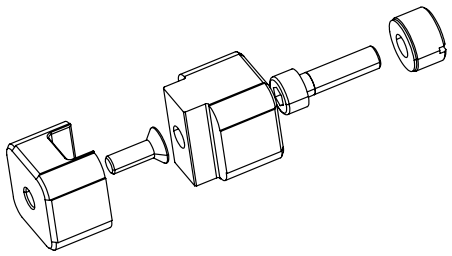
CAD reference point

INTERLOCK SET, STRAIGHT — K080

Mat.: 1.2343 / 53 HRC

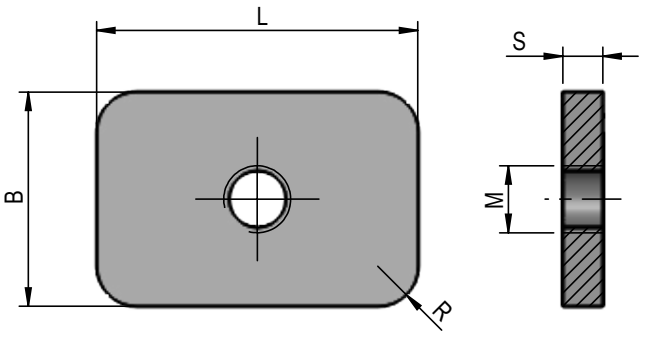


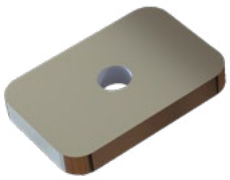
REF	A	B	R	H	L1	A1	L3	L2	L	M2	M1
K0801616	16	16	3	4,5	12	8	3	8	24	M3	M3
K0802020	20	20	4	5,5	14	10	4	10	28	M4	M5
K0802525	25	25	5	7,5	16	12	8	13	32	M5	M6
K0803232	32	32	6	9,5	18	16	12	15	36	M6	M8
K0804040	40	40	6	11,5	22,5	20	14	17	45	M8	M10



SPACER FOR INTERLOCKS — K081

Mat.: 1.2842 / 53 ± 1 HRC

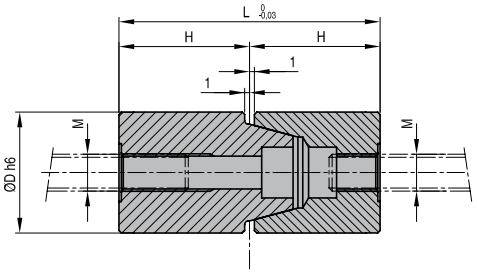




REF	B	L	S	R	M
K08116163-00	16	16	3,0	4	M4
K08116163-10	16	16	3,1	4	M4
K08116163-20	16	16	3,2	4	M4
K08120203-00	20	20	3,0	5	M6
K08120203-10	20	20	3,1	5	M6
K08120203-20	20	20	3,2	5	M6
K08125253-00	25	25	3,0	6	M8
K08125253-10	25	25	3,1	6	M8
K08125253-20	25	25	3,2	6	M8
K08132323-00	32	32	3,0	7	M10
K08132323-10	32	32	3,1	7	M10
K08132323-20	32	32	3,2	7	M10
K08140403-05	40	40	3,05	7	M12
K08140403-10	40	40	3,1	7	M12
K08140403-20	40	40	3,2	7	M12

CAD reference point

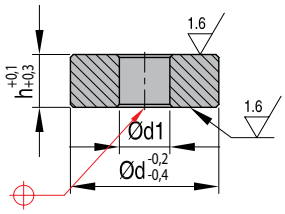
TAPERED INTERLOCKS - SET — FW40 N



Mat.: 1.7131 - 60 ±2 HRC

REF	D	H	L	M
FW401217N	12	17	34	M4
FW401417N	14	17	34	M5
FW401617N	16	17	34	M5
FW402027N	20	27	54	M8
FW402527N	25	27	54	M8
FW402627N	26	27	54	M8
FW403036N	30	36	72	M10
FW403236N	32	36	72	M10
FW404246N	42	46	92	M10

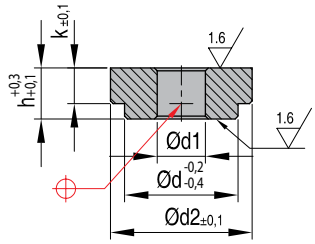
TAPERED INTERLOCKS - COMPENSATING DISC — FW41



Mat.: 1.7131 - 59 HRC

REF	d	d1	h
FW4112	12	4,5	5
FW4114	14	5,5	5
FW4116	16	5,5	5
FW4120	20	8,5	9
FW4125	25	8,5	9
FW4126	26	8,5	9
FW4130	30	11,0	10
FW4132	32	11,0	10
FW4142	42	11,0	10

TAPERED INTERLOCKS - COMPENSATING DISC — FW42

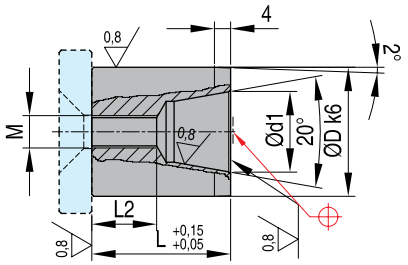


Mat.: 1.7131 - 59 HRC

REF	d	d1	d2	h	k
FW42012	12	5,5	16	5	3,2
FW42014	14	5,5	16	5	3,2
FW42016	16	5,5	25,5	9	6,3
FW42020	20	8,5	25,5	9	6,3
FW42025	25	8,5	31,5	9	6,3
FW42026	26	8,5	31,5	9	6,3
FW42030	30	11,0	35,5	10	6,3
FW42032	32	11,0	35,5	10	6,3
FW42042	42	11,0	47,5	10	6,3

CAD reference point

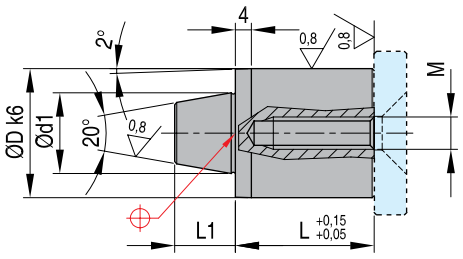
TAPERED INTERLOCKS **FT**



Mat.: 1.7131 - 58-62 HRC

REF	D	L	M	d1	L2
FT1215	12	15	M5	7	7
FT2021	20	21	M6	13	9
FT2031	20	31	M6	13	19
FT2521	25	21	M6	16	8
FT2531	25	31	M6	16	18
FT2541	25	41	M6	16	28
FT3230	32	30	M8	20	14
FT3250	32	50	M8	20	34
FT4230	42	30	M8	30	12
FT4250	42	50	M8	30	32

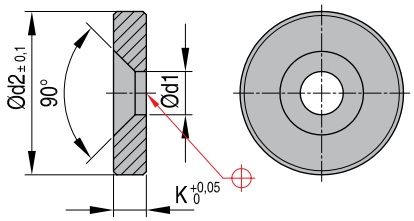
TAPERED INTERLOCKS **MT**



Mat.: 1.7131 - 58-62 HRC

REF	D	L	L1	M	d1
MT1215	12	15	7	M5	7
MT2021	20	21	11	M6	13
MT2031	20	31	11	M6	13
MT2521	25	21	12	M6	16
MT2531	25	31	12	M6	16
MT2541	25	41	12	M6	16
MT3230	32	30	15	M8	20
MT3250	32	50	15	M8	20
MT4230	42	30	17	M8	30
MT4250	42	50	17	M8	30

SHOULDER PLATES FOR TAPERED INTERLOCKS **AGS**



Mat.: 1.7131 - 58-62 HRC

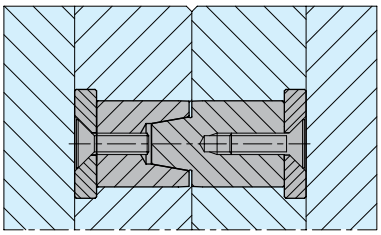
REF	d1	d2	K	for
AGS12	5,5	16	5	**FT 12 / MT 12**
AGS20	6,6	25	5	**FT 20 / MT 20**
AGS25	6,6	30	5	**FT 25 / MT 25**
AGS32	9,0	37	6	**FT 32 / MT 32**
AGS42	9,0	47	6	**FT 42 / MT 42**

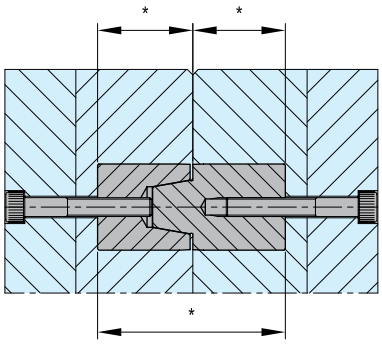
CAD reference point

SHOULDER PLATES FOR TAPERED INTERLOCKS FT

Mat.: 1.7131 - 58-62 HRC

TYPICAL APPLICATION



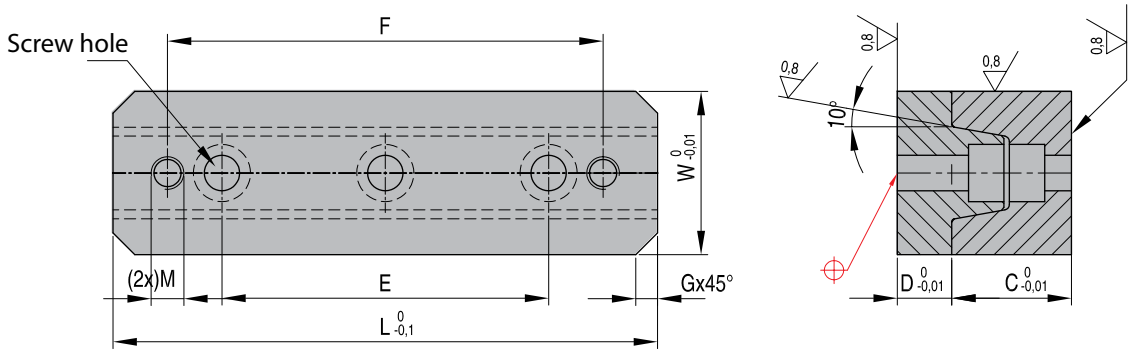


Measure actual height of assembled pair FT + MT and mill counterbore accordingly.

CAD reference point

TAPERED INTERLOCKS - SET RSI

Mat.: 1.7131 55-57 HRC



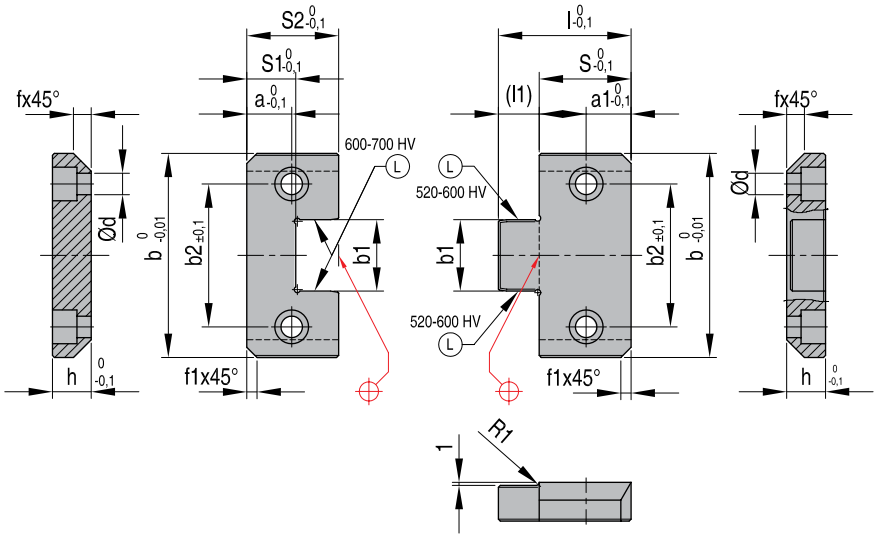
REF	E	L	W	D	C	G	M	F
RSI0050	-	50	25	8	17,5	5	M 5	38
RSI0100	60	100	30	10	22,0	5	M 6	85
RSI0150	100	150	40	13	25,0	5	M 8	134

CAD reference point

STRAIGHT INTERLOCKS - SET **FW45**

L = Lamcoated ® (Ws2)

Mat.: 1.7131

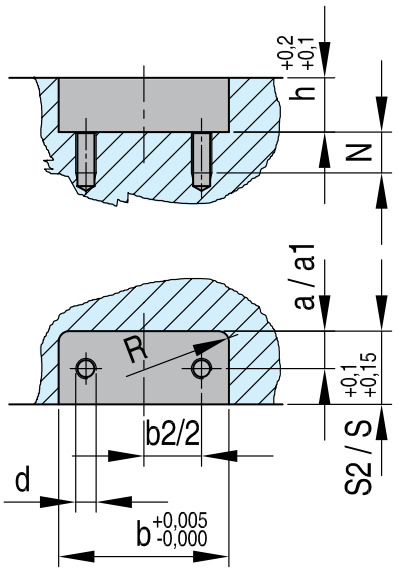


Mat. 1.7131 - 56-57 HRC

Mat. 1.7131 - 56-57 HRC

REF	b	b2/2	d	S2	S	N	a	h	a1	b1	b2	f	f1	l	l1	S1	≤R
FW45040	40	11,0	M5	27	17	12	6,0	10,0	8,5	14,0	22	6,5x45°	2,5x45°	31	14	12	6,5
FW45050	50	16,0	M6	36	17	15	8,5	12,5	8,5	20,0	32	6,5x45°	3x45°	35	18	17	6,5
FW45075	75	22,5	M10	46	22	20	11,0	20,0	11,0	31,5	45	11x45°	3x45°	45	23	22	11,0
FW45100	100	31,0	M12	56	27	25	13,5	25,0	13,5	40,0	62	13x45°	5x45°	55	28	27	13,0
FW45125	125	43,5	M12	66	36	25	18,0	31,5	18,0	50,0	87	13x45°	5x45°	65	29	36	13,0

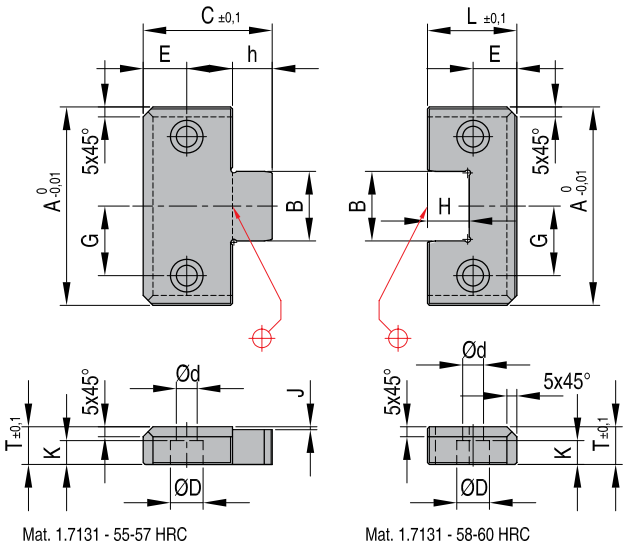
INSTALLATION



CAD reference point

STRAIGHT INTERLOCKS - SET SSI

Mat.: 1.7131

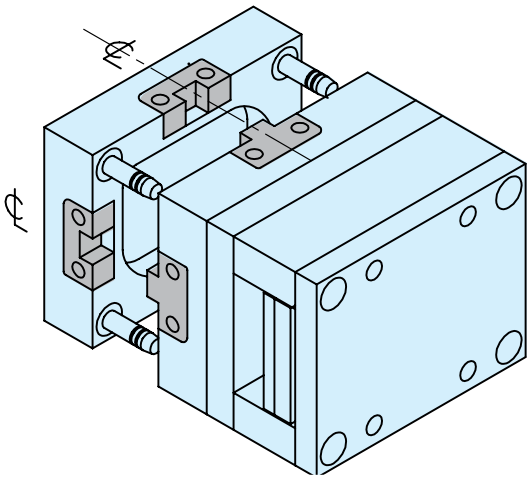


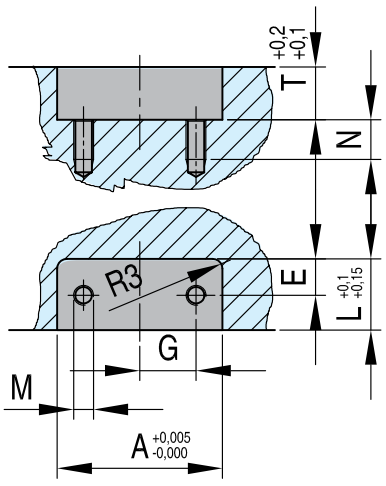
Mat. 1.7131 - 55-57 HRC

Mat. 1.7131 - 58-60 HRC

REF	A	G	E	M	L	T	N	B	C	d	D	h	H	J	K
SSI50	50	17	11	M6	21,5	16	15	17	30	6,5	10,5	8,5	9,5	1,5	8
SSI75	75	25	18	M10	36,0	19	20	25	50	10,5	16,5	14,0	15,0	1,5	12
SSI100	100	35	22	M10	45,0	19	20	35	65	10,5	16,5	20,0	21,0	1,5	12
SSI125	125	42	22	M10	45,0	25	20	45	65	10,5	16,5	20,0	21,0	1,5	12

INSTALLATION

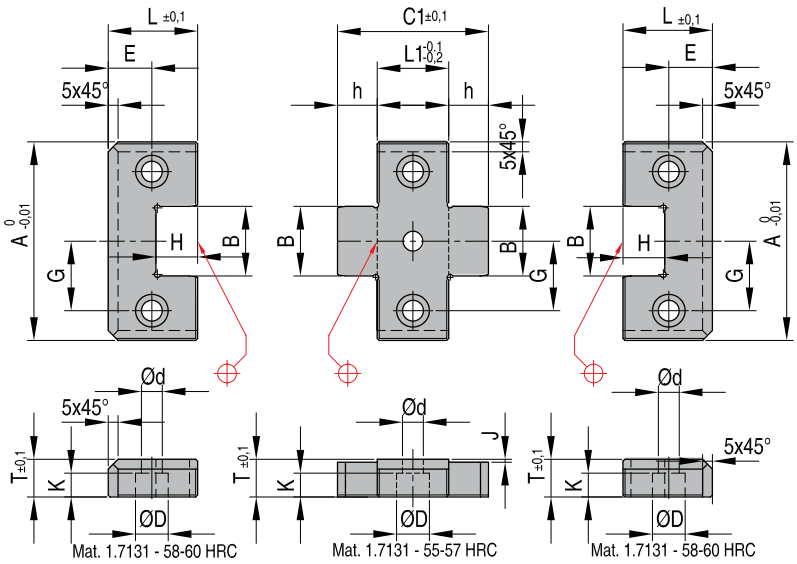




CAD reference point

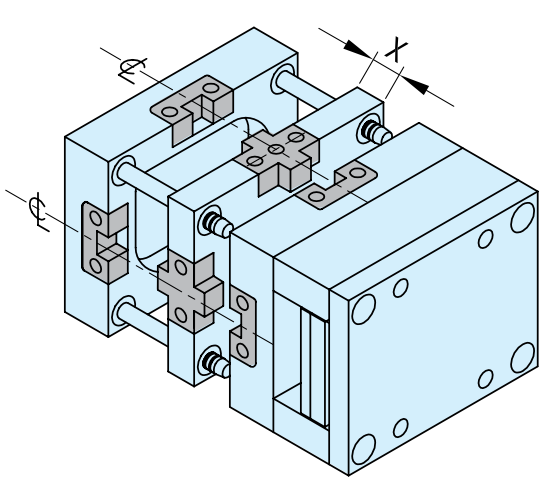
STRAIGHT INTERLOCKS - SET XSI

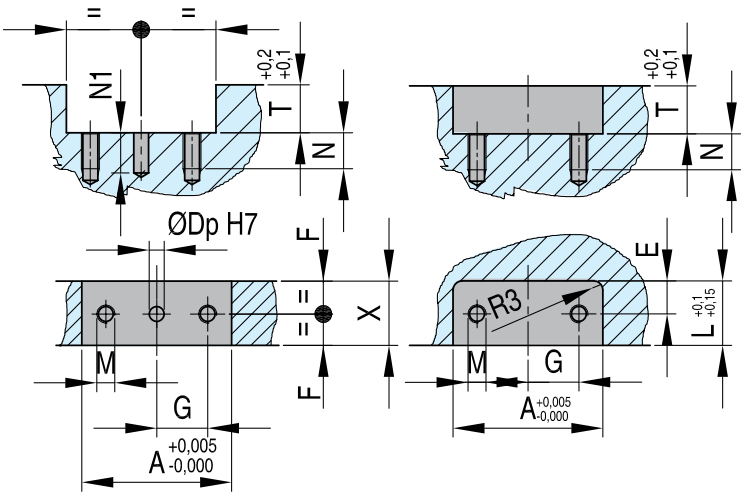
Mat.: 1.7131



REF	A	X	B	C1	D	d	E	F	G	h	H	J	K	L	L1	T	M	N		N1
XSI5026	50	26	17	43	10,5	6,5	11	13	17	8,5	9,5	1,5	8	21,5	26	16	M6	15	6	17
XSI5036	50	36	17	53	10,5	6,5	11	18	17	8,5	9,5	1,5	8	21,5	36	16	M6	15	6	17
XSI7526	75	26	25	54	16,5	10,5	18	13	25	14,0	15,0	1,5	12	36,0	26	19	M10	20	10	22
XSI7536	75	36	25	54	16,5	10,5	18	18	25	14,0	15,0	1,5	12	36,0	36	19	M10	20	10	22
XSI10036	100	36	35	76	16,5	10,5	22	18	35	20,0	21,0	1,5	12	45,0	36	19	M10	20	10	22
XSI10046	100	46	35	86	16,5	10,5	22	23	35	20,0	21,0	1,5	12	45,0	46	19	M10	20	10	22
XSI12536	125	36	45	76	16,5	10,5	22	18	42	20,0	21,0	1,5	12	45,0	36	25	M10	20	12	22
XSI12546	125	46	45	86	16,5	10,5	22	23	42	20,0	21,0	1,5	12	45,0	46	25	M10	20	12	22

INSTALLATION

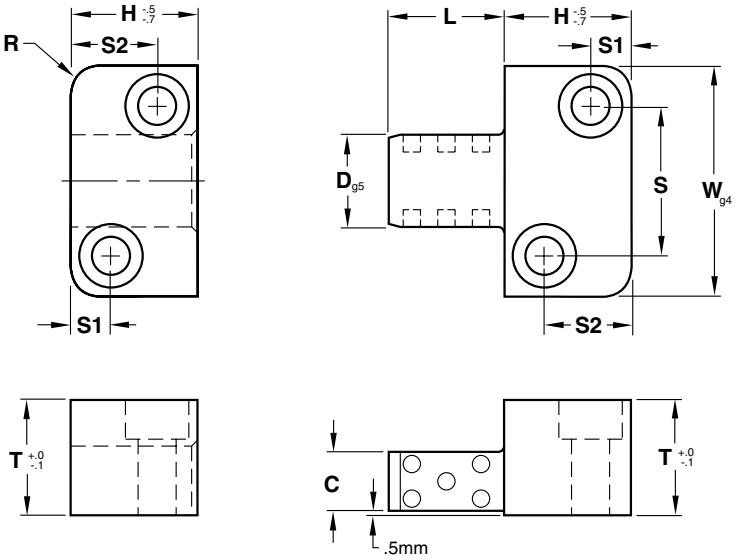




CAD reference point

GRAPHITE PLUGGED SIDE LOCKS — GPSL

Mat.: 56-60 HRC



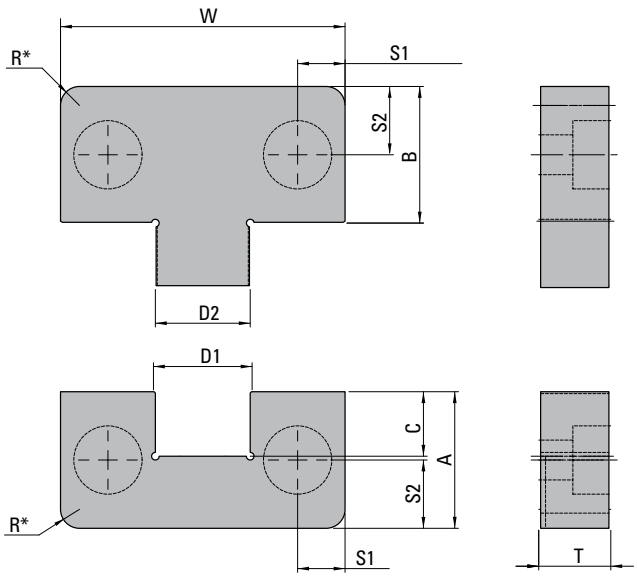
REF	L	D	T	W	C	H	S1	S2	S	R	Screw size
GPSL16x020	20	16	20	40	11	22	7	15	26	6	M6-1,0x25
GPSL16x040	40	16	20	40	11	22	7	15	26	6	
GPSL20x025	25	20	22	45	13	27	7	19	31	6	M6-1,0x25
GPSL20x050	50	20	22	45	13	27	7	19	31	6	
GPSL25x032	32	25	25	50	14	36	9	27	35	8	M6-1,0x30
GPSL25x063	63	25	25	50	14	36	9	27	35	8	
GPSL32x040	40	32	32	63	19	46	11	35	45	8	M8-1,25x35
GPSL32x080	80	32	32	63	19	46	11	35	45	8	
GPSL40x050	50	40	36	85	22	56	15	40	60	10	M10-1,5x40
GPSL40x100	100	40	36	85	22	56	15	40	60	10	
GPSL50x056	56	50	40	100	24	66	18	48	74	10	M12-1,75x45
GPSL50x112	112	50	40	100	24	66	18	48	74	10	M12-1,75x45

Screws included

Using grease will inhibit the function of the graphite plugs. Instead, use a light 20 weight oil at startup to begin lubrication.

CAD reference point

BLACK & GOLD SIDE INTERLOCKS **BGS**

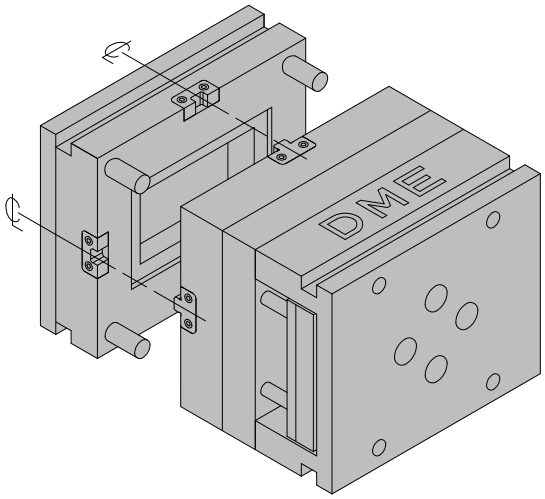


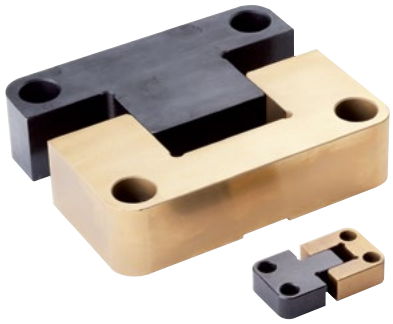
Female Interlock – Mat.:
D2 Steel Heat Treat: Core Hardened to 57-61 HRC
Surface Treatment: TiN – Titanium Nitride Coated
Male Interlock – Mat.:
AISI H-13 Steel Heat Treat: 40-44 HRC
Surface Treatment: Melonite (SBN)

Thanks to precision manufacturing and precision tolerancing, every **DME** mould interlock component can be replaced independently, eliminating the need to swap out an entire set.

DME Side Interlocks provide:
Accurate alignment of mould halves
Easy installation
Industry-compatible sizes

Installation
Install four (4) Side Interlocks per mould (one per side)
Install Side Interlocks on the Center Line of each side of the mould



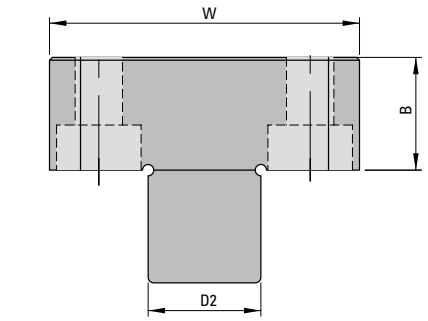


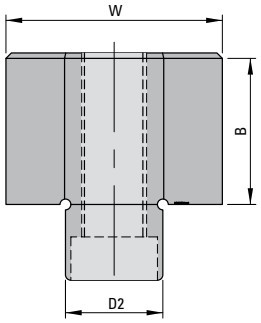
NOTE: To order an individual Male interlock, add the suffix “M” to the REF. To order an individual Female interlock, add the suffix “F” to the REF

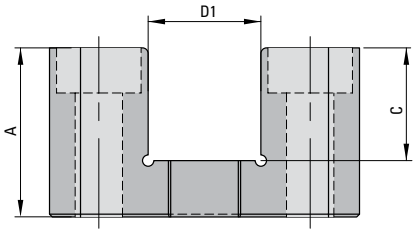
REF	T +0,00 -0,05	W +0,00 -0,01	A +0,00 -0,05	B +0,00 -0,05	C +0,50 +0,20	D1 +0,005 +0,002	D2 -0,005 -0,002	R Pocket Radius +0/-0,5	S1 ±0,2	S2 ±0,2	SHCS
BGS05016	16	50	21,5	21,5	12	17	17	5	8,0	11	M6-1,0x20LG
BGS07519	19	75	36,0	36,0	17	25	25	5	12,5	18	M10-1,5x25LG
BGS10019	19	100	45,0	45,0	23	35	35	5	15,0	22	M10-1,5x25LG
BGS12525	25	125	45,0	45,0	23	35	35	5	20,5	22	M10-1,5x30LG

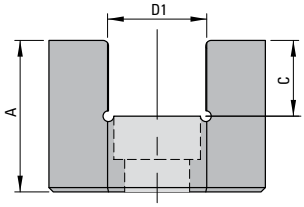
CAD reference point

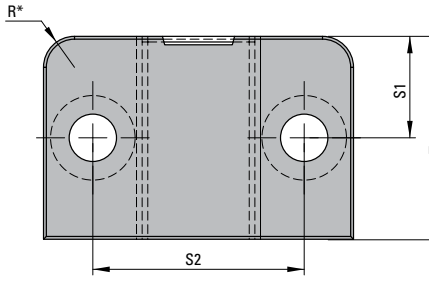
BLACK & GOLD TOP INTERLOCKS **BGT**

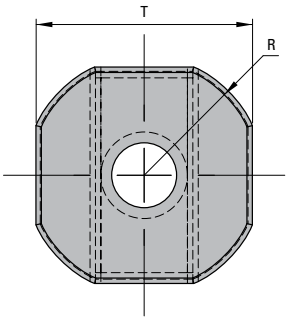


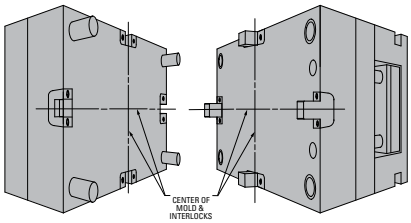












Female Interlock – Mat.:
D2 Steel Heat Treat: Core Hardened to 57-61 HRC
Surface Treatment: TiN – Titanium Nitride Coated
Male Interlock – Mat.:
AISI H-13 Steel Heat Treat: 40-44 HRC
Surface Treatment: Melonite (SBN)

Installation
Install four (4) top Interlocks per mould (one per side)
Install top Interlocks on the Center Line of each side of the mould

* Part radius "R" is 1.00mm larger than recommended pocket radius.

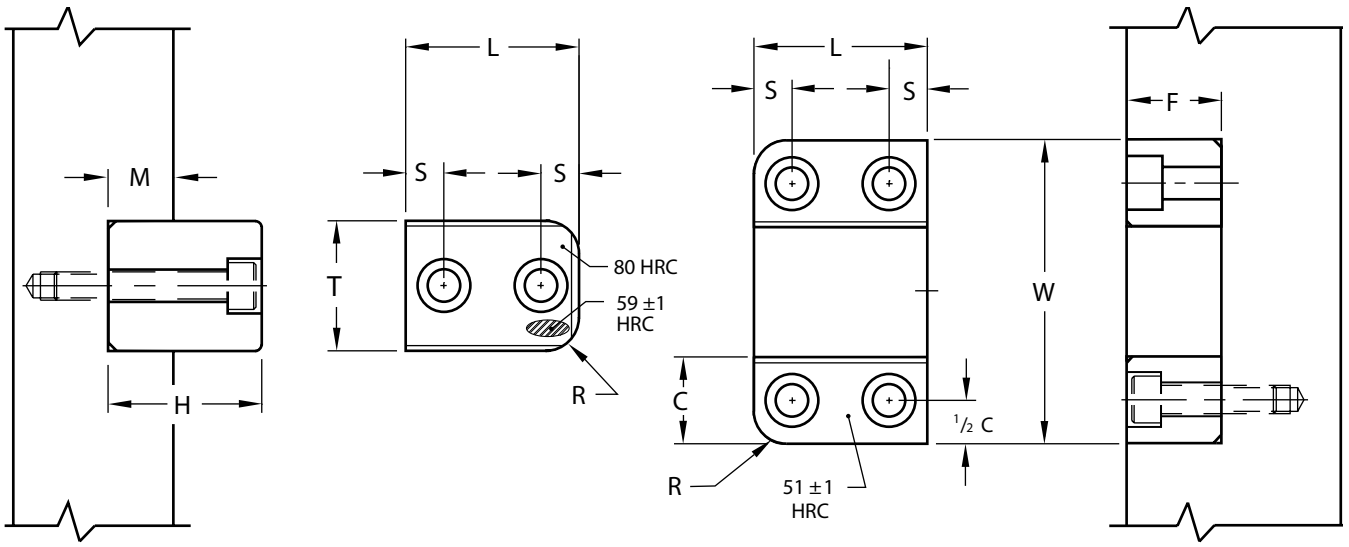
REF	T +0,00 -0,05	W +0,00 -0,01	A +0,00 -0,05	B +0,00 -0,05	C +0,50 +0,20	D1 +0,005 +0,002	D2 -0,005 -0,002	R Pocket Radius +0/-0,5	S1 ±02	S2 ±0,2	SHCS (F)	SHCS (M)
BGT02020	20	20	14	14	7	9	9	5	-	-	M4x12LG	M4x25LG
BGT03526	26	35	25	15	16	11	11	8	13	23,0	M5x30LG	M5x20LG
BGT04530	30	45	25	15	16	15	15	8	15	30,0	M6x30LG	M6x18LG
BGT05536	36	55	30	20	20	20	20	8	18	37,5	M8x35LG	M8x25LG
BGT07536	36	75	35	20	26	30	30	8	18	52,0	M10x40LG	M10x25LG
BGT10045	45	100	60	20	41	40	40	8	22,5	70,0	M10x65LG	M10x25LG

Using grease will inhibit the function NOTE: To order an individual Male interlock, add the suffix "M" to the REF. To order an individual Female interlock, add the suffix "F" to the REF of the graphite plugs. Instead, use a light 20 weight oil at startup to begin lubrication.

CAD reference point

GUIDE LOCKS BGGL

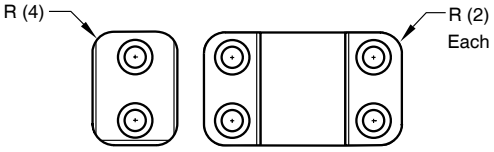
Female Interlock – Mat.:
O-2, 50-52 HRC - Black Oxide
Male Interlock – Mat.:
A-2, Core: 58-60 HRC, Surface: 80 HRC
Surface Treatment: Titanium Nitride Coated



REF	L +0,00 -0,25	W	C +0,00 -0,01	F +0,00 -0,12	T +0,00 -0,01	M	H -0,0 -0,2	S ±0,2	R Pocket Radius	SHCS (F)	SHCS (M)
BGGL25x45	25	45	15	15	15	10	24	7	4	M4x14	M4x25
BGGL40x65	40	65	20	20	25	15	34	10	9	M5x22	M5x35
BGGL50x90	50	90	25	25	40	20	44	10	9	M6x30	M6x45
BGGL65x160	65	160	55	30	50	25	54	15	14	M8x35	M8x60

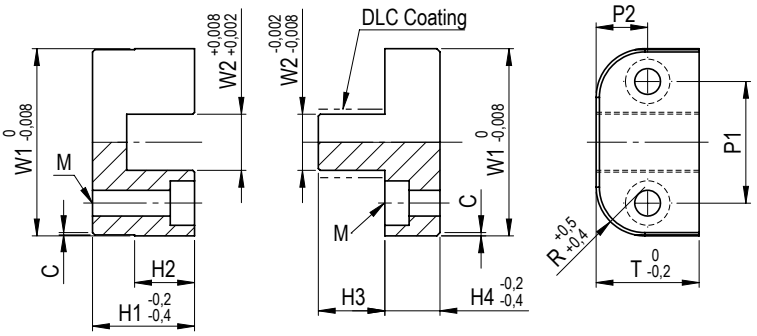
Screws included

Additional option:
Guide Locks are also available with dual radii for mounting internally as shown at the left. To order, specify the REF followed by "-R".
Ex. BGGL65X160-R.



CAD reference point

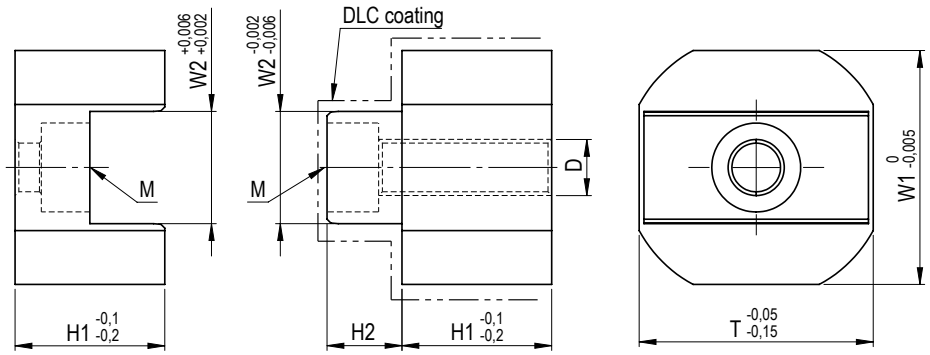
FLAT LOCATING UNIT F1304



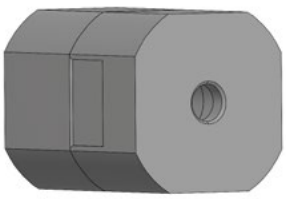
Mat.: 1.2162 (60 ±2 HRC)
DLC Coated

REF	T	W1	W2	H1	H2	H3	H4	P1	P2	C	R	M
F1304034018	18	34	10	18	11	12	10	22	9	0,7	8	M4
F1304040022	22	40	12	22	13	14	12	26	11	0,7	10	M5
F1304050030	30	50	18	30	17	18	15	34	15	1,2	10	M6
F1304064040	40	64	22	40	23	24	18	42	20	1,2	10	M8
F1304072052	52	72	26	46	27	28	20	48	26	1,2	10	M8
F1304096056	56	96	36	57	31	36	22	66	28	1,2	10	M10

FINE CENTERING UNIT F1306



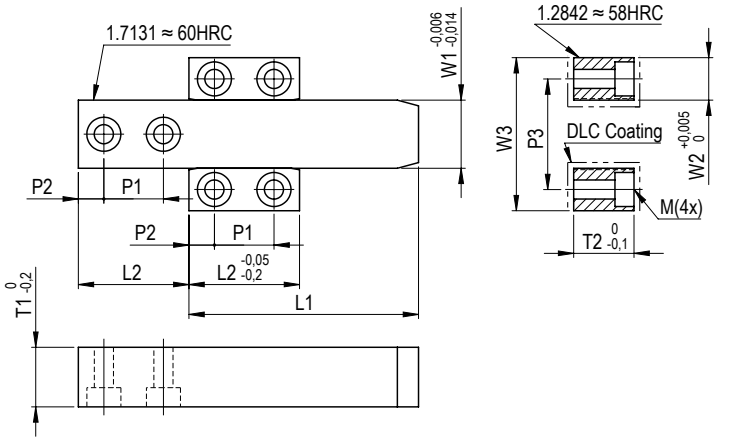
Mat.: 1.2162 (60 ±2 HRC)
DLC Coated



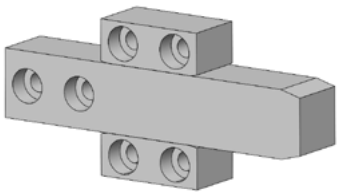
REF	T	W1	W2	H1	H2	D	R max	M
F1306016016	16	16	8	12	6	M4	3,25	M3
F1306020020	20	20	10	14	7	M5	4,5	M4
F1306025025	25	25	12	16	8	M6	5,5	M5
F1306032032	32	32	16	20	10	M8	7,2	M6
F1306040040	40	40	20	23	12	M8	8,2	M6
F1304096056	56	96	36	57	31	36	22	66

CAD reference point

FLAT GUIDING UNIT WITH FINAL CENTERING - HORIZONTAL F1320



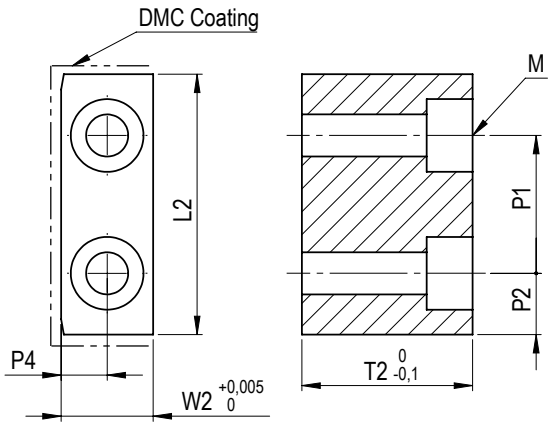
Mat.: 1.7131 (60 ±2 HRC)
1.2842 (58 ±2 HRC)
DLC Coated



REF	W1	W2	W3	L1	L2	T1	T2	P1	P2	P3	M
F1320016010044	16	10	36	44	26	14	14,2	14	6	26	M4
F1320016010054	16	10	36	54	26	14	14,2	14	6	26	M4
F1320016010064	16	10	36	64	26	14	14,2	14	6	26	M4
F1320025012054	25	12	49	54	34	22	22,3	18	8	37	M5
F1320025012074	25	12	49	74	34	22	22,3	18	8	37	M5
F1320025012094	25	12	49	94	34	22	22,3	18	8	37	M5
F1320032016054	32	16	64	54	44	30	30,4	28	8	48	M6
F1320032016094	32	16	64	94	44	30	30,4	28	8	48	M6
F1320032016134	32	16	64	134	44	30	30,4	28	8	48	M6
F1320032016174	32	16	64	174	44	30	30,4	28	8	48	M6
F1320034016054	34	16	66	54	44	30	30,4	28	8	50	M6
F1320034016094	34	16	66	94	44	30	30,4	28	8	50	M6
F1320034016134	34	16	66	134	44	30	30,4	28	8	50	M6
F1320034016174	34	16	66	174	44	30	30,4	28	8	50	M6
F1320044020074	44	20	84	74	62	38	38,7	38	12	64	M8
F1320044020114	44	20	84	114	62	38	38,7	38	12	64	M8
F1320044020154	44	20	84	154	62	38	38,7	38	12	64	M8
F1320044020194	44	20	84	194	62	38	38,7	38	12	64	M8
F1320046020074	46	20	86	74	62	38	38,7	38	12	66	M8
F1320046020114	46	20	86	114	62	38	38,7	38	12	66	M8
F1320046020154	46	20	86	154	62	38	38,7	38	12	66	M8
F1320046020194	46	20	86	194	62	38	38,7	38	12	66	M8
F1320058025094	58	25	108	94	80	50	51,1	48	16	83	M10
F1320058025134	58	25	108	134	80	50	51,1	48	16	83	M10
F1320058025174	58	25	108	174	80	50	51,1	48	16	83	M10
F1320058025214	58	25	108	214	80	50	51,1	48	16	83	M10
F1320058025254	58	25	108	254	80	50	51,1	48	16	83	M10
F1320060025094	60	25	110	94	80	50	51,1	48	16	85	M10
F1320060025134	60	25	110	134	80	50	51,1	48	16	85	M10
F1320060025174	60	25	110	174	80	50	51,1	48	16	85	M10
F1320060025214	60	25	110	214	80	50	51,1	48	16	85	M10
F1320060025254	60	25	110	254	80	50	51,1	48	16	85	M10
F1320078032114	78	32	142	114	98	70	71,5	58	20	110	M12
F1320078032154	78	32	142	154	98	70	71,5	58	20	110	M12
F1320078032194	78	32	142	194	98	70	71,5	58	20	110	M12
F1320078032234	78	32	142	234	98	70	71,5	58	20	110	M12
F1320078032274	78	32	142	274	98	70	71,5	58	20	110	M12
F1320078032314	78	32	142	314	98	70	71,5	58	20	110	M12
F1320080033114	80	33	144	114	98	70	71,5	58	20	112	M12
F1320080033154	81	34	144	154	98	70	71,5	58	20	112	M12
F1320080033194	82	35	144	194	98	70	71,5	58	20	112	M12
F1320080033234	83	36	144	234	98	70	71,5	58	20	112	M12
F1320080033274	84	37	144	274	98	70	71,5	58	20	112	M12
F1320080033314	85	38	144	314	98	70	71,5	58	20	112	M12

CAD reference point

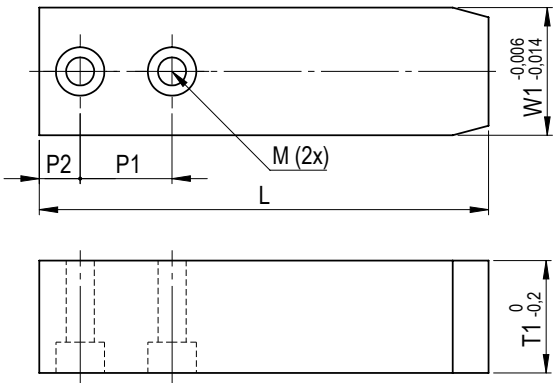
GLIDING PLATE FOR FLAT GUIDING UNIT - HORIZONTAL F1321



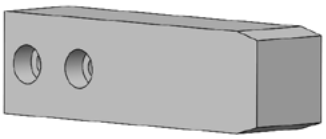
Mat.: 1.2842 (58 ±2 HRC)
DLC Coated

REF	L2	W2	T2	P1	P2	P4	M
F1321026010	26	10	14,2	14	6	5	M4
F1321034012	34	12	22,3	18	8	6	M5
F1321044016	44	16	30,4	28	8	8	M6
F1321062020	62	20	38,7	38	12	10	M8
F1321080025	80	25	51,1	48	16	12,5	M10
F1321098032	98	32	71,5	58	20	16	M12

FLAT GUIDING STOCK F1323



Mat.: 1.7131 (60 ±2 HRC)



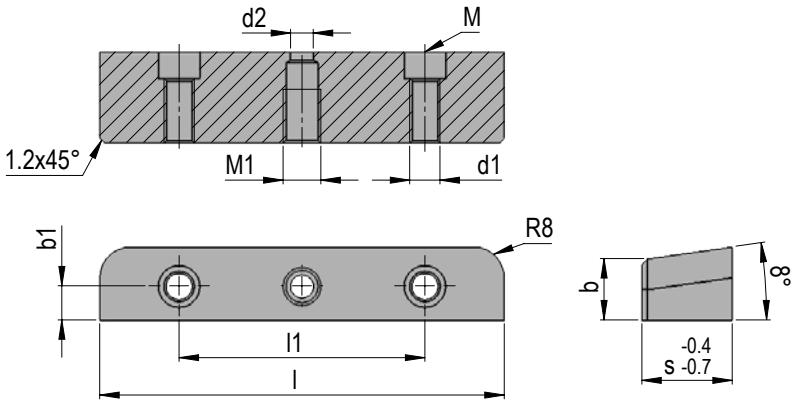
REF	W1	T1	L	P1	P2	M
F1323016070	16	14	70	14	6	M4
F1323016080	16	14	80	14	6	M4
F1323016090	16	14	90	14	6	M4
F1323025088	25	22	88	18	8	M5
F1323025108	25	22	108	18	8	M5
F1323025128	25	22	128	18	8	M5
F1323032098	32	30	98	28	8	M6
F1323032138	32	30	138	28	8	M6
F1323032178	32	30	178	28	8	M6
F1323032218	32	30	218	28	8	M6
F1323034098	34	30	98	28	8	M6
F1323034138	34	30	138	28	8	M6
F1323034178	34	30	178	28	8	M6
F1323034218	34	30	218	28	8	M6
F1323044136	44	38	136	38	12	M8
F1323044176	44	38	176	38	12	M8
F1323044216	44	38	216	38	12	M8
F1323044256	44	38	256	38	12	M8
F1323046136	46	38	136	38	12	M8
F1323046176	46	38	176	38	12	M8
F1323046216	46	38	216	38	12	M8
F1323046256	46	38	256	38	12	M8

REF	W1	T1	L	P1	P2	M
F1323058174	58	50	174	48	16	M10
F1323058214	58	50	214	48	16	M10
F1323058254	58	50	254	48	16	M10
F1323058294	58	50	294	48	16	M10
F1323058334	58	50	334	48	16	M10
F1323060174	60	50	174	48	16	M10
F1323060214	60	50	214	48	16	M10
F1323060254	60	50	254	48	16	M10
F1323060294	60	50	294	48	16	M10
F1323060334	60	50	334	48	16	M10
F1323078212	78	70	212	58	20	M12
F1323078252	78	70	252	58	20	M12
F1323078292	78	70	292	58	20	M12
F1323078332	78	70	332	58	20	M12
F1323078372	78	70	372	58	20	M12
F1323078412	78	70	412	58	20	M12
F1323080212	80	70	212	58	20	M12
F1323080252	80	70	252	58	20	M12
F1323080292	80	70	292	58	20	M12
F1323080332	80	70	332	58	20	M12
F1323080372	80	70	372	58	20	M12
F1323080412	80	70	412	58	20	M12

CAD reference point

WEDGES

POSITIONING WEDGE F2670

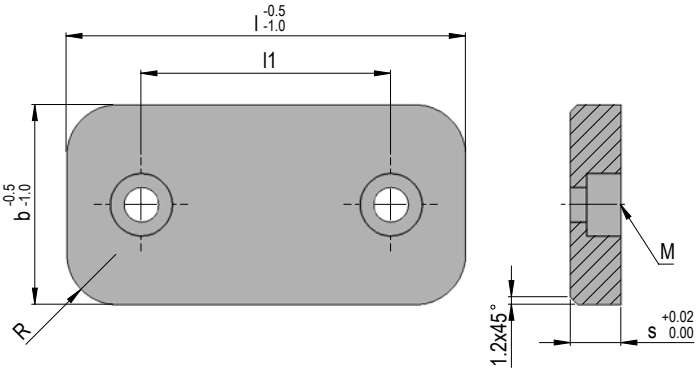


Mat.: 1.2842 ≈ 58 HRC

REF	l	l1	b	b1	s	d1	M	M1
F26701305920	59	36	13	7,5	20	M8	M6	M8
F26701305924	59	36	13	7,5	24	M8	M6	M8
F26701305930	59	36	13	7,5	30	M8	M6	M8
F26701308320	83	50	13	7,5	20	M8	M6	M8
F26701308324	83	50	13	7,5	24	M8	M6	M8
F26701308330	83	50	13	7,5	30	M8	M6	M8
F26701311320	113	68	13	7,5	20	M8	M6	M8
F26701311324	113	68	13	7,5	24	M8	M6	M8
F26701311330	113	68	13	7,5	30	M8	M6	M8
F26701607724	77	46	16	9,0	24	M8	M6	M10
F26701607730	77	46	16	9,0	30	M8	M6	M10
F26701607738	77	46	16	9,0	38	M8	M6	M10
F26701610724	107	65	16	9,0	24	M8	M6	M10
F26701610730	107	65	16	9,0	30	M8	M6	M10
F26701610738	107	65	16	9,0	38	M8	M6	M10
F26701613724	137	84	16	9,0	24	M8	M6	M10
F26701613730	137	84	16	9,0	30	M8	M6	M10
F26701613738	137	84	16	9,0	38	M8	M6	M10
F26701910130	101	62	19	10,5	30	M10	M8	M10
F26701910138	101	62	19	10,5	38	M10	M8	M10
F26701910145	101	62	19	10,5	45	M10	M8	M10
F26701913130	131	80	19	10,5	30	M10	M8	M10
F26701913138	131	80	19	10,5	38	M10	M8	M10
F26701913145	131	80	19	10,5	45	M10	M8	M10
F26701916130	161	98	19	10,5	30	M10	M8	M10
F26701916138	161	98	19	10,5	38	M10	M8	M10
F26701916145	161	98	19	10,5	45	M10	M8	M10

CAD reference point

RECTANGULAR SHIM F2680



Mat.: 1.2842 ≈ 58 HRC

REF	l	l1	b	s	R	M
F268002003208	32	16	20	8,1	8	M5
F268002003210	32	16	20	10,1	8	M5
F268002003212	32	16	20	12,1	8	M5
F268002004008	40	24	20	8,1	8	M5
F268002004010	40	24	20	10,1	8	M5
F268002004012	40	24	20	12,1	8	M5
F268002006408	64	40	20	8,1	8	M5
F268002006410	64	40	20	10,1	8	M5
F268002006412	64	40	20	12,1	8	M5
F268002503208	32	16	25	8,1	8	M5
F268002503210	32	16	25	10,1	8	M5
F268002503212	32	16	25	12,1	8	M5
F268002504008	40	24	25	8,1	8	M5
F268002504010	40	24	25	10,1	8	M5
F268002504012	40	24	25	12,1	8	M5
F268002506408	64	40	25	8,1	8	M5
F268002506410	64	40	25	10,1	8	M5
F268002506412	64	40	25	12,1	8	M5
F268003204008	40	24	32	8,1	8	M5
F268003204010	40	24	32	10,1	8	M6
F268003204012	40	24	32	12,1	8	M6
F268003206408	64	40	32	8,1	8	M5
F268003206410	64	40	32	10,1	8	M6
F268003206412	64	40	32	12,1	8	M6
F268003208008	80	52	32	8,1	8	M5
F268003208010	80	52	32	10,1	8	M6
F268003208012	80	52	32	12,1	8	M6
F268003210008	100	64	32	8,1	8	M5
F268003210010	100	64	32	10,1	8	M6
F268003210012	100	64	32	12,1	8	M6
F268004005008	50	32	40	8,1	8	M5
F268004005010	50	32	40	10,1	8	M6
F268004005012	50	32	40	12,1	8	M6
F268004008008	80	52	40	8,1	8	M5
F268004008010	80	52	40	10,1	8	M6
F268004008012	80	52	40	12,1	8	M6
F268004010008	100	64	40	8,1	8	M5
F268004010010	100	64	40	10,1	8	M6
F268004010012	100	64	40	12,1	8	M6
F268004012508	125	80	40	8,1	8	M5

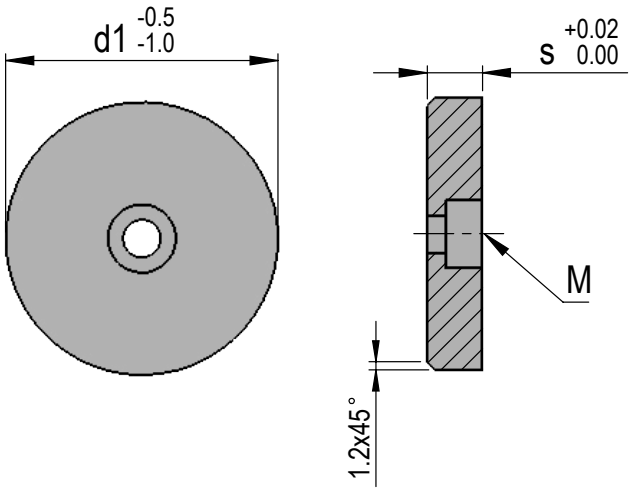
REF	l	l1	b	s	R	M
F268004012510	125	80	40	10,1	8	M6
F268004012512	125	80	40	12,1	8	M6
F268005006408	64	40	50	8,1	8	M5
F268005006410	64	40	50	10,1	8	M6
F268005006412	64	40	50	12,1	8	M6
F268005010008	100	64	50	8,1	8	M5
F268005010010	100	64	50	10,1	8	M6
F268005010012	100	64	50	12,1	8	M6
F268005012508	125	80	50	8,1	8	M5
F268005012510	125	80	50	10,1	8	M6
F268005012512	125	80	50	12,1	8	M6
F268005016008	160	100	50	8,1	8	M5
F268005016010	160	100	50	10,1	8	M6
F268005016012	160	100	50	12,1	8	M6
F268006408008	80	52	64	8,1	8	M5
F268006408010	80	52	64	10,1	8	M6
F268006408012	80	52	64	12,1	8	M6
F268006410008	100	64	64	8,1	8	M5
F268006410010	100	64	64	10,1	8	M6
F268006410012	100	64	64	12,1	8	M6
F268006412508	125	80	64	8,1	8	M5
F268006412510	125	80	64	10,1	8	M6
F268006412512	125	80	64	12,1	8	M6
F268006416008	160	100	64	8,1	8	M5
F268006416010	160	100	64	10,1	8	M6
F268006416012	160	100	64	12,1	8	M6
F268008008010	80	52	80	10,1	8	M6
F268008008012	80	52	80	12,1	8	M8
F268008010010	100	64	80	10,1	8	M6
F268008010012	100	64	80	12,1	8	M8
F268008012510	125	80	80	10,1	8	M6
F268008012512	125	80	80	12,1	8	M8
F268008016010	160	100	80	10,1	8	M6
F268008016012	160	100	80	12,1	8	M8
F268010010012	100	64	100	12,1	8	M8
F268010012512	125	80	100	12,1	8	M8
F268010016012	160	100	100	12,1	8	M8
F268010020012	200	130	100	12,1	8	M8
F268012512512	125	80	125	12,1	8	M8
F268012516012	160	100	125	12,1	8	M8

CAD reference point

SHIMS

ROUND SHIM F2682

Mat.: 1.2842 ≈ 58 HRC

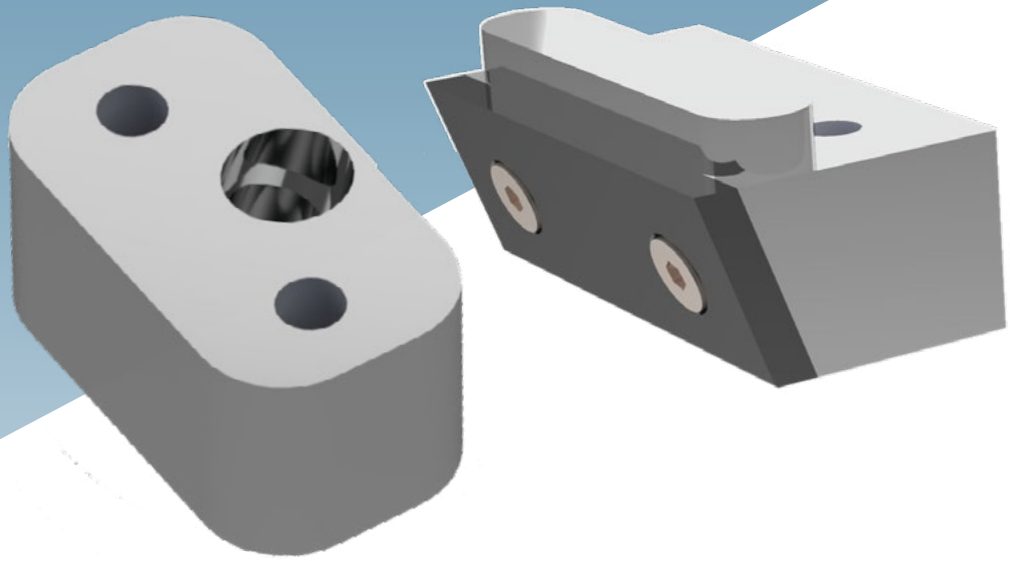


REF	d1	s	M
F26822008	20	8,1	M4
F26822010	20	10,1	M4
F26822012	20	12,1	M4
F26822508	25	8,1	M5
F26822510	25	10,1	M5
F26822512	25	12,1	M5
F26823208	32	8,1	M5
F26823210	32	10,1	M6
F26823212	32	12,1	M6
F26824008	40	8,1	M5
F26824010	40	10,1	M6

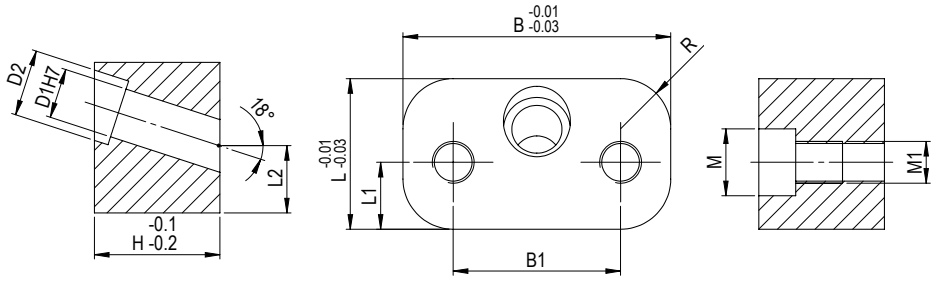
REF	d1	s	M
F26824012	40	12,1	M6
F26825008	50	8,1	M5
F26825010	50	10,1	M6
F26825012	50	12,1	M6
F26826408	64	8,1	M5
F26826410	64	10,1	M6
F26826412	64	12,1	M6
F26820810	80	10,1	M6
F26820812	80	12,1	M8

CAD reference point

RETAINERS

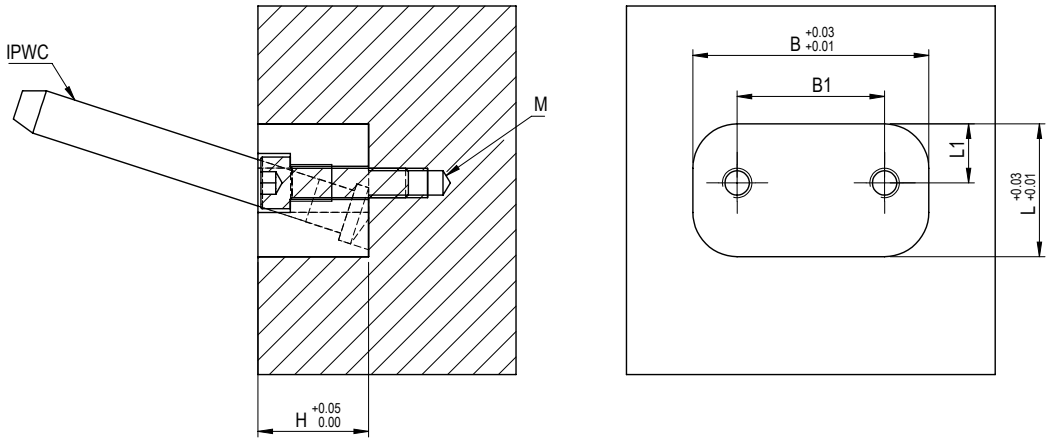


RETAINER FOR INCLINED PIN F3060



Mat.: 1.2312
≈ 1080 N/mm²

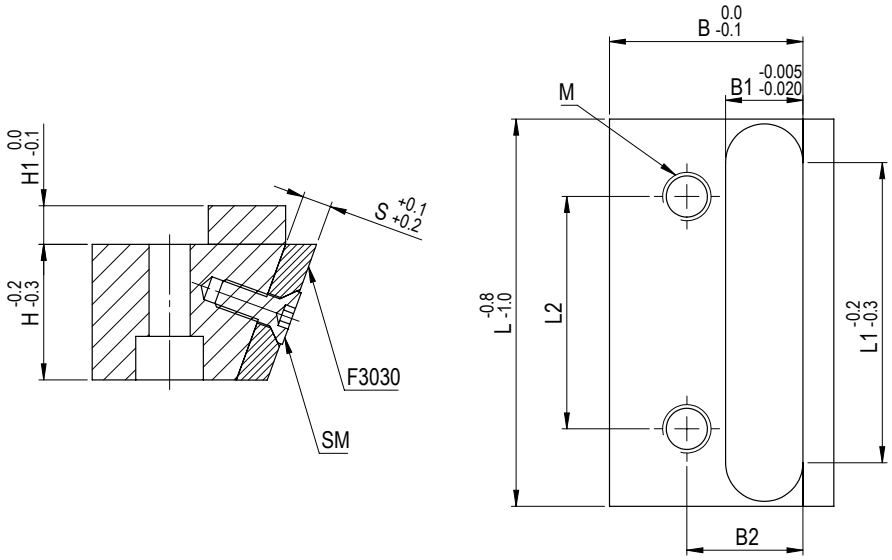
REF	D1	D2	L	L1	L2	B	B1	H	M	M1	R
F30600618	6	8	18	8	8	32	20	12	M4	M5	6
F30600822	8	10	22	9	9	36	22	14	M5	M6	8
F30601018	10	12	18	8	6,8	40	24	18	M6	M8	8
F30601026	10	12	26	8,5	10	40	24	18	M6	M8	10
F30601223	12	15	23	10	8,5	40	26	24	M6	M8	10
F30601230	12	15	30	10	11	40	26	24	M6	M8	10
F30601426	14	17	26	10	9,45	44	28	28	M6	M8	10
F30601434	14	17	34	12	12	44	28	28	M6	M8	10
F30601630	16	19	30	12	11	52	34	32	M8	M10	12
F30601638	16	19	38	14	13	52	34	32	M8	M10	12
F30601833	18	21	33	12	12	54	36	36	M8	M10	12
F30601842	18	21	42	16	15	54	36	36	M8	M10	12
F30602036	20	23	36	12	13	56	38	40	M8	M10	12
F30602046	20	23	46	18	17	56	38	40	M8	M10	12
F30602240	22	25	40	12	14,8	62	42	44	M8	M10	12
F30602250	22	25	50	20	19	62	42	44	M8	M10	12
F30602442	24	27	42	12	15,3	66	44	46	M10	M12	12
F30602452	24	27	52	22	19	66	44	46	M10	M12	12
F30603062	30	35	62	24	22	74	52	56	M10	M12	16

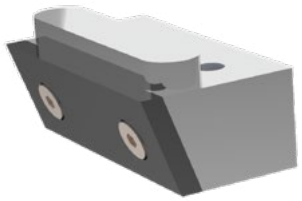


CAD reference point

COTTER WITH WEAR PLATE F3024

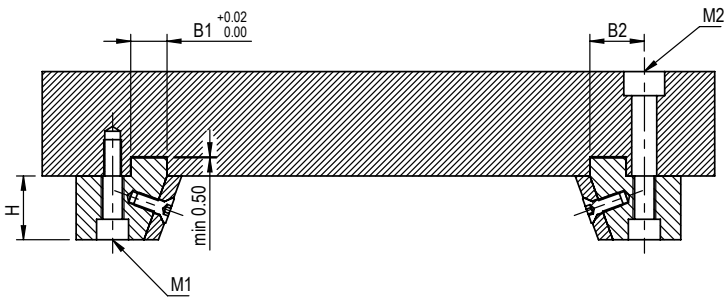
Mat.: 1.2312
≈ 1080 N/mm²





REF	H	L	L1	L2	M	M1	M2	B	B1		H1	S
F302411020	11	20	10	-	M6	M4	M6	18	8	13	5	4
F302411028	11	28	18	-	M6	M4	M6	18	8	13	5	4
F302411040	11	40	30	24	M6	M4	M6	18	8	13	5	4
F302411056	11	56	46	34	M6	M4	M6	18	8	13	5	4
F302415020	15	20	8	-	M8	M6	M8	22	10	15	6	4
F302415028	15	28	16	-	M8	M6	M8	22	10	15	6	4
F302415040	15	40	28	24	M8	M6	M8	22	10	15	6	4
F302415056	15	56	44	32	M8	M6	M8	22	10	15	6	4
F302419024	19	24	10	-	M8	M6	M8	28	12	18	6	4
F302419036	19	36	22	-	M8	M6	M8	28	12	18	6	4
F302419040	19	40	26	-	M8	M6	M8	28	12	18	6	4
F302419050	19	50	36	32	M8	M6	M8	28	12	18	6	4
F302419060	19	60	46	36	M8	M6	M8	28	12	18	6	4
F302419072	19	72	58	44	M8	M6	M8	28	12	18	6	4
F302424024	24	24	10	-	M10	M8	M10	32	12	20	6	4
F302424036	24	36	22	-	M10	M8	M10	32	12	20	6	4
F302424040	24	40	26	-	M10	M8	M10	32	12	20	6	4
F302424050	24	50	36	30	M10	M8	M10	32	12	20	6	4
F302424060	24	60	46	36	M10	M8	M10	32	12	20	6	4
F302424072	24	72	58	44	M10	M8	M10	32	12	20	6	4
F302424080	24	80	66	48	M10	M8	M10	32	12	20	6	4
F302428040	28	40	22	-	M10	M8	M10	40	16	24	8	6
F302428050	28	50	32	26	M10	M8	M10	40	16	24	8	6
F302428060	28	60	42	36	M10	M8	M10	40	16	24	8	6
F302428080	28	80	62	48	M10	M8	M10	40	16	24	8	6
F302428100	28	100	82	64	M10	M8	M10	40	16	24	8	6
F302428120	28	120	102	74	M10	M8	M10	40	16	24	8	6
F302431032	31	32	14	-	M10	M8	M10	40	16	24	8	6
F302431040	31	40	22	-	M10	M8	M10	40	16	24	8	6
F302431046	31	46	28	24	M10	M8	M10	40	16	24	8	6
F302431050	31	50	32	26	M10	M8	M10	40	16	24	8	6

REF	H	L	L1	L2	M	M1	M2	B	B1		H1	S
F302431060	31	60	42	36	M10	M8	M10	40	16	24	8	6
F302431064	31	64	46	40	M10	M8	M10	40	16	24	8	6
F302431080	31	80	62	48	M10	M8	M10	40	16	24	8	6
F302431086	31	86	68	52	M10	M8	M10	40	16	24	8	6
F302431100	31	100	82	64	M10	M8	M10	40	16	24	8	6
F302439040	39	40	22	-	M12	M10	M12	50	16	26	8	6
F302439056	39	56	38	32	M12	M10	M12	50	16	26	8	6
F302439080	39	80	62	52	M12	M10	M12	50	16	26	8	6
F302439112	39	112	94	68	M12	M10	M12	50	16	26	8	6
F302449040	49	40	18	-	M16	M12	M16	63	20	32	10	6
F302449050	49	50	28	-	M16	M12	M16	63	20	32	10	6
F302449060	49	60	38	32	M16	M12	M16	63	20	32	10	6
F302449072	49	72	50	40	M16	M12	M16	63	20	32	10	6
F302449080	49	80	58	46	M16	M12	M16	63	20	32	10	6
F302449100	49	100	78	64	M16	M12	M16	63	20	32	10	6
F302449120	49	120	98	74	M16	M12	M16	63	20	32	10	6
F302449140	49	140	118	84	M16	M12	M16	63	20	32	10	6
F302460040	60	40	18	-	M16	M12	M16	70	20	36	10	6
F302460050	60	50	28	-	M16	M12	M16	70	20	36	10	6
F302460060	60	60	38	32	M16	M12	M16	70	20	36	10	6
F302460080	60	80	58	46	M16	M12	M16	70	20	36	10	6
F302460100	60	100	78	64	M16	M12	M16	70	20	36	10	6
F302460120	60	120	98	74	M16	M12	M16	70	20	36	10	6
F302475050	75	50	23	-	M16	M12	M16	80	25	42	12	6
F302475060	75	60	33	32	M16	M12	M16	80	25	42	12	6
F302475080	75	80	53	46	M16	M12	M16	80	25	42	12	6
F302475100	75	100	73	64	M16	M12	M16	80	25	42	12	6
F302475120	75	120	93	74	M16	M12	M16	80	25	42	12	6



CAD reference point

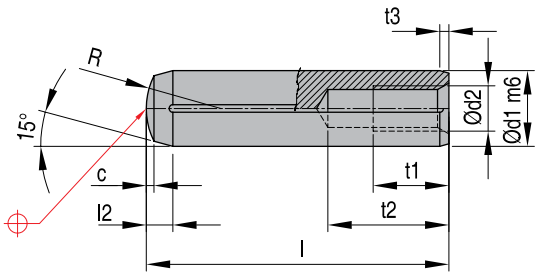
CAD reference point

FASTENERS

SHOULDER SCREWS

DOWEL PIN WITH INTERNAL THREAD — WZ7005

Hardness: 650 - 750 HV 30
DIN 7979 ISO 8735

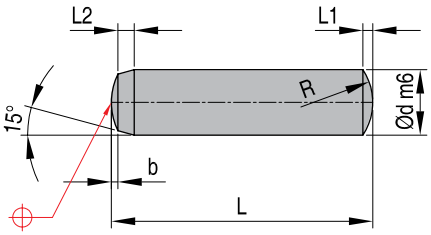


Order example for first item (WZ7005 + d1 + L): **WZ700506-00020**

d1	c	L 020	024	028	032	036	040	045	050	060	070	080	090	100	d2	l2	R	t1	t2	t3
06	0,6	•	•	•	•	•	•	•	•	•					M4	1,5	6	6	10	1,0
08	0,8	•	•	•	•	•	•	•	•	•	•	•			M5	1,8	8	8	13	1,2
10	1,0		•	•	•	•	•	•	•	•	•	•		•	M6	2,0	10	10	16	1,2
12	1,3				•	•	•	•	•	•	•	•	•	•	M6	2,5	12	12	18	1,2
14	1,3				•	•	•	•	•	•		•		•	M8	2,5	12	16	18	1,2
16	1,7						•	•	•	•		•		•	M8	3,0	16	16	23	1,6
20	2,0								•	•		•		•	M10	4,0	20	20	27	1,6

DOWEL PINS — DP

Mat.: DIN 6325 ISO 8734 ±60 HRC

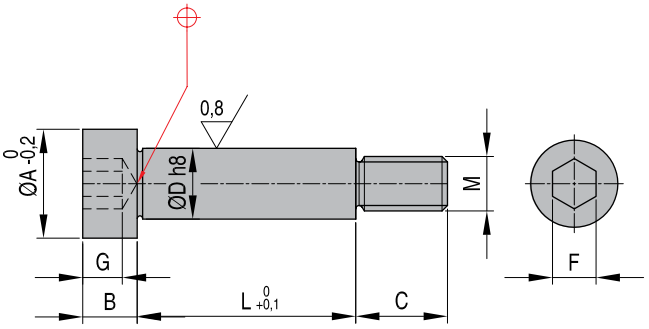


Order example for dowel pin with d = 1,0mm and L= 5mm: REF*L: **DP15**

REF	d	L1	L2	b	R	L 4	5	6	8	10	12	14	16	18	20	22	24	28	30	32	36	40	45	50	55	60	70	80	90	100	120	130	140	150	160
DP1	1	0,15	0,4	0,08	1		•	•																											
DP1-5	1,5	0,23	0,5	0,12	1,6	•		•	•	•	•	•	•		•																				
DP2	2	0,30	0,6	0,18	2			•	•	•	•	•	•	•	•				•	•	•														
DP2-5	2,5	0,40	0,7	0,25	2,5			•	•	•	•	•	•	•	•		•		•		•	•													
DP3	3	0,45	0,8	0,3	3			•	•	•	•	•	•	•	•		•	•	•	•		•		•											
DP4	4	0,60	1	0,4	4				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•									
DP5	5	0,75	1,2	0,5	5				•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•										
DP6	6	0,90	1,5	0,6	6					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•							
DP8	8	1,20	1,8	0,8	8								•	•	•		•	•		•	•	•	•	•	•	•	•	•	•	•	•				
DP10	10	1,50	2	1	10								•				•	•	•	•	•	•	•	•	•	•	•	•	•	•					
DP12	12	1,80	2,5	1,3	12										•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
DP14	14	2,00	2,5	1,3	14												•	•		•	•	•	•	•		•	•	•	•	•	•				
DP16	16	2,50	3	1,7	16													•		•	•		•	•	•	•	•	•	•	•	•		•	•	

CAD reference point

SHOULDER SCREWS — PM



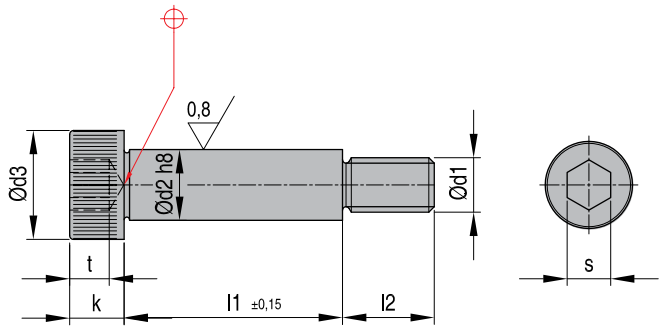
Mat.: 35 NC 6 ±1100-1200 N/mm²

Order example for first item (PM + M + L): **PM506**

M	L																						A	B	C	D	F	G
	06	08	10	12	14	16	20	25	30	32	40	50	60	63	70	80	90	100	110	120	125	140	160						
5	•	•	•	•	•	•	•	•	•	•	•	•	•	•										9	4	8	6	3	2,5
6	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•					11	5	10	8	4	3,0
8	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	14	6	12	10	5	4,0

M	L																						A	B	C	D	F	G
	08	10	12	14	16	20	25	30	32	40	50	60	70	80	90	100	110	120	125	140	160	200	250						
10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		18	8	16	12	6	5,0
12		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	22	10	20	16	8	6,0
16					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	28	12	25	20	10	8,0
20						•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	36	16	32	25	14	11,0
24											•	•	•	•	•	•	•	•	•		•	•	•	45	20	40	32	17	12,0

SHOULDER SCREWS — WZ412



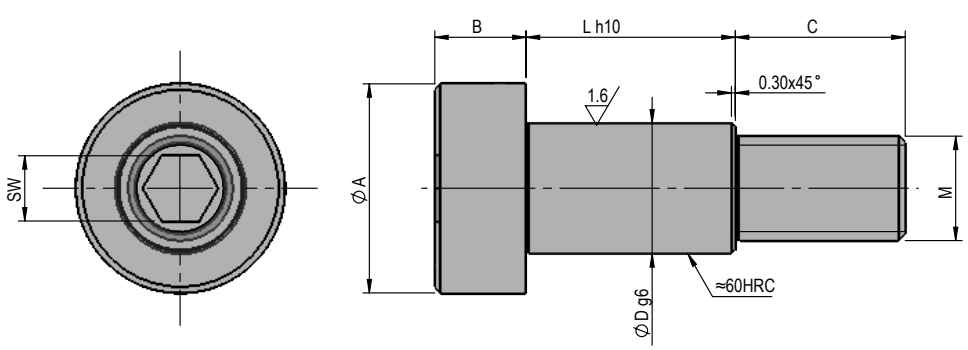
Mat.: Case hardening steel 12.9 DIN 267

Order example for first item (WZ412 + d2 + l1): **WZ41206010**

d2	l1													d1	d3	k	l2	S	tmin
	010	016	020	025	030	040	050	060	070	080	090	100	120						
06	•	•	•	•	•	•	•	•						M5	10	4,5	9,5	3	2,4
08		•	•	•	•	•	•	•	•	•	•	•		M6	13	5,5	11,0	4	3,3
10		•	•	•	•	•	•	•	•	•	•	•		M8	16	7,0	13,0	5	4,1
12		•	•	•	•	•	•	•	•	•	•	•	•	M10	18	9,0	16,0	6	4,9
16					•	•	•	•	•	•	•	•	•	M12	24	11,0	18,0	8	6,2
20						•	•	•	•	•	•	•	•	M16	30	14,0	22,0	10	8,8
24							•	•	•	•	•	•	•	M20	36	16,0	27,0	12	10

CAD reference point

SHOULDER SCREW — GM

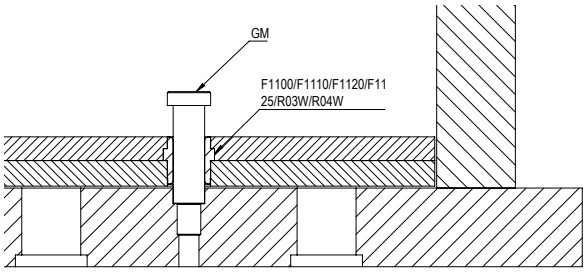


Mat.: 1.7131
≈ 60HRC

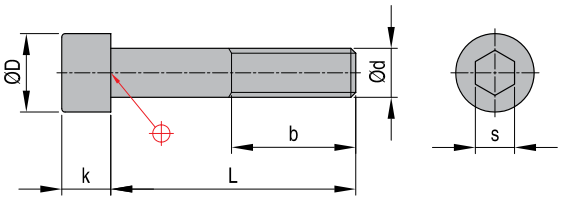
REF	D	L	C	M	B	A	SW
GM10016	10	16	13	M8	7	16	5
GM10020	10	20	13	M8	7	16	5
GM10025	10	25	13	M8	7	16	5
GM10030	10	30	13	M8	7	16	5
GM10040	10	40	13	M8	7	16	5
GM10050	10	50	13	M8	7	16	5
GM10060	10	60	13	M8	7	16	5
GM10070	10	70	13	M8	7	16	5
GM10080	10	80	13	M8	7	16	5
GM10090	10	90	13	M8	7	16	5
GM10100	10	100	13	M8	7	16	5
GM12020	12	20	16	M10	9	18	6
GM12025	12	25	16	M10	9	18	6
GM12030	12	30	16	M10	9	18	6
GM12040	12	40	16	M10	9	18	6

REF	D	L	C	M	B	A	SW
GM12050	12	50	16	M10	9	18	6
GM12060	12	60	16	M10	9	18	6
GM12070	12	70	16	M10	9	18	6
GM12080	12	80	16	M10	9	18	6
GM12090	12	90	16	M10	9	18	6
GM12100	12	100	16	M10	9	18	6
GM12120	12	120	16	M10	9	18	6
GM14025	14	25	16	M10	9	21	6
GM14030	14	30	16	M10	9	21	6
GM14040	14	40	16	M10	9	21	6
GM14050	14	50	16	M10	9	21	6
GM14060	14	60	16	M10	9	21	6
GM14070	14	70	16	M10	9	21	6
GM14080	14	80	16	M10	9	21	6
GM14090	14	90	16	M10	9	21	6

REF	D	L	C	M	B	A	SW
GM14100	14	100	16	M10	9	21	6
GM14120	14	120	16	M10	9	21	6
GM14140	14	140	16	M10	9	21	6
GM18030	18	30	18	M12	11	27	8
GM18040	18	40	18	M12	11	27	8
GM18050	18	50	18	M12	11	27	8
GM18060	18	60	18	M12	11	27	8
GM18070	18	70	18	M12	11	27	8
GM18080	18	80	18	M12	11	27	8
GM18090	18	90	18	M12	11	27	8
GM18100	18	100	18	M12	11	27	8
GM18120	18	120	18	M12	11	27	8
GM18140	18	140	18	M12	11	27	8



SOCKET HEAD CAP SCREWS DIN 912 - 10,9 — IS610



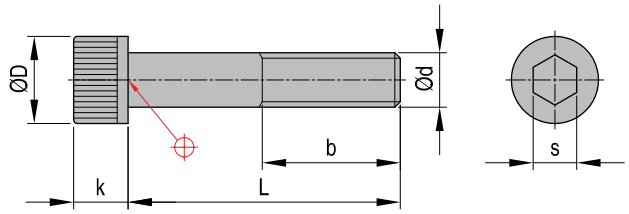
Order example for first item (IS610 + d + L): **IS610M03012**

d	L																															b	D	k	s
	006	008	010	012	014	016	018	020	022	025	030	035	040	045	050	055	060	065	070	075	080	090	100	110	120	130	140	150	160	180	200				
M03				•		•		•		•																						10	5,5	3	2,5
M04	•	•	•	•	•	•	•	•	•	•	•	•	•																			12	7	4	3
M05			•	•	•	•		•	•	•	•	•	•	•	•	•	•															15	8,5	5	4
M06		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•							18	10	6	5

d	L																																	b	D	k	s
	016	020	022	025	030	035	040	045	050	055	060	065	070	075	080	090	100	110	120	130	140	150	160	170	180	190	200	210	220	240	260	280	300				
M10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•							32	16	10	8
M12		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•							36	18	12	10
M16		•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	44	24	16	14
M20									•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•	52	30	20	17
M24									•		•		•		•	•						•	•								•			60	36	24	19

CAD reference point

SOCKET HEAD CAP SCREWS DIN 912 - 12.9 **M**



Mat.: Steel without surface treatment

Order example for first item (d + L): **M310**

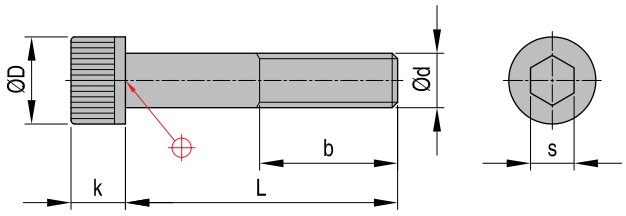
d	L																						Full thread if L ≤	b	D	k	s
	6	8	10	12	14	16	18	20	22	25	30	35	40	45	50	55	60	65	70	75	80	85	90					
M2	•	•	•	•		•		•																20	16	3,8	2	1,5
M2,5				•		•		•																25	17	4,5	2,5	2
M3	•	•	•	•	•	•		•		•	•	•	•											20	18	5,5	3	2,5
M4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									25	20	7	4	3
M5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					25	22	8,5	5	4
M6		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	30	24	10	6	5
M8			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	35	28	13	8	6

d	L																							Full thread if L ≤	b	D	k	s
	95	100	105	110	115	120	130	135	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280					
M6	•	•	•	•		•	•		•	•	•													30	24	10	6	5
M8	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•							35	28	13	8	6

d	L																								Full thread if L ≤	b	D	k	s
	12	16	18	20	22	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	130					
M12	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	50	36	18	12	10
M14						•	•	•	•	•	•	•	•	•													55	40	21	14	12
M16				•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•		•		•	•	60	44	24	16	14
M20							•	•	•	•	•	•	•	•	•	•	•		•		•		•		•	•	75	52	30	20	17
M24									•	•	•	•	•	•	•	•	•		•		•		•		•	•	85	60	36	24	19
M27																	•				•				•		90	66	40	27	19
M30																	•				•		•		•	•	100	72	45	30	22

d																											Full thread if L ≤	b	D	k	s
	135	140	145	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	320	330	340	360	380	400	420					
M12	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•					50	36	18	12	10
M16		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	60	44	24	16	14
M20		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	75	52	30	20	17
M24		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	85	60	36	24	19
M27		•			•		•		•		•		•														90	66	40	27	19
M30		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•		100	72	45	30	22

LOW HEAD SOCKET CAP SCREWS DIN 7984 - 8.8 **LHM**



Mat.: Steel without surface treatment

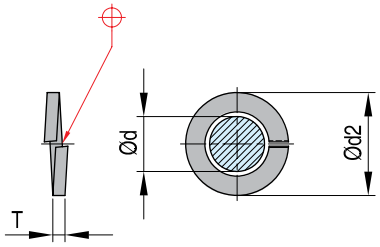
Ordering example for the first item (LH + d + L): **LHM416**

d	L															Full thread if L ≤	b	D	k	s
	8	10	12	14	16	18	20	22	25	30	35	40	45	50	55	60				
M4	•	•	•		•		•		•	•	•	•					20	14	7	2,8	2,5
M5	•	•	•	•	•	•	•		•	•	•	•					25	16	8,5	3,5	3
M6	•	•	•	•	•	•	•	•	•	•	•	•	•	•			25	18	10	4	4
M8			•	•	•	•	•	•	•	•	•	•	•	•	•	•	30	22	13	5	5
M10					•		•		•	•	•	•	•	•	•	•	35	26	16	6	7

CAD reference point

SPRING WASHERS R54

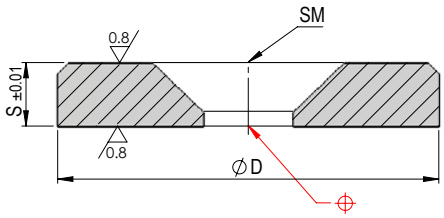
Mat.: DIN 7980



REF	d	T	d2
R54041-2	4	1,2	7
R54051-6	5	1,6	8,8
R54061-6	6	1,6	9,9
R54082	8	2	12,7
R54102-5	10	2,5	16
R54122-5	12	2,5	18
R54163-5	16	3,5	24,4
R54204-5	20	4,5	30,6
R54245	24	5	35,9

DISCS R18

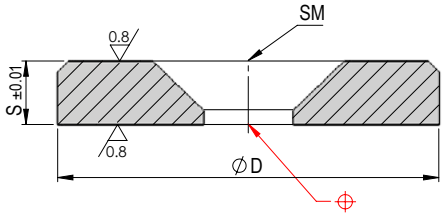
Mat.: 1.7131



REF	D	S	SM
R1818	18	3	M4

DISCS F1500

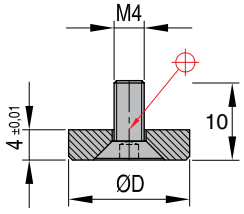
Mat.: 1.7131 ± 46 HRC



REF	D	S	SM
F150020	20	4	M5

SPACER WASHERS FOR EJECTOR PLATES SB

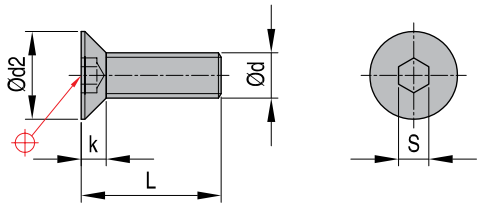
Mat.: 1.2312



REF	D
SB2	16
SB3	26

CAD reference point

SOCKET HEAD COUNTERSUNK SCREWS **SM**

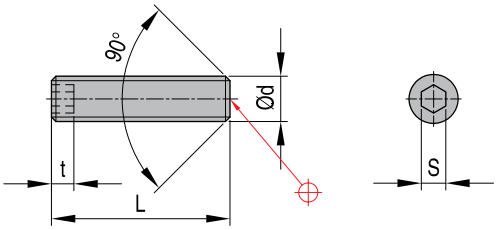


Mat.: DIN 7991-10.9

Order example for first item (S + d + L): **SM310**

d	L											k	s	d2
	8	10	12	16	20	25	30	35	40	45	50			
M3		•	•	•	•	•	•					1,7	2,0	6
M4	•	•	•	•	•	•	•					2,3	2,5	8
M5		•	•	•	•	•	•		•			2,8	3,0	10
M6		•	•	•	•	•	•	•	•			3,3	4,0	12
M8				•	•	•	•	•	•	•	•	4,4	5,0	16
M10				•	•	•	•	•	•	•	•	5,5	6,0	20
M12					•							6,5	8,0	24

GRUB SCREWS **GS913**

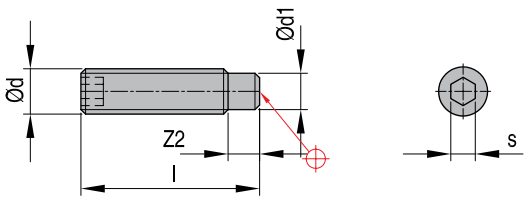


Mat.: DIN 913-45H; ISO 4026-45H

Order example for first item (GS913 + d + L): **GS913M03003**

d	L																				t	S
	003	004	005	006	008	010	012	016	020	025	030	035	040	045	050	055	060	065	080	090		
M03	•	•	•	•	•	•	•	•													2,5	1,5
M04		•	•	•	•	•	•	•	•												2,5	2
M05				•	•	•	•	•	•												3	2,5
M06				•	•	•	•	•	•	•	•		•								3,5	3
M08					•	•	•	•	•	•	•	•	•								5	4
M10						•	•	•	•	•	•	•	•	•	•	•	•	•		•	6	5
M12							•	•	•	•	•	•	•	•	•		•				8	6
M16								•	•	•	•	•	•		•		•				10	8
M20									•		•		•		•		•				12	10
M24										•			•				•		•		15	12

GRUB SCREWS **GS915**



Mat.: DIN 913-45H

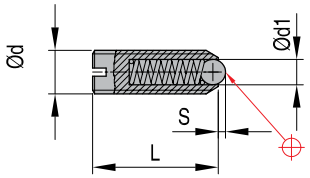
Order example for first item (GS915 + d + L): **GS915M04010**

d	L										d1	S	Z2
	010	016	020	025	030	035	040	045	050	060			
M04	•										2,5	2	3,0
M06	•	•	•	•							4,0	3	3,5
M08			•	•	•						5,5	4	5,0
M10			•	•	•		•		•		7,0	5	5,0
M12			•	•	•	•	•		•		8,5	6	7,0

CAD reference point

SCREWS

SPRING LOADED SET SCREWS — FD



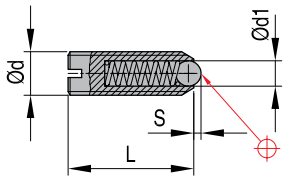
Mat.: 1.0716
Max. T: 250°C

REF	d	L	d1	S	*N1~	**N2~
FD37	M3	7	1,5	0,5	2	3
FD49	M4	9	2,5	0,8	4	10
FD512	M5	12	3,0	0,9	6	11
FD614	M6	14	3,5	1,0	9	15
FD816	M8	16	5,0	1,5	18	30

REF	d	L	d1	S	*N1~	**N2~
FD1019	M10	19	6,0	2,0	20	40
FD1222	M12	22	8,0	2,5	30	55
FD1624	M16	24	10,0	3,5	65	120
FD2030	M20	30	12,0	4,5	90	140
FD2434	M24	34	15,0	5,5	125	180

*N1~ = Starting load **N2~ = Final load

SPRING WASHERS — FDV



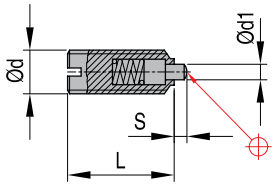
Mat.: 1.4305
Max. T: 250°C

REF d x L	d	L	d1	S	*N1~	**N2~
FDV37	M3	7	1,5	0,5	2	3
FDV49	M4	9	2,5	0,8	4	10
FDV512	M5	12	3	0,9	6	11
FDV614	M6	14	3,5	1	9	15
FDV816	M8	16	5	1,5	18	30

REF d x L	d	L	d1	S	*N1~	**N2~
FDV1019	M10	19	6	2	20	40
FDV1222	M12	22	8	2,5	30	55
FDV1624	M16	24	10	3,5	65	120
FDV2030	M20	30	12	4,5	90	140
FDV2434	M24	34	15	5,5	125	180

*N1~ = Starting load **N2~ = Final load

SPRING WASHERS — FM



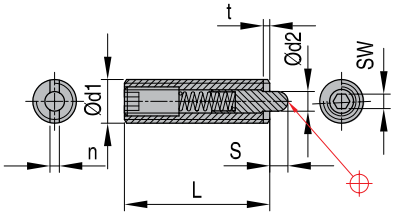
Mat.: 1.0716
Max. T: 250°C

REF	d	L	d1	S	*N1~	**N2~
FM0409	M4	9	1,8	1,5	6	16
FM0512	M5	12	2,4	2,0	6	17
FM0614	M6	14	2,7	2,0	7	18
FM0816	M8	16	4,0	2,0	20	35
FM1019	M10	19	4,5	2,5	20	45

REF	d	L	d1	S	*N1~	**N2~
FM1222	M12	22	6,0	3,5	25	60
FM1624	M16	24	8,5	4,5	50	95
FM2030	M20	30	10,0	6,5	80	140
FM2434	M24	34	12,0	8,0	100	180

*N1~ = Starting load **N2~ = Final load

SPRING LOADED SET SCREWS (WITH INTERNAL HEXAGON) — WZ8090



Mat.: 1.0716
Max. T: 250°C

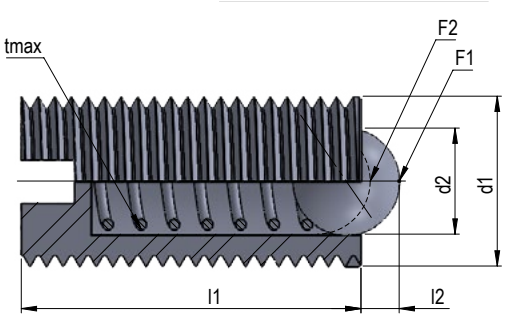
REF	d	L	d2	n	s	t	SW	*N1~	**N2~
WZ8090M03	M3	1	12	0,4	1	0,5	0,7	1,7	3,5
WZ8090M04	M4	1,5	15	0,6	1,5	0,6	1,3	5,0	16
WZ8090M05	M5	2,4	18	1,2	2,3	0,8	1,5	6,0	19
WZ8090M06	M6	2,7	20	1,3	2,5	0,9	2,0	6,0	19
WZ8090M08	M8	3,5	22	1,5	3,0	1,4	2,5	10,0	39

REF	d	L	d2	n	s	t	SW	*N1~	**N2~
WZ8090M10	M10	4,0	22	1,5	3,0	1,4	3,0	10,0	39
WZ8090M12	M12	6,0	28	2,7	4,0	2,0	4,0	12,0	53
WZ8090M16	M16	7,5	32	3,2	5,0	2,5	5,0	45,0	100
WZ8090M20	M20	10	40	3,5	7,0	3,0	6,0	70,0	140
WZ8090M24	M24	12	52	3,5	10,0	3,0	8,0	80,0	180

*N1~ = Starting load **N2~ = Final load

CAD reference point

SPRING-LOADED LOCKING SCREW WITH BALL - HIGHER SPRING FORCE **F1252**

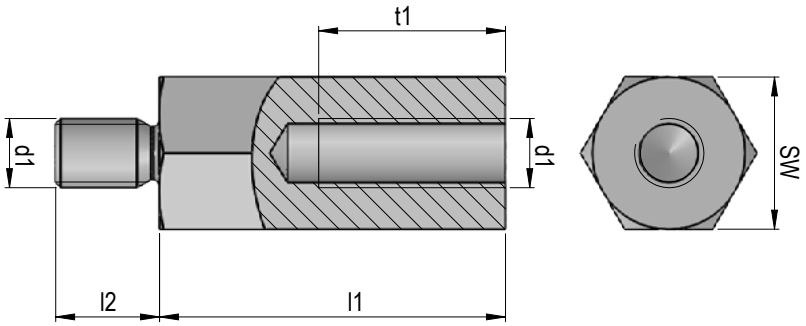


Mat.: 1.0715
Max. T.: 350°C

REF	d1	d2	l1	l2	F1	F2
F1252M03	M3	1,5	7	0,5	5	7
F1252M04	M4	2,5	9	0,8	12	22
F1252M05	M5	3	12	0,9	19	30
F1252M06	M6	3,5	14	1,0	28	40
F1252M08	M8	5	16	1,5	47	73
F1252M10	M10	6	19	2,0	66	100
F1252M12	M12	8	22	2,5	66	120
F1252M16	M16	10	24	3,5	90	180
F1252M20	M20	12	30	4,5	115	240

DISTANCE BOLT **K701**

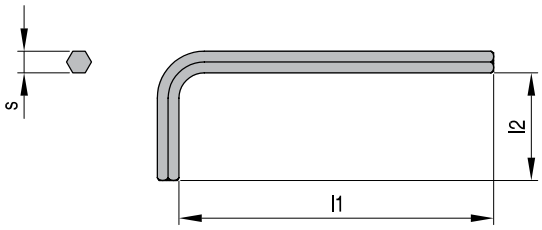
Mat.: 1.0501 / 900 N/mm²



REF	l1	SW	d1	t1	l2
K701081950	50,0	19	M8	27,0	15
K701102255	50,0	22	M10	27,0	15
K701162750	50,0	27	M16	32,0	20

CAD reference point

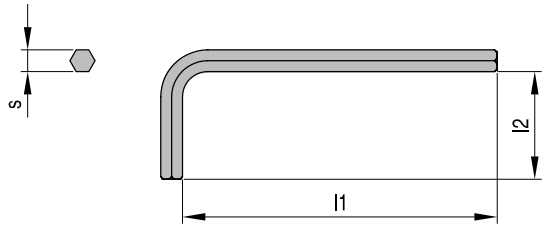
HEXAGON SOCKET SCREW KEYS-CHROME PLATED **SE620**



Mat.: 50 CrV4 - DIN 911

REF	s	l1	l2	DIN 912	DIN 913-915	DIN 7991
SE62015	1,5	45	14	M1,6-M2	M3	
SE62002	2,0	50	16	M2,5	M4	
SE62025	2,5	56	18	M3	M5	M3
SE62003	3,0	63	20	M4	M6	M5
SE62004	4,0	70	25	M5	M8	M6
SE62005	5,0	80	28	M6	M10	M8
SE62006	6,0	90	32	M8	M12-M14	M10
SE62008	8,0	100	36	M10	M16	M12
SE62010	10,0	112	40	M12	M18-M20	M14-M16
SE62012	12,0	125	45	M14	M22-M24	M18-M20
SE62014	14,0	140	55	M16-M18		M22-M20
SE62017	17,0	160	63	M20-M22		
SE62019	19,0	180	70	M24-M27		
SE62022	22,0	200	80	M30		

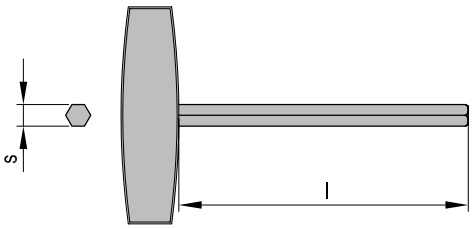
EXTRA LONG HEXAGON SOCKET SCREW KEYS-CHROME PLATED **SE630**



Mat.: 50 CrV4 - DIN 911

REF	s	l1	l2	DIN 912	DIN 913-915	DIN 7991
SE63002	2	100	16	M2,5	M4	
SE63003	3	126	20	M4	M6	M5
SE63004	4	140	25	M5	M8	M6
SE63005	5	160	28	M6	M10	M8
SE63006	6	180	32	M8	M12-M14	M10
SE63008	8	200	36	M10	M16	M12
SE63010	10	224	40	M12	M18-M20	M14-M16
SE63012	12	250	45	M14	M22-M24	M18-M20
SE63014	14	280	55	M16-M18		M22-M24

HEXAGON SOCKET SCREW KEYS WITH T-HANDLE **SE640**



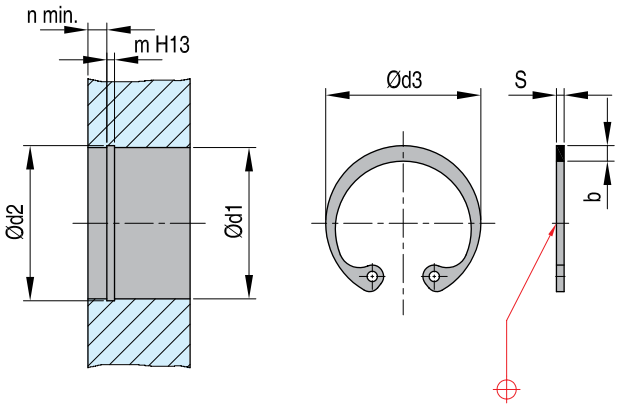
Mat.: 50 CrV4 - DIN 911

REF	s	l
SE64003	3	100
SE64004	4	100
SE64005	5	100
SE64006	6	100
SE64008	8	100

CAD reference point

SNAP RINGS FOR BORE HOLES R053

Mat.: DIN 472

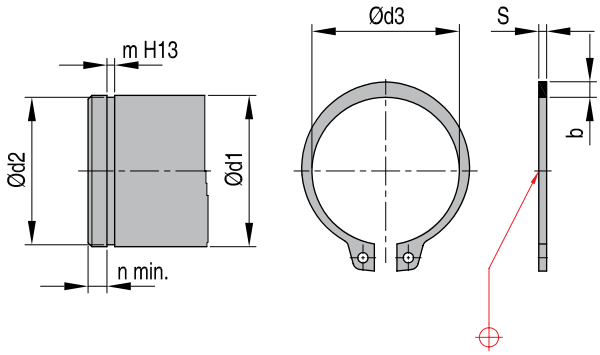


REF	d1	S	d3	b	d2	m	n
R0531001	10	1,00	10,8	1,4	10,4	1,10	0,6
R0531101	11	1,00	11,8	1,5	11,4	1,10	0,6
R0531201	12	1,00	13,0	1,7	12,5	1,10	0,6
R0531301	13	1,00	14,1	1,8	13,6	1,10	0,8
R0531401	14	1,00	15,1	1,8	14,6	1,10	0,9
R0531501	15	1,00	16,2	2,0	15,7	1,10	0,9
R0531601	16	1,00	17,3	2,0	16,8	1,10	1,1
R0531701	17	1,00	18,3	2,1	17,8	1,10	1,2
R0531801	18	1,00	19,5	2,2	19,0	1,10	1,2
R0531901	19	1,00	20,5	2,2	20,0	1,10	1,5
R0532001	20	1,00	21,5	2,3	21,0	1,10	1,5
R0532101	21	1,00	22,5	2,4	22,0	1,10	1,5
R0532201	22	1,00	23,5	2,5	23,0	1,10	1,5
R0532401-2	24	1,20	25,9	2,6	25,2	1,30	1,8
R0532501-2	25	1,20	26,9	2,7	26,2	1,30	1,8
R0532601-2	26	1,20	27,9	2,8	27,6	1,30	1,8
R0532801-2	28	1,20	30,1	2,9	29,4	1,30	2,1
R0532901-2	29	1,20	32,1	3,0	30,4	1,30	2,1
R0533001-2	30	1,20	33,4	3,1	31,4	1,30	2,1
R0533201-2	32	1,20	34,4	3,2	33,7	1,30	2,6
R0533401-5	34	1,50	36,5	3,3	35,7	1,60	2,6
R0533501-5	35	1,50	37,8	3,4	37,0	1,60	3,0

REF	d1	S	d3	b	d2	m	n
R0533601-5	36	1,50	38,8	3,5	38,0	1,60	3,0
R0533701-5	37	1,50	39,8	3,6	39,0	1,60	2,1
R0533801-5	38	1,50	40,8	3,7	40,0	1,60	3,8
R0534001-75	40	1,75	43,5	3,9	42,5	1,85	3,8
R0534201-75	42	1,75	45,5	4,1	44,5	1,85	3,8
R0534501-75	45	1,75	48,5	4,3	47,5	1,85	4,5
R0534701-75	47	1,75	50,5	4,4	49,5	1,85	4,5
R0534801-75	48	1,75	51,5	4,5	50,5	1,85	4,5
R0535002	50	2,00	54,2	4,6	53,0	2,15	4,5
R0535202	52	2,00	56,2	4,7	55,0	2,15	4,5
R0535502	55	2,00	59,2	5,0	58,0	2,15	4,5
R0535602	56	2,00	60,2	5,1	59,0	2,15	4,5
R0535802	58	2,00	62,2	5,2	61,0	2,15	4,5
R0536002	60	2,00	64,2	5,4	63,0	2,15	4,5
R0536202	62	2,00	66,2	5,5	65,0	2,15	4,5
R0536302	63	2,00	67,2	5,6	66,0	2,15	4,5
R0536502-5	65	2,50	69,2	5,8	68,0	2,65	4,5
R0536802-5	68	2,50	72,5	6,1	71,0	2,65	4,5
R0537002-5	70	2,50	74,5	6,2	73,0	2,65	4,5
R0537202-5	72	2,50	76,5	6,4	75,0	2,65	4,5
R0537502-5	75	2,50	79,5	6,6	78,0	2,65	4,5
R0537802-5	78	2,50	82,5	6,8	81,0	2,65	4,5

CAD reference point

SNAP RINGS FOR SPINDLES R53



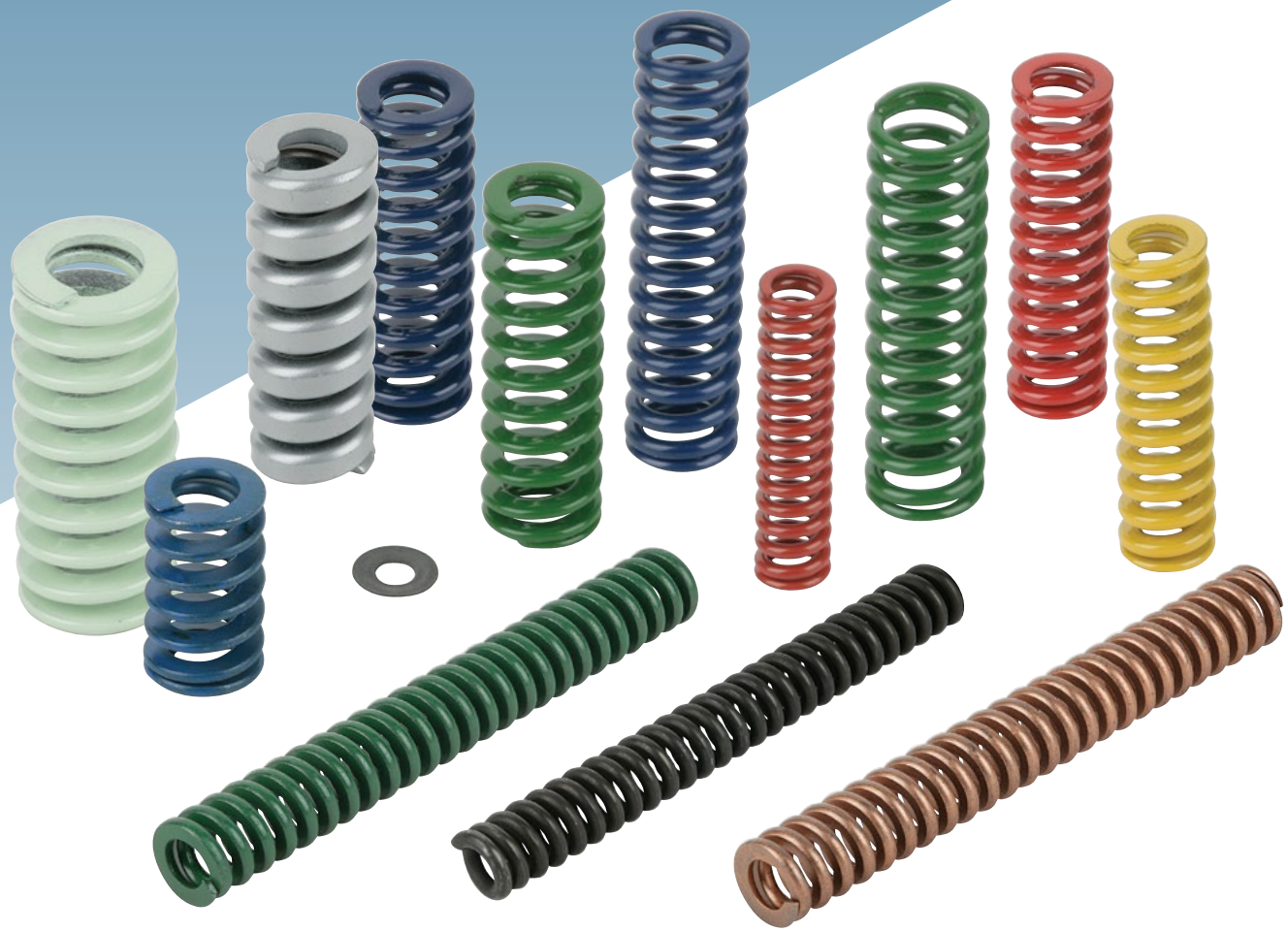
Mat.: DIN 471

REF	d1	S	d3	b	d2	m	n
R53010001	10	1,00	9,3	1,8	9,6	1,10	0,6
R53011001	11	1,00	10,2	1,8	10,5	1,10	0,8
R53012001	12	1,00	11	1,8	11,5	1,10	0,8
R53013001	13	1,00	11,9	2,0	12,4	1,10	0,9
R53014001	14	1,00	12,9	2,1	13,4	1,10	0,9
R53015001	15	1,00	13,8	2,2	14,4	1,10	1,1
R53016001	16	1,00	14,7	2,2	15,2	1,10	1,2
R53017001	17	1,00	15,7	2,3	16,2	1,10	1,2
R53018001-2	18	1,20	16,5	2,4	17,0	1,30	1,5
R53019001-2	19	1,20	17,5	2,5	18,0	1,30	1,5
R53020001-2	20	1,20	18,5	2,6	19,0	1,30	1,5
R53021001-2	21	1,20	19,5	2,7	20,0	1,30	1,5
R53022001-2	22	1,20	20,5	2,8	21,0	1,30	1,5
R53024001-2	24	1,20	22,2	3,0	22,9	1,30	1,7
R53025001-2	25	1,20	23,2	3,0	23,9	1,30	1,7
R53026001-2	26	1,20	24,2	3,1	24,6	1,30	1,7
R53028001-5	28	1,50	25,9	3,2	26,2	1,60	2,1
R53029001-5	29	1,50	26,9	3,4	27,6	1,60	2,1
R53030001-5	30	1,50	27,9	3,5	28,6	1,60	2,1
R53032001-5	32	1,50	29,6	3,6	30,3	1,60	2,6
R53034001-5	34	1,50	31,5	3,8	32,3	1,60	2,6

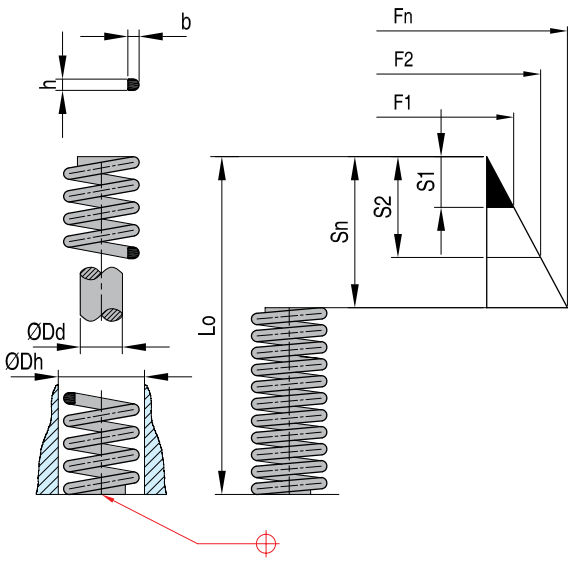
REF	d1	S	d3	b	d2	m	n
R53035001-5	35	1,50	32,2	3,9	33,0	1,60	3,0
R53036001-75	36	1,75	33,2	4,0	34,0	1,85	3,0
R53038001-75	38	1,75	35,2	4,2	36,0	1,85	2,1
R53040001-75	40	1,75	36,5	4,4	37,5	1,85	3,0
R53042001-75	42	1,75	38,5	4,5	39,5	1,85	3,8
R53045001-75	45	1,75	41,5	4,7	42,5	1,85	3,8
R53048001-75	48	1,75	44,5	5,0	45,5	1,85	4,5
R53050002	50	2,00	45,8	5,1	47,0	2,15	4,5
R53052002	52	2,00	47,8	5,2	49,0	2,15	4,5
R53055002	55	2,00	50,8	5,4	52,0	2,15	4,5
R53056002	56	2,00	51,8	5,5	53,0	2,15	4,5
R53058002	58	2,00	53,8	5,6	55,0	2,15	4,5
R53060002	60	2,00	55,8	5,8	57,0	2,15	4,5
R53062002	62	2,00	57,8	6,0	59,0	2,15	4,5
R53063002	63	2,00	58,8	6,2	60,0	2,15	4,5
R53065002-5	65	2,50	60,8	6,3	62,0	2,65	4,5
R53068002-5	68	2,50	63,5	6,5	65,0	2,65	4,5
R53070002-5	70	2,50	65,5	6,6	67,0	2,65	4,5
R53072002-5	72	2,50	67,5	6,8	69,0	2,65	4,5
R53075002-5	75	2,50	70,5	7,0	72,0	2,65	4,5
R53078002-5	78	2,50	73,5	7,3	75,0	2,65	4,5

CAD reference point

SPRINGS



LIGHT GREEN DIE SPRINGS, RECTANGULAR WIRE — WZ8031VL



Mat.: Special alloy - Load range: extra light duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time			Maximal compression
			

							30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E20025VL	20	10	4,3	1,7	25	29,4	7,5	221	10	294	12,5	368	13,9	409
WZ8031E20032VL	20	10	4,3	1,7	32	22,6	9,6	217	12,8	289	16	362	18,2	411
WZ8031E20038VL	20	10	4,3	1,7	38	18,6	11,4	212	15,2	283	19	353	22	409
WZ8031E20044VL	20	10	4,3	1,7	44	15,7	13,2	207	17,6	276	22	345	25,8	405
WZ8031E20051VL	20	10	4,3	1,7	51	13,7	15,3	210	20,4	279	25,5	349	30,3	415
WZ8031E20064VL	20	10	4,3	1,7	64	11,3	19,2	217	25,6	289	32	362	38,9	440
WZ8031E20076VL	20	10	4,3	1,7	76	9,8	22,8	223	30,4	298	38	372	47	461
WZ8031E20089VL	20	10	4,3	1,7	89	8,3	26,7	222	35,6	295	44,5	369	55,7	462
WZ8031E20102VL	20	10	4,3	1,7	102	7,4	30,6	226	40,8	302	51	377	64,2	475
WZ8031E20115VL	20	10	4,3	1,7	115	6,4	34,5	221	46	294	57,5	368	72,9	467
WZ8031E20127VL	20	10	4,3	1,7	127	5,9	38,1	225	50,8	300	63,5	375	80,7	476
WZ8031E20139VL	20	10	4,3	1,7	139	5,4	41,7	225	55,6	300	69,5	375	88,4	477
WZ8031E20152VL	20	10	4,3	1,7	152	4,9	45,6	223	60,8	298	76	372	96,7	474
WZ8031E20305VL	20	10	4,3	1,7	305	2,5	91,5	229	122	305	152,5	381	196,3	491
WZ8031E25025VL	25	12,5	5,4	2,2	25	53,9	7,5	404	10	539	12,5	674	12,9	695
WZ8031E25032VL	25	12,5	5,4	2,2	32	42,2	9,6	405	12,8	540	16	675	17,2	726
WZ8031E25038VL	25	12,5	5,4	2,2	38	35,8	11,4	408	15,2	544	19	680	20,7	741
WZ8031E25044VL	25	12,5	5,4	2,2	44	31,4	13,2	414	17,6	553	22	691	24,4	766
WZ8031E25051VL	25	12,5	5,4	2,2	51	27	15,3	413	20,4	551	25,5	689	28,5	770
WZ8031E25064VL	25	12,5	5,4	2,2	64	21,6	19,2	415	25,6	553	32	691	36,5	788
WZ8031E25076VL	25	12,5	5,4	2,2	76	18,1	22,8	413	30,4	550	38	688	43,9	795
WZ8031E25089VL	25	12,5	5,4	2,2	89	15,2	26,7	406	35,6	541	44,5	676	51,4	781
WZ8031E25102VL	25	12,5	5,4	2,2	102	13,2	30,6	404	40,8	539	51	673	59,3	783
WZ8031E25115VL	25	12,5	5,4	2,2	115	11,8	34,5	407	46	543	57,5	679	67,2	793
WZ8031E25127VL	25	12,5	5,4	2,2	127	10,6	38,1	404	50,8	538	63,5	673	74,4	789
WZ8031E25139VL	25	12,5	5,4	2,2	139	9,6	41,7	400	55,6	534	69,5	667	81,6	783
WZ8031E25152VL	25	12,5	5,4	2,2	152	8,8	45,6	401	60,8	535	76	669	89,5	788
WZ8031E25178VL	25	12,5	5,4	2,2	178	7,6	53,4	406	71,2	541	89	676	105,4	801
WZ8031E25203VL	25	12,5	5,4	2,2	203	6,7	60,9	408	81,2	544	101,5	680	120,7	809
WZ8031E25305VL	25	12,5	5,4	2,2	305	4,4	91,5	403	122	537	152,5	671	182,4	803
WZ8031E32038VL	32	16	6,5	2,6	38	43,1	11,4	491	15,2	655	19	819	19,9	858
WZ8031E32044VL	32	16	6,5	2,6	44	37,3	13,2	492	17,6	656	22	821	23,5	877
WZ8031E32051VL	32	16	6,5	2,6	51	32,4	15,3	496	20,4	661	25,5	826	27,6	894
WZ8031E32064VL	32	16	6,5	2,6	64	25,5	19,2	490	25,6	653	32	816	35,2	898
WZ8031E32076VL	32	16	6,5	2,6	76	21,6	22,8	492	30,4	657	38	821	42,4	916
WZ8031E32089VL	32	16	6,5	2,6	89	18,1	26,7	483	35,6	644	44,5	805	50	905
WZ8031E32102VL	32	16	6,5	2,6	102	15,7	30,6	480	40,8	641	51	801	57,6	904
WZ8031E32115VL	32	16	6,5	2,6	115	14,2	34,5	490	46	653	57,5	817	65,5	930
WZ8031E32127VL	32	16	6,5	2,6	127	12,7	38,1	484	50,8	645	63,5	806	72,5	921
WZ8031E32139VL	32	16	6,5	2,6	139	11,6	41,7	484	55,6	645	69,5	806	79,4	921

CAD reference point

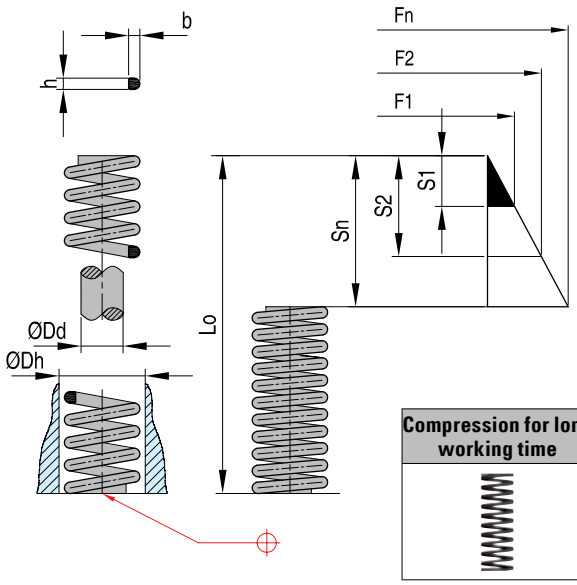
LIGHT GREEN DIE SPRINGS, RECTANGULAR WIRE — WZ8031VL

Compression for long working time			Maximal compression
			

							30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E32152VL	32	16	6,5	2,6	152	10,6	45,6	483	60,8	644	76	806	87,3	925
WZ8031E32178VL	32	16	6,5	2,6	178	9	53,4	481	71,2	641	89	801	102,9	926
WZ8031E32203VL	32	16	6,5	2,6	203	7,8	60,9	475	81,2	633	101,5	792	117,7	918
WZ8031E32254VL	32	16	6,5	2,6	254	6,4	76,2	488	101,6	650	127	813	148,1	948
WZ8031E32305VL	32	16	6,5	2,6	305	5,3	91,5	485	122	647	152,5	808	178,3	945
WZ8031E40051VL	40	20	8	3,4	51	48,1	15,3	736	20,4	981	25,5	1227	28	1347
WZ8031E40064VL	40	20	8	3,4	64	39,2	19,2	753	25,6	1004	32	1254	36,2	1419
WZ8031E40076VL	40	20	8	3,4	76	33,3	22,8	759	30,4	1012	38	1265	43,7	1455
WZ8031E40089VL	40	20	8	3,4	89	28,4	26,7	758	35,6	1011	44,5	1264	51,7	1468
WZ8031E40102VL	40	20	8	3,4	102	24,5	30,6	750	40,8	1000	51	1250	59,8	1465
WZ8031E40115VL	40	20	8	3,4	115	22,1	34,5	762	46	1017	57,5	1271	67,9	1501
WZ8031E40127VL	40	20	8	3,4	127	19,6	38,1	747	50,8	996	63,5	1245	75,2	1474
WZ8031E40139VL	40	20	8	3,4	139	17,7	41,7	738	55,6	984	69,5	1230	82,4	1458
WZ8031E40152VL	40	20	8	3,4	152	16,2	45,6	739	60,8	985	76	1231	90,6	1468
WZ8031E40178VL	40	20	8	3,4	178	13,7	53,4	732	71,2	975	89	1219	106,5	1469
WZ8031E40203VL	40	20	8	3,4	203	12,3	60,9	749	81,2	999	101,5	1248	122,2	1503
WZ8031E40254VL	40	20	8	3,4	254	9,8	76,2	747	101,6	996	127	1245	153,6	1505
WZ8031E40305VL	40	20	8	3,4	305	8,3	91,5	759	122	1013	152,5	1266	185,4	1539
WZ8031E50064VL	50	25	10,5	4,1	64	86,3	19,2	1657	25,6	2209	32	2762	35,1	3029
WZ8031E50076VL	50	25	10,5	4,1	76	70,6	22,8	1610	30,4	2146	38	2683	42,2	2979
WZ8031E50089VL	50	25	10,5	4,1	89	59,8	26,7	1597	35,6	2129	44,5	2661	50,3	3008
WZ8031E50102VL	50	25	10,5	4,1	102	52	30,6	1591	40,8	2122	51	2652	58,4	3037
WZ8031E50115VL	50	25	10,5	4,1	115	46,1	34,5	1590	46	2121	57,5	2651	66,1	3037
WZ8031E50127VL	50	25	10,5	4,1	127	42,2	38,1	1608	50,8	2144	63,5	2680	73,8	3114
WZ8031E50139VL	50	25	10,5	4,1	139	38,2	41,7	1593	55,6	2124	69,5	2655	80,9	3090
WZ8031E50152VL	50	25	10,5	4,1	152	34,3	45,6	1564	60,8	2085	76	2607	89	3053
WZ8031E50178VL	50	25	10,5	4,1	178	29,4	53,4	1570	71,2	2093	89	2617	105,3	3096
WZ8031E50203VL	50	25	10,5	4,1	203	25,5	60,9	1553	81,2	2071	101,5	2588	120,6	3075
WZ8031E50254VL	50	25	10,5	4,1	254	20,6	76,2	1570	101,6	2093	127	2616	152,2	3135
WZ8031E50305VL	50	25	10,5	4,1	305	17,2	91,5	1574	122	2098	152,5	2623	183,7	3160

CAD reference point

GREEN DIE SPRINGS, RECTANGULAR WIRE ISO 10243 — WZ8031GR



Mat.: Special alloy - Load range: light duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time			Maximal compression
			

							25%		30%		40%		D	
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E10025GR	10,0	5,0	1,7	1,1	25	10,0	6,3	63	7,5	75	10,0	100	13,5	135
WZ8031E10032GR	10,0	5,0	1,7	1,1	32	8,5	8,0	68	9,6	82	12,8	109	17,5	149
WZ8031E10038GR	10,0	5,0	1,7	1,1	38	6,8	9,5	65	11,4	78	15,2	103	20,8	141
WZ8031E10044GR	10,0	5,0	1,7	1,1	44	6,0	11,0	66	13,2	79	17,6	106	23,9	143
WZ8031E10051GR	10,0	5,0	1,7	1,1	51	5,0	12,8	64	15,3	77	20,4	102	28,9	145
WZ8031E10064GR	10,0	5,0	1,7	1,1	64	4,3	16,0	69	19,2	83	25,6	110	36,1	155
WZ8031E10076GR	10,0	5,0	1,7	1,1	76	3,2	19,0	61	22,8	73	30,4	97	43,2	138
WZ8031E10305GR	10,0	5,0	1,7	1,1	305	1,1	76,3	84	91,5	101	122,0	134	178,7	197
WZ8031E13025GR	12,5	6,3	2,4	1,4	25	17,9	6,3	113	7,5	134	10,0	179	13,2	236
WZ8031E13032GR	12,5	6,3	2,4	1,4	32	16,4	8,0	131	9,6	157	12,8	210	18,0	295
WZ8031E13038GR	12,5	6,3	2,4	1,4	38	13,6	9,5	129	11,4	155	15,2	207	21,0	286
WZ8031E13044GR	12,5	6,3	2,4	1,4	44	12,1	11,0	133	13,2	160	17,6	213	24,0	290
WZ8031E13051GR	12,5	6,3	2,4	1,4	51	11,4	12,8	146	15,3	174	20,4	233	28,7	327
WZ8031E13064GR	12,5	6,3	2,4	1,4	64	9,3	16,0	149	19,2	179	25,6	238	35,8	333
WZ8031E13076GR	12,5	6,3	2,4	1,4	76	7,1	19,0	135	22,8	162	30,4	216	42,7	303
WZ8031E13089GR	12,5	6,3	2,4	1,4	89	5,4	22,3	120	26,7	144	35,6	192	50,4	272
WZ8031E13102GR	12,5	6,3	2,4	1,4	102	4,1	25,5	105	30,6	125	40,8	167	58,4	239
WZ8031E13305GR	12,5	6,3	2,4	1,4	305	1,4	76,3	107	91,5	128	122,0	171	172,0	241
WZ8031E16025GR	16,0	8,0	3,2	1,5	25	23,4	6,3	147	7,5	176	10,0	234	12,6	295
WZ8031E16032GR	16,0	8,0	3,2	1,5	32	22,9	8,0	183	9,6	220	12,8	293	16,4	376
WZ8031E16038GR	16,0	8,0	3,2	1,5	38	19,3	9,5	183	11,4	220	15,2	293	19,7	380
WZ8031E16044GR	16,0	8,0	3,2	1,5	44	17,1	11,0	188	13,2	226	17,6	301	22,5	385
WZ8031E16051GR	16,0	8,0	3,2	1,5	51	15,7	12,8	201	15,3	240	20,4	320	26,3	413
WZ8031E16064GR	16,0	8,0	3,2	1,5	64	10,7	16,0	171	19,2	205	25,6	274	33,3	356
WZ8031E16076GR	16,0	8,0	3,2	1,5	76	10,0	19,0	190	22,8	228	30,4	304	40,2	402
WZ8031E16089GR	16,0	8,0	3,2	1,5	89	8,6	22,3	192	26,7	230	35,6	306	47,6	409
WZ8031E16102GR	16,0	8,0	3,2	1,5	102	7,8	25,5	199	30,6	239	40,8	318	55,4	432
WZ8031E16115GR	16,0	8,0	3,2	1,5	115	6,6	28,8	190	34,5	228	46,0	304	60,8	401
WZ8031E16305GR	16,0	8,0	3,2	1,5	305	2,5	76,3	191	91,5	229	122,0	305	165,3	413
WZ8031E20025GR	20,0	10,0	4,0	2,1	25	55,8	6,3	352	7,5	419	10,0	558	12,1	675
WZ8031E20032GR	20,0	10,0	4,0	2,1	32	45,0	8,0	360	9,6	432	12,8	576	15,3	689
WZ8031E20038GR	20,0	10,0	4,0	2,1	38	33,3	9,5	316	11,4	380	15,2	506	18,9	629
WZ8031E20044GR	20,0	10,0	4,0	2,1	44	30,0	11,0	330	13,2	396	17,6	528	21,5	645
WZ8031E20051GR	20,0	10,0	4,0	2,1	51	24,5	12,8	314	15,3	375	20,4	500	25,0	613
WZ8031E20064GR	20,0	10,0	4,0	2,1	64	20,0	16,0	320	19,2	384	25,6	512	31,1	622
WZ8031E20076GR	20,0	10,0	4,0	2,1	76	16,0	19,0	304	22,8	365	30,4	486	37,3	597
WZ8031E20089GR	20,0	10,0	4,0	2,1	89	14,0	22,3	312	26,7	312	35,6	498	44,5	623
WZ8031E20102GR	20,0	10,0	4,0	2,1	102	12,0	25,5	306	30,6	306	40,8	490	51,1	613
WZ8031E20115GR	20,0	10,0	4,0	2,1	115	10,9	28,8	314	34,5	314	46,0	501	58,2	634
WZ8031E20127GR	20,0	10,0	4,0	2,1	127	9,5	31,8	302	38,1	302	50,8	483	64,9	617
WZ8031E20139GR	20,0	10,0	4,0	2,1	139	8,4	35,0	294	42,0	294	56,0	470	71,5	601
WZ8031E20152GR	20,0	10,0	4,0	2,1	152	7,5	38,0	285	45,6	285	60,8	456	78,8	591
WZ8031E20305GR	20,0	10,0	4,0	2,1	305	4,0	76,3	305	91,5	305	122,0	488	157,4	630
WZ8031E25025GR	25,0	12,5	5,4	2,7	25	100,0	6,3	630	7,5	750	10,0	1000	11,9	1190
WZ8031E25032GR	25,0	12,5	5,4	2,7	32	80,3	8,0	642	9,6	771	12,8	1028	16,0	1285
WZ8031E25038GR	25,0	12,5	5,4	2,7	38	62,0	9,5	589	11,4	707	15,2	942	18,3	1135
WZ8031E25044GR	25,0	12,5	5,4	2,7	44	52,9	11,0	582	13,2	698	17,6	931	21,4	1132
WZ8031E25051GR	25,0	12,5	5,4	2,7	51	44,0	12,8	563	15,3	673	20,4	898	24,9	1096

CAD reference point

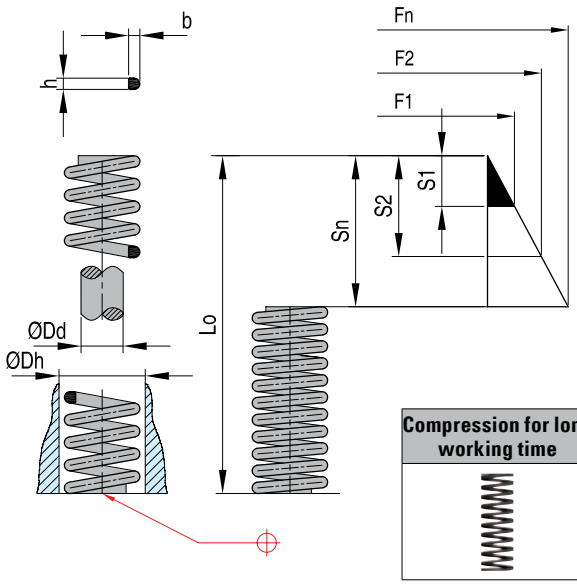
GREEN DIE SPRINGS, RECTANGULAR WIRE ISO 10243 — WZ8031GR

Compression for long working time			Maximal compression
			

							25%		30%		40%		D	
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E25064GR	25,0	12,5	5,4	2,7	64	35,2	16,0	563	19,2	676	25,6	901	31,4	1105
WZ8031E25076GR	25,0	12,5	5,4	2,7	76	28,0	19,0	532	22,8	638	30,4	851	37,5	1050
WZ8031E25089GR	25,0	12,5	5,4	2,7	89	24,0	22,3	535	26,7	641	35,6	854	43,5	1044
WZ8031E25102GR	25,0	12,5	5,4	2,7	102	21,1	25,5	538	30,6	646	40,8	861	51,1	1078
WZ8031E25115GR	25,0	12,5	5,4	2,7	115	18,7	28,8	539	34,5	645	46,0	860	58,1	1086
WZ8031E25127GR	25,0	12,5	5,4	2,7	127	16,7	31,8	531	38,1	636	50,8	848	64,1	1070
WZ8031E25139GR	25,0	12,5	5,4	2,7	139	15,3	35,0	536	42,0	643	56,0	857	70,4	1077
WZ8031E25152GR	25,0	12,5	5,4	2,7	152	14,0	38,0	532	45,6	638	60,8	851	77,1	1079
WZ8031E25178GR	25,0	12,5	5,4	2,7	178	12,5	44,5	556	53,4	668	71,2	890	93,1	1164
WZ8031E25203GR	25,0	12,5	5,4	2,7	203	10,4	50,8	528	60,9	633	81,2	844	102,7	1068
WZ8031E25305GR	25,0	12,5	5,4	2,7	305	7,0	76,3	534	91,5	641	122,0	854	155,9	1091
WZ8031E32038GR	32,0	16,0	6,8	3,3	38	94,0	9,5	893	11,4	1072	15,2	1429	18,3	1720
WZ8031E32044GR	32,0	16,0	6,8	3,3	44	79,5	11,0	875	13,2	1049	17,6	1399	21,5	1709
WZ8031E32051GR	32,0	16,0	6,8	3,3	51	67,0	12,8	858	15,3	1025	20,4	1367	25,5	1709
WZ8031E32064GR	32,0	16,0	6,8	3,3	64	53,0	16,0	848	19,2	1018	25,6	1357	31,9	1691
WZ8031E32076GR	32,0	16,0	6,8	3,3	76	44,0	19,0	836	22,8	1003	30,4	1338	38,6	1698
WZ8031E32089GR	32,0	16,0	6,8	3,3	89	37,2	22,3	830	26,7	993	35,6	1324	46,5	1730
WZ8031E32102GR	32,0	16,0	6,8	3,3	102	32,0	25,5	816	30,6	979	40,8	1306	53,2	1702
WZ8031E32115GR	32,0	16,0	6,8	3,3	115	29,0	28,8	835	34,5	1001	46,0	1334	60,0	1740
WZ8031E32127GR	32,0	16,0	6,8	3,3	127	25,0	31,8	795	38,1	953	50,8	1270	66,7	1668
WZ8031E32139GR	32,0	16,0	6,8	3,3	139	23,0	35,0	805	42,0	966	56,0	1288	71,8	1651
WZ8031E32152GR	32,0	16,0	6,8	3,3	152	21,5	38,0	817	45,6	980	60,8	1307	78,5	1688
WZ8031E32178GR	32,0	16,0	6,8	3,3	178	18,2	44,5	810	53,4	972	71,2	1296	94,4	1718
WZ8031E32203GR	32,0	16,0	6,8	3,3	203	15,8	50,8	803	60,9	962	81,2	1283	107,1	1692
WZ8031E32254GR	32,0	16,0	6,8	3,3	254	12,5	63,5	794	76,2	953	101,6	1270	136,5	1706
WZ8031E32305GR	32,0	16,0	6,8	3,3	305	10,3	76,3	786	91,5	942	122,0	1257	162,7	1676
WZ8031E40051GR	40,0	20,0	8,1	4,0	51	92,0	12,8	1178	15,3	1408	20,4	1877	25,5	2346
WZ8031E40064GR	40,0	20,0	8,1	4,0	64	73,0	16,0	1168	19,2	1402	25,6	1869	31,4	2292
WZ8031E40076GR	40,0	20,0	8,1	4,0	76	63,0	19,0	1197	22,8	1436	30,4	1915	37,8	2381
WZ8031E40089GR	40,0	20,0	8,1	4,0	89	51,0	22,3	1137	26,7	1362	35,6	1816	44,3	2259
WZ8031E40102GR	40,0	20,0	8,1	4,0	102	43,0	25,5	1097	30,6	1316	40,8	1754	50,7	2180
WZ8031E40115GR	40,0	20,0	8,1	4,0	115	39,6	28,8	1140	34,5	1366	46,0	1822	58,1	2301
WZ8031E40127GR	40,0	20,0	8,1	4,0	127	37,0	31,8	1177	38,1	1410	50,8	1880	64,6	2390
WZ8031E40139GR	40,0	20,0	8,1	4,0	139	32,0	35,0	1120	42,0	1344	56,0	1792	70,1	2243
WZ8031E40152GR	40,0	20,0	8,1	4,0	152	28,0	38,0	1064	45,6	1277	60,8	1702	76,6	2145
WZ8031E40178GR	40,0	20,0	8,1	4,0	178	25,2	44,5	1121	53,4	1346	71,2	1794	90,4	2278
WZ8031E40203GR	40,0	20,0	8,1	4,0	203	22,7	50,8	1153	60,9	1382	81,2	1843	102,4	2324
WZ8031E40254GR	40,0	20,0	8,1	4,0	254	17,0	63,5	1080	76,2	1295	101,6	1727	128,8	2190
WZ8031E40305GR	40,0	20,0	8,1	4,0	305	14,8	76,3	1129	91,5	1354	122,0	1806	156,1	2310
WZ8031E50064GR	50,0	25,0	10,9	5,3	64	156,0	16,0	2496	19,2	2995	25,6	3994	31,0	4836
WZ8031E50076GR	50,0	25,0	10,9	5,3	76	125,0	19,0	2375	22,8	2850	30,4	3800	37,2	4650
WZ8031E50089GR	50,0	25,0	10,9	5,3	89	109,0	22,3	2431	26,7	2910	35,6	3880	43,6	4752
WZ8031E50102GR	50,0	25,0	10,9	5,3	102	94,0	25,5	2397	30,6	2876	40,8	3835	50,3	4728
WZ8031E50115GR	50,0	25,0	10,9	5,3	115	81,0	28,8	2333	34,5	2795	46,0	3726	58,1	4706
WZ8031E50127GR	50,0	25,0	10,9	5,3	127	71,0	31,8	2258	38,1	2705	50,8	3607	63,7	4523
WZ8031E50139GR	50,0	25,0	10,9	5,3	139	66,5	35,0	2328	42,0	2793	56,0	3724	69,5	4622
WZ8031E50152GR	50,0	25,0	10,9	5,3	152	60,0	38,0	2280	45,6	2736	60,8	3648	76,5	4590
WZ8031E50178GR	50,0	25,0	10,9	5,3	178	52,0	44,5	2314	53,4	2777	71,2	3702	91,9	4779
WZ8031E50203GR	50,0	25,0	10,9	5,3	203	44,0	50,8	2235	60,9	2680	81,2	3573	104,7	4607
WZ8031E50254GR	50,0	25,0	10,9	5,3	254	35,0	63,5	2223	76,2	2667	101,6	3556	130,6	4571
WZ8031E50305GR	50,0	25,0	10,9	5,3	305	28,5	76,3	2175	91,5	2608	122,0	3477	154,9	4415
WZ8031E63076GR	63,0	38,0	11,0	7,8	76	189,0	19,0	3591	22,8	4309	30,4	5746	36,5	6899
WZ8031E63089GR	63,0	38,0	11,0	7,8	89	158,0	22,3	3523	26,7	4219	35,6	5625	43,4	6857
WZ8031E63102GR	63,0	38,0	11,0	7,8	102	131,0	25,5	3341	30,6	4009	40,8	5345	49,7	6511
WZ8031E63115GR	63,0	38,0	11,0	7,8	115	116,0	28,8	3341	34,5	4002	46,0	5336	55,6	6450
WZ8031E63127GR	63,0	38,0	11,0	7,8	127	103,0	31,8	3275	38,1	3924	50,8	5232	62,7	6458
WZ8031E63152GR	63,0	38,0	11,0	7,8	152	84,3	38,0	3203	45,6	3844	60,8	5125	77,1	6500
WZ8031E63178GR	63,0	38,0	11,0	7,8	178	71,5	44,5	3182	53,4	3818	71,2	5091	92,2	6592
WZ8031E63203GR	63,0	38,0	11,0	7,8	203	61,7	50,8	3134	60,9	3758	81,2	5010	103,5	6386
WZ8031E63254GR	63,0	38,0	11,0	7,8	254	47,0	63,5	2985	76,2	3581	101,6	4775	130,4	6129
WZ8031E63305GR	63,0	38,0	11,0	7,8	305	38,2	76,3	2915	91,5	3495	122,0	4660	157,4	6013

CAD reference point

BLUE DIE SPRINGS, RECTANGULAR WIRE ISO 10243 — WZ8031BL



Mat.: Special alloy - Load range: medium heavy duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)

Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time			Maximal compression
			

							30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E10025BL	10,0	5,0	1,9	1,3	25	16,0	6,3	101	7,5	120	9,4	150	10,2	163
WZ8031E10032BL	10,0	5,0	1,9	1,3	32	13,0	8,0	104	9,6	125	12,0	156	14,2	185
WZ8031E10038BL	10,0	5,0	1,9	1,3	38	11,9	9,5	113	11,4	136	14,3	170	16,8	200
WZ8031E10044BL	10,0	5,0	1,9	1,3	44	10,3	11,0	113	13,2	136	16,5	170	19,4	200
WZ8031E10051BL	10,0	5,0	1,9	1,3	51	8,9	12,8	114	15,3	136	19,1	170	23,4	208
WZ8031E10064BL	10,0	5,0	1,9	1,3	64	7,5	16,0	120	19,2	144	24,0	180	28,2	212
WZ8031E10076BL	10,0	5,0	1,9	1,3	76	5,3	19,0	101	22,8	121	28,5	151	34,2	181
WZ8031E10305BL	10,0	5,0	1,9	1,3	305	1,6	76,3	122	91,5	146	114,4	183	133,8	214
WZ8031E13025BL	12,5	6,3	2,5	1,5	25	30,0	6,3	189	7,5	225	9,4	282	11,9	357
WZ8031E13032BL	12,5	6,3	2,5	1,5	32	24,8	8,0	198	9,6	238	12,0	298	16,2	402
WZ8031E13038BL	12,5	6,3	2,5	1,5	38	21,4	9,5	203	11,4	244	14,3	306	18,7	400
WZ8031E13044BL	12,5	6,3	2,5	1,5	44	18,5	11,0	204	13,2	244	16,5	305	21,3	394
WZ8031E13051BL	12,5	6,3	2,5	1,5	51	15,5	12,8	198	15,3	237	19,1	296	25,6	397
WZ8031E13064BL	12,5	6,3	2,5	1,5	64	12,1	16,0	194	19,2	232	24,0	290	32,4	392
WZ8031E13076BL	12,5	6,3	2,5	1,5	76	10,2	19,0	194	22,8	233	28,5	291	39,0	398
WZ8031E13089BL	12,5	6,3	2,5	1,5	89	8,4	22,3	187	26,7	224	33,4	281	45,9	386
WZ8031E13102BL	12,5	6,3	2,5	1,5	102	6,3	25,5	161	30,6	193	38,3	241	52,3	329
WZ8031E13305BL	12,5	6,3	2,5	1,5	305	2,1	76,3	160	91,5	192	114,4	240	152,5	320
WZ8031E16025BL	16,0	8,0	3,2	2,0	25	49,4	6,3	311	7,5	371	9,4	464	10,5	519
WZ8031E16032BL	16,0	8,0	3,2	2,0	32	37,1	8,0	297	9,6	356	12,0	445	13,2	490
WZ8031E16038BL	16,0	8,0	3,2	2,0	38	33,9	9,5	322	11,4	386	14,3	485	17,2	583
WZ8031E16044BL	16,0	8,0	3,2	2,0	44	30,0	11,0	330	13,2	396	16,5	495	19,4	582
WZ8031E16051BL	16,0	8,0	3,2	2,0	51	26,4	12,8	338	15,3	404	19,1	504	24,2	639
WZ8031E16064BL	16,0	8,0	3,2	2,0	64	20,5	16,0	328	19,2	394	24,0	492	29,2	599
WZ8031E16076BL	16,0	8,0	3,2	2,0	76	17,8	19,0	338	22,8	406	28,5	507	36,3	646
WZ8031E16089BL	16,0	8,0	3,2	2,0	89	15,2	22,3	339	26,7	406	33,4	508	41,7	634
WZ8031E16102BL	16,0	8,0	3,2	2,0	102	13,5	25,5	344	30,6	413	38,3	517	48,9	660
WZ8031E16115BL	16,0	8,0	3,2	2,0	115	11,8	28,8	340	34,5	407	43,1	509	53,1	627
WZ8031E16305BL	16,0	8,0	3,2	2,0	305	4,8	76,3	366	91,5	439	114,4	549	141,6	680
WZ8031E20025BL	20,0	10,0	4,1	2,4	25	98,0	6,3	617	7,5	735	9,4	921	10,5	1029
WZ8031E20032BL	20,0	10,0	4,1	2,4	32	72,6	8,0	581	9,6	697	12,0	871	13,9	1009
WZ8031E20038BL	20,0	10,0	4,1	2,4	38	56,0	9,5	532	11,4	638	14,3	801	16,6	930
WZ8031E20044BL	20,0	10,0	4,1	2,4	44	47,5	11,0	523	13,2	627	16,5	784	18,8	893
WZ8031E20051BL	20,0	10,0	4,1	2,4	51	41,7	12,8	534	15,3	638	19,1	796	23,1	963
WZ8031E20064BL	20,0	10,0	4,1	2,4	64	32,3	16,0	517	19,2	620	24,0	775	27,5	888
WZ8031E20076BL	20,0	10,0	4,1	2,4	76	25,1	19,0	477	22,8	572	28,5	715	3,8	848
WZ8031E20089BL	20,0	10,0	4,1	2,4	89	22,0	22,3	491	26,7	587	33,4	735	39,7	873
WZ8031E20102BL	20,0	10,0	4,1	2,4	102	19,8	25,5	505	30,6	606	38,3	758	47,3	937
WZ8031E20115BL	20,0	10,0	4,1	2,4	115	18,1	28,8	521	34,5	624	43,1	780	52,5	950
WZ8031E20127BL	20,0	10,0	4,1	2,4	127	16,6	31,8	528	38,1	632	47,6	790	56,9	945
WZ8031E20139BL	20,0	10,0	4,1	2,4	139	15,1	35,0	529	42,0	634	52,5	793	62,1	938
WZ8031E20152BL	20,0	10,0	4,1	2,4	152	13,2	38,0	500	45,6	600	57,0	750	67,6	889
WZ8031E20305BL	20,0	10,0	4,1	2,4	305	6,1	76,3	465	91,5	558	114,4	698	143,4	875
WZ8031E25025BL	25,0	12,5	5,4	3,3	25	147,0	6,3	926	7,5	1103	9,4	1382	10,2	1499
WZ8031E25032BL	25,0	12,5	5,4	3,3	32	118,0	8,0	944	9,6	1133	12,0	1416	13,7	1617
WZ8031E25038BL	25,0	12,5	5,4	3,3	38	93,0	9,5	884	11,4	1060	14,3	1330	15,7	1460
WZ8031E25044BL	25,0	12,5	5,4	3,3	44	80,8	11,0	889	13,2	1067	16,5	1333	18,2	1471
WZ8031E25051BL	25,0	12,5	5,4	3,3	51	68,6	12,8	878	15,3	1050	19,1	1310	21,7	1489
WZ8031E25064BL	25,0	12,5	5,4	3,3	64	53,0	16,0	848	19,2	1018	24,0	1272	26,0	1378

CAD reference point

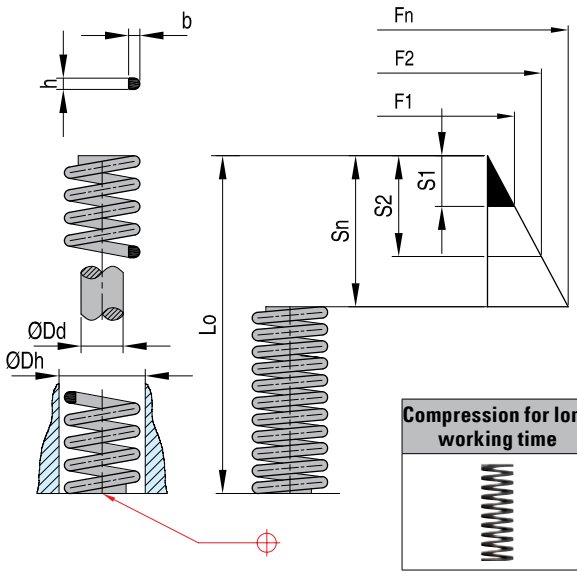
BLUE DIE SPRINGS, RECTANGULAR WIRE ISO 10243 — WZ8031BL

Compression for long working time			Maximal compression
			

						30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E25076BL	25,0	12,5	5,4	3,3	76	43,2	19,0	821	22,8	985	28,5	1231	32,3	1395
WZ8031E25089BL	25,0	12,5	5,4	3,3	89	38,2	22,3	852	26,7	1020	33,4	1276	38,0	1452
WZ8031E25102BL	25,0	12,5	5,4	3,3	102	33,0	25,5	842	30,6	1010	38,3	1264	43,0	1419
WZ8031E25115BL	25,0	12,5	5,4	3,3	115	28,0	28,8	806	34,5	966	43,1	1207	48,6	1361
WZ8031E25127BL	25,0	12,5	5,4	3,3	127	25,9	31,8	824	38,1	987	47,6	1233	53,7	1391
WZ8031E25139BL	25,0	12,5	5,4	3,3	139	23,2	35,0	812	42,0	974	52,5	1218	59,4	1378
WZ8031E25152BL	25,0	12,5	5,4	3,3	152	20,8	38,0	790	45,6	948	57,0	1186	63,8	1327
WZ8031E25178BL	25,0	12,5	5,4	3,3	178	17,8	44,5	792	53,4	951	66,8	1189	76,6	1363
WZ8031E25203BL	25,0	12,5	5,4	3,3	203	15,8	50,8	803	60,9	962	76,1	1202	88,4	1397
WZ8031E25305BL	25,0	12,5	5,4	3,3	305	10,2	76,3	778	91,5	933	114,4	1167	135,1	1378
WZ8031E32038BL	32,0	16,0	6,8	4,0	38	185,0	9,5	1758	11,4	2109	14,3	2646	16,3	3016
WZ8031E32044BL	32,0	16,0	6,8	4,0	44	158,0	11,0	1738	13,2	2086	16,5	2607	18,9	2986
WZ8031E32051BL	32,0	16,0	6,8	4,0	51	134,0	12,8	1715	15,3	2050	19,1	2559	23,1	3095
WZ8031E32064BL	32,0	16,0	6,8	4,0	64	99,0	16,0	1584	19,2	1901	24,0	2376	28,5	2822
WZ8031E32076BL	32,0	16,0	6,8	4,0	76	80,5	19,0	1530	22,8	1835	28,5	2294	34,2	2753
WZ8031E32089BL	32,0	16,0	6,8	4,0	89	69,1	22,3	1541	26,7	1845	33,4	2308	40,4	2792
WZ8031E32102BL	32,0	16,0	6,8	4,0	102	58,8	25,5	1499	30,6	1799	38,3	2252	48,0	2822
WZ8031E32115BL	32,0	16,0	6,8	4,0	115	51,5	28,8	1483	34,5	1777	43,1	2220	54,3	2796
WZ8031E32127BL	32,0	16,0	6,8	4,0	127	44,8	31,8	1425	38,1	1707	47,6	2132	59,2	2652
WZ8031E32139BL	32,0	16,0	6,8	4,0	139	42,3	35,0	1481	42,0	1777	52,5	2221	65,3	2762
WZ8031E32152BL	32,0	16,0	6,8	4,0	152	37,8	38,0	1436	45,6	1724	57,0	2155	73,0	2759
WZ8031E32178BL	32,0	16,0	6,8	4,0	178	32,5	44,5	1446	53,4	1736	66,8	2171	84,5	2746
WZ8031E32203BL	32,0	16,0	6,8	4,0	203	28,9	50,8	1468	60,9	1760	76,1	2199	96,9	2800
WZ8031E32254BL	32,0	16,0	6,8	4,0	254	21,4	63,5	1359	76,2	1631	95,3	2039	120,9	2587
WZ8031E32305BL	32,0	16,0	6,8	4,0	305	18,3	76,3	1396	91,5	1674	114,4	2094	146,9	2688
WZ8031E40051BL	40,0	20,0	8,2	4,7	51	181,6	12,8	2324	15,3	2778	19,1	3469	21,4	3886
WZ8031E40064BL	40,0	20,0	8,2	4,7	64	140,0	16,0	2240	19,2	2688	24,0	3360	26,8	3752
WZ8031E40076BL	40,0	20,0	8,2	4,7	76	108,0	19,0	2052	22,8	2462	28,5	3078	32,7	3532
WZ8031E40089BL	40,0	20,0	8,2	4,7	89	90,7	22,3	2023	26,7	2422	33,4	3029	39,0	3537
WZ8031E40102BL	40,0	20,0	8,2	4,7	102	81,0	25,5	2066	30,6	2479	38,3	3102	44,1	3572
WZ8031E40115BL	40,0	20,0	8,2	4,7	115	71,8	28,8	2068	34,5	2477	43,1	3095	50,6	3633
WZ8031E40127BL	40,0	20,0	8,2	4,7	127	62,7	31,8	1994	38,1	2389	47,6	2985	55,9	3505
WZ8031E40139BL	40,0	20,0	8,2	4,7	139	57,5	35,0	2013	42,0	2415	52,5	3019	61,8	3554
WZ8031E40152BL	40,0	20,0	8,2	4,7	152	51,6	38,0	1961	45,6	2353	57,0	2941	67,5	3483
WZ8031E40178BL	40,0	20,0	8,2	4,7	178	44,1	44,5	1962	53,4	2355	66,8	2946	77,2	3405
WZ8031E40203BL	40,0	20,0	8,2	4,7	203	36,7	50,8	1864	60,9	2235	76,1	2793	91,8	3369
WZ8031E40254BL	40,0	20,0	8,2	4,7	254	30,1	63,5	1911	76,2	2294	95,3	2869	112,7	3392
WZ8031E40305BL	40,0	20,0	8,2	4,7	305	24,6	76,3	1877	91,5	2251	114,4	2814	138,1	3397
WZ8031E50064BL	50,0	25,0	11,1	5,8	64	209,0	16,0	3344	19,2	4013	24,0	5016	28,2	5894
WZ8031E50076BL	50,0	25,0	11,1	5,8	76	168,0	19,0	3192	22,8	3830	28,5	4788	34,9	5863
WZ8031E50089BL	50,0	25,0	11,1	5,8	89	140,0	22,3	3122	26,7	3738	33,4	4676	39,2	5488
WZ8031E50102BL	50,0	25,0	11,1	5,8	102	119,0	25,5	3035	30,6	3641	38,3	4558	47,3	5629
WZ8031E50115BL	50,0	25,0	11,1	5,8	115	106,0	28,8	3053	34,5	3657	43,1	4569	52,6	5576
WZ8031E50127BL	50,0	25,0	11,1	5,8	127	97,0	31,8	3085	38,1	3696	47,6	4617	59,8	5801
WZ8031E50139BL	50,0	25,0	11,1	5,8	139	87,0	35,0	3045	42,0	3654	52,5	4568	65,1	5664
WZ8031E50152BL	50,0	25,0	11,1	5,8	152	80,0	38,0	3040	45,6	3648	57,0	4560	70,8	5664
WZ8031E50178BL	50,0	25,0	11,1	5,8	178	69,5	44,5	3093	53,4	3711	66,8	4643	84,2	5852
WZ8031E50203BL	50,0	25,0	11,1	5,8	203	59,8	50,8	3038	60,9	3642	76,1	4551	96,6	5771
WZ8031E50229BL	50,0	25,0	11,1	5,8	229	50,9	57,3	2971	68,7	3497	85,9	4372	108,5	5523
WZ8031E50254BL	50,0	25,0	11,1	5,8	254	43,9	63,5	2788	76,2	3345	95,3	4184	121,8	5347
WZ8031E50305BL	50,0	25,0	11,1	5,8	305	38,6	76,3	2945	91,5	3532	114,4	4416	146,8	5666
WZ8031E63076BL	63,0	38,0	11,5	9,1	76	312,0	19,0	5928	22,8	7114	28,5	8892	30,7	9578
WZ8031E63089BL	63,0	38,0	11,5	9,1	89	260,0	22,3	5798	26,7	6942	33,4	8684	36,5	9490
WZ8031E63102BL	63,0	38,0	11,5	9,1	102	221,0	25,5	5636	30,6	6763	38,3	8464	43,6	9636
WZ8031E63115BL	63,0	38,0	11,5	9,1	115	187,0	28,8	5386	34,5	6452	43,1	8060	48,9	9144
WZ8031E63127BL	63,0	38,0	11,5	9,1	127	168,0	31,8	5342	38,1	6401	47,6	7997	54,2	9106
WZ8031E63152BL	63,0	38,0	11,5	9,1	152	136,0	38,0	5168	45,6	6202	57,0	7752	65,7	8935
WZ8031E63178BL	63,0	38,0	11,5	9,1	178	114,0	44,5	5073	53,4	6088	66,8	7615	76,5	8721
WZ8031E63203BL	63,0	38,0	11,5	9,1	203	100,0	50,8	5080	60,9	6090	76,1	7610	88,0	8800
WZ8031E63229BL	63,0	38,0	11,5	9,1	229	89,2	57,3	5111	68,7	6128	85,9	7662	103,9	9268
WZ8031E63254BL	63,0	38,0	11,5	9,1	254	78,4	63,5	4978	76,2	5974	95,3	7472	112,4	8812
WZ8031E63305BL	63,0	38,0	11,5	9,1	305	64,7	76,3	4937	91,5	5920	114,4	7402	133,8	8657

CAD reference point

RED DIE SPRINGS, RECTANGULAR WIRE ISO 10243 — WZ8031RO



Mat.: Special alloy - Load range: heavy duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time			Maximal compression
			

REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	30% S1 (mm	30% S1 F1 (N)	40% S2 (mm)	40% S2 F2 (N)	50% Sn (mm)	50% Sn Fn (N)	D mm	D N
WZ8031E10025RO	10,0	5,0	1,9	1,5	25	22,1	5,0	111	6,3	139	7,5	166	9,2	203
WZ8031E10032RO	10,0	5,0	1,9	1,5	32	17,5	6,4	112	8,0	140	9,6	168	12,1	212
WZ8031E10038RO	10,0	5,0	1,9	1,5	38	17,1	7,6	130	9,5	162	11,4	195	13,2	226
WZ8031E10044RO	10,0	5,0	1,9	1,5	44	15,0	8,8	132	11,0	165	13,2	198	15,1	227
WZ8031E10051RO	10,0	5,0	1,9	1,5	51	12,8	10,2	131	12,8	164	15,3	196	19,5	250
WZ8031E10064RO	10,0	5,0	1,9	1,5	64	10,7	12,8	137	16,0	171	19,2	205	21,8	233
WZ8031E10076RO	10,0	5,0	1,9	1,5	76	7,5	15,2	114	19,0	143	22,8	171	27,9	209
WZ8031E10305RO	10,0	5,0	1,9	1,5	305	2,1	61,0	128	76,3	160	91,5	192	127,2	267
WZ8031E13025RO	12,5	6,3	2,4	1,9	25	42,1	5,0	211	6,3	265	7,5	316	9,8	413
WZ8031E13032RO	12,5	6,3	2,4	1,9	32	33,2	6,4	212	8,0	266	9,6	319	13,6	452
WZ8031E13038RO	12,5	6,3	2,4	1,9	38	29,3	7,6	223	9,5	278	11,4	334	14,6	428
WZ8031E13044RO	12,5	6,3	2,4	1,9	44	24,6	8,8	216	11,0	271	13,2	325	18,1	445
WZ8031E13051RO	12,5	6,3	2,4	1,9	51	19,6	10,2	200	12,8	251	15,3	300	22,3	437
WZ8031E13064RO	12,5	6,3	2,4	1,9	64	15,0	12,8	192	16,0	240	19,2	288	27,3	410
WZ8031E13076RO	12,5	6,3	2,4	1,9	76	13,2	15,2	201	19,0	251	22,8	301	33,1	437
WZ8031E13089RO	12,5	6,3	2,4	1,9	89	11,4	17,8	203	22,3	254	26,7	304	38,9	443
WZ8031E13102RO	12,5	6,3	2,4	1,9	102	8,4	20,4	171	25,5	214	30,6	257	43,8	368
WZ8031E13305RO	12,5	6,3	2,4	1,9	305	2,8	61,0	171	76,3	214	91,5	256	139,7	391
WZ8031E16025RO	16,0	8,0	3,1	2,5	25	75,7	5,0	379	6,3	477	7,5	568	8,4	636
WZ8031E16032RO	16,0	8,0	3,1	2,5	32	52,8	6,4	338	8,0	422	9,6	507	10,5	554
WZ8031E16038RO	16,0	8,0	3,1	2,5	38	48,5	7,6	369	9,5	461	11,4	553	13,6	660
WZ8031E16044RO	16,0	8,0	3,1	2,5	44	42,8	8,8	377	11,0	471	13,2	565	15,9	681
WZ8031E16051RO	16,0	8,0	3,1	2,5	51	37,1	10,2	378	12,8	475	15,3	568	18,9	701
WZ8031E16064RO	16,0	8,0	3,1	2,5	64	30,3	12,8	388	16,0	485	19,2	582	24,9	754
WZ8031E16076RO	16,0	8,0	3,1	2,5	76	25,7	15,2	391	19,0	488	22,8	586	29,2	750
WZ8031E16089RO	16,0	8,0	3,1	2,5	89	21,7	17,8	386	22,3	484	26,7	579	34,5	749
WZ8031E16102RO	16,0	8,0	3,1	2,5	102	19,3	20,4	394	25,5	492	30,6	591	39,1	755
WZ8031E16115RO	16,0	8,0	3,1	2,5	115	15,7	23,0	361	28,8	452	34,5	542	44,0	691
WZ8031E16305RO	16,0	8,0	3,1	2,5	305	7,1	61,0	433	76,3	542	91,5	650	103,6	736
WZ8031E20025RO	20,0	10,0	4,0	3,3	25	21,0	5,0	1080	6,3	1361	7,5	1620	8,3	1793
WZ8031E20032RO	20,0	10,0	4,0	3,3	32	168,0	6,4	1075	8,0	1344	9,6	1613	10,9	1831
WZ8031E20038RO	20,0	10,0	4,0	3,3	38	129,0	7,6	980	9,5	1226	11,4	1471	12,5	1613
WZ8031E20044RO	20,0	10,0	4,0	3,3	44	112,0	8,8	986	11,0	1232	13,2	1478	15,0	1680
WZ8031E20051RO	20,0	10,0	4,0	3,3	51	94,0	10,2	959	12,8	1203	15,3	1438	17,6	1654
WZ8031E20064RO	20,0	10,0	4,0	3,3	64	72,1	12,8	923	16,0	1154	19,2	1384	22,6	1629
WZ8031E20076RO	20,0	10,0	4,0	3,3	76	59,7	15,2	907	19,0	1134	22,8	1361	27,5	1642
WZ8031E20089RO	20,0	10,0	4,0	3,3	89	50,5	17,8	899	22,3	1126	26,7	1348	31,7	1601
WZ8031E20102RO	20,0	10,0	4,0	3,3	102	44,2	20,4	902	25,5	1127	30,6	1353	37,5	1658
WZ8031E20115RO	20,0	10,0	4,0	3,3	115	38,4	23,0	883	28,8	1106	34,5	1325	42,6	1636
WZ8031E20127RO	20,0	10,0	4,0	3,3	127	34,1	25,4	866	31,8	1084	38,1	1299	45,5	1552
WZ8031E20139RO	20,0	10,0	4,0	3,3	139	31,0	28,0	868	35,0	1085	42,0	1302	50,1	1553
WZ8031E20152RO	20,0	10,0	4,0	3,3	152	28,2	30,4	857	38,0	1072	45,6	1286	55,8	1574
WZ8031E20305RO	20,0	10,0	4,0	3,3	305	15,0	61,0	915	76,3	1145	91,5	1373	114,1	1712
WZ8031E25025RO	25,0	12,5	5,5	4,2	25	375,0	5,0	1875	6,3	2363	7,5	2813	8,5	3188
WZ8031E25032RO	25,0	12,5	5,5	4,2	32	297,0	6,4	1901	8,0	2376	9,6	2851	11,0	3267
WZ8031E25038RO	25,0	12,5	5,5	4,2	38	219,0	7,6	1664	9,5	2081	11,4	2497	12,6	2759
WZ8031E25044RO	25,0	12,5	5,5	4,2	44	187,0	8,8	1646	11,0	2057	13,2	2468	14,8	2768

CAD reference point

RED DIE SPRINGS, RECTANGULAR WIRE ISO 10243 — WZ8031RO

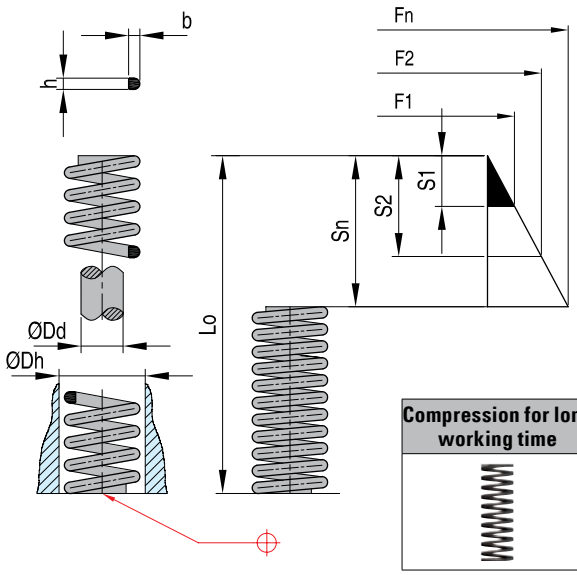
Compression for long working time			Maximal compression
			

							30%		40%		50%		D	
							S1		S2		Sn			
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	(mm	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E25051RO	25,0	12,5	5,5	4,2	51	156,0	10,2	1591	12,8	1997	15,3	2387	17,9	2792
WZ8031E25064RO	25,0	12,5	5,5	4,2	64	123,0	12,8	1574	16,0	1968	19,2	2362	23,1	2841
WZ8031E25076RO	25,0	12,5	5,5	4,2	76	99,0	15,2	1505	19,0	1881	22,8	2257	26,3	2604
WZ8031E25089RO	25,0	12,5	5,5	4,2	89	84,0	17,8	1495	22,3	1873	26,7	2243	30,5	2562
WZ8031E25102RO	25,0	12,5	5,5	4,2	102	73,0	20,4	1489	25,5	1862	30,6	2234	37,3	2723
WZ8031E25115RO	25,0	12,5	5,5	4,2	115	65,0	23,0	1495	28,8	1872	34,5	2243	41,9	2724
WZ8031E25127RO	25,0	12,5	5,5	4,2	127	57,7	25,4	1466	31,8	1835	38,1	2198	46,2	2666
WZ8031E25139RO	25,0	12,5	5,5	4,2	139	52,7	28,0	1476	35,0	1845	42,0	2213	49,3	2598
WZ8031E25152RO	25,0	12,5	5,5	4,2	152	47,8	30,4	1453	38,0	1816	45,6	2180	55,7	2662
WZ8031E25178RO	25,0	12,5	5,5	4,2	178	41,0	35,6	1460	44,5	1825	53,4	2189	65,1	2669
WZ8031E25203RO	25,0	12,5	5,5	4,2	203	35,8	40,6	1453	50,8	1819	60,9	2180	74,5	2667
WZ8031E25305RO	25,0	12,5	5,5	4,2	305	22,9	61,0	1397	76,3	1747	91,5	2095	110,2	2524
WZ8031E32038RO	32,0	16,0	7,1	5,4	38	388,0	7,6	2949	9,5	3686	11,4	4423	12,5	4850
WZ8031E32044RO	32,0	16,0	7,1	5,4	44	324,0	8,8	2851	11,0	3564	13,2	4277	14,9	4828
WZ8031E32051RO	32,0	16,0	7,1	5,4	51	272,0	10,2	2774	12,8	3482	15,3	4162	17,8	4842
WZ8031E32064RO	32,0	16,0	7,1	5,4	64	212,0	12,8	2714	16,0	3392	19,2	4070	22,4	4749
WZ8031E32076RO	32,0	16,0	7,1	5,4	76	172,0	15,2	2614	19,0	3268	22,8	3922	26,1	4489
WZ8031E32089RO	32,0	16,0	7,1	5,4	89	141,0	17,8	2510	22,3	3144	26,7	3765	30,8	4343
WZ8031E32102RO	32,0	16,0	7,1	5,4	102	122,0	20,4	2489	25,5	3111	30,6	3733	36,8	4490
WZ8031E32115RO	32,0	16,0	7,1	5,4	115	107,0	23,0	2461	28,8	3082	34,5	3692	41,4	4430
WZ8031E32127RO	32,0	16,0	7,1	5,4	127	93,0	25,4	2362	31,8	2957	38,1	3543	44,4	4129
WZ8031E32139RO	32,0	16,0	7,1	5,4	139	86,0	28,0	2408	35,0	3010	42,0	3612	48,5	4171
WZ8031E32152RO	32,0	16,0	7,1	5,4	152	78,0	30,4	2371	38,0	2964	45,6	3557	54,8	4274
WZ8031E32178RO	32,0	16,0	7,1	5,4	178	67,2	35,6	2392	44,5	2990	53,4	3588	63,6	4274
WZ8031E32203RO	32,0	16,0	7,1	5,4	203	59,1	40,6	2399	50,8	3002	60,9	3599	72,5	4285
WZ8031E32254RO	32,0	16,0	7,1	5,4	254	46,4	50,8	2357	63,5	2946	76,2	3536	92,8	4306
WZ8031E32305RO	32,0	16,0	7,1	5,4	305	38,0	61,0	2318	76,3	2899	91,5	3477	111,8	4248
WZ8031E40051RO	40,0	20,0	8,4	6,2	51	350,0	10,2	3570	12,8	4480	15,3	5355	17,0	5950
WZ8031E40064RO	40,0	20,0	8,4	6,2	64	269,0	12,8	3443	16,0	4304	19,2	5165	21,9	5891
WZ8031E40076RO	40,0	20,0	8,4	6,2	76	219,0	15,2	3329	19,0	4161	22,8	4993	26,7	5847
WZ8031E40089RO	40,0	20,0	8,4	6,2	89	190,0	17,8	3382	22,3	4237	26,7	5073	31,3	5947
WZ8031E40102RO	40,0	20,0	8,4	6,2	102	163,0	20,4	3325	25,5	4157	30,6	4988	37,1	6047
WZ8031E40115RO	40,0	20,0	8,4	6,2	115	142,0	23,0	3266	28,8	4090	34,5	4899	41,0	5822
WZ8031E40127RO	40,0	20,0	8,4	6,2	127	128,0	25,4	3251	31,8	4070	38,1	4877	46,5	5952
WZ8031E40139RO	40,0	20,0	8,4	6,2	139	115,0	28,0	3220	35,0	4025	42,0	4830	53,1	6107
WZ8031E40152RO	40,0	20,0	8,4	6,2	152	105,0	30,4	3192	38,0	3990	45,6	4788	56,1	5891
WZ8031E40178RO	40,0	20,0	8,4	6,2	178	89,0	35,6	3168	44,5	3961	53,4	4753	67,4	5999
WZ8031E40203RO	40,0	20,0	8,4	6,2	203	77,0	40,6	3126	50,8	3912	60,9	4689	76,2	5867
WZ8031E40254RO	40,0	20,0	8,4	6,2	254	61,0	50,8	3099	63,5	3874	76,2	4648	96,2	5868
WZ8031E40305RO	40,0	20,0	8,4	6,2	305	51,0	61,0	3111	76,3	3891	91,5	4667	114,8	5855
WZ8031E50064RO	50,0	25,0	11,1	7,6	64	413,0	12,8	5286	16,0	6608	19,2	7930	22,4	9251
WZ8031E50076RO	50,0	25,0	11,1	7,6	76	339,0	15,2	5153	19,0	6441	22,8	7729	26,5	8984
WZ8031E50089RO	50,0	25,0	11,1	7,6	89	288,0	17,8	5126	22,3	6422	26,7	7690	31,5	9072
WZ8031E50102RO	50,0	25,0	11,1	7,6	102	245,0	20,4	4998	25,5	6248	30,6	7497	37,6	9212
WZ8031E50115RO	50,0	25,0	11,1	7,6	115	215,0	23,0	4945	28,8	6192	34,5	7418	42,7	9181
WZ8031E50127RO	50,0	25,0	11,1	7,6	127	192,0	25,4	4877	31,8	6106	38,1	7315	47,5	9120
WZ8031E50139RO	50,0	25,0	11,1	7,6	139	168,0	28,0	4704	35,0	5880	42,0	7056	51,8	8702
WZ8031E50152RO	50,0	25,0	11,1	7,6	152	154,0	30,4	4682	38,0	5852	45,6	7022	57,8	8901
WZ8031E50178RO	50,0	25,0	11,1	7,6	178	134,0	35,6	4770	44,5	5963	53,4	7156	68,5	9179
WZ8031E50203RO	50,0	25,0	11,1	7,6	203	117,0	40,6	4750	50,8	5944	60,9	7125	77,6	9079
WZ8031E50254RO	50,0	25,0	11,1	7,6	254	89,0	50,8	4521	63,5	5652	76,2	6782	97,9	8713
WZ8031E50305RO	50,0	25,0	11,1	7,6	305	73,0	61,0	4453	76,3	5570	91,5	6680	120,7	881
WZ8031E63076RO	63,0	38,0	11,6	12,3	76	618,0	15,2	9394	19,0	11742	22,8	14090	24,7	15265
WZ8031E63089RO	63,0	38,0	11,6	12,3	89	515,0	17,8	9167	22,3	11485	26,7	13751	30,0	15450
WZ8031E63102RO	63,0	38,0	11,6	12,3	102	438,0	20,4	8935	25,5	11169	30,6	13403	35,1	15374
WZ8031E63115RO	63,0	38,0	11,6	12,3	115	370,0	23,0	8510	28,8	10656	34,5	12765	37,5	13875
WZ8031E63127RO	63,0	38,0	11,6	12,3	127	333,0	25,4	8458	31,8	10589	38,1	12687	45,9	15285
WZ8031E63152RO	63,0	38,0	11,6	12,3	152	269,0	30,4	8178	38,0	10222	45,6	12266	56,5	15199
WZ8031E63178RO	63,0	38,0	11,6	12,3	178	226,0	35,6	8046	44,5	10057	53,4	12068	66,8	15097
WZ8031E63203RO	63,0	38,0	11,6	12,3	203	198,0	40,6	8039	50,8	10058	60,9	12058	78,8	15602
WZ8031E63254RO	63,0	38,0	11,6	12,3	254	155,0	50,8	7874	63,5	9843	76,2	11811	101,7	15763
WZ8031E63305RO	63,0	38,0	11,6	12,3	305	128,0	61,0	7808	76,3	9766	91,5	11712	122,4	15667

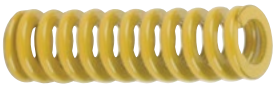
CAD reference point

DIE SPRINGS – RECTANGULAR WIRE

YELLOW DIE SPRINGS, RECTANGULAR WIRE ISO 10243 — WZ8031GE



Mat.: Special alloy - Load range: extra heavy duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C



Compression for long working time			Maximal compression
			

						30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E10025GE	10,0	5,0	1,9	1,6	25	36,8	4,3	158	5,0	184	6,3	232	7,7	283
WZ8031E10032GE	10,0	5,0	1,9	1,6	32	27,9	5,4	151	6,4	179	8,0	223	10,6	296
WZ8031E10038GE	10,0	5,0	1,9	1,6	38	23,7	6,5	154	7,6	180	9,5	225	12,6	299
WZ8031E10044GE	10,0	5,0	1,9	1,6	44	19,2	7,5	144	8,8	169	11,0	211	13,8	265
WZ8031E10051GE	10,0	5,0	1,9	1,6	51	16,5	8,7	144	10,2	168	12,8	211	16,2	267
WZ8031E10064GE	10,0	5,0	1,9	1,6	64	13,2	10,9	144	12,8	169	16,0	211	20,4	269
WZ8031E10076GE	10,0	5,0	1,9	1,6	76	10,9	12,9	141	15,2	166	19,0	207	25,2	275
WZ8031E10305GE	10,0	5,0	1,9	1,6	305	2,6	51,9	135	61,0	159	76,3	198	110,8	288
WZ8031E13025GE	12,5	6,3	2,6	2,0	25	58,5	4,3	252	5,0	293	6,3	369	8,1	474
WZ8031E13032GE	12,5	6,3	2,6	2,0	32	43,9	5,4	237	6,4	281	8,0	351	9,9	435
WZ8031E13038GE	12,5	6,3	2,6	2,0	38	36,0	6,5	234	7,6	274	9,5	342	12,9	464
WZ8031E13044GE	12,5	6,3	2,6	2,0	44	30,3	7,5	227	8,8	267	11,0	333	14,1	427
WZ8031E13051GE	12,5	6,3	2,6	2,0	51	26,2	8,7	228	10,2	267	12,8	335	17,4	456
WZ8031E13064GE	12,5	6,3	2,6	2,0	64	21,2	10,9	231	12,8	271	16,0	339	21,0	445
WZ8031E13076GE	12,5	6,3	2,6	2,0	76	17,1	12,9	221	15,2	260	19,0	325	26,4	451
WZ8031E13089GE	12,5	6,3	2,6	2,0	89	14,5	15,1	219	17,8	258	22,3	323	31,5	457
WZ8031E13102GE	12,5	6,3	2,6	2,0	102	12,7	17,3	220	20,4	259	25,5	324	36,0	457
WZ8031E13305GE	12,5	6,3	2,6	2,0	305	4,3	51,9	223	61,0	262	76,3	328	111,3	479
WZ8031E16025GE	16,0	8,0	3,2	2,9	25	118,0	4,3	507	5,0	590	6,3	743	8,5	1003
WZ8031E16032GE	16,0	8,0	3,2	2,9	32	89,0	5,4	481	6,4	570	8,0	712	11,0	979
WZ8031E16038GE	16,0	8,0	3,2	2,9	38	72,1	6,5	469	7,6	548	9,5	685	13,2	952
WZ8031E16044GE	16,0	8,0	3,2	2,9	44	60,9	7,5	457	8,8	536	11,0	670	14,7	895
WZ8031E16051GE	16,0	8,0	3,2	2,9	51	52,3	8,7	455	10,2	533	12,8	669	17,7	926
WZ8031E16064GE	16,0	8,0	3,2	2,9	64	41,2	10,9	449	12,8	527	16,0	659	21,9	902
WZ8031E16076GE	16,0	8,0	3,2	2,9	76	34,1	12,9	440	15,2	518	19,0	648	27,8	948
WZ8031E16089GE	16,0	8,0	3,2	2,9	89	29,5	15,1	445	17,8	525	22,3	658	31,2	920
WZ8031E16102GE	16,0	8,0	3,2	2,9	102	25,6	17,3	443	20,4	522	25,5	653	37,9	970
WZ8031E16115GE	16,0	8,0	3,2	2,9	115	22,4	19,6	439	23,0	515	28,8	645	44,5	997
WZ8031E16305GE	16,0	8,0	3,2	2,9	305	8,4	51,9	436	61,0	512	76,3	641	113,5	953
WZ8031E20025GE	20,0	10,0	4,1	3,8	25	293,0	4,3	1260	5,0	1465	6,3	1846	6,9	2022
WZ8031E20032GE	20,0	10,0	4,1	3,8	32	224,0	5,4	1210	6,4	1434	8,0	1792	9,4	2106
WZ8031E20038GE	20,0	10,0	4,1	3,8	38	177,0	6,5	1151	7,6	1345	9,5	1682	12,0	2124
WZ8031E20044GE	20,0	10,0	4,1	3,8	44	149,0	7,5	1118	8,8	1311	11,0	1639	13,5	2012
WZ8031E20051GE	20,0	10,0	4,1	3,8	51	128,0	8,7	1114	10,2	1306	12,8	1638	16,2	2074
WZ8031E20064GE	20,0	10,0	4,1	3,8	64	99,0	10,9	1079	12,8	1267	16,0	1584	21,2	2099
WZ8031E20076GE	20,0	10,0	4,1	3,8	76	81,7	12,9	1054	15,2	1242	19,0	1552	24,7	2018
WZ8031E20089GE	20,0	10,0	4,1	3,8	89	69,5	15,1	1049	17,8	1237	22,3	1550	28,8	2002
WZ8031E20102GE	20,0	10,0	4,1	3,8	102	60,6	17,3	1048	20,4	1236	25,5	1545	34,8	2109
WZ8031E20115GE	20,0	10,0	4,1	3,8	115	53,0	19,6	1039	23,0	1219	28,8	1526	39,0	2067
WZ8031E20127GE	20,0	10,0	4,1	3,8	127	47,5	21,6	1026	25,4	1207	31,8	1511	43,0	2043
WZ8031E20139GE	20,0	10,0	4,1	3,8	139	43,0	23,8	1023	28,0	1204	35,0	1505	45,3	1948
WZ8031E20152GE	20,0	10,0	4,1	3,8	152	39,0	25,8	1006	30,4	1186	38,0	1482	50,4	1966
WZ8031E20305GE	20,0	10,0	4,1	3,8	305	21,2	51,9	1100	61,0	1293	76,3	1618	103,5	2194
WZ8031E25025GE	25,0	12,5	5,4	4,6	25	459,0	4,3	1974	5,0	2295	6,3	2892	7,3	3351
WZ8031E25032GE	25,0	12,5	5,4	4,6	32	374,4	5,4	2022	6,4	2396	8,0	2995	10,7	4006
WZ8031E25038GE	25,0	12,5	5,4	4,6	38	346,0	6,5	2249	7,6	2630	9,5	3287	12,0	4152
WZ8031E25044GE	25,0	12,5	5,4	4,6	44	244,0	7,5	1830	8,8	2147	11,0	2684	14,4	3514
WZ8031E25051GE	25,0	12,5	5,4	4,6	51	207,5	8,7	1805	10,2	2117	12,8	2656	17,4	3611

CAD reference point

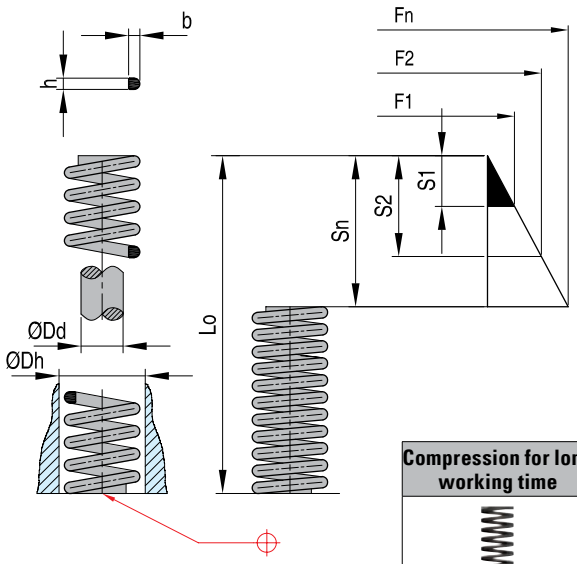
YELLOW DIE SPRINGS, RECTANGULAR WIRE ISO 10243 — WZ8031GE

Compression for long working time			Maximal compression
			

							30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E25064GE	25,0	12,5	5,4	4,6	64	161,0	10,9	1755	12,8	2061	16,0	2576	21,4	3445
WZ8031E25076GE	25,0	12,5	5,4	4,6	76	130,8	12,9	1687	15,2	1988	19,0	2485	26,9	3519
WZ8031E25089GE	25,0	12,5	5,4	4,6	89	110,5	15,1	1669	17,8	1967	22,3	2464	30,9	3414
WZ8031E25102GE	25,0	12,5	5,4	4,6	102	96,3	17,3	1666	20,4	1965	25,5	2456	36,7	3534
WZ8031E25115GE	25,0	12,5	5,4	4,6	115	85,7	19,6	1680	23,0	1971	28,8	2468	40,3	3454
WZ8031E25127GE	25,0	12,5	5,4	4,6	127	76,3	21,6	1648	25,4	1938	31,8	2426	45,1	3441
WZ8031E25139GE	25,0	12,5	5,4	4,6	139	68,9	23,8	1640	28,0	1929	35,0	2412	47,6	3280
WZ8031E25152GE	25,0	12,5	5,4	4,6	152	63,5	25,8	1638	30,4	1930	38,0	2413	53,5	3397
WZ8031E25178GE	25,0	12,5	5,4	4,6	178	53,9	30,3	1633	35,6	1919	44,5	2399	63,9	3444
WZ8031E25203GE	25,0	12,5	5,4	4,6	203	47,0	34,5	1622	40,6	1908	50,8	2388	70,2	3299
WZ8031E25305GE	25,0	12,5	5,4	4,6	305	30,9	51,9	1604	61,0	1885	76,3	2358	110,1	3402
WZ8031E32038GE	32,0	16,0	7,3	5,9	38	528,2	6,5	3433	7,6	4014	9,5	5018	11,4	6021
WZ8031E32044GE	32,0	16,0	7,3	5,9	44	424,4	7,5	3183	8,8	3735	11,0	4668	13,7	5814
WZ8031E32051GE	32,0	16,0	7,3	5,9	51	353,0	8,7	3071	10,2	3601	12,8	4518	15,6	5507
WZ8031E32064GE	32,0	16,0	7,3	5,9	64	269,2	10,9	2934	12,8	3446	16,0	4307	20,0	5384
WZ8031E32076GE	32,0	16,0	7,3	5,9	76	218,5	12,9	2819	15,2	3321	19,0	4152	24,4	5331
WZ8031E32089GE	32,0	16,0	7,3	5,9	89	180,3	15,1	2723	17,8	3209	22,3	4021	29,7	5355
WZ8031E32102GE	32,0	16,0	7,3	5,9	102	155,0	17,3	2682	20,4	3162	25,5	3953	35,1	5441
WZ8031E32115GE	32,0	16,0	7,3	5,9	115	140,0	19,6	2744	23,0	3220	28,8	4032	39,0	5460
WZ8031E32127GE	32,0	16,0	7,3	5,9	127	124,0	21,6	2678	25,4	3150	31,8	3943	42,8	5307
WZ8031E32139GE	32,0	16,0	7,3	5,9	139	112,3	23,8	2673	28,0	3144	35,0	3931	48,6	5458
WZ8031E32152GE	32,0	16,0	7,3	5,9	152	102,0	25,8	2632	30,4	3101	38,0	3876	52,4	5345
WZ8031E32178GE	32,0	16,0	7,3	5,9	178	88,2	30,3	2672	35,6	3140	44,5	3925	60,9	5371
WZ8031E32203GE	32,0	16,0	7,3	5,9	203	76,0	34,5	2622	40,6	3086	50,8	3861	69,2	5259
WZ8031E32254GE	32,0	16,0	7,3	5,9	254	60,8	43,2	2627	50,8	3089	63,5	3861	88,1	5356
WZ8031E32305GE	32,0	16,0	7,3	5,9	305	49,0	51,9	2543	61,0	2989	76,3	3739	104,2	5106
WZ8031E40051GE	40,0	20,0	8,4	7,5	51	628,0	8,7	5464	10,2	6406	12,8	8038	15,0	9420
WZ8031E40064GE	40,0	20,0	8,4	7,5	64	487,0	10,9	5308	12,8	6234	16,0	7792	19,5	9497
WZ8031E40076GE	40,0	20,0	8,4	7,5	76	379,0	12,9	4889	15,2	5761	19,0	7201	23,3	8831
WZ8031E40089GE	40,0	20,0	8,4	7,5	89	321,0	15,1	4847	17,8	5714	22,3	7158	26,7	8571
WZ8031E40102GE	40,0	20,0	8,4	7,5	102	281,0	17,3	4861	20,4	5732	25,5	7166	33,8	9498
WZ8031E40115GE	40,0	20,0	8,4	7,5	115	245,0	19,6	4802	23,0	5635	28,8	7056	36,2	8869
WZ8031E40127GE	40,0	20,0	8,4	7,5	127	221,0	21,6	4774	25,4	5613	31,8	7028	40,7	8995
WZ8031E40139GE	40,0	20,0	8,4	7,5	139	190,0	23,8	4522	28,0	5320	35,0	6650	44,5	8455
WZ8031E40152GE	40,0	20,0	8,4	7,5	152	168,0	25,8	4334	30,4	5107	38,0	6384	49,6	8333
WZ8031E40178GE	40,0	20,0	8,4	7,5	178	146,0	30,3	4424	35,6	5198	44,5	6497	59,9	8745
WZ8031E40203GE	40,0	20,0	8,4	7,5	203	132,0	34,5	4554	40,6	5359	50,8	6706	67,1	8857
WZ8031E40254GE	40,0	20,0	8,4	7,5	254	107,0	43,2	4622	50,8	5436	63,5	6795	86,3	9234
WZ8031E40305GE	40,0	20,0	8,4	7,5	305	87,8	51,9	4557	61,0	5356	76,3	6699	103,6	9096
WZ8031E50064GE	50,0	25,0	11,5	9,0	64	709,0	10,9	7728	12,8	9075	16,0	11344	19,3	13684
WZ8031E50076GE	50,0	25,0	11,5	9,0	76	572,0	12,9	7379	15,2	8694	19,0	10868	24,2	13842
WZ8031E50089GE	50,0	25,0	11,5	9,0	89	475,0	15,1	7173	17,8	8455	22,3	10593	28,0	13300
WZ8031E50102GE	50,0	25,0	11,5	9,0	102	405,0	17,3	7007	20,4	8262	25,5	10328	33,5	13568
WZ8031E50115GE	50,0	25,0	11,5	9,0	115	352,0	19,6	6899	23,0	8096	28,8	10138	38,6	13587
WZ8031E50127GE	50,0	25,0	11,5	9,0	127	316,0	21,6	6826	25,4	8026	31,8	10049	41,4	13082
WZ8031E50139GE	50,0	25,0	11,5	9,0	139	274,0	23,8	6521	28,0	7672	35,0	9590	47,3	12960
WZ8031E50152GE	50,0	25,0	11,5	9,0	152	239,0	25,8	6166	30,4	7266	38,0	9082	50,2	11998
WZ8031E50178GE	50,0	25,0	11,5	9,0	178	215,0	30,3	6515	35,6	7654	44,5	9568	61,1	13137
WZ8031E50203GE	50,0	25,0	11,5	9,0	203	187,0	34,5	6452	40,6	7592	50,8	9500	67,7	12660
WZ8031E50254GE	50,0	25,0	11,5	9,0	254	153,0	43,2	6610	50,8	7772	63,5	9716	87,0	13311
WZ8031E50305GE	50,0	25,0	11,5	9,0	305	127,0	51,9	6591	61,0	7747	76,3	9690	103,4	13132
WZ8031E63076GE	63,0	38,0	11,6	14,9	76	952,0	12,9	12280	15,2	14470	*	*	15,5	14756
WZ8031E63089GE	63,0	38,0	11,6	14,9	89	819,0	15,1	12360	17,8	14580	*	*	20,0	19040
WZ8031E63102GE	63,0	38,0	11,6	14,9	102	700,0	17,3	12110	20,4	14280	25,5	17850	30,7	21449
WZ8031E63115GE	63,0	38,0	11,6	14,9	115	620,0	19,6	12152	23,0	14260	28,8	17860	34,9	21640
WZ8031E63127GE	63,0	38,0	11,6	14,9	127	565,0	21,6	12204	25,4	14351	31,8	17967	38,0	21470
WZ8031E63152GE	63,0	38,0	11,6	14,9	152	458,0	25,8	11816	30,4	13923	38,0	17404	47,2	21618
WZ8031E63178GE	63,0	38,0	11,6	14,9	178	384,0	30,3	11635	35,6	13670	44,5	17088	55,8	21427
WZ8031E63203GE	63,0	38,0	11,6	14,9	203	337,0	34,5	11627	40,6	13682	50,8	17120	64,8	21838
WZ8031E63254GE	63,0	38,0	11,6	14,9	254	263,0	43,2	11362	50,8	13360	63,5	16701	86,7	22802
WZ8031E63305GE	63,0	38,0	11,6	14,9	305	218	51,9	11314	61,0	13298	76,3	16633	105,7	23043

CAD reference point

SILVER DIE SPRINGS, RECTANGULAR WIRE — WZ8031A



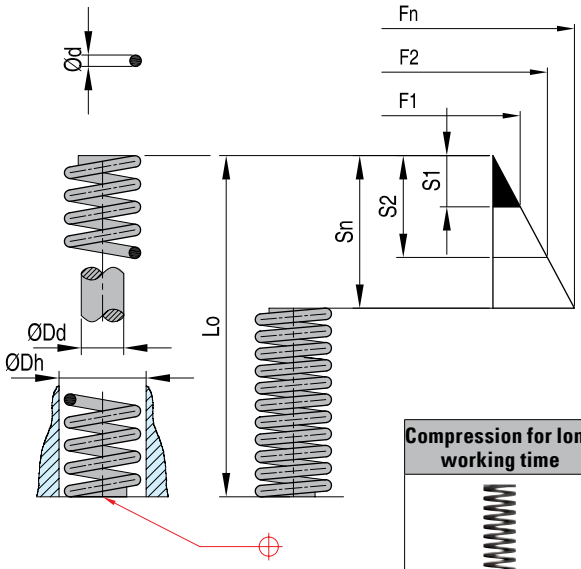
Mat.: Special alloy - Load range: ultra heavy duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time			Maximal compression
			

							30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Øb (mm)	Øh (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031E25064A	25	12,5	5,6	7,5	64	644	6,4	4122	7,7	4959	9,6	6182	13	8372
WZ8031E25076A	25	12,5	5,6	7,5	76	556	7,6	4226	9,1	5060	11,4	6338	16	8896
WZ8031E25089A	25	12,5	5,6	7,5	89	462	8,9	4112	10,7	4943	13,4	6168	20	9240
WZ8031E25102A	25	12,5	5,6	7,5	102	390	10,2	3978	12,2	4758	15,3	5967	23	8970
WZ8031E25115A	25	12,5	5,6	7,5	115	360	11,5	4140	13,8	4968	17,3	6210	26	9360
WZ8031E25127A	25	12,5	5,6	7,5	127	326	12,7	4140	15,2	4955	19,1	6210	28	9128
WZ8031E25152A	25	12,5	5,6	7,5	152	255	15,2	3876	18,2	4641	22,8	5814	34	8670
WZ8031E25178A	25	12,5	5,6	7,5	178	230	17,8	4094	21,4	4922	26,7	6141	39	8970
WZ8031E25203A	25	12,5	5,6	7,5	203	202	20,3	4101	24,4	4929	30,5	6151	45	9090
WZ8031E25305A	25	12,5	5,6	7,5	305	136	30,5	4148	36,6	4978	45,8	6222	63	8568
WZ8031E32064A	32	16,0	7,5	9,2	64	1077	6,4	6892	7,7	8270	9,60	10337	16	13998
WZ8031E32076A	32	16,0	7,5	9,2	76	874	7,6	6642	9,1	7971	11,40	9964	16	13984
WZ8031E32089A	32	16,0	7,5	9,2	89	721	8,9	6419	11,0	7702	13,35	9628	20	14424
WZ8031E32102A	32	16,0	7,5	9,2	102	620	10,0	6324	12,0	7589	15,30	9486	23	14260
WZ8031E32115A	32	16,0	7,5	9,2	115	560	12,0	6440	14,0	7728	17,25	9660	26	14560
WZ8031E32127A	32	16,0	7,5	9,2	127	496	13,0	6299	15,0	7559	19,05	9449	28	13888
WZ8031E32152A	32	16,0	7,5	9,2	152	408	15,0	6202	18,0	7442	22,80	9302	34	13872
WZ8031E32178A	32	16,0	7,5	9,2	178	353	18,0	6280	21,0	7536	26,70	9420	39	13759
WZ8031E32203A	32	16,0	7,5	9,2	203	304	20,0	6171	24,0	7405	30,45	9257	45	13680
WZ8031E32254A	32	16,0	7,5	9,2	254	243	25,0	6177	30,0	7413	38,10	9266	62	15078
WZ8031E32305A	32	16,0	7,5	9,2	305	196	31,0	5978	37,0	7174	45,75	8967	75	14700
WZ8031E40089A	40	20,0	8,5	11,0	89	880	8,9	7832	10,7	9416	13,4	11748	20	17600
WZ8031E40102A	40	20,0	8,5	11,0	102	762	10,2	7772	12,2	9296	15,3	11659	23	17526
WZ8031E40115A	40	20,0	8,5	11,0	115	679	11,5	7809	13,8	9370	17,3	11713	26	17654
WZ8031E40127A	40	20,0	8,5	11,0	127	622	12,7	7899	15,2	9454	19,1	11849	28	17416
WZ8031E40152A	40	20,0	8,5	11,0	152	509	22,8	7737	18,2	9264	22,8	11605	36	18324
WZ8031E40178A	40	20,0	8,5	11,0	178	429	17,8	7636	21,4	9181	26,7	11454	43	18447
WZ8031E40203A	40	20,0	8,5	11,0	203	374	20,3	7592	24,4	9126	30,5	11388	49	18326
WZ8031E40254A	40	20,0	8,5	11,0	254	296	25,4	7518	30,5	9028	38,1	11278	62	18352
WZ8031E40305A	40	20,0	8,5	11,0	305	246	30,5	7530	36,6	9004	45,8	11255	75	18450
WZ8031E50089A	50	25,0	11,8	13,5	89	1410	8,9	12549	10,7	15087	13,4	18824	19	26790
WZ8031E50102A	50	25,0	11,8	13,5	102	1215	10,2	12393	12,2	14823	15,3	18590	22	26730
WZ8031E50115A	50	25,0	11,8	13,5	115	1076	11,5	12374	13,8	14849	17,3	18561	25	26900
WZ8031E50127A	50	25,0	11,8	13,5	127	968	12,7	12294	15,2	14714	19,1	18440	28	27104
WZ8031E50152A	50	25,0	11,8	13,5	152	806	15,2	12251	18,2	14669	22,8	18377	34	27404
WZ8031E50178A	50	25,0	11,8	13,5	178	698	17,8	12424	21,4	14937	26,7	18637	40	27920
WZ8031E50203A	50	25,0	11,8	13,5	203	612	20,3	12424	24,4	14933	30,5	18635	45	27540
WZ8031E50254A	50	25,0	11,8	13,5	254	472	25,4	11989	30,5	14396	38,1	17983	58	27376
WZ8031E50305A	50	25,0	11,8	13,5	305	388	30,5	11834	36,6	14201	45,8	17751	70	27160

CAD reference point

BLUE DIE SPRINGS, ROUND WIRE — WZ8031TB



Mat.: Special alloy - Load range: medium load springs.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

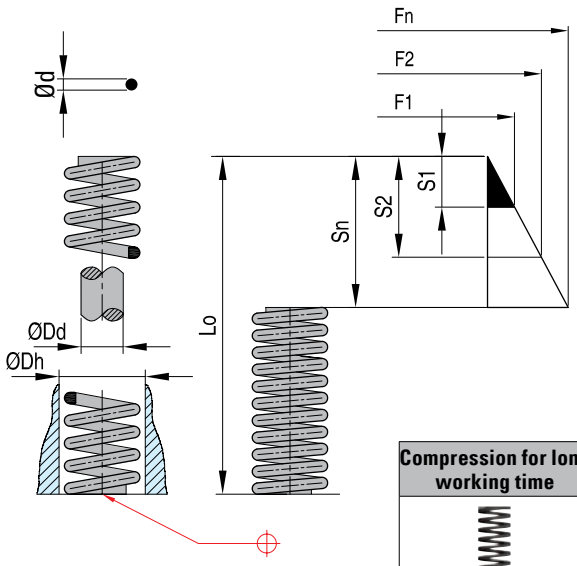
Compression for long working time			Maximal compression
			

						30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031TB10025	10,0	5,0	1,5	25	12,3	6,3	77	7,5	92	9,4	115	10,4	129
WZ8031TB10032	10,0	5,0	1,5	32	9,5	8,0	76	9,6	91	12,0	113	13,2	129
WZ8031TB10038	10,0	5,0	1,5	38	7,8	9,5	74	11,4	88	14,3	111	16,0	125
WZ8031TB10044	10,0	5,0	1,5	44	6,5	11,0	72	13,2	86	16,5	108	18,5	120
WZ8031TB10051	10,0	5,0	1,5	51	5,6	12,8	72	15,3	86	19,1	108	21,1	120
WZ8031TB10064	10,0	5,0	1,5	64	4,5	16,0	71	19,2	86	24,0	107	26,4	120
WZ8031TB10076	10,0	5,0	1,5	76	3,7	19,0	70	22,8	84	28,5	105	31,8	116
WZ8031TB10305	10,0	5,0	1,5	305	0,9	76,3	68	91,5	82	114,4	102	128,5	116
WZ8031TB13025	12,5	6,3	1,8	25	21,7	6,3	136	7,5	163	9,4	204	11,2	240
WZ8031TB13032	12,5	6,3	1,8	32	16,8	8,0	134	9,6	161	12,0	202	14,0	236
WZ8031TB13038	12,5	6,3	1,8	38	13,8	9,5	131	11,4	158	14,3	197	17,3	240
WZ8031TB13044	12,5	6,3	1,8	44	11,6	11,0	127	13,2	153	16,5	191	19,8	227
WZ8031TB13051	12,5	6,3	1,8	51	10,0	12,8	127	15,3	153	19,1	191	22,9	231
WZ8031TB13064	12,5	6,3	1,8	64	7,8	16,0	125	19,2	150	24,0	187	28,4	222
WZ8031TB13076	12,5	6,3	1,8	76	6,4	19,0	122	22,8	146	28,5	183	34,3	218
WZ8031TB13089	12,5	6,3	1,8	89	5,6	22,3	125	26,7	150	33,4	188	41,4	231
WZ8031TB13305	12,5	6,3	1,8	305	1,5	76,3	118	91,5	141	114,4	176	139,4	214
WZ8031TB16025	16,0	8,0	2,2	25	31,9	6,3	199	7,5	239	9,4	299	10,9	347
WZ8031TB16032	16,0	8,0	2,2	32	24,0	8,0	192	9,6	230	12,0	288	13,7	329
WZ8031TB16038	16,0	8,0	2,2	38	19,4	9,5	185	11,4	222	14,3	277	16,5	320
WZ8031TB16044	16,0	8,0	2,2	44	16,1	11,0	177	13,2	213	16,5	266	19,3	311
WZ8031TB16051	16,0	8,0	2,2	51	13,8	12,8	176	15,3	212	19,1	265	22,1	307
WZ8031TB16064	16,0	8,0	2,2	64	10,7	16,0	171	19,2	205	24,0	256	27,4	294
WZ8031TB16076	16,0	8,0	2,2	76	8,8	19,0	166	22,8	200	28,5	250	33,0	289
WZ8031TB16089	16,0	8,0	2,2	89	7,5	22,3	167	26,7	200	33,4	250	38,6	289
WZ8031TB16102	16,0	8,0	2,2	102	6,5	25,5	167	30,6	200	38,3	250	44,5	289
WZ8031TB16305	16,0	8,0	2,2	305	2,1	76,3	159	91,5	191	114,4	238	133,6	280

CAD reference point

DIE SPRINGS – ROUND WIRE

GREEN DIE SPRINGS, ROUND WIRE — WZ8031TV



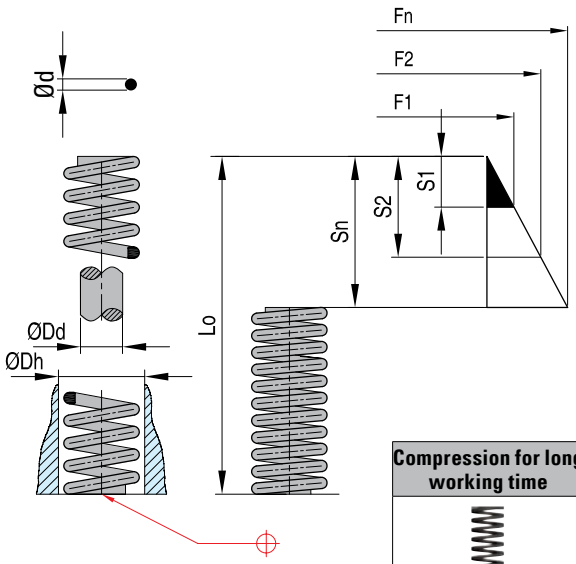
Mat.: Special alloy - Load range: light load springs.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time			Maximal compression
			

					30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	ØLo (mm)	Federrate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031TV10025	10,0	5,0	1,1	25	4,4	6,3	28	7,5	33	10,0	44	13,2	58
WZ8031TV10032	10,0	5,0	1,1	32	3,4	8,0	27	9,6	33	12,8	44	16,5	58
WZ8031TV10038	10,0	5,0	1,1	38	2,8	9,5	26	11,4	32	15,2	42	19,8	53
WZ8031TV10044	10,0	5,0	1,1	44	2,4	11,0	26	13,2	31	17,6	42	23,1	53
WZ8031TV10051	10,0	5,0	1,1	51	2,1	12,8	27	15,3	32	20,4	43	26,9	58
WZ8031TV10064	10,0	5,0	1,1	64	1,6	16,0	26	19,2	31	25,6	42	33,3	53
WZ8031TV10076	10,0	5,0	1,1	76	1,3	19,0	25	22,8	30	30,4	40	39,6	53
WZ8031TV10305	10,0	5,0	1,1	305	0,3	76,3	24	91,5	29	122,0	38	157,2	49
WZ8031TV13025	12,5	6,3	1,5	25	8,5	6,3	53	7,5	64	10,0	85	13,5	116
WZ8031TV13032	12,5	6,3	1,5	32	6,5	8,0	52	9,6	62	12,8	83	16,8	111
WZ8031TV13038	12,5	6,3	1,5	38	5,3	9,5	51	11,4	61	15,2	81	20,3	107
WZ8031TV13044	12,5	6,3	1,5	44	4,4	11,0	49	13,2	59	17,6	78	23,9	107
WZ8031TV13051	12,5	6,3	1,5	51	3,8	12,8	48	15,3	58	20,4	78	26,9	102
WZ8031TV13064	12,5	6,3	1,5	64	2,9	16,0	47	19,2	56	25,6	75	33,3	98
WZ8031TV13076	12,5	6,3	1,5	76	2,5	19,0	48	22,8	57	30,4	76	41,1	102
WZ8031TV13089	12,5	6,3	1,5	89	2,1	22,3	48	26,7	57	35,6	76	48,3	102
WZ8031TV13305	12,5	6,3	1,5	305	0,6	76,3	45	91,5	54	122,0	73	162,8	93
WZ8031TV16025	16,0	8,0	2,0	25	17,9	6,3	112	7,5	134	10,0	179	14,7	262
WZ8031TV16032	16,0	8,0	2,0	32	13,5	8,0	108	9,6	129	12,8	173	18,5	249
WZ8031TV16038	16,0	8,0	2,0	38	10,5	9,5	100	11,4	120	15,2	160	22,4	236
WZ8031TV16044	16,0	8,0	2,0	44	8,8	11,0	96	13,2	116	17,6	154	25,9	227
WZ8031TV16051	16,0	8,0	2,0	51	7,6	12,8	97	15,3	116	20,4	155	30,0	227
WZ8031TV16064	16,0	8,0	2,0	64	5,9	16,0	95	19,2	114	25,6	152	37,8	222
WZ8031TV16076	16,0	8,0	2,0	76	4,8	19,0	91	22,8	109	30,4	145	45,2	218
WZ8031TV16089	16,0	8,0	2,0	89	4,0	22,3	90	26,7	108	35,6	144	52,8	214
WZ8031TV16102	16,0	8,0	2,0	102	3,5	25,5	90	30,6	108	40,8	144	60,7	214
WZ8031TV16305	16,0	8,0	2,0	305	1,1	76,3	85	91,5	103	122,0	137	183,9	205

CAD reference point

RED DIE SPRINGS, ROUND WIRE — WZ8031TR



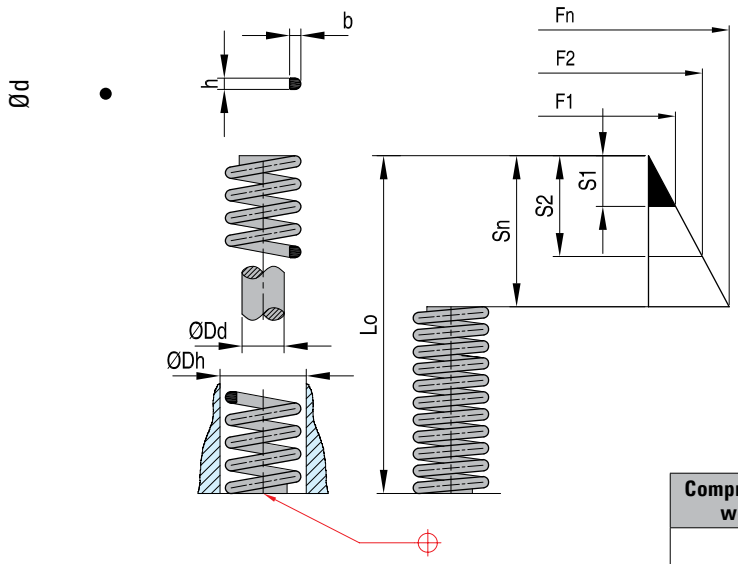
Mat.: Special alloy - Load range: heavy load springs.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time			Maximal compression
			

						30%		40%		50%		D	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	ØLo (mm)	Federrate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)	mm	N
WZ8031TR10025	10,0	5,0	1,6	25	20,7	5,0	103	6,3	129	7,5	155	8,6	178
WZ8031TR10032	10,0	5,0	1,6	32	16,1	6,4	103	8,0	129	9,6	155	10,9	178
WZ8031TR10038	10,0	5,0	1,6	38	13,0	7,6	98	9,5	123	11,4	148	13,2	169
WZ8031TR10044	10,0	5,0	1,6	44	10,9	8,8	96	11,0	119	13,2	143	14,7	160
WZ8031TR10051	10,0	5,0	1,6	51	9,6	10,2	98	12,8	123	15,3	147	17,8	169
WZ8031TR10064	10,0	5,0	1,6	64	7,7	12,8	98	16,0	123	19,2	147	22,9	173
WZ8031TR10076	10,0	5,0	1,6	76	6,3	15,2	96	19,0	119	22,8	143	26,9	169
WZ8031TR10305	10,0	5,0	1,6	305	1,5	61,0	93	76,3	116	91,5	139	109,7	169
WZ8031TR13025	12,5	6,3	2,2	25	37,5	5,0	187	6,3	234	7,5	281	8,9	334
WZ8031TR13032	12,5	6,3	2,2	32	28,9	6,4	185	8,0	231	9,6	277	11,2	325
WZ8031TR13038	12,5	6,3	2,2	38	23,5	7,6	178	9,5	223	11,4	268	13,7	320
WZ8031TR13044	12,5	6,3	2,2	44	19,6	8,8	173	11,0	216	13,2	259	15,7	311
WZ8031TR13051	12,5	6,3	2,2	51	17,3	10,2	177	12,8	221	15,3	265	18,8	325
WZ8031TR13064	12,5	6,3	2,2	64	13,5	12,8	173	16,0	216	19,2	259	23,6	320
WZ8031TR13076	12,5	6,3	2,2	76	11,2	15,2	170	19,0	213	22,8	256	28,4	316
WZ8031TR13089	12,5	6,3	2,2	89	9,5	17,8	168	22,3	210	26,7	252	33,0	316
WZ8031TR13305	12,5	6,3	2,2	305	2,7	61,0	162	76,3	203	91,5	244	114,0	302
WZ8031TR16025	16,0	8,0	2,8	25	81,6	5,0	408	6,3	510	7,5	612	9,1	747
WZ8031TR16032	16,0	8,0	2,8	32	61,3	6,4	392	8,0	490	9,6	588	11,4	707
WZ8031TR16038	16,0	8,0	2,8	38	49,9	7,6	379	9,5	474	11,4	569	14,2	712
WZ8031TR16044	16,0	8,0	2,8	44	40,8	8,8	359	11,0	449	13,2	539	16,3	663
WZ8031TR16051	16,0	8,0	2,8	51	35,6	10,2	363	12,8	453	15,3	544	18,8	672
WZ8031TR16064	16,0	8,0	2,8	64	27,8	12,8	356	16,0	446	19,2	535	23,9	663
WZ8031TR16076	16,0	8,0	2,8	76	22,8	15,2	346	19,0	433	22,8	519	29,0	663
WZ8031TR16089	16,0	8,0	2,8	89	19,6	17,8	349	22,3	436	26,7	524	34,3	672
WZ8031TR16102	16,0	8,0	2,8	102	17,0	20,4	347	25,5	433	30,6	520	39,4	667
WZ8031TR16305	16,0	8,0	2,8	305	5,4	61,0	330	76,3	413	91,5	495	118,9	645

CAD reference point

BLUE DIE SPRINGS, FLAT ROUND WIRE — WZ8030M



Mat.: Chrome-Vanadium - Load range: medium duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)

Compression for long working time		Maximal compression
		

							30%		40%		50%	
REF	ØDh (mm)	ØDd (mm)	Øh (mm)	Øb (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
WZ8030M100	10	4,5	1,0	1,8	25	9,8	6,3	62	10,0	102	12,5	125
WZ8030M100A	10	4,5	1,0	1,8	32	8,4	8,0	67	12,8	107	16,0	133
WZ8030M101	10	4,5	1,0	1,8	38	6,7	9,5	62	15,2	102	19,0	129
WZ8030M101A	10	4,5	1,0	1,8	44	6,0	11,0	67	17,6	107	22,0	133
WZ8030M102	10	4,5	1,0	1,8	51	4,9	12,8	62	20,4	98	25,5	125
WZ8030M103	10	4,5	1,0	1,8	64	4,2	16,0	67	25,6	107	32,0	133
WZ8030M104	10	4,5	1,0	1,8	76	3,2	19,0	62	30,4	98	38,0	120
WZ8030M105	10	4,5	1,0	1,8	305	1,1	76,3	80	122,0	129	152,5	160
WZ8030M110	13	7,0	1,32	2,4	25	17,5	6,3	111	10,0	178	12,5	222
WZ8030M110A	13	7,0	1,32	2,4	32	16,1	8,0	129	12,8	205	16,0	258
WZ8030M111	13	7,0	1,32	2,4	38	13,3	9,5	129	15,2	205	19,0	254
WZ8030M111A	13	7,0	1,32	2,4	44	11,9	11,0	133	17,6	214	22,0	267
WZ8030M112	13	7,0	1,32	2,4	51	11,2	12,8	142	20,4	227	25,5	285
WZ8030M113	13	7,0	1,32	2,4	64	9,1	16,0	147	25,6	231	32,0	289
WZ8030M114	13	7,0	1,32	2,4	76	7,0	19,0	133	30,4	214	38,0	267
WZ8030M115	13	7,0	1,32	2,4	89	5,3	22,3	116	35,6	187	44,5	236
WZ8030M116	13	7,0	1,32	2,4	305	1,4	76,3	107	122,0	169	152,5	214
WZ8030M120	16	8,5	1,75	2,8	25	22,8	6,3	147	10,0	231	12,5	288
WZ8030M120A	16	8,5	1,75	2,8	32	22,4	8,0	178	12,8	285	16,0	356
WZ8030M121	16	8,5	1,75	2,8	38	18,9	9,5	182	15,2	289	19,0	360
WZ8030M121A	16	8,5	1,75	2,8	44	16,8	11,0	187	17,6	298	22,0	374
WZ8030M122	16	8,5	1,75	2,8	51	15,4	12,8	196	20,4	311	25,5	391
WZ8030M123	16	8,5	1,75	2,8	64	10,5	16,0	169	25,6	267	32,0	334
WZ8030M124	16	8,5	1,75	2,8	76	9,8	19,0	187	30,4	298	38,0	374
WZ8030M125	16	8,5	1,75	2,8	89	8,4	22,3	187	35,6	298	44,5	374
WZ8030M126	16	8,5	1,75	2,8	102	7,7	25,5	196	40,8	311	51,0	391
WZ8030M127	16	8,5	1,75	2,8	305	2,5	76,3	187	122,0	298	152,5	374
WZ8030M1	19	9,5	1,9	4,2	25	54,6	6,3	347	10,0	556	12,5	694
WZ8030M1A	19	9,5	1,9	4,2	32	44,8	8,0	356	12,8	569	16,0	712
WZ8030M2	19	9,5	1,9	4,2	38	35,0	9,5	334	15,2	534	19,0	667
WZ8030M2A	19	9,5	1,9	4,2	44	30,8	11,0	343	17,6	547	22,0	685
WZ8030M3	19	9,5	1,9	4,2	51	25,2	12,8	320	20,4	512	25,5	641
WZ8030M4	19	9,5	1,9	4,2	64	21,0	16,0	334	25,6	534	32,0	667
WZ8030M5	19	9,5	1,9	4,2	76	16,8	19,0	320	30,4	512	38,0	641
WZ8030M6	19	9,5	1,9	4,2	89	14,0	22,3	311	35,6	498	44,5	623
WZ8030M7	19	9,5	1,9	4,2	102	12,6	25,5	320	40,8	512	51,0	641
WZ8030M8	19	9,5	1,9	4,2	115	11,2	28,8	320	46,0	512	57,5	641
WZ8030M9	19	9,5	1,9	4,2	127	9,8	31,8	311	50,8	498	63,5	623
WZ8030M10	19	9,5	1,9	4,2	139	8,4	34,8	294	55,6	472	69,5	587
WZ8030M11	19	9,5	1,9	4,2	152	7,0	38,0	267	60,8	427	76,0	534
WZ8030M11A	19	9,5	1,9	4,2	305	4,2	76,3	320	122,0	512	152,5	641

CAD reference point

BLUE DIE SPRINGS, FLAT ROUND WIRE — WZ8030M

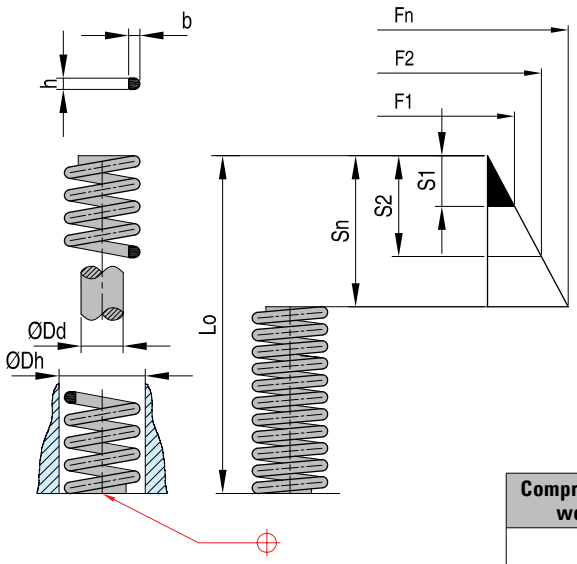
Compression for long working time		Maximal compression
		

							30%		40%		50%	
REF	ØDh (mm)	ØDd (mm)	Øh (mm)	Øb (mm)	Lo (mm)	Spring rate N/mm	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
WZ8030M12	26	12,5	2,5	5,5	25	93,9	6,3	596	10,0	952	12,4	1164
WZ8030M12A	26	12,5	2,5	5,5	32	76,4	8,0	605	12,8	970	15,8	1207
WZ8030M13	26	12,5	2,5	5,5	38	58,8	9,5	560	15,2	899	19,0	1120
WZ8030M13A	26	12,5	2,5	5,5	44	50,4	11,0	560	17,6	899	22,0	1103
WZ8030M14	26	12,5	2,5	5,5	51	40,6	12,8	516	20,4	827	25,5	1031
WZ8030M15	26	12,5	2,5	5,5	64	35,0	16,0	556	25,6	890	32,0	1112
WZ8030M16	26	12,5	2,5	5,5	76	26,6	19,0	507	30,4	810	38,0	1014
WZ8030M17	26	12,5	2,5	5,5	89	22,4	22,3	498	35,6	801	44,5	996
WZ8030M18	26	12,5	2,5	5,5	102	21,0	25,5	534	40,8	854	51,0	1068
WZ8030M19	26	12,5	2,5	5,5	115	18,2	28,8	520	46,0	832	57,5	1040
WZ8030M20	26	12,5	2,5	5,5	127	16,8	31,8	534	50,8	854	63,5	1068
WZ8030M21	26	12,5	2,5	5,5	139	15,4	34,8	538	55,6	863	69,5	1076
WZ8030M22	26	12,5	2,5	5,5	152	14,0	38,0	534	60,8	854	76,0	1068
WZ8030M23	26	12,5	2,5	5,5	178	12,6	44,5	560	71,2	899	89,0	1120
WZ8030M24	26	12,5	2,5	5,5	203	9,8	50,8	498	81,2	801	101,5	996
WZ8030M24A	26	12,5	2,5	5,5	305	7,0	76,3	534	122,0	854	152,5	1068
WZ8030M36	32	15,5	3,0	7,2	38	86,9	9,5	827	15,2	1326	19,0	1654
WZ8030M36A	32	15,5	3,0	7,2	44	74,3	11,0	823	17,6	1317	22,0	1650
WZ8030M37	32	15,5	3,0	7,2	51	61,6	12,8	783	20,4	1254	25,5	1565
WZ8030M38	32	15,5	3,0	7,2	64	50,4	16,0	801	25,6	1281	32,0	1601
WZ8030M39	32	15,5	3,0	7,2	76	42,0	19,0	801	30,4	1281	38,0	1601
WZ8030M40	32	15,5	3,0	7,2	89	35,0	22,3	778	35,6	1246	44,5	1557
WZ8030M41	32	15,5	3,0	7,2	102	30,8	25,5	783	40,8	1254	51,0	1566
WZ8030M42	32	15,5	3,0	7,2	115	28,0	28,8	801	46,0	1281	57,5	1601
WZ8030M43	32	15,5	3,0	7,2	127	23,8	31,8	756	50,8	1210	63,5	1512
WZ8030M44	32	15,5	3,0	7,2	139	22,4	34,8	783	55,6	1254	69,5	1566
WZ8030M45	32	15,5	3,0	7,2	152	21,0	38,0	801	60,8	1281	76,0	1601
WZ8030M46	32	15,5	3,0	7,2	178	18,2	44,5	810	71,2	1294	89,0	1619
WZ8030M47	32	15,5	3,0	7,2	203	15,4	50,8	783	81,2	1254	101,5	1566
WZ8030M48	32	15,5	3,0	7,2	254	12,6	63,5	801	101,6	1281	127,0	1601
WZ8030M48A	32	15,5	3,0	7,2	305	9,8	76,3	747	122,0	1197	152,5	1495
WZ8030M49	38	19,0	3,5	8,8	51	78,5	12,8	996	20,4	1592	25,5	1993
WZ8030M50	38	19,0	3,5	8,8	64	64,4	16,0	1023	25,6	1637	32,0	2046
WZ8030M51	38	19,0	3,5	8,8	76	58,8	19,0	1121	30,4	1793	38,0	2242
WZ8030M52	38	19,0	3,5	8,8	89	46,2	22,3	1028	35,6	1646	44,5	2055
WZ8030M53	38	19,0	3,5	8,8	102	37,8	25,5	961	40,8	1539	51,0	1922
WZ8030M54	38	19,0	3,5	8,8	115	36,4	28,8	1041	46,0	1664	57,5	2082
WZ8030M55	38	19,0	3,5	8,8	127	35,0	31,8	1112	50,8	1779	63,5	2224
WZ8030M55A	38	19,0	3,5	8,8	139	29,4	34,8	1028	55,6	1646	69,5	2055
WZ8030M56	38	19,0	3,5	8,8	152	25,2	38,0	961	60,8	1539	76,0	1922
WZ8030M56A	38	19,0	3,5	8,8	178	23,8	44,5	1059	71,2	1695	89,0	2117
WZ8030M57	38	19,0	3,5	8,8	203	22,4	50,8	1139	81,2	1824	101,5	2277
WZ8030M58	38	19,0	3,5	8,8	254	15,4	63,5	979	101,6	1566	127,0	1957
WZ8030M58A	38	19,0	3,5	8,8	305	14,0	76,3	1068	122,0	1708	152,5	2135
WZ8030M70	51	25,0	5,0	12,0	64	156,9	16,0	2491	25,6	3986	32,0	4982
WZ8030M71	51	25,0	5,0	12,0	76	134,5	19,0	2562	30,4	4101	38,0	5124
WZ8030M72	51	25,0	5,0	12,0	89	113,5	22,3	2522	35,6	4035	44,5	5044
WZ8030M73	51	25,0	5,0	12,0	102	96,7	25,5	2455	40,8	3928	51,0	4910
WZ8030M74	51	25,0	5,0	12,0	115	82,7	28,8	2362	46,0	3781	57,5	4724
WZ8030M75	51	25,0	5,0	12,0	127	72,9	31,8	2313	50,8	3701	63,5	4626
WZ8030M76	51	25,0	5,0	12,0	139	68,6	34,8	2398	55,6	3834	69,5	4795
WZ8030M77	51	25,0	5,0	12,0	152	61,6	38,0	2349	60,8	3759	76,0	4697
WZ8030M79	51	25,0	5,0	12,0	178	54,6	44,5	2429	71,2	3888	89,0	4857
WZ8030M80	51	25,0	5,0	12,0	203	44,8	50,8	2277	81,2	3643	101,5	4555
WZ8030M82	51	25,0	5,0	12,0	254	36,4	63,5	2313	101,6	3701	127,0	4626
WZ8030M83	51	25,0	5,0	12,0	305	29,4	76,3	2242	122,0	3585	152,5	4484

CAD reference point

DIE SPRINGS – ROUND WIRE

RED DIE SPRINGS, FLAT ROUND WIRE — WZ8030MHC



Mat.: Chrome-Vanadium
Load range: medium heavy duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time		Maximal compression
		

							15%		20%		30%	
REF	ØDh (mm)	ØDd (mm)	Øh (mm)	Øb (mm)	Lo (mm)	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
WZ8030MHC100	10	4,5	1,7	1,2	25	15,8	5,0	80	6,3	102	9,3	147
WZ8030MHC100A	10	4,5	1,7	1,2	32	12,8	6,4	80	8,0	102	11,8	151
WZ8030MHC101	10	4,5	1,7	1,2	38	11,7	7,6	89	9,5	111	14,1	165
WZ8030MHC101A	10	4,5	1,7	1,2	44	10,2	8,8	89	11,0	111	16,3	169
WZ8030MHC102	10	4,5	1,7	1,2	51	8,8	10,2	89	12,0	111	18,9	164
WZ8030MHC103	10	4,5	1,7	1,2	64	7,4	12,8	93	16,0	116	23,7	173
WZ8030MHC104	10	4,5	1,7	1,2	76	5,3	15,2	80	19,0	102	28,0	147
WZ8030MHC106	10	4,5	1,7	1,2	305	1,6	61,0	98	76,3	120	112,9	178
WZ8030MHC110	13	7,0	4	1,6	25	29,4	5,0	151	6,3	187	9,3	276
WZ8030MHC110A	13	7,0	4	1,6	32	24,3	6,4	156	8,0	191	11,8	285
WZ8030MHC111	13	7,0	4	1,6	38	21,0	7,6	160	9,5	200	14,1	298
WZ8030MHC111A	13	7,0	4	1,6	44	18,2	8,8	160	11,0	200	16,3	298
WZ8030MHC112	13	7,0	4	1,6	51	15,2	10,2	156	12,8	196	18,9	285
WZ8030MHC113	13	7,0	4	1,6	64	11,9	12,8	151	16,0	191	23,7	280
WZ8030MHC114	13	7,0	4	1,6	76	10,0	15,2	151	19,0	191	28,0	280
WZ8030MHC115	13	7,0	4	1,6	89	8,2	17,8	147	22,3	182	32,9	271
WZ8030MHC117	13	7,0	4	1,6	305	2,1	61,0	129	76,3	160	112,9	236
WZ8030MHC120	16	8,5	3	2,1	25	48,5	5,0	245	6,3	307	9,3	454
WZ8030MHC120A	16	8,5	3	2,1	32	36,4	6,4	231	8,0	289	11,8	427
WZ8030MHC121	16	8,5	3	2,1	38	33,3	7,6	254	9,5	316	14,1	467
WZ8030MHC121A	16	8,5	3	2,1	44	29,4	8,8	262	11,0	325	16,3	485
WZ8030MHC122	16	8,5	3	2,1	51	25,9	10,2	262	12,8	329	18,9	489
WZ8030MHC123	16	8,5	3	2,1	64	20,1	12,8	258	16,0	320	23,7	472
WZ8030MHC124	16	8,5	3	2,1	76	17,5	15,2	267	19,0	334	28,0	494
WZ8030MHC125	16	8,5	3	2,1	89	14,9	17,8	267	22,3	329	32,9	489
WZ8030MHC126	16	8,5	3	2,1	102	13,3	20,4	271	25,5	338	37,7	498
WZ8030MHC127	16	8,5	3	2,1	305	4,7	61,0	289	76,3	360	112,9	534
WZ8030MHC1	19	9,5	4	2,4	25	100,9	5,0	512	6,3	641	9,3	947
WZ8030MHC1A	19	9,5	4	2,4	32	78,5	6,4	498	8,0	623	11,8	921
WZ8030MHC2	19	9,5	4	2,4	38	56,0	7,6	427	9,5	534	14,1	792
WZ8030MHC2A	19	9,5	4	2,4	44	50,4	8,8	449	11,0	560	16,3	827
WZ8030MHC3	19	9,5	4	2,4	51	43,4	10,2	440	12,8	552	18,9	818
WZ8030MHC4	19	9,5	4	2,4	64	33,6	12,8	427	16,0	534	23,7	792
WZ8030MHC5	19	9,5	4	2,4	76	25,2	15,2	383	19,0	480	28,0	712
WZ8030MHC6	19	9,5	4	2,4	89	22,4	17,8	400	22,3	498	32,9	738
WZ8030MHC7	19	9,5	4	2,4	102	21,0	20,4	427	25,5	534	37,7	792
WZ8030MHC8	19	9,5	4	2,4	115	19,6	23,0	449	28,8	560	42,6	827
WZ8030MHC9	19	9,5	4	2,4	127	18,2	25,4	462	31,8	578	47,0	854
WZ8030MHC10	19	9,5	4	2,4	139	16,8	27,8	472	34,8	587	51,4	867
WZ8030MHC11	19	9,5	4	2,4	152	14,0	30,4	427	38,0	534	56,2	792

CAD reference point

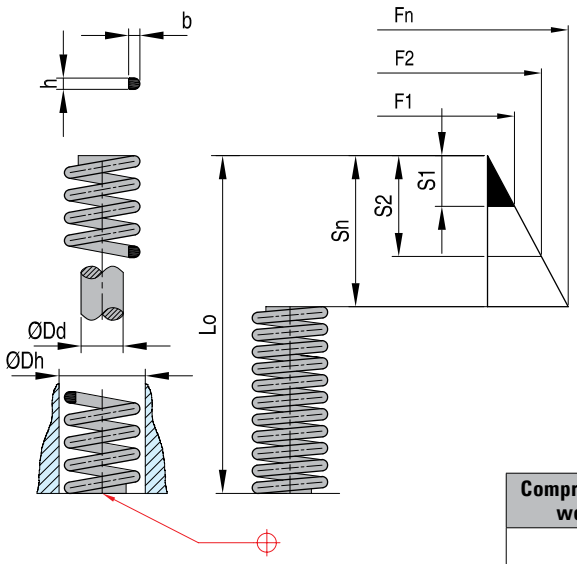
RED DIE SPRINGS, FLAT ROUND WIRE — WZ8030MHC

Compression for long working time		Maximal compression
		

							15%		20%		30%	
REF	ØDh (mm)	ØDd (mm)	Øh (mm)	Øb (mm)	Lo (mm)	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
WZ8030MHC11A	19	9,5	4	2,4	305	6,3	61,0	382	76,3	480	112,9	712
WZ8030MHC12	26	12,5	5,6	2,9	25	126,0	5,0	641	6,3	801	9,3	1183
WZ8030MHC12A	26	12,5	5,6	2,9	32	109,0	6,4	694	8,0	867	11,8	1281
WZ8030MHC13	26	12,5	5,6	2,9	38	87,0	7,6	663	9,5	827	14,1	1223
WZ8030MHC13A	26	12,5	5,6	2,9	44	77	8,8	685	11,0	854	16,3	1267
WZ8030MHC14	26	12,5	5,6	2,9	51	64	10,2	654	12,8	818	18,9	1210
WZ8030MHC15	26	12,5	5,6	2,9	64	50	12,8	641	16,0	801	23,7	1183
WZ8030MHC16	26	12,5	5,6	2,9	76	41	15,2	618	19,0	774	28,0	1148
WZ8030MHC17	26	12,5	5,6	2,9	89	38	17,8	672	22,3	841	32,9	1246
WZ8030MHC18	26	12,5	5,6	2,9	102	32	20,4	654	25,5	818	37,7	1210
WZ8030MHC19	26	12,5	5,6	2,9	115	27	23,0	609	28,8	761	42,6	1125
WZ8030MHC20	26	12,5	5,6	2,9	127	25	25,4	641	31,8	801	47,0	1183
WZ8030MHC21	26	12,5	5,6	2,9	139	22	27,8	627	34,8	783	51,4	1157
WZ8030MHC22	26	12,5	5,6	2,9	152	20	30,4	596	38,0	747	56,2	1108
WZ8030MHC23	26	12,5	5,6	2,9	178	17	35,6	596	44,5	747	65,9	1108
WZ8030MHC24	26	12,5	5,6	2,9	203	15	40,6	627	50,8	783	75,1	1157
WZ8030MHC24A	26	12,5	5,6	2,9	305	10	61,0	596	76,3	747	112,9	1108
WZ8030MHC36	32	15,5	7,2	4	38	200	7,6	1526	915,0	1908	14,1	2825
WZ8030MHC36A	32	15,5	7,2	4	44	177	8,8	1570	11,0	1957	16,3	2900
WZ8030MHC37	32	15,5	7,2	4	51	151	10,2	1539	12,8	1922	18,9	2842
WZ8030MHC38	32	15,5	7,2	4	64	109	12,8	1388	16,0	1735	23,7	2567
WZ8030MHC39	32	15,5	7,2	4	76	90	15,2	1366	19,0	1708	28,0	2527
WZ8030MHC40	32	15,5	7,2	4	89	77	17,8	1370	22,3	1713	32,9	2535
WZ8030MHC41	32	15,5	7,2	4	102	64	20,4	1308	25,5	1637	37,7	2424
WZ8030MHC42	32	15,5	7,2	4	115	56	23,0	1281	28,8	1601	42,6	2370
WZ8030MHC43	32	15,5	7,2	4	127	48	25,4	1210	31,8	1512	47,0	2237
WZ8030MHC44	32	15,5	7,2	4	139	46	27,8	1290	34,8	1615	51,4	2389
WZ8030MHC45	32	15,5	7,2	4	152	41	30,4	1237	38,0	1548	56,2	2291
WZ8030MHC46	32	15,5	7,2	4	178	35	35,6	1246	44,5	1557	65,9	2304
WZ8030MHC47	32	15,5	7,2	4	203	32	40,6	1308	50,8	1637	75,1	2424
WZ8030MHC48	32	15,5	7,2	4	254	22	50,8	1139	63,5	1423	94,0	2108
WZ8030MHC48A	32	15,5	7,2	4	305	20	61,0	1197	76,3	1495	112,9	2211
WZ8030MHC49	38	19,0	8	4,8	51	189	10,2	1922	12,8	2402	18,9	3554
WZ8030MHC50	38	19,0	8	4,8	64	150	12,8	1904	16,0	2380	23,7	3522
WZ8030MHC51	38	19,0	8	4,8	76	109	15,2	1664	19,0	2082	28,0	3083
WZ8030MHC52	38	19,0	8	4,8	89	93	17,8	1646	22,3	2055	32,9	3043
WZ8030MHC53	38	19,0	8	4,8	102	84	20,4	1708	25,5	2135	37,7	3158
WZ8030MHC54	38	19,0	8	4,8	115	76	23,0	1730	28,8	2162	42,6	3198
WZ8030MHC55	38	19,0	8	4,8	127	64	25,4	1637	31,8	2046	47,0	3029
WZ8030MHC55A	38	19,0	8	4,8	139	60	27,8	1681	34,8	2104	51,4	3113
WZ8030MHC56	38	19,0	8	4,8	152	53	30,4	1624	38,0	2028	56,2	3003
WZ8030MHC56A	38	19,0	8	4,8	178	46	35,6	1646	44,5	2055	65,9	3043
WZ8030MHC57	38	19,0	8	4,8	203	36	40,6	1481	50,8	1850	75,1	2740
WZ8030MHC58	38	19,0	8	4,8	254	31	50,8	1566	63,5	1957	94,0	2896
WZ8030MHC58A	38	19,0	8	4,8	305	25	61,0	1539	76,3	1922	112,9	2842
WZ8030MHC70	51	25,0	11,1	5,7	64	205	12,8	2633	16,0	3292	23,7	4871
WZ8030MHC71	51	25,0	11,1	5,7	76	168	15,2	2562	19,0	3203	28,0	4742
WZ8030MHC72	51	25,0	11,1	5,7	89	140	17,8	2491	22,3	3114	32,9	4608
WZ8030MHC73	51	25,0	11,1	5,7	102	116	20,4	2362	25,5	2954	37,7	4373
WZ8030MHC74	51	25,0	11,1	5,7	115	105	23,0	2402	28,8	3003	42,6	4444
WZ8030MHC75	51	25,0	11,1	5,7	127	98	25,4	2491	31,8	3114	47,0	4608
WZ8030MHC76	51	25,0	11,1	5,7	139	88	27,8	2464	34,8	3083	51,4	4564
WZ8030MHC77	51	25,0	11,1	5,7	152	83	30,4	2518	38,0	3149	56,2	4661
WZ8030MHC79	51	25,0	11,1	5,7	178	70	35,6	2491	44,5	3114	65,9	4608
WZ8030MHC80	51	25,0	11,1	5,7	203	62	40,6	2504	50,8	3132	75,1	4635
WZ8030MHC82	51	25,0	11,1	5,7	254	42	50,8	2135	63,5	2669	94,0	3950
WZ8030MHC83	51	25,0	11,1	5,7	305	39	61,0	2393	76,3	2989	112,9	4426

CAD reference point

GOLD DIE SPRINGS, FLAT ROUND WIRE — WZ8030H



Mat.: Chrome-Vanadium
Load range: heavy duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time		Maximal compression
		

							15%		20%		30%	
REF	Dh ø (mm)	Dd ø (mm)	h ø (mm)	b ø (mm)	Lo mm	R Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
WZ8030H100	10	4,5	1,38	1,83	25	21,7	3,8	85	5,0	111	7,5	165
WZ8030H100A	10	4,5	1,38	1,83	32	17,2	4,8	80	6,4	111	9,6	165
WZ8030H101	10	4,5	1,38	1,83	38	16,8	5,7	98	7,6	129	11,4	191
WZ8030H101A	10	4,5	1,38	1,83	44	14,7	6,6	98	8,8	129	13,2	196
WZ8030H102	10	4,5	1,38	1,83	51	12,6	7,7	98	10,2	129	15,3	191
WZ8030H103	10	4,5	1,38	1,83	64	10,5	9,6	102	12,8	133	19,2	200
WZ8030H104	10	4,5	1,38	1,83	76	7,4	11,4	85	15,2	111	22,8	169
WZ8030H105	10	4,5	1,38	1,83	305	2,1	45,8	98	61,0	129	91,5	191
WZ8030H110	13	7,0	1,8	2,4	25	41,3	3,8	156	5,0	209	7,5	316
WZ8030H110A	13	7,0	1,8	2,4	32	32,6	4,8	156	6,4	209	9,6	311
WZ8030H111	13	7,0	1,8	2,4	38	28,7	5,7	165	7,6	218	11,4	329
WZ8030H111A	13	7,0	1,8	2,4	44	24,2	6,6	160	8,8	214	13,2	320
WZ8030H112	13	7,0	1,8	2,4	51	19,3	7,7	147	10,2	196	15,3	294
WZ8030H113	13	7,0	1,8	2,4	64	14,7	9,6	142	12,8	187	19,2	280
WZ8030H114	13	7,0	1,8	2,4	76	13,0	11,4	147	15,2	196	22,8	298
WZ8030H115	13	7,0	1,8	2,4	89	11,2	13,4	151	17,8	200	26,7	298
WZ8030H116	3	7,0	1,8	2,4	305	2,8	45,8	129	61,0	169	91,5	258
WZ8030H120	16	8,5	2,4	3,2	25	74,3	3,8	285	5,0	378	7,5	565
WZ8030H120A	16	8,5	2,4	3,2	32	51,8	4,8	245	6,4	329	9,6	494
WZ8030H121	16	8,5	2,4	3,2	38	47,6	5,7	271	7,6	365	11,4	543
WZ8030H121A	16	8,5	2,4	3,2	44	42,0	6,6	280	8,8	374	13,2	560
WZ8030H122	16	8,5	2,4	3,2	51	36,4	7,7	276	10,2	369	15,3	556
WZ8030H123	16	8,5	2,4	3,2	64	29,8	9,6	285	12,8	378	19,2	569
WZ8030H124	16	8,5	2,4	3,2	76	25,2	11,4	289	15,2	383	22,8	578
WZ8030H125	16	8,5	2,4	3,2	89	21,4	13,4	285	17,8	378	26,7	569
WZ8030H126	16	8,5	2,4	3,2	102	18,9	15,3	289	20,4	383	30,6	578
WZ8030H127	16	8,5	2,4	3,2	305	7,0	45,8	320	61,0	427	91,5	641
WZ8030H1	19	9,5	3,2	4,2	25	189,0	3,8	721	5,0	961	7,5	1441
WZ8030H1A	19	9,5	3,2	4,2	32	152,0	4,8	721	6,4	965	9,6	1450
WZ8030H2	19	9,5	3,2	4,2	38	115,0	5,7	658	7,6	876	11,4	1312
WZ8030H2A	19	9,5	3,2	4,2	44	105,0	6,6	698	8,8	934	13,2	1401
WZ8030H3	19	9,5	3,2	4,2	51	87,0	7,7	663	10,2	881	15,3	1326
WZ8030H4	19	9,5	3,2	4,2	64	66,0	9,6	627	12,8	836	19,2	1254
WZ8030H5	19	9,5	3,2	4,2	76	55,0	11,4	623	15,2	832	22,8	1250
WZ8030H6	19	9,5	3,2	4,2	89	46,0	13,4	618	17,8	823	26,7	1232
WZ8030H7	19	9,5	3,2	4,2	102	41,0	15,3	618	20,4	827	30,6	1237
WZ8030H8	19	9,5	3,2	4,2	115	35,0	17,3	601	23,0	801	34,5	1201
WZ8030H9	19	9,5	3,2	4,2	127	31,0	19,1	587	25,4	783	38,1	1174
WZ8030H10	19	9,5	3,2	4,2	139	28,0	20,9	587	27,8	783	41,7	1174
WZ8030H11	19	9,5	3,2	4,2	152	25,0	22,8	578	30,4	770	45,6	1152

CAD reference point

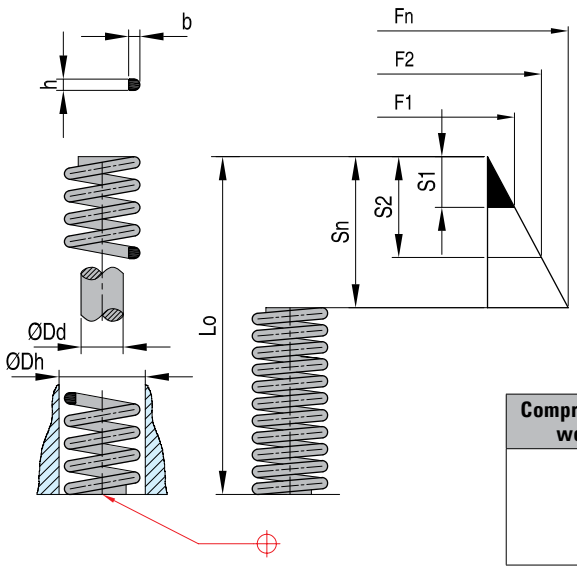
GOLD DIE SPRINGS, FLAT ROUND WIRE — WZ8030H

Compression for long working time		Maximal compression
		

							15%		20%		30%	
REF	Dh ø (mm)	Dd ø (mm)	h ø (mm)	b ø (mm)	Lo mm	R Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
WZ8030H11A	19	9,5	3,2	4,2	305	13,0	45,8	578	61,0	770	91,5	1152
WZ8030H12	26	12,5	4,0	5,7	25	364,0	3,8	1388	5,0	1850		
WZ8030H12A	26	12,5	4,0	5,7	32	300,0	4,8	1423	6,4	1903		
WZ8030H13	26	12,5	4,0	5,7	38	207,0	5,7	1183	7,6	1579	11,4	2370
WZ8030H13A	26	12,5	4,0	5,7	44	182,0	6,6	1210	8,8	1619	13,2	2429
WZ8030H14	26	12,5	4,0	5,7	51	147,0	7,7	1121	10,2	1495	15,3	2241
WZ8030H15	26	12,5	4,0	5,7	64	119,0	9,6	1134	12,8	1512	19,2	2269
WZ8030H16	26	12,5	4,0	5,7	76	95,0	11,4	1090	15,2	1450	22,8	2180
WZ8030H17	26	12,5	4,0	5,7	89	80,0	13,4	1063	17,8	1419	26,7	2131
WZ8030H18	26	12,5	4,0	5,7	102	70,0	15,3	1068	20,4	1423	30,6	2135
WZ8030H19	26	12,5	4,0	5,7	115	62,0	17,3	1059	23,0	1410	34,5	2112
WZ8030H20	26	12,5	4,0	5,7	127	55,0	19,1	1041	25,4	1387	38,1	2082
WZ8030H20A	26	12,5	4,0	5,7	139	50,0	20,9	1059	27,8	1410	41,7	2113
WZ8030H21	26	12,5	4,0	5,7	152	45,0	22,8	1023	30,4	1365	45,6	2051
WZ8030H21A	26	12,5	4,0	5,7	178	39,0	26,7	1045	35,6	1397	53,4	2091
WZ8030H22	26	12,5	4,0	5,7	203	34,0	30,5	1023	40,6	1366	60,9	2051
WZ8030H22A	26	12,5	4,0	5,7	305	21,0	45,8	961	61,0	1281	91,5	1922
WZ8030H36	32	15,5	5,0	7,5	38	371,0	5,7	2122	7,6	2829	11,4	4244
WZ8030H36A	32	15,5	5,0	7,5	44	318,0	6,6	2117	8,8	2829	13,2	4239
WZ8030H37	32	15,5	5,0	7,5	51	262,0	7,7	1997	10,2	2660	15,3	3995
WZ8030H38	32	15,5	5,0	7,5	64	206,0	9,6	1962	12,8	2616	19,2	3923
WZ8030H39	32	15,5	5,0	7,5	76	167,0	11,4	1904	15,2	2540	22,8	3812
WZ8030H40	32	15,5	5,0	7,5	89	132,0	13,4	1757	17,8	2340	26,7	3514
WZ8030H41	32	15,5	5,0	7,5	102	116,0	15,3	1770	20,4	2362	30,6	3545
WZ8030H42	32	15,5	5,0	7,5	115	102,0	17,3	1753	23,0	2340	34,5	3505
WZ8030H43	32	15,5	5,0	7,5	127	87,0	19,1	1624	25,4	2206	38,1	3309
WZ8030H44	32	15,5	5,0	7,5	139	83,0	20,9	1730	27,8	2309	41,7	3465
WZ8030H45	32	15,5	5,0	7,5	152	74,0	22,8	1699	30,4	2264	45,6	3394
WZ8030H46	32	15,5	5,0	7,5	178	64,0	26,7	1717	35,6	2291	53,4	3438
WZ8030H47	32	15,5	5,0	7,5	203	57,0	30,5	1753	40,6	2335	60,9	3501
WZ8030H48	32	15,5	5,0	7,5	254	45,0	38,1	1708	50,8	2277	76,2	3416
WZ8030H48A	32	15,5	5,0	7,5	305	36,0	45,8	1664	61,0	2220	91,5	3331
WZ8030H49	38	19,0	5,7	8,9	51	333,0	7,7	2540	10,2	3390	15,3	5080
WZ8030H50	38	19,0	5,7	8,9	64	261,0	9,6	2482	12,8	3309	19,2	4964
WZ8030H51	38	19,0	5,7	8,9	76	214,0	11,4	2451	15,2	3265	22,8	4901
WZ8030H52	38	19,0	5,7	8,9	89	186,0	13,4	2487	17,8	3314	26,7	4969
WZ8030H53	38	19,0	5,7	8,9	102	160,0	15,3	2433	20,4	3247	30,6	4866
WZ8030H54	38	19,0	5,7	8,9	115	137,0	17,3	2353	23,0	3140	34,5	4706
WZ8030H55	38	19,0	5,7	8,9	127	125,0	19,1	2375	25,4	3167	38,1	4750
WZ8030H55A	38	19,0	5,7	8,9	139	112,0	20,9	2349	27,8	3132	41,7	4697
WZ8030H56	38	19,0	5,7	8,9	152	102,0	22,8	2340	30,4	3118	45,6	4675
WZ8030H56A	38	19,0	5,7	8,9	178	87,0	26,7	2318	35,6	3087	53,4	4635
WZ8030H57	38	19,0	5,7	8,9	203	76,0	30,5	2304	40,6	3074	60,9	4613
WZ8030H58	38	19,0	5,7	8,9	254	60,0	38,1	2295	50,8	3060	76,2	4591
WZ8030H58A	38	19,0	5,7	8,9	305	50,0	45,8	2304	61,0	3074	91,5	4613
WZ8030H70	51	25,0	7,1	12,0	64	385,0	9,6	3670	12,8	4893	19,2	7340
WZ8030H71	51	25,0	7,1	12,0	76	325,0	11,4	3714	15,2	4955	22,8	7429
WZ8030H72	51	25,0	7,1	12,0	89	280,0	13,4	3737	17,8	5427	26,7	7473
WZ8030H73	51	25,0	7,1	12,0	102	234,0	15,3	3567	20,4	4755	30,6	7130
WZ8030H74	51	25,0	7,1	12,0	115	206,0	17,3	3532	23,0	4706	34,5	7064
WZ8030H75	51	25,0	7,1	12,0	127	182,0	19,1	3470	25,4	4626	38,1	6939
WZ8030H76	51	25,0	7,1	12,0	139	163,0	20,9	3407	27,8	4542	41,7	6810
WZ8030H77	51	25,0	7,1	12,0	152	146,0	22,8	3332	30,4	4439	45,6	6663
WZ8030H79	51	25,0	7,1	12,0	178	129,0	26,7	3438	35,6	4582	53,4	6877
WZ8030H80	51	25,0	7,1	12,0	203	112,0	30,5	3416	40,6	4555	60,9	6832
WZ8030H82	51	25,0	7,1	12,0	254	85,0	38,1	3256	50,8	4341	76,2	6512
WZ8030H83	51	25,0	7,1	12,0	305	70,0	45,8	3203	61,0	4270	91,5	6405

CAD reference point

GREEN DIE SPRINGS, FLAT ROUND WIRE — WZ8030XH



Mat.: Chrome-Vanadium
Load range: heavy duty.
Important: sufficient initial compression is essential for maximum spring life.
1N = 0.102 Kg (force)
Min. Temp.: -30 °C
Max. Temp.: 120 °C

Compression for long working time		Maximal compression
		

							15%		20%		25%	
REF	Dh ø (mm)	Dd ø (mm)	h ø (mm)	b ø (mm)	Lo mm	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
WZ8030XH100	10	4,5	2,0	1,5	25	38,5	3,8	146	5,1	196	6,4	245
WZ8030XH100A	10	4,5	2,0	1,5	32	29,8	4,7	142	6,4	191	7,9	237
WZ8030XH101	10	4,5	2,0	1,5	38	25,4	5,7	142	7,6	191	9,5	242
WZ8030XH101A	10	4,5	2,0	1,5	44	20,1	6,7	129	8,9	173	11,1	224
WZ8030XH102	10	4,5	2,0	1,5	51	17,5	7,6	133	10,2	178	12,7	222
WZ8030XH103	10	4,5	2,0	1,5	64	14,0	9,5	133	12,7	178	15,9	222
WZ8030XH104	10	4,5	2,0	1,5	76	11,4	11,4	129	15,2	173	19,1	217
WZ8030XH105	10	4,5	2,0	1,5	305	2,6	45,7	120	61,0	160	76,2	200
WZ8030XH110	13	7,0	2,5	2,14	25	56,0	3,8	214	5,1	285	6,4	356
WZ8030XH110A	13	7,0	2,5	2,14	32	42,0	4,7	200	6,4	267	7,9	334
WZ8030XH111	13	7,0	2,5	2,14	38	35,0	5,7	200	7,6	267	9,5	334
WZ8030XH111A	13	7,0	2,5	2,14	44	29,8	6,7	200	8,9	267	11,1	331
WZ8030XH112	13	7,0	2,5	2,14	51	24,5	7,6	187	10,2	249	12,7	311
WZ8030XH113	13	7,0	2,5	2,14	64	20,1	9,5	187	12,7	249	15,9	320
WZ8030XH114	13	7,0	2,5	2,14	76	15,8	11,4	182	15,2	240	19,1	300
WZ8030XH115	13	7,0	2,5	2,14	89	14,0	13,3	187	17,8	249	22,2	311
WZ8030XH116	13	7,0	2,5	2,14	305	4,4	45,7	200	61,0	267	76,2	334
WZ8030XH120	16	8,5	8,95	2,8	25	110,0	3,8	423	5,1	560	6,4	701
WZ8030XH120A	16	8,5	8,95	2,8	32	82,0	4,7	391	6,4	520	7,9	654
WZ8030XH121	16	8,5	8,95	2,8	38	66,0	5,7	383	7,6	507	9,5	634
WZ8030XH121A	16	8,5	8,95	2,8	44	56,0	6,7	374	8,9	498	11,1	624
WZ8030XH122	16	8,5	8,95	2,8	51	51,0	7,6	387	10,2	516	12,7	644
WZ8030XH123	16	8,5	8,95	2,8	64	39,0	9,5	369	12,7	489	15,9	612
WZ8030XH124	16	8,5	8,95	2,8	76	32,0	11,4	360	15,2	480	19,1	600
WZ8030XH125	16	8,5	8,95	2,8	89	28,0	13,3	374	17,8	498	22,2	623
WZ8030XH126	16	8,5	8,95	2,8	102	24,0	15,2	360	20,3	480	25,4	601
WZ8030XH127	16	8,5	8,95	2,8	305	8,0	45,7	360	61,0	480	76,2	601
WZ8030XH1	19	9,5	4,2	3,4	25	245,0	3,8	934	5,1	1245	6,4	1557
WZ8030XH1A	19	9,5	4,2	3,4	32	193,0	4,7	916	6,4	1223	7,9	1530
WZ8030XH2	19	9,5	4,2	3,4	38	156,0	5,7	890	7,6	1192	9,5	1485
WZ8030XH2A	19	9,5	4,2	3,4	44	131,0	6,7	881	8,9	1174	11,1	1461
WZ8030XH3	19	9,5	4,2	3,4	51	111,0	7,6	845	10,2	1129	12,7	1412
WZ8030XH4	19	9,5	4,2	3,4	64	88,0	9,5	836	12,7	1112	15,9	1390
WZ8030XH5	19	9,5	4,2	3,4	76	71,0	11,4	810	15,2	1081	19,1	1350
WZ8030XH6	19	9,5	4,2	3,4	89	60,0	13,3	805	17,8	1076	22,2	1343
WZ8030XH7	19	9,5	4,2	3,4	102	53,0	15,2	801	20,3	1068	25,4	1334
WZ8030XH8	19	9,5	4,2	3,4	115	46,0	17,1	792	22,9	1059	28,4	1326
WZ8030XH9	19	9,5	4,2	3,4	127	41,0	19,1	787	25,4	1045	31,8	1306
WZ8030XH10	19	9,5	4,2	3,4	139	38,0	21,0	783	27,9	1041	34,9	1315
WZ8030XH11	19	9,5	4,2	3,4	152	34,0	22,9	783	30,5	1041	38,1	1301
WZ8030XH12	19	9,5	4,2	3,4	305	17,0	45,7	761	61,0	1014	76,2	1268
WZ8030XH13	26	12,5	5,3	4,8	38	324,0	5,7	1850	7,6	2469		
WZ8030XH14	26	12,5	5,3	4,8	51	203,0	7,7	1548	10,2	2064		

CAD reference point

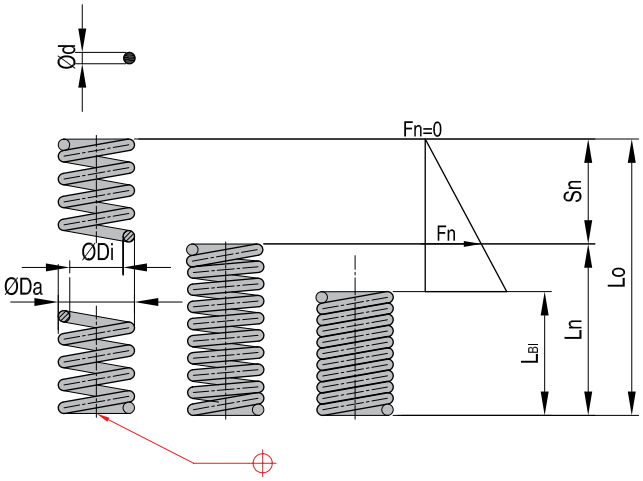
GREEN DIE SPRINGS, FLAT ROUND WIRE — WZ8030XH

Compression for long working time		Maximal compression
		

							15%		20%		25%	
REF	Dh ø (mm)	Dd ø (mm)	h ø (mm)	b ø (mm)	Lo mm	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
WZ8030XH15	26	12,5	5,3	4,8	64	157,0	9,6	1495	12,8	1993	15,9	2491
WZ8030XH16	26	12,5	5,3	4,8	76	129,0	11,4	1472	15,2	1966	19,1	2455
WZ8030XH17	26	12,5	5,3	4,8	89	109,0	13,4	1459	17,8	1944	22,2	2429
WZ8030XH18	26	12,5	5,3	4,8	102	97,0	15,3	1472	20,4	1966	25,4	2455
WZ8030XH19	26	12,5	5,3	4,8	115	85,0	17,3	1463	23,0	1953	28,6	2442
WZ8030XH20	26	12,5	5,3	4,8	127	76,0	19,1	1441	25,4	1922	31,8	2402
WZ8030XH21	26	12,5	5,3	4,8	152	63,0	22,8	1441	30,4	1922	38,1	2402
WZ8030XH22A	26	12,5	5,3	4,8	305	31,0	45,8	1410	61,0	1882	76,2	2349
WZ8030XH37	32	15,5	7,5	5,7	51	336,0	7,7	2567	10,2	3416	12,7	4270
WZ8030XH38	32	15,5	7,5	5,7	64	252,0	9,6	2402	12,8	3203	15,9	4003
WZ8030XH39	32	15,5	7,5	5,7	76	207,0	11,4	2370	15,2	3158	19,1	3950
WZ8030XH40	32	15,5	7,5	5,7	89	177,0	13,4	2358	17,8	3140	22,2	3923
WZ8030XH41	32	15,5	7,5	5,7	102	147,0	15,3	2246	20,4	2994	25,4	3737
WZ8030XH42	32	15,5	7,5	5,7	115	137,0	17,3	2353	23,0	3140	28,6	3923
WZ8030XH43	32	15,5	7,5	5,7	127	119,0	19,1	2269	25,4	3024	31,8	3780
WZ8030XH45	32	15,5	7,5	5,7	152	98,0	22,8	2242	30,4	2989	38,1	3737
WZ8030XH47	32	15,5	7,5	5,7	203	73,0	30,5	2220	40,6	2963	50,8	3700
WZ8030XH48	32	15,5	7,5	5,7	254	59,0	38,1	2242	50,8	2989	63,5	3737
WZ8030XH48A	32	15,5	7,5	5,7	305	46,0	45,8	2112	61,0	2829	76,2	3522
WZ8030XH49	38	19,0	8,2	7,6	51	658,0	7,7	5017	10,2	6695		
WZ8030XH50	38	19,0	8,2	7,6	64	516,0	9,6	4911	12,8	6548	15,9	8185
WZ8030XH51	38	19,0	8,2	7,6	76	405,0	11,4	4626	15,2	6170	19,1	7713
WZ8030XH52	38	19,0	8,2	7,6	89	343,0	13,4	4577	17,8	6103	22,2	7629
WZ8030XH53	38	19,0	8,2	7,6	102	300,0	15,3	4568	20,4	6094	25,4	7615
WZ8030XH54	38	19,0	8,2	7,6	115	259,0	17,3	4443	23,0	5925	28,6	7406
WZ8030XH55	38	19,0	8,2	7,6	127	238,0	19,1	4537	25,4	6050	31,8	7562
WZ8030XH56	38	19,0	8,2	7,6	152	193,0	22,8	4422	30,4	5894	38,1	7366
WZ8030XH57	38	19,0	8,2	7,6	203	142,0	30,5	4315	40,6	5752	50,8	7188
WZ8030XH58	38	19,0	8,2	7,6	254	118,0	38,1	4484	50,8	5978	63,5	7473
WZ8030XH58A	38	19,0	8,2	7,6	305	95,0	45,8	4359	61,0	5800	76,2	7259
WZ8030XH70	51	25,0	11,7	9,3	64	668,0	9,6	6365	12,8	8487	15,9	10609
WZ8030XH71	51	25,0	11,7	9,3	76	546,0	11,4	6245	15,2	8327	19,1	10409
WZ8030XH72	51	25,0	11,7	9,3	89	445,0	13,4	5943	17,8	7922	22,2	9901
WZ8030XH73	51	25,0	11,7	9,3	102	385,0	15,3	5872	20,4	7829	25,4	9786
WZ8030XH74	51	25,0	11,7	9,3	115	331,0	17,3	5667	23,0	7562	28,6	9448
WZ8030XH75	51	25,0	11,7	9,3	127	303,0	19,1	5765	25,4	7687	31,8	9608
WZ8030XH77	51	25,0	11,7	9,3	152	248,0	22,8	5671	30,4	7562	38,1	9448
WZ8030XH80	51	25,0	11,7	9,3	203	175,0	30,5	5338	40,6	7117	50,8	8896
WZ8030XH82	51	25,0	11,7	9,3	254	147,0	38,1	5605	50,8	7473	63,5	9341
WZ8030XH83	51	25,0	11,7	9,3	305	125,0	45,8	5703	61,0	7606	76,2	9501
WZ8030H58	38	19,0	5,7	8,9	254	60,0	38,1	2295	50,8	3060	76,2	4591
WZ8030H58A	38	19,0	5,7	8,9	305	50,0	45,8	2304	61,0	3074	91,5	4613
WZ8030H70	51	25,0	7,1	12,0	64	385,0	9,6	3670	12,8	4893	19,2	7340
WZ8030H71	51	25,0	7,1	12,0	76	325,0	11,4	3714	15,2	4955	22,8	7429
WZ8030H72	51	25,0	7,1	12,0	89	280,0	13,4	3737	17,8	5427	26,7	7473
WZ8030H73	51	25,0	7,1	12,0	102	234,0	15,3	3567	20,4	4755	30,6	7130
WZ8030H74	51	25,0	7,1	12,0	115	206,0	17,3	3532	23,0	4706	34,5	7064
WZ8030H75	51	25,0	7,1	12,0	127	182,0	19,1	3470	25,4	4626	38,1	6939
WZ8030H76	51	25,0	7,1	12,0	139	163,0	20,9	3407	27,8	4542	41,7	6810
WZ8030H77	51	25,0	7,1	12,0	152	146,0	22,8	3332	30,4	4439	45,6	6663
WZ8030H79	51	25,0	7,1	12,0	178	129,0	26,7	3438	35,6	4582	53,4	6877
WZ8030H80	51	25,0	7,1	12,0	203	112,0	30,5	3416	40,6	4555	60,9	6832
WZ8030H82	51	25,0	7,1	12,0	254	85,0	38,1	3256	50,8	4341	76,2	6512
WZ8030H83	51	25,0	7,1	12,0	305	70,0	45,8	3203	61,0	4270	91,5	6405

CAD reference point

HELICAL SPRINGS, ROUND WIRE — WZ8061



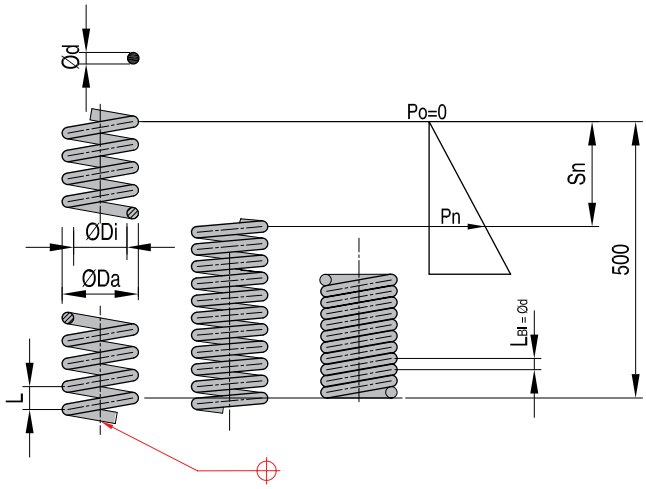
REF	Da	Lo	Di	d	Ln	LBl	Fn (N)	Sn
WZ80610300087	3,0	8,7	2,0	0,50	6,5	5,25	10,4	2,2
WZ80610300175	3,0	17,5	2,0	0,50	12,8	10,25	10,4	4,7
WZ80610300066	3,0	6,6	1,74	0,63	5	4,73	34,4	1,6
WZ80610300165	3,0	16,5	1,74	0,63	12	11,03	34,4	4,4
WZ80610480280	4,8	28,0	3,2	0,8	9,8	8,4	31,9	8,9
WZ80610480140	4,8	14,0	3,2	0,8	19,1	16,4	31,9	3,3
WZ80610600129	6,0	12,9	3,6	1,2	9,6	9,0	109,0	3,3
WZ80610600320	6,0	32,0	3,6	1,2	22,9	18,6	109,0	9,1
WZ80610600170	6,0	17,0	4,0	1,0	12,6	10,5	43,7	4,4
WZ80610600340	6,0	34,0	4,0	1,0	24,6	20,5	43,7	9,4
WZ80610755250	7,55	25	5,05	1,25	13,8	13,13	133,0	11,2
WZ80610755515	7,55	51,5	5,05	1,25	27,1	25,63	133,0	24,4
WZ80610900190	9,0	19	7,0	1,0	10,1	7,5	33,1	8,9
WZ80610900285	9,0	28,5	7,0	1,0	14,3	10,5	33,1	14,2
WZ80610900590	9,0	59	7,0	1,0	28,3	20,5	33,1	30,7
WZ80611000400	10,0	40	7,0	1,5	23,9	17,5	141,0	16,1
WZ80611200550	12,0	55	9,0	1,5	25,3	21,5	108,0	29,7
WZ80611400400	14,0	40	10,0	2,0	22,4	17,5	206,0	17,6
WZ80611400500	14,0	50	10,0	2,0	25	22,5	245,0	25
WZ80611500400	15,0	40	11,0	2,0	20	17,0	216,0	20
WZ80611700850	17,0	85	12,5	2,25	41	32,5	255,0	44
WZ80611750500	17,5	50	11,5	3,0	34	31,5	471,0	16
WZ80611800830	18,0	83	10,0	4,0	65	58,0	1324,0	18
WZ80611900350	19,0	35	11,0	4,0	27	25,0	1324,0	8
WZ80611900900	19,0	90	10,0	4,5	72,4	66,5	1687,0	17,6
WZ80611950350	19,5	35	14,5	2,5	20	18,5	196,0	15
WZ80611950400	19,5	40	13,0	3,0	26	23,5	442,0	14

REF	Da	Lo	Di	d	Ln	LBl	Fn (N)	Sn
WZ80612050950	20,5	95	15,5	2,5	46,2	36,5	196	48,8
WZ80612100400	21,0	40	13,0	4,0	29	26,5	1138	11
WZ80612150450	21,5	45	15,5	3,0	23,6	21,0	540	21,4
WZ80612150500	21,5	50	13,5	4,0	34,3	31,5	1138	15,6
WZ80612200500	22,0	50	16,0	3,0	27,8	25,2	451	22,2
WZ80612200700	22,0	70	16,0	3,0	41,1	37,5	373	28,9
WZ80612201000	22,0	100	16,0	3,0	55	47,5	441	45
WZ80612500240	25,0	24	17,0	4,0	16,8	14,5	942	7,2
WZ80612780700	27,8	70	13,8	4,0	59	56,0	3679	11
WZ80612800800	28,0	80	20,0	4,0	50	46,0	618	30
WZ80612801000	28,0	100	20,0	4,0	62	55,0	638	38
WZ80613000700	30,0	70	22,0	4,1	36	32,0	804	34
WZ80613001500	30,0	150	17,0	6,5	122	106,0	2845	28
WZ80613200800	32,0	80	20,0	6,0	63,6	60,0	1452	16,4
WZ80613201000	32,0	100	20,0	6,0	82	75,0	1334	18
WZ80613201300	32,0	130	20,0	6,0	96,3	90,0	1884	33,7
WZ80613201600	32,0	160	20,0	6,0	116	109,0	2011	44
WZ80613202000	32,0	200	20,0	6,0	151	141,5	1697	49
WZ80613202400	32,0	240	20,0	6,0	180	167,0	1766	60
WZ80613801600	38,0	160	26,0	6,0	120	111,0	981	40
WZ80613802000	38,0	200	26,0	6,0	145	135,5	1079	55
WZ80613802400	38,0	240	26,0	6,0	170	155,0	1197	70
WZ80613802800	38,0	280	26,0	6,0	190	173,0	1337	90
WZ80615000600	50,0	60	32,0	6,0	45,2	42,7	4410	14,8
WZ80615001400	50,0	140	32,0	6,0	96,5	89,0	5100	43,5
WZ80615002000	50,0	200	32,0	6,0	154,2	140,0	3200	45,8

Tol.: DIN 2095(2) 1N = 0,102 Kg (force)

CAD reference point

HELICAL SPRINGS, ROUND WIRE **WZ8062**



REF	Da	Di	L	d	Pn	Sn
WZ806201007500	10,0	7,0	3,6	1,5	130	200
WZ806201209500	12,0	9,0	4,6	1,5	110	270
WZ806201410500	14,0	10,0	5,0	2,0	210	220
WZ806201511500	15,0	11,0	5,3	2,0	220	250
WZ806201712500	17,0	12,5	6,1	2,3	260	260
WZ8062017511550	17,5	11,5	6,1	3,0	490	156
WZ806201810500	18,0	10,0	5,8	4,0	1330	108
WZ806201910500	19,0	10,0	6,5	4,5	1690	100
WZ8062019514550	19,5	14,5	5,3	2,5	200	214
WZ8062019513550	19,5	13,5	6,2	3,0	450	175
WZ8062020515550	20,5	15,5	7,0	2,5	200	257
WZ806202113500	21,0	13,0	6,7	4,0	1140	137

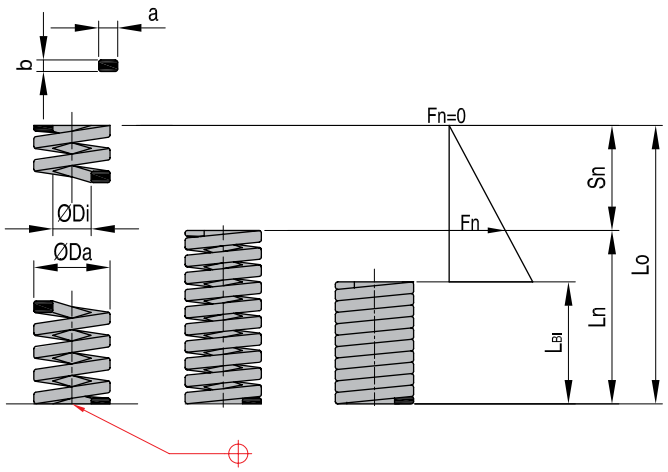
REF	Da	Di	L	d	Pn	Sn
WZ806202151550	21,5	15,5	7,8	3,0	540	238
WZ8062021513550	21,5	13,5	7,2	4,0	1140	156
WZ806202517500	25,0	17,0	8,0	4,0	950	150
WZ806202719500	27,0	19,0	8,5	4,0	981	257
WZ8062027813850	27,8	13,8	9,2	7,0	3680	80
WZ806203022500	30,0	22,0	10,2	4,0	810	243
WZ806203017500	30,0	17,0	9,5	6,5	2850	93
WZ806203220500	32,0	20,0	9,5	6,0	2110	128
WZ806203525500	35,0	25,0	10,5	5,0	1275	246
WZ806204226500	42,0	26,0	13,0	8,0	3830	138
WZ806205331500	53,0	31,0	15,5	11,0	6620	107

1N = 0,102 Kg (force)

CAD reference point

HELICAL SPRINGS, RECTANGULAR WITH FLAT ROUND CORNERS **WZ8065**

Mat.: Spring steel according
DIN 17 223/1 - Tol. As per DIN 2095(2)



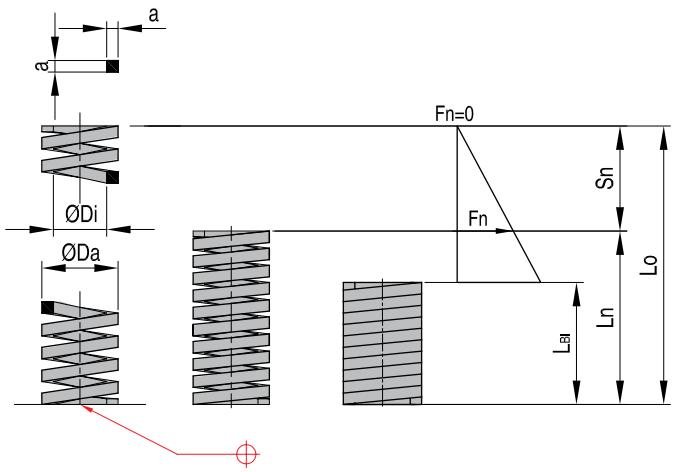
REF	Da	Lo	Di	a x b	Ln	LBI	Sn	Fn (N)
WZ806511-00020	11,0	20	7,0	2 x 1,25	10	9,5	10	196
WZ806512-50020	12,5	20	7,5	2,5 x 1,5	13	12,0	7	265
WZ806513-00050	13,0	50	9,0	2 x 1,25	20	18,0	30	147
WZ806514-00025	14,0	25	8,0	3 x 1,6	15	13,5	10	392
WZ806515-50025	15,5	25	8,5	3,5 x 2,2	17	15,5	8	736
WZ806517-00050	17,0	50	9,0	4 x 2	32	30,0	18	687
WZ806517-60030	17,6	30	9,6	4 x 2	18	17,0	12	687
WZ806525-00054	25,0	54	13,0	6 x 3	35	32,0	19	1177
WZ806525-00077	25,0	77	13,0	6 x 3	50	44,0	27	1177
WZ806525-00123	25,0	123	13,0	6 x 3	79	72,0	44	1177
WZ806532-00069	32,0	69	17,0	7,5 x 4	45	43,0	24	2453
WZ806532-00098	32,0	98	17,0	7,5 x 4	64	61,0	34	2453
WZ806538-00067	38,0	67	21,0	8,5 x 5	45	44,0	22	2943
WZ806538-00102	38,0	102	21,0	8,5 x 5	68	64,0	34	2943
WZ806538-00147	38,0	147	21,0	8,5 x 5	97	90,0	50	2943

1N = 0,102 Kg (force)

CAD reference point

HELICAL SPRINGS, RECTANGULAR WITH FLAT ROUND CORNERS **WZ8071**

Mat.: Spring steel according
DIN 17 223/1 - Tol. As per DIN 2095(2)



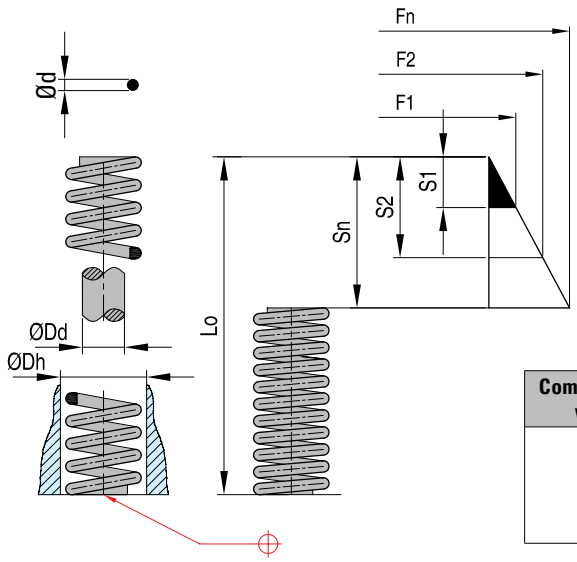
REF	Da	Lo	Di	a x a	Ln	LBI	Sn	Fn (N)
WZ807110-00020	10,0	20	7,0	1,5 x 1,5	12,6	11,5	7,4	167
WZ807111-50020	11,5	20	7,5	2 x 2	14,2	13,5	5,8	285
WZ807112-00050	12,0	50	9,0	1,5 x 1,5	23,2	22,0	26,8	128
WZ807112-50025	12,5	25	7,5	2,5 x 2,5	21,0	18,7	4,0	442
WZ807114-00050	14,0	50	9,0	2,5 x 2,5	37,5	33,0	12,5	412
WZ807114-50032	14,5	32	9,3	2,5 x 2,5	21,6	19,8	10,4	510
WZ807117-50045	17,5	45	9,5	4 x 4	37,8	35,5	7,2	1570
WZ807119-00050	19,0	50	11,0	4 x 4	39,4	36,5	10,6	1717
WZ807119-50045	19,5	45	11,5	4 x 4	35,2	32,5	9,8	1570
WZ807121-00045	21,0	45	13,0	4 x 4	34,0	32,0	11,0	1275
WZ807123-00083	23,0	83	15,0	4 x 4	58,4	55,0	24,6	1099
WZ807126-00045	26,0	45	14,0	6 x 6	40,2	37,0	4,8	2943
WZ807128-00098	28,0	98	14,0	7 x 7	83,5	81,0	14,5	5297
WZ807130-00050	30,0	50	21,0	4,5 x 4,5	32,5	30,5	17,5	1236
WZ807136-00050	36,0	50	26,0	5 x 5	31,0	29,0	19,0	1334
WZ807142-00072	42,0	72	26,0	8 x 8	55,5	53,0	16,5	4611

1N = 0,102 Kg (force)

CAD reference point

SYSTEM COMPRESSION SPRINGS - ROUND WIRE

GREEN SPRINGS - LIGHT LOAD — F1536



Mat.: Special alloy
Load range: High load
Max. T.: 250°C

1N = 0,102kg

Compression for long working time		Maximal compression
		

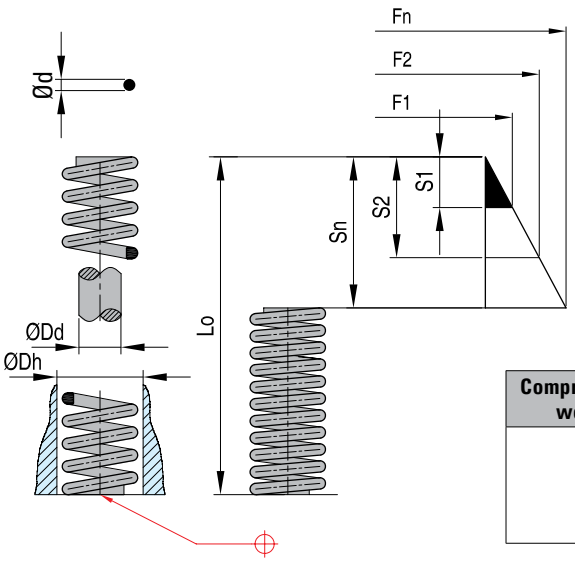
						40%		45%		50%	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	L0 (mm)	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
F15360060X016	6,0	4,8	0,6	16	1,6	6,4	10,0	7,2	11,2	8,0	12,4
F15360060X025	6,0	4,8	0,6	25	1,0	10,0	9,7	11,3	10,9	12,5	12,1
F15360060X038	6,0	4,8	0,6	38	0,6	15,2	9,5	17,1	10,7	19,0	11,9
F15360060X051	6,0	4,8	0,6	51	0,5	20,4	10,1	23,0	11,4	25,5	12,6
F15360080X016	8,0	6,4	0,8	16	2,5	6,4	15,7	7,2	17,7	8,0	19,7
F15360080X025	8,0	6,4	0,8	25	1,6	10,0	15,6	11,3	17,6	12,5	19,5
F15360080X038	8,0	6,4	0,8	38	1,1	15,2	16,6	17,1	18,7	19,0	20,7
F15360080X051	8,0	6,4	0,8	51	0,8	20,4	15,8	23,0	17,8	25,5	19,8

F15365

						25%		30%		40%	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	L0 (mm)	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
F15365100X025	10,0	5,0	1,1	25	4,4	6,3	28,0	7,5	33,0	10,0	44,0
F15365100X032	10,0	5,0	1,1	32	3,4	8,0	27,0	9,6	33,0	12,8	44,0
F15365100X038	10,0	5,0	1,1	38	2,8	9,5	26,0	11,4	32,0	15,2	42,0
F15365100X044	10,0	5,0	1,1	44	2,4	11,0	26,0	13,2	31,0	17,6	42,0
F15365100X051	10,0	5,0	1,1	51	2,1	12,8	27,0	15,3	32,0	20,4	43,0
F15365100X064	10,0	5,0	1,1	64	1,6	16,0	26,0	19,2	31,0	25,6	42,0
F15365100X076	10,0	5,0	1,1	76	1,3	19,0	25,0	22,8	30,0	30,4	40,0
F15365100X305	10,0	5,0	1,1	305	0,3	76,3	24,0	91,5	29,0	122,0	38,0
F15365125X025	12,5	6,3	1,5	25	8,5	6,3	53,0	7,5	64,0	10,0	85,0
F15365125X032	12,5	6,3	1,5	32	6,5	8,0	52,0	9,6	62,0	12,8	83,0
F15365125X038	12,5	6,3	1,5	38	5,3	9,5	51,0	11,4	61,0	15,2	81,0
F15365125X044	12,5	6,3	1,5	44	4,4	11,0	49,0	13,2	59,0	17,6	78,0
F15365125X051	12,5	6,3	1,5	51	3,8	12,8	48,0	15,3	58,0	20,4	78,0
F15365125X064	12,5	6,3	1,5	64	2,9	16,0	47,0	19,2	56,0	25,6	75,0
F15365125X076	12,5	6,3	1,5	76	2,5	19,0	48,0	22,8	57,0	30,4	76,0
F15365125X089	12,5	6,3	1,5	89	2,1	22,3	47,0	26,7	56,0	35,6	75,0
F15365125X305	12,5	6,3	1,5	305	0,6	76,3	45,0	91,5	54,0	122,0	73,0
F15365160X025	16,0	8,0	2,0	25	17,9	6,3	112,0	7,5	134,0	10,0	179,0
F15365160X032	16,0	8,0	2,0	32	13,5	8,0	108,0	9,6	129,0	12,8	173,0
F15365160X038	16,0	8,0	2,0	38	10,5	9,5	100,0	11,4	120,0	15,2	160,0
F15365160X044	16,0	8,0	2,0	44	8,8	11,0	96,0	13,2	116,0	17,6	154,0
F15365160X051	16,0	8,0	2,0	51	7,6	12,8	97,0	15,3	116,0	20,4	155,0
F15365160X064	16,0	8,0	2,0	64	5,9	16,0	95,0	19,2	114,0	25,6	152,0
F15365160X076	16,0	8,0	2,0	76	4,8	19,0	91,0	22,8	109,0	30,4	145,0
F15365160X089	16,0	8,0	2,0	89	4,0	22,3	90,0	26,7	108,0	35,6	142,0
F15365160X102	16,0	8,0	2,0	102	3,5	25,5	89,0	30,6	107,0	40,8	143,0
F15365160X305	16,0	8,0	2,0	305	1,1	76,3	85,0	91,5	101,0	122,0	134,0

CAD reference point

BLUE SPRINGS - MEDIUM LOAD — F1537



Mat.: Special alloy
Load range: High load
Max. T.: 250°C

1N = 0,102kg

Compression for long working time		Maximal compression
		

						30%		35%		40%	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	L0 (mm)	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
F15370060X016	6,0	4,8	0,6	16	4,7	4,8	22,6	5,6	26,3	6,4	30,1
F15370060X025	6,0	4,8	0,6	25	2,9	7,5	21,4	8,8	24,9	10,0	28,5
F15370060X038	6,0	4,8	0,6	38	1,8	11,4	21,0	13,3	24,5	15,2	28,0
F15370060X051	6,0	4,8	0,6	51	1,5	15,3	22,4	17,9	26,2	20,4	29,9
F15370080X016	8,0	6,4	0,8	16	5,4	4,8	25,8	5,6	30,1	6,4	34,4
F15370080X025	8,0	6,4	0,8	25	3,6	7,5	27,3	8,8	31,9	10,0	36,4
F15370080X038	8,0	6,4	0,8	38	2,4	11,4	27,5	13,3	32,1	15,2	36,7
F15370080X051	8,0	6,4	0,8	51	1,9	15,3	29,2	17,9	34,0	20,4	38,9

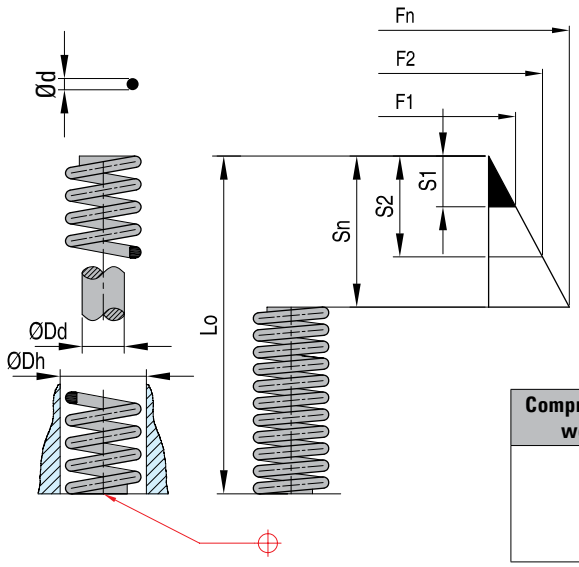
F15375

						30%		35%		40%	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	L0 (mm)	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
F15375100X025	10,0	5,0	1,5	25	12,3	6,3	77,0	7,5	92,0	9,4	115,0
F15375100X032	10,0	5,0	1,5	32	9,5	8,0	76,0	9,6	91,0	12,0	113,0
F15375100X038	10,0	5,0	1,5	38	7,8	9,5	74,0	11,4	88,0	14,3	111,0
F15375100X044	10,0	5,0	1,5	44	6,5	11,0	72,0	13,2	86,0	16,5	108,0
F15375100X051	10,0	5,0	1,5	51	5,6	12,8	72,0	15,3	86,0	19,1	107,0
F15375100X064	10,0	5,0	1,5	64	4,5	16,0	71,0	19,2	86,0	24,0	107,0
F15375100X076	10,0	5,0	1,5	76	3,7	19,0	70,0	22,8	84,0	28,5	105,0
F15375100X305	10,0	5,0	1,5	305	0,9	76,3	68,0	91,5	82,0	114,0	102,0
F15375125X025	12,5	6,3	1,8	25	21,7	6,3	136,0	7,5	163,0	9,4	204,0
F15375125X032	12,5	6,3	1,8	32	16,8	8,0	134,0	9,6	161,0	12,0	202,0
F15375125X038	12,5	6,3	1,8	38	13,8	9,5	131,0	11,4	158,0	14,3	197,0
F15375125X044	12,5	6,3	1,8	44	11,6	11,0	127,0	13,2	153,0	16,5	191,0
F15375125X051	12,5	6,3	1,8	51	10,0	12,8	128,0	15,3	153,0	19,1	191,0
F15375125X064	12,5	6,3	1,8	64	7,8	16,0	125,0	19,2	150,0	24,0	187,0
F15375125X076	12,5	6,3	1,8	76	6,4	19,0	122,0	22,8	146,0	28,5	183,0
F15375125X089	12,5	6,3	1,8	89	5,6	22,3	125,0	26,7	150,0	33,4	188,0
F15375125X305	12,5	6,3	1,8	305	1,5	76,3	115,0	91,5	137,0	114,0	171,0
F15375160X025	16,0	8,0	2,2	25	31,9	6,3	201,0	7,5	239,0	9,4	299,0
F15375160X032	16,0	8,0	2,2	32	24,0	8,0	192,0	9,6	230,0	12,0	288,0
F15375160X038	16,0	8,0	2,2	38	19,4	9,5	185,0	11,4	222,0	14,3	277,0
F15375160X044	16,0	8,0	2,2	44	16,1	11,0	177,0	13,2	213,0	16,5	266,0
F15375160X051	16,0	8,0	2,2	51	13,8	12,8	176,0	15,3	212,0	19,1	265,0
F15375160X064	16,0	8,0	2,2	64	10,7	16,0	171,0	19,2	205,0	24,0	256,0
F15375160X076	16,0	8,0	2,2	76	8,8	19,0	166,0	22,8	200,0	28,5	250,0
F15375160X089	16,0	8,0	2,2	89	7,5	22,3	167,0	26,7	200,0	33,4	250,0
F15375160X102	16,0	8,0	2,2	102	6,5	25,5	166,0	30,6	199,0	38,3	248,0
F15375160X305	16,0	8,0	2,2	305	2,1	76,3	159,0	91,5	191,0	114,0	238,0

CAD reference point

SYSTEM COMPRESSION SPRINGS - ROUND WIRE

RED SPRINGS - HEAVY LOAD — F1538



Mat.: Special alloy
Load range: High load
Max. T.: 250°C

1N = 0,102kg

Compression for long working time		Maximal compression
		

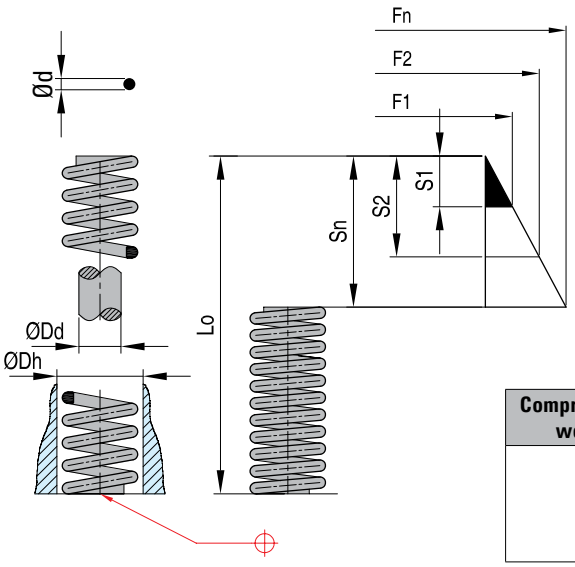
						20%		25%		30%	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	L0 (mm)	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
F15380060X016	6,0	4,0	1,0	16	12,7	3,2	40,8	4,0	51,0	4,8	61,2
F15380060X025	6,0	4,0	1,0	25	7,7	5,0	38,7	6,3	48,3	7,5	58,0
F15380060X038	6,0	4,0	1,0	38	4,9	7,6	37,3	9,5	46,6	11,4	56,0
F15380060X051	6,0	4,0	1,0	51	3,7	10,2	37,5	12,8	46,8	15,3	56,2
F15380080X016	8,0	5,6	1,2	16	12,5	3,2	40,0	4,0	50,0	4,8	60,1
F15380080X025	8,0	5,6	1,2	25	6,9	5,0	34,5	6,3	43,1	7,5	51,7
F15380080X038	8,0	5,6	1,2	38	5,1	7,6	38,4	9,5	48,0	11,4	57,6
F15380080X051	8,0	5,6	1,2	51	4,0	10,2	40,8	12,8	50,9	15,3	61,1

F15385

						22%		25%		30%	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	L0 (mm)	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
F15385100X025	10,0	5,0	1,6	25	20,7	5,0	103,0	6,3	129,0	7,5	155,0
F15385100X032	10,0	5,0	1,6	32	16,1	6,4	103,0	8,0	129,0	9,6	155,0
F15385100X038	10,0	5,0	1,6	38	13,0	7,6	98,0	9,5	123,0	11,4	148,0
F15385100X044	10,0	5,0	1,6	44	10,9	8,8	96,0	11,0	119,0	13,2	143,0
F15385100X051	10,0	5,0	1,6	51	9,6	10,2	98,0	12,8	123,0	15,3	147,0
F15385100X064	10,0	5,0	1,6	64	7,7	12,8	99,0	16,0	123,0	19,2	148,0
F15385100X076	10,0	5,0	1,6	76	6,3	15,2	96,0	19,0	119,0	22,8	143,0
F15385100X305	10,0	5,0	1,6	305	1,5	61,0	93,0	76,3	116,0	91,5	137,0
F15385125X025	12,5	6,3	2,2	25	37,5	5,0	187,0	6,3	236,0	7,5	281,0
F15385125X032	12,5	6,3	2,2	32	28,9	6,4	185,0	8,0	231,0	9,6	277,0
F15385125X038	12,5	6,3	2,2	38	23,5	7,6	178,0	9,5	223,0	11,4	268,0
F15385125X044	12,5	6,3	2,2	44	19,6	8,8	173,0	11,0	216,0	13,2	259,0
F15385125X051	12,5	6,3	2,2	51	17,3	10,2	177,0	12,8	221,0	15,3	265,0
F15385125X064	12,5	6,3	2,2	64	13,5	12,8	173,0	16,0	216,0	19,2	259,0
F15385125X076	12,5	6,3	2,2	76	11,2	15,2	170,0	19,0	213,0	22,8	256,0
F15385125X089	12,5	6,3	2,2	89	9,5	17,8	168,0	22,3	210,0	26,7	252,0
F15385125X305	12,5	6,3	2,2	305	2,7	61,0	165,0	76,3	206,0	91,5	247,0
F15385160X025	16,0	8,0	2,8	25	81,6	5,0	408,0	6,3	514,0	7,5	612,0
F15385160X032	16,0	8,0	2,8	32	61,3	6,4	392,0	8,0	490,0	9,6	588,0
F15385160X038	16,0	8,0	2,8	38	49,9	7,6	379,0	9,5	474,0	11,4	569,0
F15385160X044	16,0	8,0	2,8	44	40,8	8,8	359,0	11,0	449,0	13,2	539,0
F15385160X051	16,0	8,0	2,8	51	35,6	10,2	363,0	12,8	456,0	15,3	544,0
F15385160X064	16,0	8,0	2,8	64	27,8	12,8	356,0	16,0	446,0	19,2	535,0
F15385160X076	16,0	8,0	2,8	76	22,8	15,2	346,0	19,0	433,0	22,8	519,0
F15385160X089	16,0	8,0	2,8	89	19,6	17,8	349,0	22,3	436,0	26,7	524,0
F15385160X102	16,0	8,0	2,8	102	17,0	20,4	347,0	25,5	433,0	30,6	520,0
F15385160X305	16,0	8,0	2,8	305	5,4	61,0	330,0	76,3	413,0	91,5	495,0

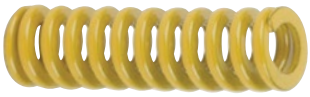
CAD reference point

YELLOW SPRINGS - VERY HEAVY LOAD **F1539**



Mat.: Special alloy
Load range: High load
Max. T.: 250°C

1N = 0,102kg

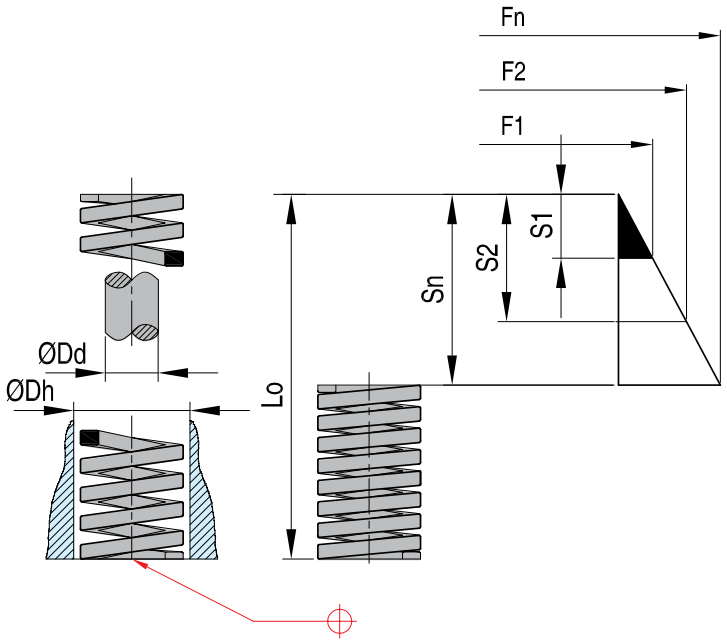


Compression for long working time		Maximal compression
		

						15%		18%		20%	
REF	ØDh (mm)	ØDd (mm)	Ød (mm)	L0 (mm)	Spring rate (N/mm)	S1 (mm)	F1 (N)	S2 (mm)	F2 (N)	Sn (mm)	Fn (N)
F15390060X016	6,0	3,6	1,2	16	33,0	2,4	79,2	2,9	95,1	3,2	105,6
F15390060X025	6,0	3,6	1,2	25	19,8	3,8	74,3	4,5	89,2	5,0	99,0
F15390060X038	6,0	3,6	1,2	38	11,9	5,7	67,9	6,8	81,5	7,6	90,6
F15390060X051	6,0	3,6	1,2	51	9,5	7,7	72,7	9,2	87,3	10,2	97,0
F15390080X016	8,0	5,0	1,5	16	30,9	2,4	74,0	2,9	88,8	3,2	98,7
F15390080X025	8,0	5,0	1,5	25	23,0	3,8	86,3	4,5	103,5	5,0	115,0
F15390080X038	8,0	5,0	1,5	38	13,2	5,7	75,4	6,8	90,5	7,6	100,6
F15390080X051	8,0	5,0	1,5	51	9,3	7,7	70,8	9,2	85,0	10,2	94,4

CAD reference point

DIE SPRINGS, TECHNICAL INFORMATION WZ 8031 - WZ8030 **Info**



D_h	diameter of bore hole in mm
D_d	diameter of rod in mm
L_o	free length in mm
R	spring rate
F_n	max/load in Nmax. of free length Lo

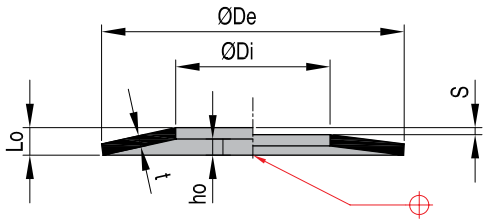
S_n	length of deflection in mm max. of free length Lo
F_1	load in N for long life
S_1	length of deflection in mm for long life
F_2	load in N for average life
S_2	length of deflection in mm for average life

Tolerances for free lengths Lo

L_o mm ±3%	L_o mm ±2,5%	L_o mm ±2%
25	76	127
32	89	139
38	102	152
44	115	178
51		203
64		254
		305

CAD reference point

BELLEVILLE WASHERS WZ8050

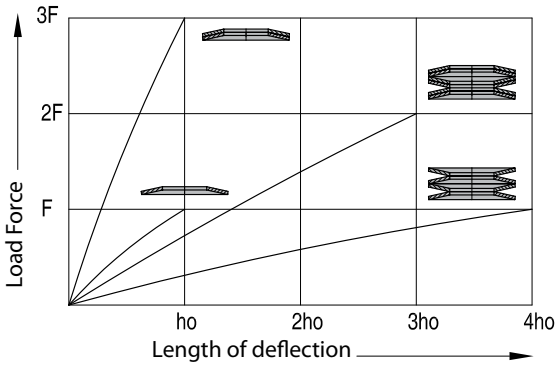


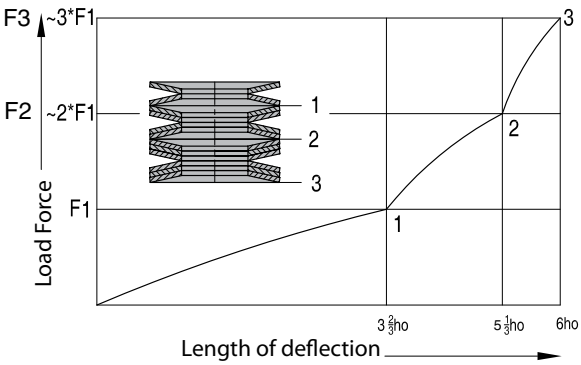
Mat.: 50 Cr V4 ± DIN2093 Max. 300°

REF	De	Di	t	Lo	ho	S=0,25xho		S=0,50xho		S=0,75xho	
						S	F (N)	S	F (N)	S	F (N)
WZ8050080032040	8,0	3,2	0,4	0,60	0,20	0,050	69,2	0,100	130,1	0,150	185,5
WZ8050080042040	8,0	4,2	0,4	0,60	0,20	0,050	78,2	0,100	147,0	0,150	209,5
WZ8050100052040	10,0	5,2	0,4	0,70	0,30	0,075	87,8	0,150	155,3	0,225	209,3
WZ8050100052050	10,0	5,2	0,5	0,75	0,25	0,062	121,5	0,125	228,3	0,187	325,3
WZ8050120052050	12,0	5,2	0,5	0,90	0,40	0,100	150,0	0,200	262,0	0,750	349,0
WZ8050120062050	12,0	6,2	0,5	0,85	0,35	0,087	133,5	0,175	239,2	0,262	326,4
WZ8050125062070	12,5	6,2	0,7	1,00	0,30	0,075	239,4	0,150	456,8	0,225	659,5
WZ8050140072080	14,0	7,2	0,8	1,10	0,30	0,075	283,8	0,150	547,2	0,225	796,8
WZ8050150052070	15,0	5,2	0,7	1,25	0,55	0,137	340,2	0,275	596,4	0,412	796,5
WZ8050150062060	15,0	6,2	0,6	1,05	0,45	0,100	179,0	0,200	315,0	0,300	423,0
WZ8050160082060	16,0	8,2	0,6	1,05	0,45	0,112	172,0	0,225	304,3	0,337	410,0
WZ8050160082090	16,0	8,2	0,9	1,25	0,35	0,087	362,5	0,175	697,0	0,262	1013,0
WZ8050180092100	18,0	9,2	1,0	1,40	0,40	0,100	450,6	0,200	865,0	0,300	1254,0
WZ8050200102080	20,0	10,2	0,8	1,35	0,55	0,137	304,3	0,275	546,8	0,412	748,2
WZ8050200102090	20,0	10,2	0,9	1,45	0,55	0,137	411,7	0,275	754,0	0,412	1050,0
WZ8050200102100	20,0	10,2	1,0	1,55	0,55	0,137	543,6	0,275	1010,0	0,412	1425,0
WZ8050200102110	20,0	10,2	1,1	1,55	0,45	0,112	548,2	0,225	1050,0	0,337	1521,0
WZ8050230122125	23,0	12,2	1,25	1,85	0,60	0,150	863,4	0,300	1630,0	0,450	2331,0
WZ8050250122090	25,0	12,2	0,9	1,60	0,70	0,175	366,8	0,350	644,3	0,525	862,3
WZ8050250122150	25,0	12,2	1,5	2,05	0,55	0,137	1040,0	0,275	2007,0	0,412	2926,0
WZ8050280142100	28,0	14,2	1,0	1,80	0,80	0,200	476,4	0,400	832,0	0,600	1107,0
WZ8050280142150	28,0	14,2	1,5	2,15	0,65	0,162	1033,0	0,325	1970,0	0,487	2841,0
WZ8050315163125	31,5	16,3	1,3	2,15	0,90	0,225	790,5	0,450	1409,0	0,675	1913,0
WZ8050315163175	31,5	16,3	1,8	2,45	0,70	0,175	1391,0	0,350	2669,0	0,525	3871,0
WZ8050340123125	34,0	12,3	1,3	2,45	1,20	0,300	946,4	0,600	1587,0	0,900	2024,0
WZ8050355183200	35,5	18,3	2,0	2,80	0,80	0,200	1864,0	0,400	3576,0	0,600	5187,0
WZ8050355183125	35,5	18,3	1,3	2,25	1,00	0,250	730,0	0,500	1280,0	0,750	1698,0
WZ8050400143150	40,0	14,3	1,5	2,80	1,30	0,325	1188,0	0,650	2040,0	0,975	2668,0
WZ8050400204225	40,0	20,4	2,25	3,15	0,90	0,225	2336,0	0,450	4481,0	0,675	6500,0
WZ8050450224250	45,0	22,4	2,5	3,50	1,00	0,250	2773,0	0,500	5320,0	0,750	7716,0
WZ8050500184150	50,0	18,4	1,5	3,15	1,65	0,412	1166,0	0,825	1890,0	1237,000	2319,0
WZ8050500254250	50,0	25,4	2,5	3,90	1,40	0,350	3473,0	0,700	6437,0	1,050	9063,0
WZ8050500254300	50,0	25,4	3,0	4,10	1,10	0,275	4255,0	0,550	8214,0	0,825	11976,0
WZ8050560285200	56,0	28,5	2,0	3,60	1,60	0,400	1910,0	0,800	3335,0	1,200	4438,0
WZ8050600205200	60,0	20,5	2,0	4,20	2,20	0,550	2528,0	1,100	4097,0	1,650	5026,0
WZ8050700305250	70,0	30,5	2,5	4,90	2,40	0,600	3755,0	1,200	6297,0	1,800	8031,0
WZ8050800360300	80,0	36,0	3,0	5,70	2,70	0,675	5401,0	1,350	9196,0	2025,000	11919,0

S = Length of deflection F = Load force (Newton)

Applications

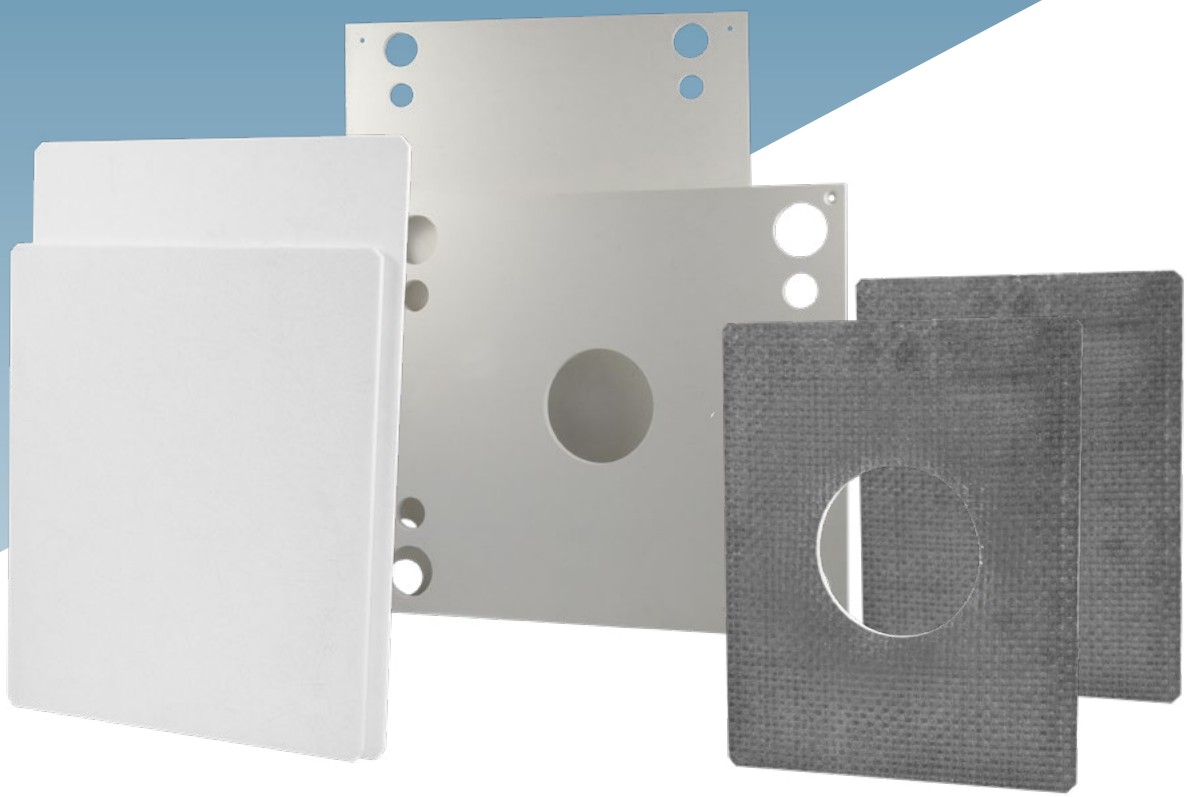




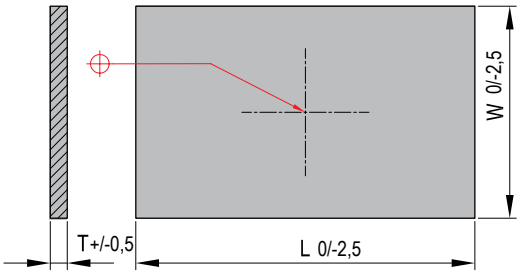
CAD reference point

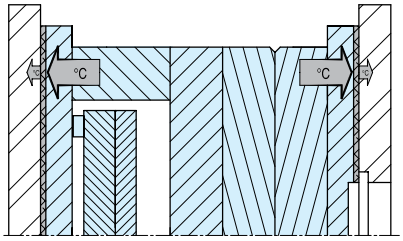
CAD reference point

INSULATING PLATES



INSULATING PLATES-ASBESTOS-FREE R40





Mat.: Polyester resin with glass fibres

For the insulation of presses and injection moulds for thermoplastics and thermoset materials and diecasting dies.

Other sizes available upon request

REF	W	L	T
R400092009206	92	92	6
R400092012206	92	122	6
R400092015206	92	152	6
R400122012206	122	122	6
R400122015206	122	152	6
R400122024206	122	242	6
R400152015206	152	152	6
R400152019206	152	192	6
R400152020206	152	202	6
R400152024206	152	242	6
R400152029206	152	292	6
R400152034206	152	342	6
R400152039206	152	392	6
R400152044206	152	442	6
R400192019206	192	192	6
R400192020206	192	202	6
R400192024206	192	242	6
R400192029206	192	292	6
R400192034206	192	342	6
R400192039206	192	392	6
R400192044206	192	442	6
R400192049206	192	492	6
R400212024206	212	242	6
R400212029206	212	292	6
R400212039206	212	392	6
R400242024206	242	242	6
R400242026206	242	262	6
R400242029206	242	292	6
R400242034206	242	342	6
R400242039206	242	392	6
R400242044206	242	442	6
R400242049206	242	492	6
R400242054206	242	542	6
R400242059206	242	592	6
R400262029206	262	292	6
R400292029206	292	292	6

REF	W	L	T
R400292034206	292	342	6
R400292039206	292	392	6
R400292044206	292	442	6
R400292049206	292	492	6
R400292054206	292	542	6
R400292059206	292	592	6
R400342034206	342	342	6
R400342039206	342	392	6
R400342044206	342	442	6
R400342049206	342	492	6
R400342059206	342	592	6
R400292034208	292	342	8
R400292039208	292	392	8
R400292044208	292	442	8
R400292049208	292	492	8
R400292054208	292	542	8
R400292059208	292	592	8
R400292064208	292	642	8
R400292069208	292	692	8
R400312034208	312	342	8
R400312039208	312	392	8
R400312044208	312	442	8
R400342034208	342	342	8
R400342036208	342	362	8
R400342039208	342	392	8
R400342044208	342	442	8
R400342049208	342	492	8
R400342054208	342	542	8
R400342059208	342	592	8
R400342064208	342	642	8
R400342069208	342	692	8
R400342079208	342	792	8
R400362039208	362	392	8
R400392039208	392	392	8
R400392044208	392	442	8
R400392049208	392	492	8

REF	W	L	T
R400392054208	392	542	8
R400392059208	392	592	8
R400392064208	392	642	8
R400392069208	392	692	8
R400392079208	392	792	8
R400442044208	442	442	8
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R400442079208	442	792	8
R400442089208	442	892	8
R400492049208	492	492	8
R400492054208	492	542	8
R400492059208	492	592	8
R400492064208	492	642	8
R400492069208	492	692	8
R400492079208	492	792	8
R400492089208	492	892	8
R400492099208	492	992	8
R400542054208	542	542	8
R400542059208	542	592	8
R400542064208	542	642	8
R400542069208	542	692	8
R400542079208	542	792	8
R400542089208	542	892	8
R400542099208	542	992	8
R400592059208	592	592	8
R400592064208	592	642	8
R400592069208	592	692	8
R400592079208	592	792	8
R400592089208	592	892	8
R400592099208	592	992	8
R400642064208	642	642	8
R400642069208	642	692	8

CAD reference point

INSULATING PLATES-ASBESTOS-FREE R40

REF	W	L	T
R400642079208	642	792	8
R400642089208	642	892	8
R400642099208	642	992	8
R400642109208	642	1092	8
R400642119208	642	1192	8
R400692069208	692	692	8
R400692074208	692	742	8
R400692079208	692	792	8
R400692089208	692	892	8
R400692099208	692	992	8
R400692109208	692	1092	8
R400692119208	692	1192	8
R400742074208	742	742	8
R400742079208	742	792	8
R400742089208	742	892	8
R400742099208	742	992	8
R400742109208	742	1092	8
R400742119208	742	1192	8
R400792079208	792	792	8
R400792084208	792	842	8
R400792089208	792	892	8
R400792099208	792	992	8

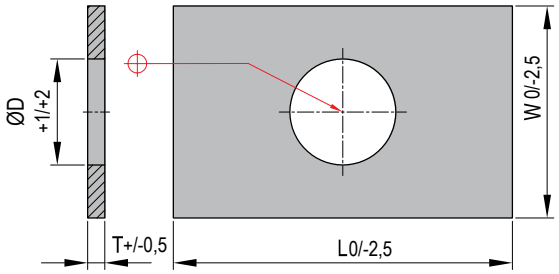
REF	W	L	T
R400792109208	792	1092	8
R400792119208	792	1192	8
R400842089208	842	892	8
R400842099208	842	992	8
R400842109208	842	1092	8
R400842119208	842	1192	8
R400892089208	892	892	8
R400892094208	892	942	8
R400892099208	892	992	8
R400892109208	892	1092	8
R400892119208	892	1192	8
R400942099208	942	992	8
R400942109208	942	1092	8
R400992099208	992	992	8
R400992109208	992	1092	8
R400992119208	992	1192	8
R401092109208	1092	1092	8
R401092119208	1092	1192	8
R400392039210	392	392	10
R400392044210	392	442	10
R400392049210	392	492	10
R400392059210	392	592	10

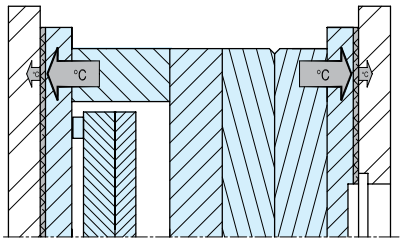
REF	W	L	T
R400442044210	442	442	10
R400442049210	442	492	10
R400442059210	442	592	10
R400442069210	442	692	10
R400442079210	442	792	10
R400492049210	492	492	10
R400492054210	492	542	10
R400492059610	492	596	10
R400492069210	492	692	10
R400492079210	492	792	10
R400542054210	542	542	10
R400542059210	542	592	10
R400542069210	542	692	10
R400542079210	542	792	10
R400592059210	592	592	10
R400592069210	592	692	10
R400592079210	592	792	10
R400592089210	592	892	10
R401000200006	1000	2000	6
R401000200010	1000	2000	10

Technical data		Unit
Compressive strength	24°C 100°C 200°C 260°C	341 N/mm² 188 N/mm² 126 N/mm² 118 N/mm²
Compressive modules	24°C 218°C	12411 N/mm² 19995 N/mm²
Max. recommended service temperature		288°C
Thermal conductivity	24°C 218°C	2,7 x 10^{-3} W/mK 3,0 x 10^{-3} W/mK
Moisture absorption		0,06 %
Specific weight		1,96 g/cm³
Flame resistance classification in accordance with UL 94		94 V-0

CAD reference point

INSULATING PLATES - ASBESTOS-FREE R41





Mat.: Polyester resin with glass fibres

For the insulation of presses and injection moulds for thermoplastics and thermoset materials and diecasting dies.

Other sizes available upon request

REF	W	L	T	D
R410920920662	92	92	6	62
R410921220662	92	122	6	62
R410921520662	92	152	6	62
R411221220662	122	122	6	62
R411221520662	122	152	6	62
R411222420692	122	242	6	92
R411521520662	152	152	6	62
R411521520692	152	152	6	92
R411521920692	152	192	6	92
R411522020692	152	202	6	92
R411522420692	152	242	6	92
R411522920692	152	292	6	92
R411523420692	152	342	6	92
R411523920692	152	392	6	92
R411524420692	152	442	6	92
R411921920692	192	192	6	92
R411922020692	192	202	6	92
R411922420692	192	242	6	92
R411922920692	192	292	6	92
R411923420692	192	342	6	92
R411923920692	192	392	6	92
R411924420692	192	442	6	92
R411924920692	192	492	6	92
R412122420692	212	242	6	92
R412122920692	212	292	6	92
R412123920692	212	392	6	92
R412422420692	242	242	6	92
R412422620692	242	262	6	92
R412422920692	242	292	6	92
R412423420692	242	342	6	92
R412423920692	242	392	6	92
R412424420692	242	442	6	92
R412424920692	242	492	6	92
R412425420692	242	542	6	92
R412425920692	242	592	6	92
R412622920692	262	292	6	92

REF	W	L	T	D
R412922920692	292	292	6	92
R412923420692	292	342	6	92
R412923920692	292	392	6	92
R412924420692	292	442	6	92
R412924920692	292	492	6	92
R412925420692	292	542	6	92
R412925920692	292	592	6	92
R413423420692	342	342	6	92
R413423920692	342	392	6	92
R413424420692	342	442	6	92
R413424920692	342	492	6	92
R413425920692	342	592	6	92
R412922920892	292	292	8	92
R412923420892	292	342	8	92
R412923920892	292	392	8	92
R412924420892	292	442	8	92
R412924920892	292	492	8	92
R412925420892	292	542	8	92
R412925920892	292	592	8	92
R412926420892	292	642	8	92
R412926920892	292	692	8	92
R413123420892	312	342	8	92
R413123920892	312	392	8	92
R413124420892	312	442	8	92
R413423420892	342	342	8	92
R413423620892	342	362	8	92
R413423920892	342	392	8	92
R413424420892	342	442	8	92
R413424920892	342	492	8	92
R413425420892	342	542	8	92
R413425920892	342	592	8	92
R413426420892	342	642	8	92
R413426920892	342	692	8	92
R413427920892	342	792	8	92
R413623920892	362	392	8	92
R413923920892	392	392	8	92

CAD reference point

INSULATING PLATES - ASBESTOS-FREE R41

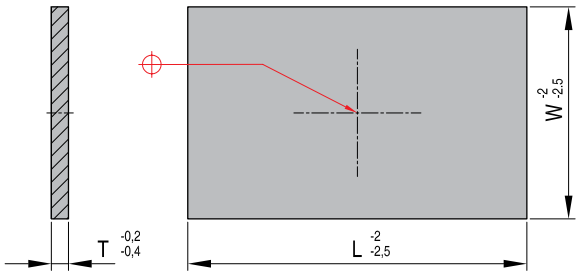
REF	W	L	T	D
R413924420892	392	442	8	92
R413924920892	392	492	8	92
R413925420892	392	542	8	92
R413925920892	392	592	8	92
R413926420892	392	642	8	92
R413926920892	392	692	8	92
R413927920892	392	792	8	92
R414424420892	442	442	8	92
R414424920892	442	492	8	92
R414425420892	442	542	8	92
R414425920892	442	592	8	92
R414426420892	442	642	8	92
R414426920892	442	692	8	92
R414427920892	442	792	8	92
R414924920892	492	492	8	92
R414925420892	492	542	8	92
R414925920892	492	592	8	92
R414926420892	492	642	8	92
R414926920892	492	692	8	92
R414927920892	492	792	8	92
R415425420892	542	542	8	92
R415425920892	542	592	8	92
R415426420892	542	642	8	92
R415426920892	542	692	8	92
R415427920892	542	792	8	92
R415925920892	592	592	8	92
R415926420892	592	642	8	92

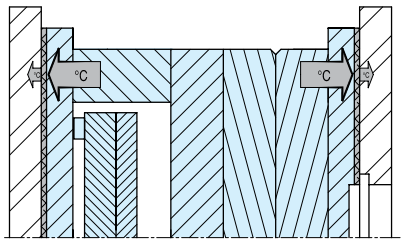
REF	W	L	T	D
R415926920892	592	692	8	92
R415927920892	592	792	8	92
R416426420892	642	642	8	92
R416426920892	642	692	8	92
R416427920892	642	792	8	92
R413923921092	392	392	10	92
R413924421092	392	442	10	92
R413924921092	392	492	10	92
R413925921092	392	592	10	92
R414424421092	442	442	10	92
R414424921092	442	492	10	92
R414425921092	442	592	10	92
R414426921092	442	692	10	92
R414427921092	442	792	10	92
R414924921092	492	492	10	92
R414925421092	492	542	10	92
R414925961092	492	596	10	92
R414926921092	492	692	10	92
R414927921092	492	792	10	92
R415425421092	542	542	10	92
R415425921092	542	592	10	92
R415426921092	542	692	10	92
R415427921092	542	792	10	92
R415925921092	592	592	10	92
R415926921092	592	692	10	92
R415927921092	592	792	10	92
R415928921092	592	892	10	92

Technical data		Unit
Compressive strength	24° C 100° C 200° C 260° C	341 N/mm² 188 N/mm² 126 N/mm² 118 N/mm²
Compressive modules	24° C 218° C	12411 N/mm² 19995 N/mm²
Max. recommended service temperature		288° C
Thermal conductivity	24° C 218° C	2,7 x 10^{-3} W/mK 3,0 x 10^{-3} W/mK
Moisture absorption		0,06 %
Specific weight		1,96 g/cm³
Flame resistance classification in accordance with UL 94		94 V-0

CAD reference point

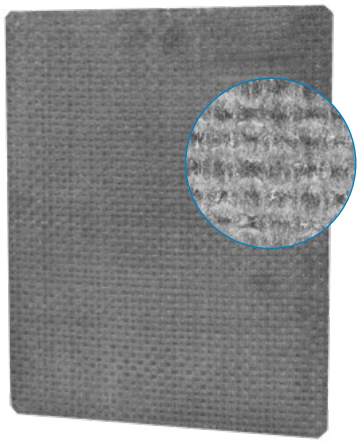
INSULATING PLATES R42





Mat.: Epoxy resin with glass fibres

T = 230°C
λ = 0,21 W/mK
P = 600 N/mm²



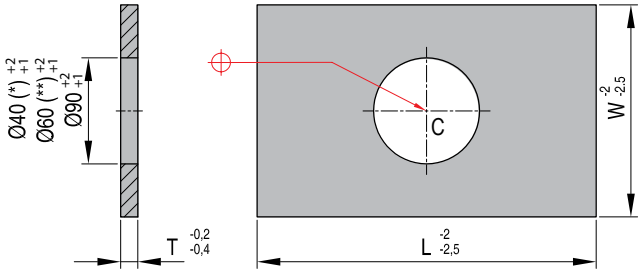
REF	W	L	T
R420960963	96	96	3,0
R420960965	96	96	5,0
R421001303	100	130	3,0
R421001305	100	130	5,0
R421261263	126	126	3,0
R421261265	126	126	5,0
R421261563	126	156	3,0
R421261565	126	156	5,0
R421561563	156	156	3,0
R421561565	156	156	5,0
R421561963	156	196	3,0
R421561965	156	196	5,0
R421562463	156	246	3,0
R421562465	156	246	5,0
R421562965	156	296	5,0
R421563965	156	396	5,0
R421902463	190	246	3,0
R421902465	190	246	5,0
R421902965	190	296	5,0
R421961963	196	196	3,0
R421961965	196	196	5,0
R421962463	196	246	3,0
R421962465	196	246	5,0
R421962965	196	296	5,0
R421962967	196	296	7,0
R421963465	196	346	5,0
R421963467	196	346	7,0
R421963967	196	396	7,0
R421964467	196	446	7,0
R422061563	206	156	3,0
R422061565	206	156	5,0
R422061963	206	196	3,0
R422061965	206	196	5,0
R422182465	218	246	5,0
R422182965	218	296	5,0
R422183967	218	396	7,0
R422462465	246	246	5,0
R422462467	246	246	7,0
R422462765	246	276	5,0
R422462965	246	296	5,0
R422462967	246	296	7,0

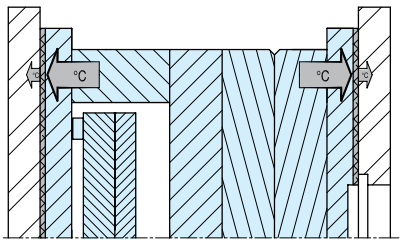
REF	W	L	T
R422463465	246	346	5,0
R422463467	246	346	7,0
R422463965	246	396	5,0
R422463967	246	396	7,0
R422464467	246	446	7,0
R422464968-5	246	496	8,5
R422542465	254	246	5,0
R422542467	254	246	7,0
R422962765	296	276	5,0
R422962767	296	276	7,0
R422962967	296	296	7,0
R422962968-5	296	296	8,5
R422963467	296	346	7,0
R422963468-5	296	346	8,5
R422963967	296	396	7,0
R422963968-5	296	396	8,5
R422964467	296	446	7,0
R422964968-5	296	496	8,5
R422965468-5	296	546	8,5
R422965968-5	296	596	8,5
R422966968-5	296	696	8,5
R423463467	346	346	7,0
R423463468-5	346	346	8,5
R423463967	346	396	7,0
R423463968-5	346	396	8,5
R423464468-5	346	446	8,5
R423464967	346	496	7,0
R423464968-5	346	496	8,5
R423465468-5	346	546	8,5
R423465968-5	346	596	8,5
R423466968-5	346	696	8,5
R423467968-5	346	796	8,5
R423963967	396	396	7,0
R423963968-5	396	396	8,5
R423964467	396	446	7,0
R423964468-5	396	446	8,5
R423964968-5	396	496	8,5
R423965467	396	546	7,0
R423965468-5	396	546	8,5
R423965968-5	396	596	8,5
R423966968-5	396	696	8,5

REF	W	L	T
R423967968-5	396	796	8,5
R423968968-5	396	896	8,5
R424464468-5	446	446	8,5
R424464968-5	446	496	8,5
R424465468-5	446	546	8,5
R424465968-5	446	596	8,5
R424466968-5	446	696	8,5
R424467968-5	446	796	8,5
R424468968-5	446	896	8,5
R424964968-5	496	496	8,5
R424965468-5	496	546	8,5
R424965968-5	496	596	8,5
R424966968-5	496	696	8,5
R424968968-5	496	896	8,5
R424969968-5	496	996	8,5
R425465468-5	546	546	8,5
R425465968-5	546	596	8,5
R425466468-5	546	646	8,5
R425466968-5	546	696	8,5
R425467968-5	546	796	8,5
R425468968-5	546	896	8,5
R425469968-5	546	996	8,5
R425965968-5	596	596	8,5
R425966968-5	596	696	8,5
R425967968-5	596	796	8,5
R425968968-5	596	896	8,5
R425969968-5	596	996	8,5
R426465968-5	646	596	8,5
R426466968-5	646	696	8,5
R426467968-5	646	796	8,5
R426468968-5	646	896	8,5
R426469968-5	646	996	8,5
R426966968-5	696	696	8,5
R426967968-5	696	796	8,5
R426968968-5	696	896	8,5
R426969968-5	696	996	8,5
R427967968-5	796	796	8,5
R427968968-5	796	896	8,5
R427969968-5	796	996	8,5
R428968968-5	896	896	8,5
R428969968-5	896	996	8,5

CAD reference point

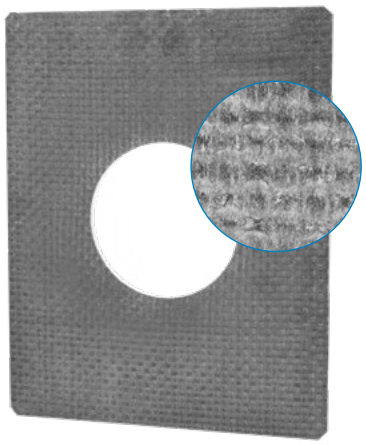
INSULATING PLATES R43





Mat.: Epoxy resin with glass fibres

T = 230°C
λ = 0,21 W/mK
P = 600 N/mm²



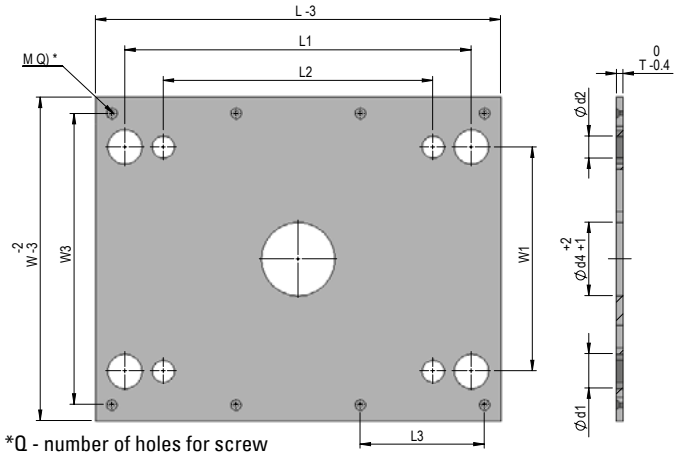
REF	W	L	T	Centering hole
R430960963-040	96	96	3,0	40
R430960965-040	96	96	5,0	40
R431001303-060	100	130	3,0	60
R431001305-060	100	130	5,0	60
R431261263-040	126	126	3,0	40
R431261265-040	126	126	5,0	40
R431261563-090	126	156	3,0	90
R431261565-090	126	156	5,0	90
R431561563-090	156	156	3,0	90
R431561565-090	156	156	5,0	90
R431561963-090	156	196	3,0	90
R431561965-090	156	196	5,0	90
R431562463-090	156	246	3,0	90
R431562465-090	156	246	5,0	90
R431562965-090	156	296	5,0	90
R431563965-090	156	396	5,0	90
R431902463-090	190	246	3,0	90
R431902465-090	190	246	5,0	90
R431902965-090	190	296	5,0	90
R431961963-090	196	196	3,0	90
R431961965-090	196	196	5,0	90
R431962463-090	196	246	3,0	90
R431962465-090	196	246	5,0	90
R431962965-090	196	296	5,0	90
R431962967-090	196	296	7,0	90
R431963465-090	196	346	5,0	90
R431963467-090	196	346	7,0	90
R431963967-090	196	396	7,0	90
R431964467-090	196	446	7,0	90
R432061563-090	206	156	3,0	90
R432061565-090	206	156	5,0	90
R432061963-090	206	196	3,0	90
R432061965-090	206	196	5,0	90
R432182465-090	218	246	5,0	90
R432182965-090	218	296	5,0	90
R432183967-090	218	396	7,0	90
R432462465-090	246	246	5,0	90
R432462467-090	246	246	7,0	90
R432462765-090	246	276	5,0	90
R432462965-090	246	296	5,0	90

REF	W	L	T	Centering hole
R432462967-090	296	296	7,0	90
R432463465-090	296	346	5,0	90
R432463467-090	296	346	7,0	90
R432463965-090	296	396	5,0	90
R432463967-090	296	396	7,0	90
R432464467-090	296	446	7,0	90
R432464968-590	296	496	8,5	90
R432542465-090	254	246	5,0	90
R432542467-090	254	246	7,0	90
R432962765-090	296	276	5,0	90
R432962767-090	296	276	7,0	90
R432962967-090	296	296	7,0	90
R432962968-590	296	296	8,5	90
R432963467-090	296	346	7,0	90
R432963468-590	296	346	8,5	90
R432963967-090	296	396	7,0	90
R432963968-590	296	396	8,5	90
R432964467-090	296	446	7,0	90
R432964968-590	296	496	8,5	90
R432965468-590	296	546	8,5	90
R432965968-590	296	596	8,5	90
R432966968-590	296	696	8,5	90
R433463467-090	346	346	7,0	90
R433463468-590	346	346	8,5	90
R433463967-090	346	396	7,0	90
R433463968-590	346	396	8,5	90
R433464468-590	346	446	8,5	90
R433464967-090	346	496	7,0	90
R433464968-590	346	496	8,5	90
R433465468-590	346	546	8,5	90
R433465968-590	346	596	8,5	90
R433466968-590	346	696	8,5	90
R433963967-090	396	396	7,0	90
R433963968-590	396	396	8,5	90
R433964467-090	396	446	7,0	90
R433964468-590	396	446	8,5	90
R433964967-090	396	496	7,0	90
R433964968-590	396	496	8,5	90
R433965467-090	396	546	7,0	90
R433965468-590	396	546	8,5	90

REF	W	L	T	Centering hole
R433965968-590	396	596	8,5	90
R433966968-590	396	696	8,5	90
R434464468-590	446	446	8,5	90
R434464968-590	446	496	8,5	90
R434465468-590	446	546	8,5	90
R434465968-590	446	596	8,5	90
R434466968-590	446	696	8,5	90
R434964968-590	496	496	8,5	90
R434965467-090	496	546	7,0	90
R434965468-590	496	546	8,5	90
R434965968-590	496	596	8,5	90
R434966968-590	496	696	8,5	90
R435465468-590	546	546	8,5	90
R435465968-590	546	596	8,5	90
R435466468-590	546	646	8,5	90
R435466968-590	546	696	8,5	90
R435965968-590	596	596	8,5	90
R435966968-590	596	696	8,5	90
R436465968-590	646	596	8,5	90
R436466968-590	646	696	8,5	90
R436467968-590	646	796	8,5	90
R436468968-590	646	896	8,5	90
R436469968-590	646	996	8,5	90
R436966968-590	696	696	8,5	90
R436967968-590	696	796	8,5	90
R436968968-590	696	896	8,5	90
R436969968-590	696	996	8,5	90
R437967968-590	796	796	8,5	90
R437968968-590	796	896	8,5	90
R437969968-590	796	996	8,5	90
R438968968-590	896	896	8,5	90
R438969968-590	896	996	8,5	90

CAD reference point

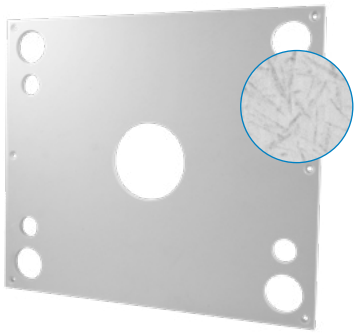
INSULATING PLATES R44



*Q - number of holes for screw

Mat.: Polyester resin with glass fibres

T = 230°C
λ = 0,18 W/mK
P = 330 N/mm²



REF	T	W	L	Q*	d1	d2	W3	L3	W1	L2	L1	M	d4
R44156096074024074	6	156	96	4	14	15	134	74	74	24	74	M3	60
R44096156074024074	6	96	156	4	14	15	74	134	74	24	74	M3	60
R44156156074024074	6	156	156	4	14	15	134	134	74	24	74	M3	60
R44096096074024074	6	96	96	4	14	15	74	50	74	24	74	M3	60
R44156126074054104	6	156	126	4	14	16	134	104	74	54	104	M3	60
R44096156074054104	6	96	156	4	14	16	74	134	74	54	104	M3	60
R44156156074054104	6	156	156	4	14	16	134	134	74	54	104	M3	60
R44096126074054104	6	96	126	4	14	16	74	80	74	54	104	M3	60
R44156126104054104	6	156	126	4	14	16	134	104	104	54	104	M3	60
R44126156104054104	6	126	156	4	14	16	104	134	104	54	104	M3	60
R44156156104054104	6	156	156	4	14	16	134	134	104	54	104	M3	60
R44126126104054104	6	126	126	4	14	16	104	80	104	54	104	M3	60
R44156156094060124	6	156	156	4	20	19	124	124	94	60	124	M4	90
R44126246094060124	6	126	246	4	20	19	94	214	94	60	124	M4	90
R44126156094060124	6	126	156	4	20	19	94	92	94	60	124	M4	90
R44206156124060124	6	206	156	4	20	19	174	124	124	60	124	M4	90
R44156246124060124	6	156	246	4	20	19	124	214	124	60	124	M4	90
R44156156124060124	6	156	156	4	20	19	124	92	124	60	124	M4	90
R44206196124060124	6	206	196	4	20	19	174	164	124	60	124	M4	90
R44156196124060124	6	156	196	4	20	19	124	164	124	60	124	M4	90
R44206196124100164	6	206	196	4	20	19	174	164	124	100	164	M4	90
R44156296124100164	6	156	296	6	20	19	124	132	124	100	164	M4	90
R44156196124100164	6	156	196	4	20	19	124	132	124	100	164	M4	90
R44196246124150214	6	196	246	4	20	19	164	214	124	150	214	M4	90
R44156296124150214	6	156	296	6	20	19	124	132	124	150	214	M4	90
R44156246124150214	6	156	246	4	20	19	124	182	124	150	214	M4	90
R44196296124200264	6	196	296	6	20	19	164	132	124	200	264	M4	90
R44156396124200264	6	156	396	6	20	19	124	182	124	200	264	M4	90
R44156296124200264	6	156	296	6	20	19	124	116	124	200	264	M4	90
R44196346124250314	6	196	346	6	20	19	164	157	124	250	314	M4	90
R44156446124250314	6	156	446	6	20	19	124	207	124	250	314	M4	90
R44156346124250314	6	156	346	6	20	19	124	141	124	250	314	M4	90
R44246156164060124	6	246	156	4	20	19	214	124	164	60	124	M4	90
R44196246164060124	6	196	246	4	20	19	164	214	164	60	124	M4	90
R44196156164060124	6	196	156	4	20	19	164	92	164	60	124	M4	90
R44246196164060124	6	246	196	4	20	19	214	164	164	60	124	M4	90
R44196196164060124	6	196	196	4	20	19	164	164	164	60	124	M4	90
R44246196156086156	6	246	196	4	26	19	214	164	156	86	156	M4	90
R44196296156086156	6	196	296	6	26	19	164	132	156	86	156	M4	90
R44196196156086156	6	196	196	4	26	19	156	118	156	86	156	M4	90
R44246246156086156	6	246	246	4	26	19	214	214	156	86	156	M4	90
R44196246156086156	6	196	246	4	26	19	164	214	156	86	156	M4	90
R44246246156136206	6	246	246	4	26	19	214	214	156	136	206	M4	90
R44196296156136206	6	196	296	6	26	19	164	132	156	136	206	M4	90
R44196246156136206	6	196	246	4	26	19	156	168	156	136	206	M4	90
R44246296156186256	6	246	296	6	26	19	214	132	156	186	256	M4	90
R44196396156186256	6	196	396	6	26	19	164	182	156	186	256	M4	90

REF	T	W	L	Q*	d1	d2	W3	L3	W1	L2	L1	M	d4
R44196296156186256	6	196	296	6	26	19	156	109	156	186	256	M4	90
R44246346148220298	6	246	346	6	30	21	214	157	148	220	298	M4	90
R44196446148220298	6	196	446	6	30	21	164	207	148	220	298	M4	90
R44196346148220298	6	196	346	6	30	21	178	164	148	220	298	M4	90
R44246396148270348	6	246	396	6	30	21	214	182	148	270	348	M4	90
R44196446148270348	6	196	446	6	30	21	164	207	148	270	348	M4	90
R44196396148270348	6	196	396	6	30	21	178	189	148	270	348	M4	90
R44246446148320398	6	246	446	6	30	21	214	207	148	320	398	M4	90
R44196446148320398	6	196	446	6	30	21	178	214	148	320	398	M4	90
R44246496148370448	6	246	496	8	30	21	214	155	148	370	448	M4	90
R44196496148370448	6	196	496	8	30	21	178	159	148	370	448	M4	90
R44266246176136206	6	266	246	4	26	19	234	214	176	136	206	M4	90
R44216296176136206	6	216	296	6	26	19	184	132	176	136	206	M4	90
R44216246176136206	6	216	246	4	26	19	176	168	176	136	206	M4	90
R44266296176186256	6	266	296	6	26	19	234	132	176	186	256	M4	90
R44216396176186256	6	216	396	6	26	19	184	182	176	186	256	M4	90
R44216296176186256	6	216	296	6	26	19	176	109	176	186	256	M4	90
R44296196206086156	6	296	196	4	26	19	264	164	206	86	156	M4	90
R44246296206086156	6	246	296	6	26	19	214	132	206	86	156	M4	90
R44246196206086156	6	246	196	4	26	19	206	118	206	86	156	M4	90
R44296246206086156	8	296	246	4	26	19	264	214	206	86	156	M4	90
R44246246206086156	6	246	246	4	26	19	214	214	206	86	156	M4	90
R44296246206136206	6	296	246	4	26	19	264	214	206	136	206	M4	90
R44246296206136206	6	246	296	6	26	19	214	132	206	136	206	M4	90
R44246246206136206	6	246	246	4	26	19	206	168	206	136	206	M4	90
R44296296206136206	8	296	296	6	26	19	264	132	206	136	206	M4	90
R44246346206136206	6	246	346	6	26	19	214	157	206	136	206	M4	90
R44246296206136206	6	246	296	6	26	19	214	132	206	136	206	M4	90
R44296296198170248	8	296	296	6	30	21	264	132	198	170	248	M4	90
R44246396198170248	6	246	396	6	30	21	214	182	198	170	248	M4	90
R44246296198170248	6	246	296	6	30	21	228	139	198	170	248	M4	90
R44296346198220298	8	296	346	6	30	21	264	157	198	220	298	M4	90
R44246446198220298	6	246	446	6	30	21	214	207	198	220	298	M4	90
R44246346198220298	6	246	346	6	30	21	228	164	198	220	298	M4	90
R44296396198270348	8	296	396	6	30	21	264	182	198	270	348	M4	90
R44246446198270348	6	246	446	6	30	21	214	207	198	270	348	M4	90
R44246396198270348	6	246	396	6	30	21	228	189	198	270	348	M4	90
R44296446198320398	8	296	446	6	30	21	264	207	198	320	398	M4	90
R44246446198320398	6	246	446	6	30	21	228	214	198	320	398	M4	90
R44296496198370448	8	296	496	8	30	21	264	155	198	370	448	M4	90
R44246496198370448	6	246	496	8	30	21	228	159	198	370	448	M4	90
R44296546198420498	8	296	546	8	30	21	264	171	198	420	498	M4	90
R44246546198420498	6	246	546	8	30	21	228	176	198	420	498	M4	90
R44296596198470548	8	296	596	8	30	21	264	188	198	470	548	M4	90
R44246596198470548	6	246	596	8	30	21	228	193	198	470	548	M4	90
R44346246248120198	6	346	246	4	30	21	314	214	248	120	198	M4	90
R44296246248120198	6	296	246	4	30	21	278	228	248	120	198	M4	90

CAD reference point

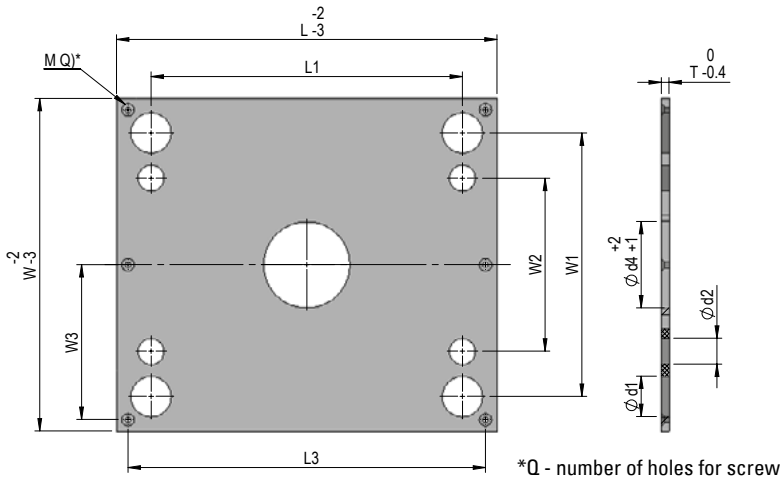
INSULATING PLATES R44

REF	T	W	L	Q*	d1	d2	W3	L3	W1	L2	L1	M	d4
R44346296248120198	8	346	296	6	30	21	314	132	248	120	198	M4	90
R44296346248120198	8	296	346	6	30	21	264	157	248	120	198	M4	90
R44296296248120198	8	296	296	6	30	21	264	132	248	120	198	M4	90
R44346296248170248	8	346	296	6	30	21	314	132	248	170	248	M4	90
R44296396248170248	8	296	396	6	30	21	264	182	248	170	248	M4	90
R44296296248170248	8	296	296	6	30	21	278	139	248	170	248	M4	90
R44346346248170248	8	346	346	6	30	21	314	157	248	170	248	M4	90
R44296346248170248	8	296	346	6	30	21	264	157	248	170	248	M4	90
R44346346248220298	8	346	346	6	30	21	314	157	248	220	298	M4	90
R44296446248220298	8	296	446	6	30	21	264	207	248	220	298	M4	90
R44296346248220298	8	296	346	6	30	21	278	164	248	220	298	M4	90
R44346396248270348	8	346	396	6	30	21	314	182	248	270	348	M4	90
R44296446248270348	8	296	446	6	30	21	264	207	248	270	348	M4	90
R44296396248270348	8	296	396	6	30	21	278	189	248	270	348	M4	90
R44346446248320398	8	346	446	6	30	21	314	207	248	320	398	M4	90
R44296596248320398	8	296	596	8	30	21	264	188	248	320	398	M4	90
R44296446248320398	8	296	446	6	30	21	278	214	248	320	398	M4	90
R44346496248370448	8	346	496	8	30	21	314	155	248	370	448	M4	90
R44296596248370448	8	296	596	8	30	21	264	188	248	370	448	M4	90
R44296496248370448	8	296	496	8	30	21	278	159	248	370	448	M4	90
R44346546248420498	8	346	546	8	30	21	314	171	248	420	498	M4	90
R44296546248420498	8	296	546	8	30	21	278	176	248	420	498	M4	90
R44346596248470548	8	346	596	8	30	21	314	188	248	470	548	M4	90
R44296596248470548	8	296	596	8	30	21	278	193	248	470	548	M4	90
R44346646248520598	8	346	646	8	30	21	314	204	248	520	598	M4	90
R44296646248520598	8	296	646	8	30	21	278	209	248	520	598	M4	90
R44346696248570648	8	346	696	8	30	21	314	221	248	570	648	M4	90
R44296696248570648	8	296	696	8	30	21	278	226	248	570	648	M4	90
R44366346268220298	8	366	346	6	30	21	334	157	268	220	298	M4	90
R44316446268220298	8	316	446	6	30	21	284	207	268	220	298	M4	90
R44316346268220298	8	316	346	6	30	21	298	164	268	220	298	M4	90
R44366396268270348	8	366	396	6	30	21	334	182	268	270	348	M4	90
R44316446268270348	8	316	446	6	30	21	284	207	268	270	348	M4	90
R44316396268270348	8	316	396	6	30	21	298	189	268	270	348	M4	90
R44396296298170248	8	396	296	6	30	21	364	132	298	170	248	M4	90
R44346396298170248	8	346	396	6	30	21	314	182	298	170	248	M4	90
R44346296298170248	8	346	296	6	30	21	328	139	298	170	248	M4	90
R44396346298170248	8	396	346	6	30	21	364	157	298	170	248	M4	90
R44346346298170248	8	346	346	6	30	21	314	157	298	170	248	M4	90
R44396346298220298	8	396	346	6	30	21	364	157	298	220	298	M4	90
R44346446298220298	8	346	446	6	30	21	314	207	298	220	298	M4	90
R44346346298220298	8	346	346	6	30	21	328	164	298	220	298	M4	90
R44396396298220298	8	396	396	6	30	21	364	182	298	220	298	M4	90
R44346396298220298	8	346	396	6	30	21	314	182	298	220	298	M4	90
R44396396274230324	8	396	396	6	42	27	356	178	274	230	324	M4	90
R44346446274230324	8	346	446	6	42	27	306	203	274	230	324	M4	90
R44346396274230324	8	346	396	6	42	27	322	186	274	230	324	M4	90
R44396446274280374	8	396	446	6	42	27	356	203	274	280	374	M4	90
R44346596274280374	8	346	596	8	42	27	306	185	274	280	374	M4	90
R44346446274280374	8	346	446	6	42	27	322	211	274	280	374	M4	90
R44396496274330424	8	396	496	8	42	27	356	152	274	330	424	M4	90
R44346596274330424	8	346	596	8	42	27	306	185	274	330	424	M4	90
R44346496274330424	8	346	496	8	42	27	322	157	274	330	424	M4	90
R44396546274380474	8	396	546	8	42	27	356	169	274	380	474	M4	90
R44346546274380474	8	346	546	8	42	27	322	174	274	380	474	M4	90
R44396596274430524	8	396	596	8	42	27	356	185	274	430	524	M4	90
R44346596274430524	8	346	596	8	42	27	322	191	274	430	524	M5	90
R44396646274480574	8	396	646	8	42	27	356	202	274	480	574	M5	90
R44346646274480574	8	346	646	8	42	27	322	207	274	480	574	M5	90
R44396696274530624	8	396	696	8	42	27	356	219	274	530	624	M5	90
R44346696274530624	8	346	696	8	42	27	322	224	274	530	624	M5	90
R44396796274630724	8	396	796	8	42	27	356	252	274	630	724	M5	90
R44346796274630724	8	346	796	8	42	27	322	257	274	630	724	M5	90
R44446396324230324	8	446	396	6	42	27	406	178	324	230	324	M5	90
R44396446324230324	8	396	446	6	42	27	356	203	324	230	324	M5	90

REF	T	W	L	Q*	d1	d2	W3	L3	W1	L2	L1	M	d4
R44396396324230324	8	396	396	6	42	27	372	186	324	230	324	M5	90
R44446446324280374	8	446	446	6	42	27	406	203	324	280	374	M5	90
R44396596324280374	8	396	596	8	42	27	356	185	324	280	374	M5	90
R44396446324280374	8	396	446	6	42	27	372	211	324	280	374	M5	90
R44446496324330424	8	446	496	8	42	27	406	152	324	330	424	M5	90
R44396596324330424	8	396	596	8	42	27	356	185	324	330	424	M5	90
R44396496324330424	8	396	496	8	42	27	372	157	324	330	424	M5	90
R44446546324380474	8	446	546	8	42	27	406	169	324	380	474	M5	90
R44396546324380474	8	396	546	8	42	27	372	174	324	380	474	M5	90
R44446596324430524	8	446	596	8	42	27	406	185	324	430	524	M5	90
R44396596324430524	8	396	596	8	42	27	372	191	324	430	524	M5	90
R44446646324480574	8	446	646	8	42	27	406	202	324	480	574	M5	90
R44396646324480574	8	396	646	8	42	27	372	207	324	480	574	M5	90
R44446696324530624	8	446	696	8	42	27	406	219	324	530	624	M5	90
R44396696324530624	8	396	696	8	42	27	372	224	324	530	624	M5	90
R44446796324630724	8	446	796	8	42	27	406	252	324	630	724	M5	90
R44396796324630724	8	396	796	8	42	27	372	257	324	630	724	M5	90
R44496446374280374	8	496	446	6	42	27	456	203	374	280	374	M5	90
R44446596374280374	8	446	596	8	42	27	406	185	374	280	374	M5	90
R44446446374280374	8	446	446	6	42	27	422	211	374	280	374	M5	90
R44496496374330424	8	496	496	8	42	27	456	152	374	330	424	M5	90
R44446596374330424	8	446	596	8	42	27	406	185	374	330	424	M5	90
R44446496374330424	8	446	496	8	42	27	422	157	374	330	424	M5	90
R44496546374380474	8	496	546	8	42	27	456	169	374	380	474	M5	90
R44446546374380474	8	446	546	8	42	27	422	174	374	380	474	M5	90
R44496596374430524	8	496	596	8	42	27	456	185	374	430	524	M5	90
R44446596374430524	8	446	596	8	42	27	422	191	374	430	524	M5	90
R44496646374480574	8	496	646	8	42	27	456	202	374	480	574	M5	90
R44446646374480574	8	446	646	8	42	27	422	207	374	480	574	M5	90
R44496696374530624	8	496	696	8	42	27	456	219	374	530	624	M5	90
R44446696374530624	8	446	696	8	42	27	422	224	374	530	624	M5	90
R44496796374630724	8	496	796	8	42	27	456	252	374	630	724	M5	90
R44446796374630724	8	446	796	8	42	27	422	257	374	630	724	M5	90
R44546496424330424	8	546	496	8	42	27	506	152	424	330	424	M5	90
R44496596424330424	8	496	596	8	42	27	456	185	424	330	424	M5	90
R44496496424330424	8	496	496	8	42	27	472	157	424	330	424	M5	90
R44546546424380474	8	546	546	8	42	27	506	169	424	380	474	M5	90
R44496546424380474	8	496	546	8	42	27	472	174	424	380	474	M5	90
R44546596424430524	8	546	596	8	42	27	506	185	424	430	524	M5	90
R44496596424430524	8	496	596	8	42	27	472	191	424	430	524	M5	90
R44546646424480574	8	546	646	8	42	27	506	202	424	480	574	M5	90
R44496646424480574	8	496	646	8	42	27	472	207	424	480	574	M5	90
R44546696424530624	8	546	696	8	42	27	506	219	424	530	624	M5	90
R44496696424530624	8	496	696	8	42	27	472	224	424	530	624	M5	90
R44546796408590708	8	546	796	8	54	33	506	252	408	590	708	M5	90
R44496796408590708	8	496	796	8	54	33	468	256	408	590	708	M5	90
R44596546474380474	8	596	546	8	42	27	556	169	474	380	474	M5	90
R44546546474380474	8	546	546	8	42	27	522	174	474	380	474	M5	90
R44596596458390508	8	596	596	8	54	33	556	185	458	390	508	M5	90
R44546596458390508	8	546	596	8	54	33	518	189	458	390	508	M5	90
R44596646458440558	8	596	646	8	54	33	556	202	458	440	558	M5	90
R44546646458440558	8	546	646	8	54	33	518	206	458	440	558	M5	90
R44596696458490608	8	596	696	8	54	33	556	219	458	490	608	M5	90
R44546696458490608	8	546	696	8	54	33	518	223	458	490	608	M5	90
R44596796458590708	8	596	796	8	54	33	556	252	458	590	708	M5	90
R44546796458590708	8	546	796	8	54	33	518	256	458	590	708	M5	90
R44646596508390508	8	646	596	8	54	33	606	185	508	390	508	M5	90
R44596596508390508	8	596	596	8	54	33	568	189	508	390	508	M5	90
R44646646508440558	8	646	646	8	54	33	606	202	508	440	558	M5	90
R44596646508440558	8	596	646	8	54	33	568	206	508	440	558	M5	90
R44646696508490608	8	646	696	8	54	33	606	219	508	490	608	M5	90
R44596696508490608	8	596	696	8	54	33	568	223	508	490	608	M5	90
R44646796508590708	8	646	796	8	54	33	606	252	508	590	708	M5	90
R44596796508590708	8	596	796	8	54	33	568	256	508	590	708	M5	90

CAD reference point

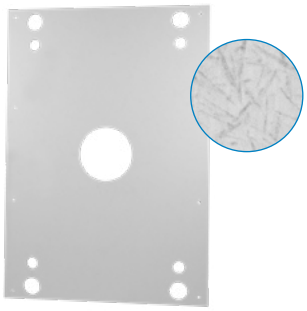
INSULATING PLATES R46



*Q - number of holes for screw

Mat.: Polyester resin with glass fibres

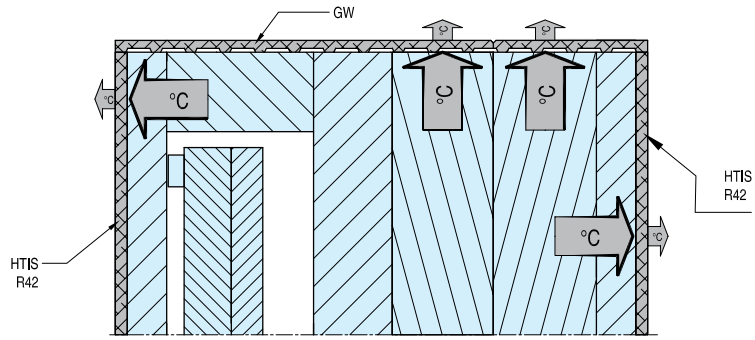
T = 230°C
λ = 0,18 W/mK
P = 330 N/mm²

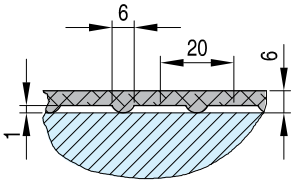


REF	T	W	L	Q*	d1	d2	W3	L3	W1	L2	L1	M	d4
R46206196164060124	6	206	196	4	20	19	174	164	164	60	124	M4	90
R46156296164060124	6	156	296	4	20	19	124	264	164	60	124	M4	90
R46156196164060124	6	156	196	4	20	19	92	164	164	60	124	M4	90
R46196246214060124	6	196	246	4	20	19	164	214	214	60	124	M4	90
R46156296214060124	6	156	296	4	20	19	124	264	214	60	124	M4	90
R46156246214060124	6	156	246	4	20	19	92	214	214	60	124	M4	90
R46246246206086156	6	246	246	4	26	19	214	214	206	86	156	M4	90
R46196296206086156	6	196	296	4	26	19	164	264	206	86	156	M4	90
R46196246206086156	6	196	246	4	26	19	118	206	206	86	156	M4	90
R46246296256086156	6	246	296	4	26	19	214	264	256	86	156	M4	90
R46196396256086156	6	196	396	4	26	19	164	364	256	86	156	M4	90
R46196296256086156	6	196	296	4	26	19	118	256	256	86	156	M4	90
R46266246206106176	6	266	246	4	26	19	234	214	206	106	176	M4	90
R46216296206106176	6	216	296	4	26	19	184	264	206	106	176	M4	90
R46216246206106176	6	216	246	4	26	19	138	206	206	106	176	M4	90
R46266296256106176	6	266	296	4	26	19	234	264	256	106	176	M4	90
R46216396256106176	6	216	396	4	26	19	184	364	256	106	176	M4	90
R46216296256106176	6	216	296	4	26	19	138	256	256	106	176	M4	90
R46296296248120198	8	296	296	6	30	21	132	264	248	120	198	M4	90
R46246396248120198	6	246	396	4	30	21	214	364	248	120	198	M4	90
R46246296248120198	6	246	296	4	30	21	228	278	248	120	198	M4	90
R46296346298120198	8	296	346	6	30	21	132	314	298	120	198	M4	90
R46246446298120198	6	246	446	4	30	21	214	414	298	120	198	M4	90
R46246346298120198	6	246	346	4	30	21	228	328	298	120	198	M4	90
R46346346298170248	8	346	346	6	30	21	157	314	298	170	248	M4	90
R46296446298170248	8	296	446	6	30	21	132	414	298	170	248	M4	90
R46296346298170248	8	296	346	6	30	21	139	328	298	170	248	M4	90
R46346396348170248	8	346	396	6	30	21	157	364	348	170	248	M4	90
R46296446348170248	8	296	446	6	30	21	132	414	348	170	248	M4	90
R46296396348170248	8	296	396	6	30	21	139	378	348	170	248	M4	90
R46396396324180274	8	396	396	6	42	27	178	356	324	180	274	M5	90
R46346446324180274	8	346	446	6	42	27	153	406	324	180	274	M5	90
R46346396324180274	8	346	396	6	42	27	161	372	324	180	274	M5	90
R46396446374180274	8	396	446	6	42	27	178	406	374	180	274	M5	90
R46346596374180274	8	346	596	6	42	27	153	556	374	180	274	M5	90
R46346446374180274	8	346	446	6	42	27	161	422	374	180	274	M5	90
R46446446374230324	8	446	446	6	42	27	203	406	374	230	324	M5	90
R46396596374230324	8	396	596	6	42	27	178	556	374	230	324	M5	90
R46396446374230324	8	396	446	6	42	27	186	422	374	230	324	M5	90
R46446496424230324	8	446	496	6	42	27	203	456	424	230	324	M5	90
R46396596424230324	8	396	596	6	42	27	178	556	424	230	324	M5	90
R46396496424230324	8	396	496	6	42	27	186	472	424	230	324	M5	90

CAD reference point

CORRUGATED THERMAL INSULATION SHEET GW





REF	W	L	T
GW1225200006	1225	2000	6
GW1225100006	1225	1000	6

Thermal insulation sheets, unilaterally corrugated with a cross patern, serve for covering moulds on press, runnerless and tempered injection moulds. Especially in the mouldmaking sector an eye is kept on energy savings on a large scale. Precious thermal energy is lost by means of heat reflection and heat convection. In order to reduce these losses the corrugated thermal insulation sheet has been developed. On installation of the insulation sheet the corrugated side should always be joined to the mould. The air is trapped what leads to an even better insulation. Socket head cap screws can be placed in every position without loosing heat due to the cross pattern. GW sheets are know for their compressive strenght in relation to an exellent low thermal conductivity. The insulation material consists of Glassfibre and an impact resistant, thermosetting resinbonded mix.

Technical data	Unit	Single corrugated
Compressive strength	23°C 200°C N/mm²	300 100
Working temperature	°C	200
Thermal conductivity	W/mK	0,10
Moisture absorption	%	0,10
Specific weight	g/cm³	1,4
Thickness	mm	6
Pararlellity ground	mm/m	±0,1
Flexural strength	N/mm²	200

CAD reference point

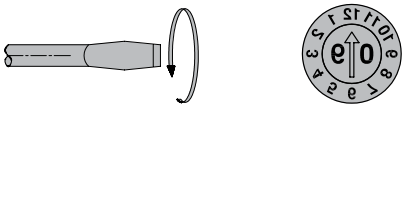
CAD reference point

DATE STAMPS & INSERTS

HI TEMPERATURE INDEXABLE DATE STAMPS **HT**

Mat.: Stainless Steel
Hardeness: 50-55 HRC
Max. T: 340°C

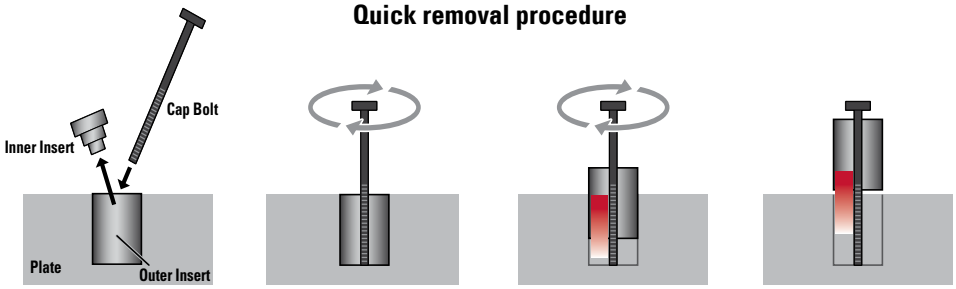
Indexable
Outer insert easily removable from the front with a screw.
Remove inner insert from the outer insert using a screwdriver.
Newly engineered inner insert is removed with less rotations due to shorter threads (not compatible with other DME inserts)
Inner inserts use ball detents to click into position



***Specify year. Example: HTYM2404**

REF*	REF	REF*	Number of years	REF	REF	REF	REF	D	F	L	M
HTYM04**	**HTOM0004**	**HTOY**04**	**6**		**HTOS0004**	**HTOB0004**	**HTOR0004**	4	2,6	8	M1,8x0,35
HTYM06**	**HTOM0006**	**HTOY**06**	**6**		**HTOS0006**	**HTOB0006**	**HTOR0006**	6	4	8	M2,5x0,4
HTYM08**	**HTOM0008**	**HTOY**08**	**6**		**HTOS0008**	**HTOB0008**	**HTOR0008**	8	5	10	M3 x 0,5
HTYM10**	**HTOM0010**	**HTOY**10**	**6**		**HTOS0010**	**HTOB0010**	**HTOR0010**	10	6,3	12	M3 x 0,5
HTYM12**	**HTOM0012**	**HTOY**12**	**6**		**HTOS0012**	**HTOB0012**	**HTOR0012**	12	7,5	14	M4 x 0,7
HTYM16**	**HTOM0016**	**HTOY**16**	**6**	**HTOD0016**	**HTOS0016**	**HTOB0016**	**HTOR0016**	16	11	14	M5 x 0,8
HTYM20**	**HTOM0020**	**HTOY**20**	**6**	**HTOD0020**	**HTOS0020**	**HTOB0020**	**HTOR0020**	20	13,2	16	M5 x 0,8

Quick removal procedure



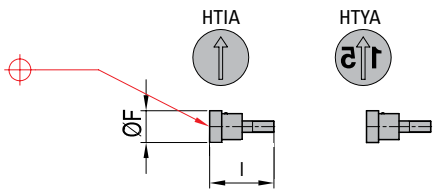
Remove the inside insert. Insert cap bolt into outer insert hole.

Turn the cap bolt clockwise into the outer inserts under threads.

Continue turning the cap bolt clockwise raising the outer insert up from the plate.

Remove the outer insert from the plate when it has cleared the hole.

HI TEMPERATURE DATE STAMPS-INNER INSERTS **HT**



Mat.: Stainless Steel
Hardness: 50-55 HRC
Max.T: 340°C

HTIA HTYA

***Specify year. Example: HTYA2404**

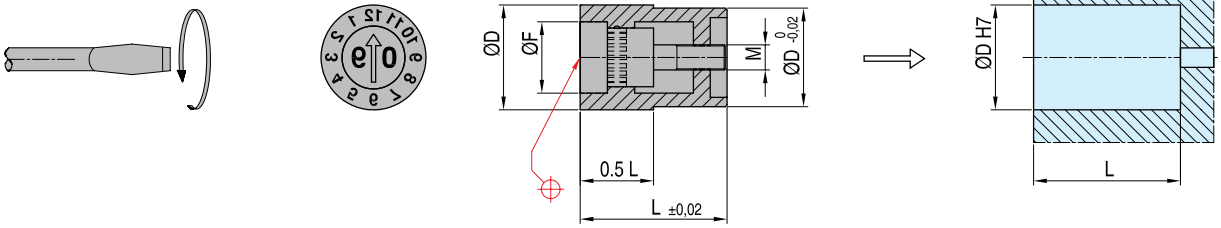
REF	REF*	ØF	l
HTIA0004	**HTYA**04**	2,6	5,5
HTIA0006	**HTYA**06**	4	5,5
HTIA0008	**HTYA**08**	5	7,1
HTIA0010	**HTYA**10**	6,3	8,8
HTIA0012	**HTYA**12**	7,5	9,8
HTIA0016	**HTYA**16**	11	9,8
HTIA0020	**HTYA**20**	13,2	11,8

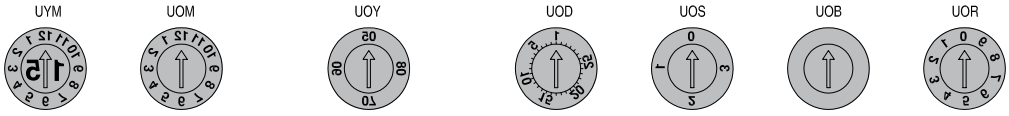
CAD reference point

INDEXABLE DATE STAMPS — U

Mat.: Stainless steel
Hardness: 50-55 HRC
Max. T: 150°C

Remove inner insert from the outer insert using a screwdriver



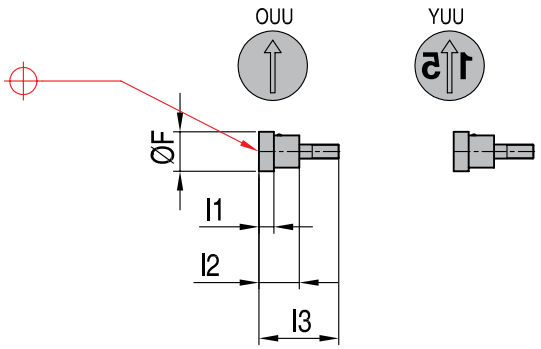


***Specify year. Example: UYM042024**

REF*	REF	REF*	Number of years	REF	REF	REF	REF	D	L	F	M
UYM0420**	UOM 04	UOY04/420**	4		UOS 04	UOB 04	UOR 04	4	8	2,4	M1,6x0,2
UYM0520**	UOM 05	UOY05/420**	4		UOS 05	UOB 05	UOR 05	5	8	2,9	M1,6x0,2
UYM0620**	UOM 06	UOY06/420**	4		UOS 06	UOB 06	UOR 06	6	8	3,7	M1,6x0,2
UYM0820**	UOM 08	UOY08/420**	4		UOS 08	UOB 08	UOR 08	8	10	5,0	M2,3x0,25
UYM1020**	UOM 10	UOY10/420**	4		UOS 10	UOB 10	UOR 10	10	12	6,3	M2,5x0,35
UYM1220**	UOM 12	UOY12/420**	4		UOS 12	UOB 12	UOR 12	12	14	7,5	M3x0,35
UYM1620**	UOM 16	UOY16/420**	4	UOD 16	UOS 16	UOB 16	UOR 16	16	14	11,0	M4x0,35
UYM2020**	UOM 20	UOY20/420**	4	UOD 20	UOS 20	UOB 20	UOR 20	20	16	13,2	M4x0,35

DATE STAMPS-INNER INSERTS — OUU-YUU

Mat.: Corrosion resistant steel
Hardness: 50-55 HRC



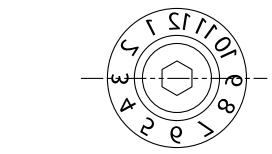
***Specify year. Example: YUU042024**

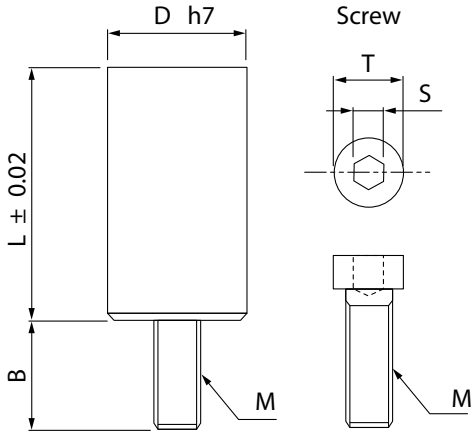
REF	REF*	F	l1	l2	l3
OUU 04	YUU0420**	2,4	1,5	4,5	7,7
OUU 05	YUU0520**	2,9	1,5	4,5	7,7
OUU 06	YUU0620**	3,7	1,5	4,5	7,7
OUU 08	YUU0820**	5,0	2,0	5,5	9,7
OUU 10	YUU1020**	6,3	2,5	6,5	11,7
OUU 12	YUU1220**	7,5	2,5	6,8	13,7
OUU 16	YUU1620**	11,0	2,5	6,8	13,7
OUU 20	YUU2020**	13,2	3,5	8,5	15,7

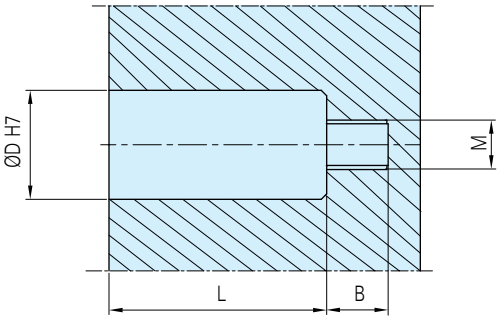
CAD reference point

CORROSION RESISTANT INDEXABLE DATE STAMPS — U type S

Mat.: Stainless Steel
Hardness: 50-55 HRC
Max. T: 150°C







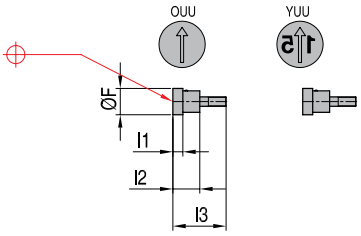
UYM...S — Month / Year / Arrow
UOM...S — Month / Arrow
UOY...S — (6) Years
UOR...S — 0 thru 9 / Arrow
UOS...S — "Shift" / Arrow
UOB...S — Blank / Arrow
UOD...S — Day / Arrow

***Specify year. Example: UYM2406S**

REF*	REF	REF*	Number of years	REF*	REF	REF	REF	D	L	B	T	S	M
UYM06S**	**UOM0006S**	**UOY**06S**	**4**	**UOR0006S**	**UOS0006S**	**UOB0006S**		6	11	4,7	3	1,27	M2x0,4
UYM10S**	**UOM0010S**	**UOY**10S**	**4**	**UOR0010S**	**UOS0010S**	**UOB0010S**		10	15	4,5	5	1,5	M3x0,5
UYM16S**	**UOM0016S**	**UOY**16S**	**4**	**UOR0016S**	**UOS0016S**	**UOB0016S**	**UOD0016S**	16	18	5,8	7,5	3	M5x0,8

CORROSION RESISTANT INDEXABLE DATE STAMPS-INNER INSERTS — U type S

Mat.: Corrosion resistant steel
Hardness: 50-55 HRC



OUU
YUU

***Specify year. Example: YUU042024**

REF	REF*	F	l1	l2	l3
OUU 06	**YUU0620****	3,7	1,5	4,5	7,7
OUU 10	**YUU1020****	6,3	2,5	6,5	11,7
OUU 16	**YUU1620****	11,0	2,5	6,8	13,7

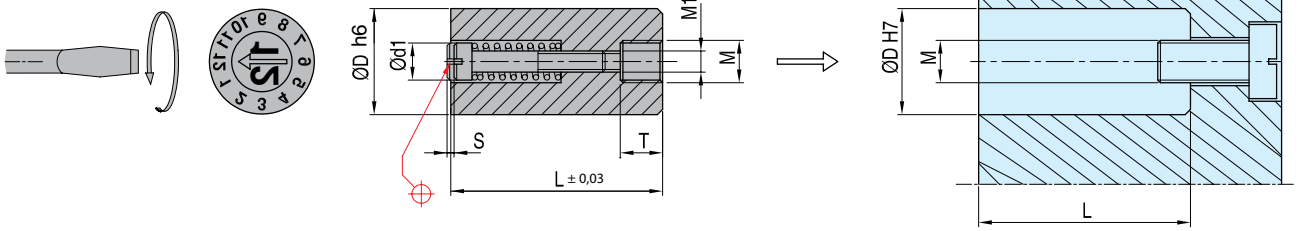
CAD reference point

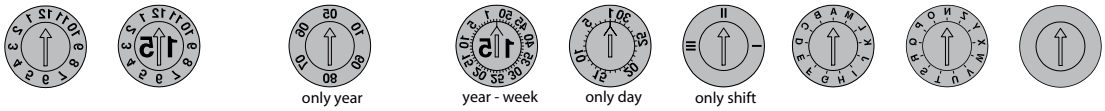
CORROSION RESISTANT DATE STAMPS

O

Mat.: Corrosion resistant steel
Hardness: 50-55 HRC
Max. T: 150°C

Remove inner insert from the outer insert using a screwdriver





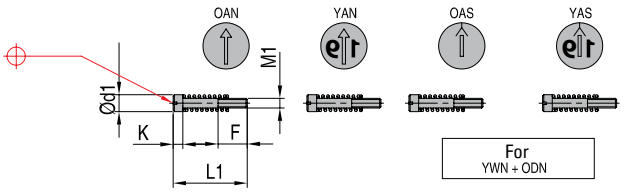
*Specify year.
Example: YMN052024

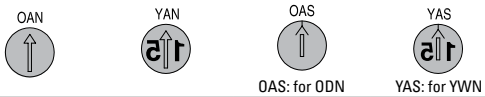
REF	REF*	REF*	Number of years	REF*	REF	REF	REF	REF	REF	D	L	M	T	S
OMN04	YMN0420**	OYN0420**	6	YWN0420**	ODN 04	OSN 04	AMN 04	NZN 04	OBN 04	4	14	M2	2	0,2
OMN 05	YMN0520**	OYN0520**	6	YWN0520**	ODN 05	OSN 05	AMN 05	NZN 05	OBN 05	5	17	M3	3,5	0,20
OMN 06	YMN0620**	OYN0620**	6	YWN0620**	ODN 06	OSN 06	AMN 06	NZN 06	OBN 06	6	17	M3	3,5	0,20
OMN 08	YMN0820**	OYN0820**	6	YWN0820**	ODN 08	OSN 08	AMN 08	NZN 08	OBN 08	8	20	M4	4,0	0,35
OMN 10	YMN1020**	OYN1020**	6	YWN1020**	ODN 10	OSN 10	AMN 10	NZN 10	OBN 10	10	20	M5	4,0	0,35
OMN 12	YMN1220**	OYN1220**	6	YWN1220**	ODN 12	OSN 12	AMN 12	NZN 12	OBN 12	12	25	M6	6,0	0,50
OMN 16	YMN1620**	OYN1620**	6	YWN1620**	ODN 16	OSN 16	AMN 16	NZN 16	OBN 16	16	33	M8	8,0	0,60
OMN 20	YMN2020**	OYN2020**	6	YWN2020**	ODN 20	OSN 20	AMN 20	NZN 20	OBN 20	20	33	M8	8,0	0,60

Special engraving available upon request

OAN-YAN-OAS-YAS

Mat.: Corrosion resistant steel
Hardness: 50-55 HRC
Max. T:150





*Specify year. Example: YAN052024

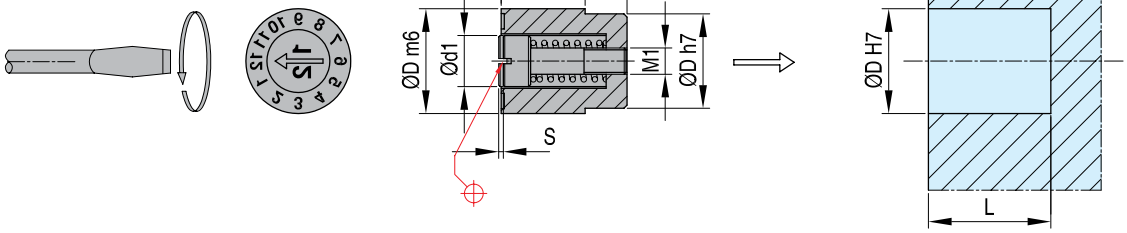
Suited for diameter	REF	REF*	REF	REF*	M1	d1	K	F	L1
04	OAN04	YAN0420**	OAS 04	YAS0420**	M1,4 x 0,2	2,5	2,3	4	10,5
05	OAN 05	YAN0520**	OAS 05	YAS0520**	M1,6 x 0,2	3,1	3	5	13
06					M1,6 x 0,2	3,1	3	5	13
08	OAN 08	YAN0820**	OAS 08	YAS0820**	M2,5 x 0,35	4,6	4	6	14
10					M2,5 x 0,35	4,6	4	6	14
12	OAN 12	YAN1220**	OAS 12	YAS1220**	M3 x 0,50	6,4	4	6	17
16	OAN 16	YAN1620**	OAS 16	YAS1620**	M3,5 x 0,60	8,4	5	8	23
20	OAN 20	YAN2020**	OAS 20	YAS2020**	M3,5 x 0,60	11,0	5	8	23

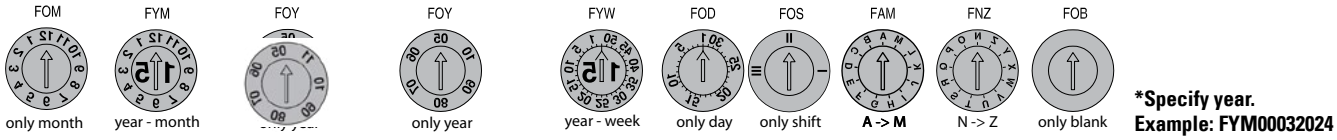
CAD reference point

DATE STAMPS F

Mat.: Corrosion resistant steel
Hardness: 50-55 HRC
Max. T: 150°C

Remove inner insert from the outer insert using a screwdriver





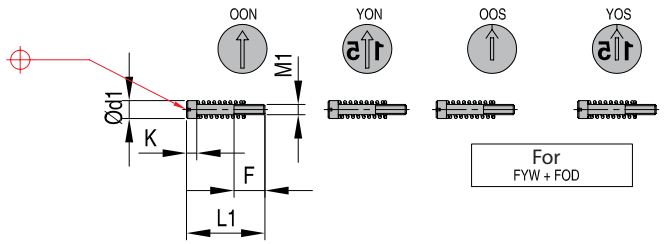
***Specify year.**
Example: FYM00032024

REF	REF*	REF*	Y	REF*	Y	REF*	REF	REF	REF	REF	REF	D	L	S	M1
FOM0002-6	FYM0002-620**			FOY0002-620**	6			FOS0002-6	FAM0002-6	FNZ0002-6	FOB0002-6	2,6	4	0,2	M0,8 x 0,2
FOM0003	FYM000320**	FOY7032020**	7	FOY0003-20**	6			FOS0003	FAM0003	FNZ0003	FOB0003	3	4	0,2	M0,8 x 0,2
FOM0004	FYM000420**	FOY7042020**	7	FOY0004-20**	6			FOS0004	FAM0004	FNZ0004	FOB0004	4	5	0,2	M1,1 x 0,25
FOM0005	FYM000520**	FOY7052020**	7	FOY0005-20**	6	FYW000520**	FOD0005	FOS0005	FAM0005	FNZ0005	FOB0005	5	8	0,2	M1,6 x 0,2
FOM0006	FYM000620**	FOY7062020**	7	FOY0006-20**	6	FYW000620**	FOD0006	FOS0006	FAM0006	FNZ0006	FOB0006	6	8	0,2	M1,6 x 0,2
FOM0008	FYM000820**	FOY7082020**	7	FOY0008-20**	6	FYW000820**	FOD0008	FOS0008	FAM0008	FNZ0008	FOB0008	8	10	0,25	M2,3 x 0,25
FOM0010	FYM001020**	FOY7102020**	7	FOY0010-20**	6	FYW001020**	FOD0010	FOS0010	FAM0010	FNZ0010	FOB0010	10	12	0,35	M2,5 x 0,35
FOM0012	FYM001220**	FOY7122020**	7	FOY0012-20**	6	FYW001220**	FOD0012	FOS0012	FAM0012	FNZ0012	FOB0012	12	14	0,35	M3 x 0,35
FOM0016	FYM001620**	FOY7162020**	7	FOY0016-20**	6	FYW001620**	FOD0016	FOS0016	FAM0016	FNZ0016	FOB0016	16	14	0,35	M4 x 0,35
FOM0020	FYM002020**	FOY7202020**	7		6	FYW002020**	FOD0020	FOS0020	FAM0020	FNZ0020	FOB0020	20	16	0,35	M4 x 0,35

Y - Number of years

Special engraving available upon request

DATE STAMPS-INNER INSERTS OON-YON-OOS-YOS



Mat.: Corrosion resistant steel
Hardness: 50-55 HRC

***Specify year. Example: YON032024**

Suited for diameter	REF	REF*	REF	REF*	M1	d1	K	F	L1
2,6	OON2-6	YON02-620**			M0,8 x 0,2	1,4	0,9	1,5	4
03	OON3	YON0320**			M0,8 x 0,2	1,5	0,9	1,5	4
04	OON4	YON0420**			M1,1 x 0,25	2,1	1,2	2,0	5
05/06	OON5	YON0520**	OOS5	YOS0520*	M1,6 x 0,2	3,1	2,0	3,0	8
08	OON8	YON0820**	OOS8	YOS0820*	M2,3 x 0,25	4,4	2,5	4,0	10
10	OON10	YON1020**	OOS10	YOS1020*	M2,5 x 0,35	5,2	3,0	4,5	12
12	OON12	YON1220**	OOS12	YOS1220*	M3 x 0,35	6,2	3,0	5,0	14
16	OON16	YON1620**	OOS16	YOS1620*	M4 x 0,35	8,2	3,5	5,0	14
20	OON20	YON2020**	OOS20	YOS2020*	M4 x 0,35	11	4,5	5,0	16
20	OON20	YON2020**	OOS20	YOS2020*	M4 x 0,35	11	4,5	5,0	16

CAD reference point

MULTIDATER MD

Mat.: Stainless steel
Hardness: 50-55 HRC
Max. T: 150°C

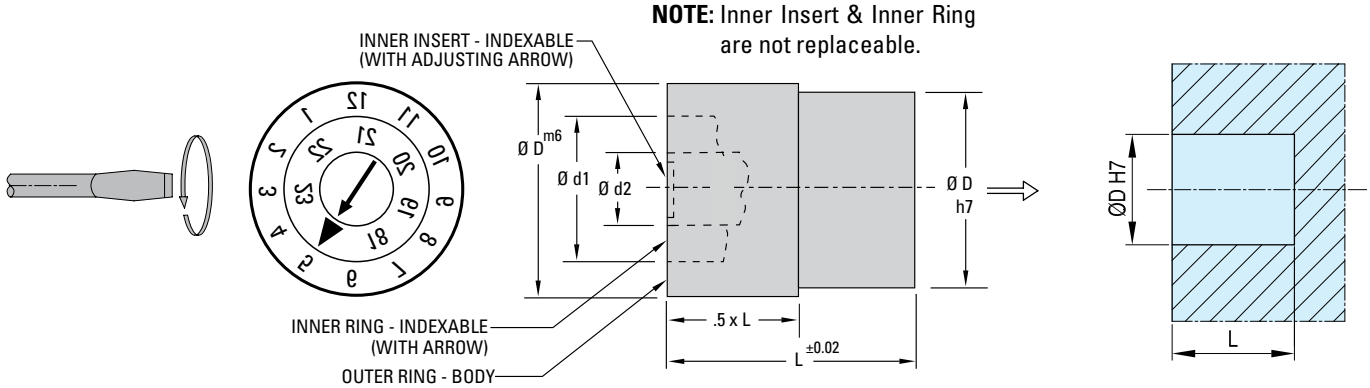
Outer ring: 12 months, months 1 through 12
Inner ring: 6 years + arrow (arrow points to month)
Center insert: arrow (points to year & adjusts position of both arrows)
Double indexable: both arrows independently "click into position"
Change positions easily with only a screwdriver using arrow in inner insert
Turn clockwise to change "year" arrow (6 years)
Turn counter-clockwise to change "month" arrow (12 months)
All inserts remain flush when rotated
Dual-Ring Insert may be interchanged for the 20mm, 16mm, 10mm, 8mm to 6mm diameter Indexable and Front Removable inserts

The MDxxOD version is needed to trace days. The inner ring counts the ten and the outer ring counts the units.
The two Multidaters together indicate a complete date. For example 31 on the MDxxOD version and 10 2019 on the other; indicating 31st of October 2019.

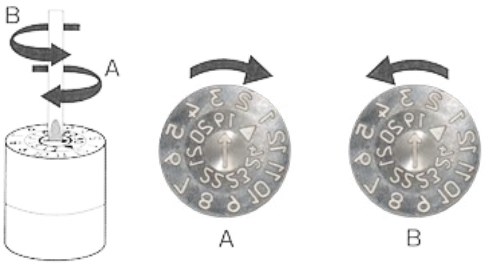
***Specify year. Example: MD062024**

REF	REF*	Number of years	D	d1	d2	L	L/2
MD06OD	**MD0620***	6	6	3,8	1,8	10	5
MD08OD	**MD0820***	6	8	5,3	2,5	10	5
MD10OD	**MD1020***	6	10	6,4	3,2	12	6
MD16OD	**MD1620***	6	16	10,5	5,0	14	7
MD20OD	**MD2020***	6	20	12,8	6,2	16	8

NOTE: Inner Insert & Inner Ring are not replaceable.



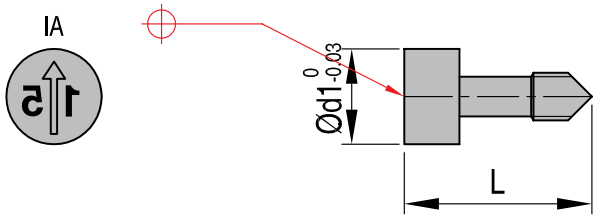
Installation and Machining
- Press-fit installation required
- Maintain a close tolerance press fit. Too loose a fit could allow the insert to move out of position, while too tight a press fit might prevent the inner insert and inner ring from rotating when required
- Accurately measure the Ø D for each part and machine hole to provide about 0.005mm (.0002") press fit



Structure and Usage
- Method of changing over the indication
- Changing the year indication. When the center part is turned clockwise (A), only the inside arrow rotates, enables the year to be changed.
- Changing the month indication. Turning the center part counterclockwise (B) causes both the inside arrow and the second ring to turn simultaneously, enabling the month to be changed.

CAD reference point

INNER INSERTS FOR FA SF - FA 12 - FA — IA SF - IA



Mat.: Stainless steel
Hardness: 50-55 HRC
Max. T:150°

REF*	d1	L
IA321720*	3,2	17,0
IA471720*	4,7	17,0
IA571720*	5,7	17,0
IA671720*	6,7	17,0

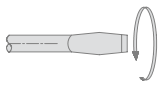
REF*	d1	L
IA871720*	8,7	17,0
IA100720*	10,7	17,0
IA227520*	2,2	7,5
IA307520*	3,0	7,5

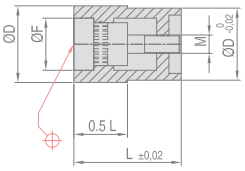
***Specify year. Example: IA32172024**

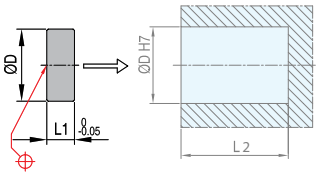
CAD reference point

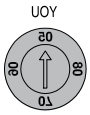
DISTANCE WASHERS FOR UYM, UOM, UOY, UOD, UOS, UOB, UOR — DSF

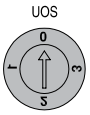
Mat.: Corrosion resistant steel
Hardness: 50-55 HRC

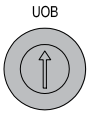


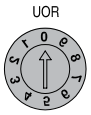










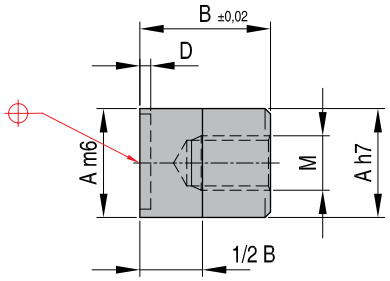


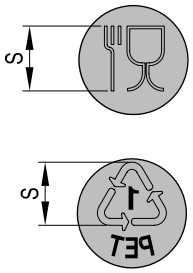
***Specify year.**
Example: DSFUYM2404

REF	L1	L2	REF*	REF	REF*	REF*	REF	REF	REF	D	L	F	M
DSF 0404	4	12	**UYM0420****	**UOM 04**	**UOY0420****		**UOS 04**	**UOB 04**	**UOR 04**	4	8	2,4	M1,6x0,2
DSF 0504	4	12	**UYM0520****	**UOM 05**	**UOY0520****		**UOS 05**	**UOB 05**	**UOR 05**	5	8	2,9	M1,6x0,2
DSF 0612	12	20	**UYM0620****	**UOM 06**	**UOY0620****		**UOS 06**	**UOB 06**	**UOR 06**	6	8	3,7	M1,6x0,2
DSF 0810	10	20	**UYM0820****	**UOM 08**	**UOY0820****		**UOS 08**	**UOB 08**	**UOR 08**	8	10	5,0	M2,3x0,25
DSF 1008	8	20	**UYM1020****	**UOM 10**	**UOY1020****		**UOS 10**	**UOB 10**	**UOR 10**	10	12	6,3	M2,5x0,35
DSF 1206	6	20	**UYM1220****	**UOM 12**	**UOY1220****		**UOS 12**	**UOB 12**	**UOR 12**	12	14	7,5	M3x0,35
DSF 1606	6	20	**UYM1620****	**UOM 16**	**UOY1620****	**UOD 16**	**UOS 16**	**UOB 16**	**UOR 16**	16	14	11,0	M4x0,35
DSF 2004	4	20	**UYM2020****	**UOM 20**	**UOY2020****	**UOD 20**	**UOS 20**	**UOB 20**	**UOR 20**	20	16	13,2	M4x0,35

CAD reference point

RECYCLING INSERTS — MRI





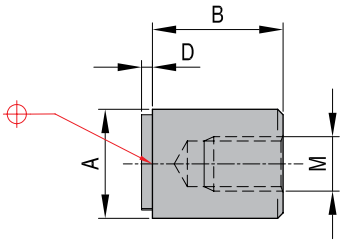
Mat.: Stainless steel 48-52 HRC

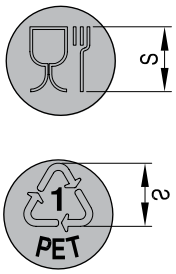
With these special inserts and electrodes plastic parts can be marked with useful information during the production process, usage and recycling process, e.g. with data on composition, recycling and purification.

	REF	A	B	D	M	S	Identification	
	MRI0100	10	12	0,3	M5	6	Arrows only	
	MRI0200	16	14		M6	10		
	MRI0300	20	16		M6	12		
	MRI1101 not hardened	10	12	0,3	M5	6	Blank	
	MRI2202 not hardened	16	14		M6	10		
	MRI3303 not hardened	20	16		M6	12		
1 PET	**MRI0101GE**	10	12	0,3	M5	6	Polyethylene terephthalate	PET
	MRI0201GE	16	14		M6	10		
	MRI0301GE	20	16		M6	12		
1 PETE	**MRI0101**	10	12	0,3	M5	6	Polyethylene terephthalate	PETE
	MRI0201	16	14		M6	10		
2 HDPE	**MRI0102**	10	12	0,3	M5	6	High density polyethylene	HDPE
	MRI0202	16	14		M6	10		
	MRI0302	20	16		M6	12		
2 PE-HD	**MRI0102GE**	10	12	0,3	M5	6	High density polyethylene	PE-HD
	MRI0202GE	16	14		M6	10		
	MRI0302GE	20	16		M6	12		
3 PVC	**MRI0103GE**	10	12	0,3	M5	6	Polyvinyl chloride	PVC
	MRI0203GE	16	14		M6	10		
	MRI0303GE	20	16		M6	12		
4 LDPE	**MRI0104**	10	12	0,3	M5	6	Low density polyethylene	LDPE
	MRI0204	16	14		M6	10		
	MRI0304	20	16		M6	12		
4 PE-LD	**MRI0104GE**	10	12	0,3	M5	6	Low density polyethylene	PE-LD
	MRI0204GE	16	14		M6	10		
	MRI0304GE	20	16		M6	12		
4 PE-BD	**MRI0104FR**	10	12	0,3	M5	6	Low density polyethylene	PE-BD
	MRI0204FR	16	14		M6	10		
	MRI0304FR	20	16		M6	12		
5 PP	**MRI0105**	10	12	0,3	M5	6	Polypropylene	PP
	MRI0205	16	14		M6	10		
	MRI0305	20	16		M6	12		
6 PS	**MRI0106**	10	12	0,3	M5	6	Polystyrene	PS
	MRI0206	16	14		M6	10		
	MRI0306	20	16		M6	12		
7 OTHER	**MRI0107**	10	12	0,3	M5	6	All other resins	Other
	MRI0207	16	14		M6	10		
	MRI0307	20	16		M6	12		
7 0	**MRI0107GE**	10	12	0,3	M5	6	All other resins	0
	MRI0207GE	16	14		M6	10		
	MRI0307GE	20	16		M6	12		
	MRI1010	10	12	0,3	M5	6,15	Food	
	MRI1016	16	14		M6	9,83		
	MRI1020	20	16		M6	12,3		

CAD reference point

RECYCLING ELECTRODES **MRE**





Mat.: Electrolitic copper E-Cu

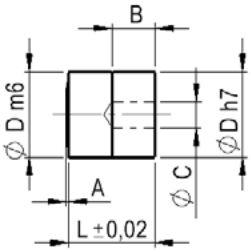
With these special inserts and electrodes plastic parts can be marked with useful information during the production process, usage and recycling process, e.g. with data on composition, recycling and purification.

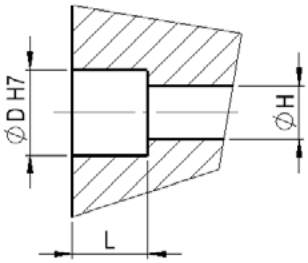
	REF	A	B	D	M	S	Identification	
	MRE-0100	10	12	0,3	M5	6	Arrows only	
	MRE-0200	16	14		M6	10		
	MRE-0300	20	16		M6	12		
1 PET	**MRE-0101GE**	10	12	0,3	M5	6	Polyethylene terephthalate	PET
	MRE-0201GE	16	14		M6	10		
	MRE-0301GE	20	16		M6	12		
2 HDPE	**MRE-0102**	10	12	0,3	M5	6	High density polyethylene	HDPE
	MRE-0202	16	14		M6	10		
	MRE-0302	20	16		M6	12		
2 PE-HD	**MRE-0102GE**	10	12	0,3	M5	6	High density polyethylene	PE-HD
	MRE-0202GE	16	14		M6	10		
	MRE-0302GE	20	16		M6	12		
3 PVC	**MRE-0103GE**	10	12	0,3	M5	6	Polyvinyl chloride	PVC
	MRE-0203GE	16	14		M6	10		
	MRE-0303GE	20	16		M6	12		
4 LDPE	**MRE-0104**	10	12	0,3	M5	6	Low density polyethylene	LDPE
	MRE-0204	16	14		M6	10		
	MRE-0304	20	16		M6	12		
4 PE-LD	**MRE-0104GE**	10	12	0,3	M5	6	Low density polyethylene	PE-LD
	MRE-0204GE	16	14		M6	10		
	MRE-0304GE	20	16		M6	12		
4 PE-BD	**MRE-0104FR**	10	12	0,3	M5	6	Low density polyethylene	PE-BD
	MRE-0204FR	16	14		M6	10		
	MRE-0304FR	20	16		M6	12		
5 PP	**MRE-0105**	10	12	0,3	M5	6	Polypropylene	PP
	MRE-0205	16	14		M6	10		
	MRE-0305	20	16		M6	12		
6 PS	**MRE-0106**	10	12	0,3	M5	6	Polystyrene	PS
	MRE-0206	16	14		M6	10		
	MRE-0306	20	16		M6	12		
7 OTHER	**MRE-0107**	10	12	0,3	M5	6	All other resins	Other
	MRE-0207	16	14		M6	10		
	MRE-0307	20	16		M6	12		
7 0	**MRE-0107GE**	10	12	0,3	M5	6	All other resins	0
	MRE-0207GE	16	14		M6	10		
	MRE-0307GE	20	16		M6	12		
	MRE-01010	10	12	0,3	M5	6,15	Food	
	MRE-01016	16	14		M6	9,83		
	MRE-01020	20	16		M6	12,3		

CAD reference point

QR CODE INSERTS

QR INSERTS QR





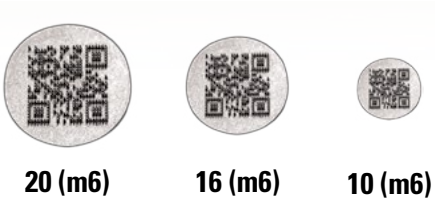
Mat.: 1.4021 (50 - 53 HRC)

D	L	A*	B	C	H
10	12	0,5/0,2	4,0	M5	7
16	14	0,5/0,2	4,0	M6	10
20	16	0,5/0,2	4,0	M6	10

Custom made to order		
10 mm	**16 mm**	**20 mm**

*) 0,2 mm is for black color only

D	10 mm	16 mm	20 mm
Example			
Type	Data Matrix	QR Code	QR Code
Max. cells	18 x 18	29 x 29	37 x 37
Max. numeric capacity	36	63	202
Max. alphabetic capacity	25	38	122
Max. binary capacity	16	26	84
Error correcting rate	25%	15%	15%

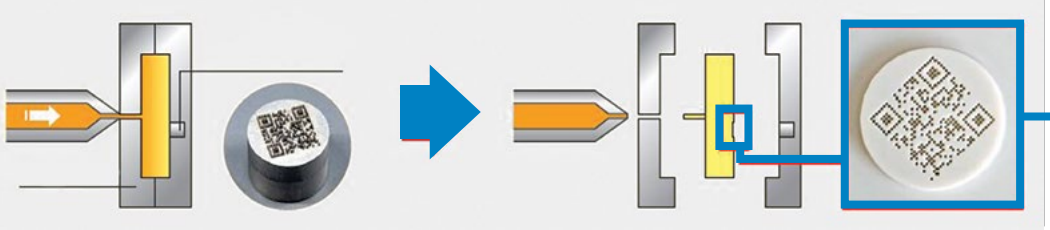


QR Code Insert size options (to scale)

Advantages of Connecting:

- Quick, error-free link to your online content.
- Engage the customer with videos and other updated information.
- Provide a link to promotions and interactive sites to obtain Voice of the Customer (VOC) information.
- Smart phones and tablets have easy access to QR reading apps across all platforms.

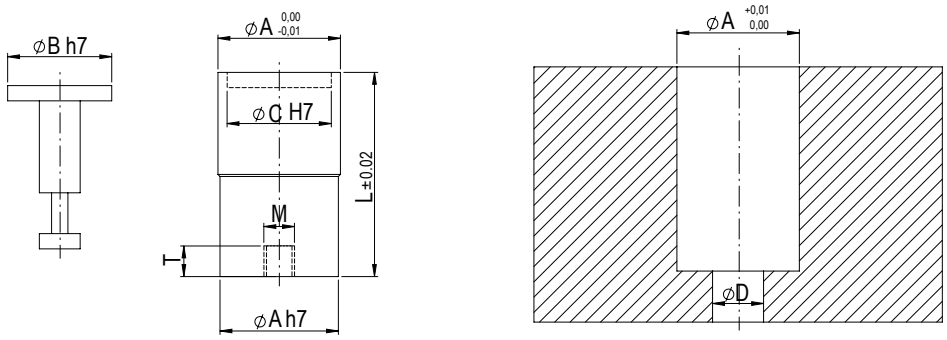
INSTALL IN THE MOLD & THE 2D CODE IS FORMED DURING INJECTION



CAD reference point

SWITCH MOULD INSERTS — SWI - EUDATESTAMP

Switch insert **Base ring** **Hole**

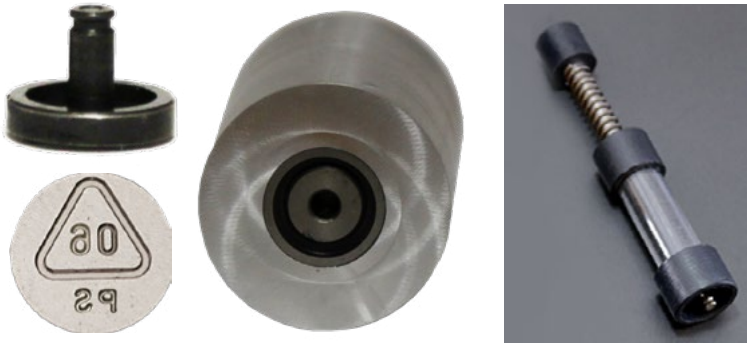


- Engraved to your specifications
- Display insert will not rotate
- Quickly change insert/message in seconds

Mat.: HPM 75
Hardness: HRC 35 ~ 45
Depth of engraving: ~0.5 mm

A	B	C	D	L	M	T
14 mm	12 mm	12 mm	6~9 mm	25 mm	M5	5 mm

Inserts **Base ring** **Magnetic jig**

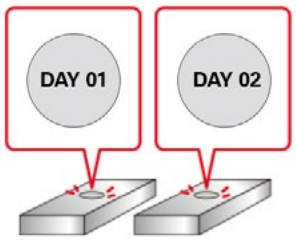


		14 mm
QR Code	Size:	25×25
	Max. numeric capacity:	77
	Max. alphanumeric capacity:	47
	Max. binary capacity:	32
	Error correcting rate:	7%
Data Matrix	Size:	24×24
	Max. numeric capacity:	72
	Max. alphanumeric capacity:	52
	Max. binary capacity:	34
	Error correcting rate:	20%~35%

REF 14 mm	Part	Description / note
SWIR14	Base ring	Date stamp base
SWIM14	Magnetic jig	Magnetic jig for insert removal
SWIB14	Switch insert - blank	empty insert without text/symbol
EUDATESTAMP	Switch insert - with text and or symbol / logo	letter height 0.5mm
EUDATESTAMP	Switch insert with QR code - medium recognition	Data matrix or QR code height 0.2mm (for black color only)
EUDATESTAMP	Switch insert with QR code - high recognition	Data matrix or QR code height 0.5mm (Standard QR code for all colors)

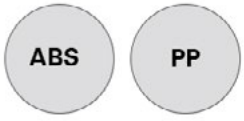
APPLICATION EXAMPLES

MANUFACTURED DATE



LOT NUMBER

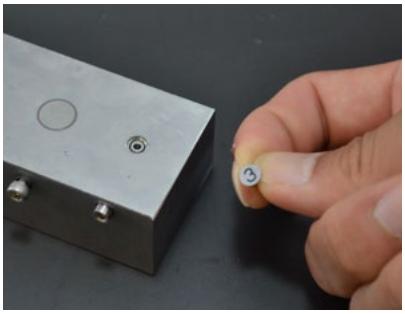
MATERIAL TYPE

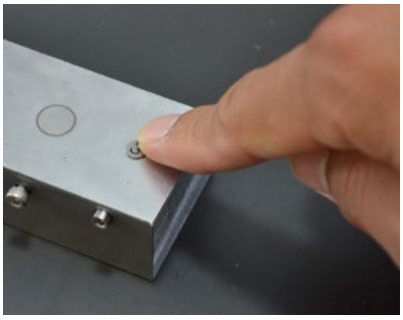


CAD reference point

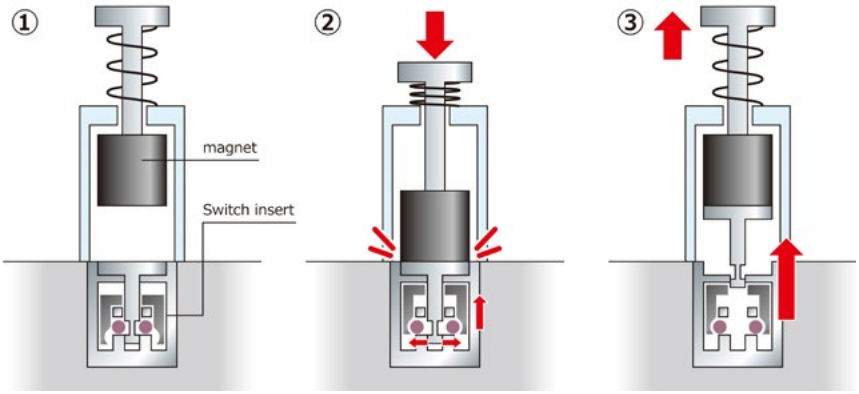
SWITCH MOULD INSERTS — SWI - EUDATESTAMP

SWITCH INSERT INSERTION



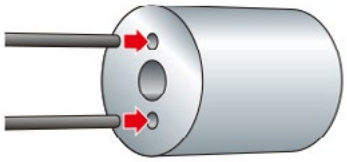


SWITCH INSERT REMOVAL



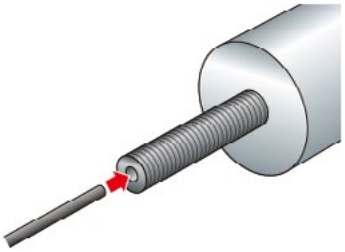
REMOVE SWITCH INSERT FROM THE BACK

Switch Insert



Press with 2 metal rods in the back to remove switch insert

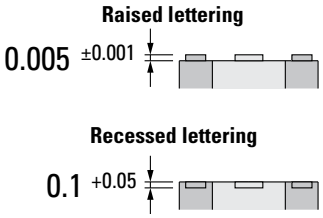
Switch Insert with screw



Press a metal rod in the screw hole at the back to remove the switch insert

CAD reference point

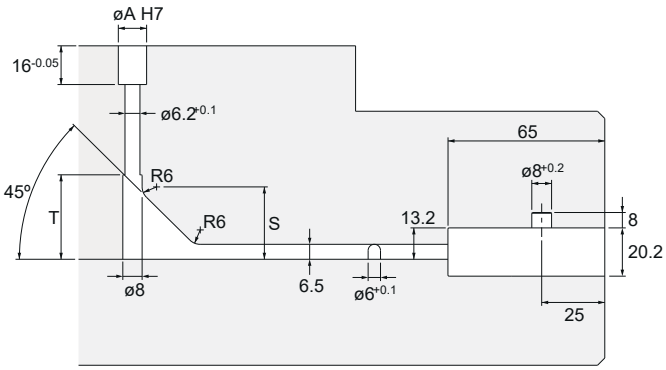
REMOTE MOULD DATE INSERTS

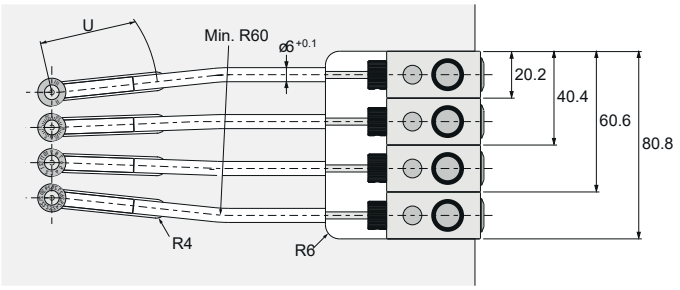


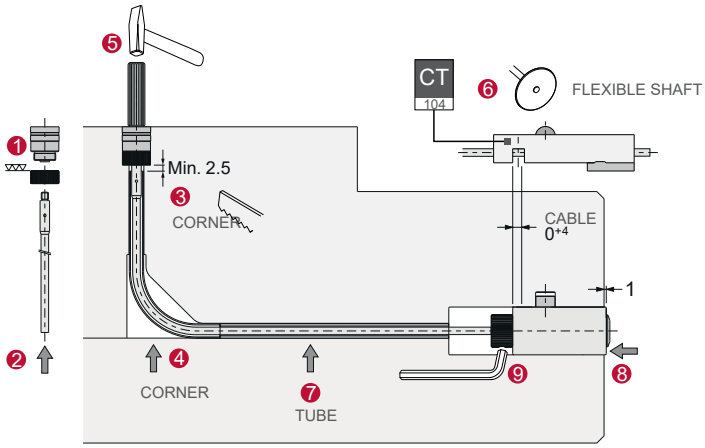
Max Temp 150°C

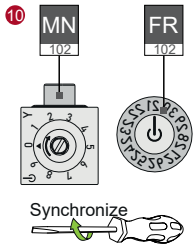
Features & Benefits

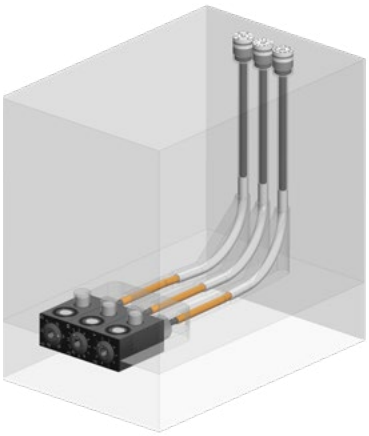
- External visibility of date stamp setting
- Eliminates possible scratches to the cavity during stamp updating
- Included nut allows easy height adjustment to get the perfect visual appearance on the part



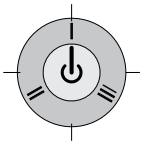
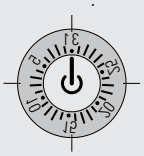
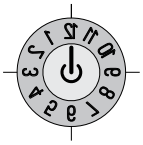
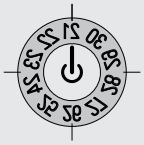








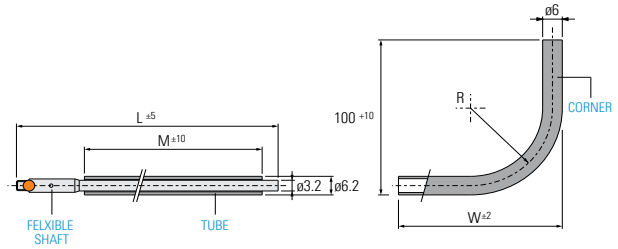
REMOTE MOULD DATE INSERTS FR

REF		Description	Dia.	Length	Lettering Type
FR08HR03		3 Shifts	8	16 (+0.2)	Raised
FR12HR03			12		Raised
FR08LR03			8		Recessed
FR12LR03			12		Recessed
FR16LR03			16		Recessed
FR08HR31		31 Days	8		Raised
FR12HR31			12		Raised
FR08LR31			8		Recessed
FR12LR31			12		Recessed
FR16LR31			16		Recessed
FR08HR12		12 Months	8		Raised
FR12HR12			12		Raised
FR08LR12			8		Recessed
FR12LR12			12		Recessed
FR16LR12			16		Recessed
FR08HR10-_ _		10 Years	8		Raised
FR12HR10-_ _			12		Raised
FR08LR10-_ _			8		Recessed
FR12LR10-_ _			12		Recessed
FR16LR10-_ _			16		Recessed
Current year (22)					

CAD reference point

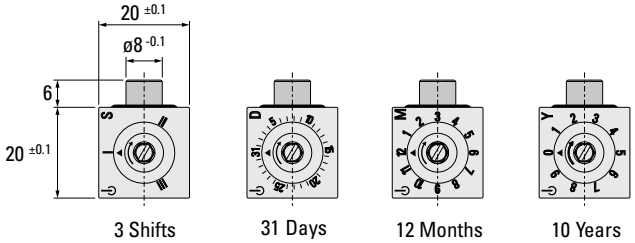
REMOTE DATE STAMPS

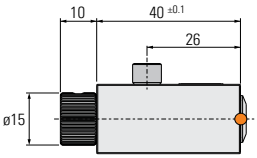
REMOTE MOULD DATE INSERT SHAFT SET — CF



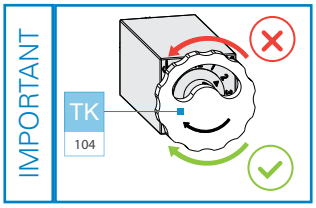
REF	L	M	R	S	T	U	W
CF060600	600	500	25	30	40	45	40
CF060600	1200	1100	40	50	60	60	60

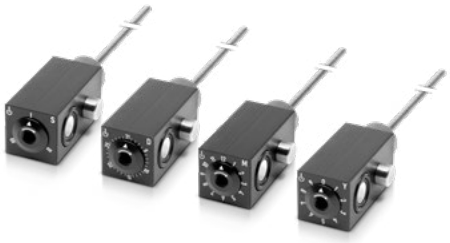
REMOTE COMMAND — MN



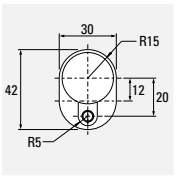


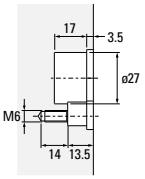
REF	# of positions
MN202003	3 (Shifts)
MN202010	10 (Years)
MN202012	12 (Months)
MN202031	31 (Days)

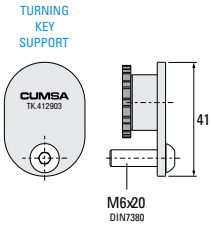


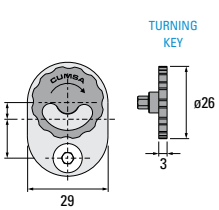


TURNING KEY — TK

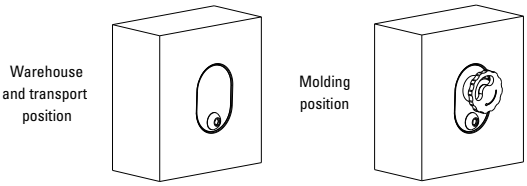




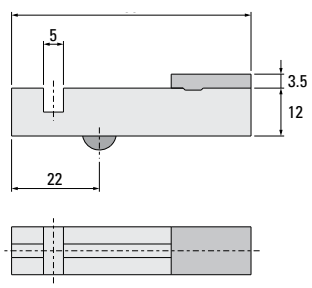


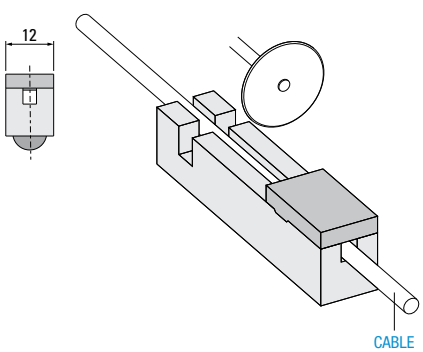


REF	Description
TK412903	Turning Key & Support

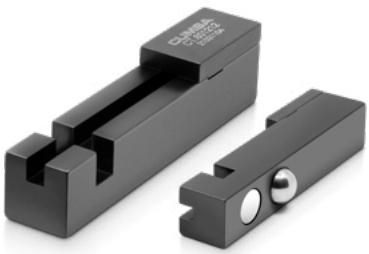


SHAFT CUTTING JIG — CT



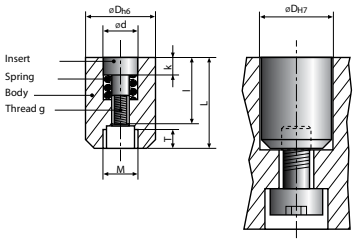


REF	Description
CT601212	Shaft Cutting Jig



CAD reference point

SHORT VERSION WITH RETAINING THREAD **MA**



Mat.: 1.4034, hardened

- Front-removable inner insert
- Press-fit for installation in the mould
- Mirror image, countersunk
- Other material upon request

Adjustment
Turn inner insert counter-clockwise. When correctly used **the inner insert** (e.g. date stamp with D=6mm) **will be max. 0,1mm lower or higher with the top** of the body.

a = depth arrow

Removal
Remove inner insert by turning it counter-clockwise and insert new inner insert by turning it clockwise.

a = depth arrow

body					insert				
D	L	M	T	SW	d	k	l	g	a
03	7	2	2	-	1,5	0,9	3,8	M0,8x0,2	0,3
04	8	2	2	-	2,1	1,2	4,7	M1,1x0,25	0,3
05	12	3	3	-	3,1	2,0	7,8	M1,6x0,2	0,4
06	12	3	3	-	3,1	2,0	7,8	M1,6x0,2	0,4
08	14	4	3	-	4,4	2,5	9,8	M2,3x0,25	0,4
10	16	5	3	-	5,2	3,0	11,8	M2,5x0,35	0,4
12	20	5	4	-	6,2	3,0	13,8	M3x0,35	0,6

	REF	Description
(Dezember 2009)	**MAA (D) / 1-12 / (year)**	month + year
(Dezember)	**MAB (D) / 1-12**	month
(2009)	**MAC (D) / (year) / +5**	6 years (year + 5)
(2009)	**MAD (D) / (year) / +11**	12 years (year + 11)
	MAE (D) / SET1 / (year)	set 1: weeks + years
	MAF (D) / SET2 / (year)	set 2: set (the month insert should be replaced monthly)
	MAG (D) / SET3 / (year)	set 3: date set
	MAH (D) / 1-3	shift
	MAI (D) / 1-4/ (year)	quarter + year
	MAJ (D) / A-M	A-M
	MAK (D) / N-Z	N-Z
	MAL (D) / (custom)	custom (include drawing)
(Tag 30)	**MAM (D) / 1-31**	days
	MAN (D)	blank
(z.B. 11 = 2011)	**MAO (D) / year**	year + arrow
	MAP (D)	arrow
	MAQ (D) / (custom)	number/letter according to customer specification (max. 2 characters)

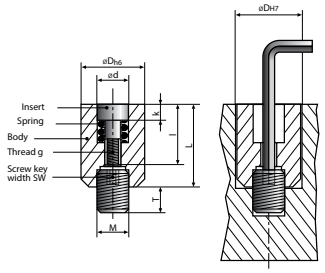
CAD reference point

DATE STAMPS & INSERTS EXTENDED RANGE

SHORT VERSION, FRONT-REMOVABLE **MB**

Adjustment
Turn inner insert counter-clockwise. When correctly used **the inner insert** (e.g. date stamp with D=6mm) **will be max. 0,1mm lower or higher with the top** of the body.

a = depth arrow



Mat.: 1.4034, hardened

Front-removable inner insert
Press-fit for installation in the mould
Mirror image, countersunk
Other material upon request

Removal
Remove inner insert by turning it counter-clockwise and insert new inner insert by turning it clockwise.

a = depth arrow

body					insert				
D	L	M	T	SW	d	k	l	g	a
04	8	2	3	0,7	2,1	1,2	4,7	M1,1x0,25	0,3
05	12	3	4	0,9	3,1	2,0	7,8	M1,6x0,2	0,4
06	12	3	4	0,9	3,1	2,0	7,8	M1,6x0,2	0,4
08	14	4	6	1,5	4,4	2,5	9,8	M2,3x0,25	0,4
10	16	5	6	1,5	5,2	3,0	11,8	M2,5x0,35	0,4
12	20	5	6	1,5	6,2	3,0	13,8	M3x0,35	0,6

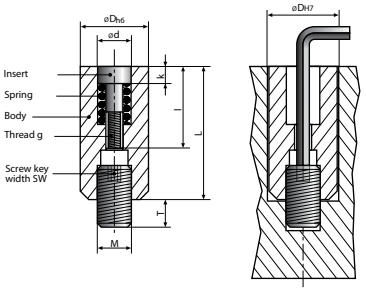
	REF	Description
(Dezember 2009)	**MBA (D) / 1-12 / (year)**	month + year
(Dezember)	**MBB (D) / 1-12**	month
(2009)	**MBC (D) / (year) / +5**	6 years (year + 5)
(2009)	**MBD (D) / (year) / +11**	12 years (year + 11)
	MBE (D) / SET1 / (year)	set 1: weeks + years
	MBF (D) / SET2 / (year)	set 2: set (the month insert should be replaced monthly)
	MBG (D) / SET3 / (year)	set 3: date set
	MBH (D) / 1-3	shift
	MBI (D) / 1-4/ (year)	quarter + year
	MBJ (D) / A-M	A-M
	MBK (D) / N-Z	N-Z
	MBL (D) / (custom)	custom (include drawing)
(Tag 30)	**MBM (D) / 1-31**	days
	MBN (D)	blank
(z.B. 11 = 2011)	**MAO (D) / year**	year + arrow
	MAP (D)	arrow
	MAQ (D) / (custom)	number/letter according to customer specification (max. 2 characters)

CAD reference point

LONG VERSION, FRONT-REMOVABLE MC

Adjustment
Turn inner insert counter-clockwise. When correctly used **the inner insert** (e.g. date stamp with D=6mm) **will be max. 0,1mm lower or higher with the top** of the body.

a = depth arrow



Mat.: 1.4034, hardened

- Front-removable inner insert
- Press-fit for installation in the mould
- Mirror image, countersunk
- Other material upon request

Removal
Remove inner insert by turning it counter-clockwise and insert new inner insert by turning it clockwise.

a = depth arrow

body					insert				
D	L	M	T	SW	d	k	l	g	a
04	14	2	3	0,7	2,5	2,3	10,5	M1,4x0,2	0,3
05	17	3	4	0,9	3,1	2,8	13,0	M1,6x0,2	0,4
06	17	3	4	0,9	3,1	2,8	13,0	M1,6x0,2	0,4
08	20	4	5	1,5	4,6	4,0	14,0	M2,5x0,35	0,4
10	20	5	6	1,5	4,6	4,0	14,0	M2,5x0,35	0,4

	REF	Description
(Dezember 2009)	**MCA (D) / 1-12 / (year)**	month + year
(Dezember)	**MCB (D) / 1-12**	month
(2009)	**MCC (D) / (year) / +5**	6 years (year + 5)
(2009)	**MCD (D) / (year) / +11**	12 years (year + 11)
	MCE (D) / SET1 / (year)	set 1: weeks + years
	MCF (D) / SET2 / (year)	set 2: set (the month insert should be replaced monthly)
	MCG (D) / SET3 / (year)	set 3: date set
	MCH (D) / 1-3	shift
	MCI (D) / 1-4/ (year)	quarter + year
	MCJ (D) / A-M	A-M
	MCK (D) / N-Z	N-Z
	MCL (D) / (custom)	custom (include drawing)
(Tag 30)	**MCM (D) / 1-31**	days
	MCN (D)	blank
(z.B. 11 = 2011)	**MCO (D) / year**	year + arrow
	MCP (D)	arrow
	MCQ (D) / (custom)	number/letter according to customer specification (max. 2 characters)

CAD reference point

DATE STAMPS & INSERTS EXTENDED RANGE

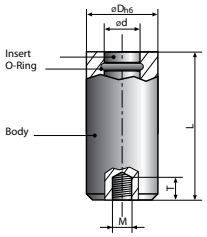
(Ø 5/6/8/10/12) INSERT REMAINS FLUSH — MD OHV

Installation and adjustment
Adjust to required position.
When insert locks into postion, turn it ca. 3 turns to the left. => Insert is lifted. Then turn insert ca. 90° to the right and push back into the mould.
=> insert is flush.

a = depth arrow

Removal
Fully turn inner insert clockwise. Then turn the inner insert counter-clockwise until it can be removed. Install the new inner insert by turning it left to right under slight pressure.

a = depth arrow



Mat.: 1.4034, hardened

Especially suited for thin-walled parts or low viscosity materials (such as rubber, etc...)

- Front-removable inner insert
- O-Ring heat-resistant up to 200°C
- Threaded pin for installation in the mould
- Mirror image, countersunk
- Other material upon request

D	d	L	M	T	a
05	3	17	3	3	0,4
06	3	17	3	3	0,4
08	4	20	4	5	0,4
10	5	20	5	5	0,4
12	6	25	6	6	0,6

	REF	Description
(Dezember 2009)	**MDA (D) / 1-12 / (year)**	month + year
(Dezember)	**MDB (D) / 1-12**	month
(2009)	**MDC (D) / (year) / +5**	6 years (year + 5)
(2009)	**MDD (D) / (year) / +11**	12 years (year + 11)
	MDE (D) / SET1 / (year)	set 1: weeks + years
	MDF (D) / SET2 / (year)	set 2: set (the month insert should be replaced monthly)
	MDG (D) / SET3 / (year)	set 3: date set
	MDH (D) / 1-3	shift
	MDI (D) / 1-4/ (year)	quarter + year
	MDJ (D) / A-M	A-M
	MDK (D) / N-Z	N-Z
	MDL (D) / (custom)	custom (include drawing)
(Tag 30)	**MDM (D) / 1-31**	days
	MDN (D)	blank
(z.B. 11 = 2011)	**MDO (D) / year**	year + arrow
	MDP (D)	arrow
	MDQ (D) / (custom)	number/letter according to customer specification (max. 2 characters)

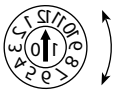
CAD reference point

MOUNT WITH HEX-KEY (Ø 5/6/8/10/12) INSERT REMAINS FLUSH **ME OHV**

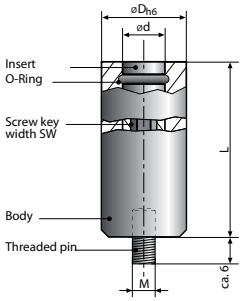
Installation and adjustment
Mount outer sleeve with hex-key from mould side Install the new inner insert by turning it left to right under slight pressure and turn to required position. When insert locks into postion, turn it ca. 3 turns to the left. => Insert is lifted. Then turn insert ca. 90° to the right and push back into the mould. => insert is flush.

a = depth arrow

Removal
Fully turn inner insert clockwise. Then turn the inner insert counter-clockwise until it can be removed. Install the new inner insert by turning it left to right under slight pressure.



a = depth arrow



Mat.: 1.4034, hardened

Especially suited for thin-walled parts or low viscosity materials (such as rubber, etc...)

- Front-removable inner insert
- O-Ring heat-resistant up to 200°C
- Threaded pin for installation in the mould
- Mirror image, countersunk
- Other material upon request

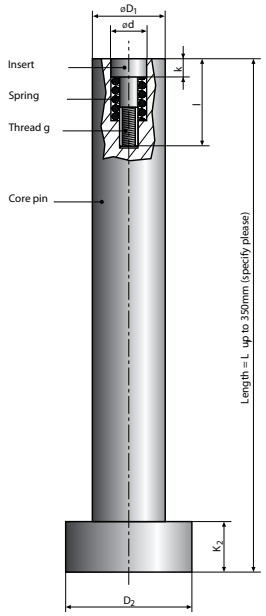
D	L	M	T	SW	d	a
05	17	3	3	2	3	0,4
06	17	3	3	2	3	0,4
08	20	4	5	3	4	0,4
10	20	5	5	3	5	0,4
12	25	6	6	4	6	0,6

	REF	Description
(Dezember 2009)	**MEA (D) / 1-12 / (year)**	month + year
(Dezember)	**MEB (D) / 1-12**	month
(2009)	**MEC (D) / (year) / +5**	6 years (year + 5)
(2009)	**MED (D) / (year) / +11**	12 years (year + 11)
	MEE (D) / SET1 / (year)	set 1: weeks + years
	MEF (D) / SET2 / (year)	set 2: set (the month insert should be replaced monthly)
	MEG (D) / SET3 / (year)	set 3: date set
	MEH (D) / 1-3	shift
	MEI (D) / 1-4/ (year)	quarter + year
	MEJ (D) / A-M	A-M
	MEK (D) / N-Z	N-Z
	MEL (D) / (custom)	custom (include drawing)
(Tag 30)	**MEM (D) / 1-31**	days
	MEN (D)	blank
(z.B. 11 = 2011)	**MDO (D) / year**	year + arrow
	MDP (D)	arrow
	MDQ (D) / (custom)	number/letter according to customer specification (max. 2 characters)

CAD reference point

DATE STAMPS & INSERTS EXTENDED RANGE

STANDARD **MF**



a = depth arrow

Mat.: 1.2344

- Front-removable inner insert
- Core pins from 0,5 mm and Length up to 350 mm
- Mirror image, countersunk

core pin				insert				
D_1	L_1	D_2	K_2	d	k	l	g	a
05	max 350	10	3	3,1	2,8	13	M1,6x0,2	0,4
06	max 350	12	5	3,1	2,8	13	M1,6x0,2	0,4
08	max 350	14	5	4,6	4	14	M2,5x0,35	0,4
10	max 350	16	5	4,6	4	14	M2,5x0,35	0,4
12	max 350	18	7	6,4	4	17	M3x0,5	0,6
16	max 350	22	7	8,4	5	23	M3x0,5	0,6

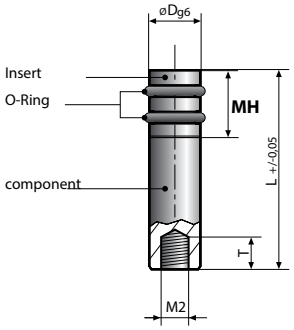
	REF	Description
 (Dezember 2009)	**MFA (D) / 1-12 / (year)**	month + year
 (Dezember)	**MFB (D) / 1-12**	month
 (2009)	**MFC (D) / (year) / +5**	6 years (year + 5)
 (2009)	**MFD (D) / (year) / +11**	12 years (year + 11)
	**MFE (D) / SET1 / (year)**	set 1: weeks + years
	**MFF (D) / SET2 / (year)**	set 2: set (the month insert should be replaced monthly)
	**MFG (D) / SET3 / (year)**	set 3: date set
	**MFH (D) / 1-3**	shift
	**MFI (D) / 1-4/ (year)**	quarter + year
	**MFJ (D) / A-M**	A-M
	**MFK (D) / N-Z**	N-Z
	**MFL (D) / (custom)**	custom (include drawing)
 (Tag 30)	**MFM (D) / 1-31**	days
	**MFN (D)**	blank
 (z.B. 11 = 2011)	**MCO (D) / year**	year + arrow
	**MCP (D)**	arrow
	**MCQ (D) / (custom)**	number/letter according to customer specification (max. 2 characters)

CAD reference point

(Ø 3/4) INSERT REMAINS FLUSH — MG OHV

Installation and adjustment
Install component.
Install the new inner insert by turning it left to right under slight pressure and turn to required position.
(Tip: Add chamfer to mould plate, sharp edge risks damaging) When insert locks into postion, turn it ca. 3 turns to the left. => Insert is lifted. Then turn insert ca. 90° to the right and push back into the mould. => insert is flush.

a = depth arrow



Mat.: 1.4034
- Front-removable
- O-Ring heat-resistant up to 200°C
- Threaded pin for installation in the mould
- Mirror image, countersunk
- Other material upon request

D	L	M	T
03	14	2	2
04	17	2	2

Removal
Fully turn inner insert clockwise. Then turn the inner insert counter-clockwise until it can be removed. Install the new inner insert by turning it left to right under slight pressure.

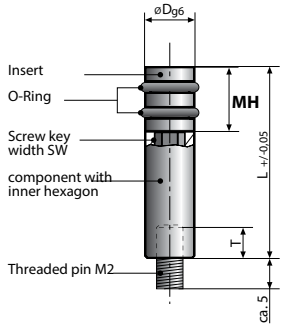
a = depth arrow

	REF	Description	Insert
	MGA (D) / 1-12 / (year)	month + year	MHA
	MGB (D))/ 1-12	month	MHB
	MGC (D) / (year) / +3	4 years (year + 3)	MHC
	MGD (D) / A-F	A-F	MHD
	ME	electrode	-

MOUNT WITH HEX-KEY (Ø 3/4) FRONT-REMOVABLE INSERT REMAINS FLUSH — MI OHV

Installation and adjustment
Install component.
Install the new inner insert by turning it left to right under slight pressure and turn to required position.
(Tip: Add chamfer to mould plate, sharp edge risks damaging) When insert locks into postion, turn it ca. 3 turns to the left. => Insert is lifted. Then turn insert ca. 90° to the right and push back into the mould. => insert is flush.

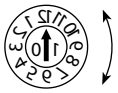
a = depth arrow



Mat.: 1.4034
- Front-removable
- O-Ring heat-resistant up to 200°C
- Threaded pin for installation in the mould
- Mirror image, countersunk
- Other material upon request

D	L	M	T	SW
03	14	2	2	2
04	17	2	2	3

Removal
Fully turn inner insert clockwise. Then turn the inner insert counter-clockwise until it can be removed. Install the new inner insert by turning it left to right under slight pressure.



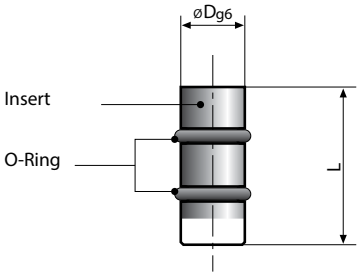
a = depth arrow

	REF	Description	Insert
	MIA (D) / 1-12 / (year)	month + year	MHA
	MIB (D) / 1-12	month	MHB
	MIC (D) / (year) / +5	4 years (year + 3)	MHC
	MID (D) / (year) / +11	A-F	MHD
	ME	electrode	-

CAD reference point

DATE STAMPS & INSERTS EXTENDED RANGE

STANDARD INSERT REMAINS FLUSH — MK OHV

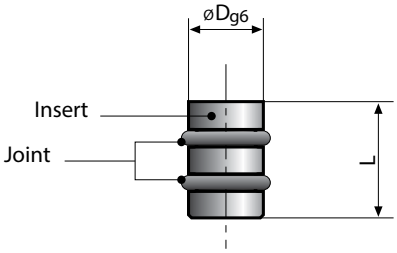


Mat.: 1.4034
- Front-removable
- O-Ring heat-resistant up to 200°C
- Mirror image, countersunk
- Other material upon request

D	L
02	14
03	14
04	14

	REF	Description
	MKA (D) / 1-12 / (year)	month + year
	MKB (D) / 1-12	month
	ME	electrode

SHORT VERSION INSERT REMAINS FLUSH — ML OHV



- Front-removable
- O-Ring heat-resistant up to 200°C
- Mirror image, countersunk
- Other material upon request

D	L
02	4
03	4
04	5

	REF	Description
	MLA (D) / 1-12 / (year)	month + year
	MLB (D) / 1-12	month
	ME	electrode

HEXAGON SOCKET SCREW KEY — SE630

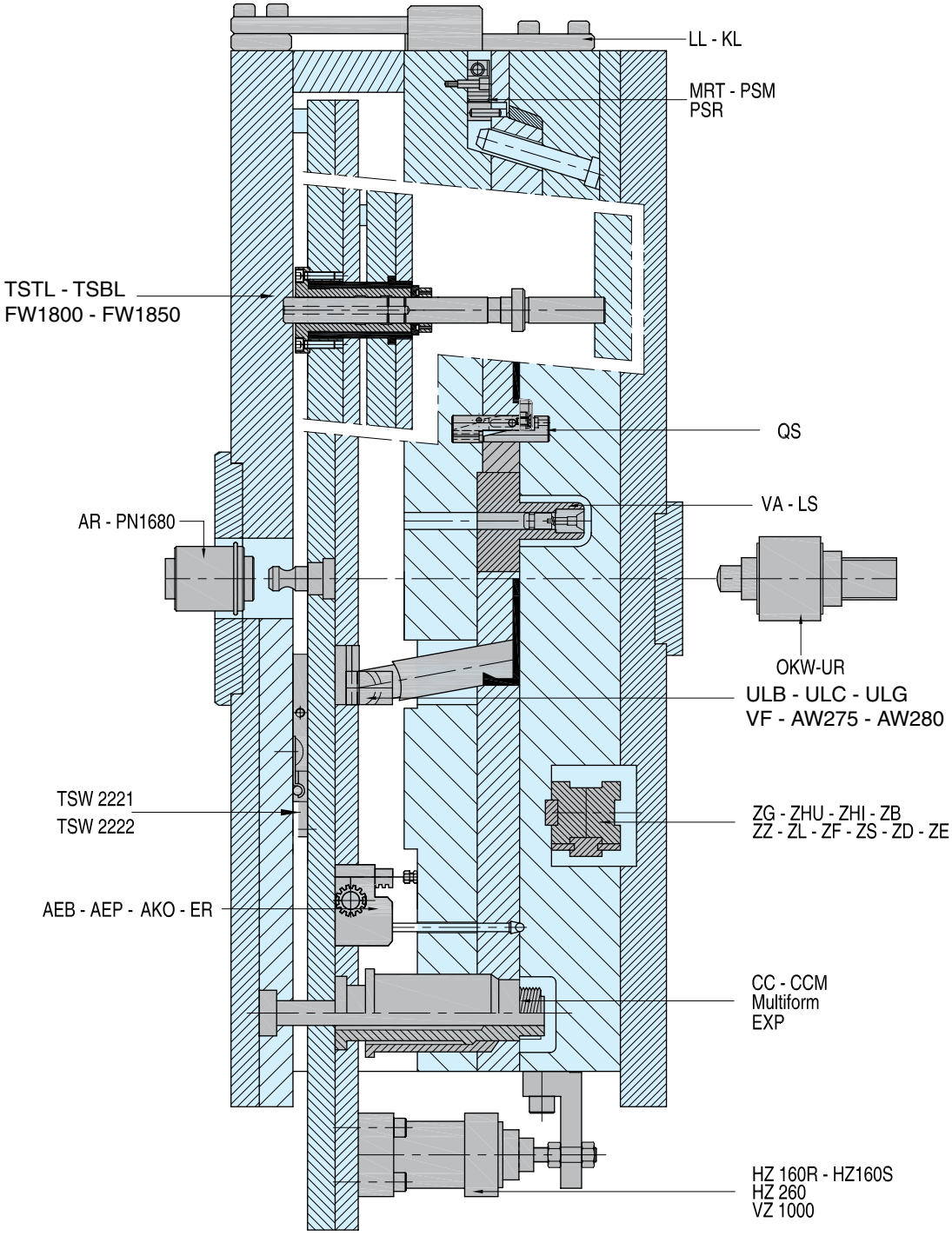
Mat.: 50 CrV4 - DIN 911

REF	S
SE630007	0,7
SE630009	0,9
SE630015	1,5
SE63002	2,0
SE63003	3,0
SE63004	4,0

CAD reference point

DME

PRE-ENGINEERED COMPONENTS



CAD reference point

CONTENT

Plate Control

Coarse Pitch Axles

Helical Gear

Slide Retainers

Moulding Undercuts

Flexible Cores

Collapsible Cores

More Technical Solutions

CAD reference point

CONTENT

Quick Clamping System

Hydraulic cylinder

Locking cylinder

CAD reference point

PLATE CONTROL

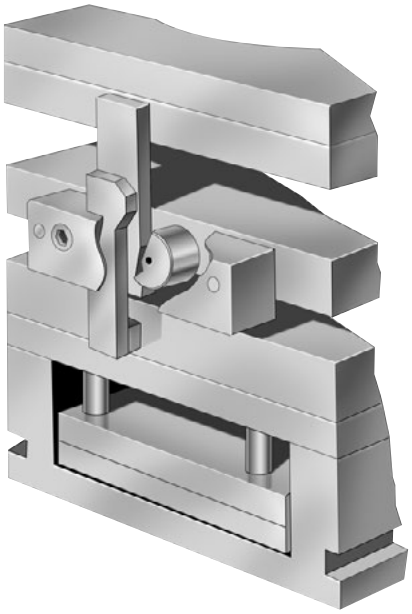
LATCH LOCKS

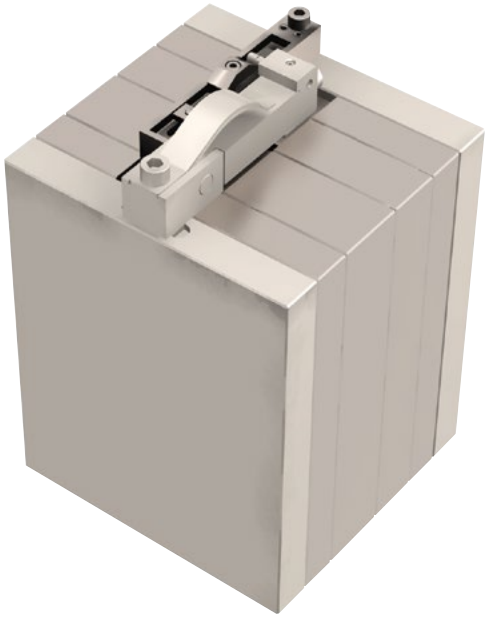
JIFFY LATCH LOCK — Info LL-KL-DKL

Latch Locks are used to control and float plates during the mould opening and closing sequence.
With three different types, **DME** provides a range of installation solutions for all applications:

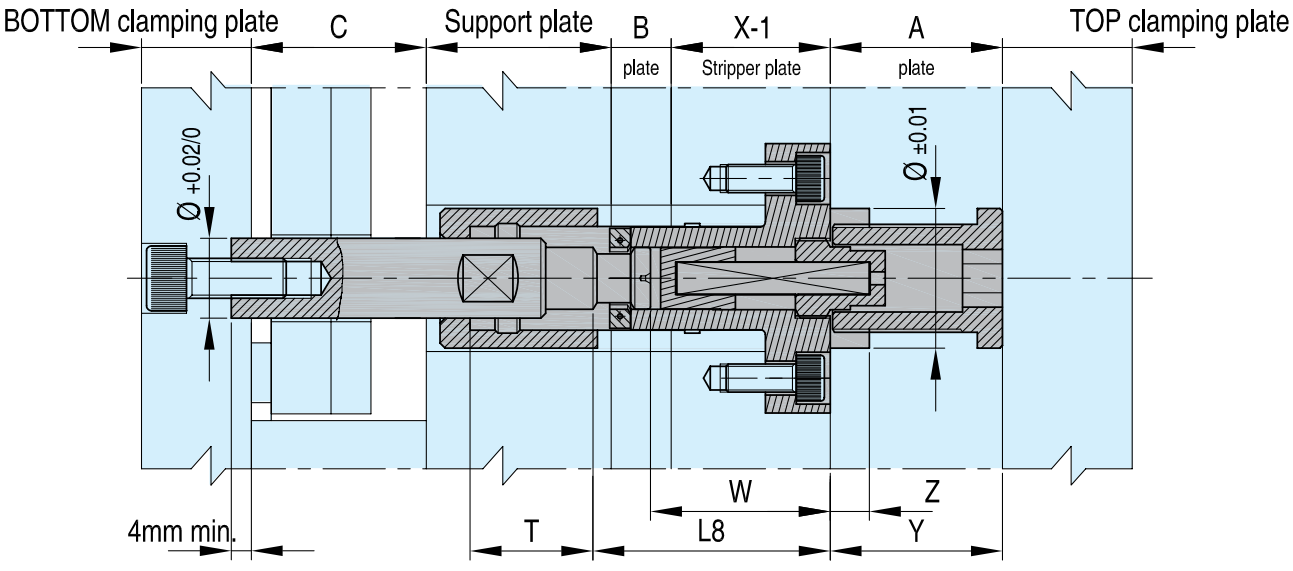
1. LL: the original **DME** latch lock, successfully used in the field for almost 20 years.
A simple, compact design which can be mounted in various configurations on the outside of the mould.
Available in small, medium and large in one standard length which is easily cut to size by the toolmaker.

2. KL: very sturdy construction available in 6 different sizes to handle any mould dimension.
Simple machining and adjustment allow easy mounting to the outside of the mould.





3. DKL: the modern alternative launched in 2004 and hugely popular with mould designers, builders and injectors.
Completely contained inside the mould, DKL does not interfere with external cooling lines and no longer prevents mould being placed on its side.
Greatly simplifies mould-making as plates no longer need side-machining, only vertical machining. Optional guided ejection saves space in the mould.

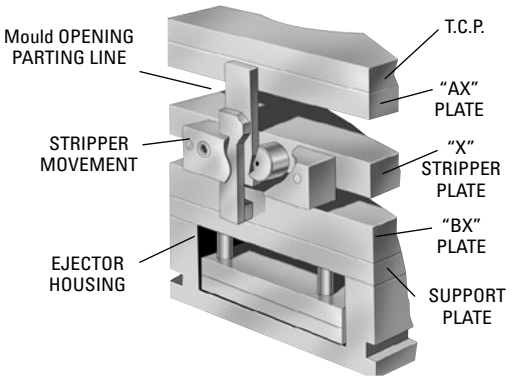


CAD reference point

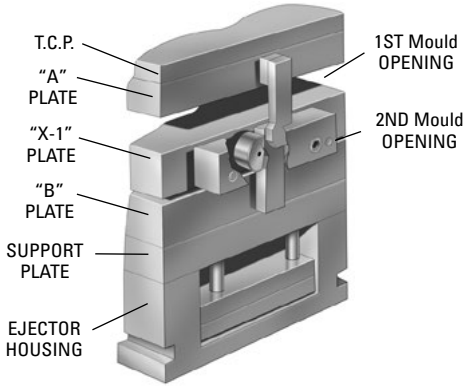
JIFFY LATCH LOCK

Info LL

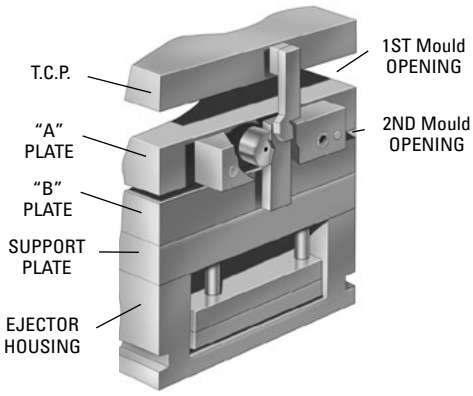
1. To control stripper plate.
Cycle time is often wasted waiting for the press knock-out bar to function. With the application of the DME Jiffy Latch-Lok, as illustrated to the left, the stripper plate is moved in a secondary action of the mould opening without the aid of the press knock-out bar.
The Jiffy Latch-Lok permits you to shorten the ejection stroke, improve cycle time and increase the number of parts per shift.



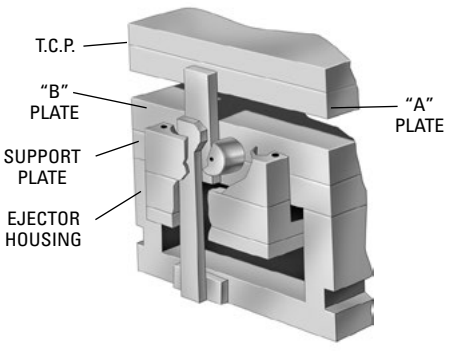
2. To float X-plate away from A-plate while locking X- and B- plates.
In this application of the Jiffy Latch-Lok, the "X-1" plate is floated away from the "A" plate in the first mould opening sequence. At a predetermined opening (you determine the distance) the "X-1" plate is released from the "B" plate for the second mould opening. This application of the Jiffy Latch-Lok is particularly effective on "AX" or three-plate top runner moulds.



3. To float A-plate away from top clamping plate while locking A- and B-plates.
In the DME Latch-Lok application illustrated here, the "A" plate moves away from the top clamp plate in the first mould opening. During this portion of the cycle, the "A" and "B" plates are locked. As the release bar passes the rocker, the "A" and "B" plates part in the second mould opening.



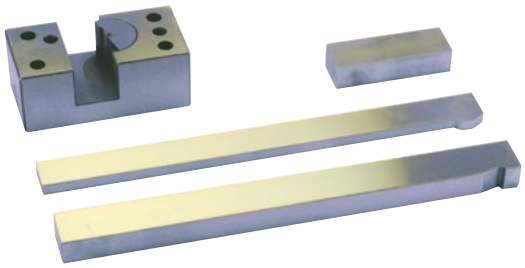
4. Actuation of ejector assembly without aid of press knock-out bar.
For those mould applications where a shorter press stroke is required, the DME Jiffy Latch-Lok is extremely effective.
You can activate the Jiffy Latch-Lok at any time after the mould begins to open, and pull the ejector assembly forward. This simple action shortens cycle time and increases part production.



CAD reference point

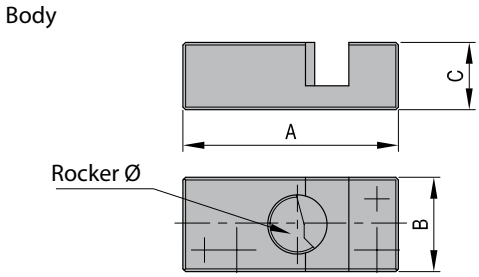
LATCH LOCKS

JIFFY LATCH LOCK LL



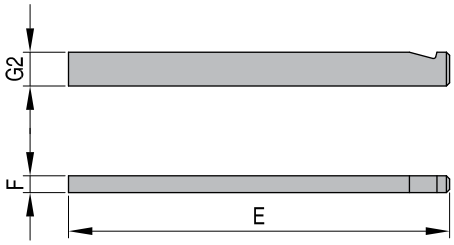
REF	W = Mould WIDTH
LL051E	W <= 200
LL101E	200 < W < 400
LL151	200 < W < 400
LL201	W > 400

BODY LL



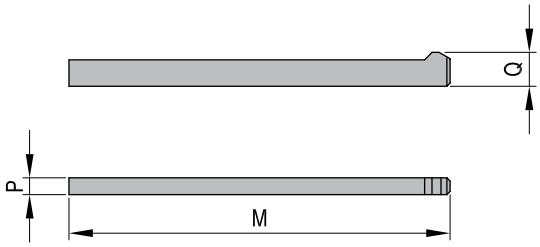
A	B	C	Rocker Ø	Spring	For REF
80,0	35,0	25,0	LL052E: 22	LL059E	LL051E
127,0	47,0	37,0	LL102E: 32	LL109E	LL101E
127,0	49,2	36,5	LL102: 31,2	LL109	LL151
152,5	74,6	61,9	LL202: 50,2	LL209	LL201

LATCH BAR LL



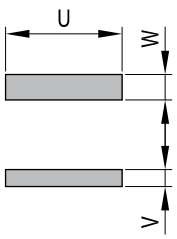
REF	E	F	G2	For REF
LL053E	180	7,9	16,0	LL051E
LL103E	254	11,9	24,0	LL101E
LL153	254	12,1	24,8	LL151
LL203	406	24,8	37,5	LL201

RELEASE BAR LL



REF	M	P	Q	For REF
LL054E	180	7,9	16,0	LL051E
LL104E	254	9,9	24,0	LL101E
LL104	254	9,0	24,8	LL151
LL204	406	12,1	37,5	LL201

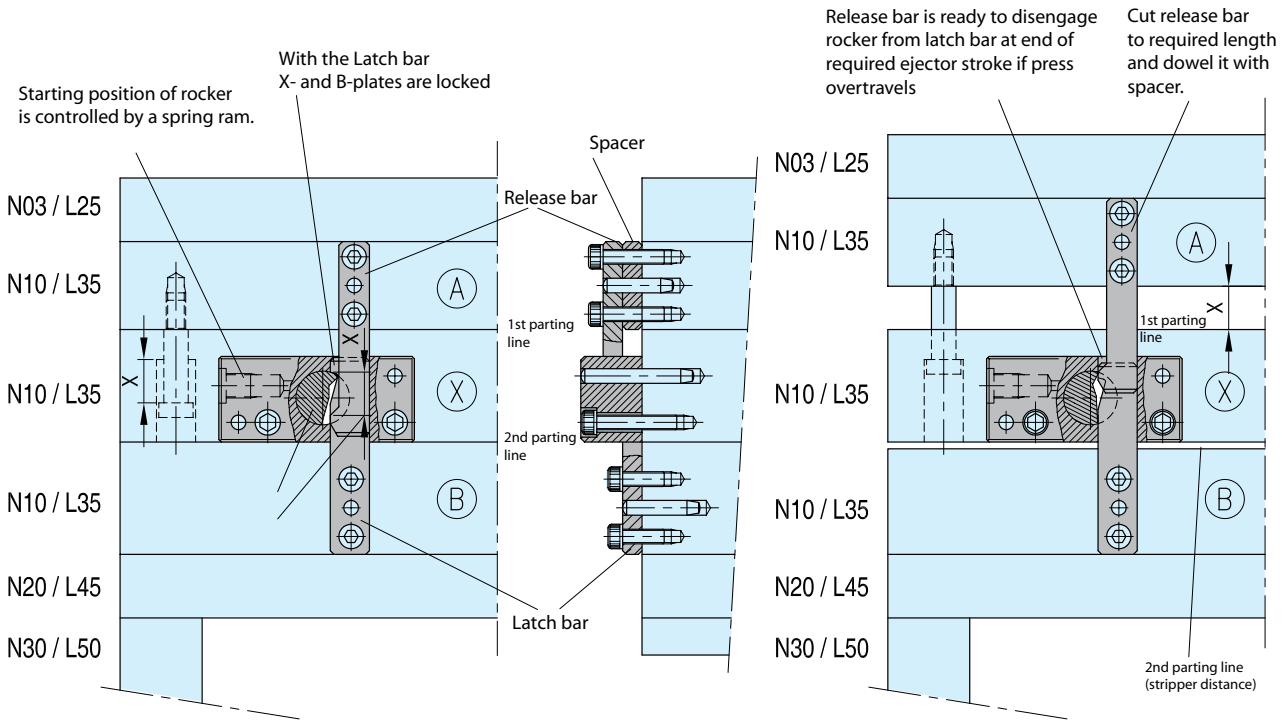
SPACER LL



REF	U	V	W	For REF
LL056E	55,0	8,0	12,0	LL051E
LL106E	75,0	12,0	20,0	LL101E
LL106	76,2	12,4	22,2	LL151
LL206	114,3	25,3	38,1	LL201

CAD reference point

INSTALLATION INSTRUCTIONS LL- 051 / LL- 101 / LL-201 JIFFY

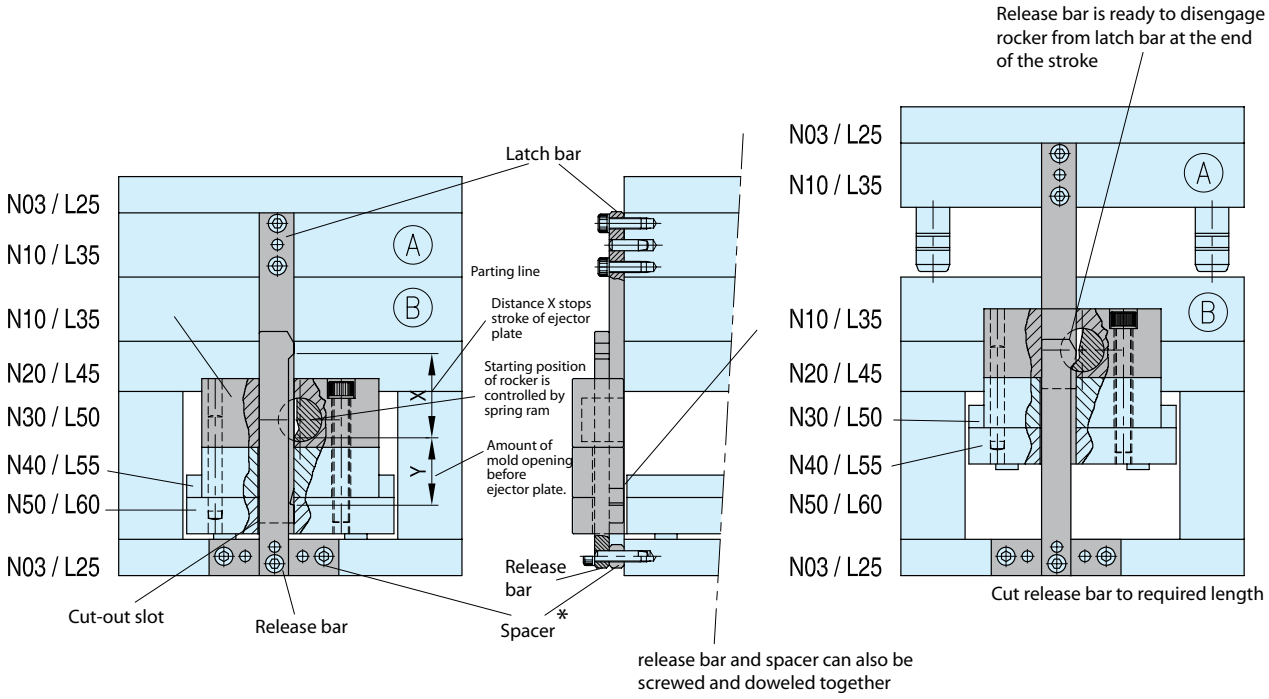


For one mould at least 2 Latch-loks are required, which are respectively mounted at outer surfaces (center of the mould).
Body must be parallel screwed and doweled at the moulding plate. Latch and release bars must be screwed at 90° to the parting line (Slotted holes facilitate final adjustment). The bars have to slide properly in the body.

Adjustment:
Both Latch-loks must be accurately adjusted. Inaccuracies can lead to canting of stripper plates and to breaking of the bars.
Latch bars and release bars must be preset when the mould is closed. Open mould and check motion sequence of bars and stripper plate. Fine tuning is necessary. Repeat this procedure until both Latch-loks work together exactly.
Then latch bar and release bar can be doweled. Before and during operation apply to all moving parts of the Latch-lok C 168 type grease.

CAD reference point

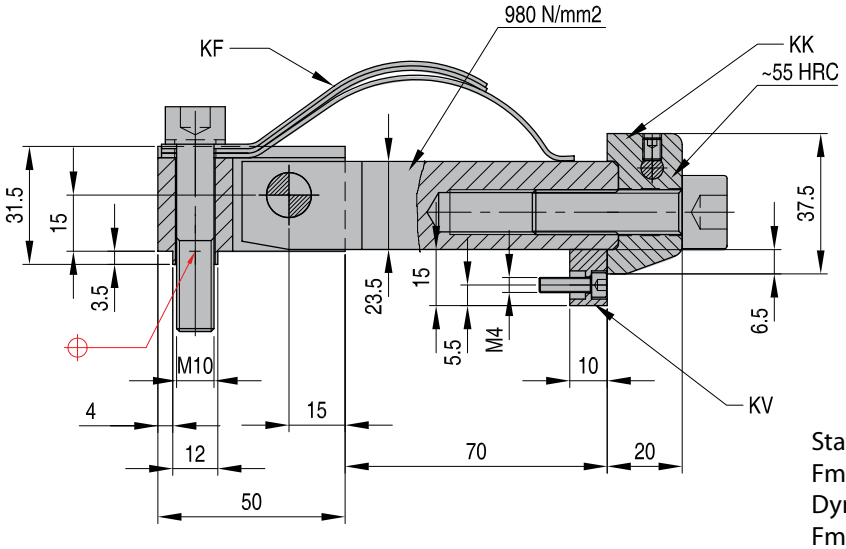
INSTALLATION INSTRUCTIONS LL-151 JIFFY



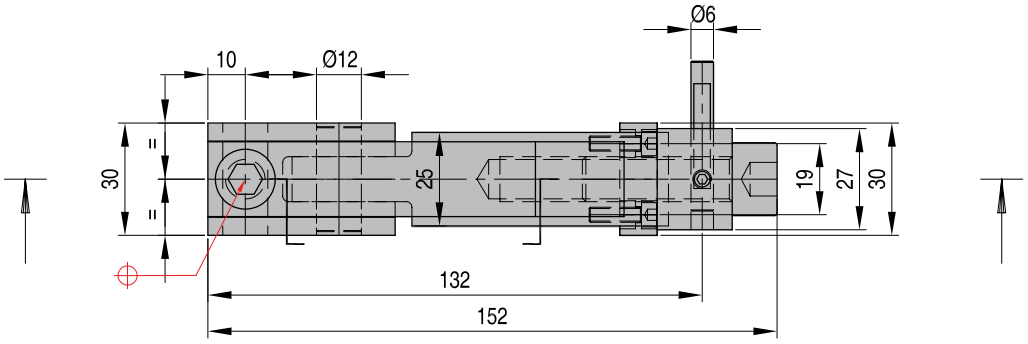
With Latch-lok LL - 151 especially the ejector plate is moved, ejector plate (N 50) has to overhang enough, so that body and, if necessary spacer* could be mounted. Body and spacer are to be screwed and doweled with N 50.
Machine cut-out slot for bars in spacer* and overhanging ejector plates.
All other installation instructions as described on LL - 051, LL - 101 and LL - 201.

CAD reference point

LATCH LOCKS KL



Static
Fmax. 40000 newton
Dynamic
Fmax. 16000 newton



REF	Includes			To be ordered seperately
KL11070	KF	KK	KV	KU

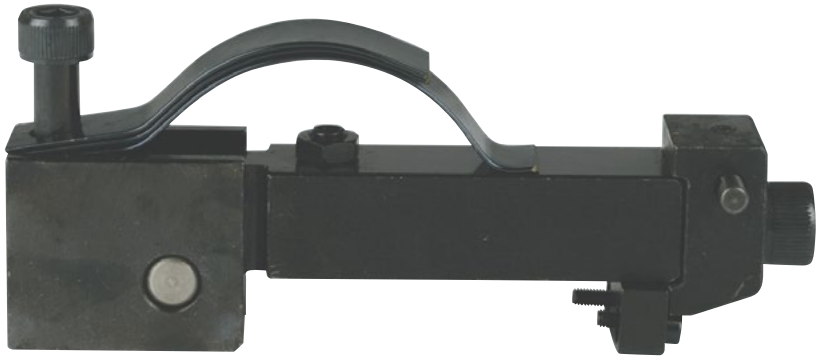
NUMBER OF COMBINATIONS

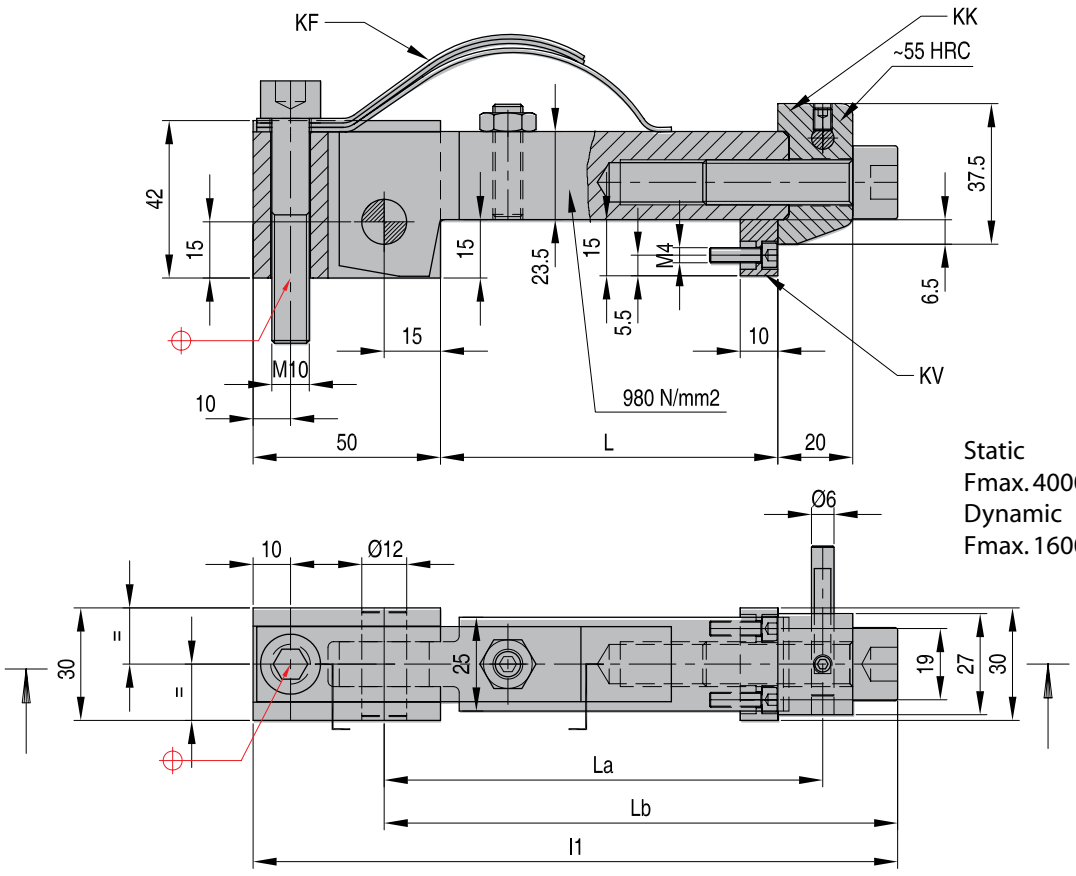
KL1/1/1
KL/1/2
KL/1/3
→ **KU1/1**, **KU/1/2**

KL2/2 → **KU/2/2**

CAD reference point

LATCH LOCKS KL



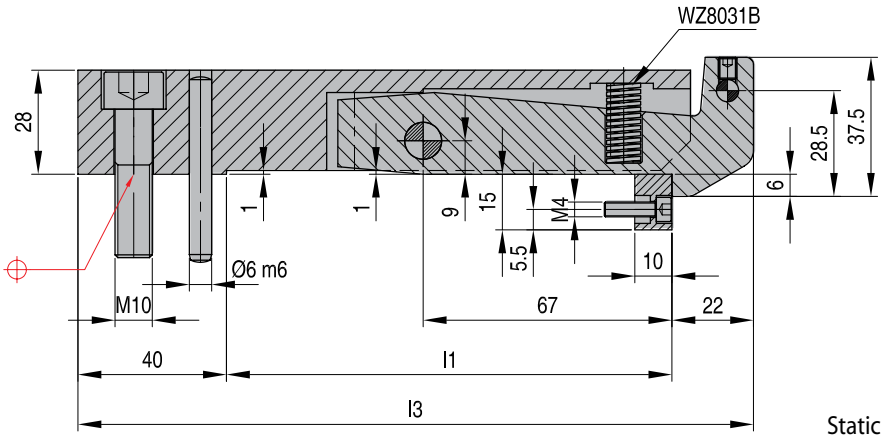


Static
Fmax. 40000 newton
Dynamic
Fmax. 16000 newton

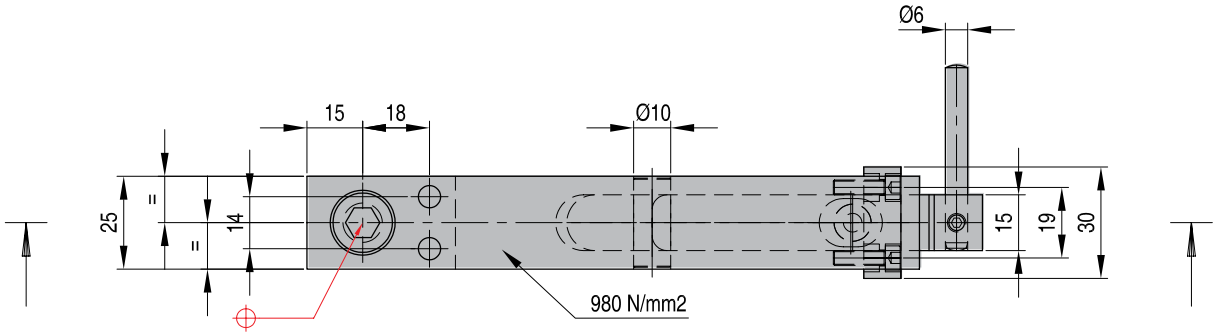
REF	L	La	Lb	l1	Includes	To be ordered seperately
KL12090	90	117	137	172	**KF/KK/KV**	**KU**
KL12170	170	197	217	252	**KF/KK/KV**	**KU**
KL12220	220	247	267	302	**KF/KK/KV**	**KU**
KL12270	270	297	317	352	**KF/KK/KV**	**KU**

CAD reference point

LATCH LOCKS KL



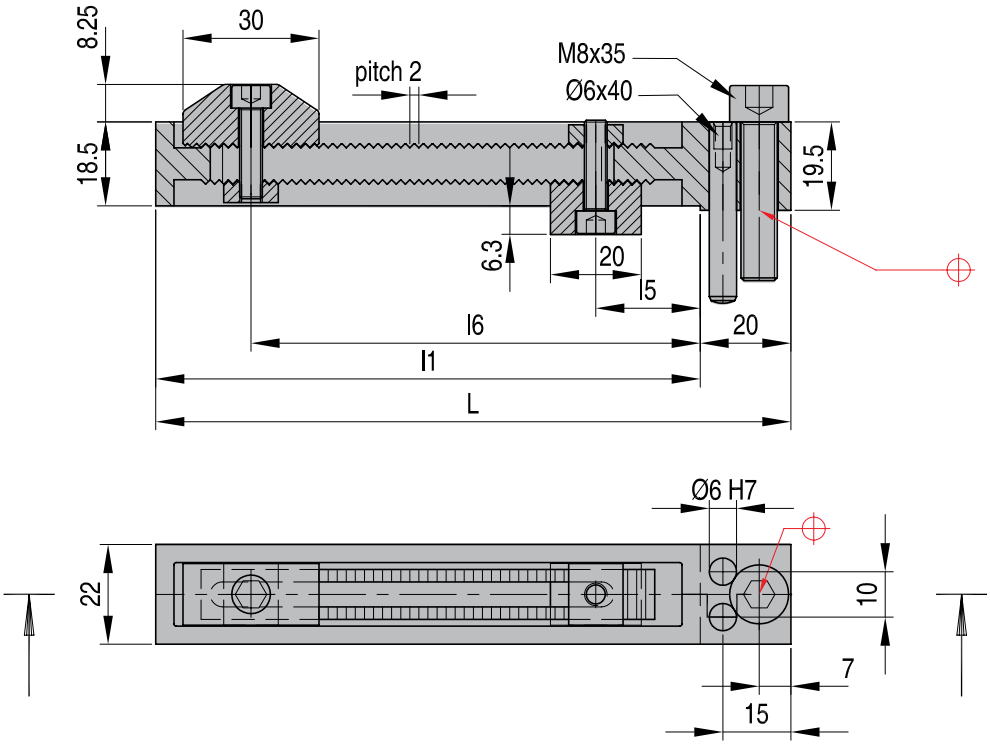
Static
Fmax. 65000 newton
Dynamic
Fmax. 30000 newton



REF	I1	I3	Includes	To be ordered seperately
KL13120	120	182	**WZ8031 B 10-025**	**KU**
KL13170	170	232		**KU**
KL13220	220	282		**KU**

CAD reference point

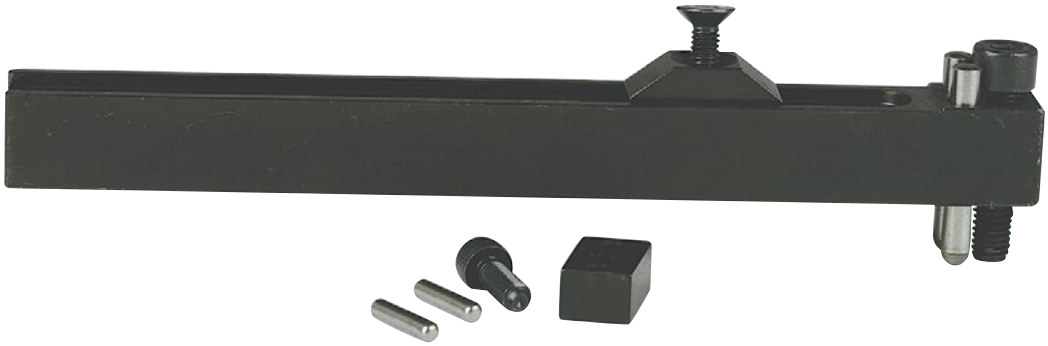
BAFFLE BAR KU

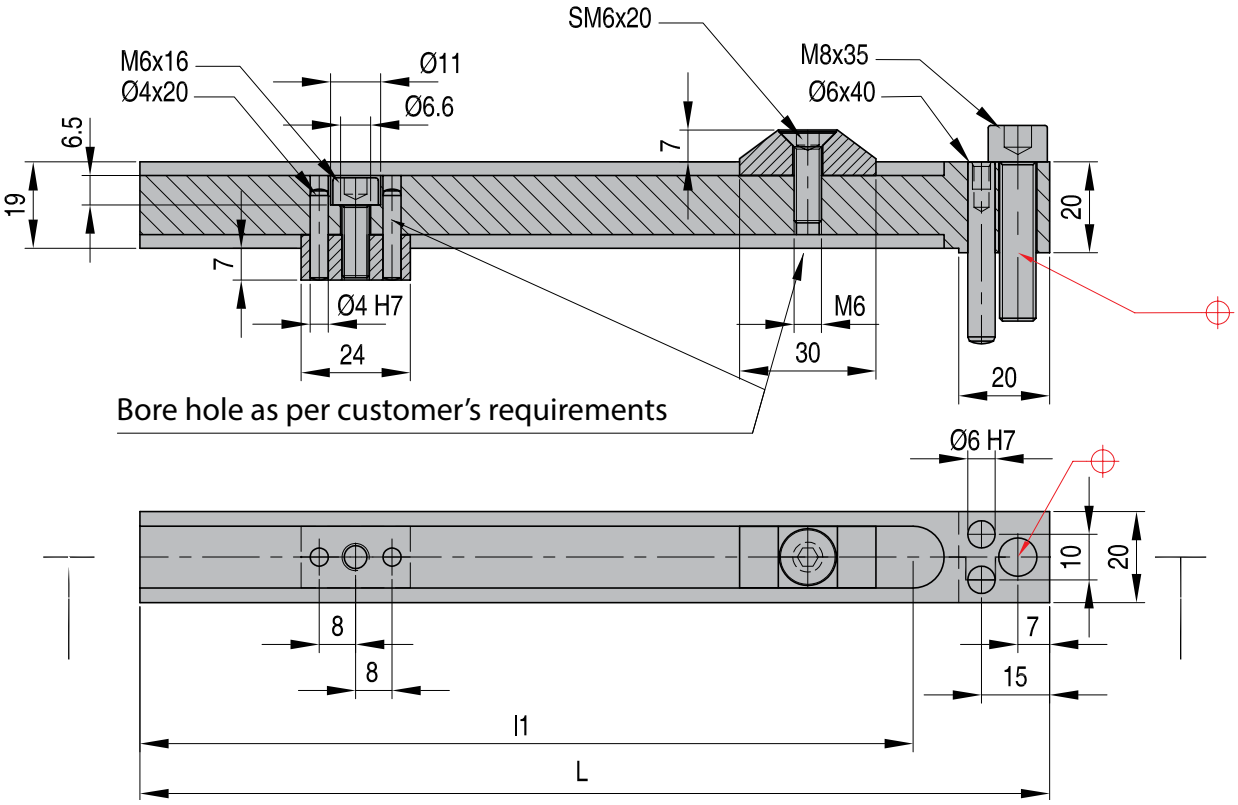


REF	L	l1	l5 min.	l5 max.	l6 min.	l6 max.
KU11140	140	120	23	105	23	99
KU11204	204	184	23	169	23	163
KU11254	254	234	23	219	23	213

CAD reference point

BAFFLE BAR KU

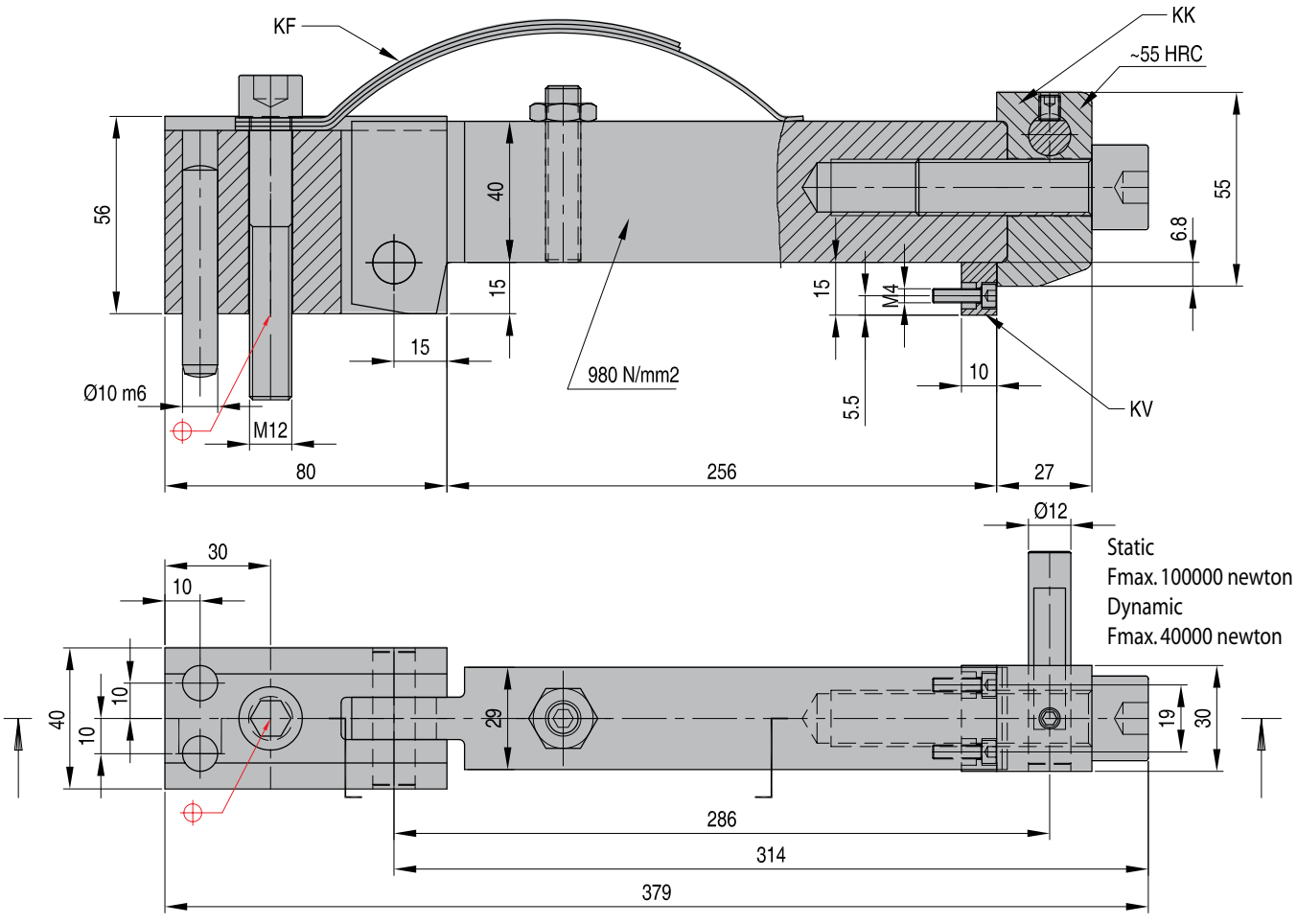




REF	L	l1
KU12200	200	170
KU12250	250	220
KU12300	300	270

CAD reference point

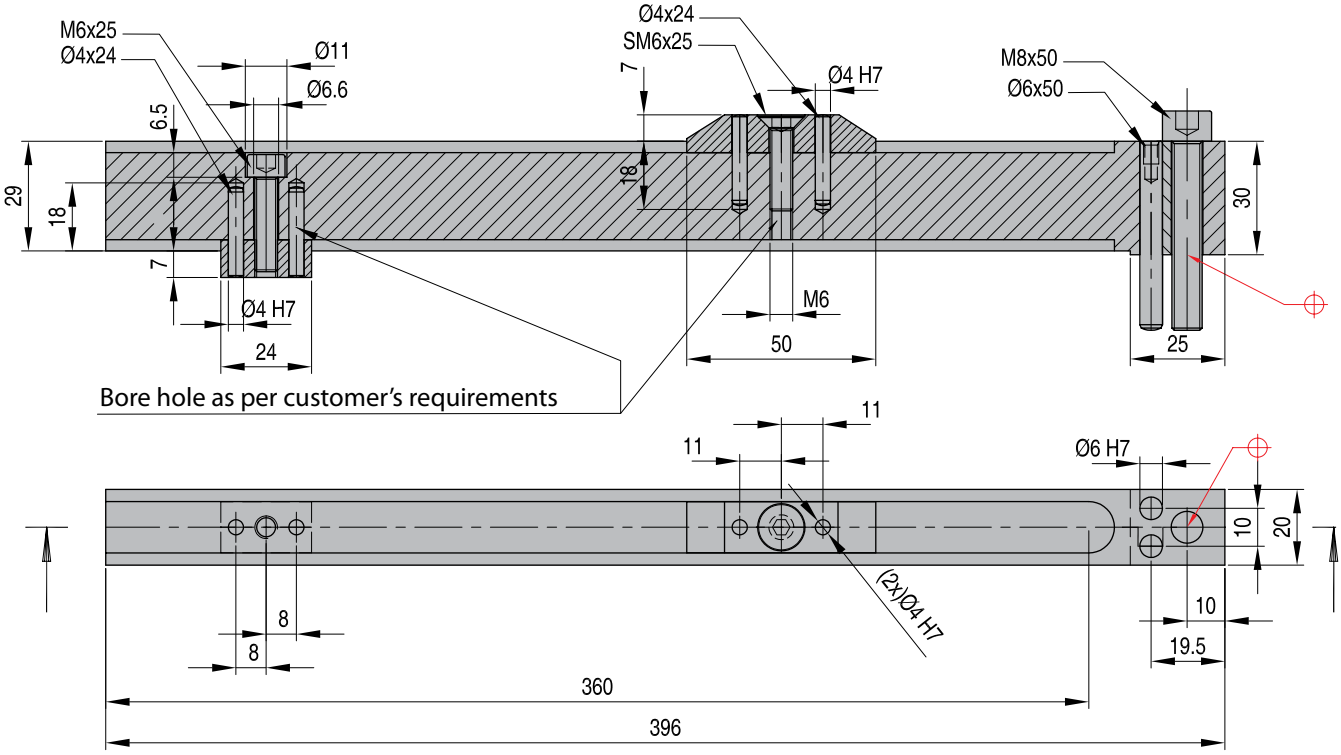
LATCH LOCKS KL



REF	Includes			To be ordered seperately
KL22256	KF	KK	KV	KU

CAD reference point

BAFFLE BAR KU

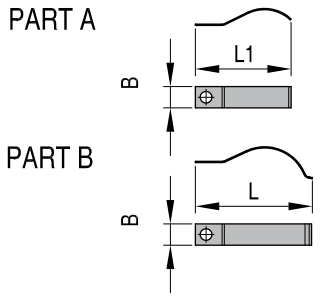


REF for KL22256
KU22400

CAD reference point

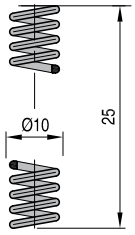
LATCH LOCKS

SPRINGS — KF



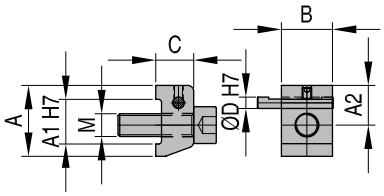
REF	PART A	PART B	B	L1	L	FOR LATCH LOCK
KF12070090170	2x	1x	20	90	110	**KL11070 KL12090 KL12170**
KF12220270			20	127	157	**KL12220**
KF22256			25	127	157	**KL22256**

SPRINGS — WZ 8031



REF	
WZ8031E10025BL	FOR ALL KL13*

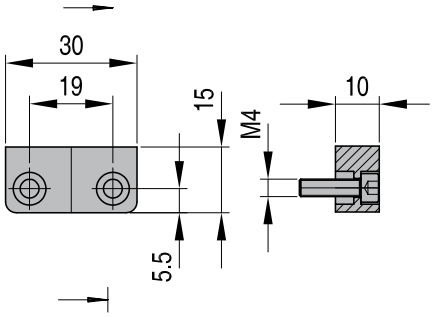
HEADS — KK



KK 11-12 for latch lock KL11070 / KL12170 / KL12220 / KL12270
KK 22 for latch lock KL22256

REF	A	A1	A2	M	D	B	C
KK11012	37,5	23,6	21	157	6	27	20
KK22	55	40	26,95	157	12	30	27

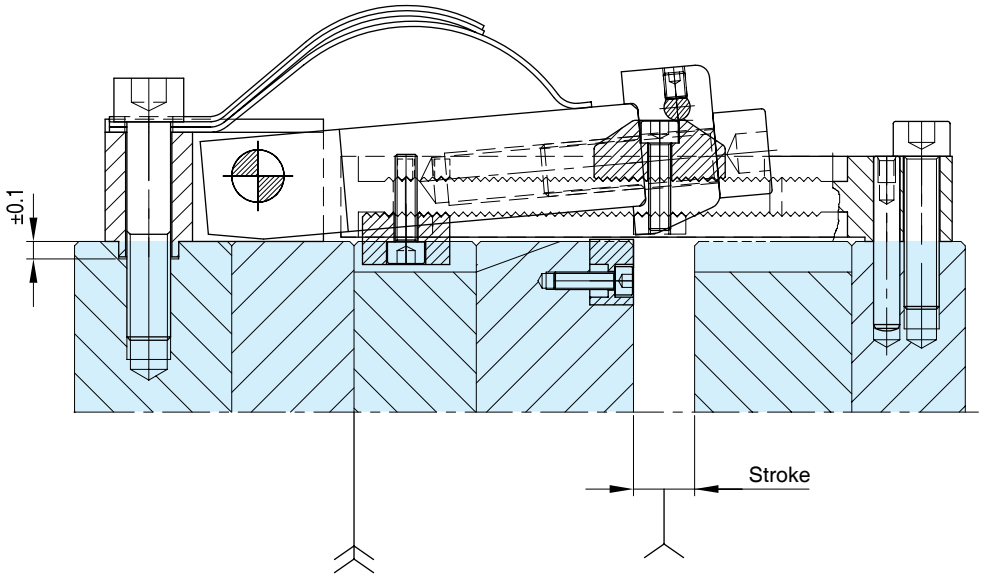
WEARING BARS — KV

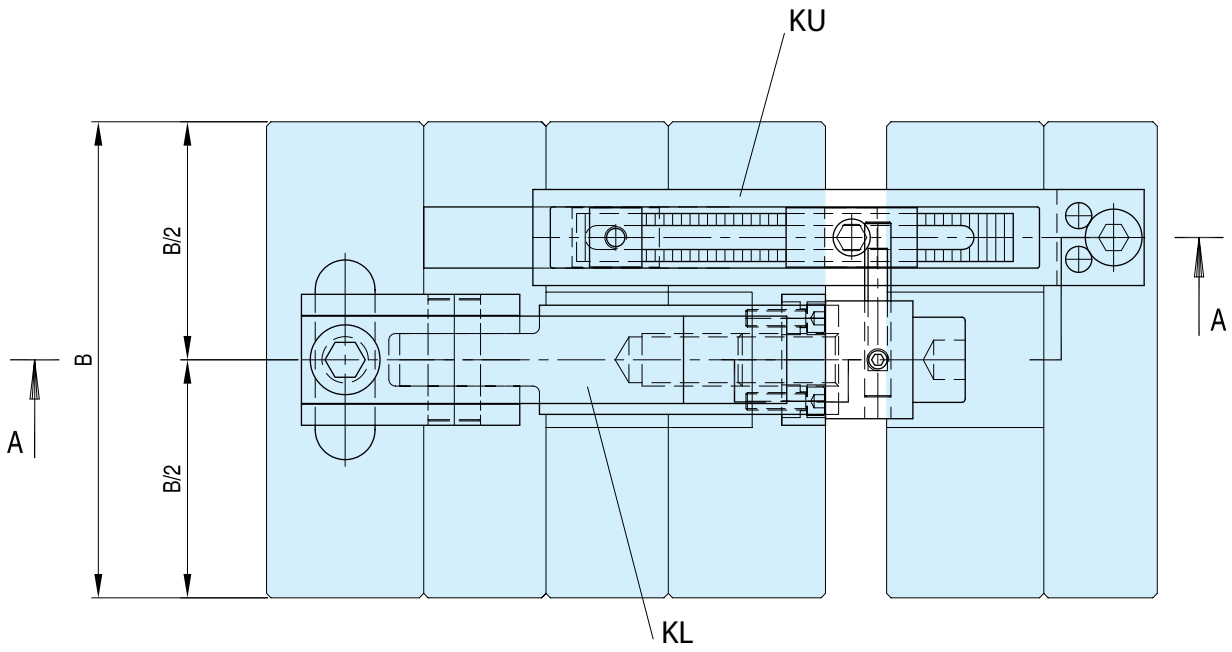


REF	
KV11022	FOR ALL KL

CAD reference point

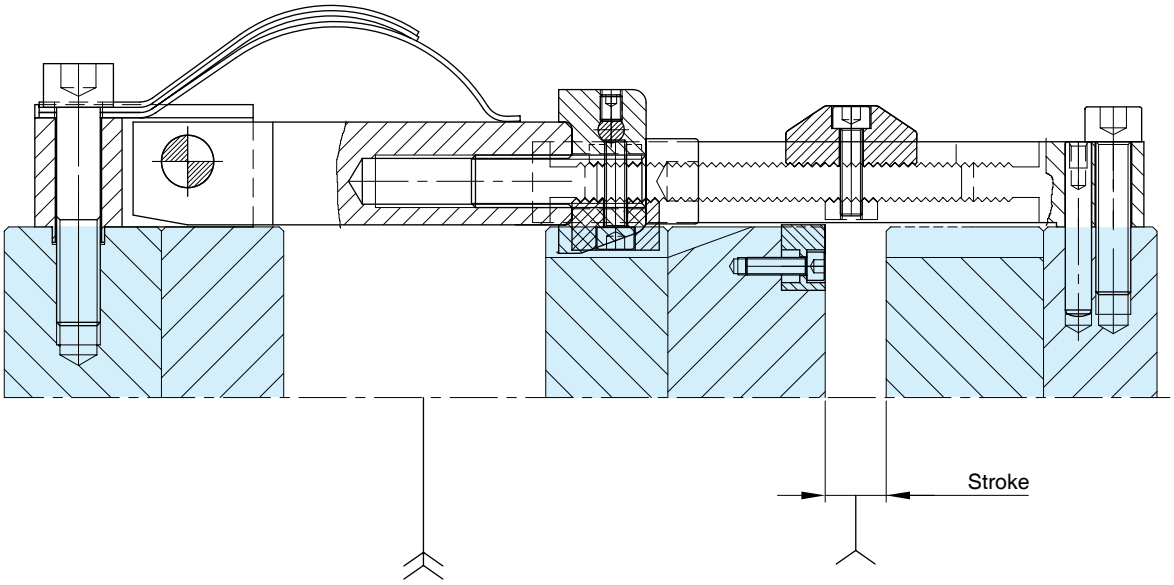
EXAMPLE KL-KU

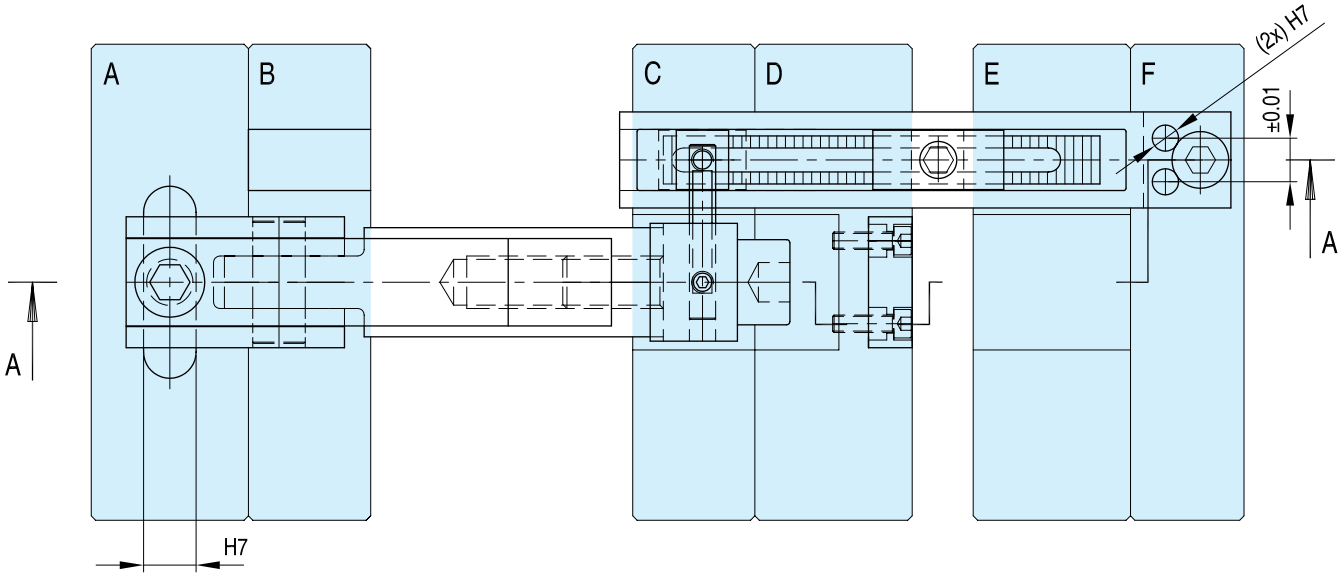




CAD reference point

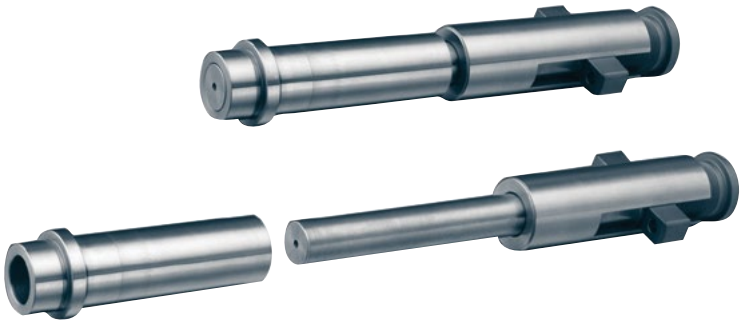
EXAMPLE KL-KU



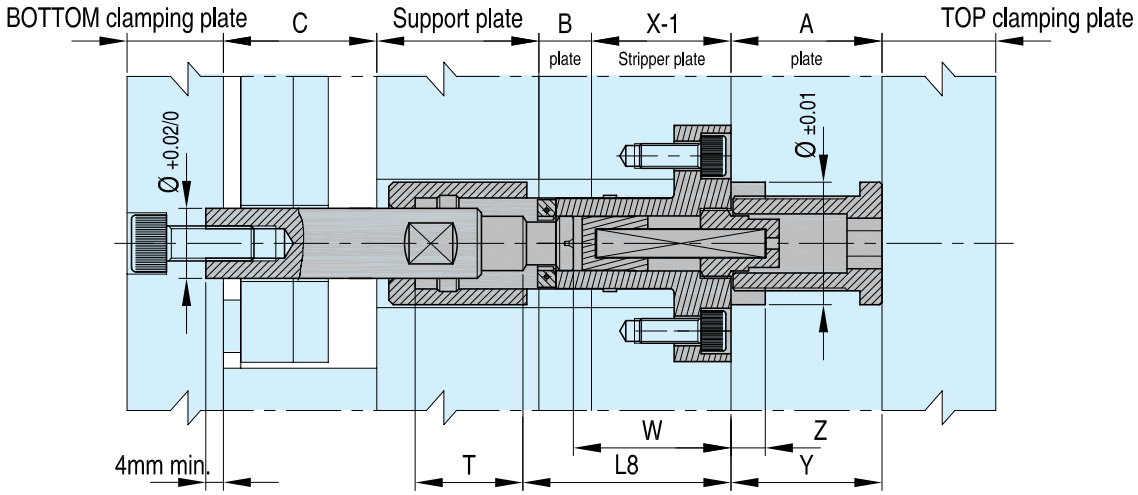


CAD reference point

INTERNAL LATCH LOCK DKL



DME's unique internally-mounted latch lock mechanism adapts to a number of mould base sizes and plate thicknesses. It is available in three sizes to accommodate most standard **DME** stripper plate mould bases. Two travel ranges and two center puller pin lengths are available for each of the three latch lock sizes. Once installed, **DME**'s internal latch locks control the sequence of one parting line opening after the first parting line has traveled a predetermined distance. After installation there are no adjustments that can be accidentally changed. The internal latch locks are most commonly used on **DME** stripper plate mould bases.



Basic Latch ∅	REF	Travel Range (1) Min./Max.	Center Puller Pin Length Options	Recommended max. Standard DME Mould Base Width	Max. Recommended Load Values Static - Dynamic	L8 Body	W(2) Puller Pin	Y(3) Mounting Plate	Z(4) C'Bare Depth
28 Small	**DKL2811**	5 -> 30	140	296	10 kN - 100 kg	40	23 ±0,1	22 -> 35	10 $^{+0,04}_{0}$
	DKL2812		250						
	DKL2821	30 -> 55	140						
	DKL2822		250						
34 Medium	**DKL3411**	6 -> 41	160	396	20 kN - 200 kg	51	32 ±0,1	27 -> 47,6	12 $^{+0,04}_{0}$
	DKL3412		280						
	DKL3421	41 -> 76	160						
	DKL3422		280						
45 Large	**DKL4511**	12 -> 58	200	596	30 kN - 380 kg	68	43 ±0,1	35 -> 60	16 $^{+0,04}_{0}$
	DKL4512		310						
	DKL4521	58 -> 104	200						
	DKL4522		310						

(1) Supplied to provide maximum travel with no cutoff. To reduce travel between maximum and minimum, cut off slotted travel limiting sleeve on threaded end only per installation data. Cut off to no less than minimum travel; maintain close tolerances per installation data.

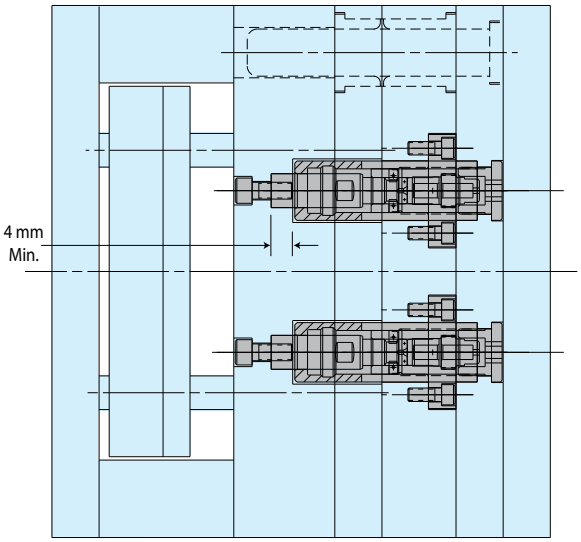
(2) This set-up dimension is critical and must be maintained as specified to properly locate pin and cam body to latch. Dimension W is from top of X-1 stripper plate to top end of center puller pin. See installation data for additional information.

(3) "Y" mounting plate dimension will be the "A" plate for stripper plate mould bases.

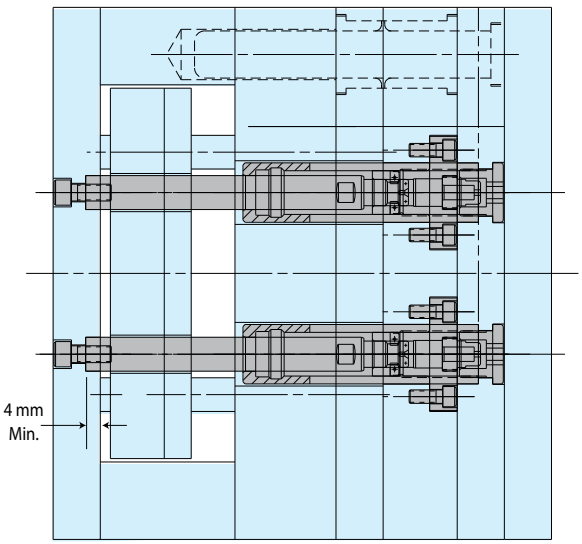
(4) This counterbore depth is critical and must be maintained as specified to locate split sleeve, cam body and pin to latch.

CAD reference point

INTERNAL LATCH LOCK DKL



Internal Latch Lock application with center puller pins mounted in the support plate. This is typically done in applications where the travel is shorter and/or when mould plates are thicker.



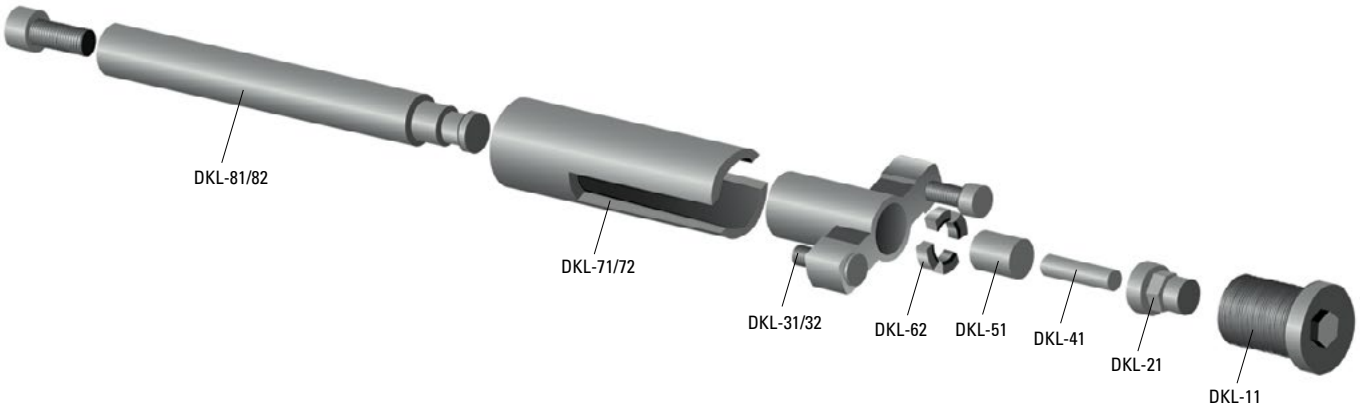
Internal Latch Lock application with center puller pin mounted in the bottom clamping plate. This is typically done in applications where the travel is longer and/or when mould plates are thinner. (Some applications may require a thicker than standard bottom clamping plate.)

Basic selection and application design guidelines

1. Select the appropriate internal latch lock size – 28 mm diameter (small), 34 mm diameter (medium), or 45 mm diameter (large) based on the width of the mould base. However, large moulds, thick plates or heavy load applications may require the next largest size assembly than is specified.
2. Select the appropriate travel range from the two choices for each size. This selection is based on the specific application requirements for the amount of travel that must occur at one parting line prior to the latch being released. The total travel requirements are based on the amount needed for the application as explained above, plus 3 mm minimum additional allowance. This added 3 mm minimum will make sure the full required travel has occurred before the latch lock starts its releasing action.
3. Select the appropriate length for the center puller pin from the two choices for each size. The length of the pin is determined by the specific application including the mould base plate thicknesses, where the pin will be mounted, etc. If possible, the center puller pin should be mounted in the support plate. However, some applications require the center puller pin to be mounted in the bottom clamping plate. This will depend on the travel or the length of the split sleeve component which controls the travel and the plate thicknesses in the mould base.
4. A minimum of four assemblies are recommended per mould. However, for larger moulds, thick plates, or an application where loads are near maximum, additional assemblies and/or next largest size assemblies may be required. An application must never exceed the maximum recommended load values. A balanced load must be maintained to avoid cocking and binding which could cause severe overloading. Only one size latch lock assembly should be used in each mould base.
5. The center puller pin should be counterbored into its mounting plate 4 mm minimum for most applications, as shown in the drawings at right. This counterbore aligns the center puller pin with the other components in the assembly.
6. It is important to make sure that the leader pin lengths in all applications are long enough to fully engage the stripper plate through its full travel. The latch lock mechanism latches two plates together but is not intended to provide guidance. Instead it relies on the leader pins in the mould for proper alignment and support of the actuated stripper plates.
7. In the fully latched position the internal latch lock mechanism will allow movement of approximately 0.4 mm for the 28 mm diameter and 34 mm diameter assemblies and approximately 0.5 mm for the 45 mm diameter assemblies.
8. Injection moulding machine mould opening speed may have to be reduced in order to make sure that excessive shock loading does not occur.
9. The Internal Latch Lock is not recommended for severe load applications.
10. The Internal Latch Lock must not be exposed to temperatures that exceed 150°C at any time.
11. An optional sleeve can be added to the Latch Lock that provides two additional functions. However, this optional sleeve is not required for the Latch Lock function. The optional sleeve can be added to incorporate guided ejection and/or normal ejector assembly return functions in the mould.

CAD reference point

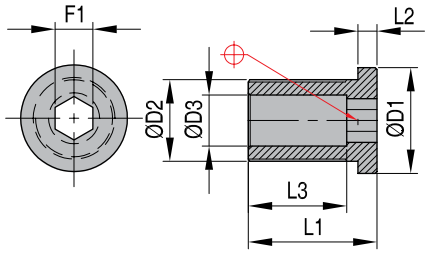
INTERNAL LATCH LOCK DKL



Basic Latch Size Ø	Plate Latching Assembly	Assembly Retaining Screw	Spring Retainer	Body for Cam Fingers without Cam Fingers	Body for Cam Fingers with 4 Cam Fingers*	Cam finger Replacement kit**	Spring for Holding Pin	Holding Pin For Cams	Slotted Travel Limiting Sleeve		Center Puller Pin	
	REF	DKL 11	DKL 21	DKL 31	DKL 32	DKL 62	DKL 41	DKL 51	DKL 71/72	T ravel range	DKL 81/82	Length
28 Small	DKL2811	DKL2011	DKL2021	DKL2031	DKL2032	DKL2062	DKL2041	DKL2051	DKL2071	5 - 30	DKL2081	140
	DKL2812										DKL2082	250
	DKL2821								DKL2072	30 - 55	DKL2081	140
	DKL2822										DKL2082	250
34 Medium	DKL3411	DKL3011	DKL3021	DKL3031	DKL3032	DKL3062	DKL3041	DKL3051	DKL3071	6 - 41	DKL3081	160
	DKL3412										DKL3082	280
	DKL3421								DKL3072	41 - 76	DKL3081	160
	DKL3422										DKL3082	280
45 Large	DKL4511	DKL4011	DKL4021	DKL4031	DKL4032	DKL4062	DKL4041	DKL4051	DKL4071	12 - 58	DKL4081	200
	DKL4512										DKL4082	310
	DKL4521								DKL4072	58 - 104	DKL4081	200
	DKL4522										DKL4082	3100

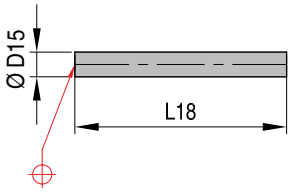
CAD reference point

ASSEMBLY RETAINING SCREW — DKL11



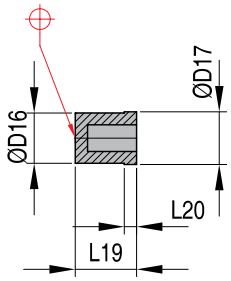
REF	Size	D1	D2	D3	L1	L2	L3	F1
DKL2011	Small	28	M22x1,25	13,5	34	5	26	10
DKL3011	Medium	33	M26x1,5	16	46	6	35	12
DKL4011	Large	42	M34x1,5	18,4	59	10	42	14

SPRING FOR HOLDING PIN — DKL41



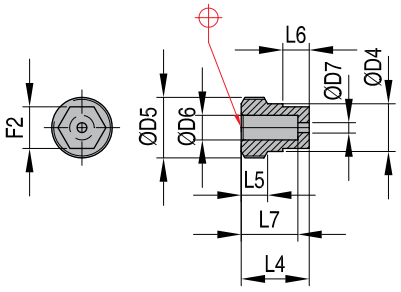
REF	Size	D15	L18
DKL2041	Small	6,5	56
DKL3041	Medium	8	70
DKL4041	Large	9,7	90

HOLDING PIN FOR CAMS — DKL51



REF	Size	D16	D17	L19	L20
DKL2051	Small	12,3	12,9	15	3
DKL3051	Medium	14,4	15,4	23	5
DKL4051	Large	19,4	20,4	32	7

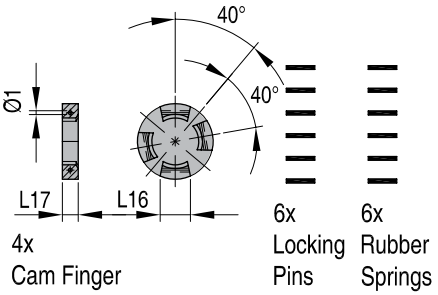
SPRING RETAINER — DKL21



REF	Size	D4	D5	D6	D7	L4	L5	L6	L7	F2
DKL2021	Small	12,6	M16x1	6,8	2,6	18	7	7	15	11
DKL3021	Medium	15,0	M19x1	8,3	3,0	21	8	8	17	13
DKL4021	Large	17,2	M24x1	10,0	3,5	25	10	9	21	15

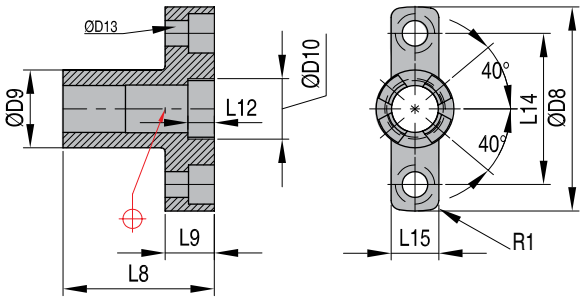
CAD reference point

CAM FINGER REPLACEMENT KIT — DKL62



REF	Size	L16	L17
DKL2062	Small	5,8	4,2
DKL3062	Medium	7,2	4,8
DKL4062	Large	9	6,0

BODY FOR CAM FINGERS-WITH CAM FINGERS — DKL32

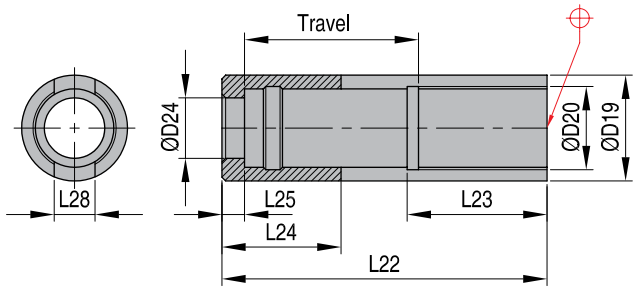


											D13			
REF	**Size**	**D8**	**D9**	**D10**	**L8**	**L9**	**L12**	**L14**	**L15**	**R1**	**Drill Ø**	**C'bore Ø**	**C'bore depth**	**Metric S.H.C.S.**
DKL2032	Small	54	20,6	M16x1	40	13	7	40	12,6	2,5	6,8	10,4	6,8	M6x1
DKL3032	Medium	60	24,4	M19x1	51	15	8	46	12,6	2,5	6,8	10,4	6,8	M6x1
DKL4032	Large	78	32,4	M24x1	68	20	10	60	17	4	8,4	13,7	8,5	M8x1,25

CAD reference point

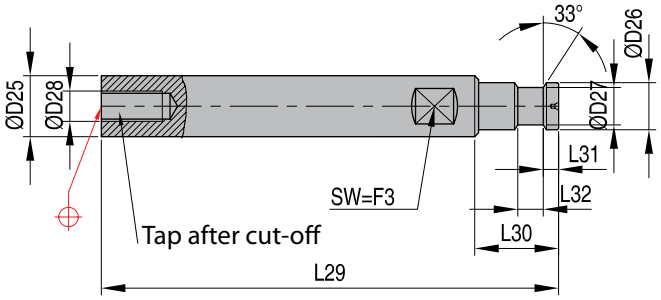
LATCH LOCKS

SLOTTED TRAVEL LIMITING SLEEVE — DKL71/72



REF	Size	Travel Range Min./Max.	L22	D19	D20	D24	L23	L24	L25	L28
DKL2071	Small	5->30	86	28	M22x1,25	16	37	31,5	6	10,8
DKL2072		30->55	111							
DKL3071	Medium	6->41	111	34	M26x1,5	19	49	41	7	12,8
DKL3072		41->76	146							
DKL4071	Large	12->58	152	45	M34x1,5	26	65	56	10	17,3
DKL4072		58->104	198							

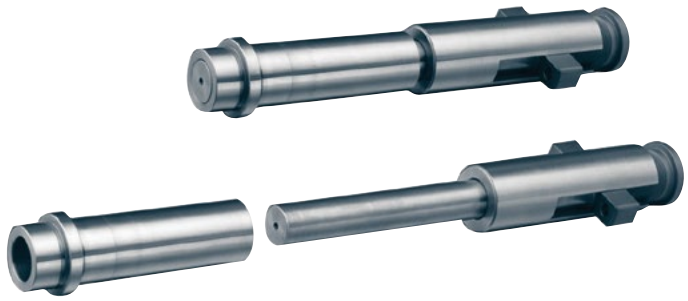
CENTER PULLER PIN — DKL81/82



REF	Size	L29	D25	D26	D27	L30	L31	L32	F3	D28 Metric
DKL2081	Small	140	16	12,4	9,8	21	4	6,7	13	M8x1,25
DKL2082		250								
DKL3081	Medium	160	19	14,5	11,7	24	4,6	7,6	15	M10x1,5
DKL3082		280								
DKL4081	Large	200	26	19,5	15,9	31	5,5	9,5	22	M12x1,75
DKL4082		310								

CAD reference point

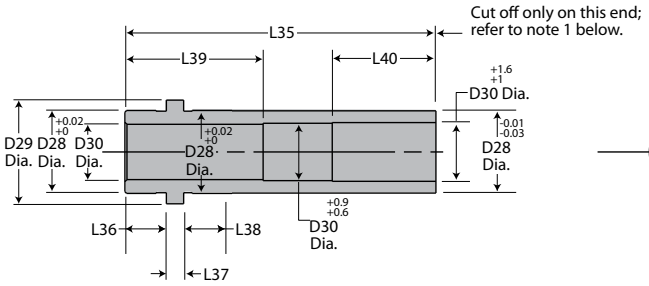
GUIDED EJECTION SLEEVE DKL

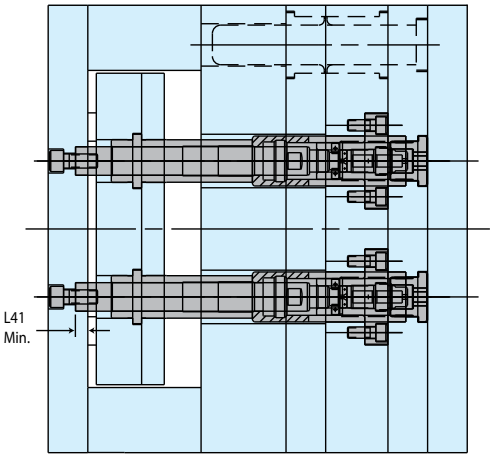


Add guided ejection and return pin functions to Internal Latch Lock mechanism with this optional sleeve

The optional Guided Ejection and Return Sleeves, although not required for the Internal Latch Lock, can add two functions to the mould base that are typically required in most moulds. These optional sleeves can add guided ejection and ejector assembly return functions to the mould base. Additionally, these added functions fall within the space requirements of the plate latching mechanism. However, these optional sleeves do not create an early ejection return system that is occasionally required in some applications.

- Sleeves can add guided ejection function to mould base along with plate latching mechanism
- Sleeves can replace function of return pins in mould base for most applications using the plate latching mechanism
- Sleeves fit around the center puller pin of the plate latching mechanism and are mounted in the ejector assembly, thus eliminating the need for additional mould space usually required for the guided ejection and return pin functions





Basic Latch Size	REF Latching Assembly	Optional – Guided Ejection and Return Sleeve Features										
		REF Sleeve	L35 Length	D28 Ø	D29 Ø	D30 Ø	L36 Length	L37 Thickness	L38 Length	L39 Length	L40 Length	L41 Min.
28 (Small)	**DKL2811**	DKL2101	90	24	30	16	12	5	14	40	30	12
	DKL2812											
	DKL2821	DKL2102	140	24	30	16	12	5	14	40	30	12
	DKL2822											
34 (Medium)	**DKL3411**	DKL3101	110	28	35	19	14	6	16	50	35	15
	DKL3412											
	DKL3421	DKL3102	160	28	35	19	14	6	16	50	35	15
	DKL3422											
45. (Large)	**DKL4511**	DKL4101	140	38	46	26	18	8	20	70	40	20
	DKL4512											
	DKL4521	DKL4102	200	38	46	26	18	8	20	70	40	20
	DKL4522											

Notes:

1. Choose the appropriate length sleeve so that it can be cut off to a length that will fully return the ejector assembly. See installation data.
2. The center puller pins must support and guide the sleeves, as well as the ejector assembly. The pins must have sufficient bearing surface contact as specified by dimension "L41" minimum.
3. Additional bearing surface contact for the center puller pins may require a thicker bottom clamping plate or the addition of another plate to the bottom of the mould for some applications.

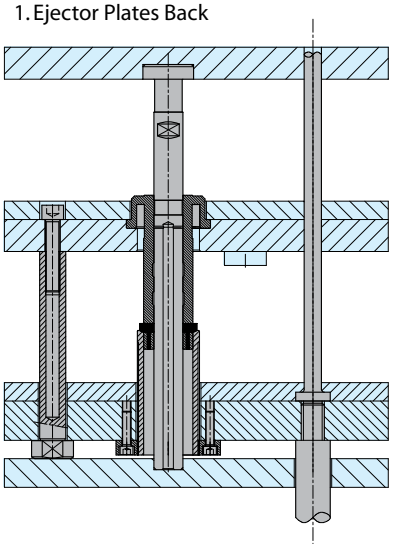
4. A minimum of four assemblies are typically recommended per mould. However, for larger moulds, thick plates, or an application where loads are near maximum, additional assemblies and/or next largest size assemblies may be required. An application must never exceed the maximum recommended load values. A balanced load must be maintained to avoid cocking and binding which could cause severe overloading. Only one size Latch Lock assembly should be used in each mould base.

CAD reference point

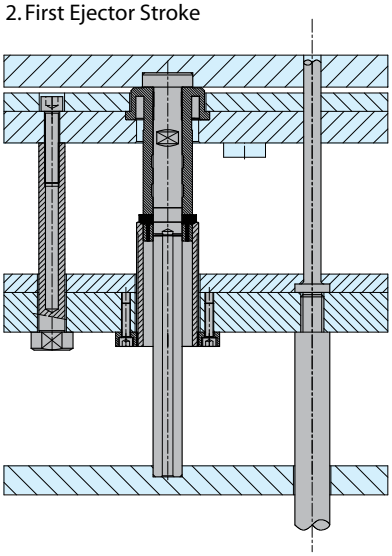
TWO-STAGE SINGLE-STROKE EJECTOR **FW1800**

2-stage ejectors are used in situations where two ejection sequences are required, for example, to demould undercuts with inclined cores or ensure that slides do not collide with ejector pins. **DME**'s range of two-stage ejectors systems offer two types of functionality.

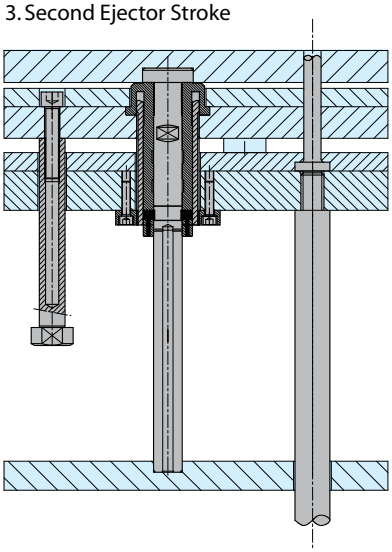
1. Ejector Plates Back



2. First Ejector Stroke

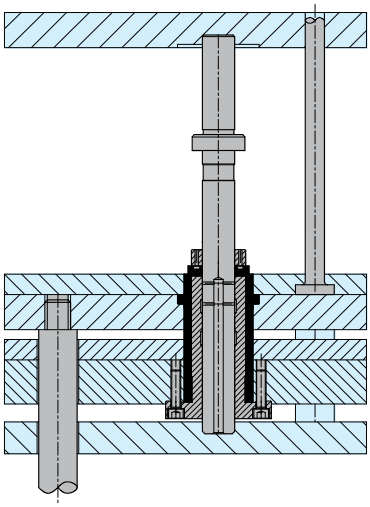


3. Second Ejector Stroke

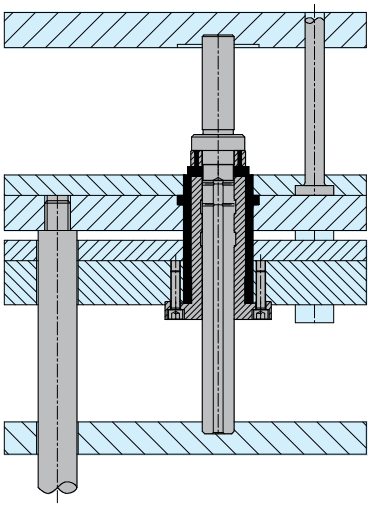


"Bottom last" using FW 1850 and TSBL types: 1st movement: both sets of ejector plates, 2nd movement: bottom set of ejector plates.

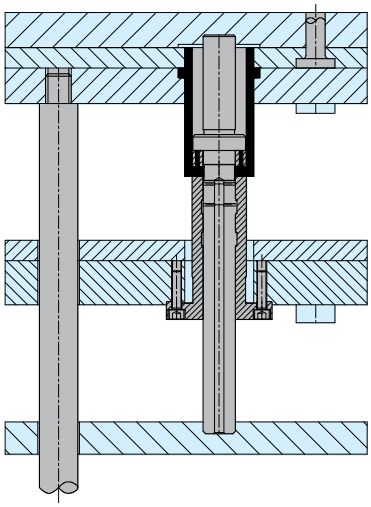
1. Ejector Plates Back



2. First Ejector Stroke

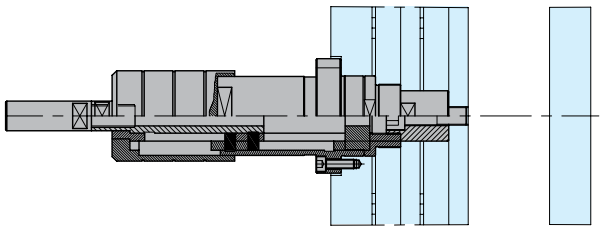


3. Second Ejector Stroke

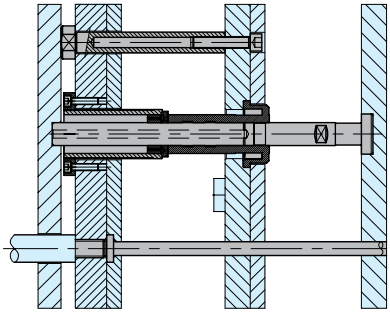


"Top last" using FW 1800 and TSTL types: 1st movement: both sets of ejector plates, 2nd movement: top set of ejector plates.

FW1800 & FW1850



TSTL & TSBL

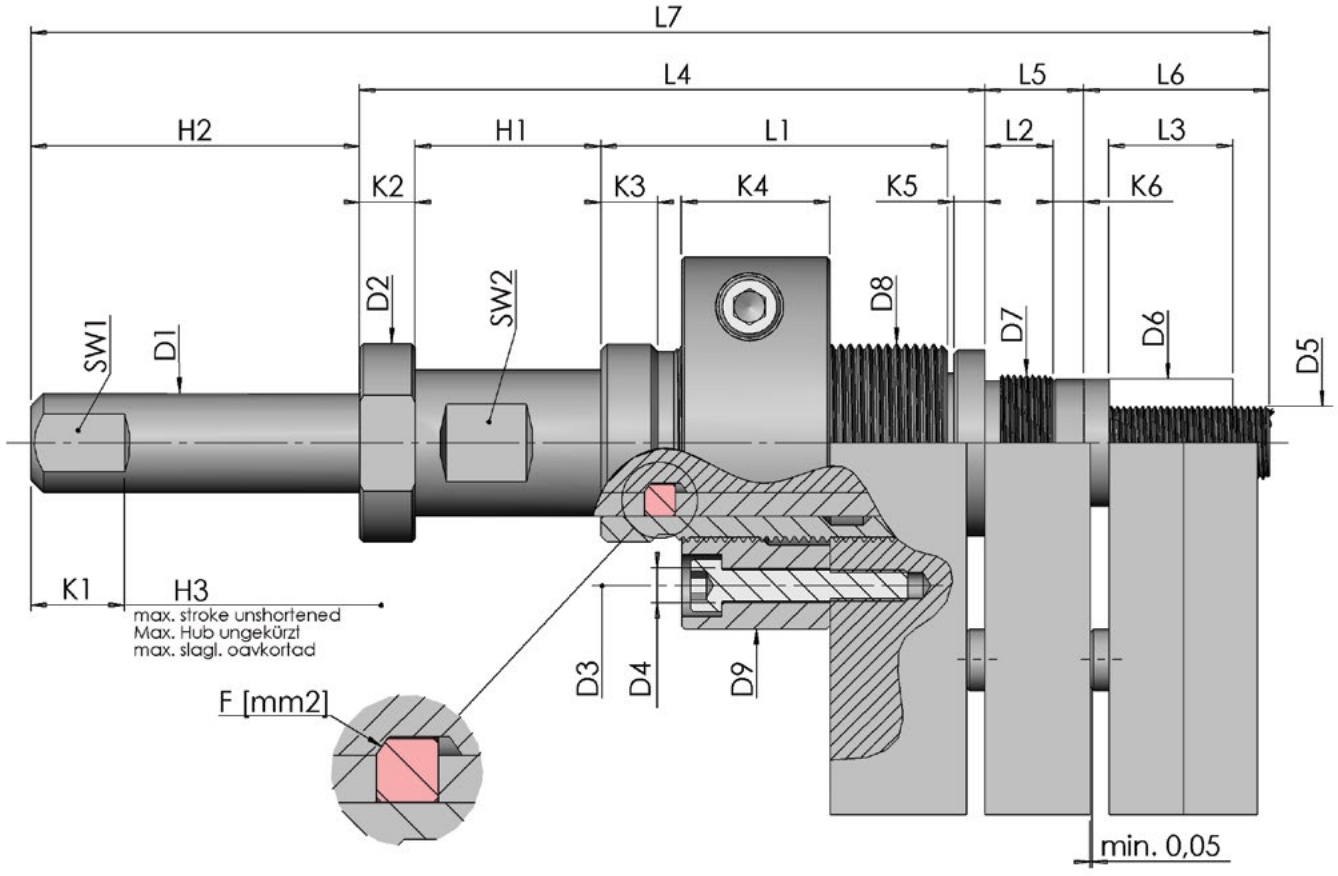


Furthermore, two versions of installation are available:
Central mounted using FW 1800 and FW 1850: this is the simplest installation for smaller, less complex moulds. A single unit (FW 1800 or FW 1850) is connected directly to the machine ejector rod.

Off-centre mounted using TSTL and TSBL: fully contained inside the mould preventing interference and accidental tampering. Useful where the central space is not available. Two or four units are used allowing larger moulds.

CAD reference point

TWO-STAGE SINGLE-STROKE EJECTOR **FW1800**

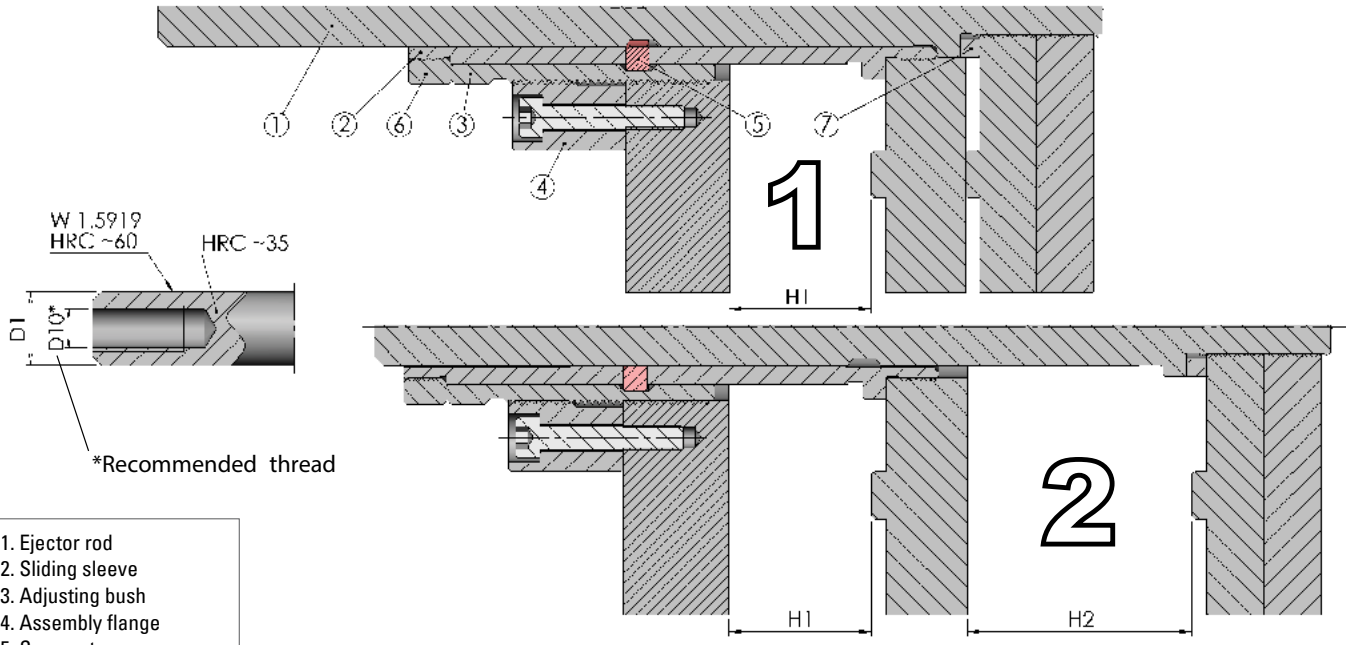


REF	D8	D1	D5	D7	D9	D3	D4	D2	D6	D10
FW1800M321-5	M32x1,5	16	M12x1,0	M22x1,0	60	46	M5	32	20,6	M10
FW1800M421-5	M42x1,5	22	M16x1,5	M30x1,5	80	62	M6	42	28,0	M14
FW1800M521-5	M52x1,5	28	M20x1,5	M38x1,5	90	72	M8	53	36,0	M16
FW1800M621-5	M62x1,5	37	M24x1,5	M48x1,5	102	80	M8	64	44,0	M20

REF	L7	L6	L4	L2	L1	L3	L5	H1	H2	K1	K6	K2	K5	K3	K4	SW1	SW2	F mm²
FW1800M321-5	200	30	101	11	56	20	16	5-30	50	16	5	9,0	5	8	24	13	20	56
FW1800M421-5	266	40	132	16	75	30	22	10-40	70	20	6	9,0	6	10	30	17	27	100
FW1800M521-5	285	45	134	16	75	35	22	10-40	80	22	6	10,5	8	12	30	22	35	152
FW1800M621-5	300	50	140	16	80	40	22	10-40	80	22	6	10,5	8	12	30	30	44	215

CAD reference point

TWO-STAGE SINGLE-STROKE EJECTOR — Assembly FW1800



1. Ejector rod
2. Sliding sleeve
3. Adjusting bush
4. Assembly flange
5. Segments
6. Stopring
7. Spacer

Fitting:
1. Mount ejector rod no. 1 together with ejector plate. For safety please use LOCTITE C 242.
2. Move over parts no. 2, 3 and 4 together and tighten up part no. 3 (SW2 see chart).
3. Tighten up adjusting bush no. 3 with assembly flange no. 4.
4. Fix assembly flange.

Recommended lubricants: C 135, C 138/139, C 170, etc.

Installation instructions:
This device is preferably screwed together with the hydraulic machine ejector.
The required internal or external thread of part no. 1 has to be made adequately. The ejector rod no. 1 may not be shortened by more than length k1, if the total stroke h3 (h3= h1 + h2), including a possible deeper run in of part no. 1 into part no. 2, is not be maintained.
By rotating adjustment of bush no. 3 the first stroke h1 is continuously adjusted. With stroke h1 both ejector pin plates are moved simultaneously. On the following stroke h2 only the second ejector pin plate movement is continued. Choose the thickness of the spacer ring no. 7 so, that there is at least 0,05 mm clearance between the ejector pin plates (see fig. 1).

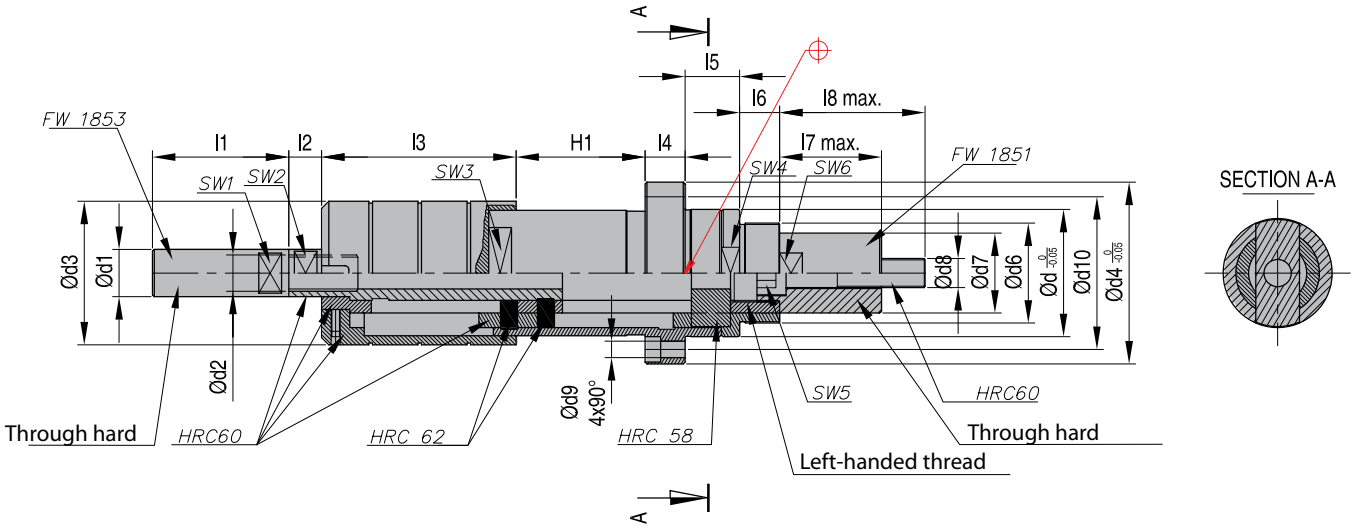
CAD reference point

TWO-STAGE SINGLE-STROKE EJECTOR FW1850

The two-stage single-stroke ejector can be integrated into injection moulding tools.

This ejector automatically divides the motion into two sequential strokes.

The functional sequence associated with this makes it possible to create new mould ejection mechanisms.

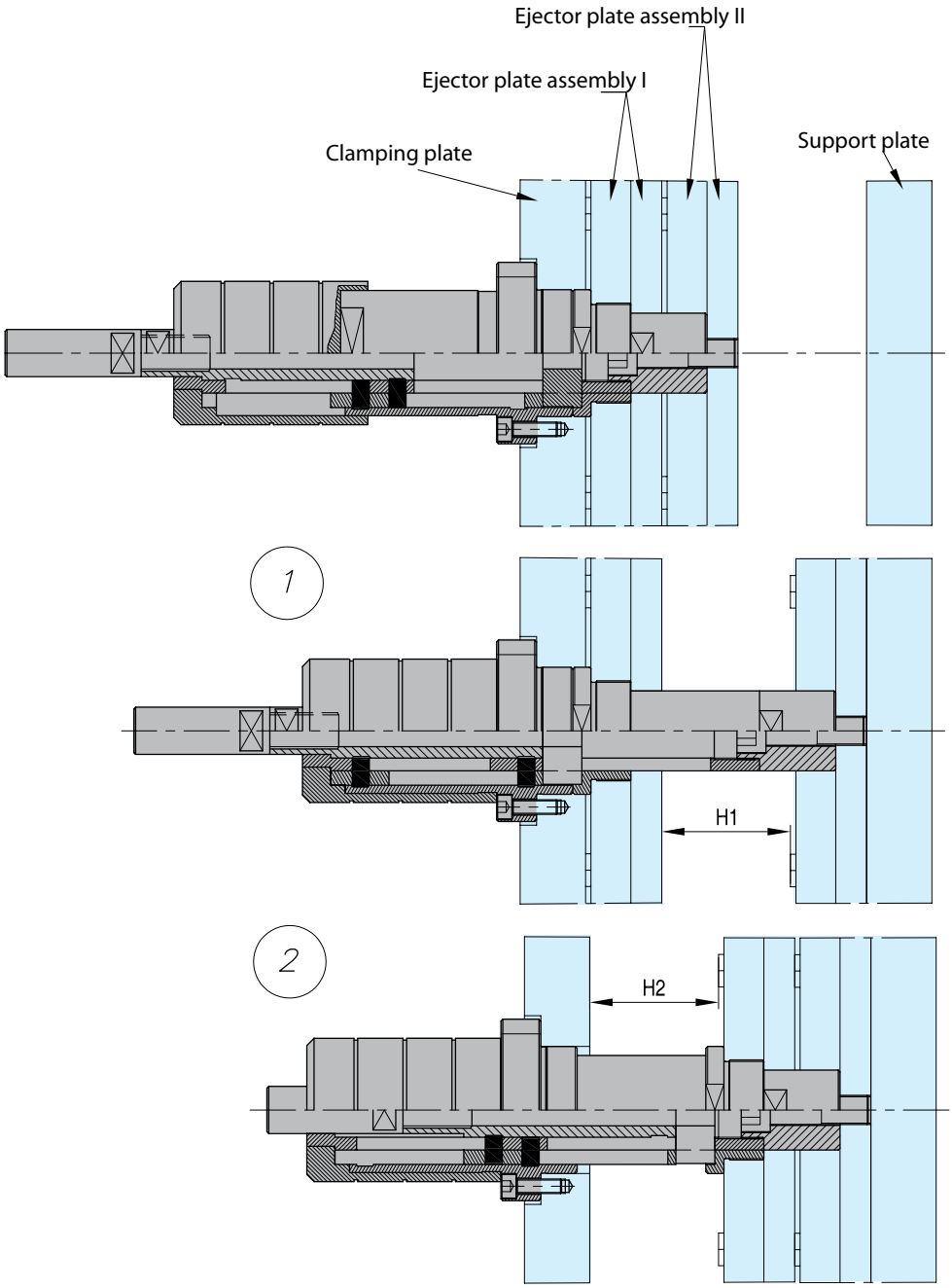


REF	d	H1	H2	d1	d2	d3	d4	d6	d7	d8	d9	d10
FW1850050032	50	5-32	12-32	18	M12	56	75	M40x1,5	31,5	M12x1,25	M6x16	62
FW1850058040	58	5-40	15-40	22	M16	64	90	M45x1,5	36,0	M14x1,50	M8x20	72
FW1850058056	58	5-56	25-56	22	M16	64	90	M45x1,5	36,0	M14x1,50	M8x20	72
FW1850070071	70	10-71	20-71	26	M20	79	100	M55x1,5	44,0	M16x1,50	M8x25	84

REF	l2	l3	l4	l5	l6	l7 max.	l8 max.	SW1	SW2	SW3	SW3 Nm	SW4	SW5	SW6
FW1850050032	12	58	14	25	17	36	50	14	14	36	120	46	6	27
FW1850058040	15	68	16	25	17	45	66	18	18	41	160	55	8	32
FW1850058056	15	84	16	25	17	45	66	18	18	41	120	55	8	32
FW1850070071	18	107	22	30	22	56	80	22	24	50	200	65	10	38

CAD reference point

TWO-STAGE SINGLE-STROKE EJECTOR — Assembly FW1850

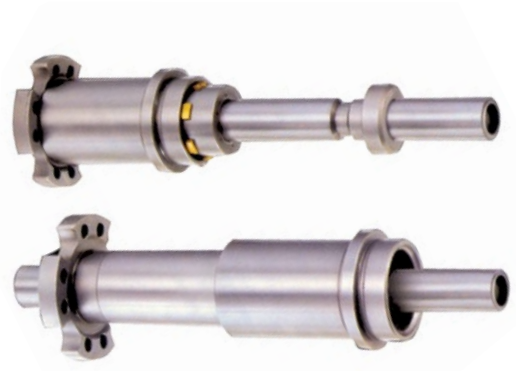


Features:
Secured position of the ejector plates due to built-in-low-wear interlocks.
Infinitely variable strokes
High operational reliability of the ejector components due to forcedcontrolled stroke actions
Simplified operations of angled and rotating mould ejection components.
Space-saving installation in the ejector bolt area.
The tool height remains unchanged.

Design considerations:
A detachable fixed connection between ejector bolt (FW 1850) and the machine ejector is necessary, preferably using the pneumatic rapid-action coupling PN 1680. The ejector plates cannot be pushed by return pins due to the tool closing movement! Ejector plate guidance by four guides in the ejector plates to prevent tilting. A stroke limitation is preferable to keep the ejector plates separate in the end position. Centre misalignment compensation between machine ejector and tool preferably by pneumatic rapid-action coupling PN 1680. Adapter for tool on MAP will be made, as necessary, preferably from centering flange R 19.

CAD reference point

2-STAGE EJECTOR TOP LAST — TSTL



Positive, precise plate control:

DME 2-stage Ejectors (TS) adapt to a number of mould base sizez and plate thicknesses. They are available in two ejection sequences: Top Last (TS) and Bottom Last (BS). Each ejection sequence is available in three sizes to accommodate most standard **DME** mould bases. The stroke range for each ejection stage is determined and fixed by the customer by cutting the Center Rod to the desired length (both TSTL and TSBL types) and by also cutting the Travel Sleeve to the desired length (TSBL type only). Once installed, the **DME** 2-stage Ejector assures positive, precise control of the sequence and distance of each stroke of the two ejector plates. Once installed, there are no adjustments that can be accidentally changed.

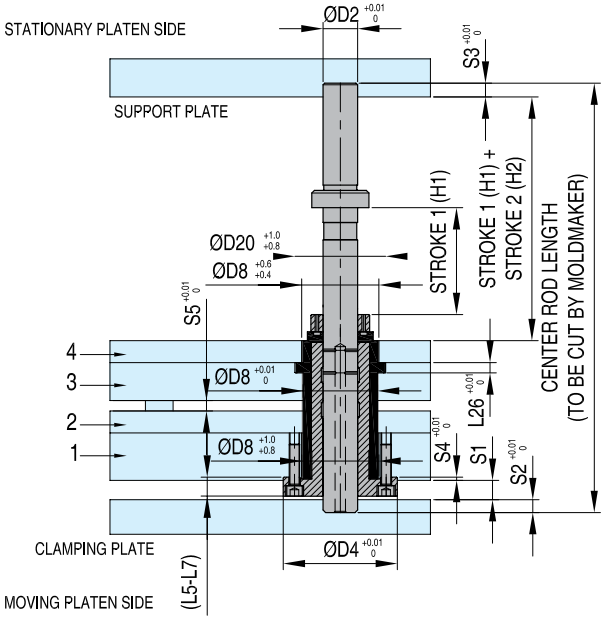
Benefits:

Both the first stage and second stage strokes are set independently. Easy set-up and installation. Fixed strokes cannot be tampered with or accidentally modified. Internal installation avoids interferences with water line connectors and externally mounted components. Utilizes latching mechanism similar to **DME** Internal Latch lock for smooth operation and guidance. Three sizes, for each style, to choose from to accomadate most standard **DME** mould bases. Hardened steel components for long life. **DME** 2-stage Ejectors are considerably more compact and may be centrally located, the preferred method for locating **DME** 2-stage Ejetors is in pairs, offset from mould center. For more details, assembly guidelines see www.dme.net.

Selection and design guidelines:

Select 20 mm Ø (small), 26 mm Ø (medium), or 23 mm Ø (large) 2-Stage Ejector based on the width of the mould base (large moulds, thick plates or heavy load applications may require the next size assembly). Determine the travel range for each ejection stroke (first and second), being very careful not to exceed the maximum stroke specified for the chosen 2-Stage Ejector style and size. this selection is based on the specific application. In general, a minimum of two 2-stage Ejectors are required. For larger moulds, thick plates, or a application where loads are near maximum, additional assemblies and/or larger assemblies may be required. An application must never exceed the maximum recommended laod values. A balanced load must be maintained to avoid cocking and binding which could cause severe overloading. Only one size of 2-stage Ejectors should be used in each mould base.

REF	Basic center rod dia	H1-Stroke 1		H2-Stroke 2		Max. mould base width	Max.load values static	Max.load values dynamic
		Min.	Max.	Min.	Max.			
TSTL20A	20mm	4	79	4	79	Up to 196mm, 1 TSTL 20 Up to 446mm, 2 TSTL 20	600 kg, 5,8 kN	60 kg, 0,58 kN
TSTL26A	26mm	6	84	6	84	Up to 446mm, 1 TSTL 26 Up to 596mm, 2 TSTL 26	1100 kg, 10,8 kN	110 kg, 1,08 kN
TSTL32A	32mm	8	92	8	92	Up to 596mm, 1 TSTL 32 Up to 796mm, 2 TSTL 32	2000 kg, 19,6 kN	200 kg, 1,96 kN



Assembly & installation guidelines

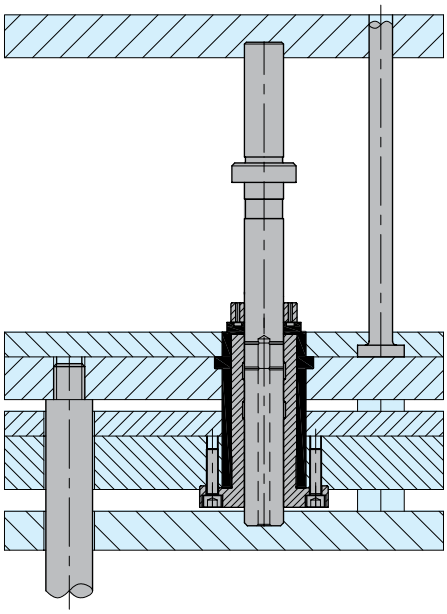
The mouldmaker is responsible to cut and/or grind the Center Rod to the required length prior to installation of the 2-Stage Ejector assembly into the mould base. Do not cut off more than the minimum stroke (H2). The recommended tolerance on the Center Rod length after the customer has cut the Center Rod is +0/-0,02 mm or less. Stroke 1 (H1) is reduced by cutting and/or grinding the moving plates end of both the Center Rod. Stroke 2 (H2) is reduced by cutting and/or grinding the stationary platen end of the Center Rod. Minimum H2 specified in chart does not include additional stop pins to stationary-side spacer plate. To reduce H2 even further than what is specified in chart, add stop pins. All 2-stage Ejectors in a mould must be cut to the same strokes. It is recommended that guided ejection be used. Ejector speed must be controlled, ensuring that excessive shock loading does not occur. 2-Stage Ejectors are not suitable for sever laod conditions. 2-Stage Ejectors must not be exposed to temperatures that exceed 150°C at any time. Lubricate all metal-to-metal contact areas initially and periodically as required. A good grade of mouldmakers non-melting type grease for the appropriate temperature should be used.

CAD reference point

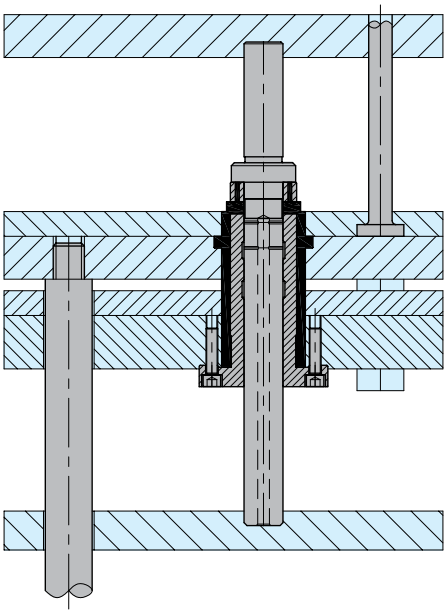
REF	Center rod length	Stroke 1		Stroke 2		1	2	3	4	S1	S2	S3	S4	S5
		Min.	Max.	Min.	Max.									
TSTL20A	262,96	4	79	4	79	26	12	26	12	8	8	8	3	4,26
TSTL26A	285,32	6	84	6	84	26	12	26	12	10	10	10	4	10,62
TSTL32A	316,68	8	92	8	92	26	16	26	16	15	12	12	4	9,80

2-STAGE EJECTOR TOP LAST — TSTL

TOP LAST SEQUENCING

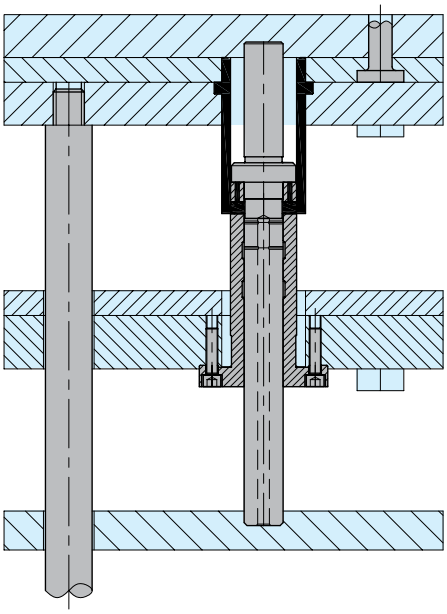


1 EJECTOR PLATES BACK



2 FIRST EJECTOR STROKE

After a predetermined amount of travel, the latch mechanism latches onto the Center Rod, thereby fixing the position of the bottom (moving platen side) ejector plate assembly.

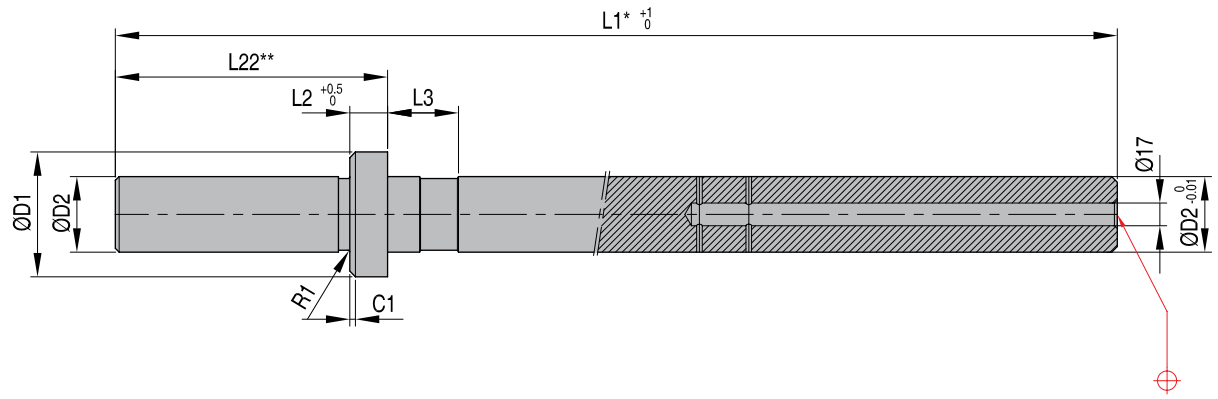


3 SECOND EJECTOR STROKE

The top (stationary platen side) ejector plate assembly continues to move through the "second" or remaining stroke until the top ejector plate assembly contacts the top of the ejector box housing.

CAD reference point

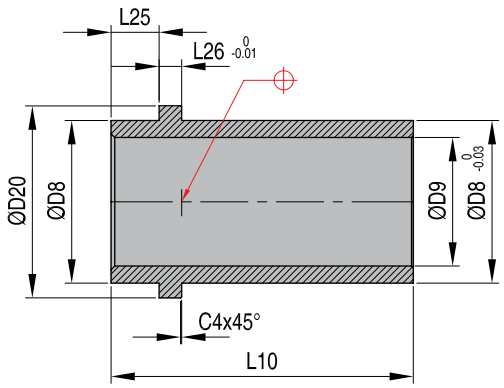
CENTER ROD — TSTLCR



REF	D1	D2	D17	L1*	L2	L3	L22**	C1	R1
TSTL20CR	33	20 0 -0,01	5	265	10	18,74	72 +0,5 0	1,5	0,4
TSTL26CR	42	26 0 -0,01	6	290	12	22,93	76 +0,5 0	2	0,8
TSTL32CR	53	32 0 -0,01	6	320	15	28,25	82 +0,5 0	2,5	0,8

* Cutoff on both ends of center pin only per installation data.
** Final length must have tolerance of 0/-0,2mm after mouldmaker has cut the center pin to the desired length.

TRAVEL SLEEVE — TSTLTS

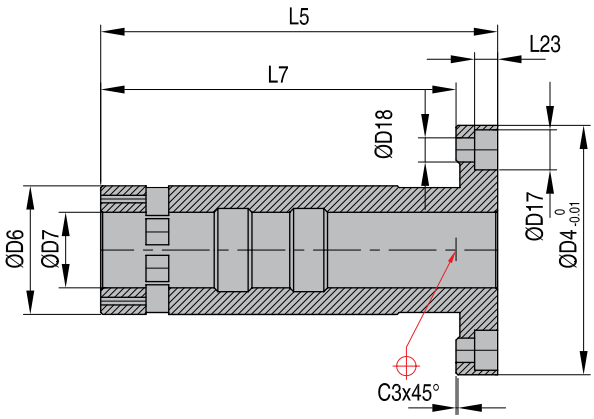


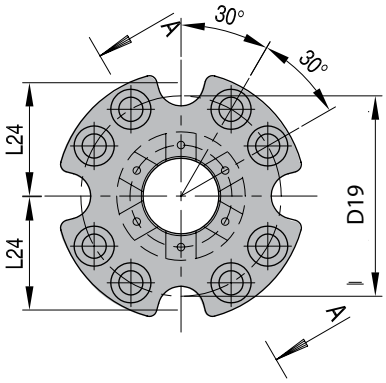
REF	D8	D9	D20	L10	L25	L26	C4
TSTL20TS	43	34	50,8	79,96	12,70	6,00	0,5
TSTL26TS	54	43	63,0	85,32	12,70	8,00	0,5
TSTL32TS	68	54	78,0	93,68	15,88	10,00	0,5

CAD reference point

CAD reference point

BODY FOR CAM FINGERS — TSTLBD

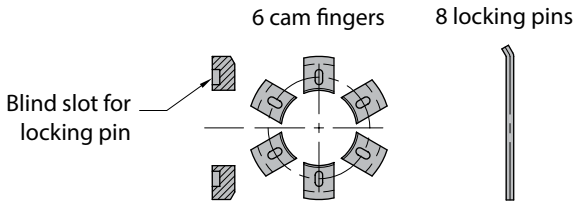




REF	D4	D6	D7	D17	D18	D19	L5	L7	L23	L24	C3
TSTL20BD	66	34	20	10,6	6,4	53	104	94,0	6,1	30	0,5
TSTL26BD	84	43	26	13,8	8,7	67	116	103,0	8,2	37	0,5
TSTL32BD	105	54	32	16,8	10,8	85	131	113,4	10,2	47	0,6

CAM FINGER REPLACEMENT KIT — TSTLKT

With 6 cam fingers, and 8 locking pins.



REF
TSTL20KT
TSTL26KT
TSTL32KT

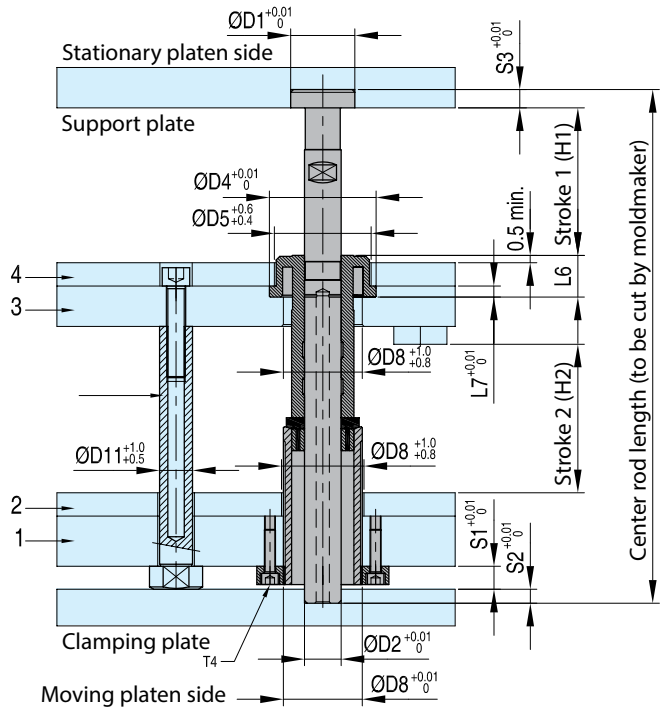
CAD reference point

2-STAGE EJECTOR BOTTOM LAST — TSBL

At end of second stroke, body for cam fingers must seat firmly against center rod head or spacer plate as shown.

- Tolerances depicted here are installation tolerances.
- See component detail drawings for specific component tolerances
- Refer to applicable charts for nominal dimension

REF	Basic center rod dia	Stroke 1		Stroke 2		Max.mould base width	Max.load values static	Max.load values dynamic
		Min.	Max.	Min.	Max.			
TSBL20A	20mm	8	82	12	82	Up to 196mm, 1 TSTL 20	600 kg 5,8 kN	60 kg 0,58 kN
						Up to 446mm, 2 TSTL 20		
TSBL26A	26mm	10	92	18	92	Up to 446mm, 1 TSTL 26	1100 kg 10,8 kN	110 kg 08 kN
						Up to 596mm, 2 TSTL 26		
TSBL32A	32mm	12	102	24	102	Up to 596mm, 1 TSTL 32	2000 kg 19,6 kN	200 kg 1,96 kN
						Up to 796mm, 2 TSTL 32		



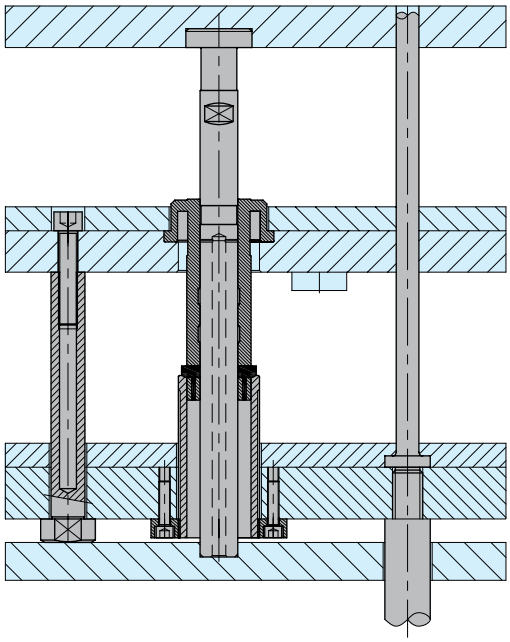
Assembly & installation guidelines:
All 2-Stage Ejectors in a mould must be cut to the same strokes.
It is recommended that guided ejection be used.
Ejector speed must be controlled, ensuring that excessive shock loading does not occur.
2-Stage Ejectors are not suitable for severe load conditions.
2-Stage Ejectors must not be exposed to temperatures that exceed 150°C (300°F) at any time.
Lubricate all metal-to-metal contact areas initially and periodically as required. A good grade of mouldmakers non-melting type grease for the appropriate temperature should be used.
A minimum of (4) Puller Pins should be used with each mould. Larger moulds may require additional Puller Pins.
The mouldmaker must cut and/or grind the Puller Pins to the required length.
Puller Pins are not included with Bottom Last Assemblies and must be ordered separately. At end of second stroke, Body for Cam Fingers must seat firmly against Center Rod head or spacer plate.
The mouldmaker must cut and/or grind the Center Rod to the required length prior to installation of the 2-Stage Ejector assembly into the mould base. Do not cut off more than the minimum stroke (H2). The recommended tolerance on the Center Rod length after the customer has cut the Center Rod is +0/-0.02mm or less.
The mouldmaker must cut and/or grind the Travel Sleeve to the required length prior to installation of the 2-Stage Ejector assembly into the mould base. Do not cut off more than the minimum stroke (H2).
Stroke 1 (H1) is reduced by adding stop buttons to the stationary platen side spacer plate in order to restrict motion of the top (stationary platen side) ejector plate assembly. The mouldmaker must manufacture a suitable set of stop buttons that are of the required height to achieve the desired stroke (H1).
Stroke 2 (H2) is reduced by cutting and/or grinding the moving platen end of both the Center Rod and the Travel Sleeve.

CAD reference point

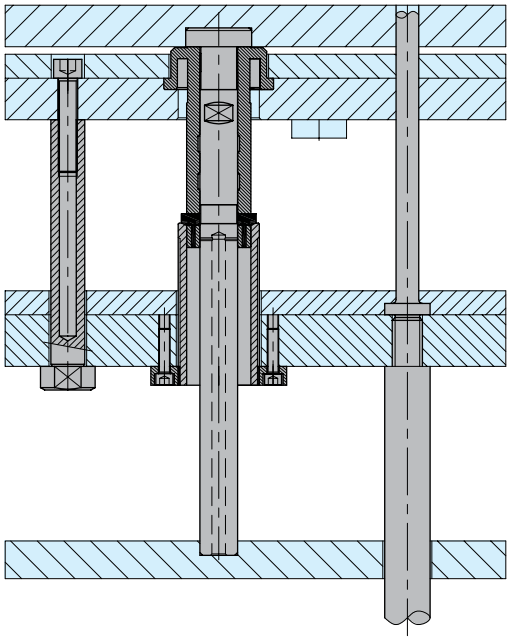
CAD reference point

REF	Center rod length	H1-Stroke 1		H2-Stroke 2		1	2	3	4	S1	S2	S3	S4
		Min.	Max.	Min.	Max.								
TSBL20A	262,96	8	82	12	82	26	12	26	12	11	8	10	4
TSBL26A	285,32	10	92	18	92	26	12	26	12	14	10	12	9
TSBL32A	316,68	12	102	24	102	26	16	26	16	17	12	14	10

2-STAGE EJECTOR BOTTOM LAST TSBL

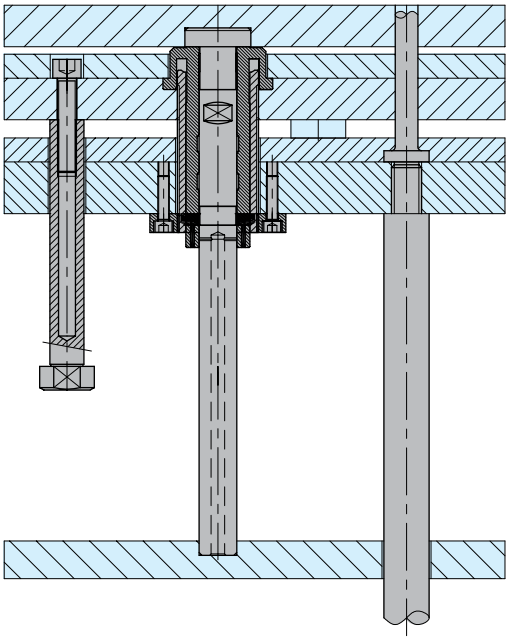


1 Ejector Plates Back



2 First Ejector Stroke

After a predetermined amount of travel, the latch mechanism latches onto the Center Rod, thereby fixing the position of the bottom (moving platen side) ejector plate assembly.

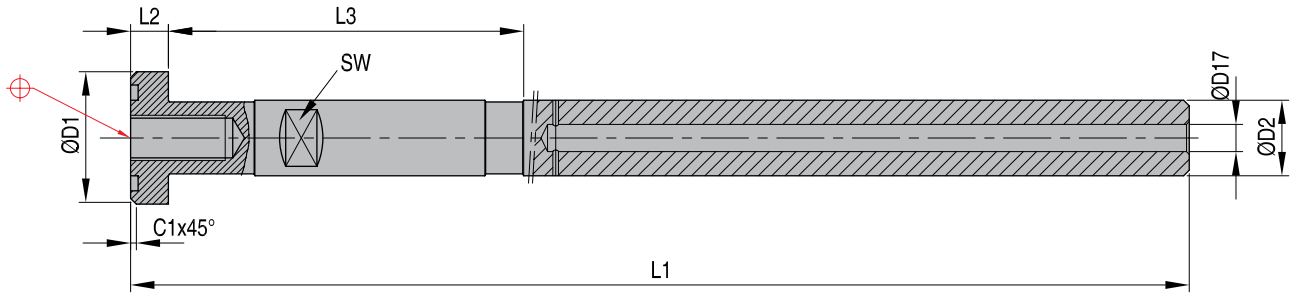


3 Second Ejector Stroke

The top (stationary platen side) ejector plate assembly continues to move through the "second" or remaining stroke until the top ejector plate assembly contacts the top of the ejector box housing.

CAD reference point

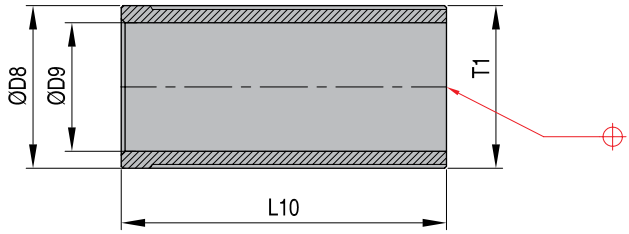
CENTER ROD — TSBLCR



REF	D1	D2	D17	L1*	L2	L3	C1
TSBL20CR	34 $^{0}_{-0,01}$	20 $^{0}_{-0,01}$	7,2	280 $^{+0,5}_{0}$	10 $^{+0,02}_{0}$	93,66	1,0
TSBL26CR	44 $^{0}_{-0,01}$	26 $^{0}_{-0,01}$	8,5	314 $^{+0,5}_{0}$	12 $^{+0,02}_{0}$	105,67	1,0
TSBL32CR	58 $^{0}_{-0,01}$	32 $^{0}_{-0,01}$	10,5	354 $^{+0,5}_{0}$	14 $^{+0,02}_{0}$	118,18	1,5

* Cutoff on both ends of center pin only per installation data.

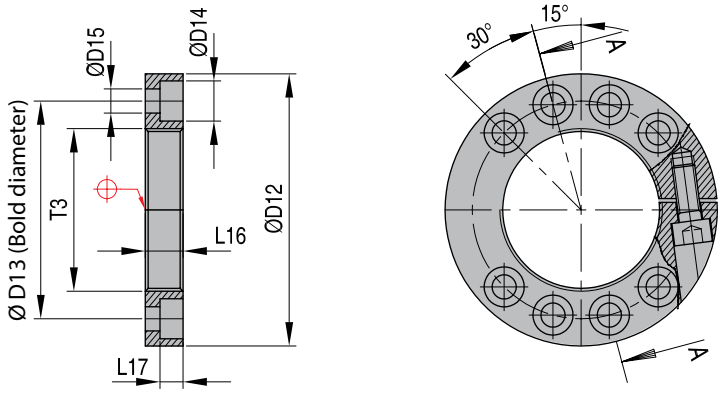
TRAVEL SLEEVE — TSBLTS



REF	D8	D9	L10	T1
TSBL20TS	43 $^{0}_{-0,03}$	34	86 $^{+0,2}_{0}$	M43,5x1,25
TSBL26TS	54 $^{0}_{-0,03}$	43	94 $^{+0,2}_{0}$	M54,5x1,25
TSBL32TS	68 $^{0}_{-0,03}$	54	105 $^{+0,2}_{0}$	M68,6x1,5

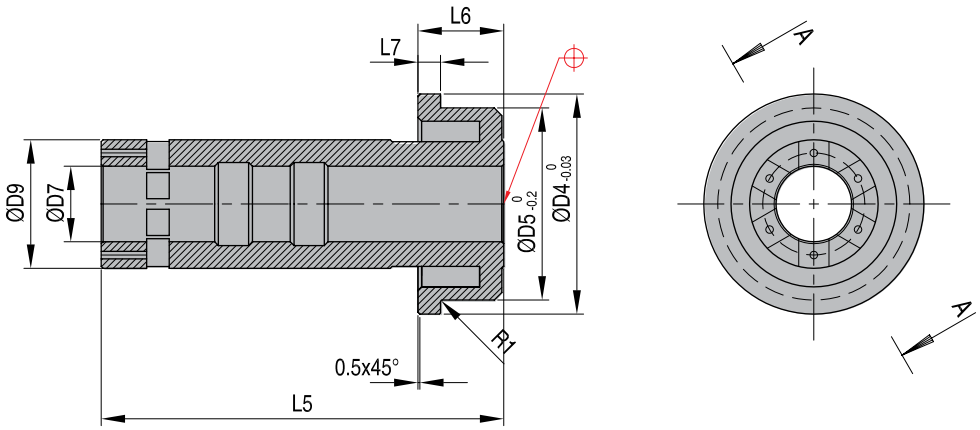
CAD reference point

LOCKING RING — TSBLLR



REF	D12	D13	D14	D15	L16	L17	T3
TSBL20LR	72,0	57,4	10,6	6,4	10,0	6,0	M43,2 x 1,25
TSBL26LR	90,0	72,0	13,7	8,6	13,0	8,1	M54,2 x 1,25
TSBL32LR	112,0	90,0	16,8	10,8	16,0	10,1	M68,25 x 1,5

BODY FOR CAM FINGERS — TSBLBD

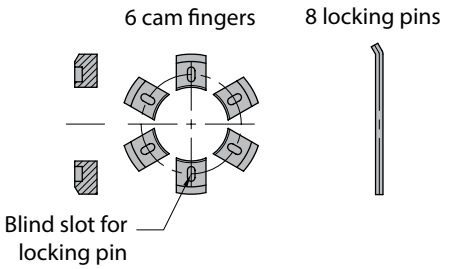


REF	D4	D5	D6	D7	L5	L6	L7	C2	R1
TSBL20BD	58,2	50,8	34,0	20,0	106,46	22,7	6,0	0,3	0,4
TSBL26BD	70,0	62,8	43,0	26,0	121,22	22,7	6,0	0,4	0,4
TSBL32BD	87,0	78,0	54,0	32,0	139,7	28,88	7,0	0,5	0,4

CAD reference point

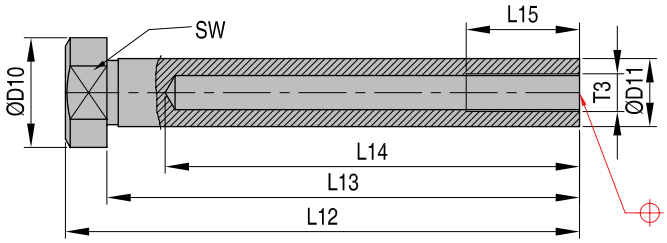
CAM FINGER REPLACEMENT KIT — TSBLKT

With 6 cam fingers, and 8 locking pins.



REF
TSBL20KT
TSBL26KT
TSBL32KT

PULLER PIN — TSBLPP

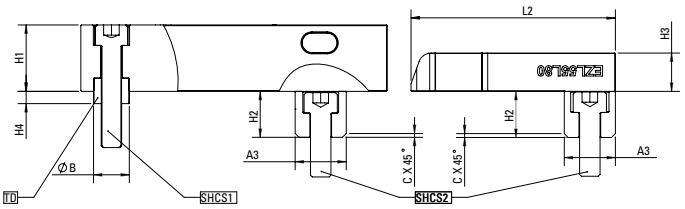


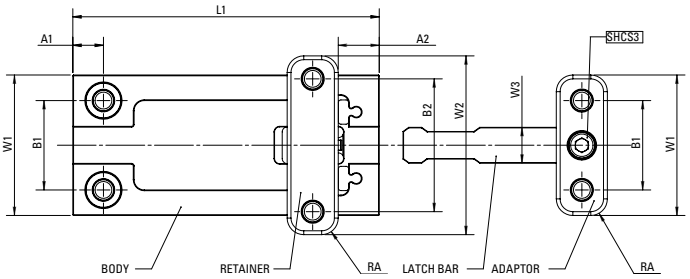
REF	D10	D11	L12	L13	L14	L15	SW	T3
TSBL20PP	29	18	136	125	107	30	26	M10
TSBL26PP	34	21	153	139	120	40	30	M12
TSBL32PP	43	26	171	154	138	50	36	M16

CAD reference point

EZ-LATCH LOCKS

STANDARD LATCH BAR OPTION **EZ**





Material:
Body - Pre-hardened 5140 Steel Nitrided
Latch Bar, Adapter & Retainer - H-13 +/-46HRC Nitrided

Series	W1	W2	W3	B1	B2	A1	A2	A3	A4	A5	H1	H2	H3	H4	R	C
EZL45	45	60	12	28	45	10	14	18	122	10	22	15	12	4	5.5	1.5
EZL55	55	70	14	35	52	12	16	20	130	12	26	18	15	5	6.5	1.5
EZL75	75	90	20	48	65	15	20	26	185	15	36	20	20	5.0	8	2

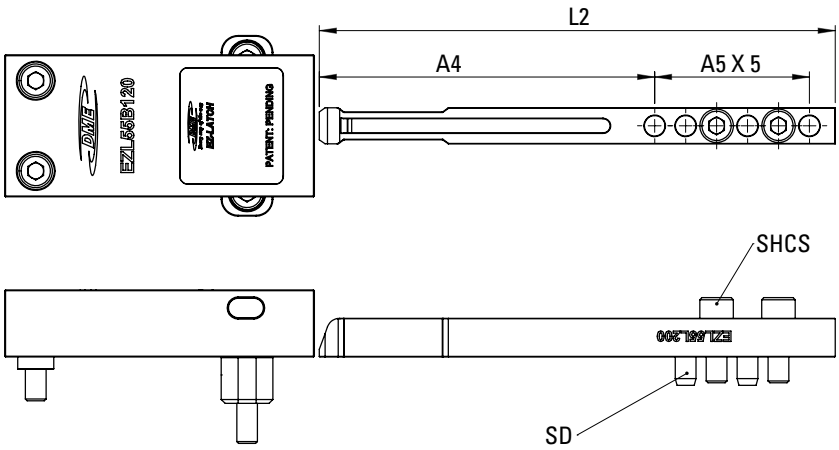
SERIES	Body assembly (Body, Adapter, Retainer & Tubular Dowel)		Latch Bar		Complete Assembly (Body Assembly & Latch Bar)	
	REF	L1	REF	L2	Assembly REF	Fasteners
EZ45	EZL45B100	100	EZL45L50	50	EZL45B100L50	(1) M5 X 12 (2) M6 X 30 (4) M6 X 20
			EZL45L70	70	EZL45B100L70	
			EZL45L90	90	EZL45B100L90	
			EZL45L110	110	EZL45B100L110	
	EZL45B130	130	EZL45L50	50	EZL45B130L50	
			EZL45L70	70	EZL45B130L70	
			EZL45L90	90	EZL45B130L90	
			EZL45L110	110	EZL45B130L110	
	EZL45B160	160	EZL45L50	50	EZL45B160L50	
			EZL45L70	70	EZL45B160L70	
			EZL45L90	90	EZL45B160L90	
			EZL45L110	110	EZL45B160L110	
EZ55	EZL55B120	120	EZL55L60	60	EZL55B120L60	(1) M6 X 16 (2) M8 X 40 (4) M8 X 25
			EZL55L80	80	EZL55B120L80	
			EZL55L100	100	EZL55B120L100	
			EZL55L120	120	EZL55B120L120	
	EZL55B160	160	EZL55L60	60	EZL55B160L60	
			EZL55L80	80	EZL55B160L80	
			EZL55L100	100	EZL55B160L100	
			EZL55L120	120	EZL55B160L120	
	EZL55B200	200	EZL55L60	60	EZL55B200L60	
			EZL55L80	80	EZL55B200L80	
			EZL55L100	100	EZL55B200L100	
			EZL55L120	120	EZL55B200L120	
EZ75	EZL75B180	180	EZL75L100	100	EZL75B180L100	(1) M8 X 25 (2) M10 X 50 (4) M10 X 30
			EZL75L125	125	EZL75B180L125	
			EZL75L150	150	EZL75B180L150	
			EZL75L175	175	EZL75B180L175	
	EZL75B230	230	EZL75L100	100	EZL75B230L100	
			EZL75L125	125	EZL75B230L125	
			EZL75L150	150	EZL75B230L150	
			EZL75L175	175	EZL75B230L175	
	EZL75B280	280	EZL75L100	100	EZL75B280L100	
			EZL75L125	125	EZL75B280L125	
			EZL75L150	150	EZL75B280L150	
			EZL75L175	175	EZL75B280L175	

CAD reference point

NOTE: BODY SPECIAL ORDER IS AVAILABLE: ITEM#: SERIES+B+(L1); FOR EXAMPLE, SELECT EZL55, L1=150, ITEM#: EZL55B150
LATCH BAR SPECIAL ORDER IS AVAILABLE: ITEM#: SERIES+L+(L2); FOR EXAMPLE, SELECT EZL55, L2=150, ITEM#: EZL55L150

LONG LATCH BAR OPTION EZL

Material:
Body - Pre-hardened 5140 Steel Nitrided
Latch Bar, Adapter & Retainer - H-13 +/-46HRC Nitrided



Please reference drawing dimensions & chart on previous page for determining body selection

SERIES	Body assembly (Body, Adapter, Retainer & Tubular Dowel)		Latch Bar		Complete Assembly (Body Assembly & Latch Bar)	
	REF	L1	REF	L2	Assembly REF	Fasteners
EZL45	EZL45B100	100	EZL45L180	180	EZL45B100L180	(2) M6 x 25 (2) SD6 x 25
	EZL45B130	130			EZL45B130L180	
	EZL45B160	160			EZL45B160L180	
EZL55	EZL55B120	120	EZL55L200	200	EZL55B120L200	(2) M8 x 30 (2) SD8 x 30
	EZL55B160	160			EZL55B160L200	
	EZL55B200	200			EZL55B200L200	
EZL75	EZL75B180	180	EZL75L275	275	EZL75B180L275	(2) M10 x 40 (2) SD10 x 40
	EZL75B230	230			EZL75B230L275	
	EZL75B280	280			EZL75B280L275	

Sizing Guide

w1 (2pcs)	INTENDED MOLD SIZE	Sz	BACKLASH
45	250 x 250	2.0	0.2
55	450 x 450	2.5	
75	700 x 700	3	

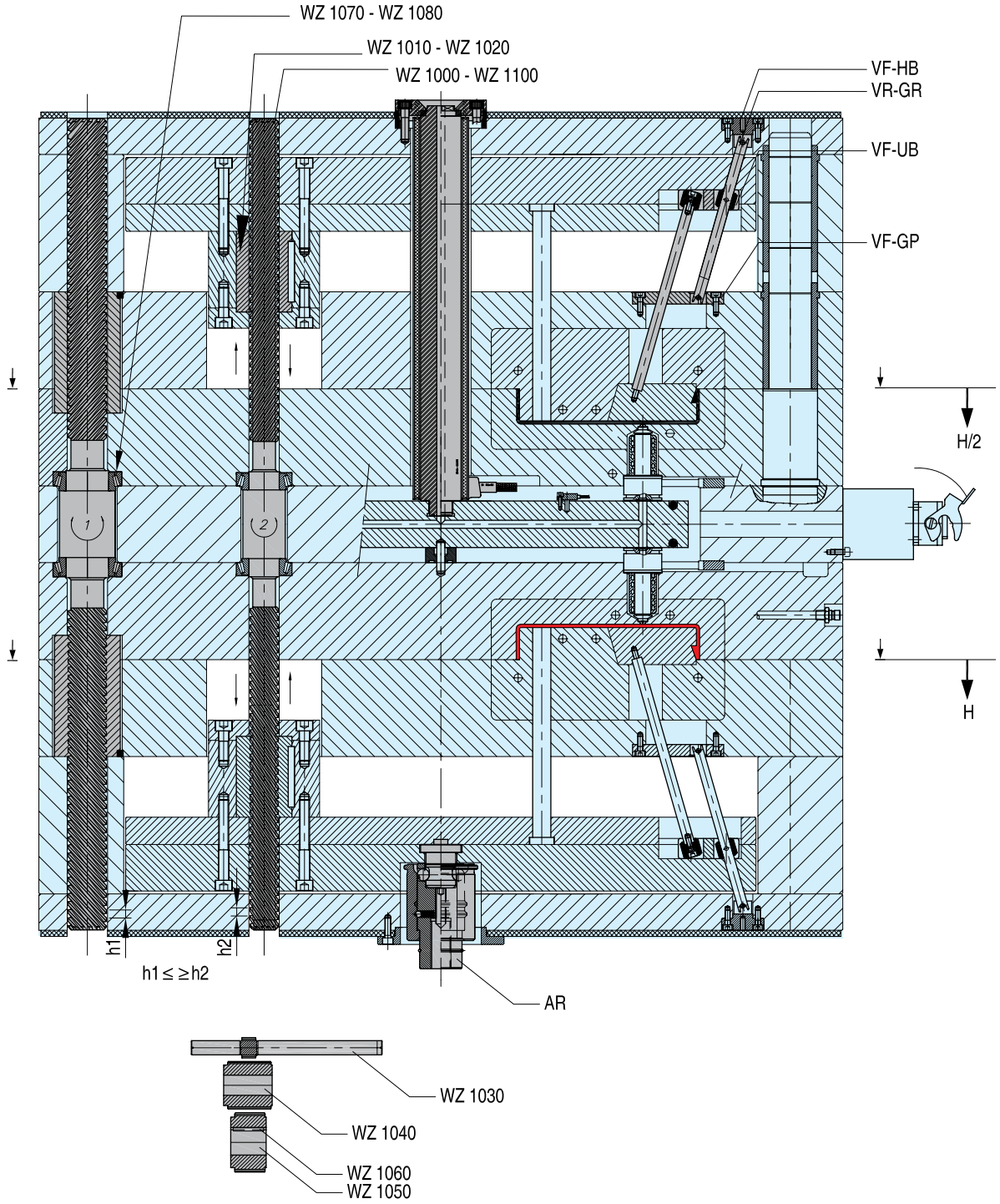
Backlash - Clearance for segment
Sz- Switch Zoon

CAD reference point

NOTE: BODY SPECIAL ORDER IS AVAILABLE: ITEM#: SERIES+B+(L1); FOR EXAMPLE, SELECT EZL55, L1=150, ITEM#: EZL55B150
LATCH BAR SPECIAL ORDER IS AVAILABLE: ITEM#: SERIES+L+(L2); FOR EXAMPLE, SELECT EZL55, L2=150, ITEM#: EZL55L150

CAD reference point

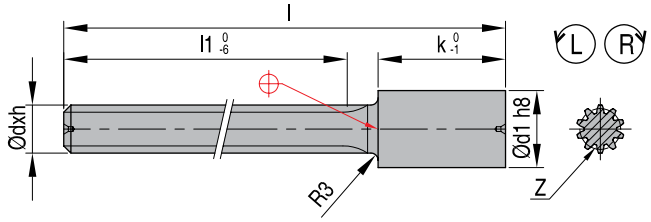
COARSE PITCH AXLES



CAD reference point

COARSE PITCH AXLES **WZ1000**

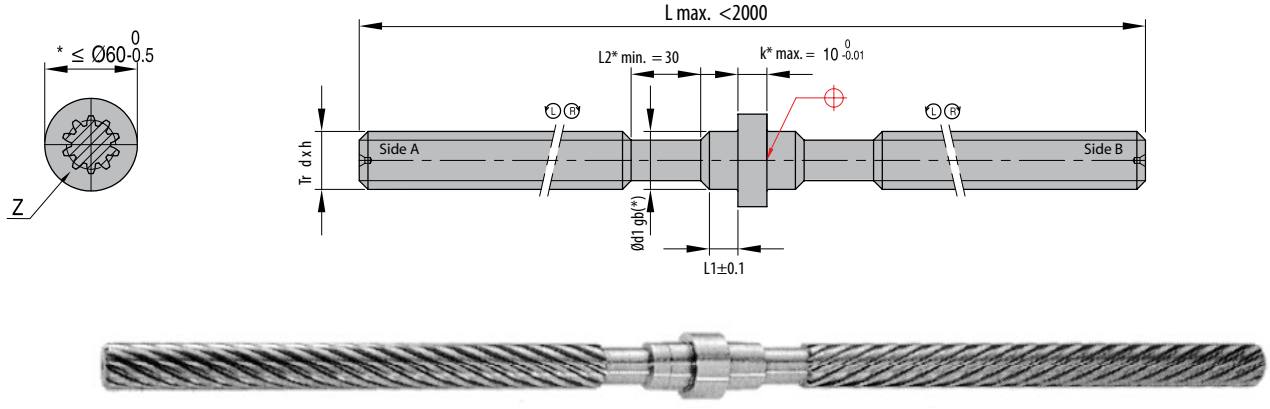
Mat.: W1.0715 max 570N/mm²



REF	d	h	l1	d1h8*	l	k	z
WZ100028080L400	28	80	400	40	525	93	9
WZ100028080R400	28	80	400	40	525	93	9
WZ100028160L400	28	160	400	40	525	93	11
WZ100028160R400	28	160	400	40	525	93	11
WZ100038120L450	38	120	450	48	575	93	10
WZ100038120R450	38	120	450	48	575	93	10
WZ100038200L450	38	200	450	48	575	93	12
WZ100038200R450	38	200	450	48	575	93	12
WZ100048200R450	48	200	450	48	575	93	12

COARSE PITCH AXLES **WZ1100**

Mat.: ~1.0727~980N/mm²



D is the outside diameter
h is the stroke realized per every single turn of the axle
z is the number of thread
The thread is a DME specific one, therefore dimensions d, h and z are fixed and cannot be modified.
L and R indicates the direction in which the nut will turn. R is clockwise, L is the other way around.

d	h	z
28	80 LR	9
28	80 RL	9

d	h	z
28	120 LR	10
28	120 RL	10

d	h	z
28	160 LR	11
28	160 RL	11

d	h	z
38	120 LR	10
38	120 RL	10

d	h	z
38	160 LR	11
38	160 RL	11

d	h	z
38	200 LR	12
38	200 RL	12

The Coarse Pitch Axle is a special product. When asking for a quotation or when making an order, please refer to the chart below and send all the required information

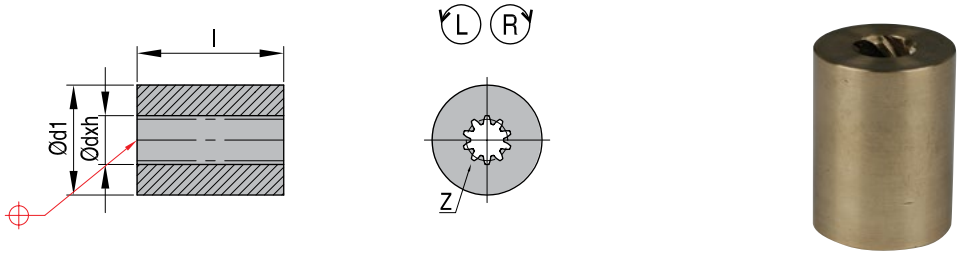
Please provide the direction of the thread				Please provide following dimensions							
Side A direction of the thread		Side B direction of the thread		Thread Tr mm		Space for roller bearing mm		Central diameter mm		Length without threaded part mm	Total length mm
L left	R right	L left	R right	Ød	h	Ød1 g6	L1	ØD	k	L2	L

CAD reference point

COARSE PITCH AXLES

COARSE PITCH NUTS — WZ1015

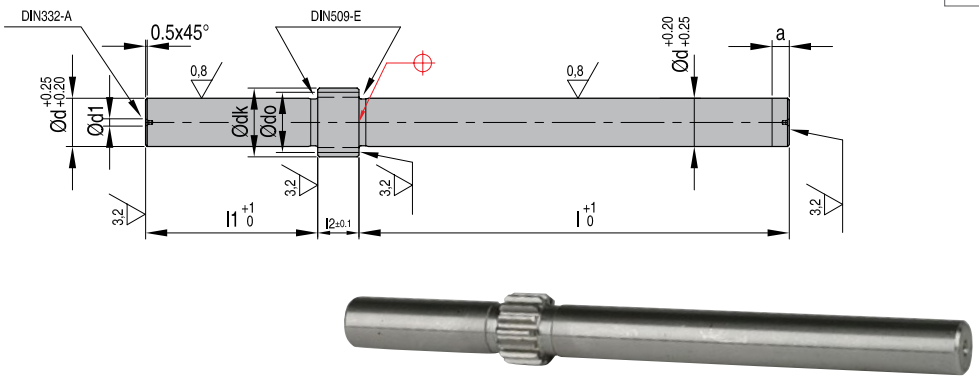
Mat.: 2.0550 Brass



REF	d	h	d1	l	z
WZ101528080L	28	80	74	100	9
WZ101528080R	28	80	74	100	9
WZ101528160L	28	160	74	100	11
WZ101528160R	28	160	74	100	11
WZ101538120L	38	120	74	120	10
WZ101538120R	38	120	74	120	10
WZ101538200L	38	200	74	120	12
WZ101538200R	38	200	74	120	12

PINION SHAFTS — WZ1030

Mat.: ~1.2767~830N/mm²

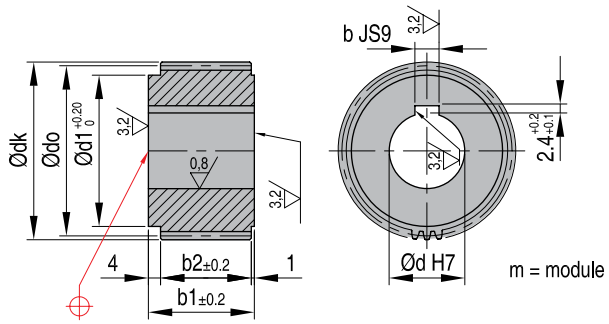


REF	d	m	d0	dk	d1	l	l1	l2	a	z
WZ1030141-25	14	1,25	17,50	20,00	4,0	125	50	12	5	14
WZ1030151-25	15	1,25	18,75	21,25	4,0	125	50	12	5	15
WZ1030161-25	16	1,25	20,00	22,50	4,0	125	50	14	5	16
WZ1030171-50	17	1,50	21,00	24,00	5,0	160	63	15	6	14
WZ1030181-25	18	1,25	21,25	23,75	4,0	125	50	14	5	17
WZ1030191-25	19	1,25	22,50	25,00	4,0	125	50	14	5	18
WZ1030201-50	20	1,50	24,00	27,00	5,0	160	63	15	6	16
WZ1030221-25	22	1,25	25,00	27,50	5,0	125	50	16	5	20
WZ1030221-50	22	1,50	27,00	30,00	5,0	160	63	16	6	18
WZ1030251-50	25	1,50	30,00	33,00	5,0	160	63	20	6	20
WZ1030292-00	29	2,00	34,00	38,00	6,3	200	63	18	7	17
WZ1030321-50	32	1,50	37,50	40,5	5,0	160	63	20	6	25
WZ1030322-00	32	2,00	38,00	42,00	6,3	200	63	18	7	19
WZ1030382-50	38	2,50	45,00	50,00	8,0	225	80	20	9	18
WZ1030432-50	43	2,50	50,00	55,00	8,0	225	80	20	9	20
WZ1030442-00	44	2,00	50,00	54,00	6,3	200	63	20	7	25
WZ1030482-50	48	2,50	55,00	60,00	8,0	225	80	24	9	22
WZ1030502-00	50	2,00	56,00	60,00	6,3	200	63	20	7	28
WZ1030542-00	54	2,00	60,00	64,00	6,3	200	63	22	7	30
WZ1030562-50	56	2,50	62,50	67,50	8,0	225	80	24	9	25
WZ1030682-50	68	2,50	75,00	80,00	8,0	225	80	26	9	30

CAD reference point

SPUR-TOOTHED WHEELS — WZ1040

Mat.: ~1.0503 (C45)~690N/mm²

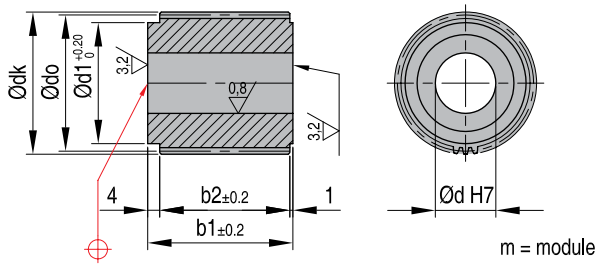


REF	d	m	z	d0	dk	b JS9	b1	b2	d1
WZ1040251-2545	25	1,25	45	56,25	58,75	8	35	30	50
WZ1040251-2550	25	1,25	50	62,50	65,00	8	35	30	50
WZ1040251-2560	25	1,25	60	75,00	77,50	8	35	30	50
WZ1040301-2545	30	1,25	45	56,25	58,75	8	45	40	50
WZ1040301-2550	30	1,25	50	62,50	65,00	8	45	40	50
WZ1040301-2560	30	1,25	60	75,00	77,50	8	45	40	50
WZ1040301-2570	30	1,25	70	87,50	90,00	8	45	40	50
WZ1040301-5045	30	1,5	45	67,50	70,50	10	45	40	60
WZ1040301-5050	30	1,5	50	75,00	78,00	10	45	40	60
WZ1040301-5060	30	1,5	60	90,00	93,00	10	45	40	60
WZ1040301-5070	30	1,5	70	105,00	108,00	10	45	40	60
WZ1040351-5045	35	1,5	45	67,50	70,50	10	50	45	60
WZ1040351-5050	35	1,5	50	75,00	78,00	10	50	45	60
WZ1040351-5055	35	1,5	55	82,50	85,50	10	50	45	60
WZ1040351-5060	35	1,5	60	90,00	93,00	10	50	45	60
WZ1040351-5070	35	1,5	70	105,00	108,00	10	50	45	60

REF	d	m	z	d0	dk	b JS9	b1	b2	d1
WZ1040352-0040	35	2	40	80,00	84,00	10	50	45	70
WZ1040352-0045	35	2	45	90,00	94,00	10	50	45	70
WZ1040352-0050	35	2	50	100,00	104,00	10	50	45	70
WZ1040352-0055	35	2	55	110,00	114,00	10	50	45	70
WZ1040352-0060	35	2	60	120,00	124,00	10	50	45	70
WZ1040352-0070	35	2	70	140,00	144,00	10	50	45	70
WZ1040472-0040	47	2	40	80,00	84,00	10	65	60	70
WZ1040472-0045	47	2	45	90,00	94,00	10	65	60	70
WZ1040472-0050	47	2	50	100,00	104,00	10	65	60	70
WZ1040472-0060	47	2	60	120,00	124,00	10	65	60	70
WZ1040472-0070	47	2	70	140,00	144,00	10	65	60	70
WZ1040472-5040	47	2,5	40	100,00	105,00	10	65	60	70
WZ1040472-5045	47	2,5	45	112,50	117,50	10	65	60	70
WZ1040472-5050	47	2,5	50	125,00	130,00	10	65	60	70
WZ1040472-5060	47	2,5	60	150,00	155,00	10	65	60	70
WZ1040472-5070	47	2,5	70	175,00	180,00	10	65	60	70

INTERMEDIATE GEAR WHEELS — WZ1050

Mat.: ~1.0503 (C45)~690N/mm²



REF	d	m	z	d0	dk	b1	b2	d1
WZ1050101-2516	10	1,25	16	20,00	22,50	34	29	16
WZ1050101-2517	10	1,25	17	21,25	23,75	34	29	16
WZ1050101-2518	10	1,25	18	22,50	25,00	34	29	16
WZ1050101-2520	10	1,25	20	25,00	27,50	34	29	16
WZ1050101-2525	10	1,25	25	31,25	33,75	34	29	16
WZ1050101-5016	10	1,50	16	24,00	27,00	36	31	19
WZ1050101-5018	10	1,50	18	27,00	30,00	36	31	19
WZ1050101-5020	10	1,50	20	30,00	33,00	36	31	19
WZ1050101-5025	10	1,50	25	37,50	40,50	36	31	19
WZ1050102-0016	10	2,00	16	32,00	36,00	38	33	26

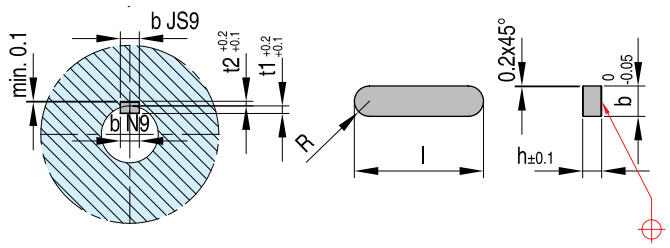
REF	d	m	z	d0	dk	b1	b2	d1
WZ1050102-0018	10	2,00	18	36,00	40,00	38	33	26
WZ1050102-0020	10	2,00	20	40,00	44,00	38	33	26
WZ1050102-0025	10	2,00	25	50,00	54,00	38	33	26
WZ1050102-0030	10	2,00	30	60,00	64,00	38	33	26
WZ1050122-5016	12	2,50	16	40,00	45,00	40	35	34
WZ1050122-5018	12	2,50	18	45,00	50,00	40	35	34
WZ1050122-5020	12	2,50	20	50,00	55,00	40	35	34
WZ1050122-5025	12	2,50	25	62,50	67,50	40	35	34
WZ1050122-5030	12	2,50	30	75,00	80,00	40	35	34

CAD reference point

COARSE PITCH AXLES

WZ1060

Mat.: ~1.0503 (C45)~DIN 6885



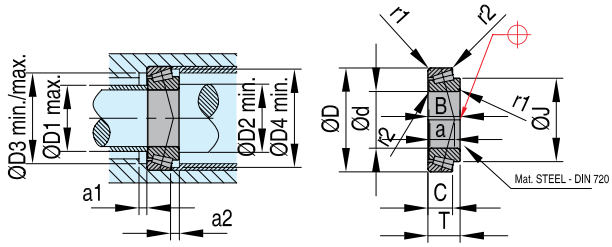
REF	b	h	l	t1	t2
WZ106005514	5	5	14	3,0	2,3
WZ106008518	8	5	18	2,6	2,4
WZ106008534	8	5	34	2,6	2,4
WZ106008540	8	5	40	2,6	2,4
WZ106010640	10	6	40	3,6	2,4

REF	b	h	l	t1	t2
WZ106010645	10	6	45	3,6	2,4
WZ106010650	10	6	50	3,6	2,4
WZ106010660	10	6	60	3,6	2,4
WZ106010665	10	6	65	3,6	2,4

TAPER ROLLER BEARINGS

WZ1070

Mat.: Steel-DIN 720

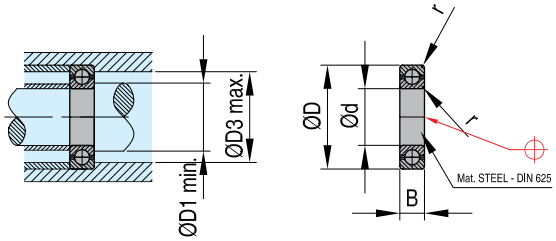


REF	D	d	B	C	T	r1	r2	a	D1	D2	D3 min	D3 max	D4	a1	a2
WZ107004720	47	20	14	12,0	15,25	1,5	0,5	11	27	26	40	41	43	2	3,0
WZ107004725	47	25	15	11,5	15,00	1,0	0,3	12	30	30	40	42	44	3	3,5
WZ107005228	52	28	16	12,0	16,00	1,5	0,5	13	33	34	45	46	49	3	4,0
WZ107005530	55	30	17	13,0	17,00	1,5	0,5	14	35	36	48	49	52	3	4,0
WZ107005832	58	32	17	13,0	17,00	1,5	0,5	14	38	38	50	52	55	3	4,0
WZ107006235	62	35	18	14,0	18,00	1,5	0,5	15	40	41	54	56	59	4	4,0
WZ107006840	68	40	19	14,5	19,00	1,5	0,5	15	46	46	60	62	65	4	4,5
WZ107007545	75	45	20	15,5	20,00	1,5	0,5	17	51	51	67	69	72	4	4,5
WZ107008050	80	50	20	15,5	20,00	1,5	0,5	18	56	56	72	74	77	4	4,5
WZ107009055	90	55	23	17,5	23,00	2,0	0,8	20	63	62	81	83	86	4	5,5
WZ107009560	95	60	23	17,5	23,00	2,0	0,8	21	67	67	85	88	91	4	5,5
WZ107010065	100	65	23	17,5	23,00	2,0	0,8	23	72	72	90	93	97	4	5,5
WZ107011070	110	70	25	19,0	25,00	2,0	0,8	24	78	77	98	103	105	5	6,0

BALL BEARINGS

WZ1080

Mat.: Steel-DIN 625

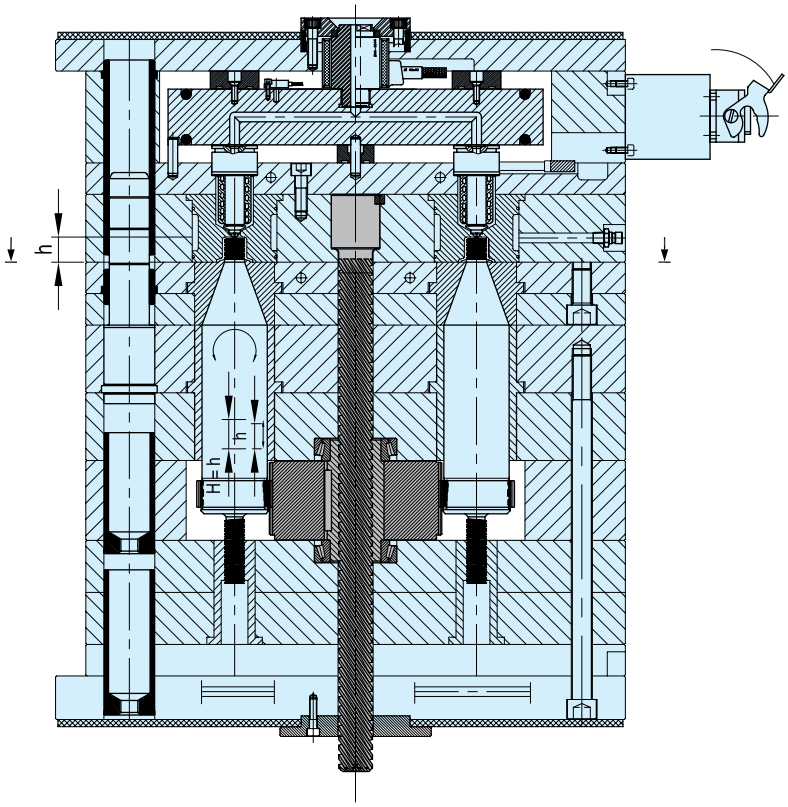


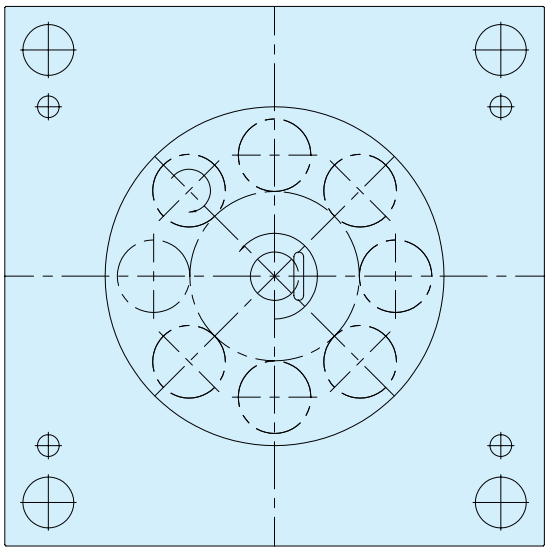
REF	D	d	B	r	D1	D2
WZ108002610	26	10	8	0,5	12,0	24,0
WZ108002812	28	12	8	0,5	14,0	26,0
WZ108003215	32	15	9	0,5	17,0	30,0
WZ108003517	35	17	10	0,5	19,0	33,0
WZ108004220	42	20	12	1,0	23,2	38,8
WZ108004725	47	25	12	1,0	28,2	43,8
WZ108005530	55	30	13	1,5	34,6	50,4

REF	D	d	B	r	D1	D2
WZ108006235	62	35	14	1,5	39,6	57,4
WZ108006840	68	40	15	1,5	44,6	63,4
WZ108007545	75	45	16	1,5	49,6	70,4
WZ108008050	80	50	16	1,5	54,6	75,4
WZ108009055	90	55	18	2,0	61,0	84,0
WZ108009560	95	60	18	2,0	66,0	89,0
WZ108010065	100	65	18	2,0	71,0	94,0

CAD reference point

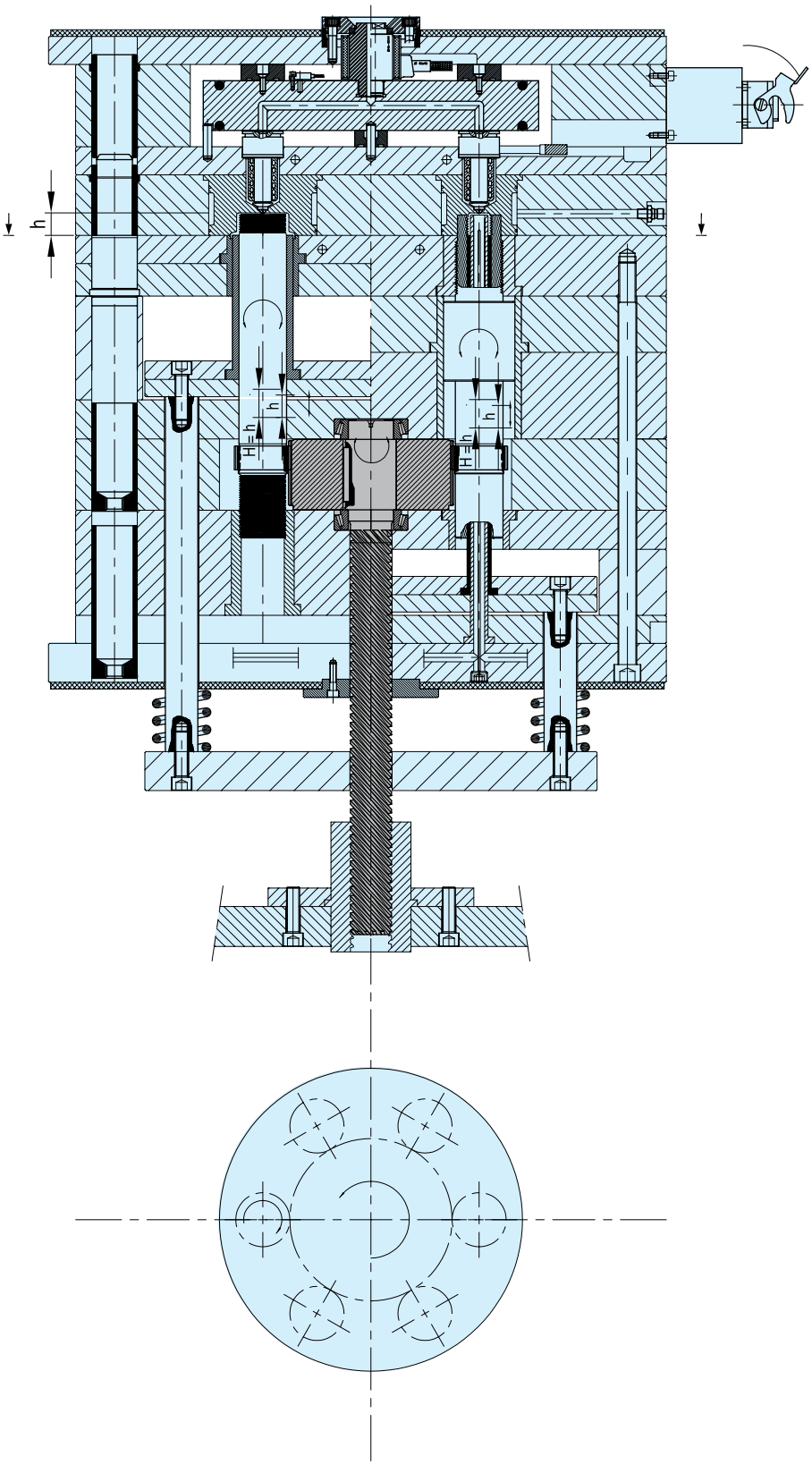
COARSE PITCH AXLES **Info**





CAD reference point

COARSE PITCH AXLES **Info**



CAD reference point

HELICAL GEAR

HELICAL GEAR STACK MOULD SYSTEMS HG

Decades of design and engineering expertise at your service

DME has decades of design and engineering expertise to assist you in design and development of stack moulds.

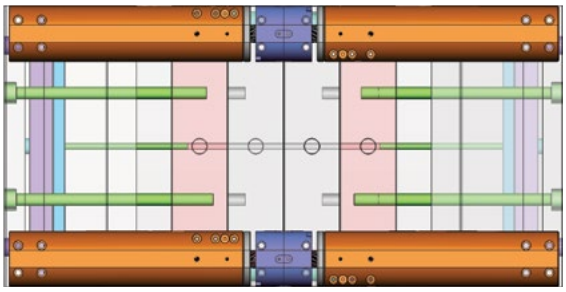
Our Helical Gears are the industry standard with decades of proven applications in a wide variety of applications and plastic resins. Our Helical Gear housings and assemblies greatly simplify the design and development of stack moulds, leaving you more time to concentrate on the core and cavity details. Off-the-shelf components are available when you need them. **DME** quality ensures reliability and interchangeability of all components.

DME engineers and designers are available to assist you with your questions whether you are building your first stack mould or challenging multilevel stack moulds with complex mould actions.
DME even offers complete design services (up to the cores and cavities) for those needing to off-load design and engineering during peak workloads.

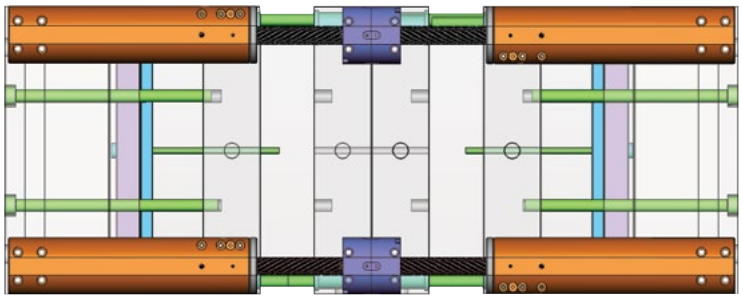
With **DME**, you can order individual components, complete assemblies ready for installation, or complete systems including design and engineering.

DME Helical Gear housings and assemblies greatly simplify the design and development of stack moulds - leaving you more time to concentrate on core and cavity details.

Mould closed



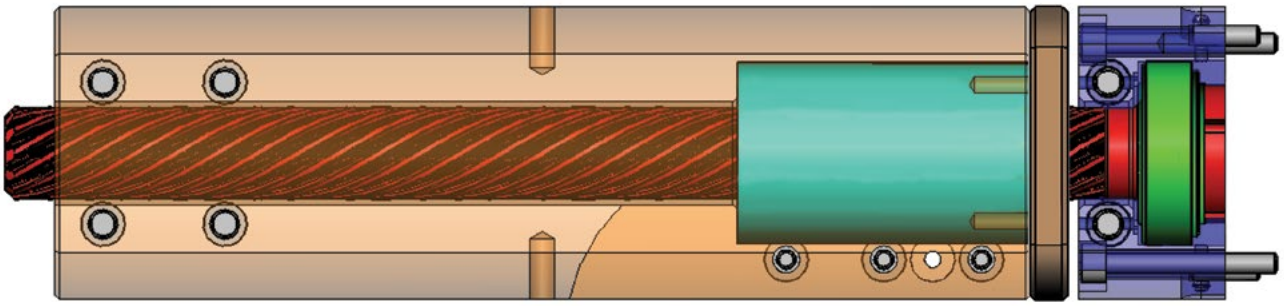
Mould open

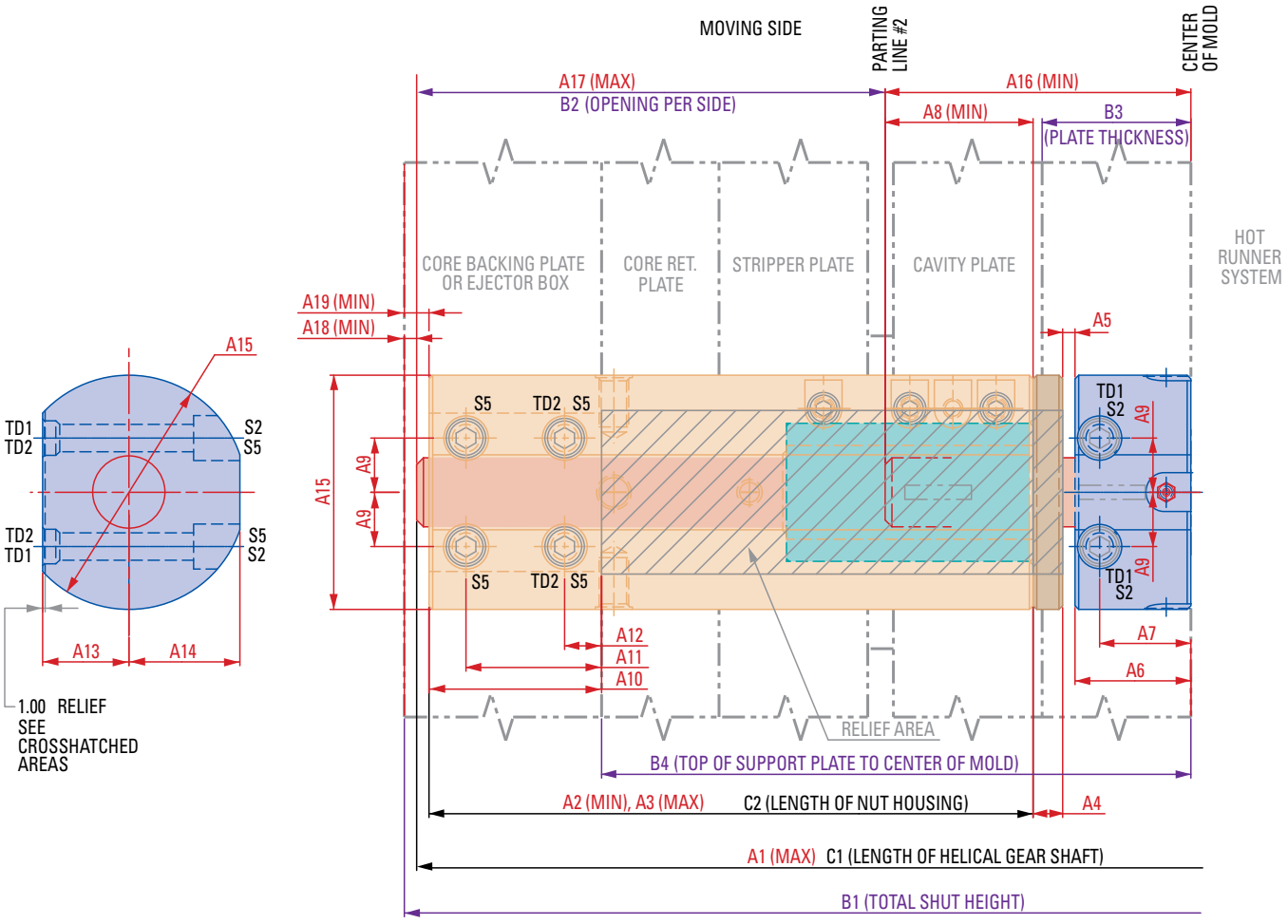


Helical Gear Stack Mould Centering devices ensure that both parting lines open the same distance simultaneously.

CAD reference point

HELICAL GEAR STACK MOULD SYSTEMS HG





Mounting Screws and Dowels

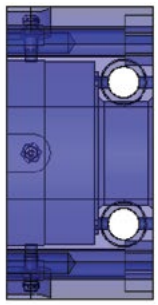
	HG28	HG38
S2 Socket head cap screw	M10 x 75mm	M12 x 110mm
S5 Socket Head Cap Screw	M10 x 75mm	M12 x 110mm
TD1 Tubular Dowel	Ø14mm x 10mm	Ø18mm x 12mm
TD2 Tubular Dowel	Ø14mm x 10mm	Ø18mm x 12mm

CAD reference point

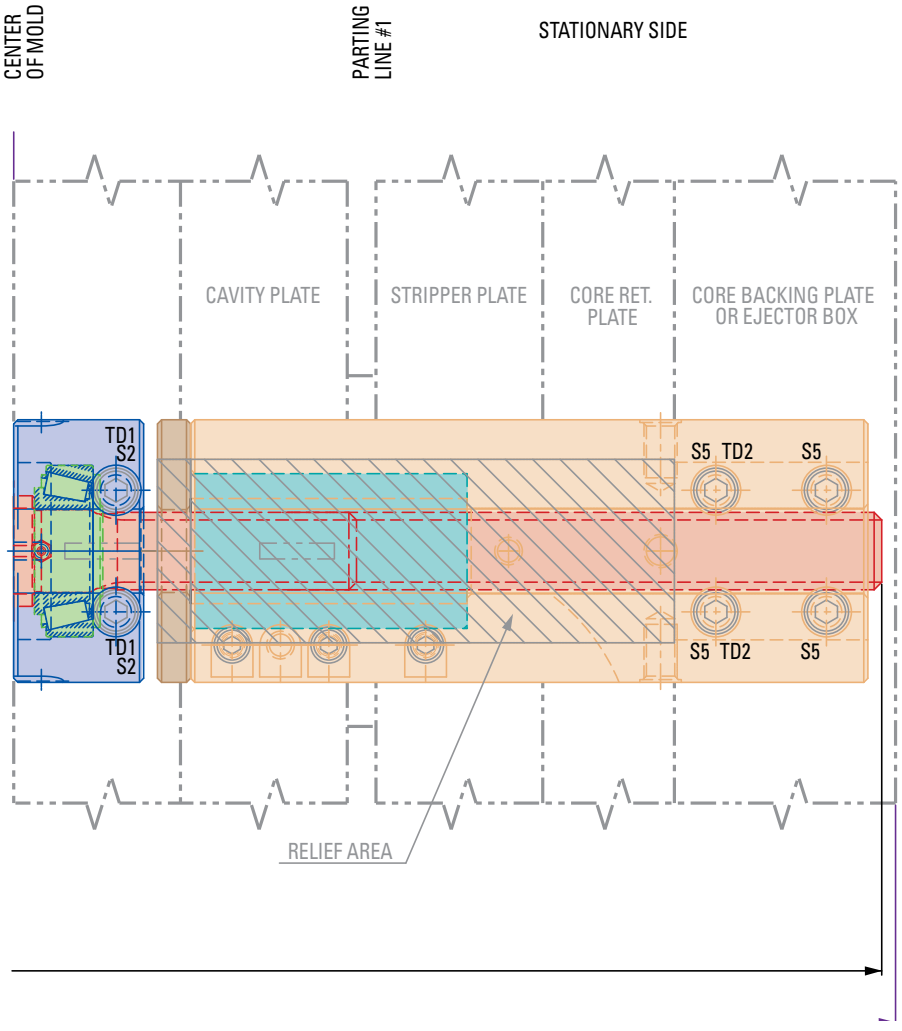
HELICAL GEAR STACK MOULD SYSTEMS HG

HELICAL GEAR SHAFT (uncut and special)

ROLLER BEARING



Roller Bearing Housing



Constant Dimensions

	HG28-1000	HG38-1200	HG38-1500
a1	1000	1200	1500
A2	245	296	296
A3	436	520	670
A4	12	15	15
A5	5	5	5
A6	47	60	60
A7	37	48	48
A8	60	75	75
A9	22	29	29
A10	70	90	90
A11	55	70	70
A12	15	20	20
A13	35	45	45
A14	45	57	57
A15	95	120	120
A16	124	155	155
A17	376	445	595
A18	5	5	5
A19	5	5	5

Calculated Dimensions

	HG28	HG38
C1		
C2		

C1 = 2 x (A16 + B2)
IF: C1 > (B1 – 10)
THEN: Gear Shaft is too long.
Increase B1 (total shut height).

C2 = (B4 + A10) – (A4 + A5 + A6)
IF: C2 < A2
THEN: Nut Housing is too short.
Increase B1 (total shut height).
IF: C2 > A3
THEN: Need special Nut Housing, longer than A3.
IF: C2 > 1/2 x B1 – (A4 + A5 + A6 + A19)
THEN: Nut Housing is too long.
Increase B1 (total shut height).

Input Data

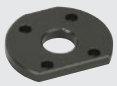
	HG28	HG38
B1		
B2		
B3		
B4		

Restrictions
IF: B4 ≥ 1/2 x B1
THEN: Impossible configuration.
Decrease B4 or increase B1.
IF: B3 < A6
THEN: Impossible configuration.
Increase B3.
IF: B2 ≥ 1/2 x B1
THEN: Impossible configuration.
Decrease B2.

Configuration Calculation Sheet available from **DME** Applications Engineering to help determine the lengths of the Helical Gear Shaft and Nut Housing based on mould size, and required parting line openings per side.

CAD reference point

HELICAL GEAR COMPONENTS

Helical Gear Components	
	Helical Gear Shaft
	Nut Housing Blank
	Nylon Nut
	Tapered Roller Bearing
	Roller Bearing Housing
	Nut Housing End Cap
	Alignment Rod
	Shipping Strap

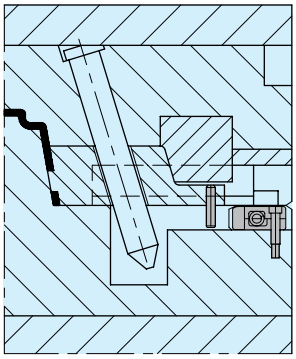
CAD reference point

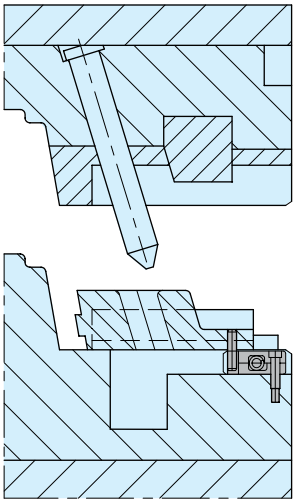
CAD reference point

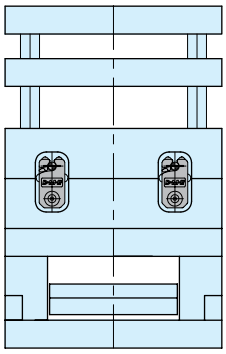
SLIDE RETAINERS

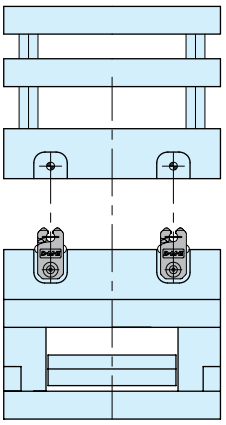
MINI-MIGHT™ SLIDE RETAINERS — Info PSRM-PSM-MRT

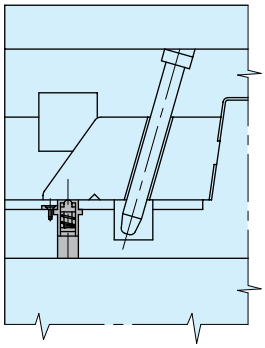
DME Slide Retainers provide a compact and economical means of slide retention which obsoletes the cumbersome external spring or hydraulic methods. Interference with machine tie bars or safety gates is no longer a problem.

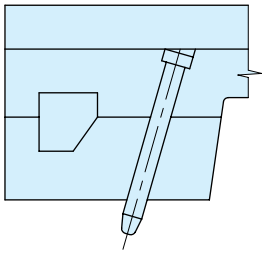


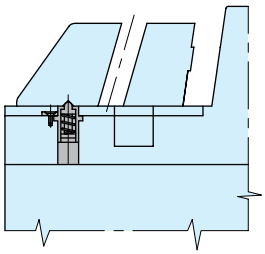












Available in three sizes with increasing weight holding capacities, the Slide Retainers can be used individually or in multiples for larger or heavier slides.

3 types to choose from:

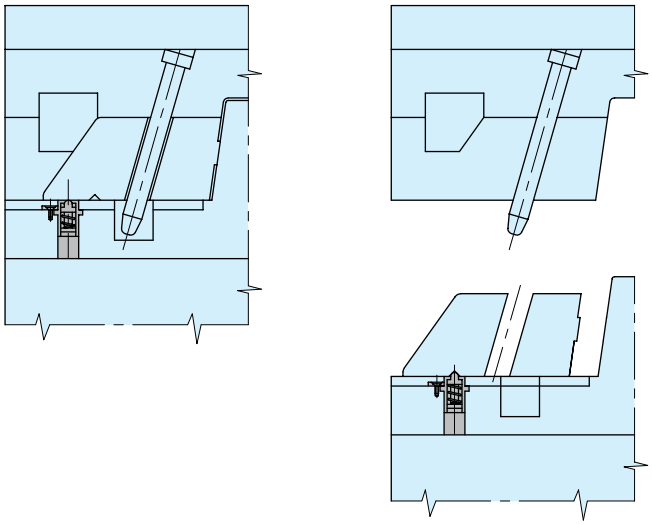
1. **MRT**: the dowel pin installed in the slide positively locks into the retainer until disengaged by the mould's closing action. Designed with a generous lead-in at the socket opening so the dowel pin will enter the socket even if there is a slight misalignment between the retainer and the pin.

2. **PSM**: similar to MRT but spring is completely enclosed and protected from contamination.

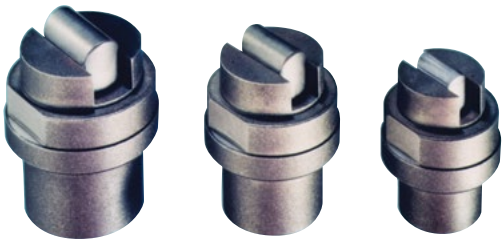
3. **PSRM**: works without dowel pin so slide can be removed without removing slide retainer. Small in size yet strong holding power.

CAD reference point

MINI-MIGHT™ SLIDE RETAINERS **PSRM**

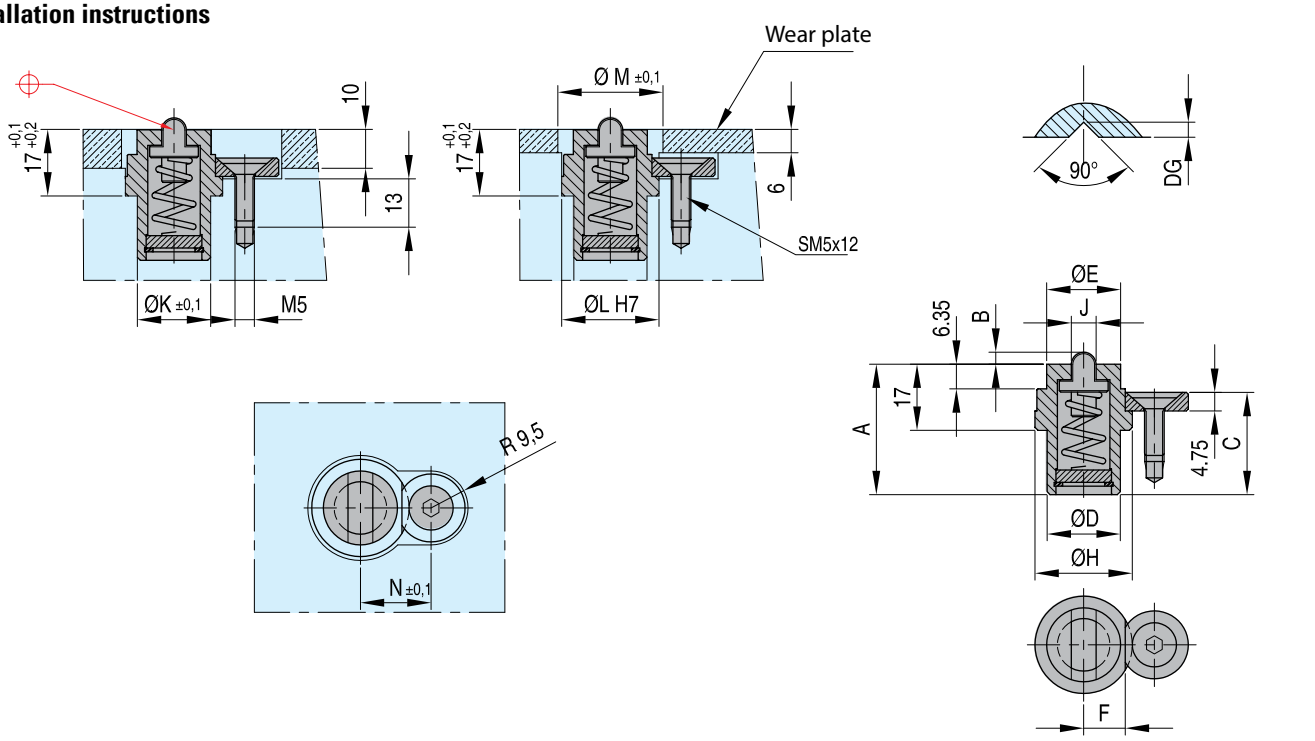


- Small in size yet strong holding power
- Product design facilitates easy installation
- Slide can be removed without the removal of the slide retainer
- Self-contained design
- Line contact engagement
- Three retaining rates: 44, 88 and 176 Newton
- Max. temperature 120°C



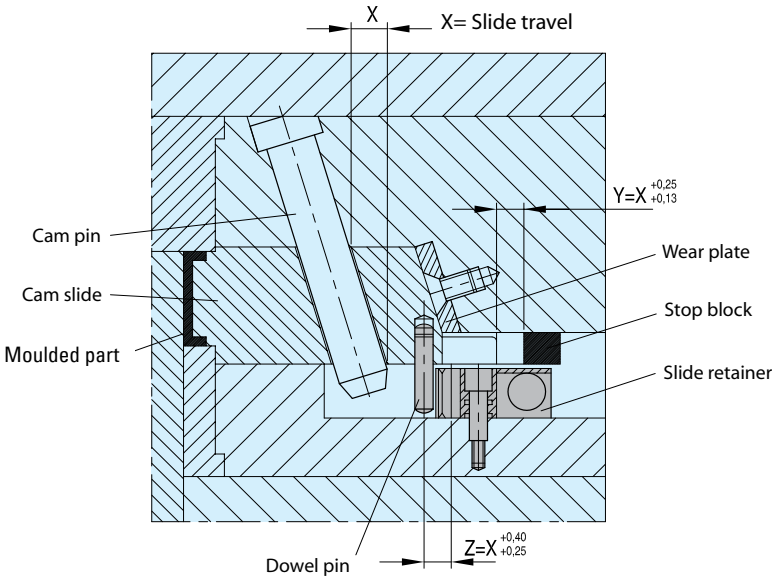
REF	Mini Might™ Slide retainer								Max. Slide weight Kg	DG mm	Pocket dimensions			
	A	B	C	D	E	F	H	J			K	L	M	N
PSRM1000	27,43	1,83	20,20	15,75	16	9,52	22	17,5	4,4	2,3	15,87	22	24	17,0
PSRM2000	33,53	3,07	26,30	18,8	19	10,67	25	21,5	8,8	3,9	19,05	25	27	18,2
PSRM4000	32,00	3,78	24,76	22,1	22	11,86	28	31,5	17,6	4,9	22,23	28	30	19,4

Installation instructions



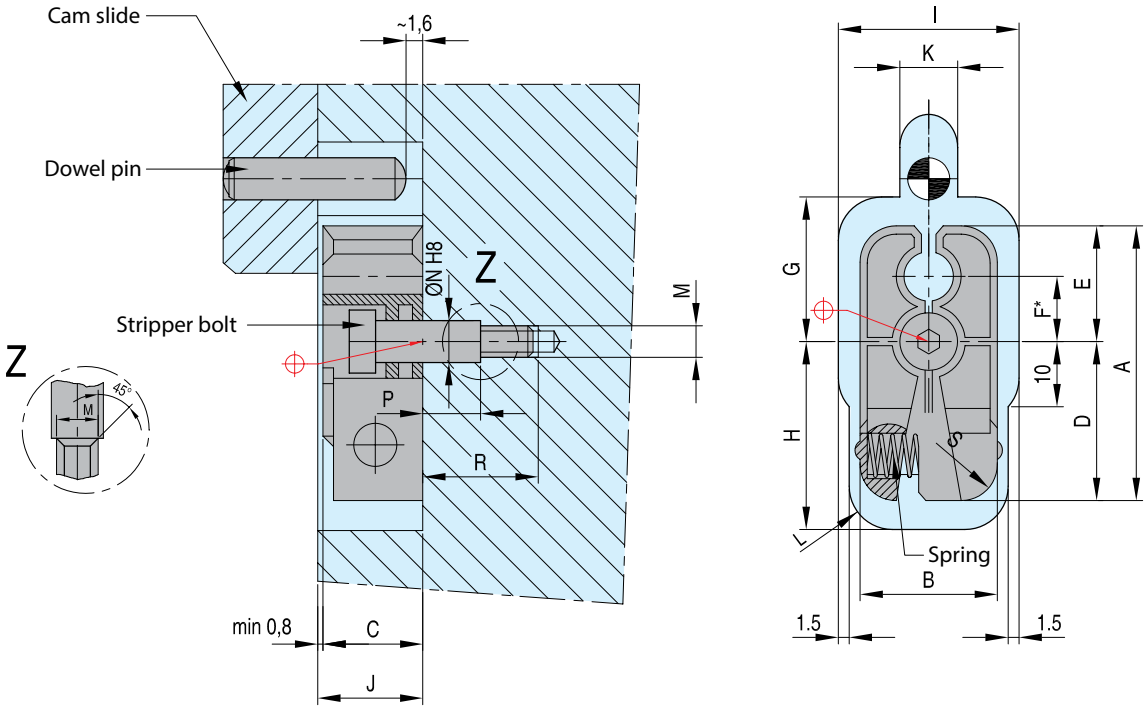
CAD reference point

SLIDE RETAINERS MRT



REF	Slide retainer							Retainer pockets in mould										Max. slide weight (kg)
	A	B	C	D	E	F*	S	G	H	I	J	K	L	M	N	P	R	
MRT10M	38	19	16	22	16	9,1	5	19	26	25	17	8	6	M5	6	6	15,5	10
MRT20M	54	32	20	33	21	12,7	6	24	36	38	21	10	8	M6	8	8,5	20,5	20
MRT40M	86	45	30	53	33	20,3	10	36	56	51	31	12	11	M8	10	10	25,0	40

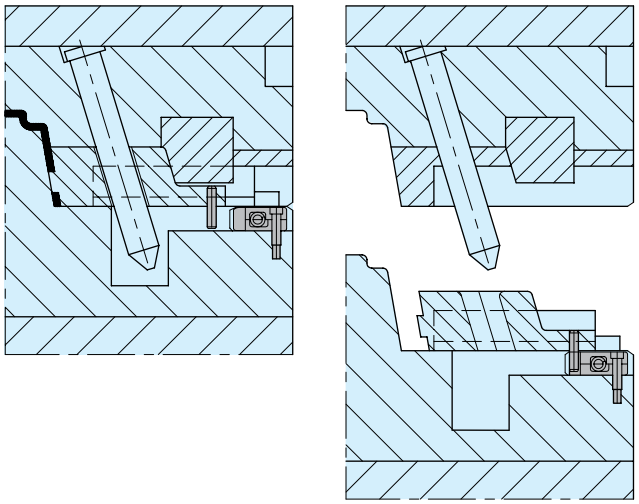
* The distance from the center of the dowel pin to the center of the stripper bolt is critical



Replacement parts			
Dowel pin	Stripper bolt	Spring	Tightening torque for stripper bolt Nm max.
DP630	PM516	MRT10MSP	10
DP840	PM620	MRT20MSP	15
060	PM830	MRT40MSP	20

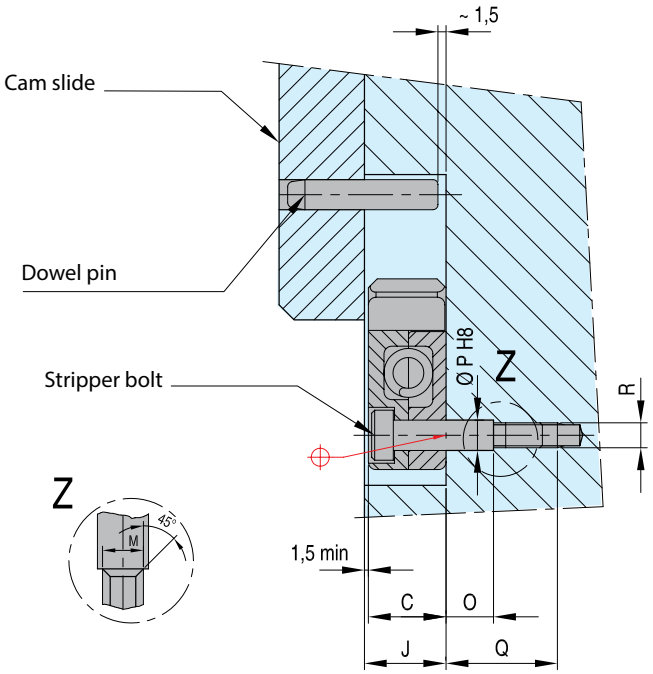
CAD reference point

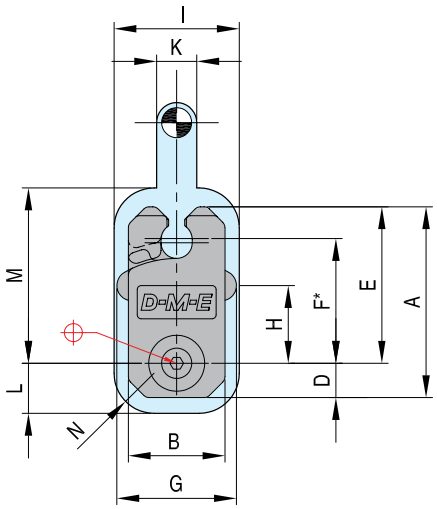
SLIDE RETAINERS — PSM



REF	Cam slide									Retainer pockets in mould									Max. slide weight (kg)
	A	B	C	D	E	F*	G	H	I	J	K	L	M	N	O	P	Q	R	
PSM0001	38	19	16	7	31,5	24,89	24,0	15,5	25,5	17,5	8	10,0	34,5	8	8,5	6	20	M5	10
PSM0002	54	32	20	11	43,0	34,93	36,5	22,5	38,0	21,5	10	14,5	46,0	10	10,5	8	25	M6	20
PSM0003	86	45	30	19	67,0	53,98	49,5	40,0	51,0	31,5	12	22,5	70,0	12	17,0	10	35	M8	40

* The distance from the center of the dowel pin to the center of the stripper bolts is critical.





CAD reference point

Replacement parts			
Dowel pin	Stripper bolt	Spring	Tightening torque for stripper bolt Nm max.
DP630	PM520	PSM0001MSP	10
DP840	PM625	PSM0002MSP	15
DP1060	PM840	PSM0003MSP	20

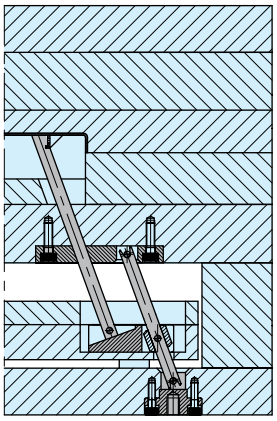
CAD reference point

MOULDING UNDERCUTS

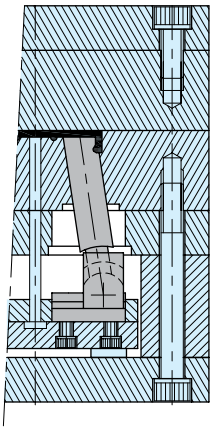
MOULDING UNDERCUTS

Info VF-ULB/ULC/ULG-AW275/282

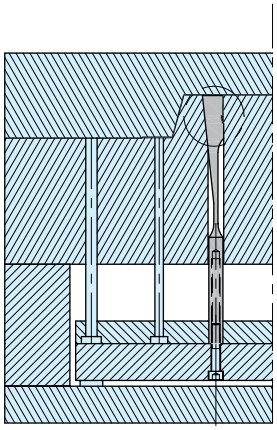
DME has a wealth of solutions for undercut applications:
3 options for straight-line “snap” or “hook” features:



Vectorform VF: unprecedented design flexibility allowing designers to incorporate undercuts that are twice as deep as previously possible. Alternatively, mould designers can cut their ejector stroke in half while maintaining existing undercut geometries



Unilifter ULB-ULC-ULG: back by popular demand, this sliding system can release undercut angles up to 10°



Flexible ejectors AW275/AW280: an inexpensive component used for small, simple undercuts.

CAD reference point

INTERNAL UNDERCUTS — Info CC - DT Core

2 options for internal undercuts (collapsible cores):

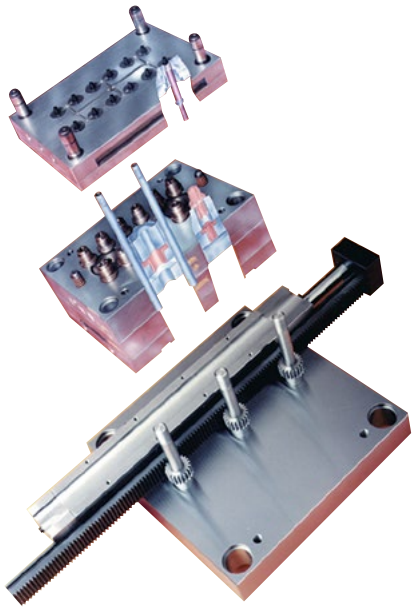
Collapsible Core CC: the global standard for a collapsible core, CC's have been successfully used for over 30 years to mould simple parts like caps as well as more complicated technical fittings. Once installed, CC's offer trouble free operation for millions of cycles.

DT Core: DT cores offer unrivalled undercut possibilities and sophisticated 3D part geometries. Precision machined to extremely high tolerances to give the highest quality plastic parts and durability

INTERNAL UNDERCUTS — Info EXP - CC

External undercuts using the Expandable cavity/core.

Uses the same high-quality technology from **DME** CC collapsible cores. Custom designed for each application to suit space and build-in requirements.



Unscrewing device ZG for threaded parts. Used worldwide for over 30 years this simple yet unique system employs a hydraulic cylinder to actuate a gear-rack.

- Thickness of Hydraulic cylinders chosen to match standard plate thicknesses
- Square cross section and 4 precision ground surfaces means the cylinder can be conveniently incorporated inside the mould, for example as risers
- Possibility to use rack or cam on all 4 sides of cylinder
- End caps can be rotated allowing flexibility for oil feed
- Cam ramp ZL allows actuation of stripper plate after unscrewing without a second ejector stroke
- Rod seal includes "casing wiper" to prevent dirt entering inside of cylinder
- Optional limit switch with high accuracy micro switches, easily accessible for fine adjustment

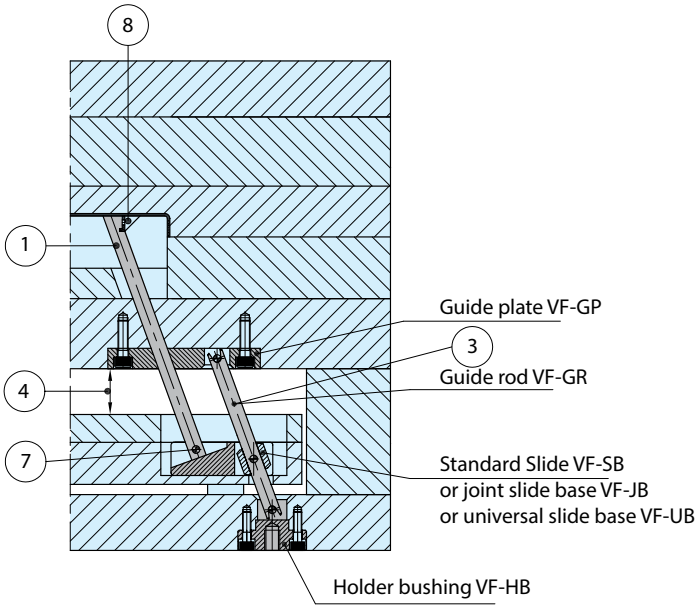
CAD reference point

VECTORFORM- LIFTER SYSTEM VF-SS / VF-JS / VF-US

VectorForm Lifter Sets include:
Holder bushing - VF-HB
Guide Rod - VF-GR
Guide Plate - VF-GP
Slide Base:
Standard - VF-SB,
or Joint - VF-JB,
or Universal - VF-UB

REF	Includes	Includes	Includes	Includes	Set
VF06SS	VF06HB	VF06GR	VF06GP	VF06SB	Standard
VF08SS	VF08HB	VF08GR	VF08GP	VF08SB	Standard
VF10SS	VF10HB	VF10GR	VF10GP	VF10SB	Standard
VF13SS	VF13HB	VF13GR	VF13GP	VF13SB	Standard
VF16SS	VF16HB	VF16GR	VF16GP	VF16SB	Standard
VF20SS	VF20HB	VF20GR	VF20GP	VF20SB	Standard
VF06JS	VF06HB	VF06GR	VF06GP	VF06SB	Joint
VF08JS	VF08HB	VF08GR	VF08GP	VF08SB	Joint
VF10JS	VF10HB	VF10GR	VF10GP	VF10SB	Joint

REF	Includes	Includes	Includes	Includes	Set
VF13JS	VF13HB	VF13GR	VF13GP	VF13SB	Joint
VF16JS	VF16HB	VF16GR	VF16GP	VF16SB	Joint
VF20JS	VF20HB	VF20GR	VF20GP	VF20SB	Joint
VF06US	VF06HB	VF06GR	VF06GP	VF06SB	Universal
VF08US	VF08HB	VF08GR	VF08GP	VF08SB	Universal
VF10US	VF10HB	VF10GR	VF10GP	VF10SB	Universal
VF13US	VF13HB	VF13GR	VF13GP	VF13SB	Universal
VF16US	VF16HB	VF16GR	VF16GP	VF16SB	Universal
VF20US	VF20HB	VF20GR	VF20GP	VF20SB	Universal



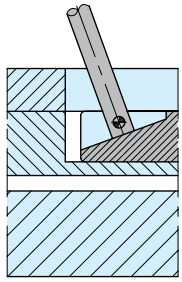
Features & Benefits

- Moves freely at angles up to 30°. For angles greater than 30° please contact **DME** Technical Service for design guidance.
- Plate machining is significantly simplified as no diagonal hole machining is required in order to install the VectorForm Lifter System.
- Maximum lifter angle is greatly improved with VectorForm Lifter System. Lifter cores may be installed at any given angle up to 30°.
- The robust design and construction of the VectorForm Lifter System ensures that it is secure at any given ejector stroke regardless of angle used.
- The compact design of the VectorForm Lifter System minimizes potential for interference with other components within the mould.
- VectorForm Lifter System components are engineered for the common injection moulding environment. No special coatings are necessary.
- The lifter core assembly may be secured to the Slide Base in a variety of ways, maximizing design flexibility.
- Maximizes allowable undercut space.

CAD reference point

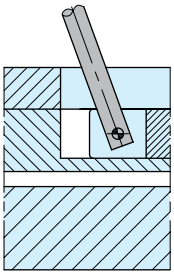
STANDARD SLIDE SB — VF-SB

The Standard Slide Base is the most flexible and the most economical slide base. The Standard Slide Base can be custom machined by the mould builder to meet specialized application requirements. The Standard Slide Base is also the most robust slide base with respect to loads and forces.



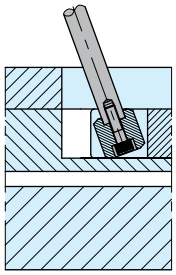
JOINT SLIDE BASE JB — VF-JB

Joint Slide Base permits the lifter core assembly to be retained with a single pin.



UNIVERSAL SLIDE BASE UB — VF-UB

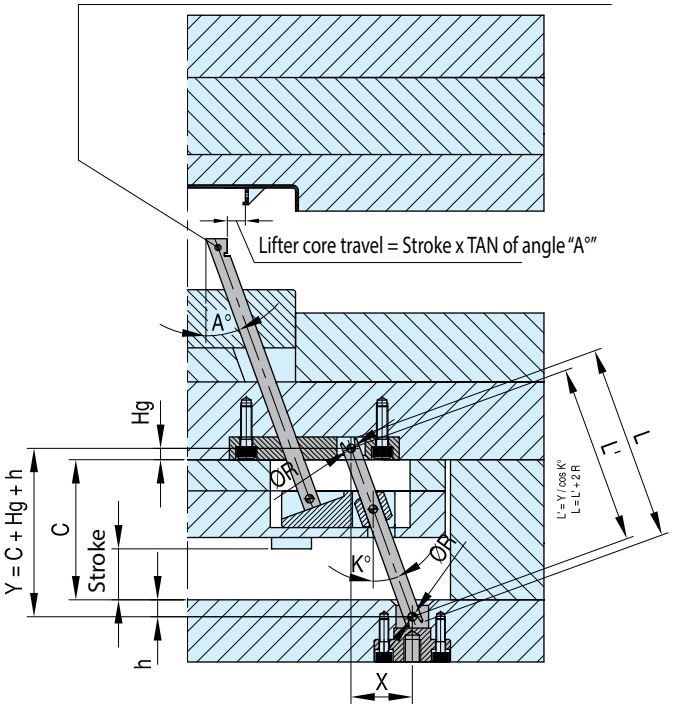
The universal Slide Base is similar to the Joint Slide Base, although the single pin is replaced by a universal joint which offers greater flexibility than the Joint Slide Base while still requiring only one screw to retain the lifter core assembly.



CAD reference point

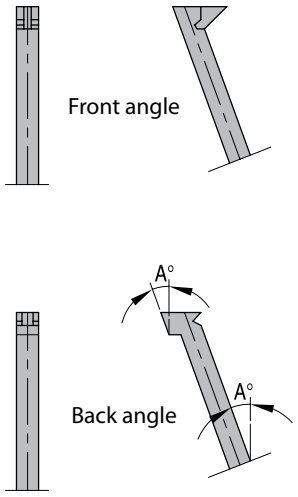
VECTORFORM LIFTER SYSTEMS VF-SS / VF-JS / VF-US

The lifter core (supplied) by moldmaker) may be a single-piece component or an assembly of several components including a modified guide rod



C - Ejector box height
I - Ejector retainer plate height
J - Bottom clamp height

Locking Angles



1. General Installation
It is recommended that the VectorForm Lifter System be installed as shown. For each given VectorForm set, all components MUST be of the same size. However, separate sets of different sizes may be installed in the same mould. Actuation of VectorForm Lifter Systems can be accelerated or decelerated by an inclined sliding surface on the ejector plate and ejector retainer plate.

2. Angles
The VectorForm Lifter System may be used with angles ranging from 5° (min) to 30° (max). Deep undercuts in the moulded part can be obtained by using a larger angle in the lifter core and by increasing the ejector plate stroke.

3. Lifter Core Guidance
The lifter core must have sufficient guidance in the tool. For multiple lifter cores installed in tandem in the tool, additional guidance in the core inserts is recommended. If resistance in actuation is great, an additional Guide Plate may be placed directly below the core insert.

4. Guided Ejection
Guided ejection is recommended for all designs.

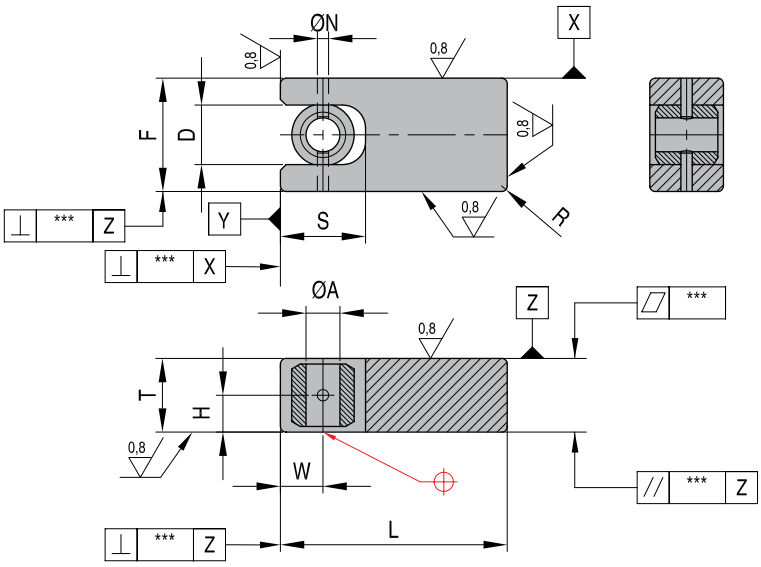
5. Fit and Finish
Standard component dimensions and Rockwell hardness are provided in the component specifications section. Should the standard components need to be modified, additional performance can be obtained by treating after finish machining (TiN coating, flash-chrome, etc.). Component installations can be fitted to suit. Ensure a loose fit on the Holder Bushing and Guide Plate installation. Ensure a precise fit between the lifter core and Guide Plate. The Holder Bushing will automatically align prior to bolting the bushing to the clamp plate. Lubrication is not generally required nor recommended. If lubrication is used, it should be low-viscosity.

6. Locking Angles/ Component Back-up
Locking angles may be designed to provide a locking surface to counter against moulding pressure. A block construction using a square lifter core can also allow the resin pressure to be backed up by the core insert. If the axial load acting on the lifter core exceeds the limit allowed for the slide base pin (used in VF-JB and VF-UB Slide Bases), use a Standard (VF-SB) Slide Base and back the lifter core on the slide by machining a ledge that is perpendicular to the axis of the lifter core. The lifter core must then seat firmly against the angled face of the Slide Base.

7. Non-Standard Shapes/Materials
Lifter core blocks may be machined to any desired shape and size, provided the chosen number and size of the VectorForm Lifter System core standard components will support the lifter core blocks. Lifter core blocks are to be supplied by the mouldmaker.

CAD reference point

STANDARD SLIDE BASE — VF-SB

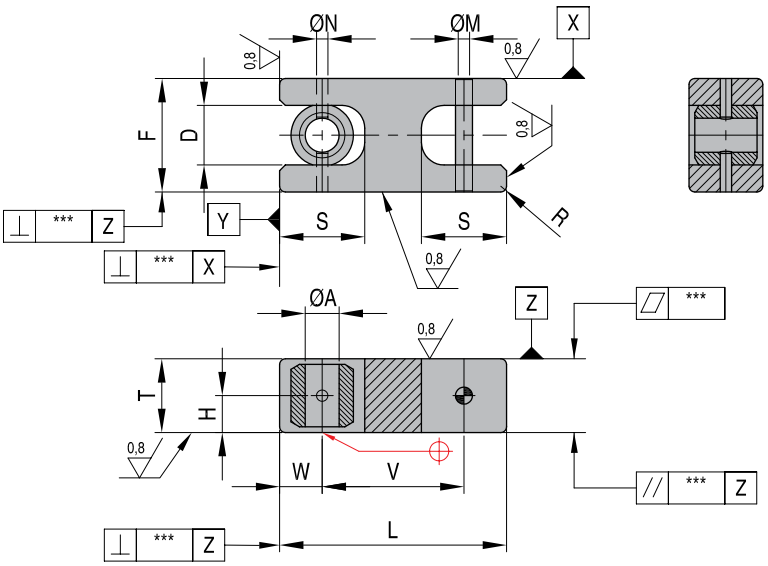


Mat.: DIN 1.7225/30-33 HRC

Additional Machining:
Retaining bolt installation on lifter core rod or assembly.
Heat Treatment:
Gas nitriding is permissible after additional machining has been performed.

REF	A	L	F	T	D	H	W	S	N	R	▱	//	⊥
VF06SB	6	40 $^{0}_{-0,10}$	20 $^{0}_{-0,02}$	13 $^{0}_{-0,02}$	10,5	6,5	7,5	15	2	1	0,010	0,01-0,02	0,02
VF08SB	8	50 $^{0}_{-0,10}$	25 $^{0}_{-0,02}$	15 $^{0}_{-0,02}$	13,5	7,5	10,0	20	3	1	0,010	0,01-0,02	0,02
VF10SB	10	60 $^{0}_{-0,20}$	32 $^{0}_{-0,03}$	20 $^{0}_{-0,03}$	17,0	10,0	12,5	25	4	2	0,015	0,02-0,03	0,03
VF13SB	13	80 $^{0}_{-0,20}$	40 $^{0}_{-0,03}$	25 $^{0}_{-0,03}$	22,0	12,5	15,0	30	5	2	0,015	0,02-0,03	0,03
VF16SB	16	100 $^{0}_{-0,30}$	50 $^{0}_{-0,05}$	30 $^{0}_{-0,05}$	27,0	15,0	20,0	40	6	3	0,020	0,02-0,05	0,05
VF20SB	20	130 $^{0}_{-0,30}$	60 $^{0}_{-0,05}$	40 $^{0}_{-0,05}$	33,0	20,0	25,0	50	7	3	0,020	0,02-0,05	0,05

JOINT SLIDE BASE — VF-JB



Mat.: DIN 1.7225/DIN 1.1213/60-66HRC

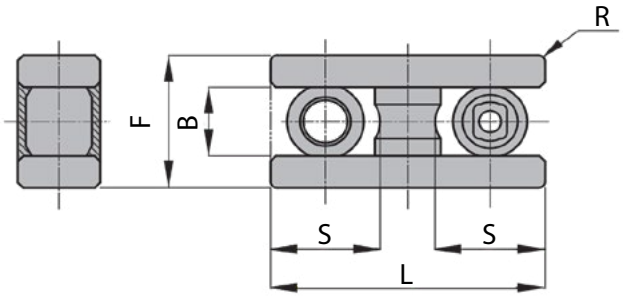
Attachment: Joint Pin
Heat Treatment: Gas nitriding is permissible; during nitriding, use a pin finer (-0.01) than the attached joint pin.
Joint Pin material:
DIN1.1213
Hardness: HRC 60-66
Tempering temperature: 600°C

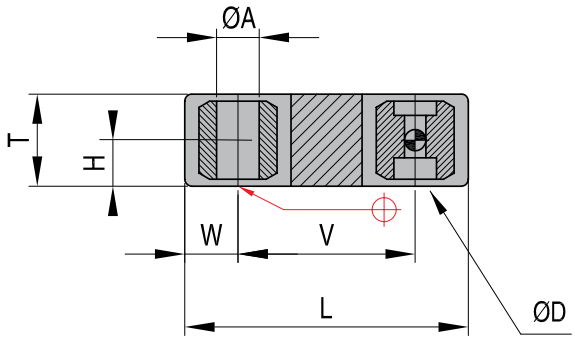
REF	A	L	F	T	D	H	W	S	V	N	M	R	▱	//	⊥
VF06JB	6	40 $^{0}_{-0,10}$	20 $^{0}_{-0,02}$	13 $^{0}_{-0,02}$	10,5	6,5	7,5	15	25	2	3	1	0,01	0,01-0,02	0,02
VF08JB	8	50 $^{0}_{-0,10}$	25 $^{0}_{-0,02}$	15 $^{0}_{-0,02}$	13,5	7,5	10	20	30	3	4	1	0,01	0,01-0,02	0,02
VF10JB	10	60 $^{0}_{-0,20}$	32 $^{0}_{-0,03}$	20 $^{0}_{-0,03}$	17	10	12,5	25	35	4	5	2	0,015	0,02-0,03	0,03
VF13JB	13	800 $^{0}_{-0,20}$	40 $^{0}_{-0,03}$	25 $^{0}_{-0,03}$	22	12,5	15	30	50	5	6	2	0,015	0,02-0,03	0,03
VF16JB	16	100 $^{0}_{-0,30}$	50 $^{0}_{-0,05}$	30 $^{0}_{-0,05}$	27	15	20	40	60	6	8	3	0,02	0,02-0,05	0,05
VF20JB	20	130 $^{0}_{-0,30}$	60 $^{0}_{-0,05}$	40 $^{0}_{-0,05}$	33	20	25	50	80	7	10	3	0,02	0,02-0,05	0,05

CAD reference point

UNIVERSAL SLIDE BASE — VF-UB

Mat.: DIN 1.7225/30-33 HRC
Heat Treatment: Nitriding is permissible.

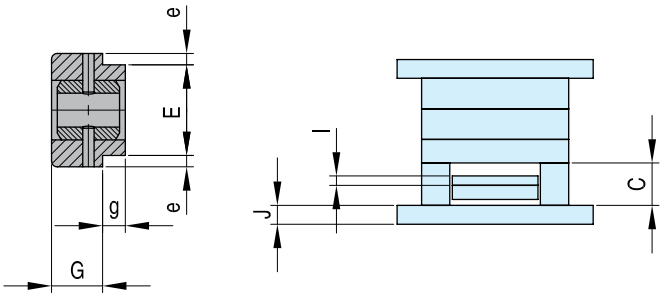




REF	A	L	F	T	B	H	W	S	V	ØD	R
VF06UB	6	40 $^{0}_{-0,10}$	20 $^{0}_{-0,02}$	13 $^{0}_{-0,02}$	10,5	6,5	7,5	15	25	M3x10	1
VF08UB	8	50 $^{0}_{-0,10}$	25 $^{0}_{-0,02}$	15 $^{0}_{-0,02}$	13,5	7,5	10,0	19	30	M5x15	1
VF10UB	10	60 $^{0}_{-0,20}$	32 $^{0}_{-0,03}$	20 $^{0}_{-0,03}$	17,0	10,0	12,5	24,5	35	M6x20	2
VF13UB	13	80 $^{0}_{-0,20}$	40 $^{0}_{-0,03}$	25 $^{0}_{-0,03}$	22,0	12,5	15,0	31	50	M6x20	2
VF16UB	16	100 $^{0}_{-0,30}$	50 $^{0}_{-0,05}$	30 $^{0}_{-0,05}$	27,0	15,0	20,0	40	60	M8x25	3
VF20UB	20	130 $^{0}_{-0,30}$	60 $^{0}_{-0,05}$	40 $^{0}_{-0,05}$	33,0	20,0	25,0	50	80	M10x35	3

ADDITIONAL MACHINING- INSTALLATION CLASSIFICATION — VF-SB/VF-JB/VF-UB

*These are retention grooves used to retain the slide base in the ejector plates. They need to be machined by the customer.



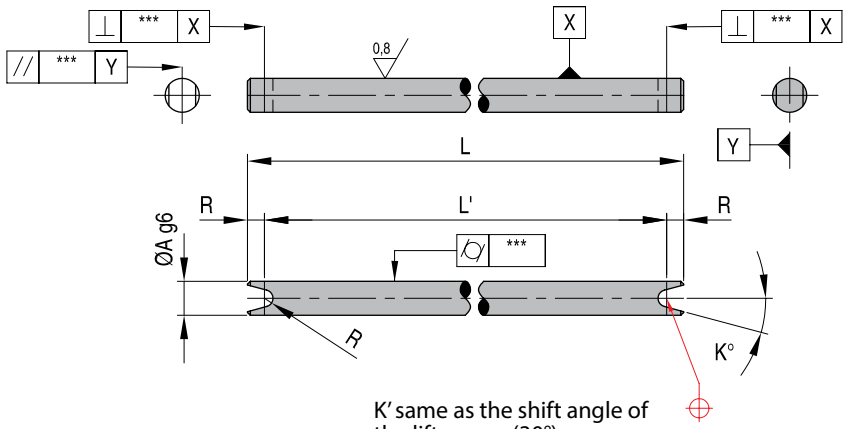
REF	E	e	G	g	I	J	C
VF06SB/JB/UB	16	2,0	9	4	13	20	50-120
VF06SB/JB/UB	20	2,5	11	4	15	25	50-150
VF06SB/JB/UB	26	3,0	14	6	20	30	70-200
VF06SB/JB/UB	33	3,5	17	8	25	35	100-250
VF06SB/JB/UB	42	4,0	22	8	30	40	120-300
VF06SB/JB/UB	50	5,0	28	12	35	50	120-400

CAD reference point

GUIDE ROD — VF-GR

Mat.: DIN 1.3505 - 58-60HRC

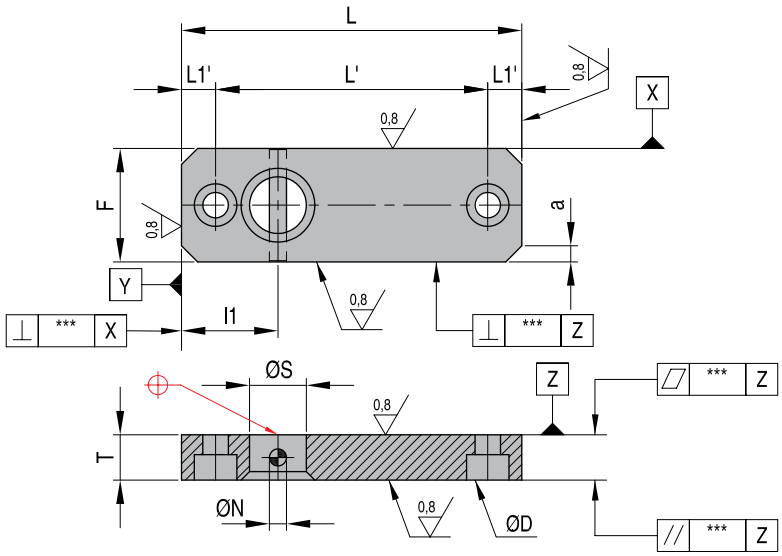
Note: Mouldmaker to add grooves and chamfers per specification shown.



REF	A	L	L' = L-2R	R	
VF06GR	6	150	148 $^{-0,05}_{-0,1}$	1,0 $^{+0,02}_{0}$	0,02
VF08GR	8	190	187 $^{-0,05}_{-0,1}$	1,5 $^{+0,02}_{0}$	0,02
VF10GR	10	250	246 $^{-0,1}_{-0,2}$	2,0 $^{+0,03}_{0}$	0,03
VF13GR	13	310	305 $^{-0,1}_{-0,2}$	2,5 $^{+0,03}_{0}$	0,03
VF16GR	16	370	364 $^{-0,2}_{-0,4}$	3,0 $^{+0,05}_{0}$	0,05
VF20GR	20	500	493 $^{-0,2}_{-0,4}$	3,5 $^{+0,05}_{0}$	0,05

GUIDE PLATE — VF-GP

Mat.: 1.1213 - 22-25HRC

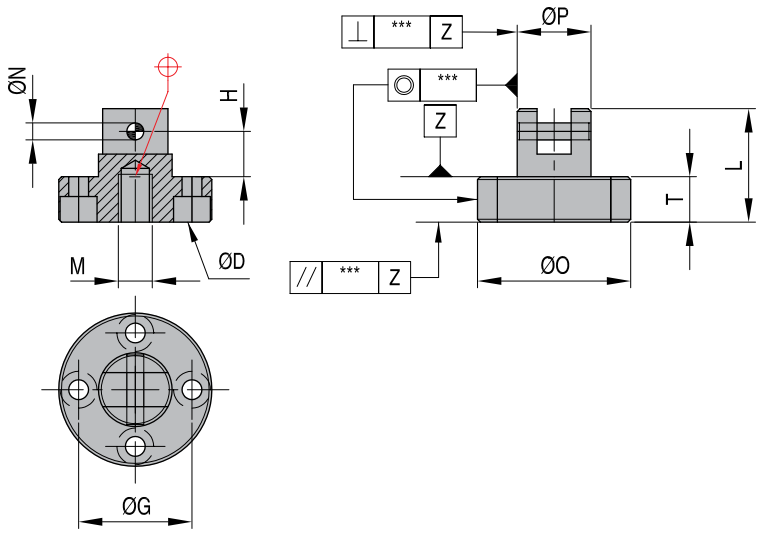


REF	L	F	T	S	N	L'	L1'	I1	0D				a
VF06GP	60 $^{0}_{-0,04}$	20 $^{0}_{-0,02}$	8 $^{0}_{-0,02}$	10	2	50	5	17,5	M3x10	0,01	0,01-0,02	0,01-0,02	4,0
VF08GP	70 $^{0}_{-0,04}$	25 $^{0}_{-0,02}$	10 $^{0}_{-0,02}$	13	3	60	5	20	M4x12	0,01			5,0
VF10GP	90 $^{0}_{-0,06}$	32 $^{0}_{-0,03}$	12 $^{0}_{-0,03}$	16	4	75	7,5	25	M5x15	0,01	0,02-0,03	0,02-0,03	6,0
VF13GP	120 $^{0}_{-0,06}$	40 $^{0}_{-0,03}$	15 $^{0}_{-0,03}$	20	5	105	7,5	30	M6x12	0,01			7,5
VF16GP	150 $^{0}_{-0,1}$	50 $^{0}_{-0,05}$	20 $^{0}_{-0,05}$	25	6	130	10	40	M8x25	0,01	0,02-0,05	0,02-0,05	10,0
VF20GP	180 $^{0}_{-0,1}$	60 $^{0}_{-0,05}$	25 $^{0}_{-0,05}$	30	7	155	12,5	45	M10x30	0,01			12,2

CAD reference point

HOLDER BUSHING VF-HB

Mat.: 1.1213 - 15-20HRC

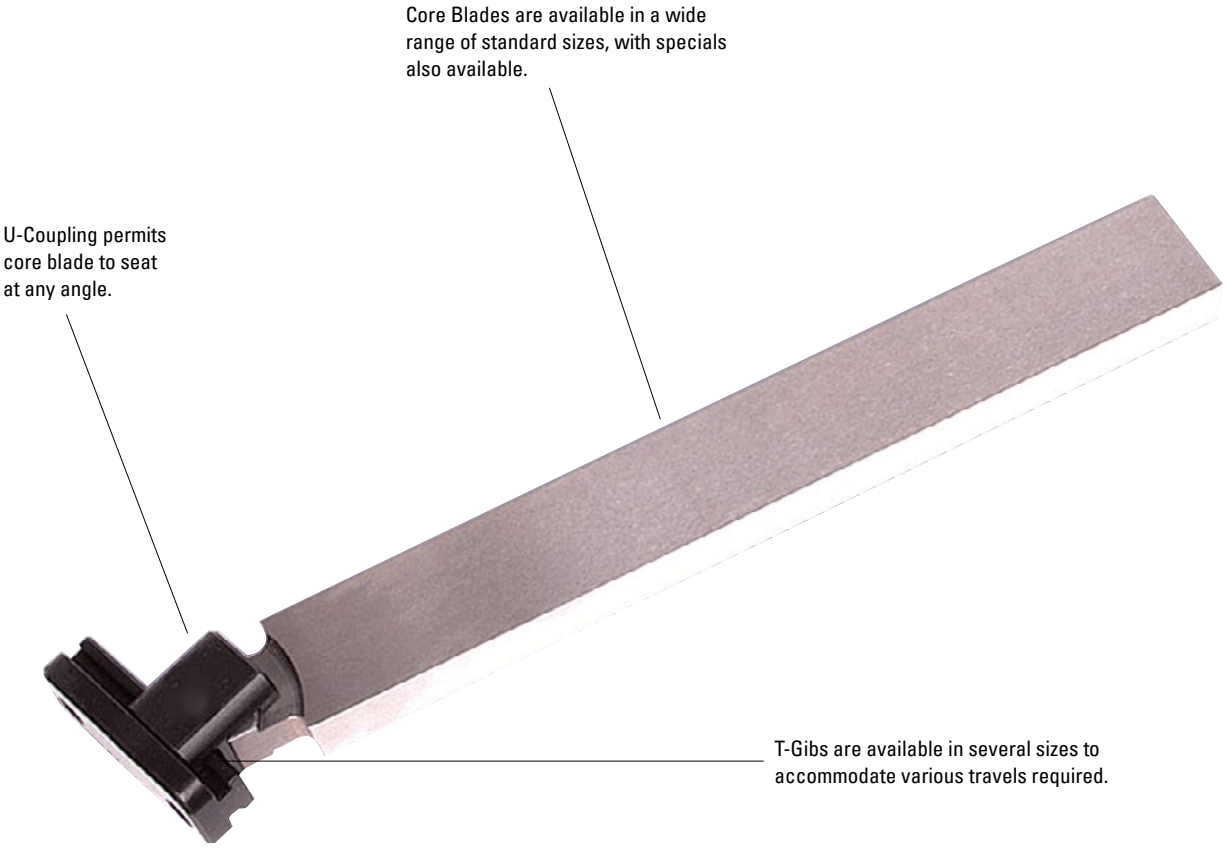


REF	P	L	O	T	G	0D	H	M	N			
VF06HB	13 $^{0}_{-0,05}$	20 $^{-0,1}_{-0,2}$	27 $^{0}_{-0,2}$	8 $^{-0,1}_{-0,2}$	19	M3x10	8,0	M3x6	2	0,05	0,04	0,02
VF08HB	16 $^{0}_{-0,05}$	25 $^{-0,1}_{-0,2}$	34 $^{0}_{-0,2}$	10 $^{-0,1}_{-0,2}$	24	M4x12	10,0	M4x8	3	0,05	0,04	0,02
VF10HB	20 $^{0}_{-0,07}$	30 $^{-0,1}_{-0,3}$	42 $^{0}_{-0,3}$	12 $^{-0,1}_{-0,3}$	30	M5x15	12,0	M5x10	4	0,07	0,06	0,03
VF13HB	25 $^{0}_{-0,07}$	35 $^{-0,1}_{-0,3}$	51 $^{0}_{-0,3}$	15 $^{-0,1}_{-0,3}$	37	M6x12	12,5	M6x12	5	0,07	0,06	0,03
VF16HB	30 $^{0}_{-0,1}$	40 $^{-0,1}_{-0,5}$	65 $^{0}_{-0,5}$	20 $^{-0,1}_{-0,5}$	47	M8x25	12,0	M8x15	6	0,10	0,10	0,05
VF20HB	40 $^{0}_{-0,1}$	50 $^{-0,1}_{-0,5}$	80 $^{0}_{-0,5}$	25 $^{-0,1}_{-0,5}$	58	M10x30	15,5	M10x20	7	0,10	0,10	0,05

CAD reference point

UNILIFTER ULB-ULC-ULG

Unilifter - Undercut releasing system
Standard components simplify mould design and construction for release of moulded undercuts.
Radiused dovetail design lets core blade seat automatically at the required angle.
Smooth travel of U-Coupling in T-Gib eliminates heel binding often encountered in other fixed angle designs.
Wide size selection covers more applications than similar standardized systems.
DME steel 5 (1.2344) Core blades for easy conventional machining.
Each Unilifter assembly is comprised of a Core blade, U-Coupling and T-Gib.

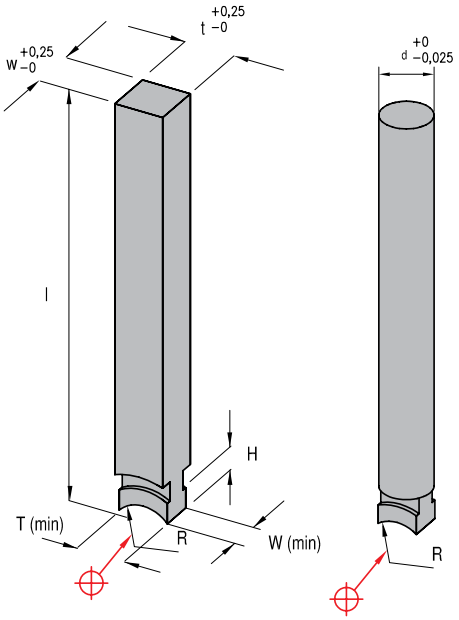


The UniLifter undercut releasing system incorporates a three piece set: Core Blade, U-Coupling, and T-Gib.

CAD reference point

UNILIFTER

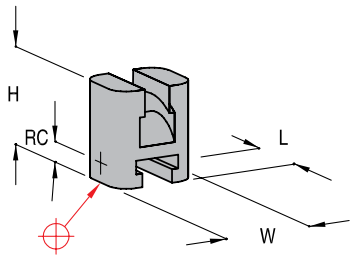
CORE BLADES — ULB



Mat.: 1.2344, 38-42 HRC

REF	Old REF	W min	R	H	T min	t	w	l	d
ULBMM10x10L250	ULB-1001	10	10	5	10	10	10	250	-
ULBMM15x15L250	ULB-1002	10	10	5	15	15	15	250	-
ULBMM10x20L250	-	10	10	5	10	20	10	250	-
ULBMM20x10L250	-	10	10	5	15	10	20	250	-
ULBMM15x30L400	-	10	10	5	15	30	15	400	-
ULBMM30x15L400	-	10	10	5	15	15	30	400	-
ULBMM20x20L400	ULB-1003	10	10	5	15	20	20	400	-
ULBMM15DL250	ULB-1101	10	10	5	10	-	-	250	15
ULBMM10DL250	-	10	10	5	10	-	-	250	10

U-COUPLINGS — ULC

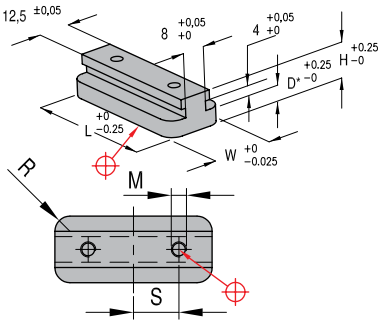


RC: Radius center for radius R

Mat.: 1.2344, Surface 60-70 HRC, Core 38-42 HRC

REF	Old REF	W	L	H	RC	R
ULCMM22	**ULC-1001**	22	18	25	6	10

T-GIBS — ULG



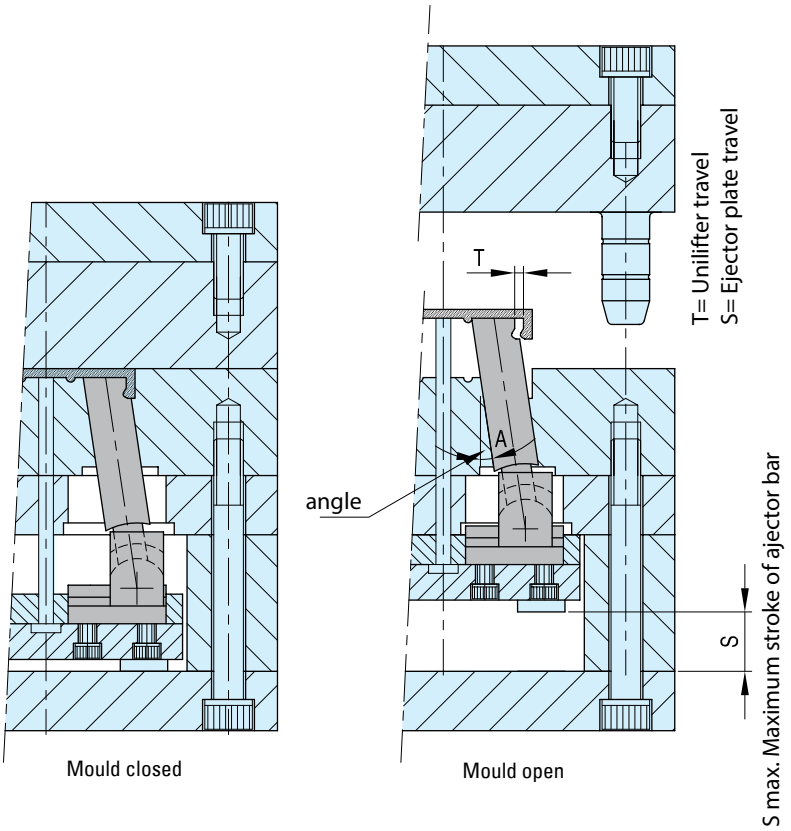
Mat.: 1.2344, Surface 60-70 HRC, Core 38-42 HRC

REF	Old REF	W	D*	H	R	M	S	L	Travel allowed
ULGMM10	ULG-1001	22	6	13	5	M5x20	10	33	10
ULGMM30	ULG-1002	22	6	13	5	M5x20	15	52	30

*0,25mm oversize

CAD reference point

TYPICAL APPLICATION ULB-ULC-ULG



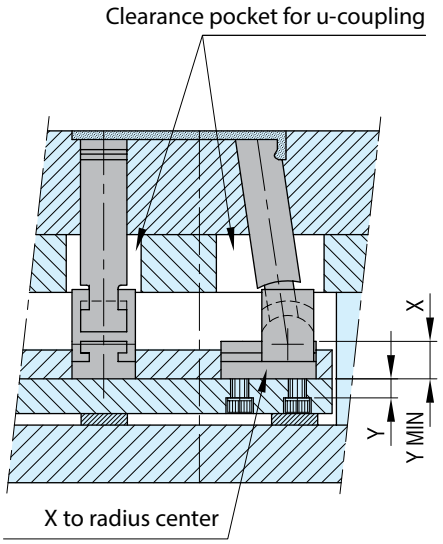


Fig. 1

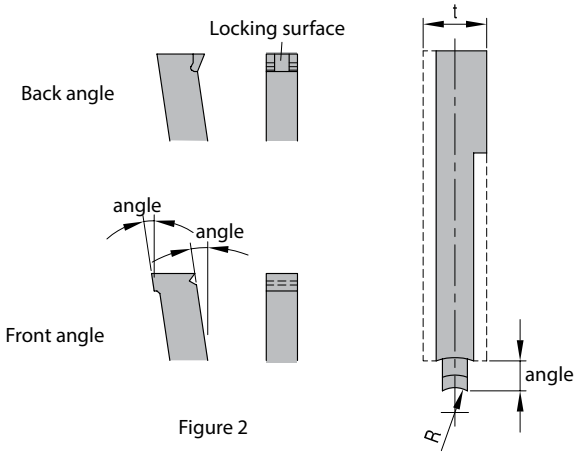


Figure 2

Example

1. General installation
It is recommended that lifters be installed as shown in Fig. 1, with T-Gib mounted to top of ejector plate. The appropriate X and Y dimensions are as follows: X = 12 mm, Y = min 11 mm (min Y dimension prevents mounting screws from interfering with U-Coupling travel).

2. Angles
Designs using angles from 5 to 10° will typically yield the best results. Angles up to 15° are permissible by using lifter guides in the bottom of the support plate. (Lifter guides to be made by mouldmaker).

3. Lifter guides
Lifter guides are recommended for designs with angles of 15° (see 2 above) or whenever less than half of the Core blade is bearing in the core insert.

4. Guided ejection
It is recommended that guided ejection be used in all designs.

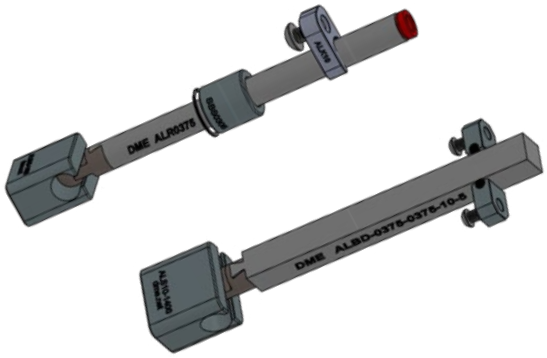
5. Fit
Recommended clearance for Core blade is 0,025/0,040 mm where permissible.

6. Locking angles
Locking angles (see Fig. 2) may be designed in if required to provide a locking surface to counter against moulding pressure.

7. Other dimensions upon request.

CAD reference point

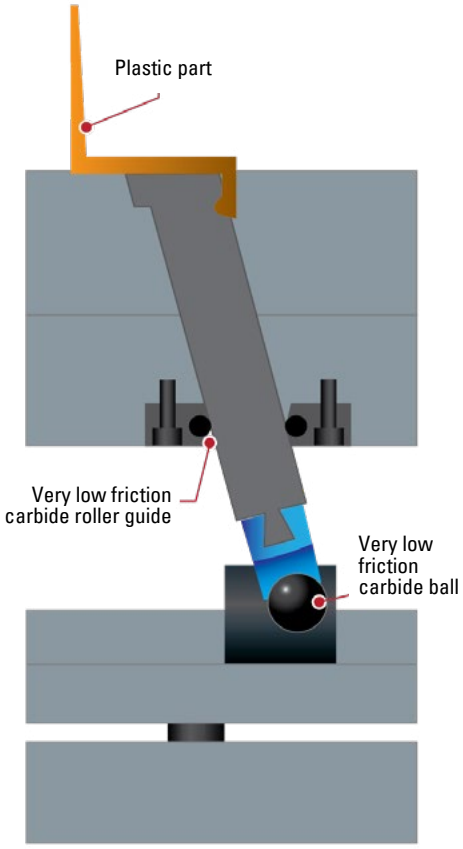
ACCUALIGN LIFTERS

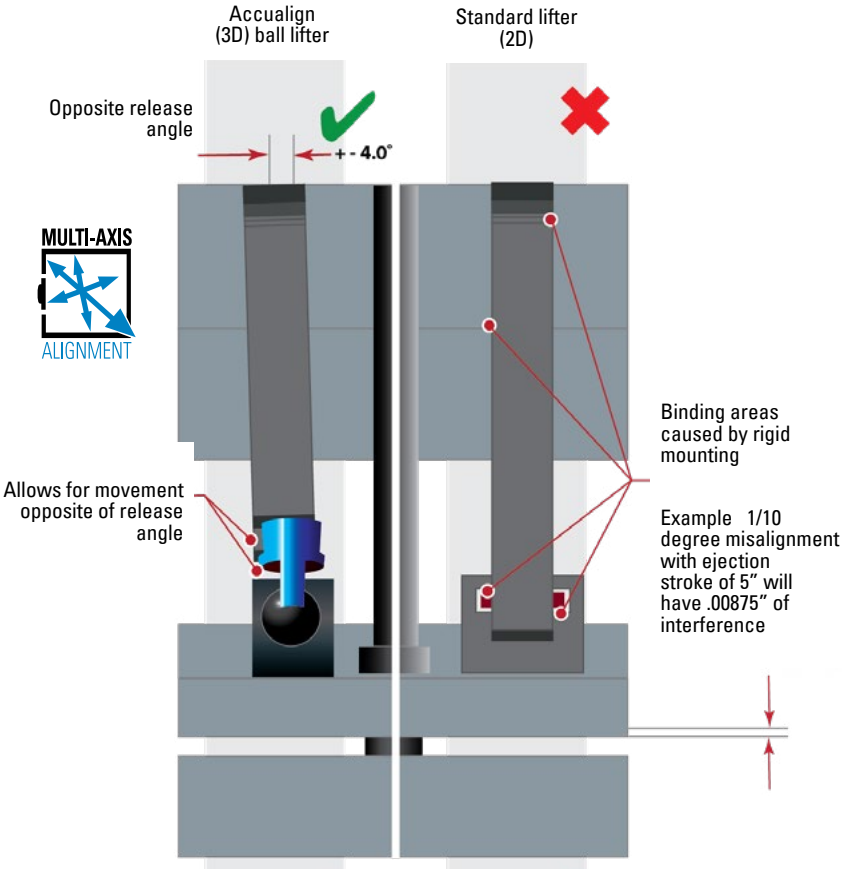


Lifters Binding and Breaking? Problem Solved!
Mould designers face a challenge when determining how to best eject a part with undercuts. A lifter is often the preferred solution but there is always an element of the unknown. Thermal expansions of the mould plates or any misalignment of the tool either during manufacturing or through the tool's lifecycle can result in plate movement placing pressure on the lifter causing the lifter to bind or possibly even break. With its unique multi-axis self-aligning capabilities, the new DME Accualign Lifter solves this problem providing the mould design with more flexibility and peace of mind.
These lifters have been designed and engineered to encompass most undercut applications with the use of off-the-shelf components. The Accualign Lifter is available in round rod with a guide bushing (and optional keeper key to secure the lift head) or a square/rectangle bar with roller guides, for support.

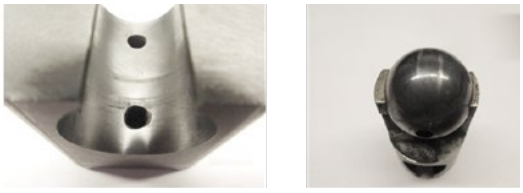
Features & Benefits
- Carbide ball adapter provides long life with little to no wear
- Precision dovetail designed for a positive union of the adapter and rod with the ability to self-align
- Gasket designed to allow for fit flexibility of the lifter head during installation
- Gasket also functions as a shock absorber during moulding operation
- Available in Metric and Imperial standards

SIDE BY SIDE COMPARISON





Production tested!
Results show minimal wear after 2.2 million cycles.



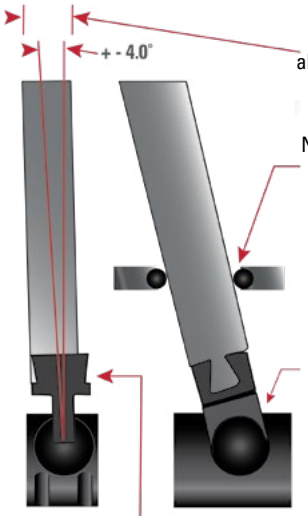
Shoe and ball assembly wear after 2.2 milllion cycles

CAD reference point

ACCUALIGN LIFTERS

ACCUALIGN LIFTER BAR WITH GUIDE CONTROLLERS

MULTI-AXIS ALIGNMENT

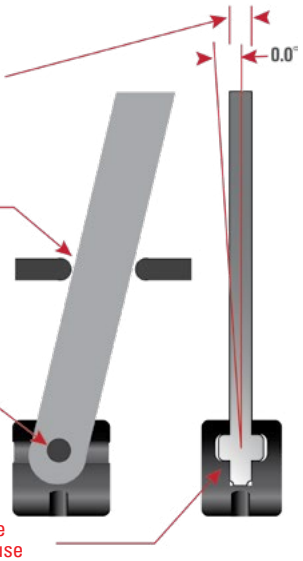


FEATURES

- Free floating self align multidirectional movement allowed
- Non gauling carbide guide rollers
- Large carbide guide ball
- Dovetail self aligns for side movement

COMPETITORS LIFTER

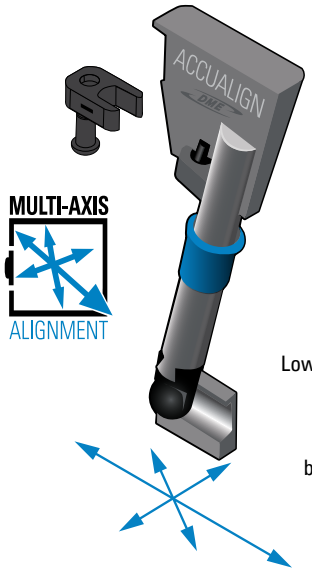
FUMBLES



- Zero side angle movement
- Single point contact high wear potential
- Small guide guide pin
- Small angle or side movement will cause binding

ACCUALIGN LIFTER

MULTI-AXIS ALIGNMENT

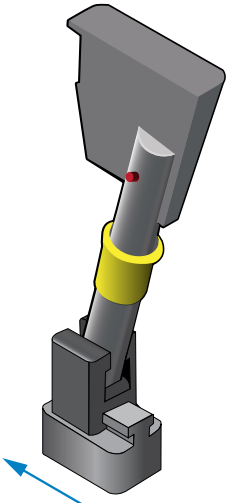


FEATURES

- Floating self align undercut insert
- Positive position keeper key
- Thru hardened 50-55 HRC nitrated surface 65-74 HRC rods
- Low friction non-binding self aligning ball adapter
- Small compact design bar & rod option available
- Multi directional ball design

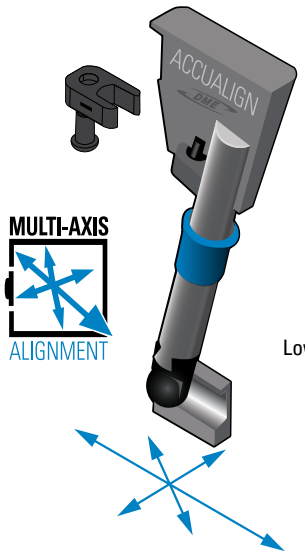
COMPETITORS LIFTER

FUMBLES

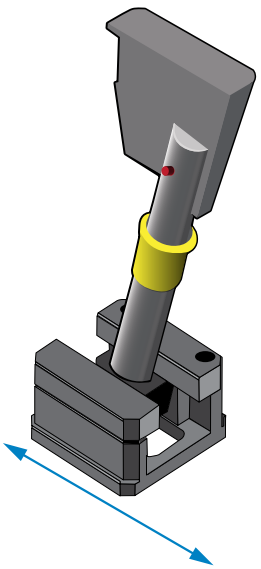


- Rigid mounted undercut insert
- Rigid hard to locate roll pin
- Soft 40 HRC rods
- Rigid U coupling no self alignment
- Large design
- One direction rigid tee gib

MULTI-AXIS ALIGNMENT



- Floating self align undercut insert
- Positive position keeper key
- Thru hardened 50-55 HRC nitrated surface 65-74 HRC rods
- Low friction non-binding self aligning ball adapter
- Small compact design bar & rod option available
- Multi directional ball design



- Rigid mounted undercut insert
- Rigid hard to locate roll pin
- Hardened rods
- No self alignment
- Large bulky design no bar option
- One direction rigid trunnion

CAD reference point

For technical questions and requests for custom angles, please contact: DMEEU_SpecialProjects@dme.net

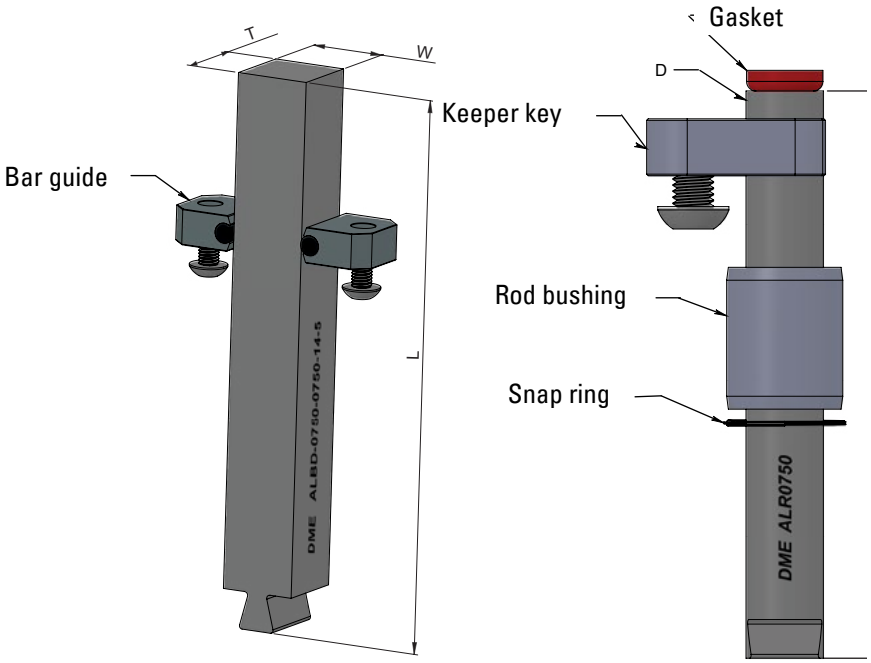
ACCUALIGN LIFTER

250 & 6 MM SERIES SOLID LIFTER SYSTEM **AL...**

LIFTER BARS H-13 (1.2344)					
REF	T mm (DOVETAIL DIRECTION)	W mm	L mm	Adaptor ball	Shoe series
ALBD-0250-0250-08	6,604 (0.260")	6,604 (0.260")	203,2 (8")	ALA06	ALS06
ALBD-0250-0375-08	6,604 (0.260")	9,7 (0.385")	203,2 (8")		
ALBX-0250-0375-08	6,604 (0.260")	9,7 (0.385")	203,2 (8")		
ALBD-0250-0500-10	6,604 (0.260")	12,954 (0.510")	254 (10")	ALA06	ALS06
ALBX-0250-0500-10	6,604 (0.260")	12,954 (0.510")	254 (10")		

LIFTER BARS H-13 (1.2344)					
REF	T mm (DOVETAIL DIRECTION)	W mm	L mm	Adaptor ball	Shoe series
ALBD-06-06-250-5	6,25	6,25	250	ALA06	ALS06
ALBD-06-10-250-5	6,25	10,25	250		
ALBX-06-10-250-5	6,25	10,25	250		

* No dovetail

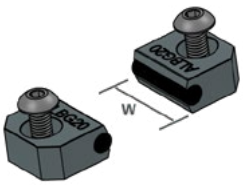


LIFTER RODS H-13 (1.2344)				
REF*	Ø mm	L mm	Adaptor ball	Shoe series
ALR0250-08	6,35 (0.250")	203,2 (8")	ALA06	ALS06
ALR06-250	6	250		

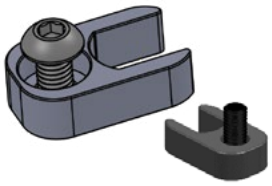
*Add "X" after "R" in REF to order blank rod (no dovetail).

CAD reference point

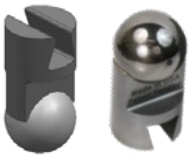
250 & 6 MM SERIES SOLID LIFTER SYSTEM **AL...**



BAR GUIDES D-2 (1.2379)					
REF	W mm	Screw size mm	REF	W mm	Screw size mm
ALBG10	10	M3 - 12,7 (0.500") x 152,4 (6")	**ALBG20**	20	M5 - 20,32 (0.8") x 254 (10")
ALBG15	15	M3 - 12,7 (0.500") x 152,4 (6")	**ALBG30**	30	M5 - 20,32 (0.8") x 254 (10")



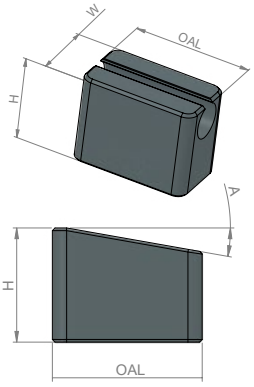
KEEPER KEY	SCREW SIZE
ALK06	M3 - 12,7 (0.500") x 152,4 (6")



ADAPTOR BALL
ALA06

ROD BUSHING			GASKET	
	REF	ID mm	OD mm	REF
	SBS0204	6,35 (0.250")	12,7 (0.500")	LRGK0250
	SBS0612	6	10	

SNAP RINGS & GASKETS ORDERED SEPARATELY



Lifter shoes D-2 (1.2379)						
REF	Travel mm	OAL mm	W mm	H mm	A°	Screw
ALS06-0300	3	10	10	16	0	M3 x 12,7 (0.500") (Included)
ALS06-0305	3	10	10	16	5	
ALS06-0310	3	10	10	16	10	
ALS06-0315	3	10	10	16	15	
ALS06-1200	12	20	10	16	0	
ALS06-1205	12	20	10	16	5	
ALS06-1210	12	20	10	16	10	
ALS06-1215	12	20	10	16	15	
CUSTOM ANGLES UPON REQUEST*						

CAD reference point

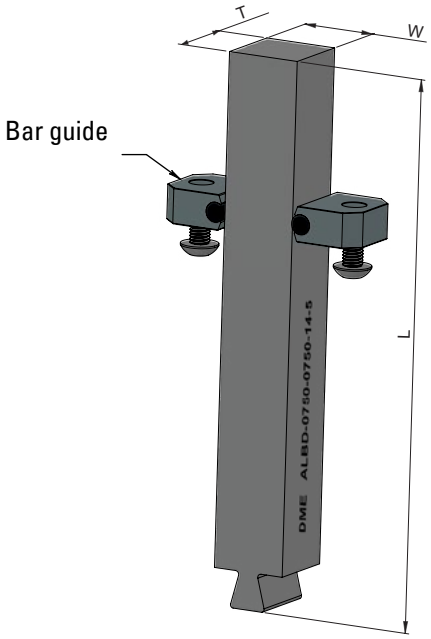
*For technical questions and requests for custom angles, please contact: DMEEU_SpecialProjects@dme.net

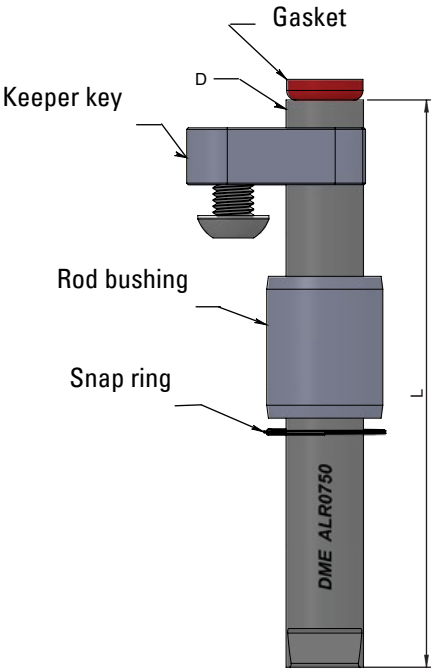
375 & 10 MM SERIES SOLID LIFTER SYSTEM (METRIC EU) AL...

LIFTER BARS H-13 (1.2344)					
REF	T mm (DOVETAIL DIRECTION)	W mm	L mm	Adaptor ball	Shoe series
ALBD-0375-0250-08	9,7 (0.385")	6,604 (0.260")	203,2 (8")	ALA06	ALS06
ALBX-0375-0375-10	9,7 (0.385")*	9,7 (0.385")	254 (10")		
ALBD-0375-0500-10	9,7 (0.385")	12,954 (0.510")	254 (10")	ALA10	ALS10
ALBX-0375-0500-10	9,7 (0.385")*	12,954 (0.510")	254 (10")		
ALBD-0375-0750-10	9,7 (0.385")	19,304 (0.760")	254 (10")	ALA10	ALS10
ALBX-0375-0750-10	9,7 (0.385")*	19,304 (0.760")	254 (10")		

LIFTER BARS H-13 (1.2344)					
REF	T mm (DOVETAIL DIRECTION)	W mm	L mm	Adaptor ball	Shoe series
ALBD-10-06-250-5	10,25	6.25	250	ALA06	ALS06
ALBD-10-10-400-5	10,25	10,25	400	ALA10	ALS10
ALBX-10-10-400-5	10,25*	10,25	400		
ALBD-10-15-400-5	15,25	10,25	400	ALA10	ALS10
ALBX-10-15-400-5	10,25*	15,25	400		
ALBD-10-20-400-5	15,25	15,25	400	ALA10	ALS10
ALBX-10-20-400-5	10,25*	20,25	400		

* No dovetail



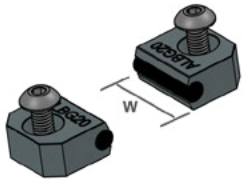


LIFTER RODS H-13 (1.2344)				
REF*	Ø mm	L mm	Adaptor ball	Shoe series
ALR0375-10	9,525 (0.375")	254 (10")	ALA10	ALS10
ALR10-400	10	400		

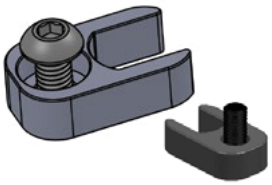
*Add "X" after "R" in REF to order blank rod (no dovetail).

CAD reference point

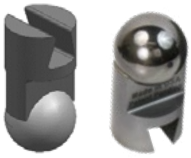
375 & 10 MM SERIES SOLID LIFTER SYSTEM (METRIC EU) AL...



BAR GUIDES D-2 (1.2379)					
REF	W mm	Screw size mm	REF	W mm	Screw size mm
ALBG10	10	M3 - 12,7 (0.500") x 152,4 (6")	ALBG20	20	M5 - 20,32 (0.8") x 254 (10")
ALBG15	15	M3 - 12,7 (0.500") x 152,4 (6")	ALBG30	30	M5 - 20,32 (0.8") x 254 (10")



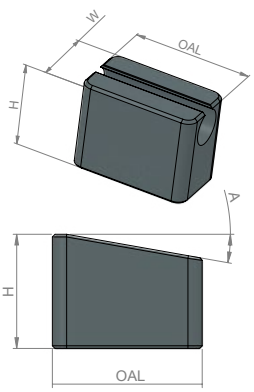
KEEPER KEY	Screw size
ALK10	M5 - 20,32 (0.8") x 254 (10")



Adaptor ball
ALA06
ALA10

ROD BUSHING				GASKET	
	REF	ID mm	OD mm		REF
	SBS0305	9,525 (0.375")	15,875 (0.625")		LRGK0375
	SBS1015	10	14		

SNAP RINGS & GASKETS ORDERED SEPARATELY



Lifter shoes D-2 (1.2379)						
REF	Travel mm	OAL mm	W mm	H mm	A°	Screw
ALS06-0300	3	10	10	16	0	M3 x 12,7 (0.500") (Included)
ALS06-0305	3	10	10	16	5	
ALS06-0310	3	10	10	16	10	
ALS06-0315	3	10	10	16	15	
ALS06-1200	12	20	10	16	0	
ALS06-1205	12	20	10	16	5	
ALS06-1210	12	20	10	16	10	
ALS06-1215	12	20	10	16	15	
ALS10-1400	14	24	16	24	0	M4 x 17,78 (0.7") (Included)
ALS10-1405	14	24	16	24	5	
ALS10-1410	14	24	16	24	10	
ALS10-1415	14	24	16	24	15	
ALS10-2200	22	32	16	24	0	
ALS10-2205	22	32	16	24	5	
ALS10-2210	22	32	16	24	10	
ALS10-2215	22	32	16	24	15	
CUSTOM ANGLES UPON REQUEST*						

CAD reference point

*For technical questions and requests for custom angles, please contact: DMEEU_SpecialProjects@dme.net

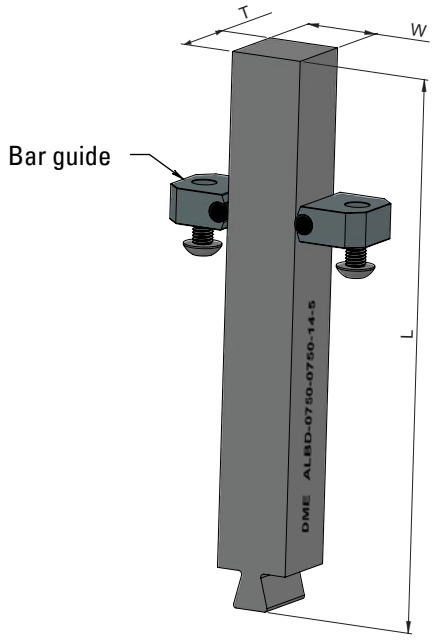
ACCUALIGN LIFTER

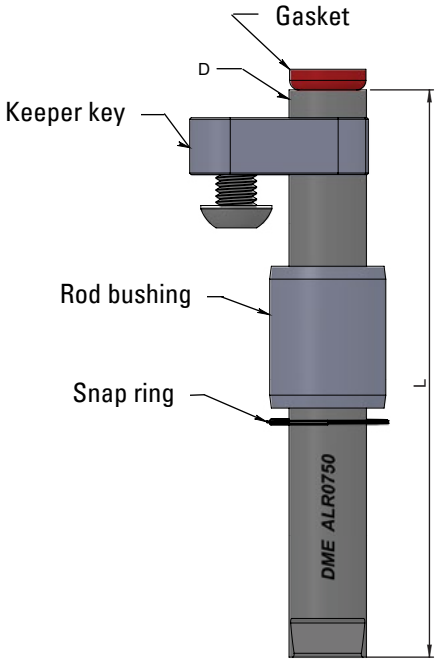
500 & 14 MM- 15 MM SERIES SOLID LIFTER SYSTEM **AL...**

LIFTER BARS H-13 (1.2344)					
REF	**T mm** (DOVETAIL DIRECTION)	**W mm**	**L mm**	**Adaptor ball**	**Shoe series**
ALBD-0500-0250-10	12,954 (0.510")	6,604 (0.260")	254 (10")	**ALA06**	**ALS06**
ALBD-0500-0375-10	12,954 (0.510")	9,779 (0.385")	254 (10")	**ALA10**	**ALS10**
ALBD-0500-0500-14	12,954 (0.510")	12,954 (0.510")	355,6 (14")	**ALA14**	**ALS14**
ALBX-0500-0500-14	12,954 (0.510")*	12,954 (0.510")	355,6 (14")		
ALBD-0500-0750-14	12,954 (0.510")	19,304 (0.760")	355,6 (14")	**ALA14**	**ALS14**
ALBX-0500-0750-14	12,954 (0.510")*	19,304 (0.760")	355,6 (14")		
ALBD-0500-1000-14	12,954 (0.510")	25,654 (1.010")	355,6 (14")	**ALA14**	**ALS14**
ALBX-0500-1000-14	12,954 (0.510")*	25,654 (1.010")	355,6 (14")		

LIFTER BARS H-13 (1.2344)					
REF	**T mm** (DOVETAIL DIRECTION)	**W mm**	**L mm**	**Adaptor ball**	**Shoe series**
ALBD-15-10-400-5	15,25	10,25	400	**ALA10**	**ALS10**
ALBD-15-15-400-5	15,25	15,25	400	**ALA14**	**ALS14**
ALBX-15-15-400-5	15,25*	15,25	400		
ALBD-15-20-400-5	15,25	20,25	400	**ALA14**	**ALS14**
ALBX-15-20-400-5	15,25*	20,25	400		

* No dovetail



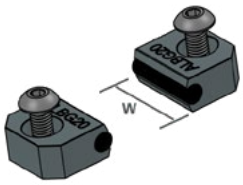


LIFTER RODS H-13 (1.2344)				
REF*	**Ø mm**	**L mm**	**Adaptor ball**	**Shoe series**
ALR0500-14	12,7 (0.500")	355,6 (14")	**ALA14**	**ALS14**
ALR14-400	14	400		

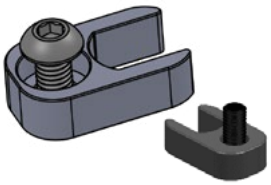
*Add "**X**" after "**R**" in REF to order blank rod (no dovetail).

CAD reference point

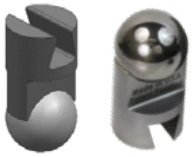
500 & 14 MM- 15 MM SERIES SOLID LIFTER SYSTEM **AL...**



BAR GUIDES D-2 (1.2379)					
REF	W mm	Screw size mm	REF	W mm	Screw size mm
ALBG10	10	M3 - 12,7 (0.500") x 152,4 (6")	ALBG20	20	M5 - 20,32 (0.8") x 254 (10")
ALBG15	15	M3 - 12,7 (0.500") x 152,4 (6")	ALBG30	30	M5 -20,32 (0.8") x 254 (10")



KEEPER KEY	Screw size
ALK10	M6 - 25,4 (1") x 304,8

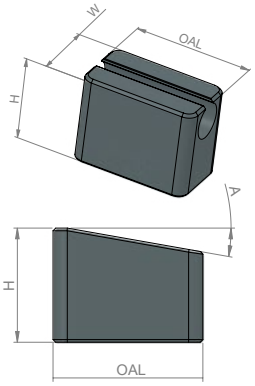


Adaptor ball
ALA06
ALA10
ALA14

ROD BUSHING			
	REF	ID mm	OD mm
	SBS0406	12,7 (0.500")	19,05 (0.750")
	SBS1420	14	20

GASKET	
	REF
	LRGK0500

SNAP RINGS & GASKETS ORDERED SEPARATELY



Lifter shoes D-2 (1.2379)						
REF	Travel mm	OAL mm	W mm	H mm	A°	Screw
ALS06-0300	3	10	10	16	0	M3 x 12,7 (0.500") (Included)
ALS06-0305	3	10	10	16	5	
ALS06-0310	3	10	10	16	10	
ALS06-0315	3	10	10	16	15	
ALS06-1200	12	20	10	16	0	
ALS06-1205	12	20	10	16	5	
ALS06-1210	12	20	10	16	10	
ALS06-1215	12	20	10	16	15	
ALS10-1400	14	24	16	24	0	M4 x 17,78 (0.7") (Included)
ALS10-1405	14	24	16	24	5	
ALS10-1410	14	24	16	24	10	
ALS10-1415	14	24	16	24	15	
ALS10-2200	22	32	16	24	0	
ALS10-2205	22	32	16	24	5	
ALS10-2210	22	32	16	24	10	
ALS10-2215	22	32	16	24	15	
ALS14-1900	19	32	24	32	0	M6 x 24,5 (1") (Included)
ALS14-1905	19	32	24	32	5	
ALS14-1910	19	32	24	32	10	
ALS14-1915	19	32	24	32	15	
ALS14-2900	29	42	24	32	0	
ALS14-2905	29	42	24	32	5	
ALS14-2910	29	42	24	32	10	
ALS14-2915	29	42	24	32	15	
CUSTOM ANGLES UPON REQUEST*						

CAD reference point

*For technical questions and requests for custom angles, please contact: DMEEU_SpecialProjects@dme.net

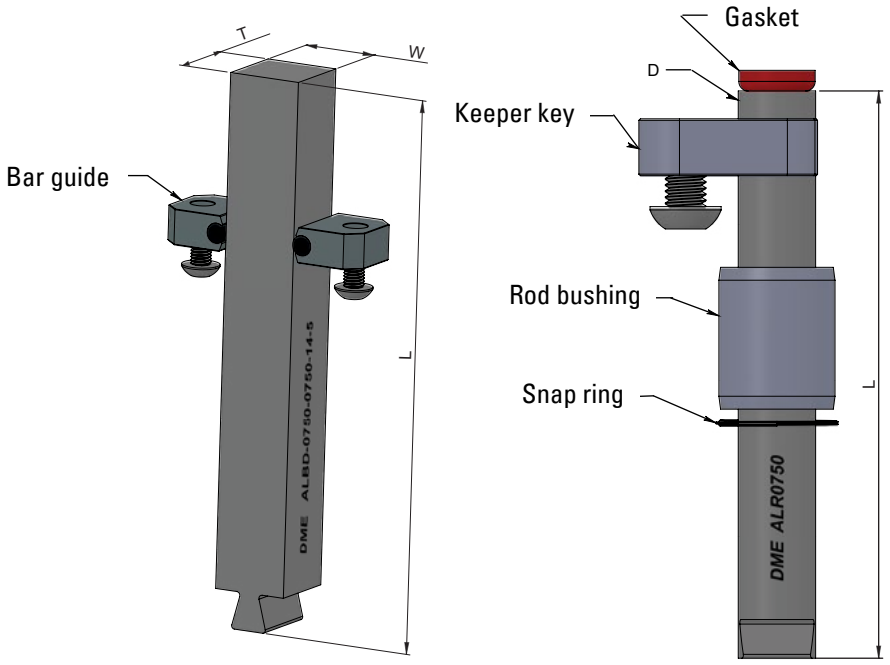
ACCUALIGN LIFTER

750 & 20 MM SERIES SOLID LIFTER SYSTEM — AL...

LIFTER BARS H-13 (1.2344)					
REF	T mm (DOVETAIL DIRECTION)	W mm	L mm	Adaptor ball	Shoe series
ALBD-0750-0375-10	19,304 (0.760")	9,779 (0.385")	254 (10")	ALA10	ALS10
ALBD-0750-0500-14	19,304 (0.760")	12,954 (0.510")	355,6 (14")	ALA14	ALS14
ALBD-0750-0750-14	19,304 (0.760")	19,304 (0.760")	355,6 (14")	ALA20	ALS20
ALBX-0750-0750-14	19,304 (0.760")*	19,304 (0.760")	355,6 (14")		
ALBD-0750-1000-14	19,304 (0.760")	25,654 (1.010")	355,6 (14")	ALA20	ALS20
ALBX-0750-1000-14	19,304 (0.760")*	25,654 (1.010")	355,6 (14")		

LIFTER BARS H-13 (1.2344)					
REF	T mm (DOVETAIL DIRECTION)	W mm	L mm	Adaptor ball	Shoe series
ALBD-20-10-400-5	20,25	10,25	400	ALA10	ALS10
ALBD-20-15-400-5	20,25	15,25	400	ALA14	ALS14
ALBD-20-20-400-5	20,25	20,25	400	ALA20	ALS20
ALBX-20-20-400-5	20,25*	20,25	400		

* No dovetail

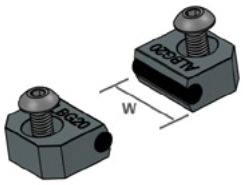


LIFTER RODS H-13 (1.2344)				
REF*	Ø mm	L mm	Adaptor ball	Shoe series
ALR0750-18	19,05 (0.750")	457,2 (18")	ALA20	ALS20
ALR20-500	20	500		

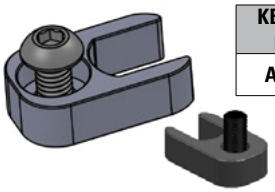
*Add "X" after "R" in REF to order blank rod (no dovetail).

CAD reference point

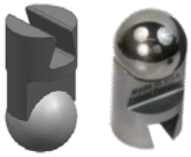
750 & 20 MM SERIES SOLID LIFTER SYSTEM AL...



BAR GUIDES D-2 (1.2379)					
REF	W mm	Screw size mm	REF	W mm	Screw size mm
ALBG10	10	M3 - 12,7 (0.500") x 152,4 (6")	ALBG20	20	M5 - 20,32 (0.8") x 254 (10")
ALBG15	15	M3 - 12,7 (0.500") x 152,4 (6")	ALBG30	30	M5 -20,32 (0.8") x 254 (10")



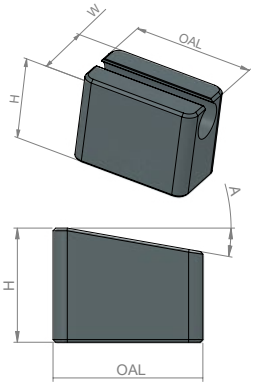
KEEPER KEY	Screw size
ALK20	M10 - 38,1 (1.5") x 508 (20")



Adaptor ball
ALA10
ALA14
ALA20

ROD BUSHING				GASKET	
	REF	ID mm	OD mm		REF
	SBS0613	19,05 (0.750")	28,575 (1.125")		LRGK0750
	SBS2030	20	28		

SNAP RINGS & GASKETS ORDERED SEPARATELY



Lifter shoes D-2 (1.2379)						
REF	Travel mm	OAL mm	W mm	H mm	A°	Screw
ALS10-1400	14	24	16	24	0	M4 x 17,78 (0.7") (Included)
ALS10-1405	14	24	16	24	5	
ALS10-1410	14	24	16	24	10	
ALS10-1415	14	24	16	24	15	
ALS10-2200	22	32	16	24	0	
ALS10-2205	22	32	16	24	5	
ALS10-2210	22	32	16	24	10	
ALS10-2215	22	32	16	24	15	
ALS14-1900	19	32	24	32	0	M6 x 24,5 (1") (Included)
ALS14-1905	19	32	24	32	5	
ALS14-1910	19	32	24	32	10	
ALS14-1915	19	32	24	32	15	
ALS14-2900	29	42	24	32	0	
ALS14-2905	29	42	24	32	5	
ALS14-2910	29	42	24	32	10	
ALS14-2915	29	42	24	32	15	
ALS20-2800	28	48	36	50	0	M8 x 31,75 (1.25") (Included)
ALS20-2805	28	48	36	50	5	
ALS20-2810	28	48	36	50	10	
ALS20-2815	28	48	36	50	15	
ALS20-4100	41	60	36	50	0	
ALS20-4105	41	60	36	50	5	
ALS20-4110	41	60	36	50	10	
ALS20-4115	41	60	36	50	15	
CUSTOM ANGLES UPON REQUEST*						

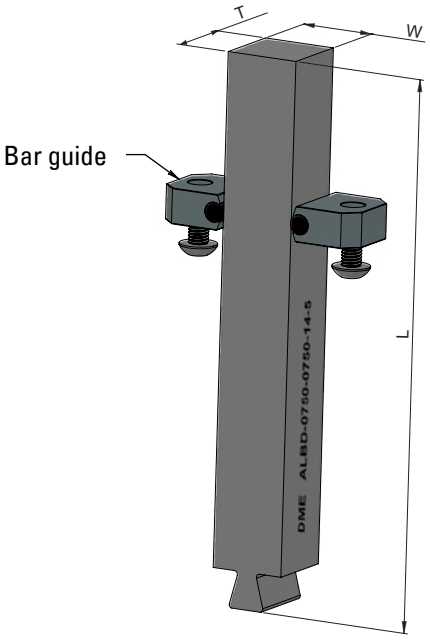
CAD reference point

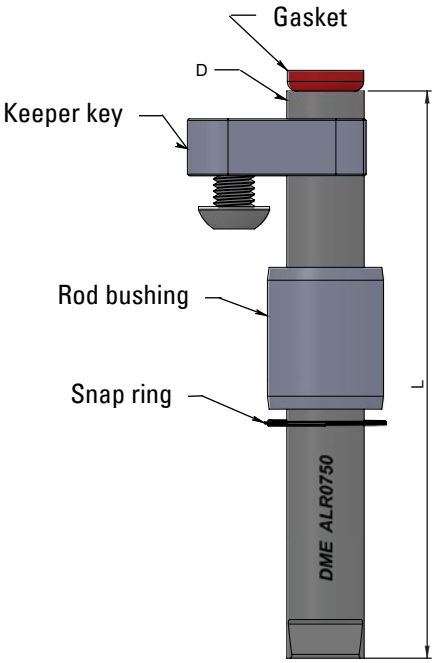
*For technical questions and requests for custom angles, please contact: DMEEU_SpecialProjects@dme.net

ACCUALIGN LIFTER

1000 & 25 MM SERIES SOLID LIFTER SYSTEM **AL...**

LIFTER BARS H-13 (1.2344)					
REF	**T mm** (DOVETAIL DIRECTION)	**W mm**	**L mm**	**Adaptor ball**	**Shoe series**
ALBD-1000-0500-14	25,654 (1.010")	12,954 (0.510")	355,6 (14")	**ALA14**	**ALS14**
ALBD-1000-0750-14	25,654 (1.010")	19,304 (0.760")	355,6 (14")	**ALA20**	**ALS20**



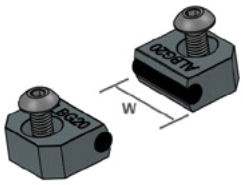


LIFTER RODS H-13 (1.2344)				
REF*	**Ø mm**	**L mm**	**Adaptor ball**	**Shoe series**
ALR1000-18	25,4 (1")	457,2 (18")	**ALA25**	**ALS25**
ALR25-500	25	500		

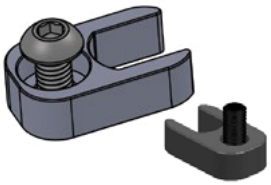
*Add "**X**" after "**R**" in REF to order blank rod (no dovetail).

CAD reference point

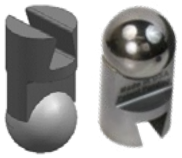
1000 & 25 MM SERIES SOLID LIFTER SYSTEM — AL...



BAR GUIDES D-2 (1.2379)					
REF	W mm	Screw size mm	REF	W mm	Screw size mm
ALBG10	10	M3 - 12,7 (0.500")x152,4 (6")	ALBG20	20	M5 - 20,32 (0.8")x254 (10")
ALBG15	15	M3 - 12,7 (0.500")x152,4 (6")	ALBG30	30	M5 -20,32 (0.8")x254 (10")



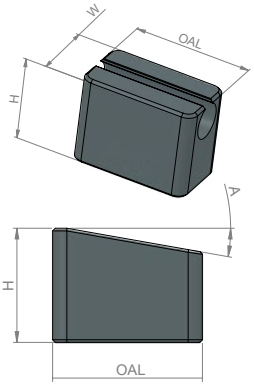
KEEPER KEY	Screw size
ALK25	M12 - 44,45 (1.75") x 635 (25")



Adaptor ball
ALA14
ALA20
ALA25

ROD BUSHING				GASKET	
	REF	ID mm	OD mm		REF
	SBS0813	25,4 (1")	34,925 (1.375")		LRGK0750
	SBS2540	20	28		

SNAP RINGS & GASKETS ORDERED SEPARATELY



Lifter shoes D-2 (1.2379)						
REF	Travel mm	OAL mm	W mm	H mm	A°	Screw
ALS14-1900	19	32	24	32	0	M6 x 24,5 (1") (Included)
ALS14-1905	19	32	24	32	5	
ALS14-1910	19	32	24	32	10	
ALS14-1915	19	32	24	32	15	
ALS14-2900	29	42	24	32	0	
ALS14-2905	29	42	24	32	5	
ALS14-2910	29	42	24	32	10	
ALS14-2915	29	42	24	32	15	
ALS20-2800	28	48	36	50	0	M8 x 31,75 (1.25") (Included)
ALS20-2805	28	48	36	50	5	
ALS20-2810	28	48	36	50	10	
ALS20-2815	28	48	36	50	15	
ALS20-4100	41	60	36	50	0	
ALS20-4105	41	60	36	50	5	
ALS20-4110	41	60	36	50	10	
ALS20-4115	41	60	36	50	15	
ALS25-3800	38	64	48	65	0	M12 x 44,45 (1.75") (Included)
ALS25-3805	38	64	48	65	5	
ALS25-3810	38	64	48	65	10	
ALS25-3815	38	64	48	65	15	
ALS25-5400	54	80	48	65	0	
ALS25-5405	54	80	48	65	5	
ALS25-5410	54	80	48	65	10	
ALS25-5415	54	80	48	65	15	
CUSTOM ANGLES UPON REQUEST*						

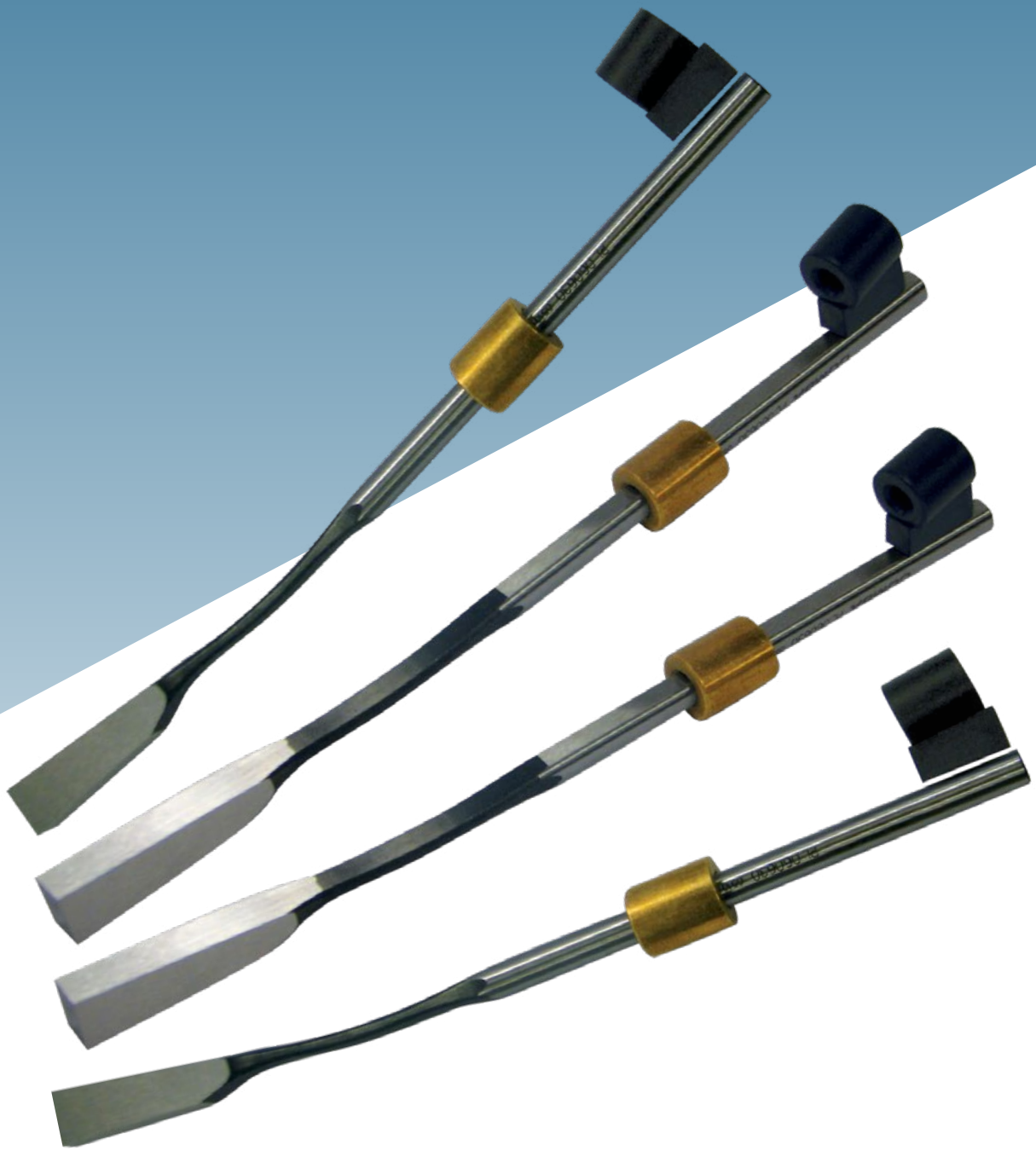
CAD reference point

*For technical questions and requests for custom angles, please contact: DMEEU_SpecialProjects@dme.net

CAD reference point

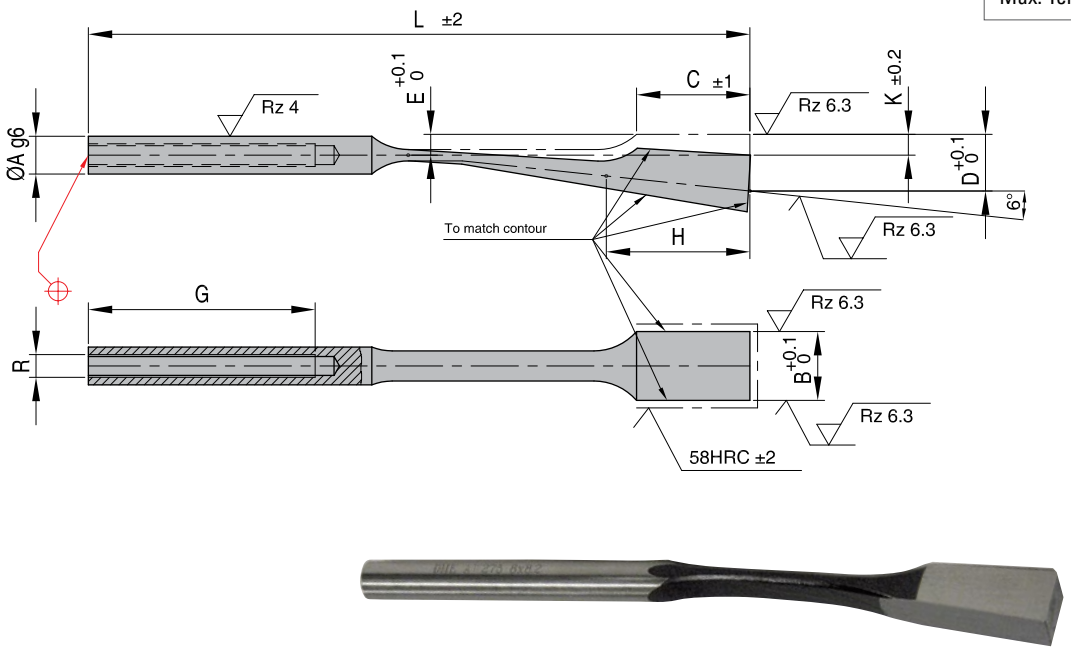
FLEXIBLE CORES

Manufactured from spring steel this unit allows the release of small undercuts. It is activated by the ejector plates as a standard ejector. They come with a reference plane and a conical fixing system, which saves cutting the flexible core to fix it.



FLEXIBLE EJECTOR (WITH MOUNTING THREAD) **Info AW 275**

Mat.: 1.8159 - 45 ±3 HRC
L = Length
G = Shoulder length + head thickness
Max. Temp: 150 °C



REF	A	B	C	D	E	G	H	K	L	R
AW27506062	6	6,2	22	9	3,5	15	25	3,5	125	M4
AW27506082	6	8,2	22	9	3,5	15	25	3,5	125	M4
AW27508082	8	8,2	25	11,5	4,5	15	30	4,5	140	M5
AW27508102	8	10,2	25	11,5	4,5	15	30	4,5	140	M5
AW27508122	8	12,2	25	11,5	4,5	15	30	4,5	140	M5
AW27510142	10	14,2	30	15	5,5	15	38	5,5	175	M6
AW27510162	10	16,2	30	15	5,5	15	38	5,5	175	M6
AW27510182	10	18,2	30	15	5,5	15	38	5,5	175	M6

Frequently Asked Questions (FAQ)

1 How many shots do the Flexible Cores stand?
As any mobile element, their lifetime depends essentially on their adjustment, as well as the tolerances used (which might be H7/g6). Flexible cores not being properly installed, may last a short period, but if they are installed as they should, they might produce more than 2 million pieces. Please, read our instructions for installation.

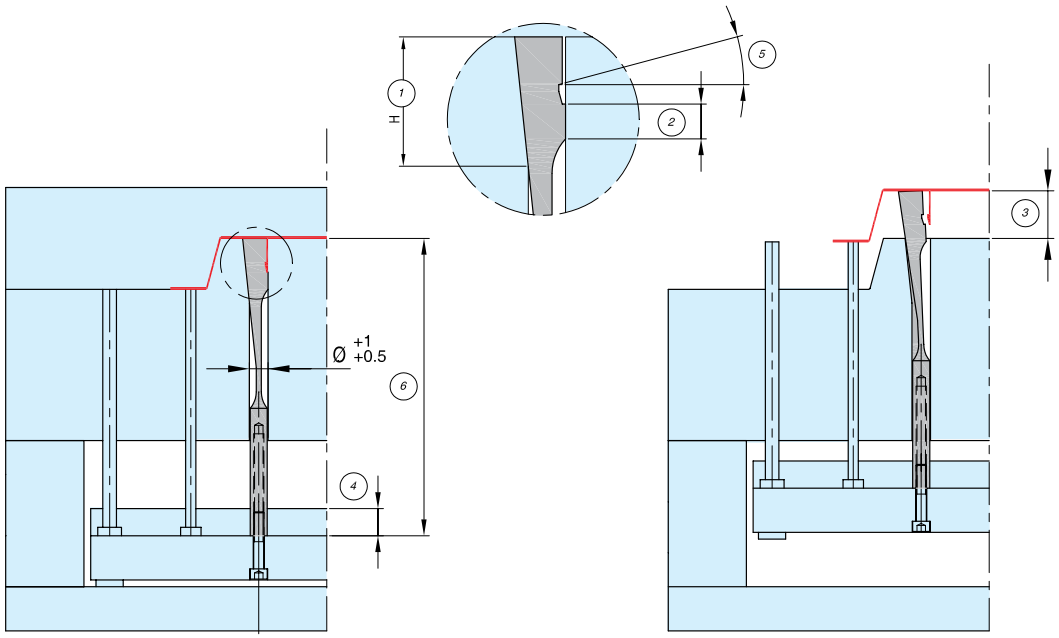
2 How is a Flexible Core correctly installed?
Please, carefully read the instructions for installation. Furthermore, we want to stress that it is very important to correctly calculate the Flexible Cores length. If this is machined shorter than its emplacement, once the Flexible Core gets attached to the ejector plates, the central part gets elongated, bringing weakness.

3 What would happen if the ejection stroke is more than C-dimension?
When the Flexible Core head goes free out of its emplacement, due to the rounded shaft and screw attachment, this is prone to twist. This torsionnal movement affects to the thinnest zone which could, after several shots, break. A solution is to use our Keyed Flexible Cores, which have a flat on the shaft that prevents the rotation to occur. You could also make a flat on the rear zone of the Flexible Core shaft yourself, placing a cotter pin to hold it.

CAD reference point

SIMPLE EJECTION

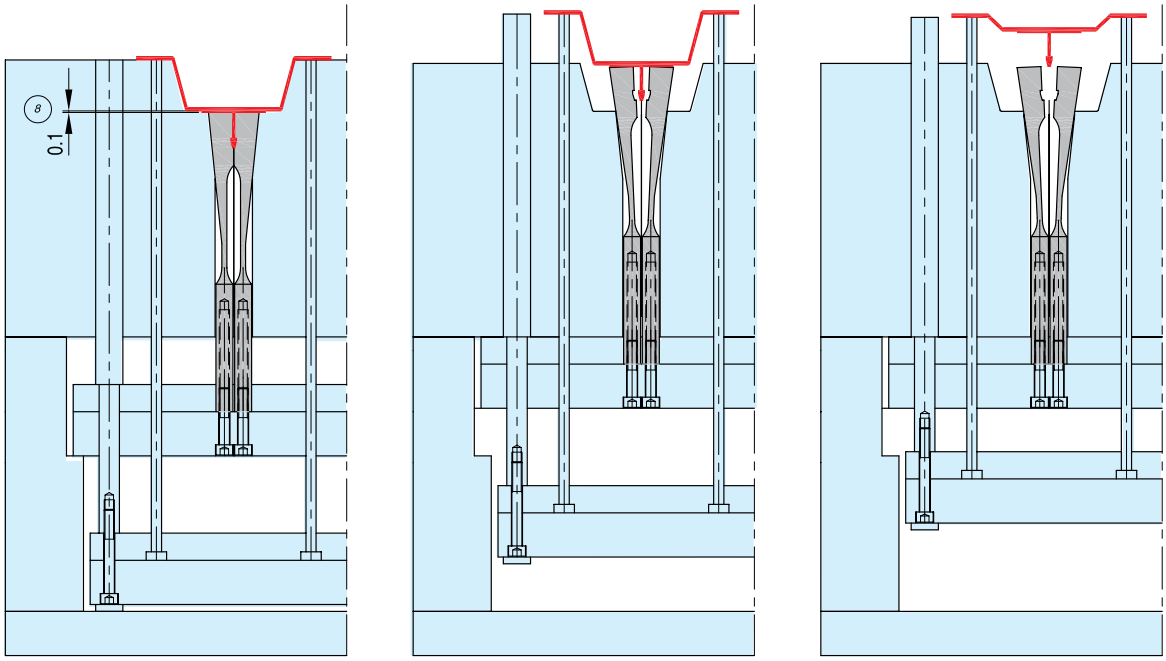
Info AW 275



This area of support must be the same length as dimension H on the Sprung Core.
The adjustment area must be at least 1/3 of the dimension C.
The stroke of the sprung Core must be the same or smaller than the dimension C.
The plate that houses the shaft of the core must be minimum 15 mm in all cases.
The draft angle must be minimum 5°.
The core length must be 0,02-0,05 larger than its own hole.
After the core is adjusted, remove 0,1 to ensure smooth ejection.

General tolerance of adjustment H7/g6

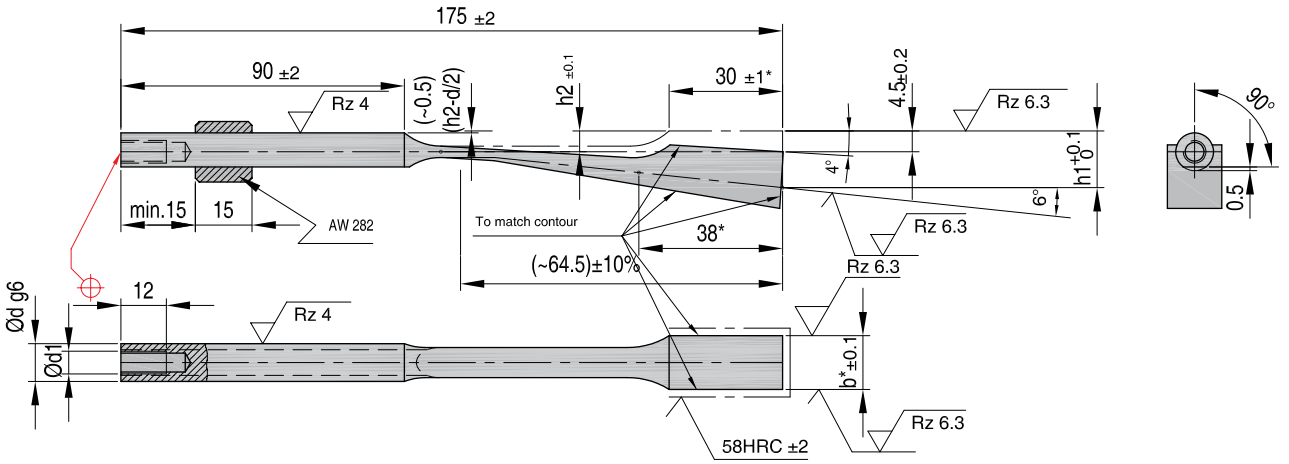
EJECTION WITH DOUBLE PLATE



CAD reference point

FLEXIBLE EJECTOR (WITH FIXING KEY) — Info AW280

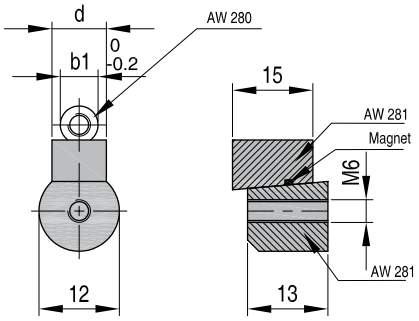
Mat.: 1.8159 - 45 ±3 HRC
L = Length
G = Shoulder length + head thickness



REF	d	b*	d1	h1	h2	incl.	incl.
AW28006062	6	6,2	M4	10,0	3,5	AW282 06	AW281 06
AW28006082	6	8,2	M4	10,0	3,5	AW282 06	AW281 06
AW28008082	8	8,2	M5	11,2	4,5	AW282 08	AW281 11
AW28008122	8	12,2	M5	11,2	4,5	AW282 08	AW281 08
AW28010152	10	15,2	M6	13,6	5,5	AW282 10	AW281 10
AW28010182	10	18,2	M6	13,6	5,5	AW282 10	AW281 10

AW281

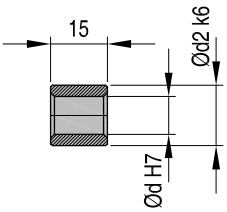
Mat.: 1.8159 - 45 ±3 HRC



REF	d	b1	l3
AW28106A	06	6	13,5
AW28106N	06	6	13,5
AW28108N	08	8	14,5
AW28110N	10	10	15,5

AW282

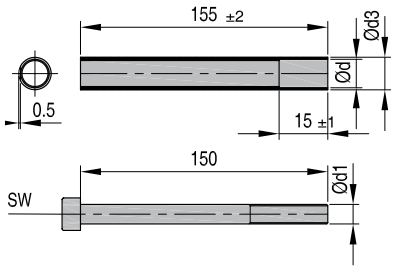
Mat.: Bronze



REF	d	d2
AW28206	06	12
AW28208	08	12
AW28210	10	16

AW283

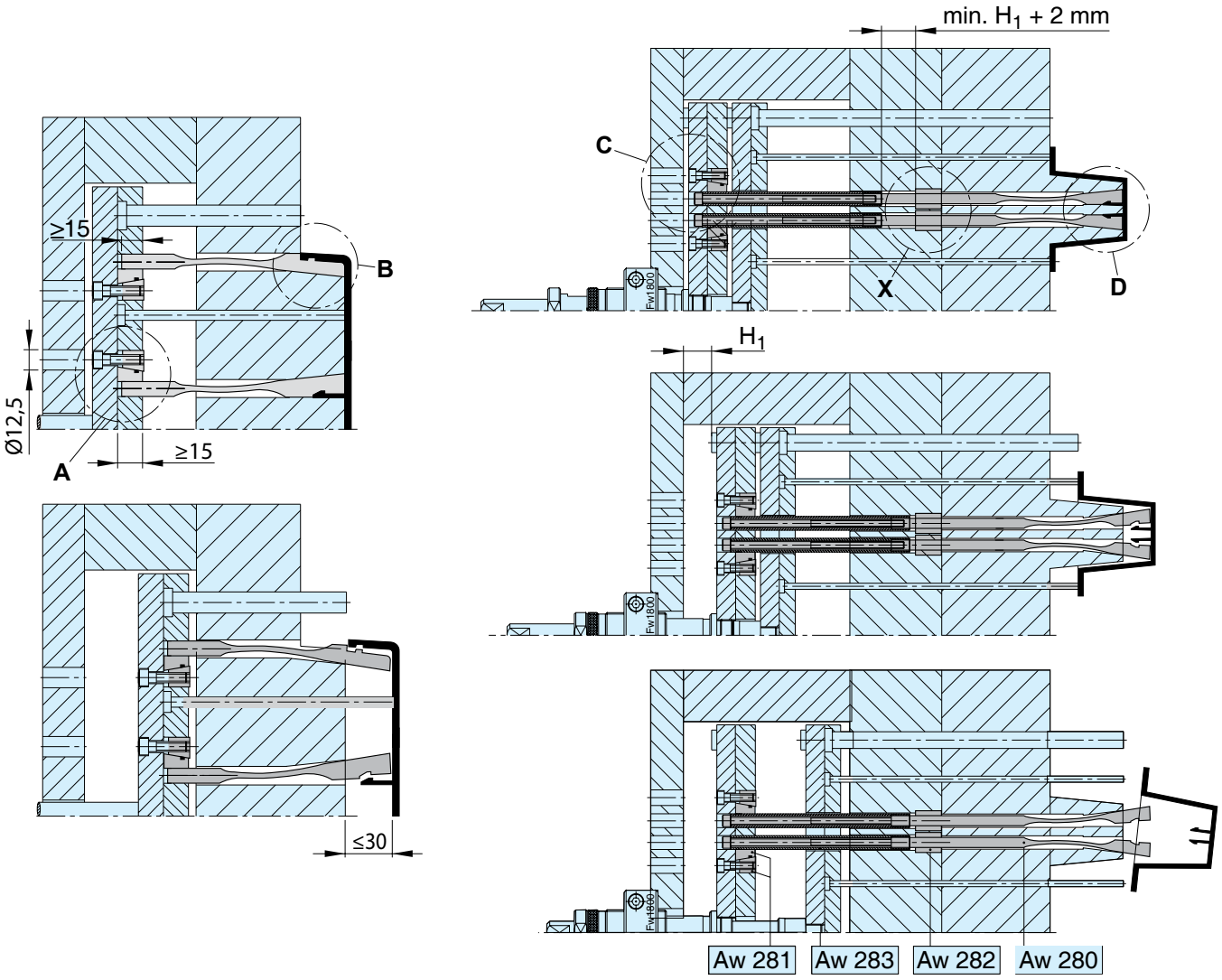
Mat.: 1.7225 - 50 ±3 HRC

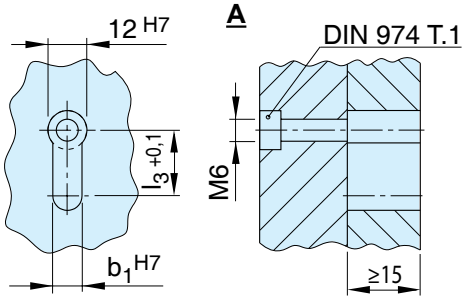


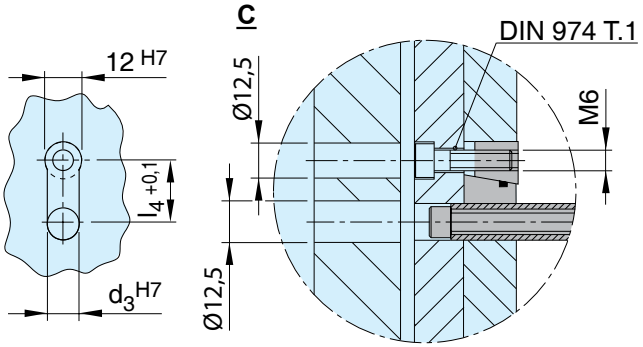
REF	d	d1	sw	d3	l4
AW28306	06	M4	3	08	13,5
AW28308	08	M5	4	10	14,5
AW28310	10	M6	5	12	15,5

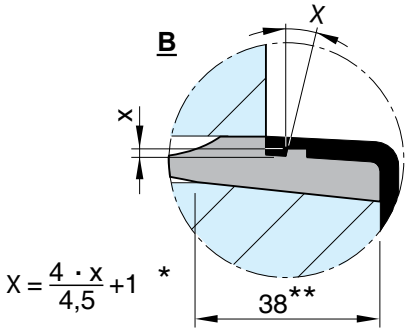
CAD reference point

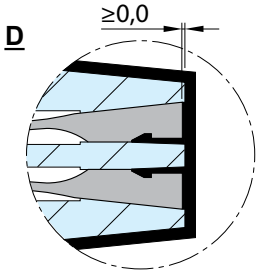
INSTALLATION INSTRUCTIONS **Info AW280**











X

For large bucklings lenghts, please use guide bushes **AW282**

* - Depending on surface roughness
** - To match the contour

CAD reference point

CAD reference point

COLLAPSIBLE CORES

COLLAPSIBLE CORES — Info CCM-CC

General description of the Collapsible Cores

It is over 30 years since DME first introduced the Collapsible Core and today it still continues to be a major influence for moulding plastic parts requiring internal threads, undercuts, cut-outs etc. During this time a lot of technical knowledge and experience has been gained from many applications tackled, some of which have been very complicated. This "Know how" has been constantly passed on to the user, either through new developments, application improvements or suggestions for new applications. One such development is the new range smaller diameters which complete the series of Collapsible Cores. The Collapsible Cores now range from 18 mm to 107 mm, for the outer diameters with the corresponding inner diameter ranging from 16 mm to 85 mm. The effective collapse ranges from 1.1 mm to 4,2 mm per side at the tip of the Core, depending on the diameter of the Core.

Operation

After cooling, the mould opens and the ejector plate assembly moves forward as far as the stop. This causes the core sleeve to move away from the centre pin and the positive collapsed sleeve to engage, which ensures that all segments have collapsed. However, the moulded part remains or hangs until the stripper plate is moved forward to eject the components. This is usually carried out by the activation of two double acting air cylinders mounted on the ejector plates and connected to the stripper plate on the outside of the mould. The stripper plate is then retracted using the two air cylinders before the mould is closed. When closing the mould, one has to ensure that the ejector plates are returned before the mould is fully closed. This can be achieved by the use of early ejector returns. The core sleeve is returned to the moulding position thus preventing damage to the Collapsible Cores. When the mould is fully closed the next cycle can begin. When using Collapsible Cores the designer has a product which offers many opportunities for producing many variations of moulded caps. The result is a mould which functions reliably and economically irrespective of whether it concerns a single or multiple cavity mould. Parts with internal protrusions, dimples, interrupted threads and cut-outs can be economically produced on a high or low volume basis. It should be noted that due to the design of the Mini Collapsible Core only interrupted threads and undercuts can be produced. The interruptions consist of three small slots with width "J" (See table), but in most cases this does not imply any technical disadvantages.

Design Procedure

The following steps are used to determine if a part can be moulded on the Mini or Standard Collapsible Core:

1. Calculate the expected actual shrinkage "S" = part Ø x shrinkage (%) "S1" = part length x shrinkage (%)
2. Determine that the part minor diameter "A" is not less than "A min" (See table and Fig 1)
3. Determine that the part major diameter "B" is not greater than "B max" (See table and Fig 1)
4. Determine that thread depth or part undercut at "L" does not exceed the calculated dimension "C" (see Table and Fig.1). The collapse available decreases from the front of the core at a rate of 0,02 mm/mm. When the amount of collapse "C" of the Mini or Standard Collapsible Cores is insufficient, Collapsible Cores of the same size but with a greater collapse can be obtained.

Type	CK Max.	Type	CK Max.
CCM-0001	1.45 mm/side	**CC252PC**	1.60 mm/side
CCM-0002	1.60 mm/side	**CC352PC**	2.10 mm/side
CCM-0003	1.80 mm/side	**CC402PC**	2.65 mm/side
CC125PC	0.80 mm/side	**CC502PC**	3.20 mm/side
CC150PC	1.07 mm/side	**CC602PC**	3.75 mm/side
CC175PC	1.20 mm/side	**CC652PC**	4.06 mm/side
CC250PC	1.20 mm/side	**CC702PC**	4.32 mm/side

CK = Collapse per side at top of core.

5. Determine that part depth "D" (Fig 1) does not exceed the value "D" given in the table. Dimension "K min" of the table must be equal to or larger than "K min".

Material and hardness

a) The centre pin is manufactured from high quality alloy steel 1.2436, hardened to 60-65 HRC. Centre pins for Standard as well as for Mini Collapsible Cores are fitted to a specific core and cannot be interchanged. This is due to the centre pin and core sleeve being assembled and ground together.
b) Core sleeves are manufactured in a 1.2363 steel (AISI 01) and hardened to 55-60 HRC. All centre pins and core sleeves carry a serial number. Always verify the serial number prior to grinding or final assembly.
c) The positive collapse sleeve is manufactured in tool steel and hardened to 55 ± 5 HRC. It is designed to function when the Collapsible Core fails to collapse independently upon withdrawal of the centre pin. Its aim is an additional and necessary safety factor.

What materials can be moulded?

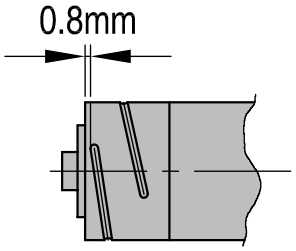
All commonly used thermoplastic moulding resins. For many years filled and non-filled moulding resins have been successfully moulded. Special requirements have to be taken into consideration when PVC is processed. When using the Mini or Standard Collapsible Cores for processing this material it is recommended you contact **DME.**

CAD reference point

COLLAPSIBLE CORES — Info CCM-CC

Part design - special requirements
For successful operation the design of the part must fulfil the following requirements:
a) In contrast with the Standard Collapsible Core it is not possible to mould parts with full threads with the Mini Collapsible Core. The three remaining "marks" on the part result from the three interrupted areas with width "J" of the non-collapsing centre pin blades. Make sure that the top of the centre pin protrudes beyond the top of the core sleeve.
b) The centre pin must protrude beyond the core face by at least the distance "F". Protrusions down to "F min" are acceptable but "F max" is recommended. For "F min" and "F max" see Table or Collapsible Core dimensions leaflet. Radius "R" is most important. For "R min" and "R max" see Collapsible Core dimension drawing.
c) There must be no undercuts on the face of the core segments. This will prevent the Collapsible Core from functioning.
d) Undercuts on the face of the pin must not interfere with full radial movement of the core. They must be located either forward of the core face or within a diameter smaller than "G" (see Table, Fig 3; max 4 mm - see Collapsible Core dimension drawing). In no case should the undercuts be so deep that they come close to the cooling lines in the centre pin. For special requirements please contact
DME.

e) The core face must have a draft of at least 3° starting no further than 0.8 mm from the top of the pin. A greater draft is desirable when "B" is near "B max" (ex. 4-5°).
f) All undercuts should be drafted. A minimum draft of 5° is required (see Table, fig 3), more is recommended. Interrupted undercuts also require a side draft of at last 5°.
g) Means must be provided for carrying the moulded part off of the collapsed core at the completion of the ejection stroke. This is normally done by providing a ring projection (0.25 x 0.25 mm) on the face of the stripper stroke. The part must not drag over the core (see detail Y on Collapsible Core dimensions leaflet).
h) As in conventional practice, sharp interior corners must be avoided to prevent stress concentration in the steel. Never permit a ground thread to run out through the face of the core. This leaves a knife edge of steel that will break off in time.

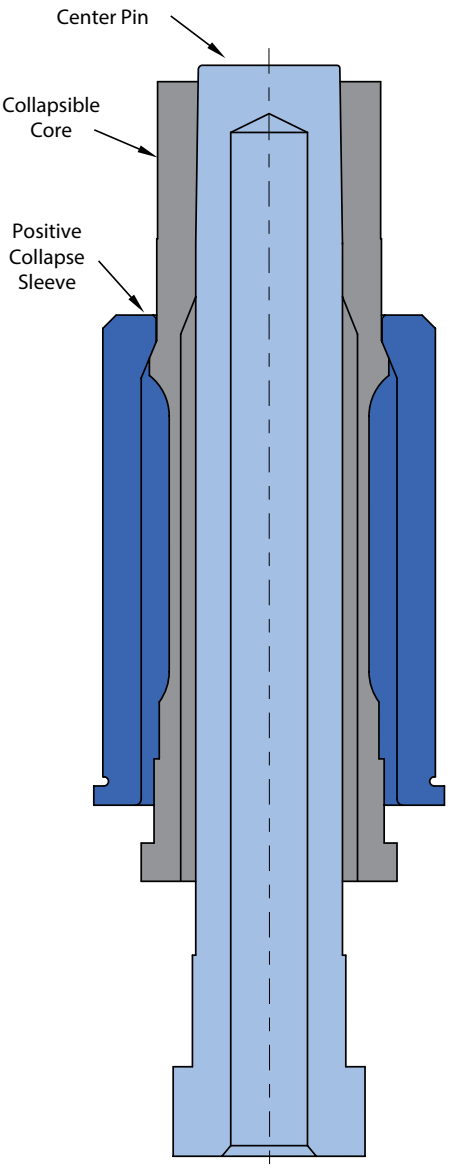


CAD reference point

COLLAPSIBLE CORES

CONSTRUCTION

Info



Description of Components and Basic Operation

Both styles of the Collapsible Cores (Standard and MiniCores®) are three-part assemblies, designed for simplicity of installation, reliability in operation, and long life. The three parts include a Collapsible Core, a Positive Collapse Sleeve, and a Center Pin.

Collapsible Core

Mat.: 1.2363 - Hardness: 54-57 HRC

- Designed to collapse independently when the center pin is withdrawn.
- The fit between segments is controlled to permit flash-free moulding.

Positive Collapse Sleeve

Mat.: 1.3505- Hardness: 54-57 HRC

- Designed to function if the Collapsible Core should fail to collapse independently. In normal operation, the PC Sleeve is not functioning. It is essential to have such a unit for maximum safety and reliability in automatic and semi-automatic operation.

Center Pin

Mat.: 1.2436 - Hardness: 60 -62 HRC

- Serves to expand the segments of the Collapsible Core to their moulding position.
- The pin must protrude beyond the face of the collapsing core segments, and it must have a radius around its top edge to operate properly.

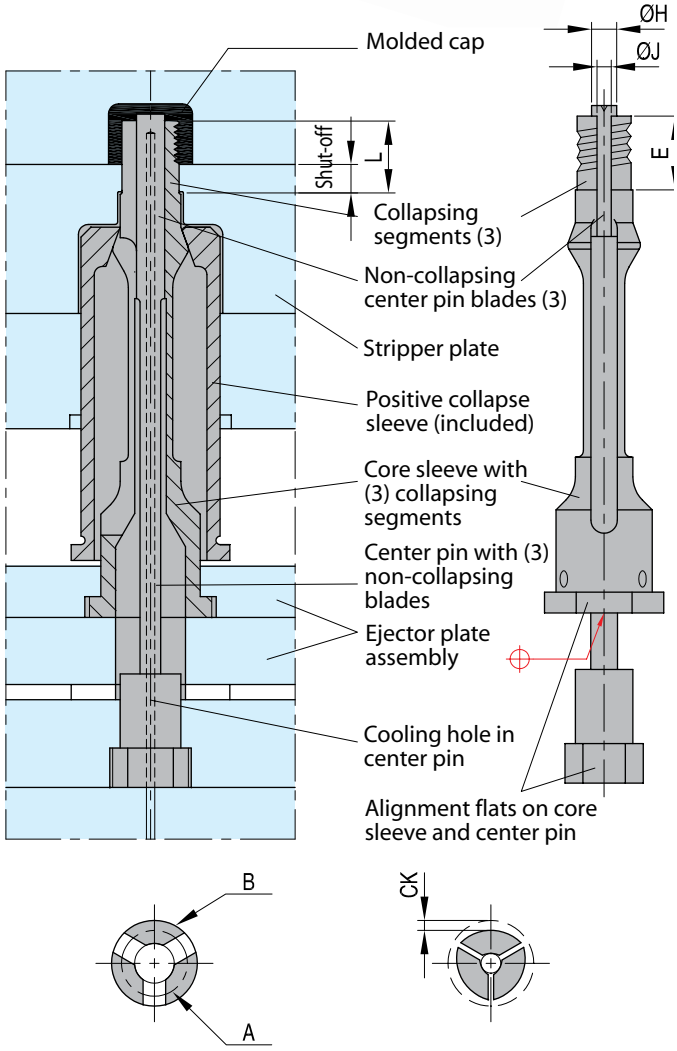
Application Guidelines

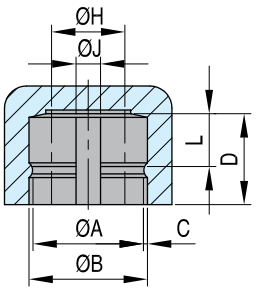
- Standard Collapsible Cores have a Max. OD ("A") of thread or configuration ranging from 18.29mm (.720") - 107.31mm (4.225") and offer complete 360° thread or undercut geometry.
- MiniCores have a Max. OD of thread or configuration ranging from 16.38mm(.645") - 24.51mm(.965") and offer up to 70% full thread or undercut geometry. (Internal geometry is interrupted in three places to allow core segments to collapse.)
- Moulded parts do not need to be closed at one end. They can be partially or completely open. Also, undercuts do not need to be continuous.
- Cores are capable of operating without benefit of lubrication, however, treating the Collapsible Core with an additional treatment for wear reduction or corrosion resistance is beneficial.
- Custom cores with size requirements that fall outside of the standard Collapsible Core and MiniCore ranges are available. In addition, finished cores with machined, EDM'd, or ground details can be supplied. Contact DME for an application review and quotation.

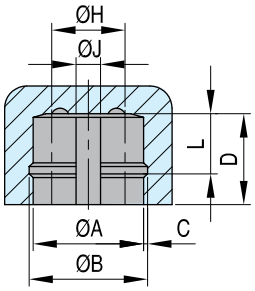
CAD reference point

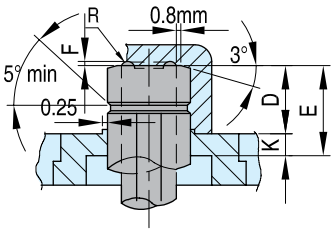
COLLAPSIBLE MINI-CORES CCM

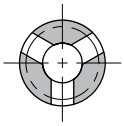
MiniCores broaden the applications of collapsible core moulds to parts as small as 10,80 mm. Due to the smaller diameters involved, these MiniCores employ three larger collapsing segments combined with three narrow, non-collapsing blades which are part of the center pin. As a result, the internal undercut geometry is not 360 degrees around but instead interrupted in three places. The 3-blade design allows for more collapse which means a deeper undercut feature can be released.
In addition to threads, other configurations such as dimples, cut-outs or protrusions beyond the capabilities of unscrewing moulds can be successfully moulded. Three standard sizes of MiniCores are available











REF	A	B	C	D	E	F	G	H	K	J	R	S
CCM 0001	10,80-S	16,38-S	1,32-(0,02L+0,5S)	21,60-S1-K	21,59	0,4 (0,8 max)	2,30	7,62	4,00	4	0,20	S= Shrinkage factor (%) x Part diameter (mm) S1= Shrinkage factor (%) x Part length (mm)
CCM 0002	14,22-S	20,45-S	1,45-(0,02L+0,5S)	21,60-S1-K	21,59	0,4 (0,8 max)	4,60	10,67	4,83	4	0,20	
CCM 0003	18,03-S	24,51-S	1,50-(0,02L+0,5S)	25,40-S1-K	25,40	0,4 (0,8 max)	7,90	14,22	5,08	4	0,20	

CAD reference point

Build in instructions available upon request.

A Part minor Ø (min.)
B Part major Ø (max.)
C Max. part undercut at L
D Max. part depth
E Length of fitted surface on core
F Min. pin protrusion
G Inside diameter collapsed core (nominal)
H Pin diameter at face (nominal)
K Stripper bushing shut-off
J Width of non-collapsing
R Pin tip radius
S Material schrinkage

COLLAPSIBLE CORES

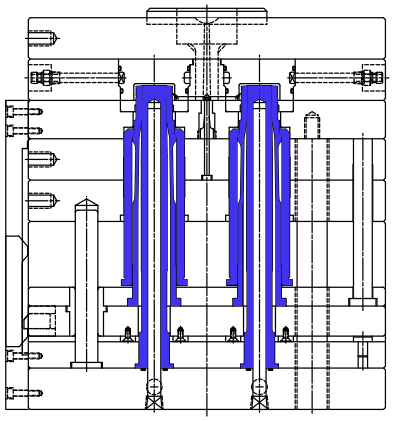
COLLAPSIBLE CORES CC

Collapsible Cores are available in sizes to fit most inside detail applications. Whether moulding threads or complex details, these cores can simplify design and production. Collapsible Cores allow for smaller moulds to run faster cycles with less moving parts.

Made from premium tool steels and heat treated using proprietary heat treating methods.

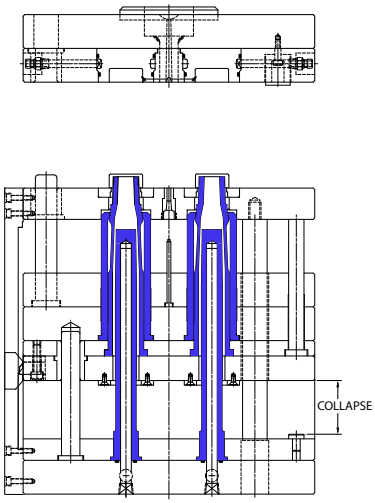
Standard diameters range from 13mm to 105mm.

MOULD CLOSED



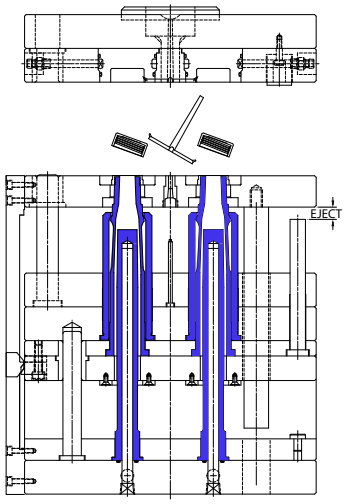
PART EJECTED

Machine pushes the stripper plate forward, ejecting the moulded part.



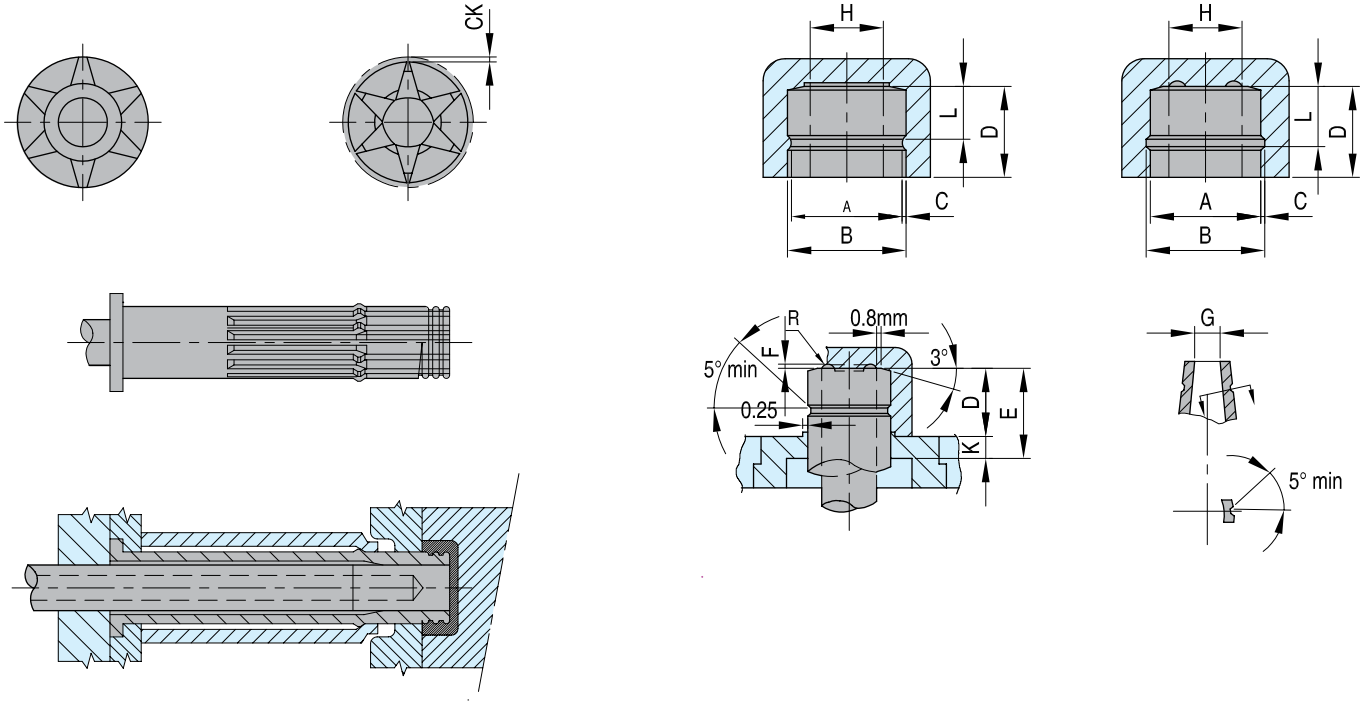
MOULD OPENED

Ejector plate and stripper plate move forward, and the Collapsible Core is collapsed.



CAD reference point

COLLAPSIBLE CORES CC



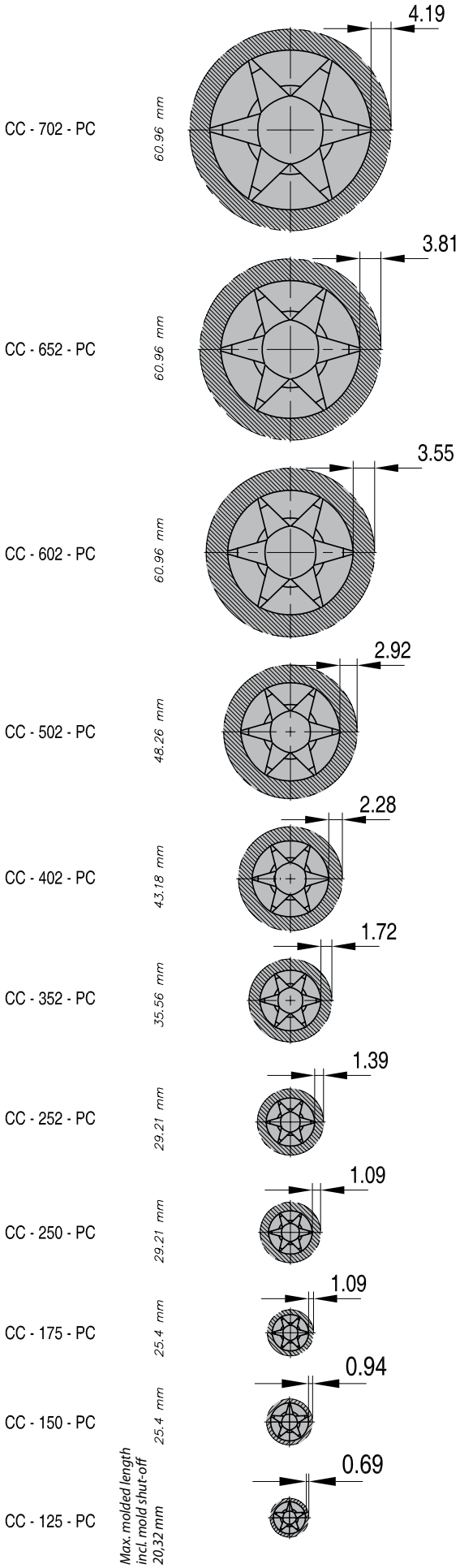
REF	A	B	C	D	E	F	G	H	K	R	S
CC 125 PC	15,75-S	18,29-S	0,69 - (0,02L+0,5S)	E-K	20,32	0,4	5,3	12,32	4	0,20-0,25	S= Shrinkage factor (%) x Part diameter (mm) S1= Shrinkage factor (%) x Part length (mm)
CC 150 PC	17,78-S	21,59-S	0,94 - (0,02L+0,5S)	E-K	25,40	0,4	5,8	14,73	4	0,20-0,25	
CC 175 PC	19,30-S	24,64-S	1,09 - (0,02L+0,5S)	E-K	25,40	0,4	7,4	16,25	4	0,20-0,25	
CC 250 PC	23,10-S	32,25-S	1,09 - (0,02L+0,5S)	E-K	29,21	0,4 (1,9 max.)	10,2	19,93	4	0,20-0,25	
CC 252 PC	25,65-S	35,30-S	1,40 - (0,02L+0,5S)	E-K	29,21	0,4 (1,9 max.)	11,9	22,47	4	0,25-0,30	
CC 352 PC	32,26-S	44,19-S	1,73 - (0,02L+0,5S)	E-K	35,56	0,5 (1,9 max.)	15,0	28,06	4	0,25-0,35	
CC 402 PC	40,46-S	55,42-S	2,29 - (0,02+0,5S)	E-K	43,18	0,8 (1,9 max.)	18,4	35,25	5	0,30-0,35	
CC 502 PC	52,32-S	71,12-S	2,92 - (0,02L+0,5S)	E-K	48,26	0,9 (2 max.)	24,0	44,45	6 (min.4)	0,35-0,40	
CC 602 PC	66,29-S	89,78-S	3,55 - (0,02L+0,5S)	E-K	60,96	1,1 (2,0 max.)	30,5	55,24	6,5	0,50-0,60	
CC 652 PC	73,41-S	96,52-S	3,81 - (0,02L+0,5S)	E-K	60,96	1,5	34,3	62,23	7	0,60-0,70	
CC 702 PC	85,09-S	107,31-S	4,19 - (0,02L+0,5S)	E-K	60,96	1,5	41,9	70,86	7	0,60-0,70	

Build in instructions available upon request.

A Part minor Ø (min.)
B Part major Ø (max.)
C Max. part undercut at L
D Max. part depth
E Max. moulded length
F Min. pin protrusion
G Inside diameter collapsed core (nominal)
H Pin diameter at face (nominal)
K Stripper bushing shut-off
R Pin tip radius
S Material schrinkage

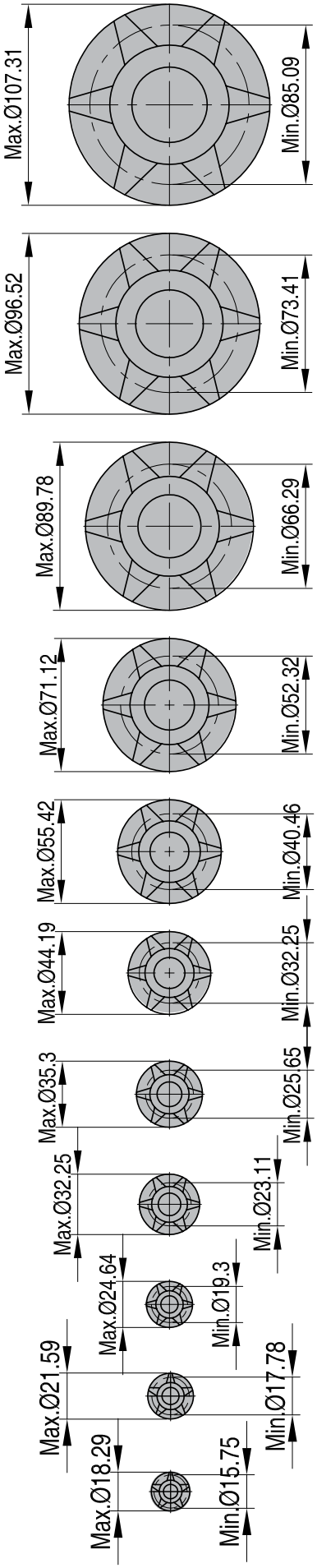
CAD reference point

COLLAPSIBLE CORES CC

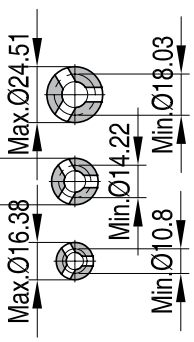


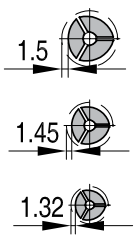
CAD reference point

COLLAPSIBLE CORES **CC / CCM**



Max. molded length incl. mold shut-off 21,59 mm 25.4 mm





CCM 0003

CCM 0002

CCM 0001

CAD reference point

COLLAPSIBLE CORES

GRINDING RINGS CC...GR

Grinding Rings for Collapsible Cores securely hold the core segments in place against the center pin when grinding, high speed machining or EDM'ing details.

Core grinding rings	
REF	**Core size (prefix cc)**
CC125GR	Grinding ring for CC125PC
CC150GR	Grinding ring for CC150/175PC
CC200GR	Grinding ring for CC250/252PC
CC300GR	Grinding ring for CC352PC
CC400GR	Grinding ring for CC402PC
CC500GR	Grinding ring for CC502PC
CC600GR	Grinding ring for CC602PC
CC650GR	Grinding ring for CC652PC
CC700GR	Grinding ring for CC702PC

Order examples:

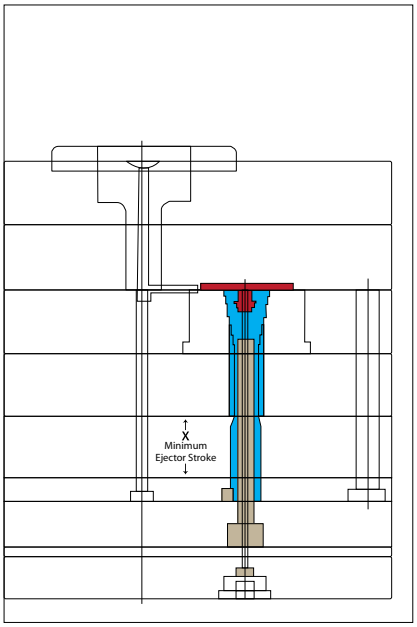
REF	
CC250PCEU	collapsible core incl. grinding ring
CC250PC	collapsible core excl. grinding ring
CC250GR	grinding ring

CAD reference point

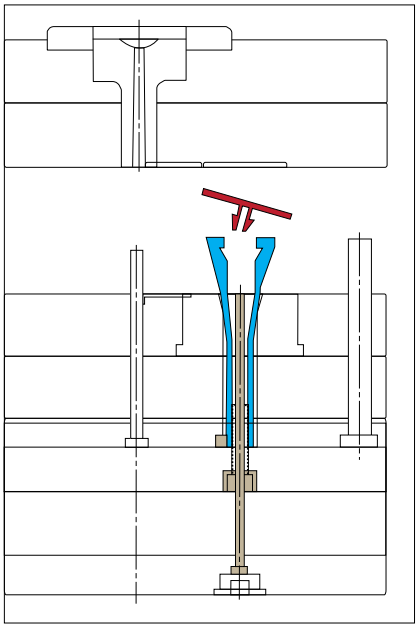
EX-CAV™ SYSTEM **EXCAV**

Cost savings that maximize value:
Simplified mould design
Eliminates traditional slides; allows moulding of details once considered “un-mouldable”
Uses existing ejector system for actuation; either mould open or ejection stages the Expandable Cavity forward to release the moulded undercut
Reduces maintenance costs
Maximizes cavities per mould
Compact; often enabling more cavities in the mould and/or the use of a smaller mould base
Improved mould balance and flexibility in design
Easily accommodates family moulds
Reduces cycle time from staging plates forward during mould open
Can be ordered with the required moulding detail, eliminating the risk of machining errors or scrapping the unit, saving time and money
Detail is machined in a one-piece unit eliminating the risk of error or mismatch that can occur with mating slides
Manufactured with certified alloy steel (A-2) (~1.2363) and proprietary processing techniques to ensure long life and dependable performance

Expandable Cavities simplify tooling design to effectively mould undercuts such as threads, dimples, and protrusions on parts such as snap O-ring caps, plumbing supplies, industrial flanges and valves, electrical fixtures, and much more.
The patented Expandable Cavity design eliminates the engineering, maintenance, and machining required for slide action mechanisms which results in smaller moulds or higher mould cavitation.

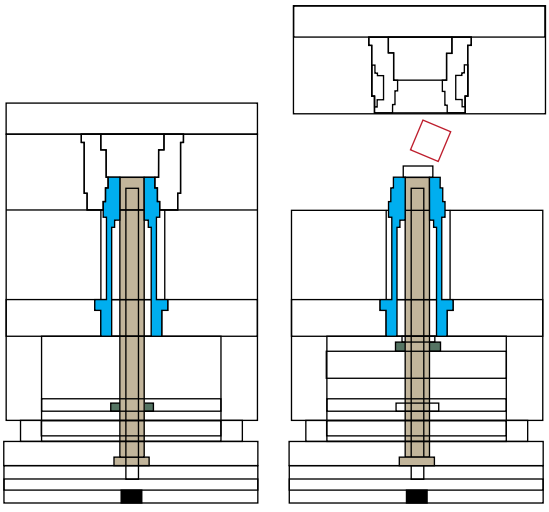


Mould Closed



Mould Open

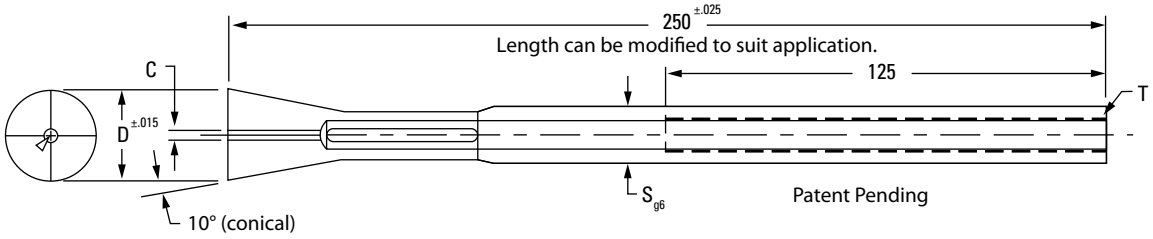
Technical Information:
Available in four standard sizes to satisfy a wide range of applications.
The Expandable Cavity expands along a conical shape;
10° per side.
Manufactured from ~1.2363 tool steel (54-57 HRC) for repeatable expansion. For optimal performance, the Expandable Cavity should ride against a hardened insert.
Expandable Cavities are capable of operating without lubrication. However, treating the Expandable Cavity with an additional coating for wear reduction or corrosion resistance is beneficial.
Expandable Cavities can be ordered with moulding detail for a ‘mould ready’ component.

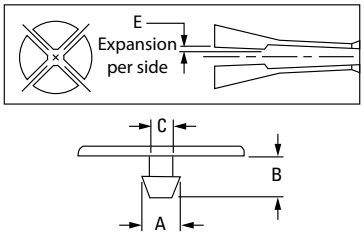


CAD reference point

EXPANDABLE CAVITIES

EX-CAV™-SYSTEM **Info**





REF	D	A -10°/side	B	C	E	F	S	T	X
EXCAV20	20	14	13	2,5	1,6	3	14	M8	15
EXCAV26	26	18	20	3,5	2,5	4	16	M10	15
EXCAV38	38	30	27	4,0	3,0	4	27	M18	20
EXCAV50	50	40	39	5,5	3,5	5	34	M24	20

All dimensions and tolerances in millimeters. Mounting kits sold separately (see below). Expandable Cavity sizes not shown on this table are available by special order.

D Ex-cav diameter
A Max. part diameter
B Max. Moulding length
C Min. part inner diameter
E Expansion per side
F Min. wall thickness
S Body diameter
T Thread
X Min. ejection stroke (next page)

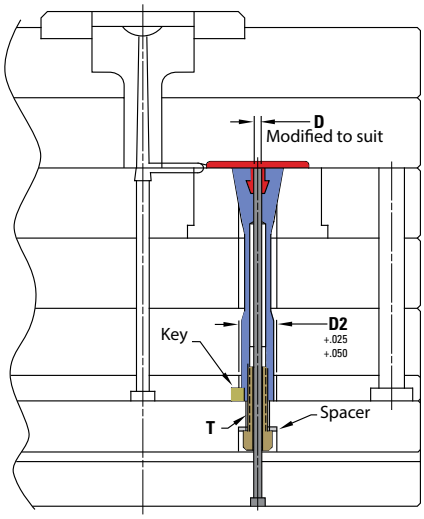
MOUNTING KITS

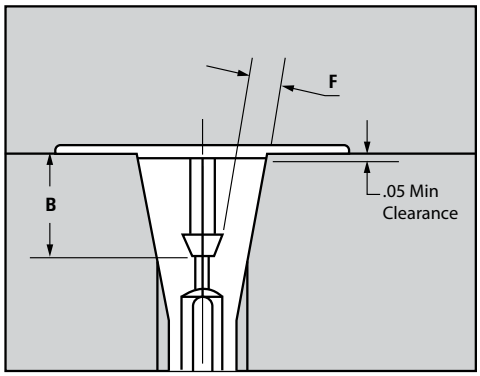
Hollow Bolt Mounting Kit Includes:

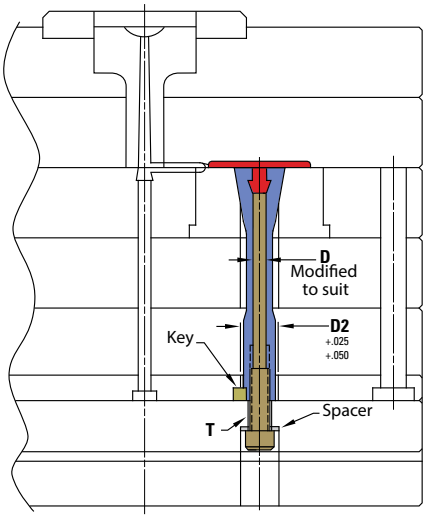
- Key (7 Thk. × 8 × 40)
- Hollow Bolt
- Standard DIN H-13(~1.2344) Ejector Pin (400mm long)
- Spacer

Pin Bolt Mounting Kit Includes:

- Key (7 Thk. × 8 × 40)
- Threaded Bolt/Pin (H-13 (~1.2344), 40-44 HRC, 280mm long)
- Spacer







REF Hollow Bolt Kit	D	T	S (ID × OD × Thk)	D2	For
EXC20BH	3,5	M8-1,25 × 40	8 × 22 × 4	14	**EXCAV20**
EXC26BH	4,0	M10-1,5 × 40	10 × 23 × 4	16	**EXCAV26**
EXC38BH	10,0	M18-2,5 × 50	19 × 33 × 6	27	**EXCAV38**
EXC50BH	14,0	M24-3 × 55	25 × 42 × 6	34	**EXCAV50**

REF Pin Bolt Kit	D	T	S (ID × OD × Thk)	D2	For
EXC20BP	6,0	M8-1,25	8 × 22 × 4	14	**EXCAV20**
EXC26BP	7,7	M10-1,5	10 × 23 × 4	16	**EXCAV26**
EXC38BP	14,5	M18-2,5	19 × 33 × 6	27	**EXCAV38**
EXC50BP	19,8	M24-3	25 × 42 × 6	34	**EXCAV50**

D Nominal pin diameter
T Bolt size
S Spacer size

CAD reference point

EXPANDABLE CORES EXP

Broad Range of Benefits
Simple Design
The revolutionary design and engineering of the Expandable Core saves steps and solves problems that have complicated plastics moulding for years. In addition to simplifying new tooling design, it can be retrofit to existing moulds.

More Reliable
Complete reliability of the Expandable Core is assured, not only by the simplicity of the design, but also by the use of superior materials and proven proprietary processing techniques. It has been field tested over several million cycles.

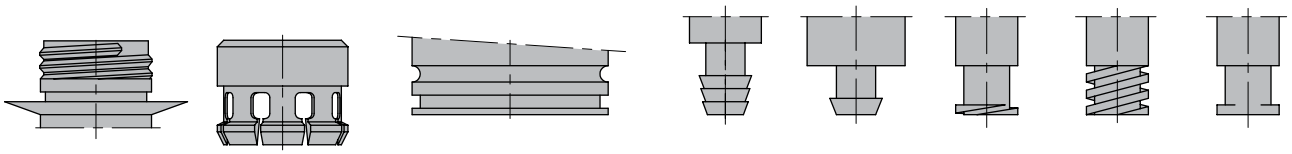
More Compact
Using the DME Expandable Core allows you to design more cavities in each mould.

Speeds Moulding Process
The Expandable Core concept completely eliminates the need for side-action mechanisms and the additional machining steps they require.

Speeds Development
The Expandable Core concept simplifies the engineering required to design and manufacture a new Core.

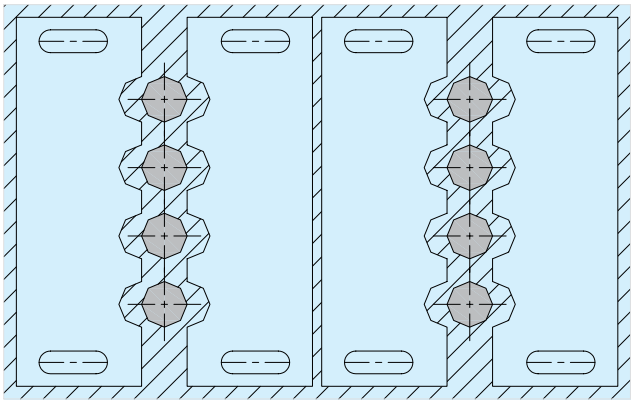
Lowers Development & Processing Costs
The Expandable Core saves money at every step from initial tooling to processing to maintenance. Items such as complex design details, core slides and required mechanical components.

TYPICAL APPLICATION

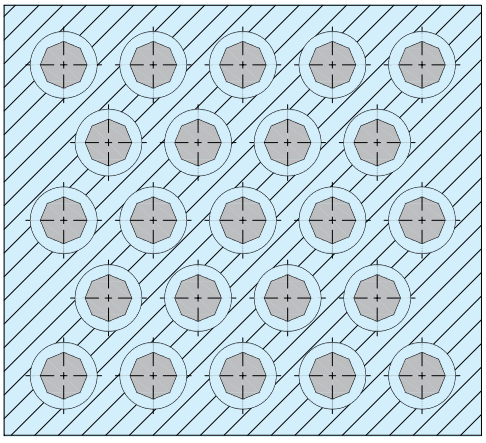


Bottle tops | Snap fit covers/lenses | O-ring grooves | Barb connections | Luer connections

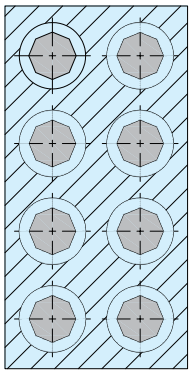
Go from this mould layout with conventional slide mould



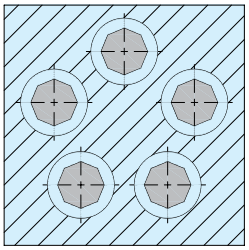
To nest mould layout with expandable cavity



Reduced mould side with expandable cavity



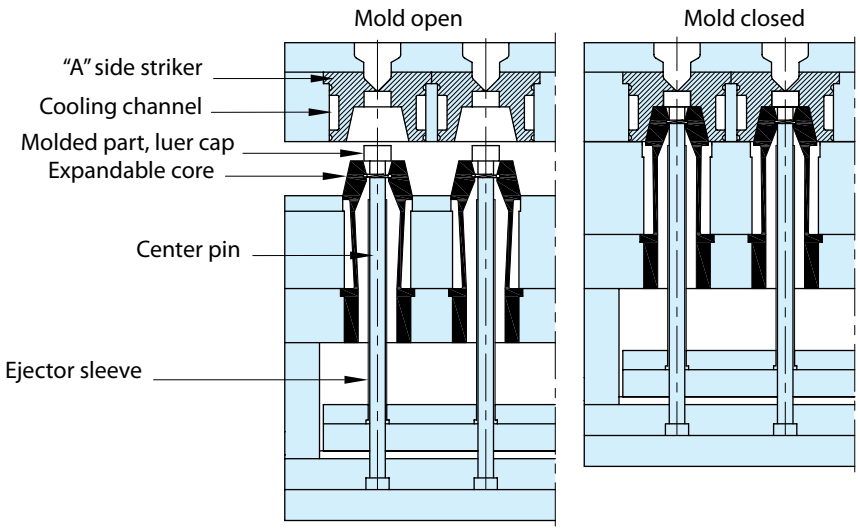
Radial mould layout with expandable cavity



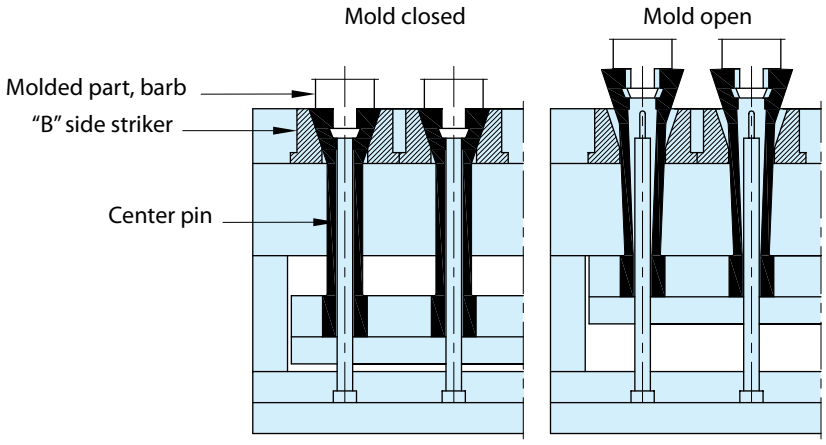
CAD reference point

INFO EXP EXP

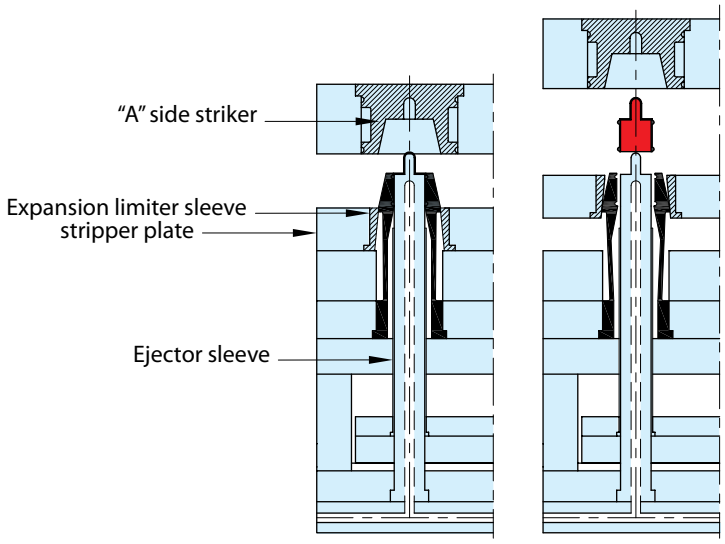
Typical application with"A" side striker insert



Typical application with "B" side striker insert



With "A" striker insert and expansion limiter sleeve



Expandable Core
The Expandable Core is typically made of 1.2363 tool steel, hardened to 54-58 HRC. The typical tool has 4 segments.

Striker Insert
The Striker Insert is made from different types of tool steel. It is hardened to 32-45 HRC scale, depending on the application. The Striker Insert has a lower hardness than the Expandable Core to ensure the eventual wear will occur on the Striker Insert. Depending on the part configuration, the Striker Insert can be used in the "A" or "B" side of the mould.(See figure 1 and 2 for details). The Striker Insert must be closely fit to the Expandable Core to ensure that in the mould closed position the segments are completely sealed against one another. The tolerance on this fit must be held to ± 0.013 mm. This will ensure flash free moulding. When the mould is closed, the exterior of the Expandable Core must be supported by the Striker Insert at least 7/8 of the moulded length plus the shut-off, to ensure no flash conditions. Allow for 5 mm of shut-off length below the moulding length, any more is excessive.

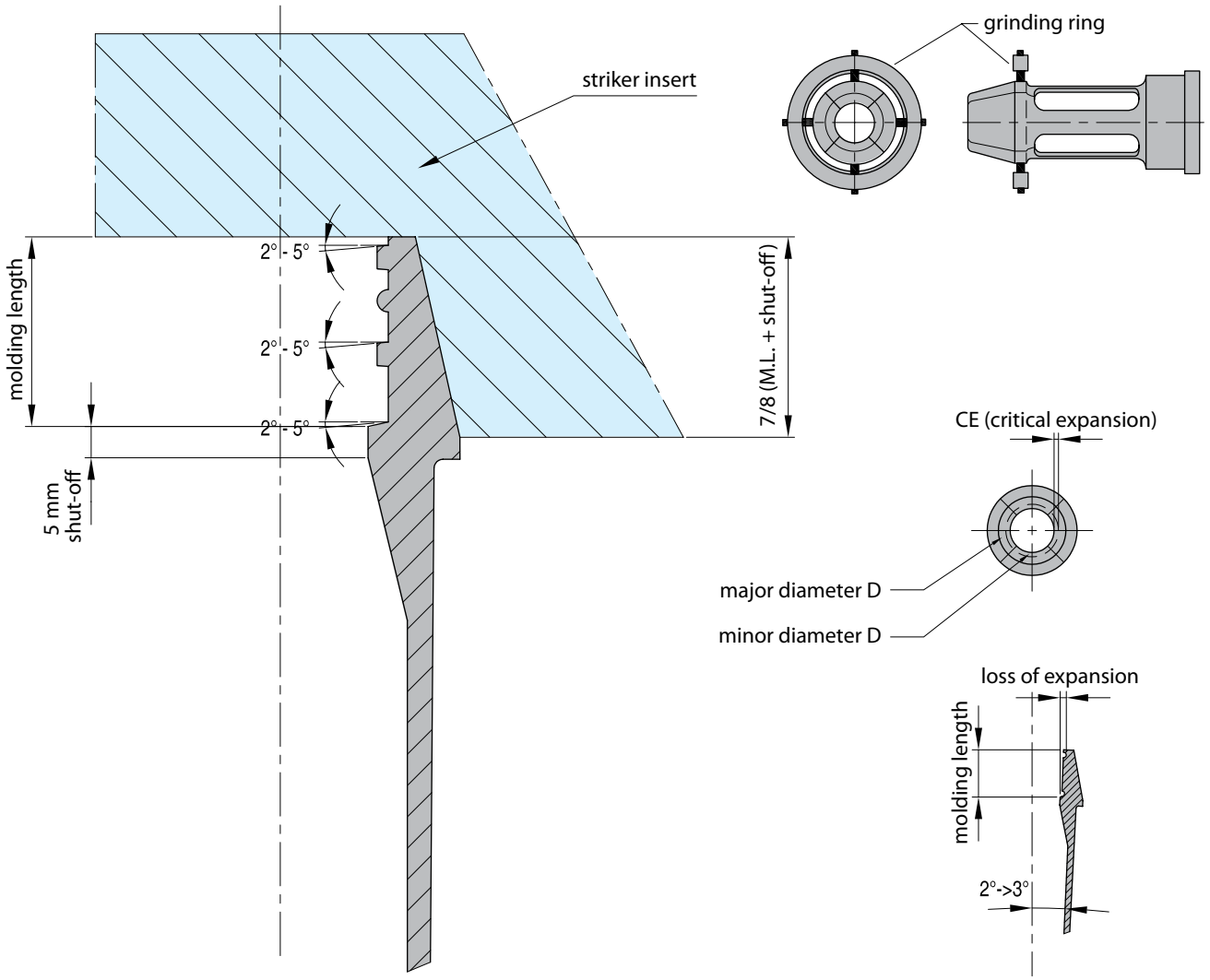
Interchangeable Center Pin
The solid center mandrel is the most common type of center pin. It may have an inner cooling channel depending on its size. The center pin provides an internal shut-off with the Expandable Core.

CAD reference point

EXPANDABLE CORE AND STRIKER INSERT DESIGN **EXP**

The Expandable Core can mould a full 360° around. The most common configuration is 4 segments that mould 90° apiece. The Expandable Core can also be designed as asymmetrical, such as two segments that mould 90° apiece and 3 segments that mould 60° apiece. The amount of expansion varies according to the part requirements, and clearances needed.
The critical expansion needed to release the undercut is not the radial difference between major diameter (D) and minor diameter (d).
Most Expandable Cores are usually ground or EDM'd. It is important when grinding to flood tool with suitable coolant for hardened tool steels. (Dress wheel frequently). The wheel must be of a soft grade. When grinding make sure the Expandable Core completely closed in a true circle by using the grinding ring supplied, as shown here. After all finish grinding, polishing and EDM'ing work, be sure to demagnetize the Expandable Core to prevent adhesion of any metal particles that might find their way into the Core during moulding.

Note : DME does not provide the part configuration detailing or machining.



CAD reference point

QUOTE REQUEST FORM

Send to: DMEEU_specialprojects@dme.net

Company name:..... DME account #:.....

Contact name:..... P.O. #:.....

Phone:..... FAX:.....

Address:..... E-mail:.....

City:..... State/Province:.....

ZIP/Postal Code:..... Country:.....

Shipping method:

❑ UPS Ground ❑ UPS 2nd Day Air ❑ UPS Next Day ❑ FedEx ❑ Other .....

Expandable Cavity Requirements

I. POLYMER SPECIFICATIONS:

A. What is the material to be moulded? .....

B. What is the process temperature? .....

❑ Filled ❑ Unfilled ❑ Glass ❑ Mineral

II. DIMENSIONS OF EXPANDABLE CAVITY: (Part print is required)

A. Specify largest diameter to be moulded .....

B. Specify smallest diameter to be moulded .....

C. Specify major diameter of undercut or thread .....

D. Specify minor diameter of undercut or thread .....

III. MouldED PART LENGTH:

A. Moulding Length: .....(Within the Expandable Cavity)

B. Mould Shut-off: .....**.200**..... (Shut-off land below part)

IV. EXPANSION REQUIREMENTS: (See Expandable Cavity and Striker Insert Design)

A. Critical Expansion per side: .....

B. Loss of expansion (.050in/in): .....

Multiply moulding length (Distance from top of Expandable Cavity to bottom of last undercut) by .050in

C. Clearance (Air) between plastic and steel upon expansion: .....**.005**.....

V. Mould LAYOUT

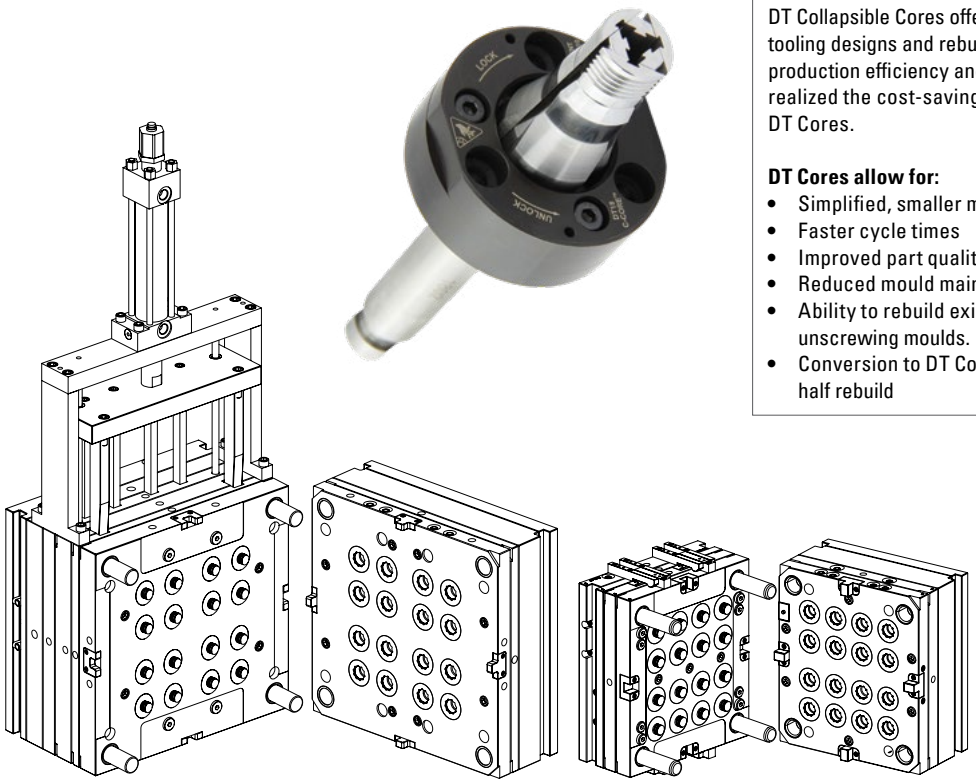
A. Distance from gate (center to center): .....

B. Number of cavities: .....

❑ Retrofit ❑ New Mould

CAD reference point

DT SERIES DT



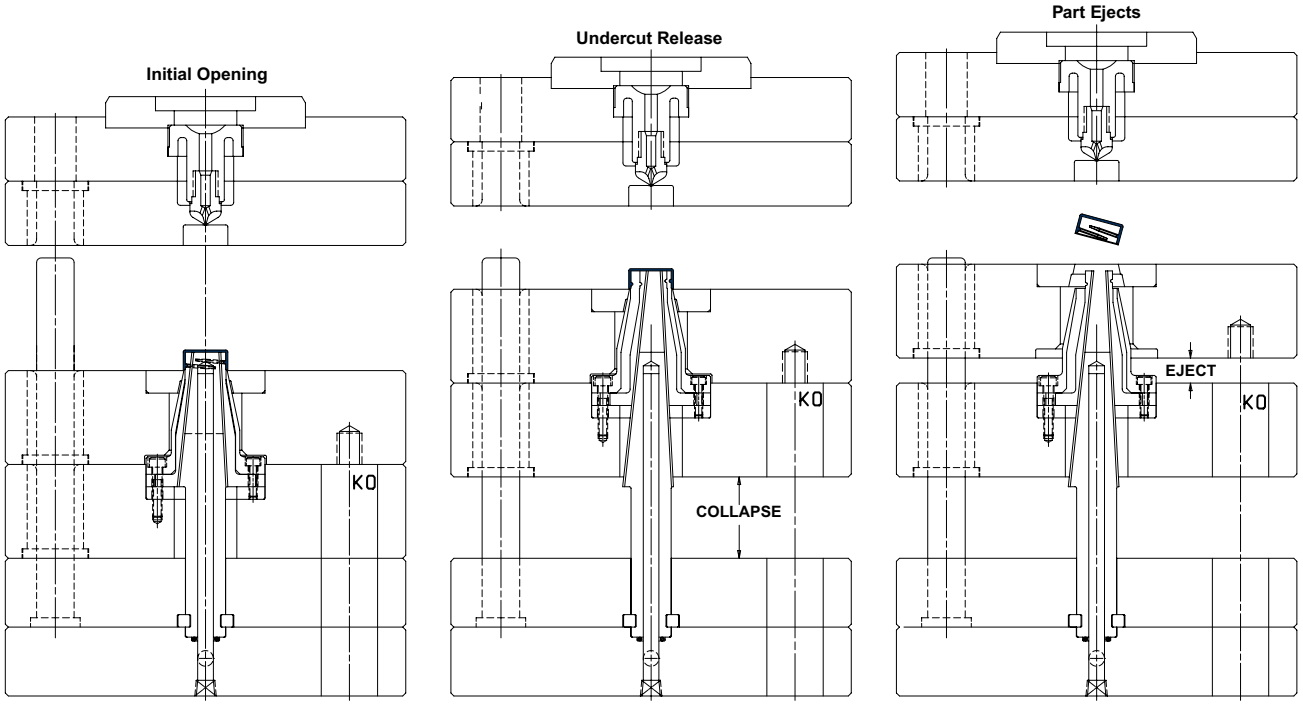
Increased Profits
DT Collapsible Cores offer a unique opportunity to revisit older tooling designs and rebuild or refurbish the moulds for maximum production efficiency and profitability. Many moulders have realized the cost-saving and profit-boosting benefits of using DT Cores.

DT Cores allow for:

- Simplified, smaller moulds
- Faster cycle times
- Improved part quality
- Reduced mould maintenance
- Ability to rebuild existing tools and breathe new life into old unscrewing moulds.
- Conversion to DT Cores through replacement mould or back half rebuild

Simplified Mould Design
The DT Collapsible Core is a positive, mechanically actuated collapsible core that eliminates complex gear and rack approaches, resulting in a simpler mould and a faster cycle time. The maintenance advantage is dramatic due to a patented quick-lock feature that allows removal and servicing of the core unit while the mould is still in the press.

The DT Core's compact design allows for shorter stack height, tighter cavity spacing, and also creates opportunities for use in slides or on the stationary side of the mould.

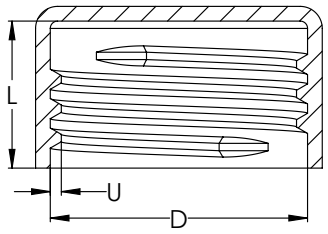


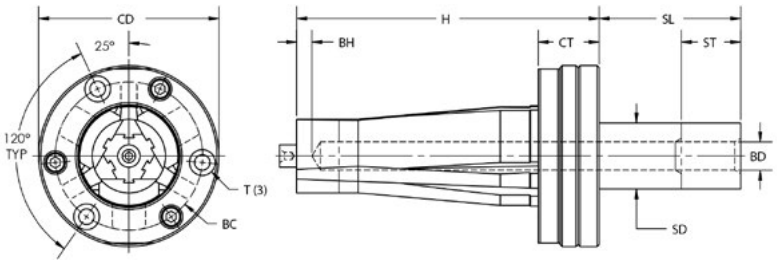
DT Cores use a simple single stage collapse/eject sequence typically run by the machine KO.

CAD reference point

DT SERIES COLLAPSIBLE CORES

DT SERIES **DT**





REF	D	U	L	ST	H	SD	BD	BH	SL	CD	CT	BC	T
DT1010	10,00-10,99mm	0,36mm	7,5mm	43,5mm	87mm	10,5mm	3mm	5mm	58mm	50mm	21mm	37mm	M5 x 25
DT1111	11,00-11,99mm	0,41mm	8mm	44,5mm									
DT1212	12,00-12,99mm	0,46mm	8,5mm	45,5mm	87mm	12mm	4mm	5mm	59mm	52mm	21mm	38mm	M6 x 35
DT1313	13,00-13,99mm	0,51mm	9mm	46,5mm									
DT1414	14,00-14,99mm	0,56mm	9,5mm	47mm	87mm	14mm	5mm	5mm	60mm	54mm	21mm	41mm	M5x25
DT1515	15,00-15,99mm	0,61mm	10mm	47,5mm									
DT1616	16,00-16,99mm	0,66mm	10,5mm	48mm	87mm	15,5mm	6mm	5mm	62mm	56mm	21mm	43mm	M5x25
DT1717	17,00-17,99mm	0,71mm	11mm	48,5mm									
DT1819	18,00-19,99mm	0,82mm	12mm	50mm	99mm	18mm	8mm	6mm	61mm	63mm	24mm	49mm	M6x30
DT2021	20,00-21,99mm	0,92mm	12,5mm	55mm									
DT2224	22,00-24,99mm	1,04mm	13mm	59mm	109mm	22mm	10mm	6mm	64mm	69mm	24mm	55mm	M6x30
DT2527	25,00-27,99mm	1,20mm	15mm	66,5mm									
DT2830	28,00-30,99mm	1,36mm	18mm	71mm	129mm	28mm	12mm	6mm	60mm	77mm	26mm	63mm	M6x30
DT3133	31,00-33,99mm	1,50mm	21mm	78mm									
DT3436	34,00-36,99mm	1,73mm	22mm	79mm	139mm	34mm	14mm	6mm	64mm	93mm	27mm	75mm	M8x30
DT3739	37,00-39,99mm	1,88mm	24mm	85mm									
DT4042	40,00-42,99mm	2,06mm	25mm	86mm	151mm	39mm	17mm	6mm	65mm	101mm	32mm	83mm	M8x35
DT4345	43,00-45,99mm	2,24mm	27mm	93mm									
DT4648	46,00-48,99mm	2,42mm	28mm	94mm	161mm	42mm	20mm	6mm	69mm	110mm	32mm	90mm	M8x35
DT4951	49,00-51,99mm	2,57mm	31mm	99mm									
DT5254	52,00-54,99mm	2,77mm	32mm	100mm	183mm	50mm	22mm	6mm	85mm	130mm	39mm	107mm	M10x45
DT5557	55,00-57,99mm	2,95mm	34mm	106mm									
DT5860	58,00-60,99mm	3,10mm	36mm	111mm									

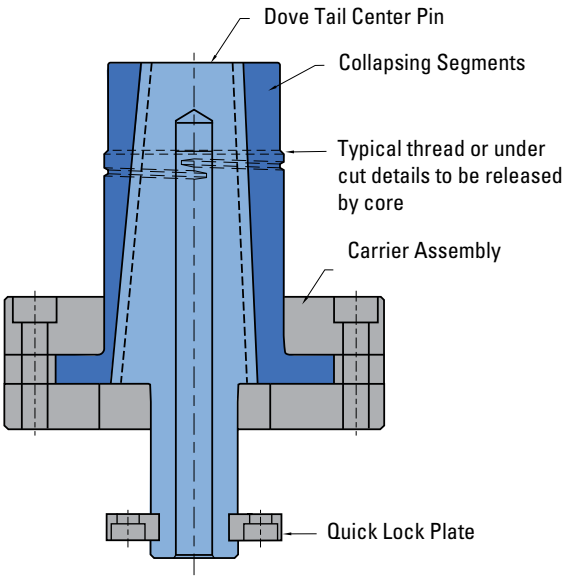
D Max. outer diameter
U Min. undercut
L Max. moulding length
ST Max. collapse stroke
H Core lenght
SD Shaft diameter
BD Cooling hole diameter

BH Distance to cooling hole
SL Shaft length
CD Carrier diameter
CT Carrier assembly thickness
BC Mounting screw bolt circle
T Mounting screws (SHCS)

For sizes larger than 60 mm, contact DME directly.
Build in instructions available upon request.

CAD reference point

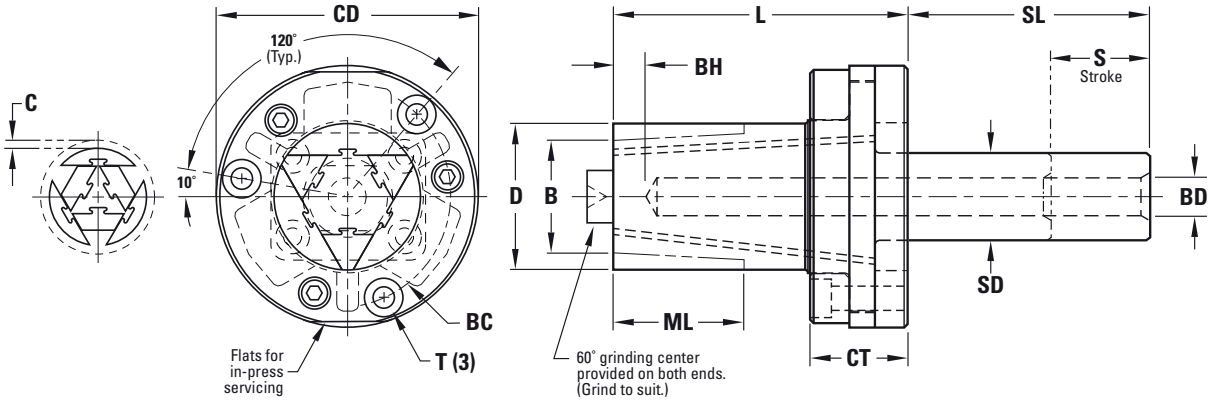
CONSTRUCTION DT



Collapsing Segments
Mat.: 1.2363- Hardness: 54 -57 HRC
- Designed to mechanically collapse when the center pin is withdrawn.
- The fit between the segments is controlled to permit flash-free moulding.

Center Pin
Mat.: 1.2379- Hardness: 60-62 HRC
- Serves to expand the segments of the core to their moulding position
- The pin may be flush to the core face.

Carrier Assembly
Mat.: 1.2379- Hardness: 60-62 HRC
- Mounts DT Core assembly to the mould carrier plate.
- Provides guided and anti-rotational segment movement.



All dimensions and tolerances are in milimeters.

REF	D	B +3°/Side	ML	C	CD	CT ± 0,05	L +0,1 -0,0	SL	SD +0,00 -0,02	BD	BH	BC	T	S
DT18	21	17	22	1,1	53	21	60	60	16	6	6	40	M5 x 25	34
DT28	33	25	28	1,6	60	22	67	60	20	8	8	47	M5 x 25	38
DT38	42	33	43	2,1	76	28	85	60	25	10	10	60	M6 x 35	54
DT48	54	42	50	2,4	98	37	104	70	30	12	12	78	M8 x 40	62

D	Max. outer diameter	SL	Shaft length
B	Min. inner diameter	SD	Shaft diameter
ML	Max. moulding length	BD	Cooling hole diameter
C	Maximum collapse	BH	Distance to cooling hole
CD	Carrier diameter	BC	Mounting screw bolt circle
CT	Carrier assembly thickness	T	Mounting screws
L	Core length	S	Maximum collapse stroke

SETRAL GREASE DTG100

Setral is a full synthetic, solid free non-migrating grease for long term lubrication that is used to coat the sliding surfaces between our segments and center pin.
DME recommends this grease for all DT core applications. MSDS and technical data sheets are available from DME.

Description: Setral INT/300 Grease : 100g Tube

CAD reference point

DT SERIES COLLAPSIBLE CORES

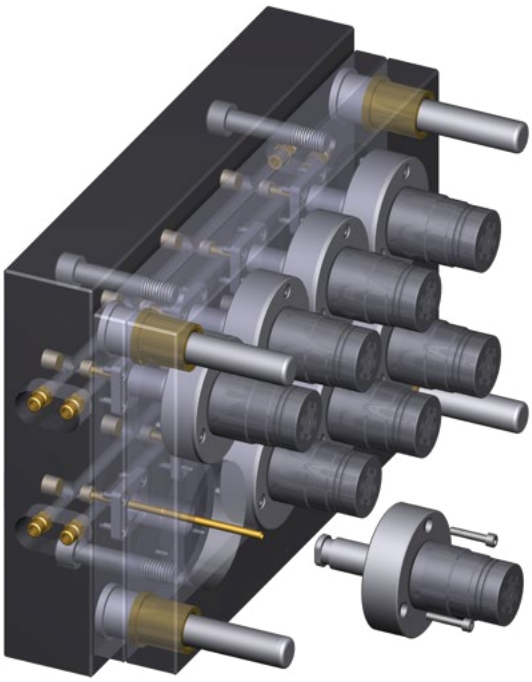
GRINDING FIXTURES — DTGF...

Grinding Fixtures for DT Collapsible Cores securely hold the core segments in place against the center pin when grinding, high speed machining or EDM'ing details. Although normally DME would provide cores with finished moulding details, grinding fixtures allow customers to machine their own details.

REF	Core size
DTGF1011	Grinding fixtures for DT1010 - DT1111
DTGF1213	Grinding fixtures for DT1212 - DT1313
DTGF1415	Grinding fixtures for DT1414 - DT1515
DTGF1617	Grinding fixtures for DT1616 - DT1717
DTGF1821	Grinding fixtures for DT1819 - DT2021
DTGF2227	Grinding fixtures for DT2224 - DT2527
DTGF2833	Grinding fixtures for DT2830 - DT3133
DTGF3439	Grinding fixtures for DT3436 - DT3739

REF	Core size
DTGF4045	Grinding fixtures for DT4042 - DT4345
DTGF4651	Grinding fixtures for DT4648 - DT4951
DTGF5260	Grinding fixtures for DT5254-DT5557-DT5860
DTGF18	Grinding fixtures for DT18
DTGF28	Grinding fixtures for DT28
DTGF38	Grinding fixtures for DT38
DTGF48	Grinding fixtures for DT48

QUICK LOCK PLATE (OPTIONAL) — DT...

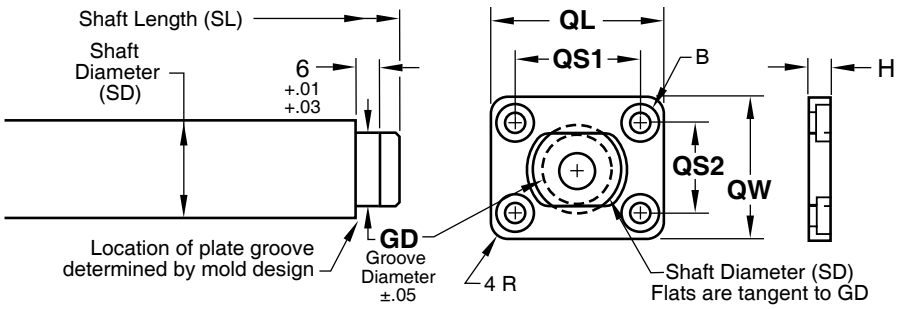


Features:
Plate Material: 54-57 HRC

Utilizing DME's exclusive Quick Lock mounting configuration, the DT Core can be removed and serviced while the mould remains in the press. This feature allows for a higher cavitation percentage and lower maintenance costs than other tool design approaches.

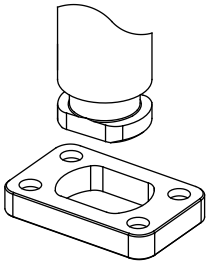
CAD reference point

QUICK LOCK PLATE (OPTIONAL) DTQL...

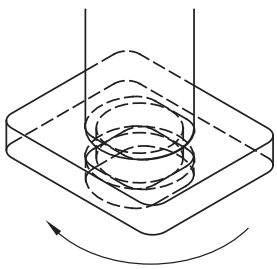


REF	For	gd	QL +0.00 -0.05	QW +0.00 -0.05	qs1	qs2	h	B MOUNTING SCREWS
DTQL1011	Quick Lock plate for DT1010 - DT1111	7.43mm .93in	26.01mm 1.024in	18.01mm .709in	17.50mm .689in	9.50mm .374in	4mm .1575in	M3 LHCS
DTQL1213	Quick Lock plate for DT1212 - DT1313	9.02mm 355in	27.99mm 1.102in	18.01mm .709in	19.51mm .768in	9.50mm .374in	4mm .1575in	M3 LHCS
DTQL1415	Quick Lock plate for DT1414 - DT1515	9.81mm 386in	30mm 1.181in	19.99mm .787in	21.49mm .846in	11.51mm .453in	5mm .1969in	M3 SHCS
DTQL1617	Quick Lock plate for DT1616 - DT1717	10.60mm .417in	32mm 1.260in	22mm .866in	23.50mm .925in	13.49mm .531in	5mm .1969in	M3 SHCS
DTQL1821	Quick Lock plate for DT1819 - DT2021	12.99mm .511in	35mm 1.378in	24.99mm .984in	24.99mm .984in	15.01mm .591in	6mm .2362in	M4 SHCS
DTQL2227	Quick Lock plate for DT2224 - DT2527	16.16mm .636in	38mm 1.496in	27.99mm 1.102in	27.99mm 1.102in	18.01mm .709in	6mm .2362in	M4 SHCS
DTQL2833	Quick Lock plate for DT2830 - DT3133	21.72mm .855in	43.99mm 1.732in	32mm 1.260in	34.01mm 1.339in	22mm .866in	6mm .2362in	M4 SHCS
DTQL3439	Quick Lock plate for DT3436 - DT3739	25.69mm 1.011in	51.99mm 2.047in	40.01mm 1.575in	40.01mm 1.575in	27.99mm 1.102in	8mm .3150in	M5 SHCS
DTQL4045	Quick Lock plate for DT4042 - DT4345	30.45mm 1.199in	56.01mm 2.205in	43.99mm 1.732in	43.99mm 1.732in	32mm 1.260in	8mm .3150in	M5 SHCS
DTQL4651	Quick Lock plate for DT4648 - DT4951	34.42mm 1.355in	57.99mm 2.283in	46mm 1.811in	46mm 1.811in	34.01mm 1.339in	8mm .3150in	M5 SHCS
DTQL5260	Quick Lock plate forDT5254-DT5557-DT5860	39.18mm 1.543in	65.99mm 2.598in	54mm 2.126in	53.01mm 2.087in	41mm 1.614in	10mm ..3937in	M6 SHCS
DTQL18	Quick Lock plate for DT18	12mm .472in	35mm 1.378in	22mm .866in	25mm .984in	12mm .472in	6mm .236in	M4 SHCS
DTQL28	Quick Lock plate for DT28	15mm .591in	38mm .1.496in	25mm .984in	28mm 1.102in	15mm .591in	6mm .236in	M4 SHCS
DTQL38	Quick Lock plate for DT38	19mm .748in	41mm 1.614in	31mm 1.220in	30mm 1.181in	20mm .787in	6mm .236in	M4 SHCS
DTQL48	Quick Lock plate for DT48	23mm .906in	44mm 1.732in	35mm 1.378in	34mm 1.339in	25mm .984in	6mm .236in	M4 SHCS

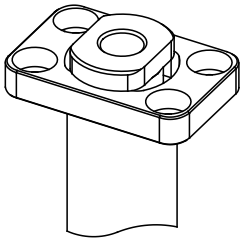
Align and push end of Center Pin through Quick Lock Plate.



Rotate Center Pin clockwise 90° to lock into place.



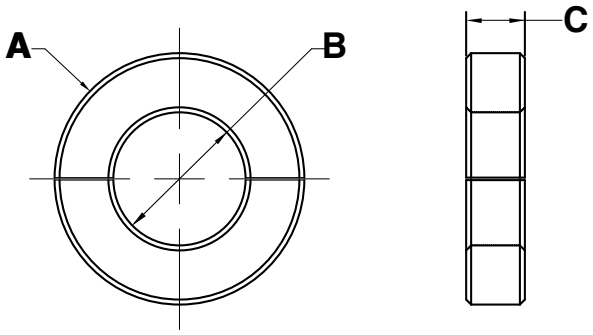
Bottom view of Center Pin and Quick Lock Plate in locked position.



CAD reference point

DT SERIES COLLAPSIBLE CORES

SPLIT RING — DTSR...

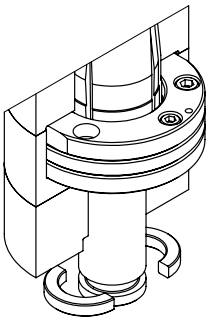


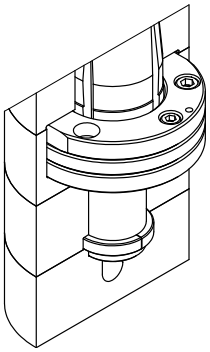
Utilizing DME's split ring allows for a simpler attachment method.

REF	For	A (mm)	B (mm)	C (mm)
DTSR1011	Split ring for fixing DT1010 - DT1111	16	7,95	3,99
DTSR1213	Split ring for fixing DT1212 - DT1313	17,53	9,53	3,99
DTSR1415	Split ring for fixing DT1414 - DT1515	20,32	10,31	5
DTSR1617	Split ring for fixing DT1616 - DT1717	21,08	11,13	5
DTSR1821	Split ring for fixing DT1819 - DT2021	25,40	13,49	5,99
DTSR2227	Split ring for fixing DT2224 - DT2527	28,70	16,66	5,99
DTSR2833	Split ring for fixing DT2830 - DT3133	34,29	22,23	5,99
DTSR3439	Split ring for fixing DT3436 - DT3739	42,16	26,19	8

REF	For	A (mm)	B (mm)	C (mm)
DTSR4045	Split ring for fixing DT4042 - DT4345	46,99	30,96	8
DTSR4651	Split ring for fixing DT4648 - DT4951	50,80	34,93	8
DTSR5260	Split ring to fix DT5254-DT5557-DT5860	59,69	39,70	9,98
DTSR18	Split ring for fixing DT18	24,89	12,70	6,35
DTSR28	Split ring for fixing DT28	27,94	15,88	6,35
DTSR38	Split ring for fixing DT38	34,80	20,62	6,35
DTSR48	Split ring for fixing DT48	37,59	25,40	6,35

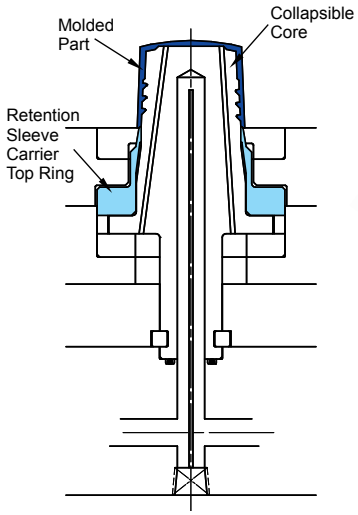
Assemble Core into Mould.
Then collapse core to install split ring

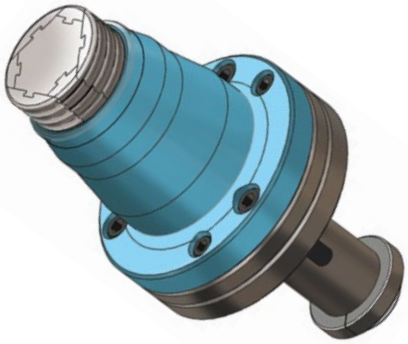




Push Center pin forward to moulding position and install back plate

RETENTION SLEEVE (OPTIONAL)





Retention Sleeves for DoveTail Collapsible Cores assure the position of the moulded part during core collapse and part ejection.

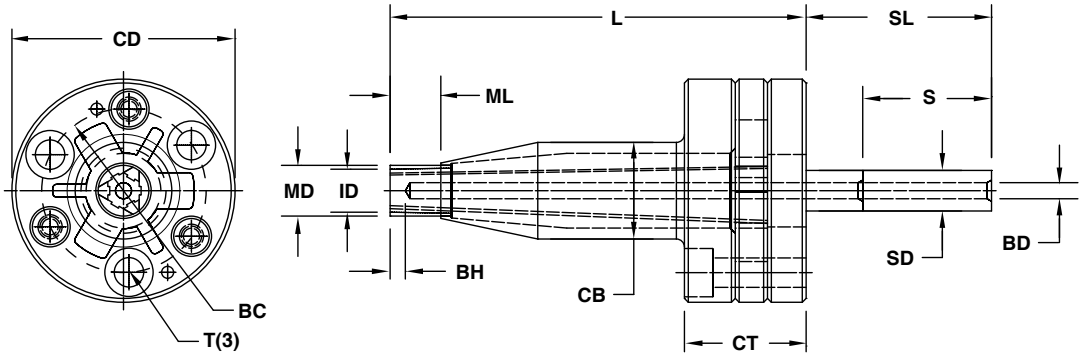
E-mail DMEEU_specialprojects@dme.net for more information.

CAD reference point

SUB-10 DT CORE SERIES — DTSUB10

The Sub-10 DT Cores make it possible to release very small threads and undercuts in moulded caps, connectors and small medical parts.
Allows moulding of parts with 7-10mm ID.
Simpler alternative to unscrewing moulds.
Reduces cycle time and maintenance requirements.

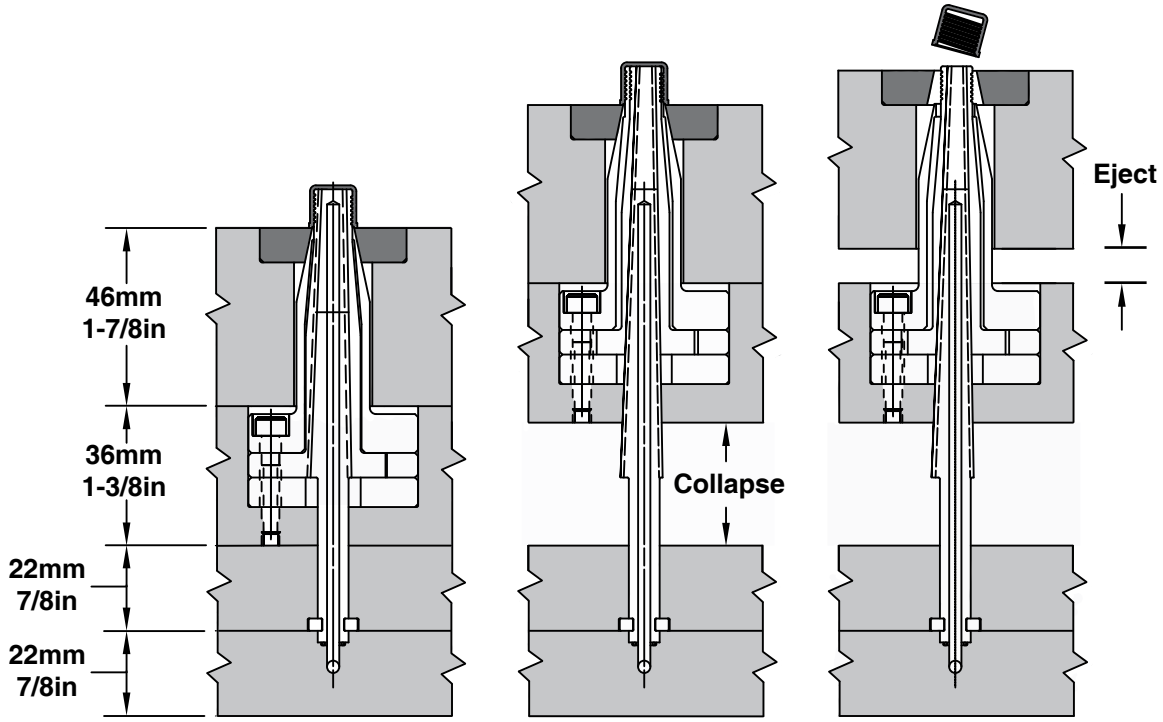
Application Guidelines:
Maximum undercut depth is determined by final moulding diameter from application review.
Collapse stroke is determined by undercut depth from application review.
Cores are supplied complete with machined moulding details.



REF	MD	ID	ML	UC	CD	CB	CT	L	SL	SD	S	BD	BH	BC	T
DTSUB10	10mm	7mm	10mm	0,38mm	44mm	19mm	24mm	82mm	36mm	8mm	50mm	3mm	3mm	32mm	M5x25

MD	Max. moulding diameter	SL	Shaft length
ID	Min. moulding diameter	SD	Shaft diameter
ML	Max. moulding length	S	Maximum collapse stroke
UC	Maximum undercut	BD	Cooling hole diameter
CD	Carrier assembly diameter	BH	Cooling hole height
CB	Carrier assembly body	BC	Mounting bolt circle
CT	Carrier assembly thickness	T	Mounting bolt (3)
L	Length		

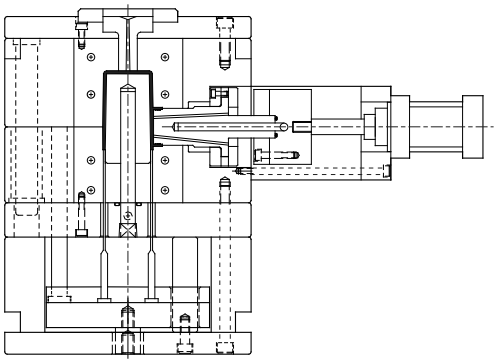
NOTE: Submit part geometry to DMEEU_specialprojects@dme.net for quotes and application review.

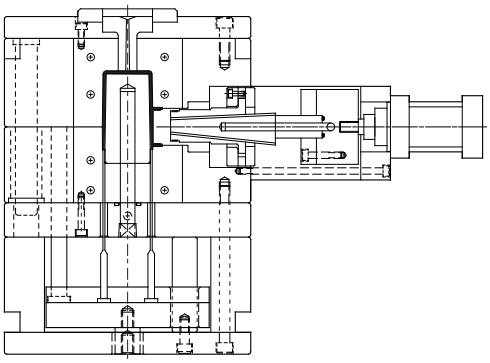


CAD reference point

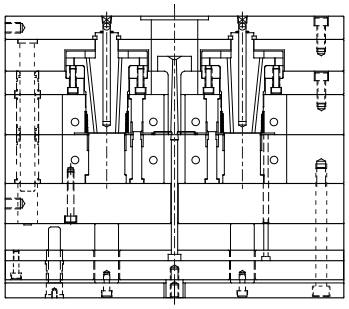
DT SERIES APPLICATIONS

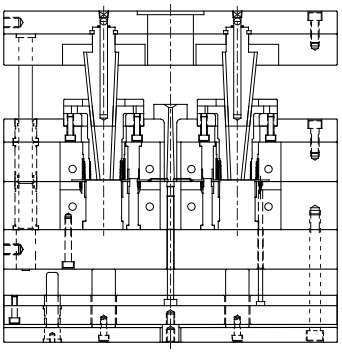
Side Action



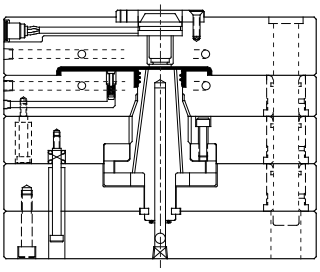


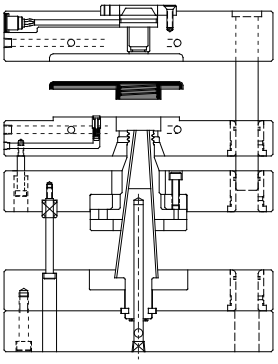
Cavity Side



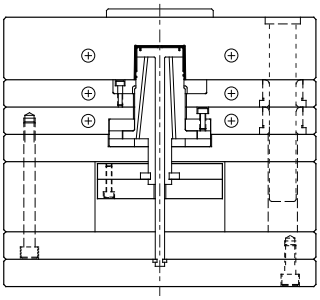


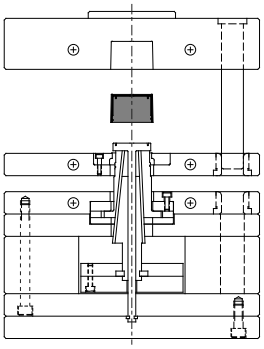
Boss Detail





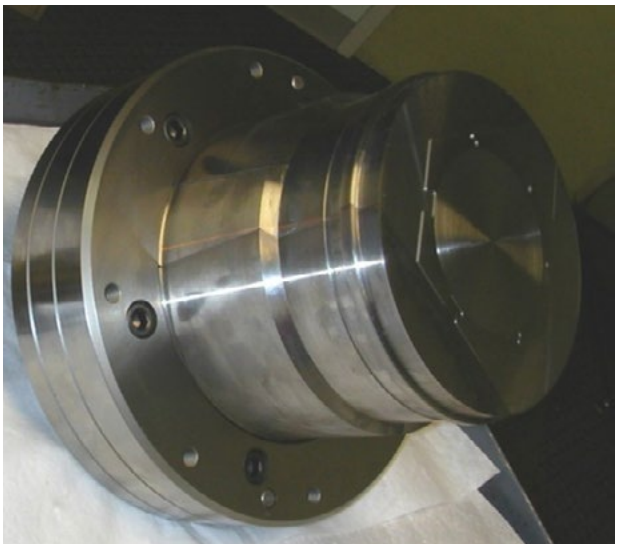
Seal Ring (Pancake Pin)

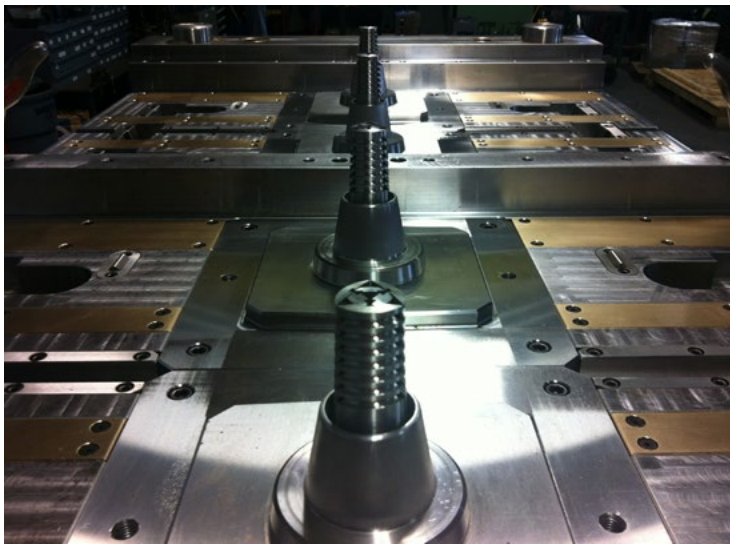




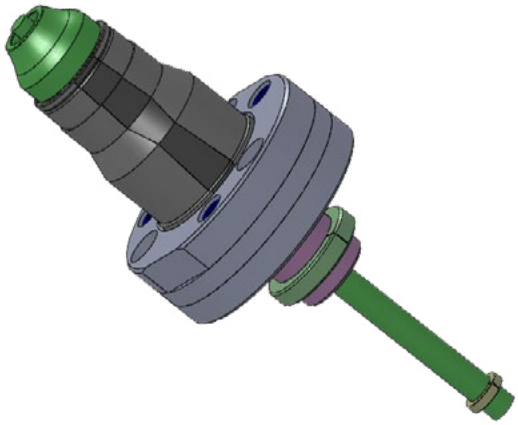
CAD reference point

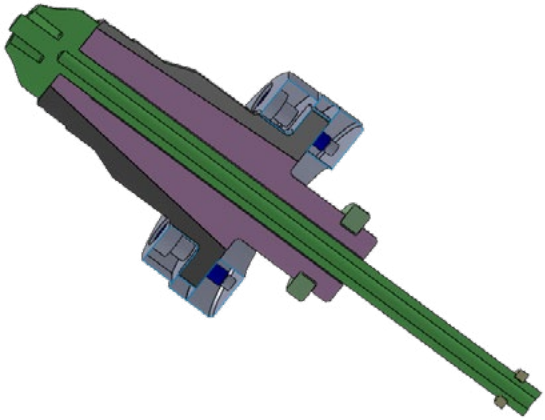
DT SERIES CUSTOM APPLICATIONS

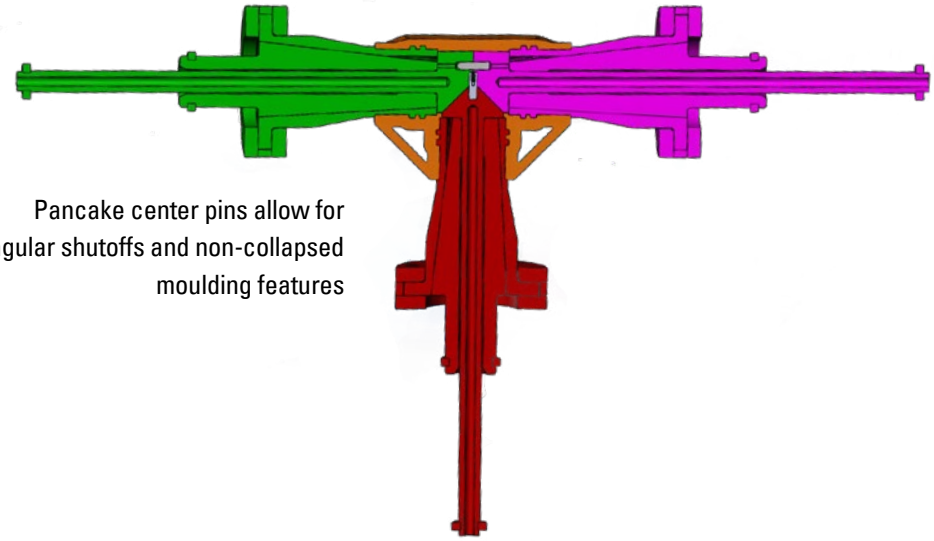




TE Cap | CT Cap | Threaded Collar | Prescription | Dosing | Long Thread Run



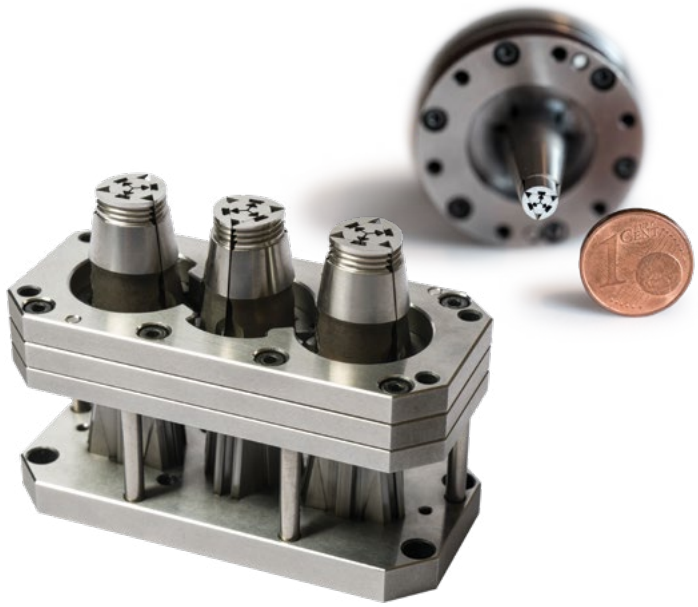




Pancake center pins allow for angular shutoffs and non-collapsed moulding features

CAD reference point

DME COLLAPSIBLE S-CORES **EUSCORE**



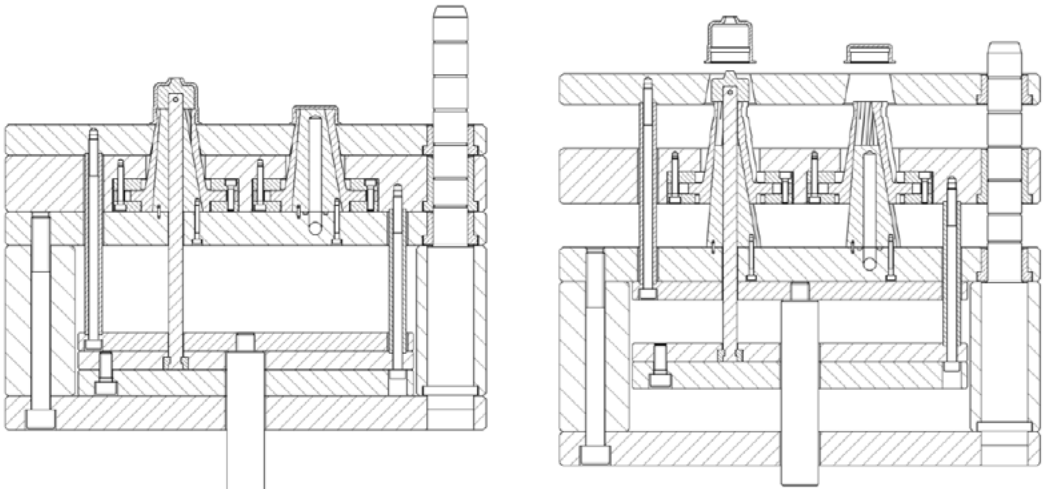
- Up to 25 % undercut
- Diameters from 6 mm to 400 mm
- Various shapes - round or square
- With 6, 8 or 12 segments
- Maximum speed of 100 mm/sec
- Round or square retaining rings

The Engineering team of DME develops custom solutions for every application.

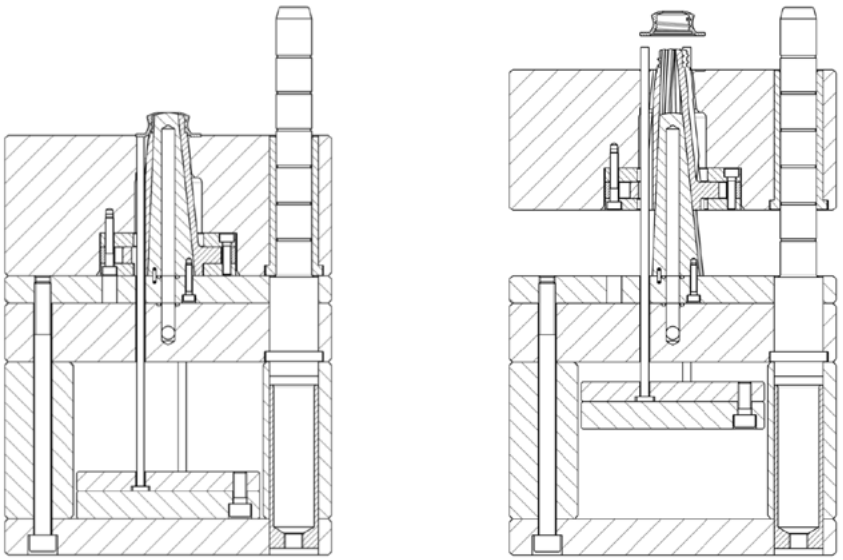
Features

- SAFETY STOP: preventing the damaging of the segments
- EASIER MACHINING: thanks to its flat back, it's easier to fix the core on the magnetic table and machine the required profile to realize the undercut
- PRECISE INSTALLATION: The back of the S-core has holes for screws and dowel pins to precisely position it in the mold. If needed different dowel pins can be used, in case the part is not rotational symmetric
- EXTENSIVE VARIETY OF APPLICATIONS: Many possibilities are available, to better suit your application - see examples below
- Special solution for SMALL CAVITY SPACING with special retaining rings

FUNCTIONAL EXAMPLE OF A STANDARD FOLDING CORE IN COMBINATION WITH A FOLDING CORE WITH FRONT INSERT IN THE SAME TOOL



FUNCTIONAL EXAMPLE OF A STANDARD FOLDING CORE IN COMBINATION WITH EJECTOR PINS

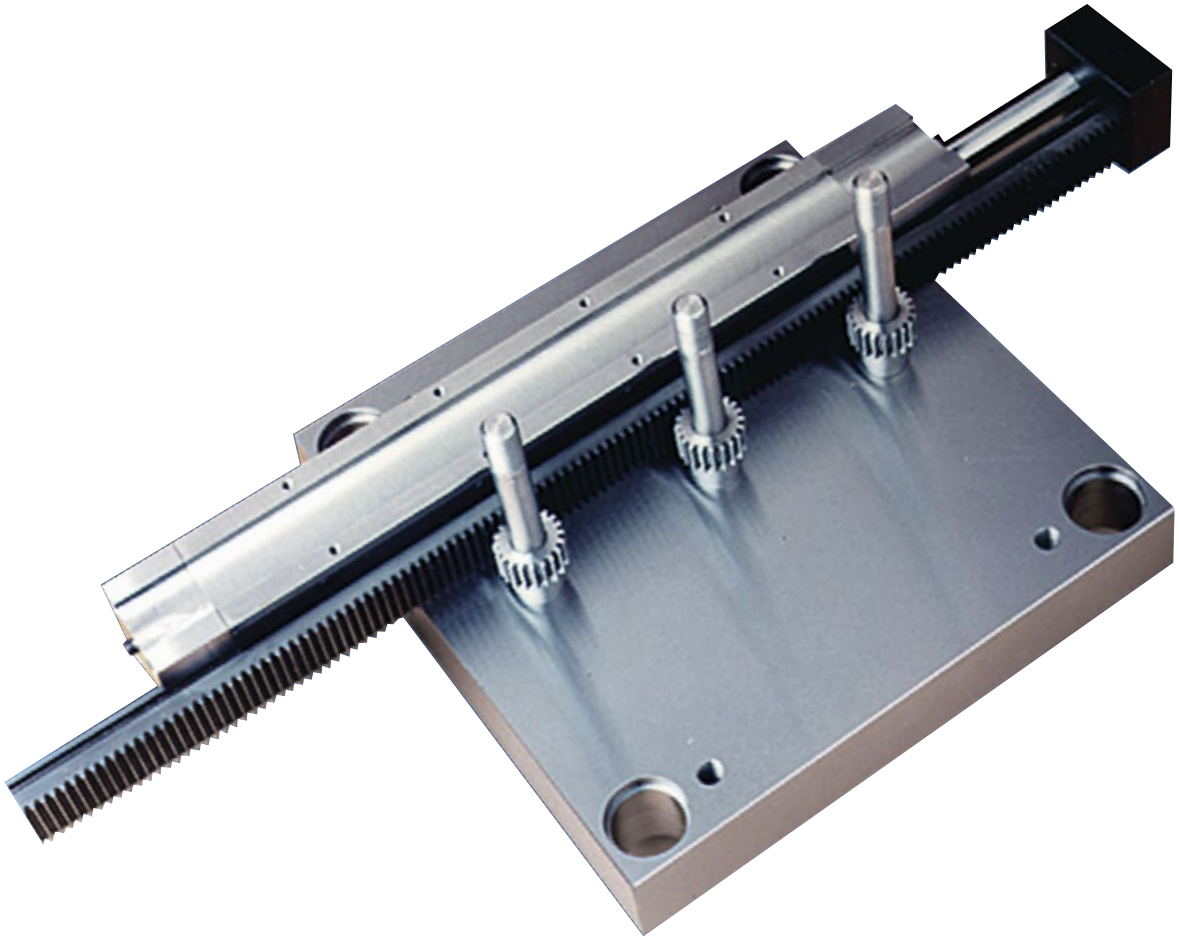


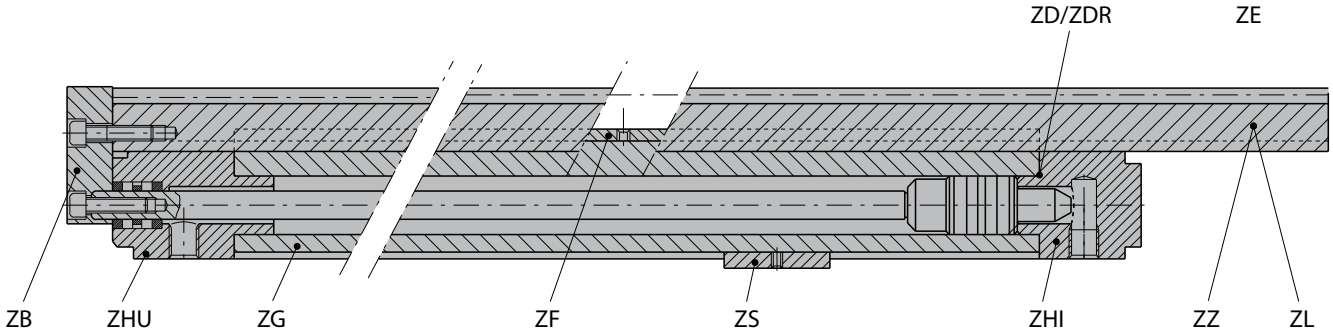
CAD reference point

PLEASE CONTACT OUR SPECIAL PROJECTS TEAM FOR A QUOTE: dmeeu_specialprojects@dme.net

HYDRAULIC UNSCREWING DEVICE

Info



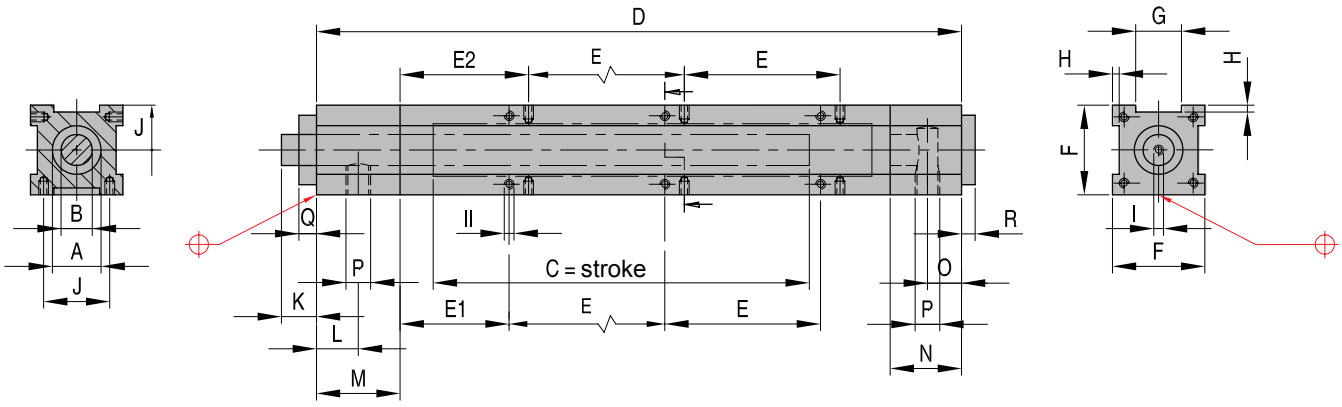


REF	Includes		
	Base construction	End caps-out	End Caps-in
ZG25300	ZG25300	ZHU25	ZHI25
ZG25400	ZG25400	ZHU25	ZHI25
ZG25500	ZG25500	ZHU25	ZHI25
ZG40300	ZG40300	ZHU40	ZHI40
ZG40400	ZG40400	ZHU40	ZHI40
ZG40500	ZG40500	ZHU40	ZHI40
ZG63400	ZG63400	ZHU63	ZHI63
ZG63500	ZG63500	ZHU63	ZHI63

CAD reference point

BASE CONSTRUCTION ZG

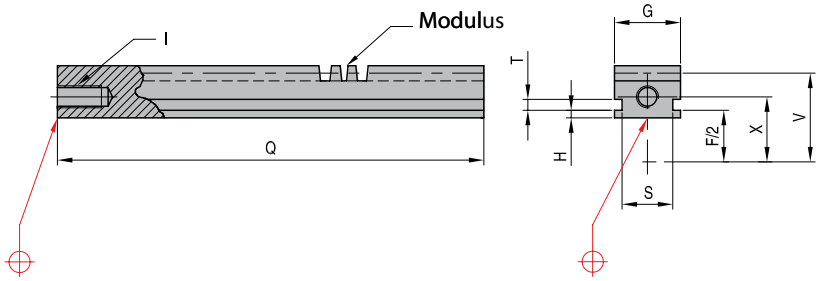
Max T = 80°C - Max p = 150 bar



REF	A	B	C	D	E	E1	E2	F	G	H	J	K	L	M	N	O	P	Q	R	I	II
ZG25300	ø 25	ø 16	300	423,5	3x80	56	66	46	20	3,5	34	18	21,5	43	28,5	11	R 1/4"	9	6,5	M8x20	SM5x10
ZG25400	ø 25	ø 16	400	523,5	3x80	106	116	46	20	3,5	34	18	21,5	43	28,5	11	R 1/4"	9	6,5	M8x20	SM5x10
ZG25500	ø 25	ø 16	500	623,5	5x80	76	86	46	20	3,5	34	18	21,5	43	28,5	11	R 1/4"	9	6,5	M8x20	SM5x10
ZG40300	ø 40	ø 22	300	431,5	3x80	56	66	56	30	3,5	44	22	35	53	26,5	12,5	R 1/2"	9	8,5	M10x30	SM5x10
ZG40400	ø 40	ø 22	400	531,5	3x80	106	116	56	30	3,5	44	22	35	53	26,5	12,5	R 1/2"	9	8,5	M10x30	SM5x10
ZG40500	ø 40	ø 22	500	631,5	5x80	76	86	56	30	3,5	44	22	35	53	26,5	12,5	R 1/2"	9	8,5	M10x30	SM5x10
ZG63400	ø 63	ø 36	400	555,5	3x80	114	124	96	50	8	70	38	25	52	34,5	16	R 3/4"	22	12,5	M16x40	SM8x16
ZG63500	ø 63	ø 36	500	655,5	5x80	84	94	96	50	8	70	38	25	52	34,5	16	R 3/4"	22	12,5	M16x40	SM8x16

RACKS ZZ

Mat.: 1.6580 nitrided 60 HRc

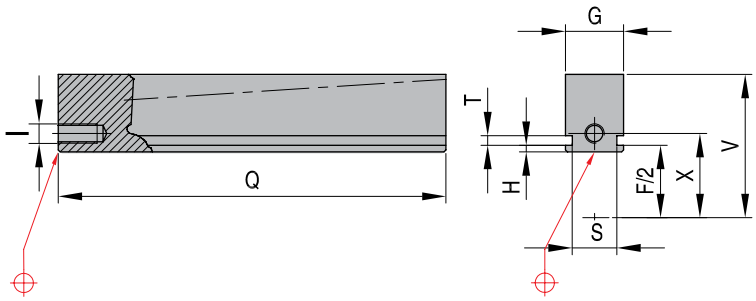


REF	A	F/2	G	H	Q	Modulus	S	T	V	X	I for
ZZ25600M1	Ø 25	23	20	3,4	600	1,00	13	5	36,3	27,1	M8 x 20
ZZ25800M1	Ø 25	23	20	3,4	800	1,00	13	5	36,3	27,1	M8 x 20
ZZ25600M1-25	Ø 25	23	20	3,4	600	1,25	13	5	36,3	27,1	M8 x 20
ZZ25800M1-25	Ø 25	23	20	3,4	800	1,25	13	5	36,3	27,1	M8 x 20
ZZ40600	Ø 40	28	30	3,4	600	1,5	23	5	43,1	34,1	M10 x 30
ZZ40800	Ø 40	28	30	3,4	800	1,5	23	5	43,1	34,1	M10 x 30
ZZ63800	Ø 63	48	50	7,9	800	2,00	40	7	68,1	55,1	M12 x 40
ZZ63900	Ø 63	48	50	7,9	900	2,00	40	7	68,1	55,1	M12 x 40

CAD reference point

GIBS ZL

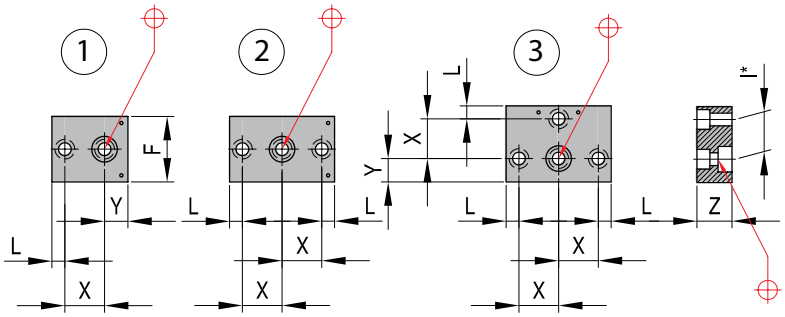
Mat.: 1.7225 ~30 HRc



REF	A*	F/2	G	H	Q	S	T	V	X	I for
ZL25800	Ø 25	23	20	3,4	800	13	5	49,6	27,1	M8 x 20
ZL40800	Ø 40	28	30	3,4	800	23	5	64,6	34,1	M10 x 30
ZL63900	Ø 63	48	50	8,0	900	40	7	100,1	55,1	M12 x 40

*Suited for cylinder diameter

FLANGES ZB



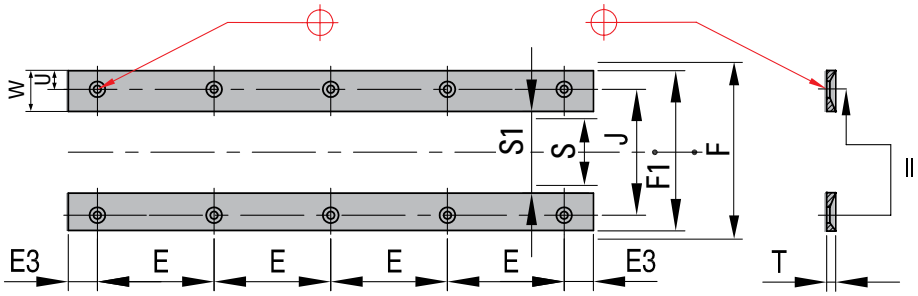
* I is the thread dimension

REF	A	X	Y	F	Z	L	I: for
ZB251	Ø 25	27	12,5	46	20	10,5	2 x M8 x 20
ZB252							3 x M8 x 20
ZB253							4 x M8 x 20
ZB401	Ø 40	34	20,0	56	30	11,0	2 x M10 x 30
ZB402							3 x M10 x 30
ZB403							4 x M10 x 30
ZB631	Ø 63	55	30,0	96	40	15,0	1 x M12 x 40 1 x M16 x 40
ZB632							2 x M12 x 40 1 x M16 x 40
ZB633							3 x M12 x 40 1 x M16 x 40

CAD reference point

GUIDEWAYS ZF

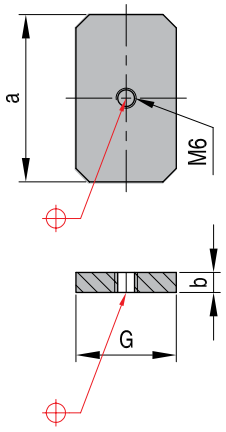
Order per 2 pieces



REF	A	C	E	E3	F	F1	J	S	S1	W	U	T	II
ZF2540300	Ø 25	300	3x80	46	46	45	34	13	15	15	5,5	4	SM 5x10
ZF2540400	Ø 25	400	3x80	96	46	45	34	13	15	15	5,5	4	SM 5x10
ZF2540500	Ø 25	500	5x80	66	46	45	34	13	15	15	5,5	4	SM 5x10
ZF2540300	Ø 40	300	3x80	46	56	55	44	23	25	15	5,5	4	SM 5x10
ZF2540400	Ø 40	400	3x80	96	56	55	44	23	25	15	5,5	4	SM 5x10
ZF2540500	Ø 40	500	5x80	66	56	55	44	23	25	15	5,5	4	SM 5x10
ZF63400	Ø 63	400	3x80	104	96	91,6	70	40	41,6	25	10,8	6	SM 8x16
ZF63500	Ø 63	500	5x80	74	96	91,6	70	40	41,6	25	10,8	6	SM 8x16

Guideways for diameter 25 and 40 are the same.

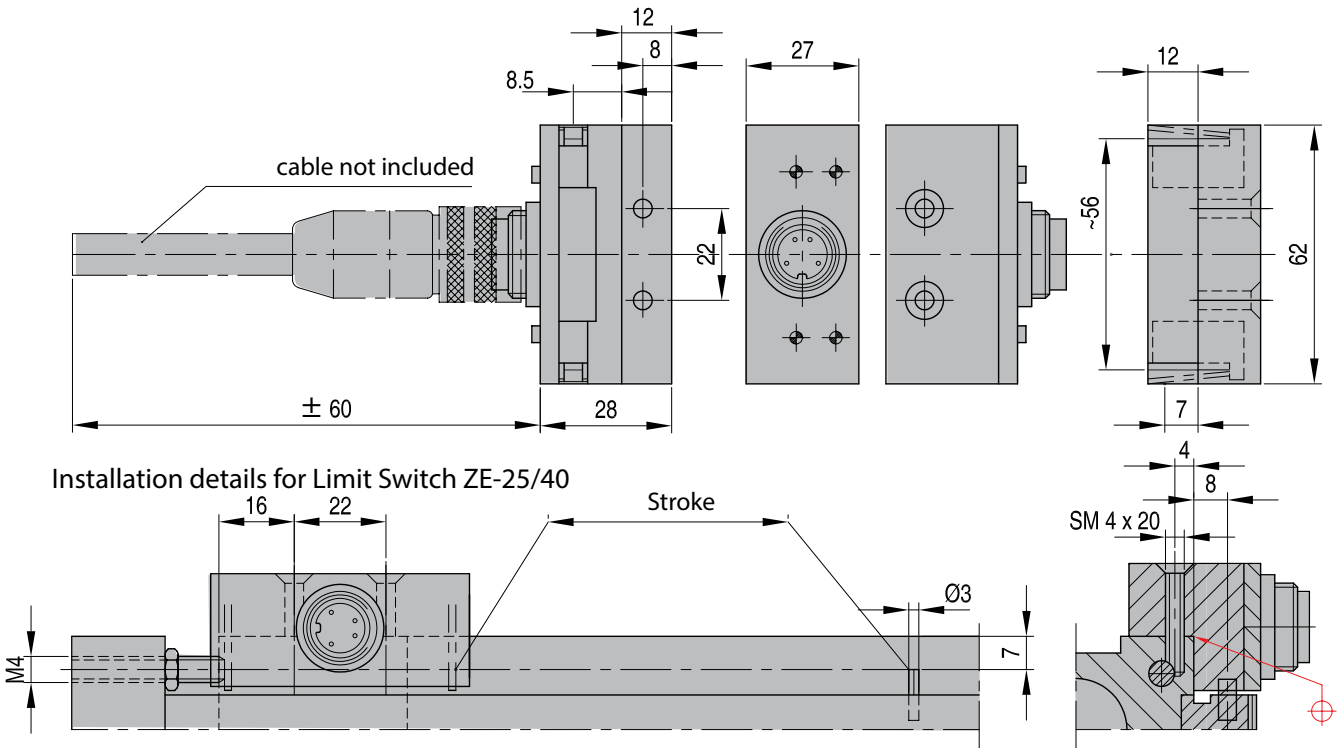
LOCATING PLATES ZS



REF	A	G	a	b
ZS25	Ø 25	20	40	6
ZS40	Ø 40	30	50	6
ZS63	Ø 63	50	80	15

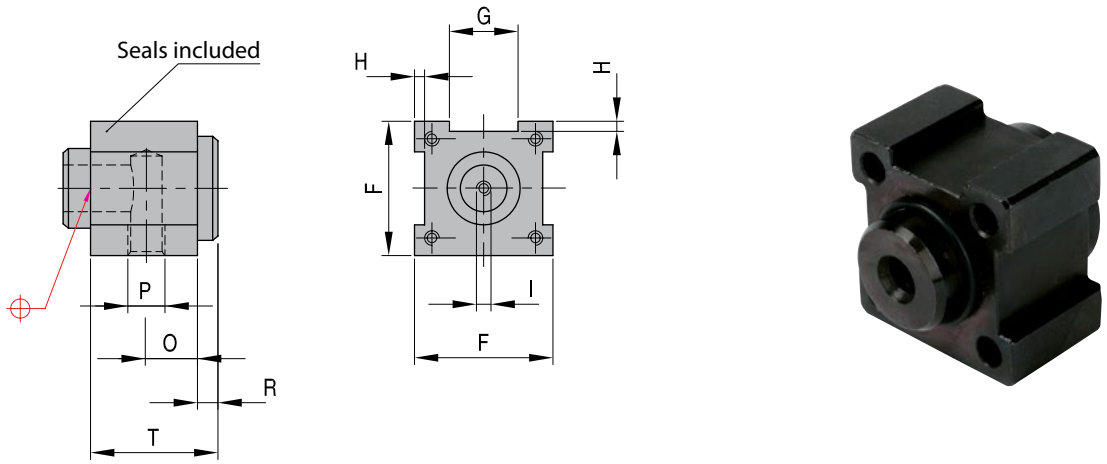
CAD reference point

LIMIT SWITCHES ZE



REF	Includes			
ZE2540	(2x) **SM4x20**	(1x) **DP3x16**	(1x) **GS4x20**	(1x) **M4 DIN 934**

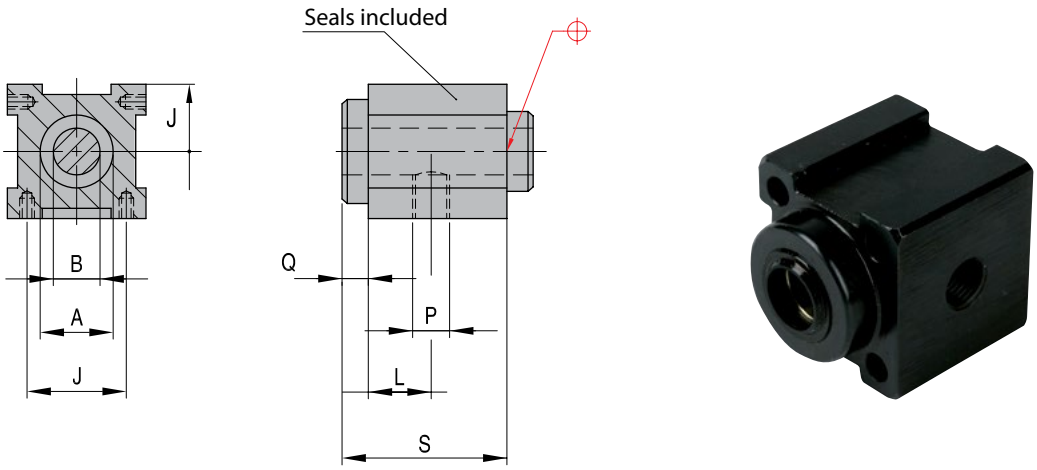
SPARE PART: END CAP- IN ZHI



REF	O	R	P	T
ZHI25	11	6,5	R 1/4"	35
ZHI40	12,5	8,5	R 1/2"	35
ZHI63	16	12,5	R 3/4"	47

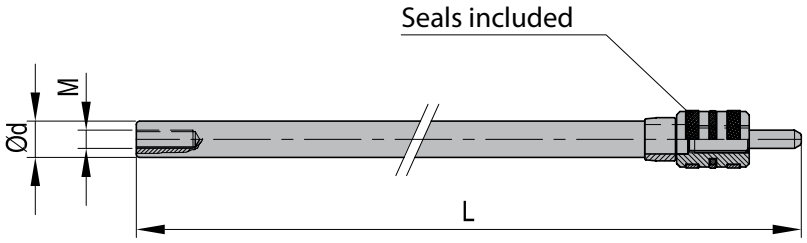
CAD reference point

SPARE PART: END CAP- OUT ZHU



REF	L	Q	P	S
ZHU25	21,5	9	R 1/4"	52
ZHU40	35	9	R 1/2"	62
ZHU63	25	22	R 3/4"	74

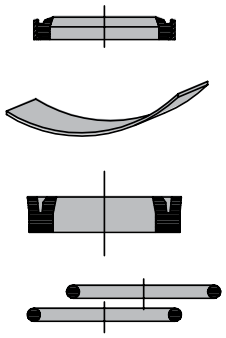
SPARE PART: ROD & PIST ZTP

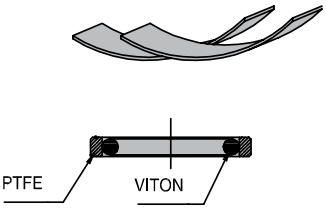


REF	Ø d	M	L
ZTP2530ZG25300	16	8	426
ZTP2540ZG25400	16	8	526
ZTP2550ZG25500	16	8	626
ZTP4030ZG40300	22	10	442
ZTP4040ZG40400	22	10	542
ZTP4050ZG40500	22	10	642
ZTP6340ZG63400	36	16	575
ZTP6350ZG63500	36	16	675

CAD reference point

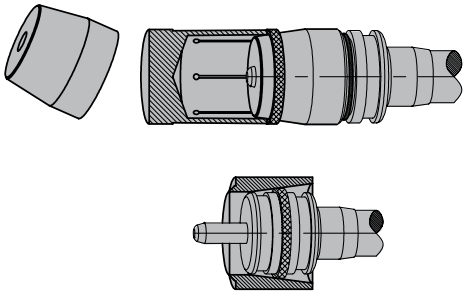
SPARE PART: SEALS (KIT) ZD





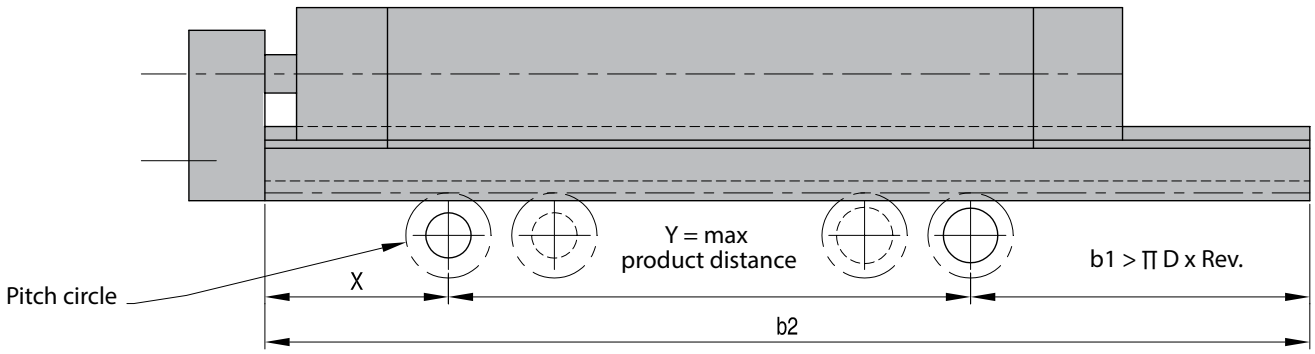
REF
ZD25
ZD40
ZD63

MOUNTING TOOLS FOR ZD SEAL KIT ZDR



REF
ZDR0025TOOL
ZDR0040TOOL
ZDR0063TOOL

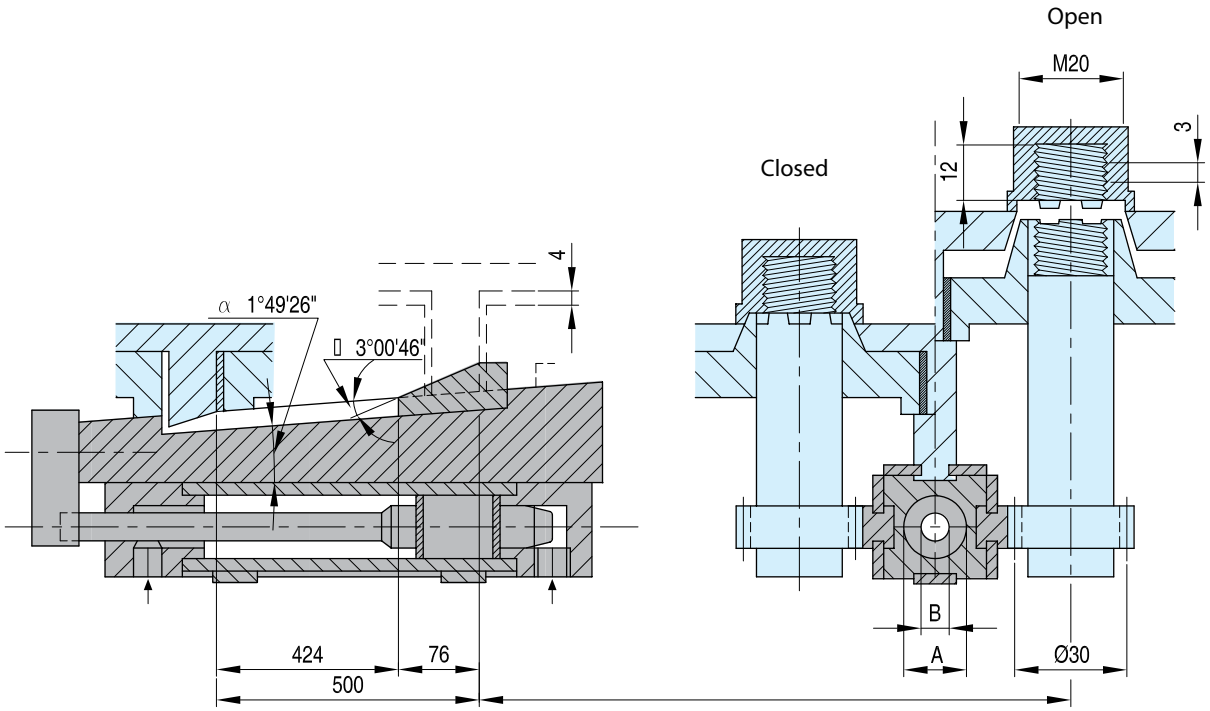
CALCULATION EXAMPLE Info



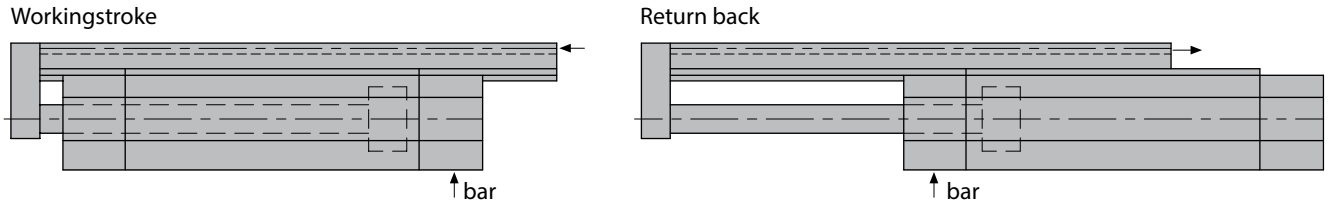
A. Stroke
a. Required revolutions (thread core) = thread height/thread lead + safety (min 0,5 t) = 12 mm/3 mm + 0,5 rev. = 4,5 rev.
b. 1. Required stroke (mm) = pitch circle x π x rev. = 30 mm x 3,14 x 4,5 rev. = 424 mm If required stroke is too long, a cog wheel transmission gear should be used 2. Length of rack b2 = X + Y + b1
c. Stripper stroke (mm) = cylinder stroke - required rack stroke = 500 mm - 424 mm = 76 mm

CAD reference point

CALCULATION EXAMPLE **Info**



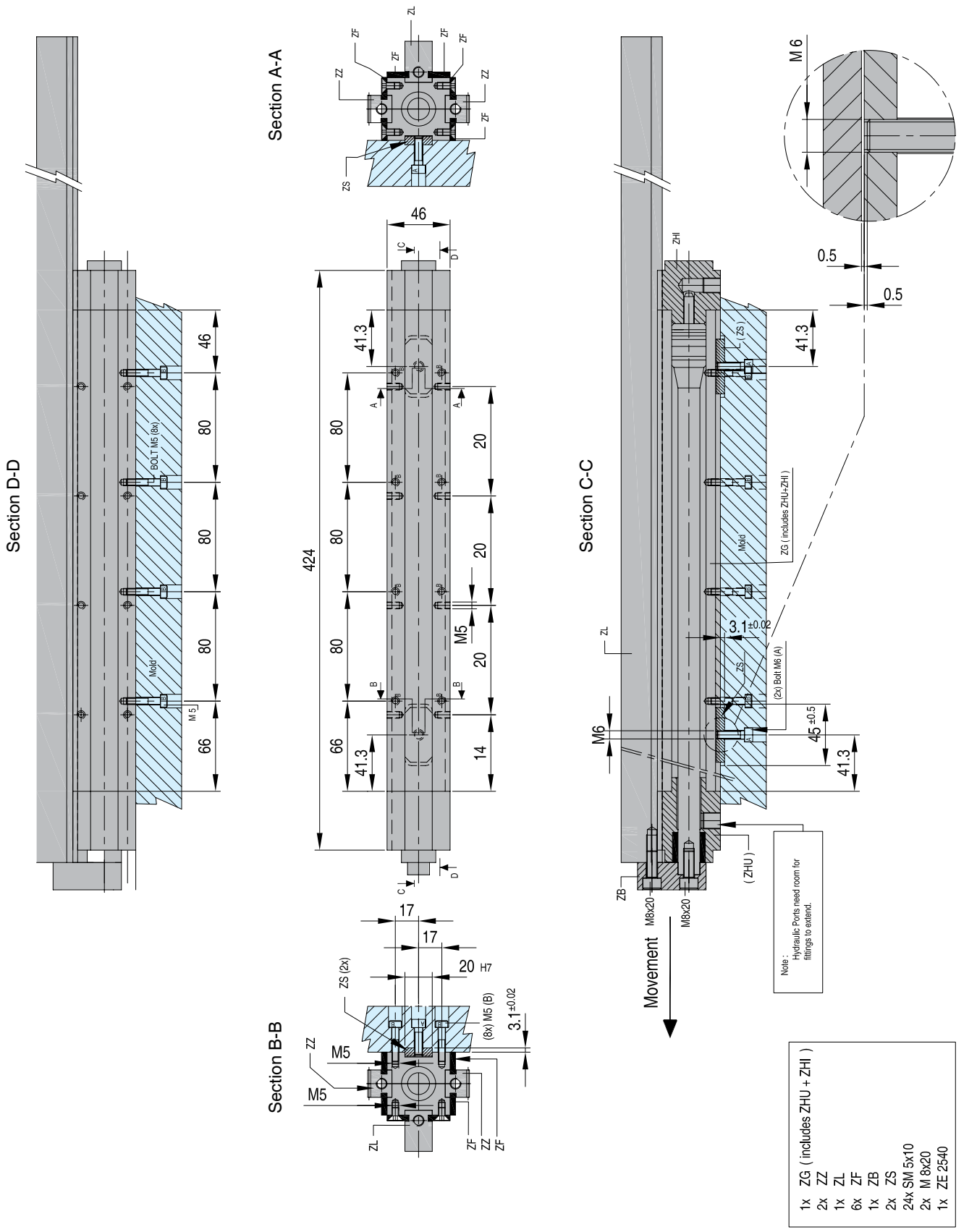
B. Control cam calculation
d. Moving cam (α) tan α = lead/dia. pitch circle x π = 3 mm/30 mm x 3,14 = 0,031847; α = 1° 49' 26"
e. Stripper cam (ß) tan ß = Stripper height/Stripper stroke = 4 mm/76 mm = 0,0526315; ß = 3°00'46"



C. Unscrewing force
These figures should only be used as a guideline as many other factors will affect the calculation. (Material, variation of dimensions, material shrinkage, core surface area, temperature, lubricant, etc...)
f. Residual pressure (bar) 1/100 of max. injection pressure = 1000 bar/100 ≈ 10 bar ≈ 1 N/mm²
g. Effective core surface area (mm²) = thread dia. x π x thread height x 2* = 20 mm x 3,14 x 12 mm x 2 = 1507 mm²
* - 2 x height for developped surface (^^^^) - frontal area is neglected
h. Unscrewing torque (Nmm) = Holding pressure x surface x thread radius = 1 N/mm² x 1507 mm² x 10 mm = 15070 Nmm
i. Unscrewing force rack (kN) = unscrewing torque/radius pitch circle x number of cores = 15070 Nmm/15 mm x 4 = 4019 N = 4,02 kN
k. Hydraulic force (kN) = Unscrewing force x 1,5 = 4,02 kN x 1,5 = 6,03 kN (50 % safety, hence x 1,5)

CAD reference point

INSTALLATION INSTRUCTIONS

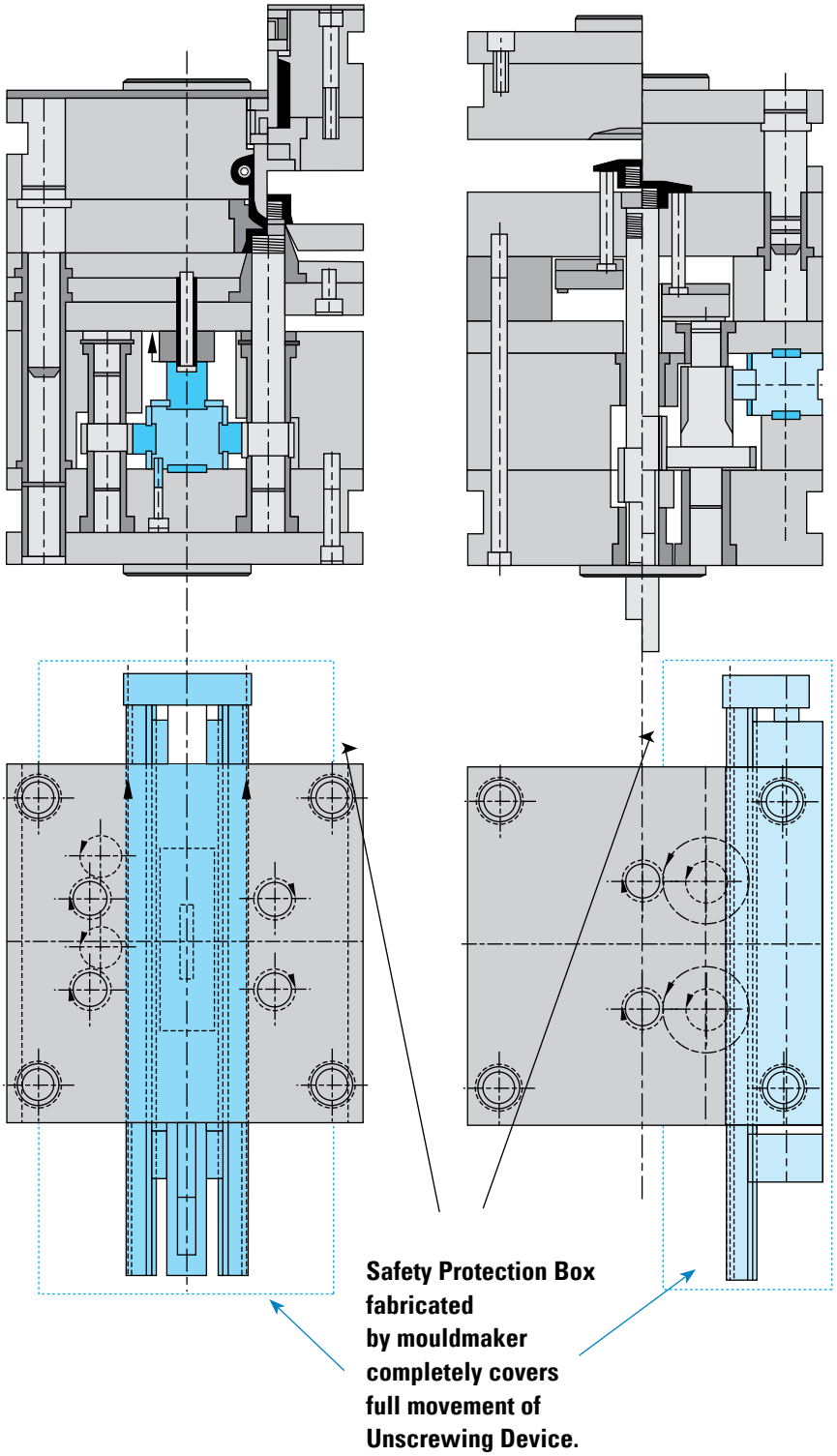


CAD reference point

APPLICATIONS

Application A
Without guiding thread with cam

Application B
With guiding thread

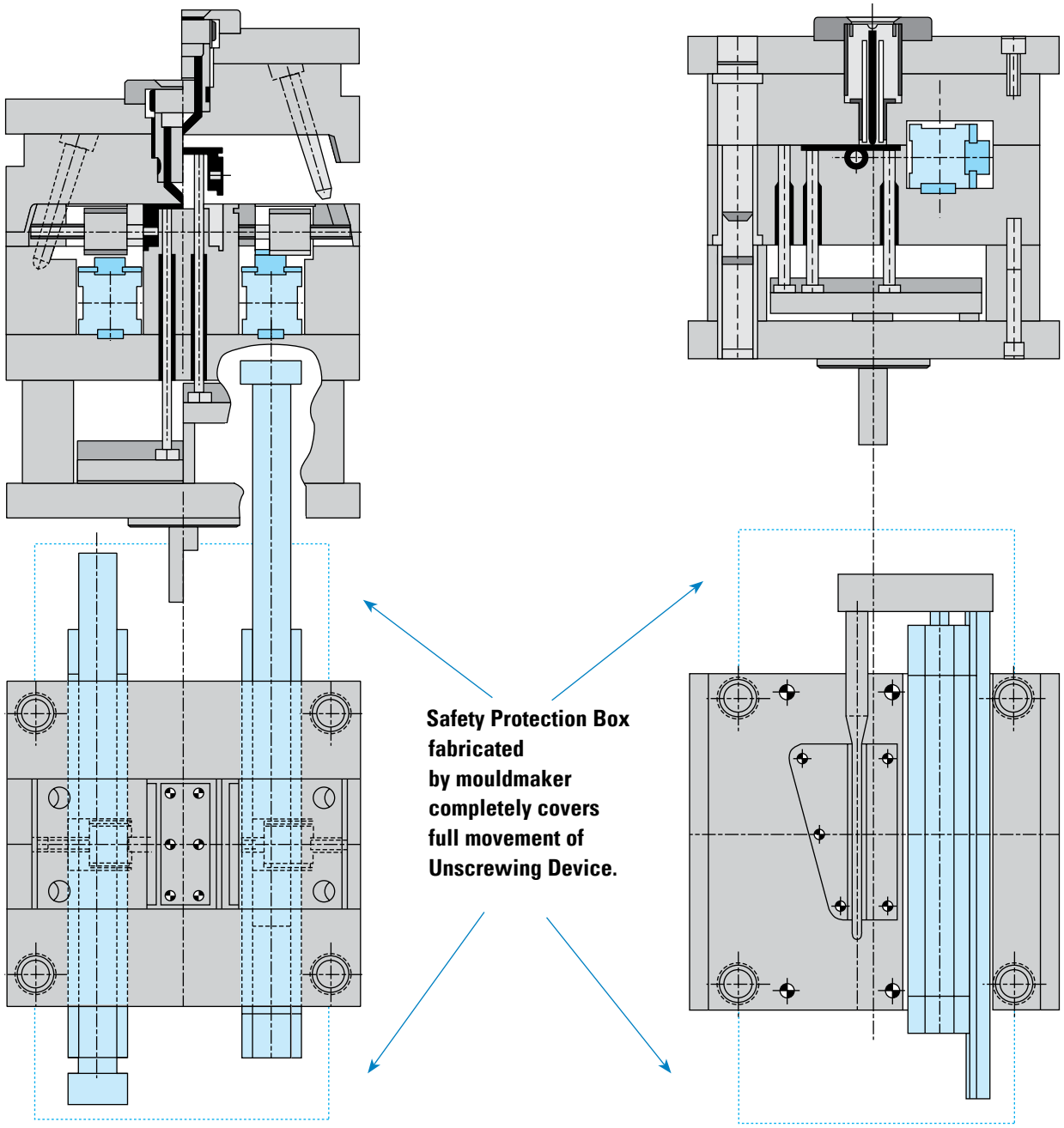


CAD reference point

APPLICATIONS

Application C
With guiding thread

Application D
Long guiding cores



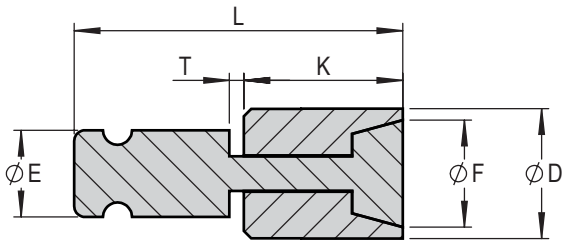
Safety Considerations:
Mouldmaker must fabricate boxes over the rack areas which move to protect against injury to personnel. Mouldmaker must also use safety interlocks to prevent movement of unscrewing device if these protection boxes are removed for any reason. Also, sheet metal should be used to cover areas where the gears are, to prevent damage from loose debris falling between the gears and racks.

CAD reference point

CAD reference point

MORE TECHNICAL SOLUTIONS

AIR POPPET VALVES – APPLICATIONS VA



T = Max Valve Travel
Body Material: Stainless Steel
Body Hardness: 52-54 HRC
Valve Material: DIN 1.2516
Valve Surface Treatment: DLC
Max. Temp: 130°C
Operating Air Pressure: 4 bar min.
6 bar max
Dimensions: All dimensions are in mm

REF	Ø D	Ø F (approx)	$K_0^{+0,030}$ body length	L overall length	Ø E	T max travel
VA01	8 $^{+0,015}_{+0,006}$	6.6	11	24	6	1.0
VA02	12 $^{+0,018}_{+0,007}$	9.7	18	34	8	1.0
VA03	18 $^{+0,018}_{+0,007}$	14.8	22	45.5	12	1.0

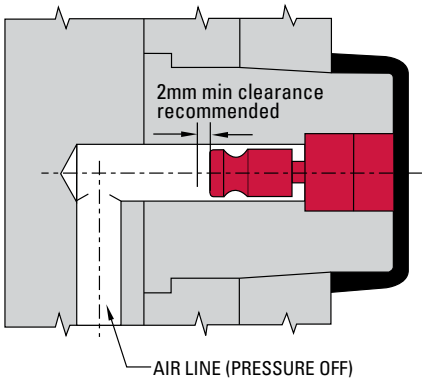
All dimensions shown are in millimeters (mm).

Installation Information
Press-fit installation required
Maintain a close tolerance press fit, as specified. Too loose a fit could allow the Air Poppet Valve to move out of position, while too tight a press fit could interfere with the movement of the valve

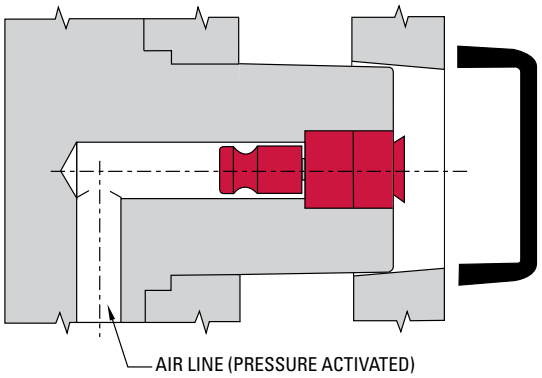
NOTES:
Pressure to air line of Air Poppet Valve and machine ejection should be activated at the same time. This allows valve to relieve negative pressure build-up (vacuum) in the cavity during part ejection.
The air flow to the poppet valve must be fully relieved to the atmosphere after each cycle to ensure that the poppet valve closes before the next injection cycle. Material injected into a partially open poppet valve could cause damage to the valve and/or the mould. Control valves and limit switches to be supplied by mouldmaker and/or moulder.
The Air Poppet Valve should never be used as the sole means of part ejection. Material shrinkage and other factors will not allow it to be used as an alternative to ejector
pins or stripper plates.
Do not position Air Poppet Valve directly under hot drop.
It is recommended do not work frontal surface of the valve

TYPICAL APPLICATION

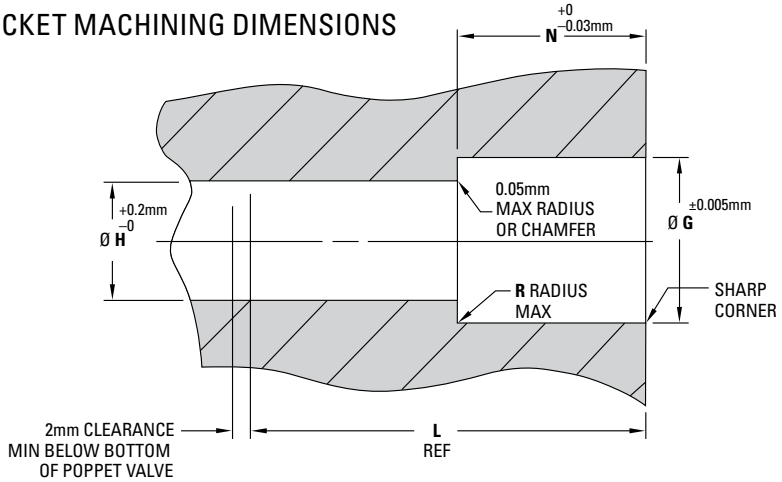
Mould Closed



Mould Open



POCKET MACHINING DIMENSIONS



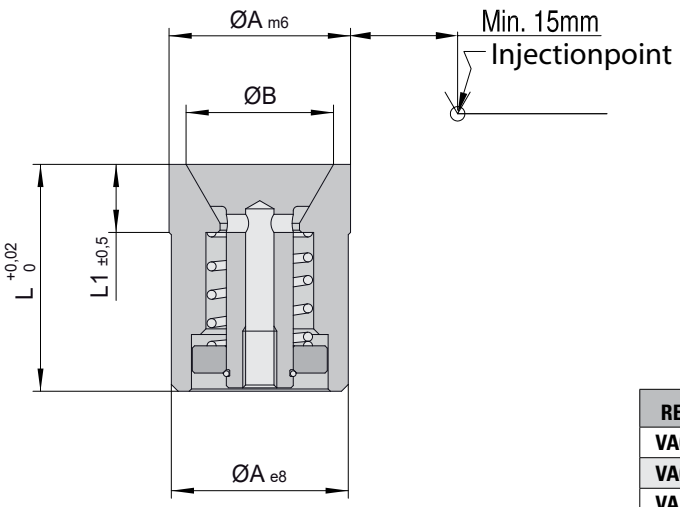
REF	Ø G	N depth	Ø H	R	L ref
VA01	8	11	6.75	0.1	24
VA02	12	18	9	0.2	34
VA03	18	22	14	0.3	45.5

All dimensions shown are in millimeters (mm).

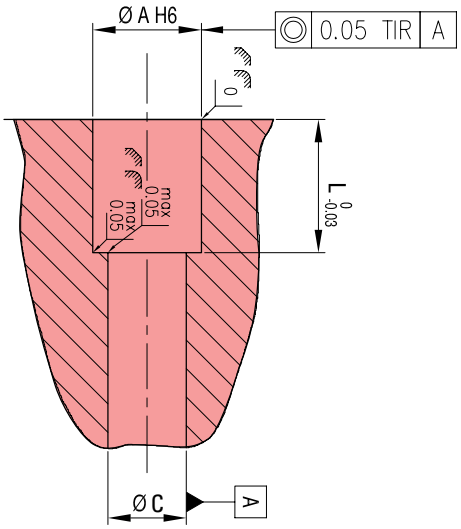
CAD reference point

VACUUM-/ COMPRESSED AIR-VALVES "SHORT" TYPE **VA**

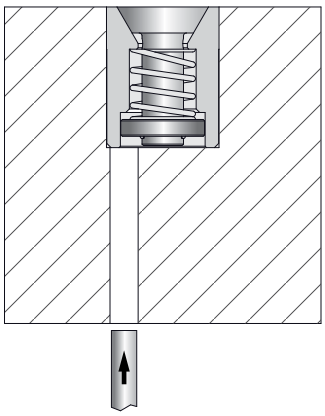
Mat.: 1.4034 - 150°C - 3-10 bar



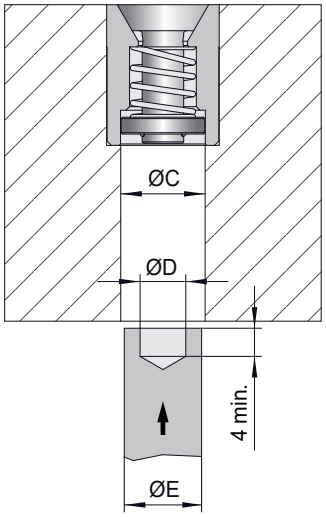
REF	ØA	ØB	L	L1	ØC	ØD	ØE
VA06	6	5	10	4	5	4	4,5
VA08	8	5,6	12	4	6,5	5	6
VA10	10	8	12	5	7,5	5	7
VA12	12	10	12	5	8	5,5	8,5
VA16	16	12	20	6	12	6,5	11
VA20	20	16	20	6	12	6,5	11



TECHNICAL NOTES FOR AIR VALVES DISASSEMBLY



SOLUTION 1



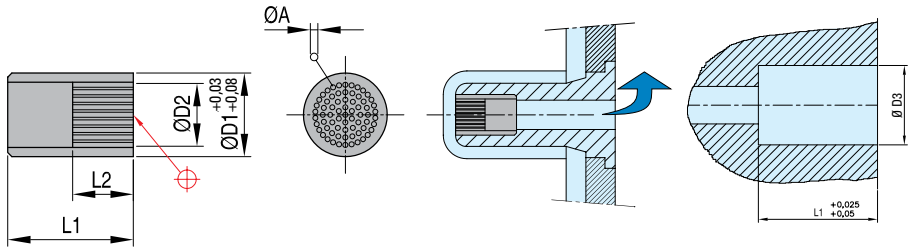
SOLUTION 2

CAD reference point

SINTERED VENTS

Pore Sizes range from 0,03 to 0,5 mm in diameter.
Sintered vents are unique venting plugs composed of a large number of straight, parallel and uniform pores made through a powdered metallurgical process. The pores allow trapped air or gas to escape from the mould cavity during the injection moulding or die casting process, thereby reducing the occurrence of short shots and burned parts. These self-contained, standardized vents save time in design, installation and maintenance.

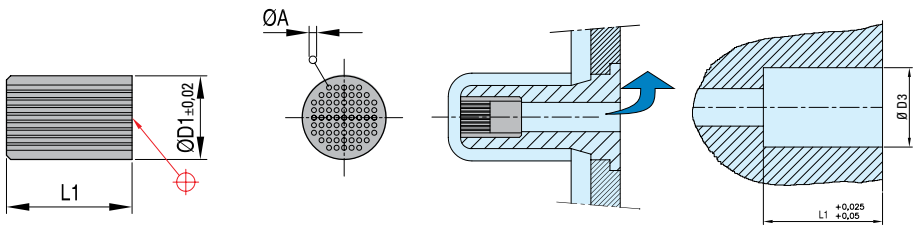
SINTERED VENTS **SMF**



Plastic Injection moulding

REF	D1	D2	L1	L2	Number of pores	A	D3
SMF0030610	6	2.5	10	5	606	0,03	6 +0,02 / +0,01
SMF0030810	8	2.5	10	5	606	0,03	8 +0,02 / +0,01
SMF0031010	10	2.5	10	5	606	0,03	10 +0,02 / +0,01
SMF0050610	6	3.5	10	5	804	0,05	6 +0,02 / +0,01
SMF0050810	8	3.5	10	5	804	0,05	8 +0,02 / +0,01
SMF0051010	10	3.5	10	5	804	0,05	10 +0,02 / +0,01
SMF010810	8	5.5	10	5	780	0,10	8 +0,02 / +0,01
SMF011010	10	5.5	10	5	780	0,10	10 +0,02 / +0,01

SINTERED VENTS **SME**



Low pressure Diecasting or Vacuum Casting

REF	D1	L1	Number of pores	A	D3
SME030310	3,06	10	30	0,3	3 +0,02 / +0,01
SME030410	4,06	10	30	0,3	4 +0,02 / +0,01
SME030510	5,06	10	30	0,3	5 +0,02 / +0,01
SME030610	6,06	10	90	0,3	6 +0,02 / +0,01
SME030615	6,06	15	90	0,3	6 +0,02 / +0,01
SME030810	8,06	10	90	0,3	8 +0,02 / +0,01
SME030815	8,06	15	200	0,3	8 +0,02 / +0,01
SME031010	10,06	10	200	0,3	10 +0,02 / +0,01
SME031015	10,06	15	340	0,3	10 +0,02 / +0,01
SME031210	12,06	10	340	0,3	12 +0,02 / +0,01
SME031215	12,06	15	340	0,3	12 +0,02 / +0,01
SME031415	14,06	15	550	0,3	14 +0,02 / +0,01

Gravity Diecasting

REF	D1	L1	Number of pores	A	D3
SME050510	5,06	10	60	0,5	5 +0,02 / +0,01
SME050515	5,06	15	60	0,5	5 +0,02 / +0,01
SME050610	6,06	10	60	0,5	6 +0,02 / +0,01
SME050615	6,06	15	60	0,5	6 +0,02 / +0,01
SME050810	8,06	10	100	0,5	8 +0,02 / +0,01
SME050815	8,06	15	100	0,5	8 +0,02 / +0,01
SME051010	10,06	10	200	0,5	10 +0,02 / +0,01
SME051015	10,06	15	200	0,5	10 +0,02 / +0,01
SME051210	12,06	10	200	0,5	12 +0,02 / +0,01
SME051215	12,06	15	200	0,5	12 +0,02 / +0,01
SME051415	14,06	15	340	0,5	14 +0,02 / +0,01
SME051615	16,06	15	340	0,5	16 +0,02 / +0,01
SME051815	18,06	15	550	0,5	18 +0,02 / +0,01
SME052015	20,06	15	550	0,5	20 +0,02 / +0,01

CAD reference point

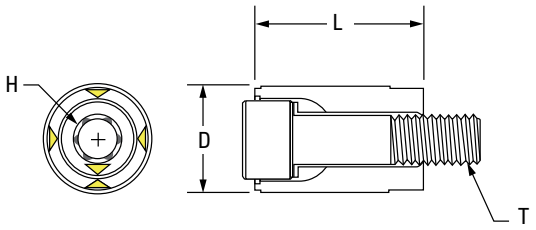
FRICTION PULLERS FP

Technical Data:
Material - Nylon 6 Resin with 8620 fastener
Maximum operating temperature - 248°F (120°C)
Before removing mould from the press for maintenance, rotate Friction Puller screw counter-clockwise with a ¾ turn to enable easy plate separation

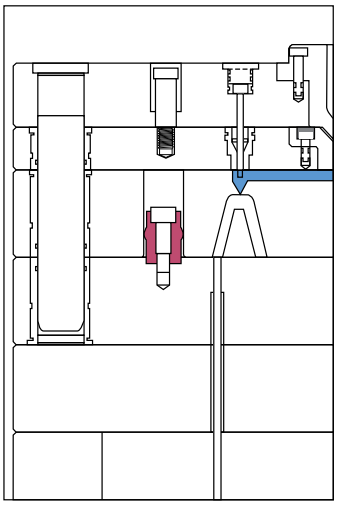
DME Friction Pullers for optimal parting line control.
Controls plate movement by using friction at a specified setting to release the mould plate when the travel limit is achieved.
Available in four sizes (10mm, 13mm, 16mm and 20mm), Friction Pullers may be used to consistently draw floating plates and inserts.

Advantages and Benefits
- Reference arrows enable easy adjustment
- Self-locating even if plates shift due to thermal expansion or machining variances
- Internal self-venting eliminates the need for additional machining
- Fastener includes Nylok® patch for secure installation

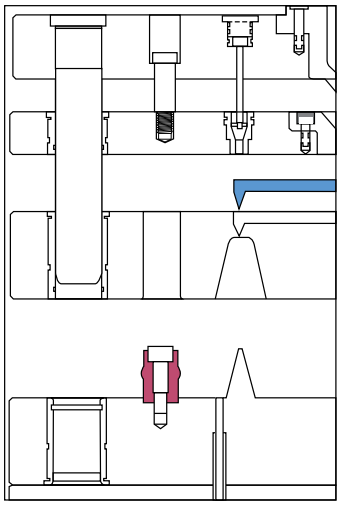
Patents Pending



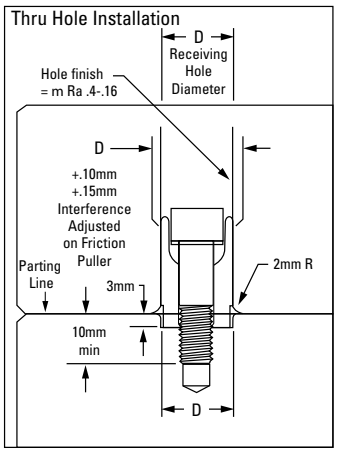
Recommended interference fit for Friction Pullers is .1 to .15mm larger than the receiving hole. To adjust, rotate the screw clockwise and measure bulge to achieve proper fit. Adjust further if necessary with ¼ turn increments, lining up the reference arrows on the fastener to the resin.

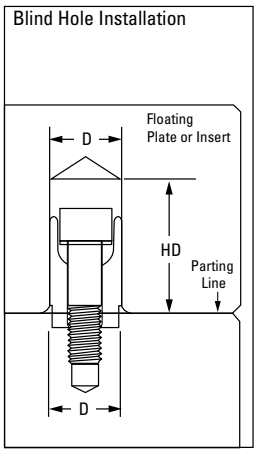


Mold Closed



Mold Open

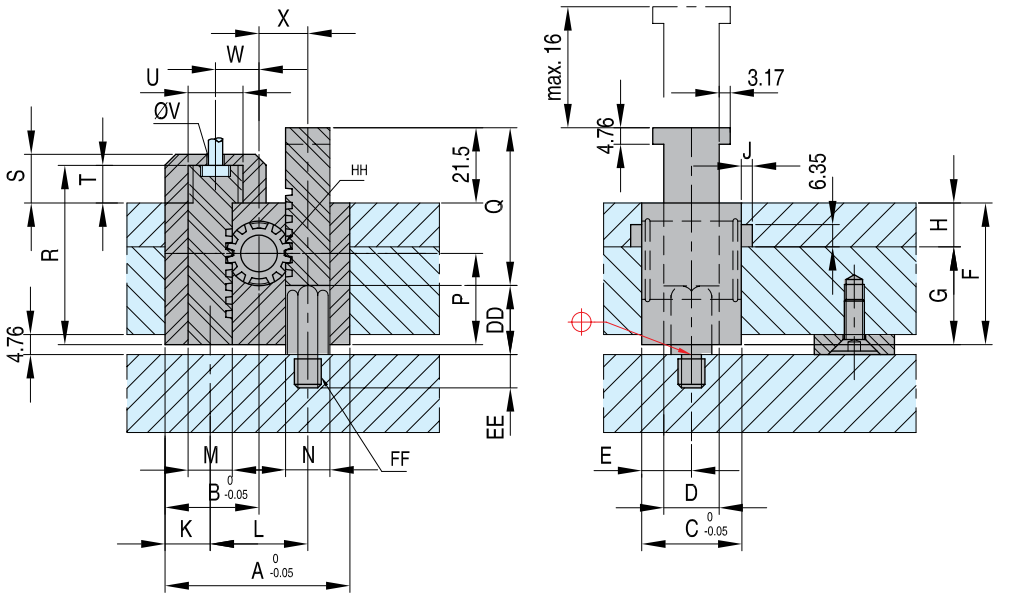




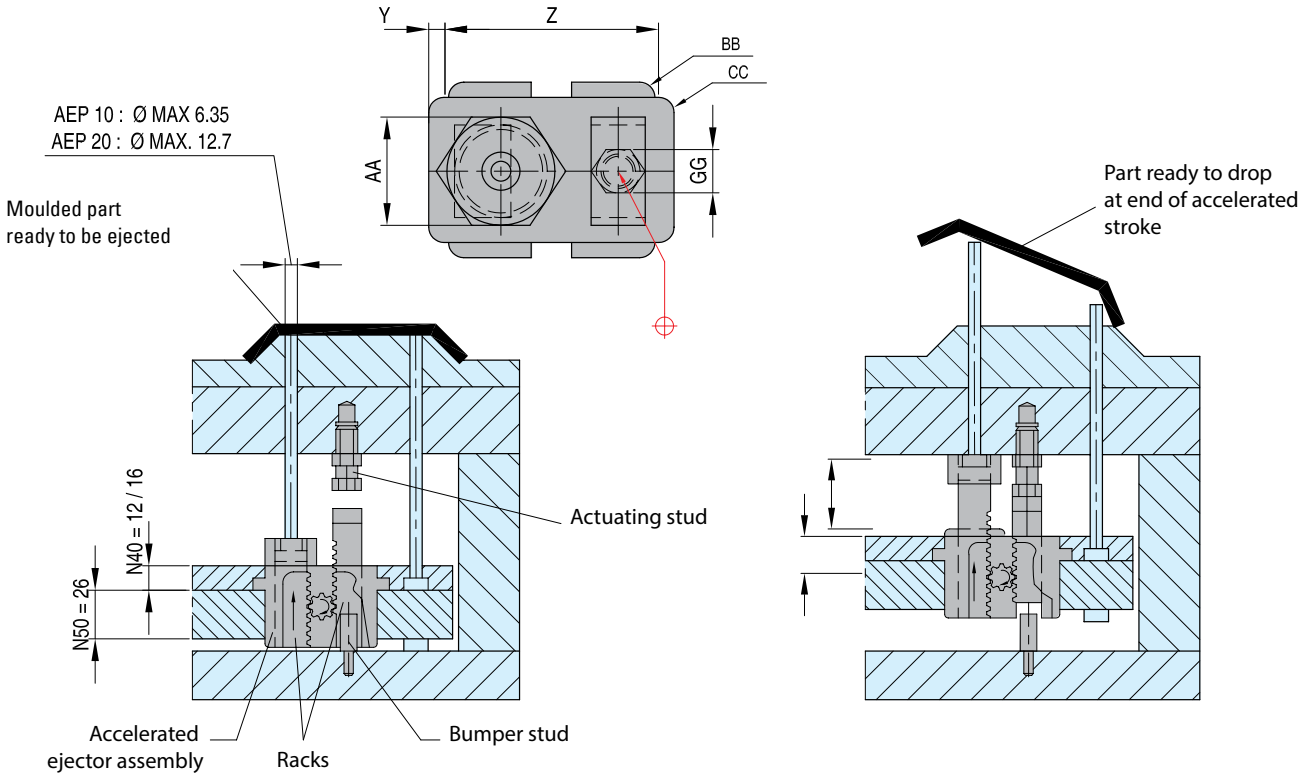
CAD reference point

REF	D	L	T	H Hex	Hole depth	Max. Force (each) kg
FP10D	10	17	M5-0,80	3	20	32,5
FP13D	13	20	M6-1,00	4	23	62,5
FP16D	16	25	M8-1,25	5	30	150,0
FP20D	20	28	M10-1,50	6	32	212,5

ACCELERATED EJECTORS PIN-TYPE- MINI AEP

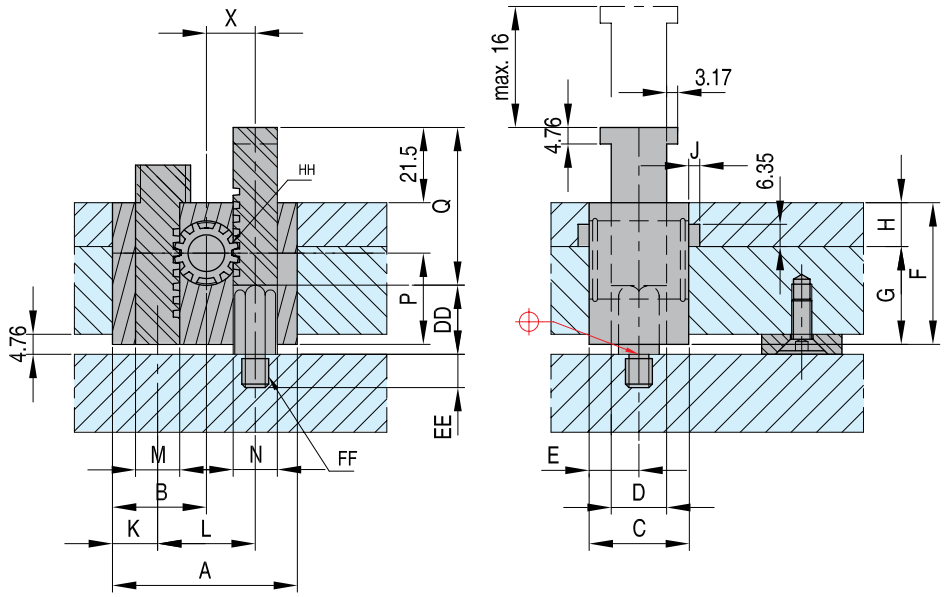


																	Replacement parts	
REF	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**HH Cogs**	**Springs for**	**REF**
AEP10	53,97	26,97	28,57	15,87	14,28	40,64	27,94	1/2"	3,17	12,95	28,02	12,70	12,70	26,16	45,29	14	**AEP10**	**AE18**
AEP20	73,03	36,50	41,28	28,57	20,64	47,63	31,75	5/8"	4,75	15,87	41,28	19,05	19,05	25,81	52,39	16	**AEP20**	**AE28**
REF	**R**	**S**	**T**	**U**	**V**	**W**	**X**	**Y**	**Z**	**AA**	**BB**	**CC**	**DD**	**EE**	**FF**	**GG**		
AEP10	51,44	13,97	10,80	5/8"-18	3,18	12,47	14,0	6,35	41,28	15/16"	6,35	6,35	19,05	9,52	5/16"-18	3/8"		
AEP20	60,33	17,27	12,70	1 1/8"-12	6,35	15,87	20,64	6,35	60,03	1 3/8"	4,76	6,35	18,29	12,7	3/8"-16	9/16"		

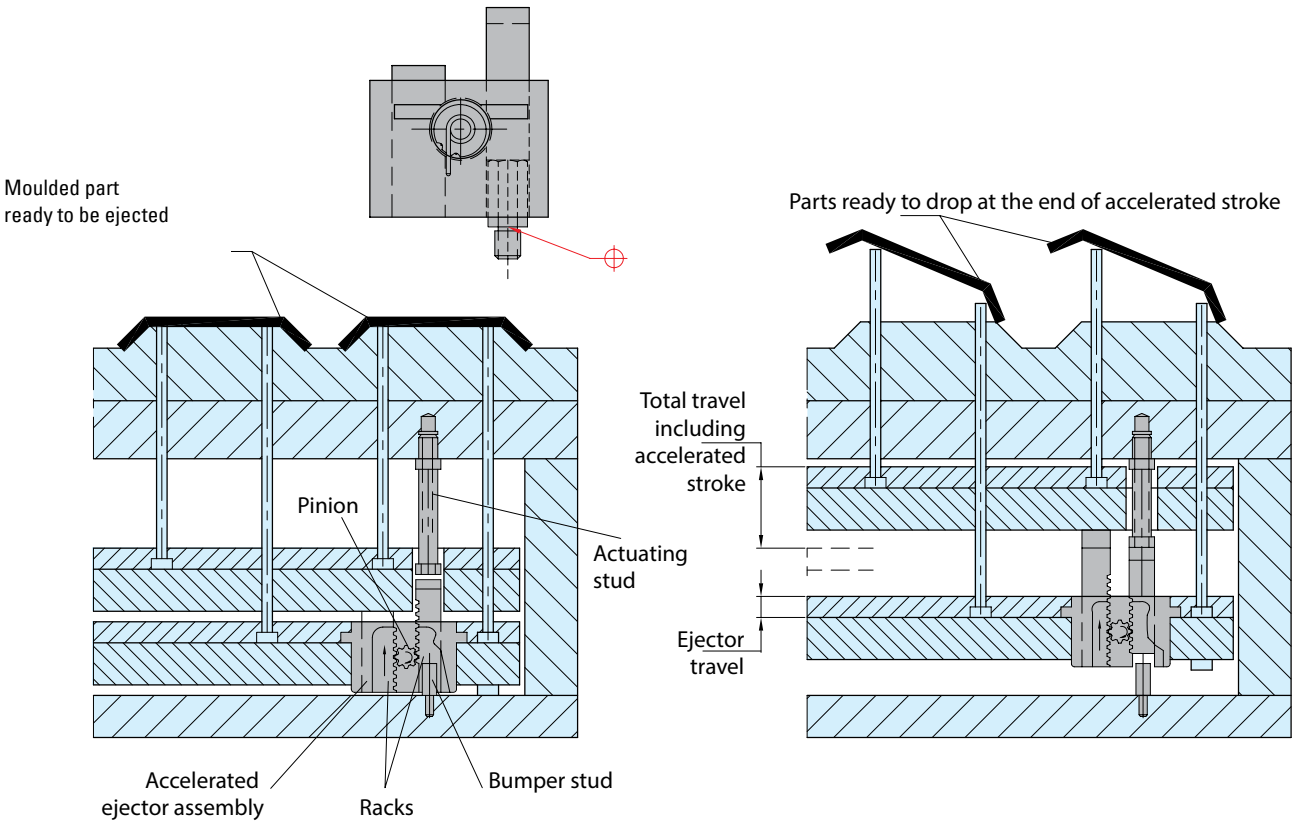


CAD reference point

ACCELERATED EJECTORS BUMPER-TYPE- MINI **AEB**

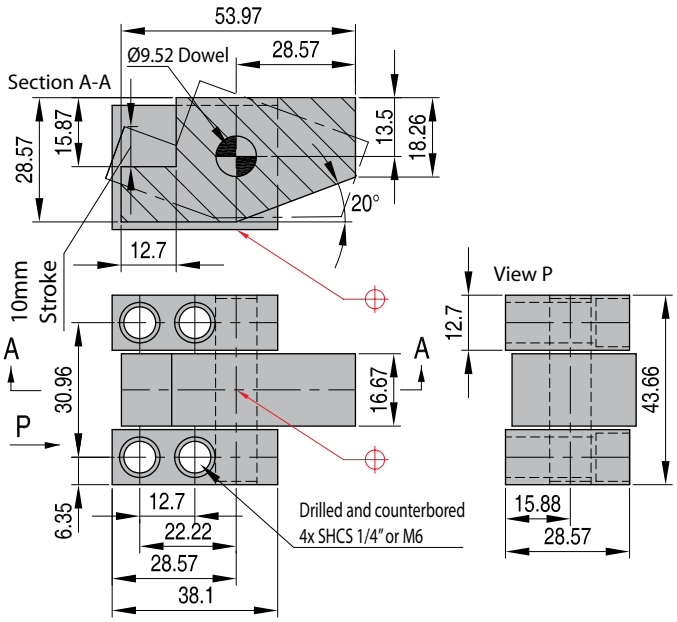


																	Replacement parts	
REF	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**Q**	**HH Cogs**	**Springs for**	**REF**
AEB10	53,97	26,97	28,57	15,87	14,28	40,64	27,94	1/2"	3,17	12,95	28,02	12,7	12,7	26,16	45,29	14	**AEB10**	**AE18**
AEB20	73,03	36,5	41,28	28,57	20,64	47,63	31,75	5/8"	4,75	15,87	41,28	19,05	19,05	25,81	52,39	16	**AEB20**	**AE28**
REF	**R**	**S**	**T**	**U**	**V**	**W**	**X**	**Y**	**Z**	**AA**	**BB**	**CC**	**DD**	**EE**	**FF**	**GG**		
AEB10	-	-	-	-	-	-	14,0	6,35	41,28	15/16"	6,35	6,35	19,05	9,52	5/16"-18	3/8"		
AEB20	-	-	-	-	-	-	20,64	6,35	60,03	1 3/8"	4,76	6,35	18,29	12,7	3/8"-16	9/16"		

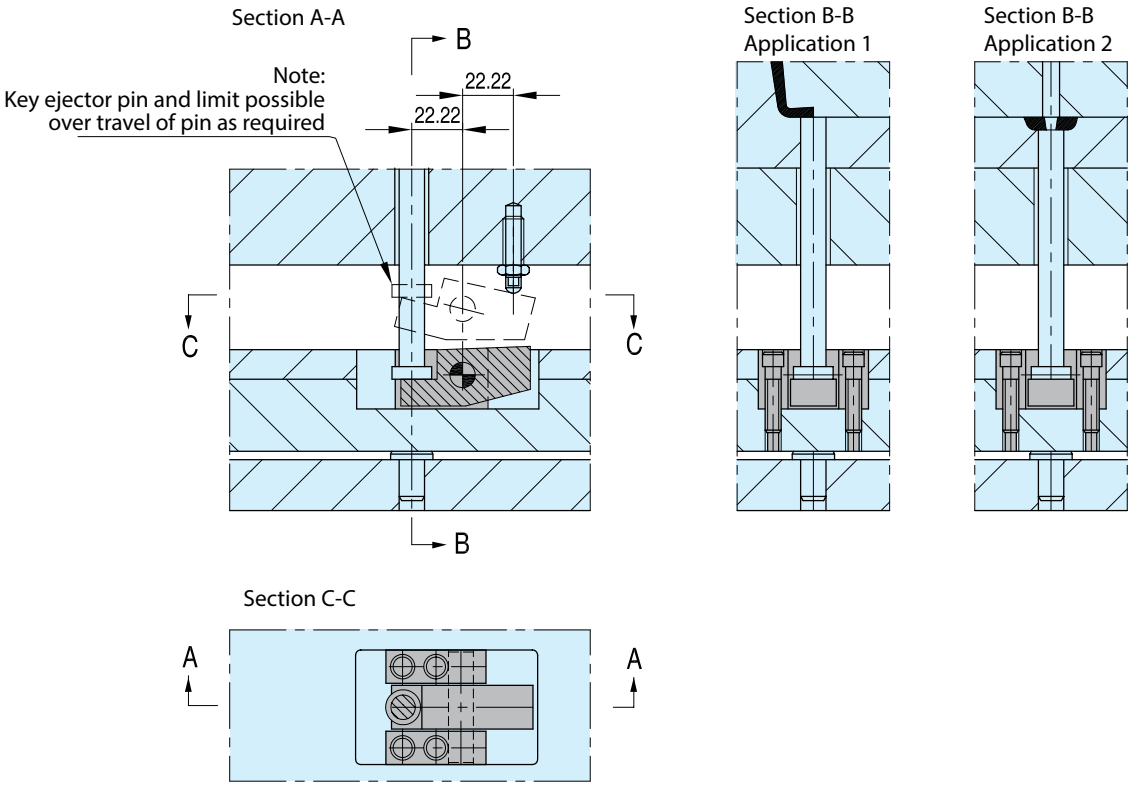


CAD reference point

ACCELERATED KNOCK-OUTS AKO



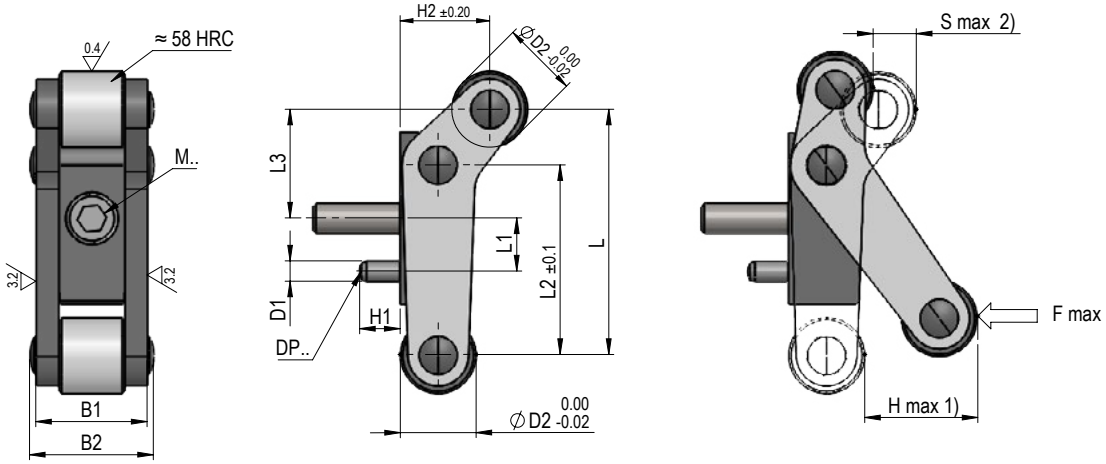
The accelerated knock-outs are simple in design, using a pivot-type motion for accelerated ejection. Mechanical advantage is 2:1. They will accommodate ejector pins up to 9,5mm in diameter. (Pins with head diameters over 15,8mm can be ground down to fit). Simplicity of design permits accelerated knock-outs to be either inserted into the ejector plate (as shown below) or top mounted, depending on space available for the ejection movement.



CAD reference point

EJECTOR ACCELERATOR F1524

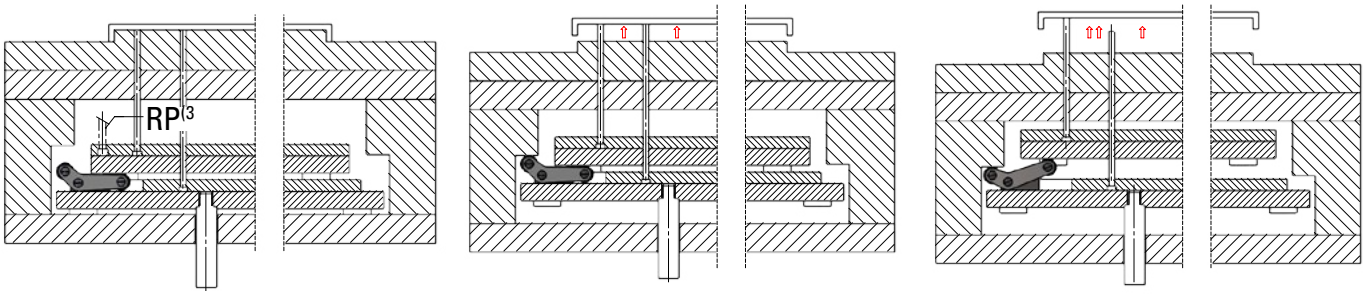
Mat.: 1.2510 ≈ 58 HRC
Max. T.: 250°C



REF	B1	L	D1	DP..	H1	B2	D2	H2	L1	L2	L3	M..	H max.[1]	S max.[2]	F max. [N]
F152413	13,2	25,8	2,5	2,5 × 10	5	15	8	9,46	5,9	20	11,35	3 × 12	11,6	4,4	1250
F152416	16	32,3	3	3,0 × 12	6	18,5	10	11,82	7	25	14,31	4 × 16	15	5,7	2500
F152422	22	48,5	4	4,0 × 16	8	25	15	17,73	10,5	37,5	21,47	6 × 25	23,5	9,1	3500
F152430	30	64,6	5	5,0 × 20	10	34	20	23,64	14	50	28,63	8 × 30	32	12,5	8000

Note:

1. H max.: Maximum stroke
2. S max.: Maximum operation path
3. RP: Because of mechanical return, return pins should be installed in the ejector set.

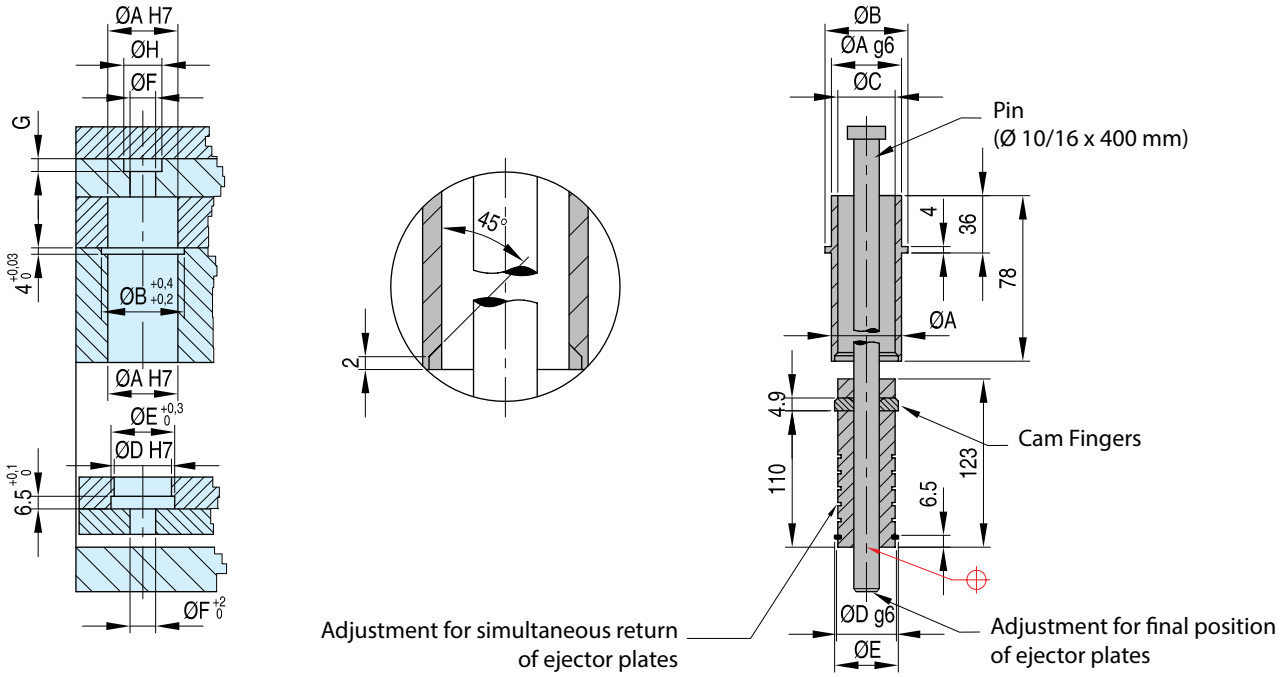


CAD reference point

EARLY EJECTOR RETURN ASSEMBLY ER

Operation facilities:

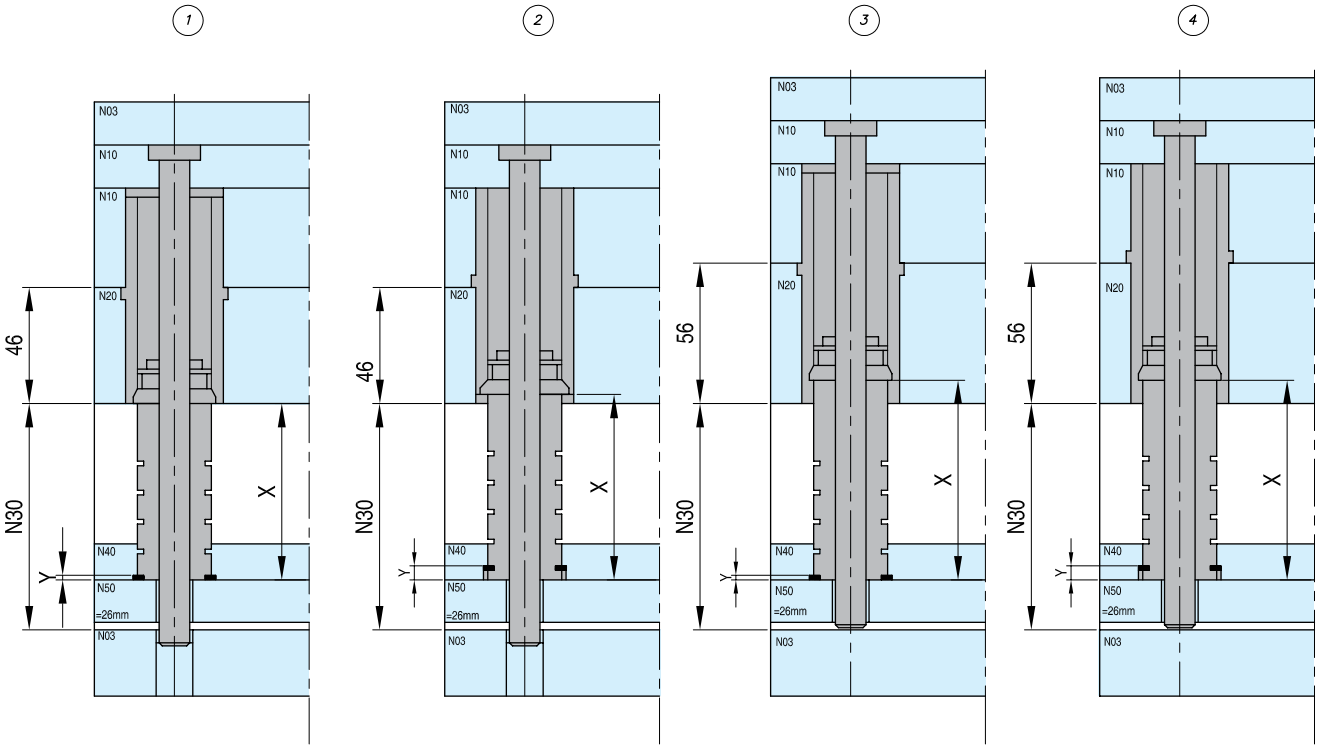
- injection and diecasting moulds
- prevents damage of mould cavities and ejectors
- valve plates
- moulds with multistage mould releasing movement
- early ejector return assemblies save you time and money
- unique design permits low costs
- long life due to precise parts and hardened surfaces
- prevents valuable mould components from mechanical damage



REF	A	B	C	D	E	F	G	H
ER100E	32	35	24,2	24	27	10	5	17
ER101E	42	46	32,2	32	36	16	7	24

CAD reference point

DIMENSIONS FOR INSTALLATION IN **DME** STANDARD MOULDS **ER**



Ex.N30	X 1	Y 1	X 2	Y 2	X 3	Y 3	X 4	Y 4
66	36	2,5	40	6,5	46	2,5	50	6,5
86	56	2,5	60	6,5	66	2,5	70	6,5
106	76	2,5	80	6,5	86	2,5	90	6,5
126	96	2,5	100	6,5	106	2,5	110	6,5

1. Four units minimum per mould are preferred. Two units per mould mounted on the centerline of the mould are a must.
2. Use guided ejection in the ejector assembly.
3. Use only in a horizontal press.
4. If used in an unbalanced mould. Uneven loading could occur.
5. Lubricate occasionally with a lithium type grease.
6. Timing is critical: all units to be timed within ±0,013mm of one another.
7. No preload of unit.

Spare Parts			
Bushing	**Post**	**Pin**	**Set: cam finger washer, upper and lower snap ring**
ERB100E	**ERS 100 E**	**EPA 05**	**ER 100 RK E**
ERB101E	**ERS 101 E**	**EPA 05**	**ER 101 RK E**

CAD reference point

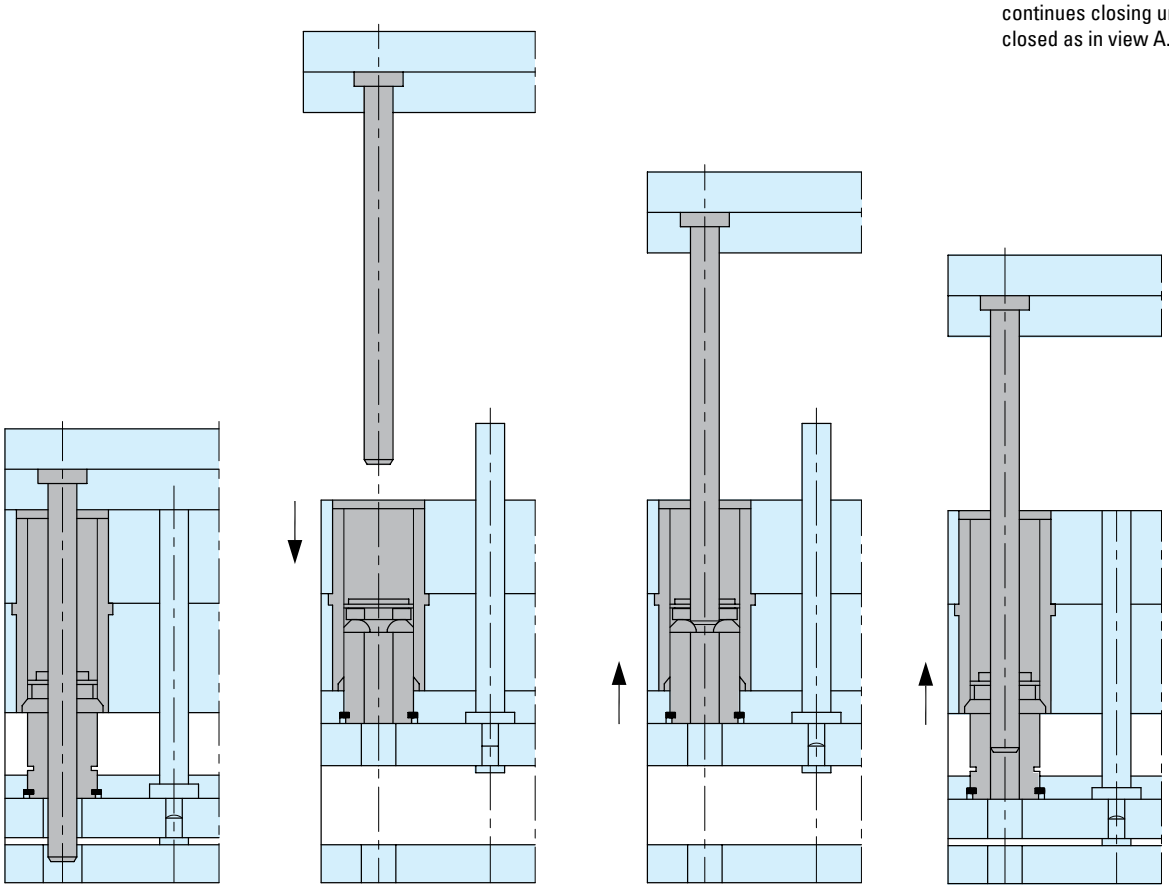
EARLY EJECTOR RETURN ASSEMBLY ER

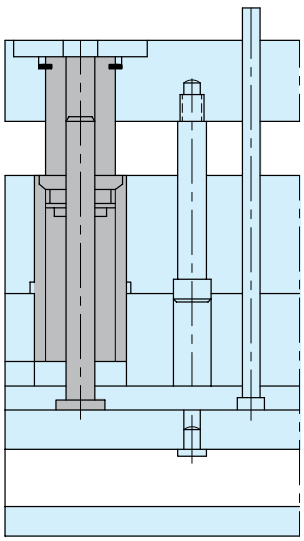
View A: Mould closed, moulding position. Post and cam fingers must be coordinated, so that the pin can slip into post when ejector plates are in final position.

View B: Mould open, mould release position. During ejection the cam fingers have slipped into bushing and inner diameter is reduced.

View C: Mould closing. Pin is pressing the cam fingers and pushes ejector
plates back.

View D: Mould continues closing. Ejector plate has been pushed all the way back.
Cam fingers have slipped outward into counterbore in bushing allowing actuator pin to slip by. Mould continues closing until completely closed as in view A.



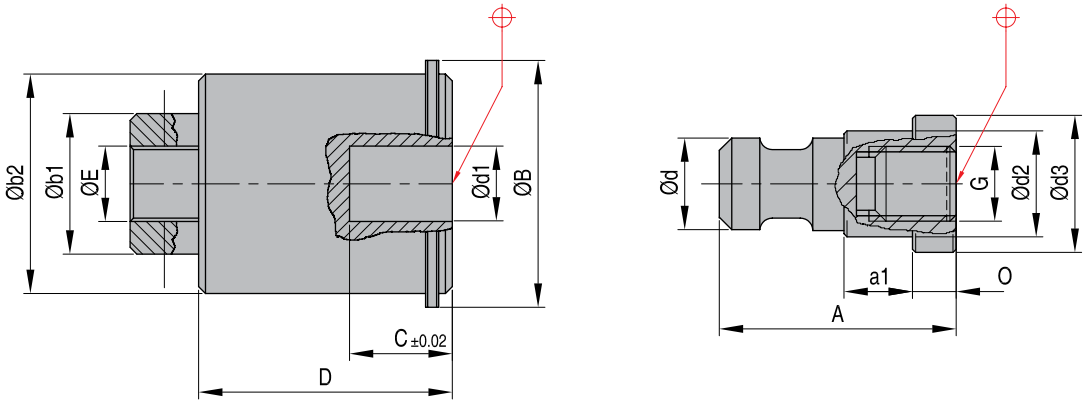


Installation for Ejector pin travel beyond stripper plate.
Stripper plate moves forward until cam fingers slip outward into counterbone in bushing and ejector plate continues to travel.

CAD reference point

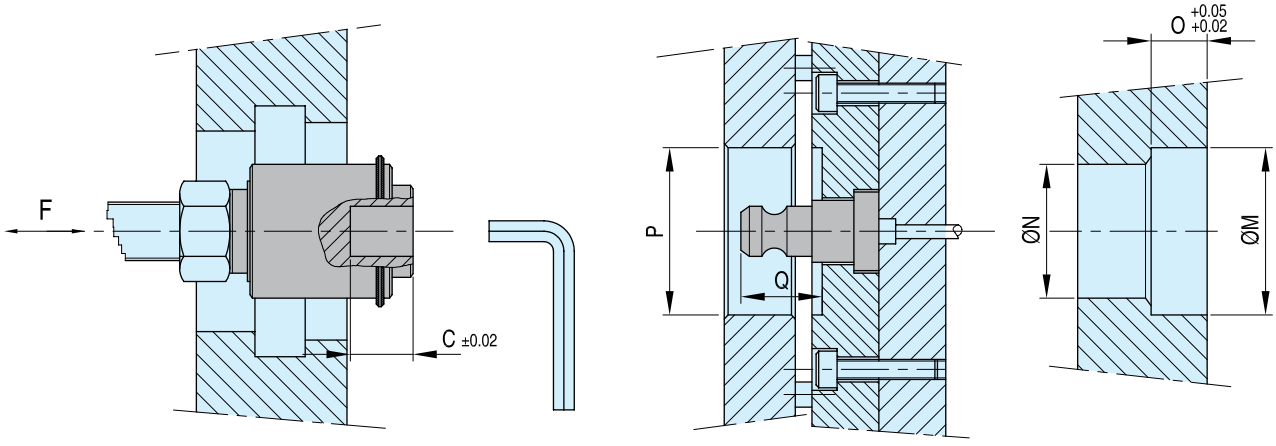
QUICK ACTION EJECTOR RETURN COUPLINGS FOR PRESSES WITH HYDRAULIC EJECTION **AR**

(incl. con



REF	Description	A	B	b1	b2	d1	C	D	d2	d3	E	M	N	O
AR01	coupling + plug	38	43	24	38	15	18	43,5	17,4	22,5	M16	23	18	7
AR02	coupling + plug	43	73	42	67	30	24	75,5	29,4	40,0	M20	42	32	8
AR01P	plug	38							17,4	22,5		23	18	7
AR02P	plug	43							29,4	40,0		42	32	8

INSTALLATION **AR**

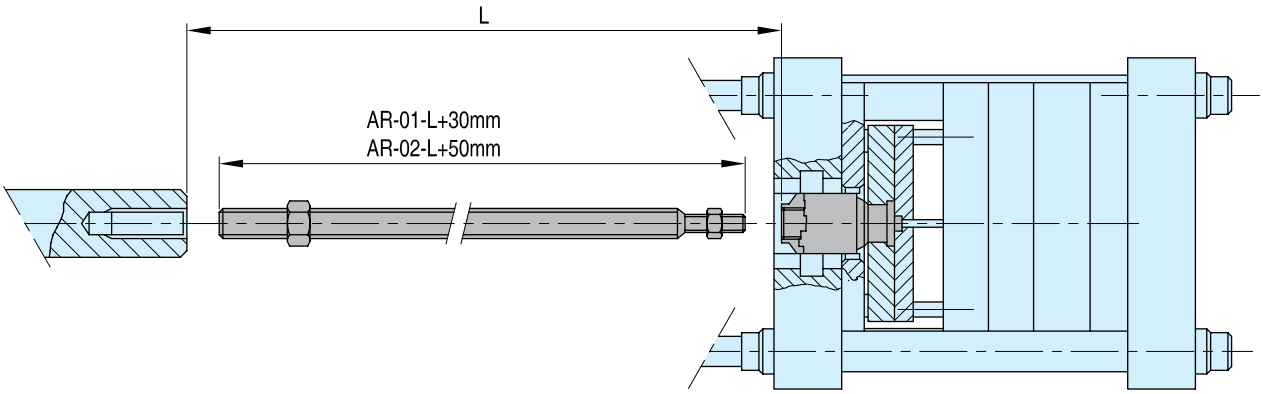


REF	Pmin.	Qmin.	a1	d	d2	d3	G	F	SW
AR01	48	C+1	11	14,7	17,4	22,5	M12	40 kN	19
AR02	80	C+1	14	29,5	29,4	40,0	M16	140 kN	32
AR01P			11	14,7	17,4	22,5	M12		
AR02P			14	29,5	29,4	40,0	M16		

CAD reference point

QUICK ACTION EJECTOR RETURN COUPLINGS FOR PRESSES WITH HYDRAULIC EJECTION

Info AR



Economical
Shortens mould change-over times only one unit required per injection moulding machine

Universal
Can be put into existing moulds to save time and money hydraulic return by means of fixed coupling pulsating ejection possible

Installation
- Move the ejector plate to the moulding position (mould closed).
- Move also the ejector cylinder rod to the fully retracted position. It is important to check by hand, that the rod is fully pushed back to the fully retracted position before measuring.
- Measure the distance between the coupling and the ejector cylinder rod.
- Extend the ejector cylinder rod with an extra knock-out rod of the measured length + 30 mm for AR-01 and 50 mm for AR-02.
- Move the mould ejector plates to the forward position (mould open).
- Lock both the extra knock-out rod and at the other end the quick coupling.
- Move the mould ejector plates back to the mould closed position and make the coupling between ejector plate and ejector cylinder rod. Make sure that the ejector plate and ejector cylinder rod are both in the mould closed position as soon as the coupling is made, if not, adjust.

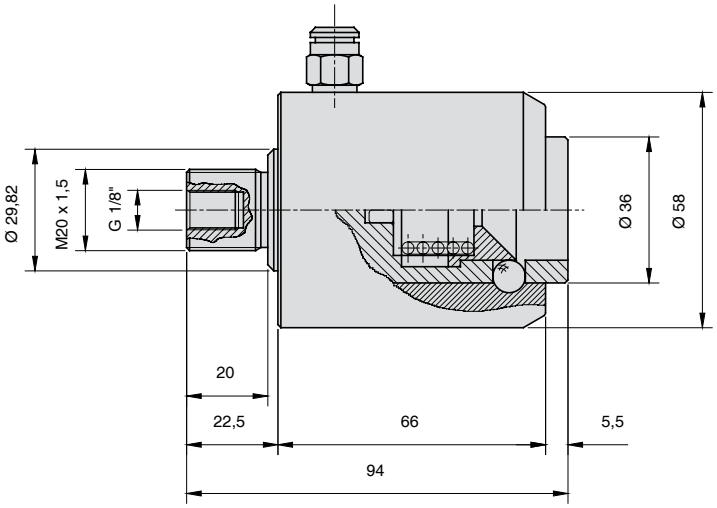
Do not use with quick mould change systems.

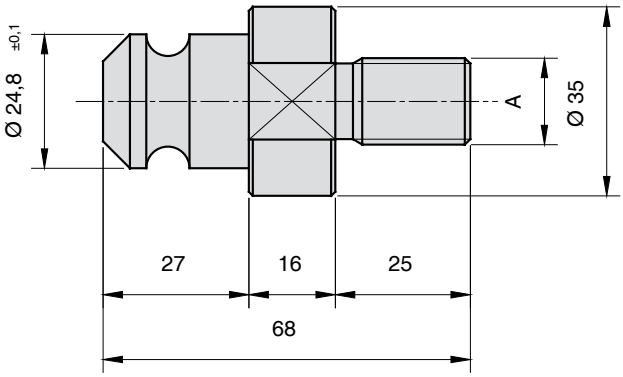
CAD reference point

AIR OPERATED QUICK KNOCKOUT COUPLER FOR MACHINES WITH HYDRAULIC EJECTION

QKAC - QKBMA - QKB

Maxi Coupler





Maxi Coupler

REF	Pulling Force
QKACX20MAX	3400 kg (max)

Maxi Barbs

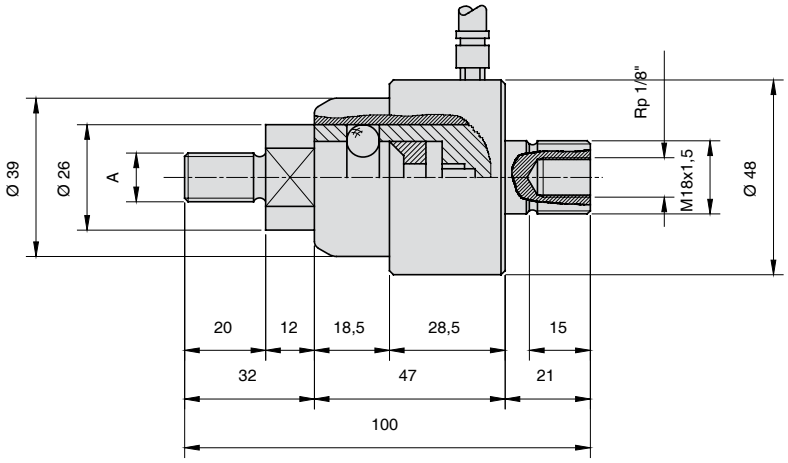
REF	A
QKBMAX16	M16 x 2
QKBMAX18	M18 x 2,5
QKBMAX20	M20 x 2,5
QKBMAX24	M24 x 3
QKBMAX27	M27 x 3
QKBMAX30	M30 x 3,5

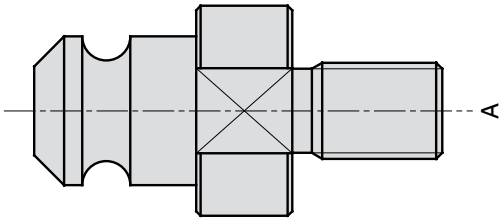
CAD reference point

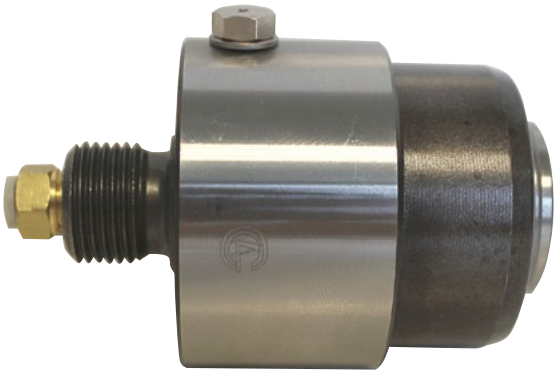
AIR OPERATED QUICK KNOCKOUT COUPLER FOR MACHINES WITH HYDRAULIC EJECTION

QKAC - QKBMA - QKB

Standard Coupler







Standard Coupler

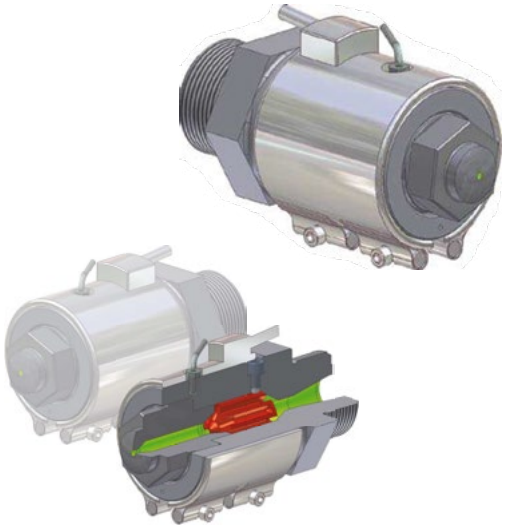
REF	Pulling Force
QKACX18	2700 kg (max)

Standard Barbs

REF	A
QKBM10	M10x1,75
QKBM12	M12x1,75
QKBM14	M14x2
QKBM16	M16x2

CAD reference point

MACHINE FILTER — OKW-UR

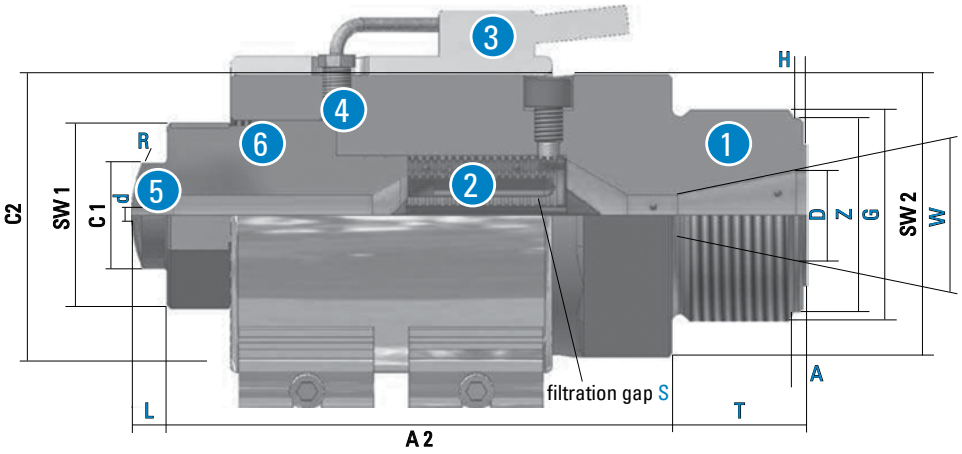


The new OKW-UR Machine Filter Nozzle is an economical way to improve moulding efficiency and part quality.
Capable of easily processing recycled material, the OKW-UR Machine Filter Nozzle prevents gate obstructions that may occur with foreign materials. Filter sizes from 0,2mm are available. The various filter gaps are obtained by changing the insert. Smooth and quick cleaning is accomplished by simply unscrewing the nozzle tip 4-8mm, purging to clean the filter, refasten tip and tighten nozzle tip.

The new OKW-UR Machine Filter Nozzle is appropriate for all unfilled plastics (e.g. PE, PP, PS, ABA and PA). Material flow has been thoroughly computed for minimal pressure loss and minimal heat increase. By avoiding sharp corners, material is not degraded by frictional heat or shear stress.

Part weight is dependent upon material type, flow volume, injection time and filter size. The OKW-UR Filter Nozzle is available in three sizes: 300 grams, 1200 grams and 2500 grams. A smooth flow channel enables fast color or material changes. A band heater on the filter body prevents material heat loss during filtration. The OKW-UR Machine Filter Nozzle has an average payback period of six months.

Technical information (mm)		URI	URII	URIII
Possible shot-weight*	gr.	400	1.300	3.000
max. injection pressure	bar	3000	3.000	3.000
length	A2	115	140	170
head diameter	C1	30	30	40
base diameter	C2	60	80	100
head hexagon	SW1	32	46	60
base hexagon	SW2	60	80	90



*at PS and S=0,6mm

1. Nozzle body
2. Filter insert
3. Heater band
4. Thermocouple
5. Nozzle tip
6. Filter adjustment indicator

S = Filter opening
* = Required customer information

CAD reference point

Required dimensions (mm)		
Machine thread	G	
T / A / D / Z / W° / H		specify if required
Filtration gap	S	
Length of nozzlehead	L	
Drill	d	
Radius / surface	R	

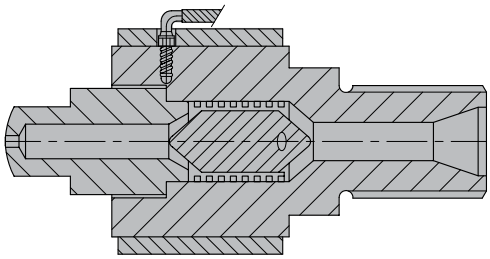
Required informations		
Material (MFI)		
Shot weight	gr.	
Melt temperature	C°	
Injection time	sec	
Injection pressure (specific)	bar	
Machine type		
Screw diameter	mm	

Get in touch with our ESS Engineered Solutions and Services - **DMEEU_SpecialProjects@dme.net**, to receive a quotation.

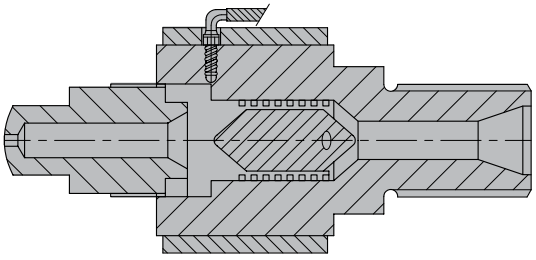
MACHINE FILTER NOZZLE

INSTRUCTIONS FOR USE **OKW-UR**

FILTER POSITION



CLEANING POSITION



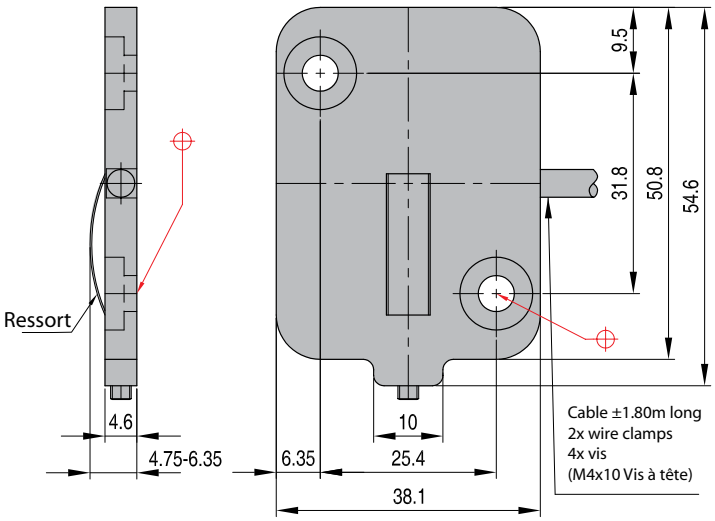
For depressurization of the screw, use screw pullback. Or, if there is no decompression available, leave screw in forward position.
Unscrew tip to end of thread (dependent on nozzle - typically 4-8mm).
Obeying safety rules, air purge one or two times with reduced injection pressure.
Fasten tip and tighten.
Resume normal information.

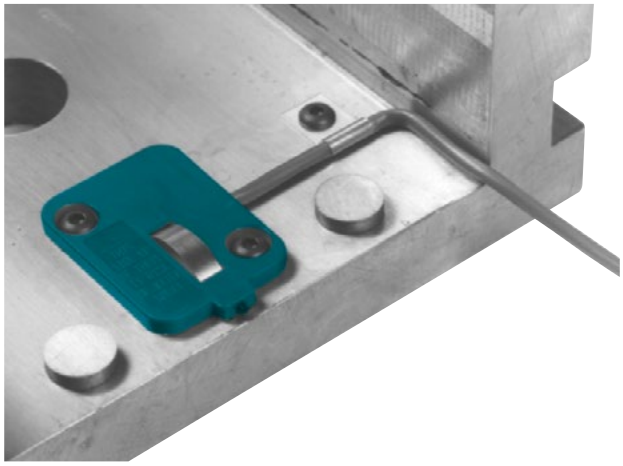
Included in the order
Heater band
Thermocouple
Ringwrench (for cleaning)
Directions for use

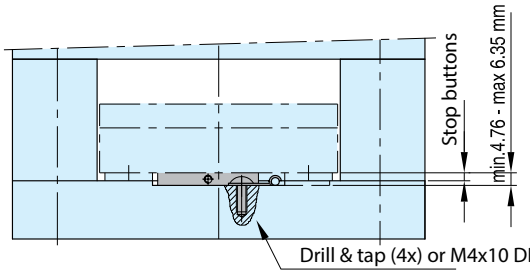
CAD reference point

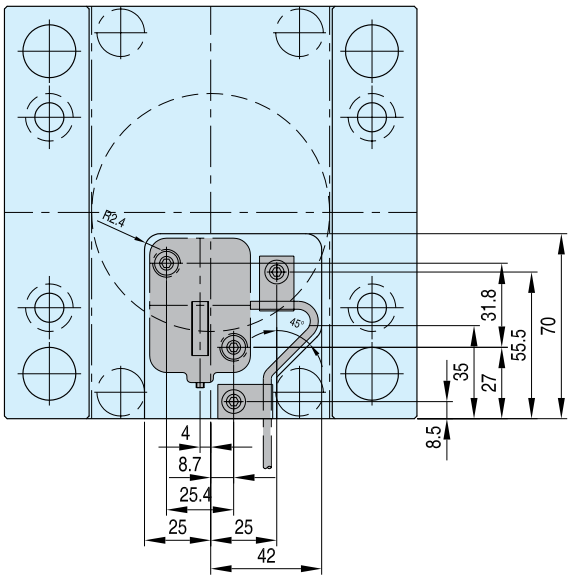
THINSWITCH™ LIMIT SWITCH — TSW2220 EU

Specially designed to verify ejector plate return before permitting the mould to close in injection moulding machines.
Thin enough to fit inside the ejector plate, it can also be used for core slides, or any place space is limited.
The Thinswitch Limitswitch has been tested for reliability over 10 million cycles without failure.
Two switches can be used in series for larger moulds to ensure the ejector plate return, preventing costly mould damage.
Prevents costly damage by ensuring the ejector assembly is fully returned.
Adjustable operating point allows actuation between 4.75 and 6.35 mm from the base.
To be fitted behind the ejector plate in the space provided by stop button.
Included mounting hardware allows easy installation of the Thinswitch Limit Switch.
Stripped and tinned 1.80 m wire leads make the switch ready to install without modification.
79°C standard temperature rating enables use for most moulding applications.
Quality tested over 10 million cycles to provide long dependable service.

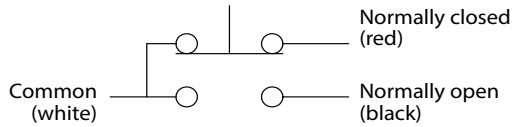








Schematic Diagram



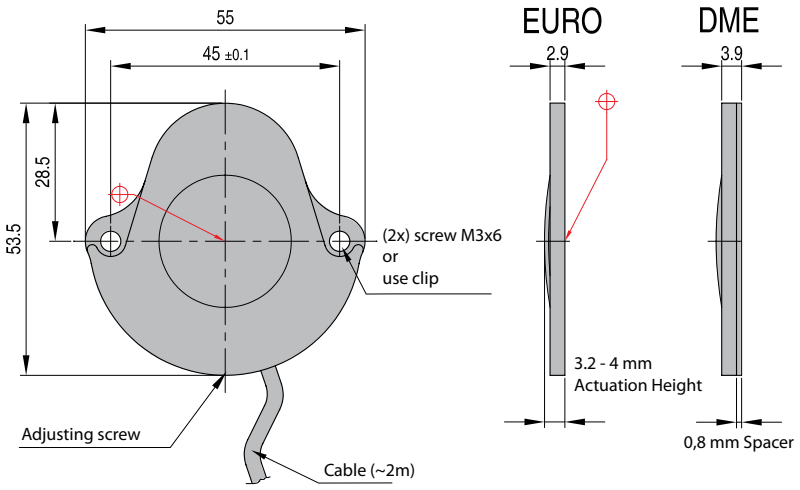
48 VAC	1 Amps resistive
	1 Amps inductive
40 VDC (sea level)	1 Amps resistive
	1 Amps inductive
Operating Temperature	79°C
Switching	SPDT
Material Body	Fiberglass-reinforced nylon
Material Spring	Stainless Steel
Back Cover	Polyester film
Wire leads	0.5 mm stranded, 3-conductor, shielded cable, 1.80 m long, ends stripped and tinned
Safety class	IP 31
The Thinswitch™ Limit Switch is designed for use in very low power mould protection control circuits. It is not intended to switch heavy loads in power applications.	

REF
TSW2220EU

CAD reference point

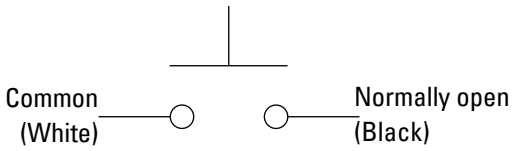
THINSWITCH LIMIT SWITCH

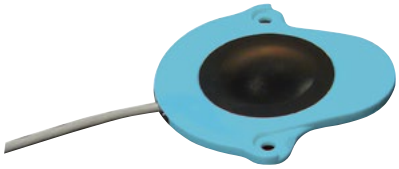
GLOBAL THINSWITCH® TSW2222

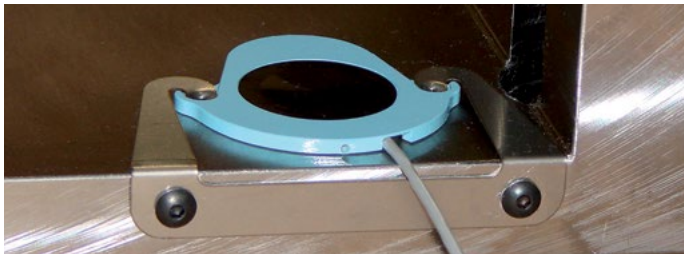


A limit switch specially designed for use in injection moulds with 3mm and 4mm rest buttons to verify that the ejector plate assembly is fully returned before allowing a mould to close after part ejection.
Switch mounting is accomplished using integral mounting holes, or by using a special bracket (included) that allows the switch to slide into place from the edge of the mould base without disassembling the mould.
A polyurethane dome and wire seal protect the internal switch mechanism from water or oil contamination, providing a longer switch life.
Reliability for over 14 million cycles without failure.
Prevents expensive mould repair and maximizes uptime.
Suitable for use in environments up to 80°C
SPST Switching action, with gold-plated internal contacts for reliable operation.
Comes with wire leads (28 gauge stranded) and 2-conductor shielded cables, 2m long.

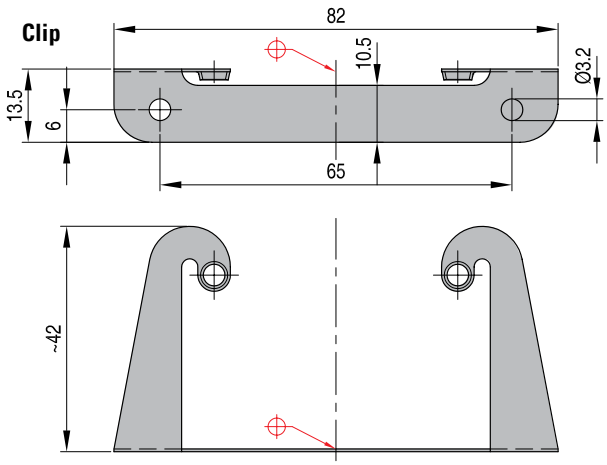
Schematic Diagram







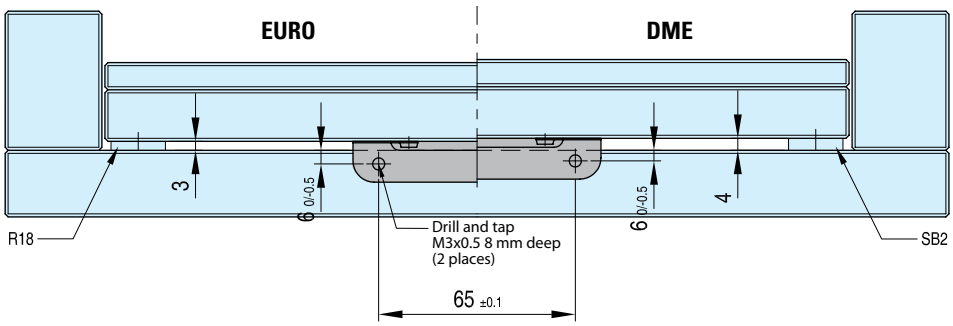
Clip



Max T	80°C
Switching	SPST
Mat body	Fiberglass-reinforced nylon
Mat dome	Polyurethane
Back cover	Polyester film
Rated current (resistive) at 24VDC:	
mAmps	°C
100	30
90	50
80	68
70	80
Not intended for inductive loads	

REF
TSW2222

Installation instructions for brackett

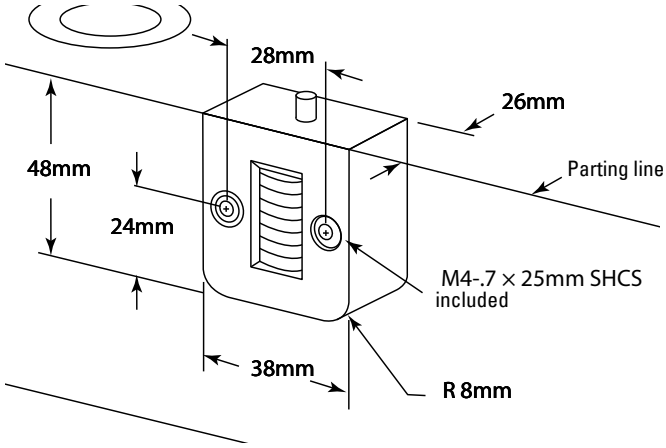


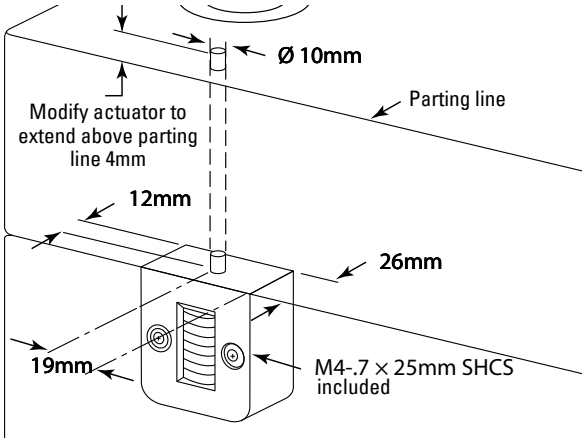
CAD reference point

HIGH TEMPERATURE CYCLE COUNTER CCPL

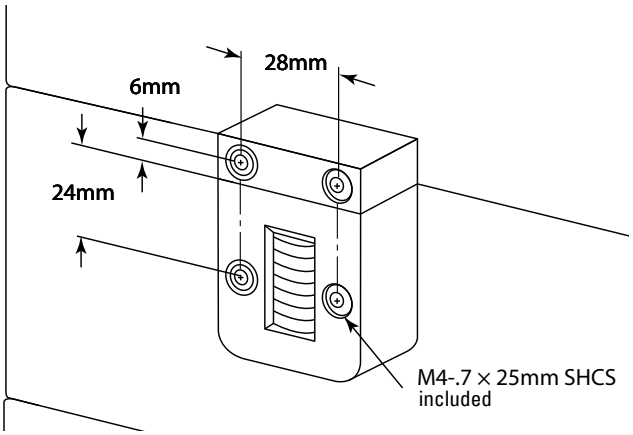
Accurately monitors mould operation, validates process monitoring data, and assists mould maintenance procedures.

- non-resettable, mechanical, 7-digit counter to record the number of times a mould closes.
- easily mountable
- maximum operating temperature of 160°C
- incl. 2x metric screw M4x25mm + 2x inch screws #8-32x1"





Parting line mount	Pareting line mount makes unit easily visible
CCPL300	Metric & Inch Standards



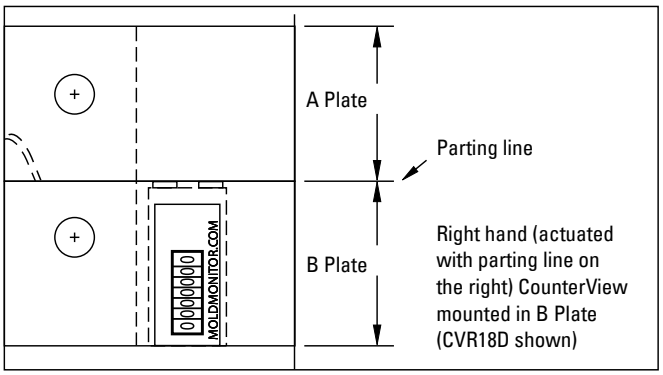
External Mount	Pocket machining not necessary. Designed specifically for retrofit applications.
CCEM300	Metric & Inch standards

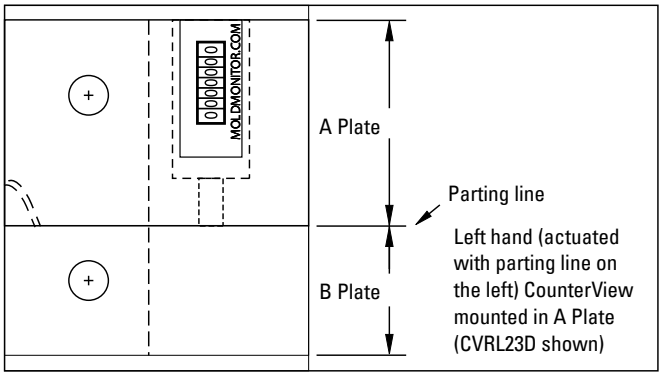
CAD reference point

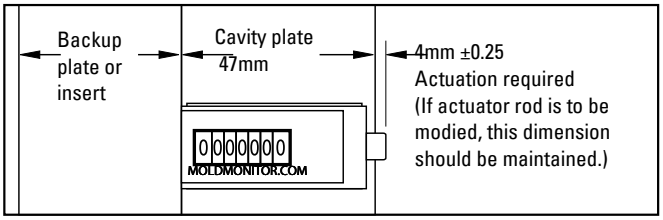
CounterView is a registered trademark of Progressive Components.
U.S.# 5,571,539
Others issued and pending

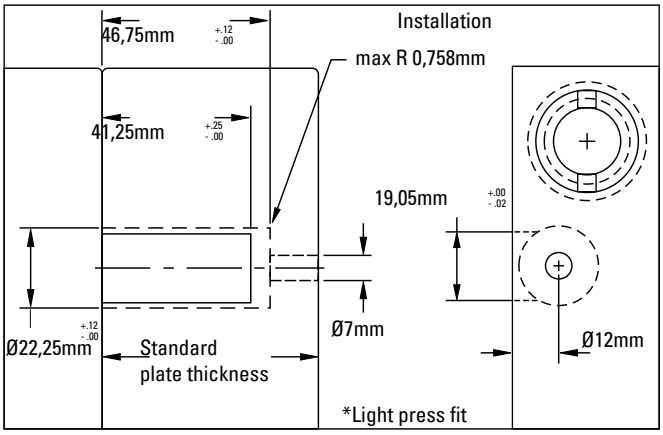
COUNTERVIEW® MOULD COUNTER, R SERIES CV

The CounterView accurately monitors mould operation, validates process monitoring data, and assists mould maintenance procedures. With a maximum operating temperature of 121°C, this precise unit has a non-resettable, mechanical, 7-digit counter and a glass-filled nylon housing for rugged durability.









The R-Series CounterView can be installed in the A or B plates with a minimum thickness of 47mm. Larger plates utilize a threaded rod (included with each) that is pre-machined to the ppropriate length for standard plate thicknesses to provide consistent actuation.

PARTING LINE AT LEFT

REF	Nominal plate thickness
CVRL56D	56
CVRL66D	66
CVRL76D	76
CVRL96D	96

Inch Standards upon request

PARTING LINE AT RIGHT

REF	Nominal plate thickness
CVR56D	56
CVR66D	66
CVR76D	76
CVR96D	96

Inch Standards upon request

Each R-Series CounterView includes the actuator.
All require attachment of the actuator rod to the threaded unit.

Replacement actuator rods

REF	Round CV Rod Length
RCV56	8.38mm
RCV66	18.39mm
RCV76	28.37mm
RCV96	48.38mm

Inch Standards upon request

CAD reference point

CVE MONITOR — CVE

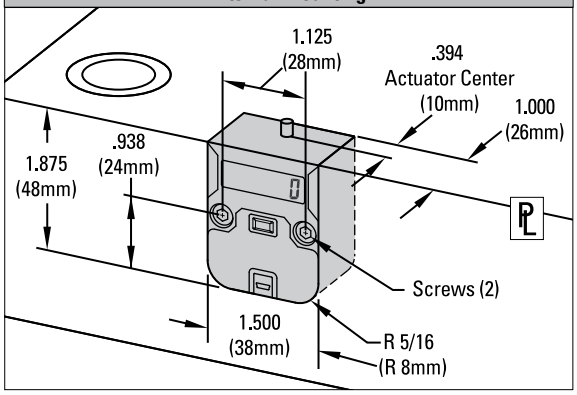
Expanding beyond the capabilities of the Counterview R-Series and 100/200 Series, the new CVe Monitor v2 tracks mould activity, allowing users to view the data on the display or from comprehensive reports using OnDemand software or the new CVe System.

Benefits

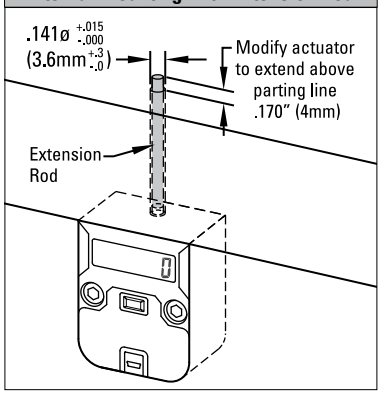
- 7-digit LCD display with a push button to move through the display modes
- 4GB flash drive for file storage and 4+ year battery life
- Water resistant with an ingress protection rating of IP52
- Maximum temperature: 190° F (90° C)
- Dimensional compatibility with mechanical CounterViews

Mounting Options

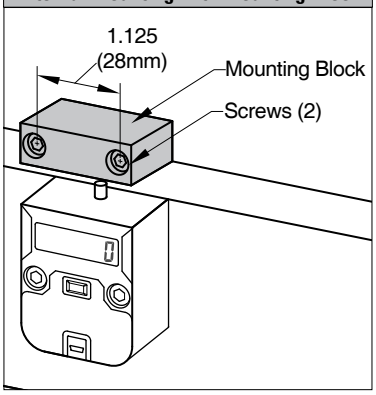
Internal Mounting



Internal Mounting with Extension Rod



External Mounting with Mounting Block



How to order:
For installation below parting line (i.e. rails as shown in center drawing above), order (1) CVENTID or CVENTMD
For installation outside of the mould (right drawing) order (1) CVEMBID or CVEMBMD

REF	Description	Mounting style	Screws (2)
CVEPLID	CVe Inch	Parting Line	#8-32 x 1" SHCS
CVEPLMD	CVe Metric	Parting Line	M4 x 25mm SHCS
CVENTID	CVe Inch (with 8"rod)	Extension (Includes 8" rod)	#8-32 x 1" SHCS
CVENTMD	CVe Metric (with 203mm rod)	Extension (Includes 203mm rod)	M4 x 25mm SHCS
CVEMBID	CVe Inch (with Mounting Block)	Parting Line	#8-32 x 1" SHCS
CVEMBMD	CVe Metric (with Mounting Block)	Parting Line	M4 x 25mm SHCS

Replacement parts	
REF	**Description**
CVEINT	Internal Extension Rod (8"/203mm) including a hex key for CVe Monitor set screw removal
CVEXT	External Mounting Block including #8-32 x 1" SHCS (2)
CVEXT2	External Mounting Block including M4x25mm SHCS (2)

OEM-specific CVe Monitors are available with additional features. Contact DME for more information.

On-Mould Display Modes

Each device is provided at -25 cycles to allow for mould setup and initialization of the CVe Monitor. Once it reaches zero, all timers and data will reset on the monitor. During production, users can press the button on the front of the monitor and review the following information on the display:

Cycle Count
Total cycles for the life of the mould is presented on the main screen of the CVe Monitor.

Cycle Time
Since the first production cycle, the cycle time is shown in seconds for the life of the mould.

Cycle Time - Recent
Cycle time for the past 25,000 cycles.

Efficiency Percentage
The percentage of time that the mould has been actively cycling vs being idle.

Efficiency Percentage - Recent
The percentage of time the mould has been active in the past 25,000 cycles.

Cycle Count Reset
A separate counter that can be reset to zero for interim monitoring of cycles when pressed and held.

Users can utilize the 4GB flash drive on the CVe Monitor by connecting the device to a PC using an industry-standard mini USB cable (see next page). Users press the button to get to the flash drive mode and then the storage area is represented on the PC by a new drive letter.

CAD reference point

CVE MONITOR — CVE

Alert Mode
Once data is initialized using the OnDemand software, users will be alerted to different modes on the device:

Preventive Maintenance
During initialization, the initial preventive maintenance point and the PM interval is entered and saved onto the CVe Monitor. Then, when the PM is within 10% of the initial point, the display will flash "PM Due" as shown at right. Users can then 'snooze' the alert by holding for 2 seconds, returning it to Total Cycles.
When a PM is performed using OnDemand software and noted as such, the date/time will be written to the CVe Monitor and then the alert is stopped until reaching 10% of the next PM point. If no PM is performed, the CVe Monitor will continue to alert the user until snoozed or the PM is ultimately recorded.

Low Battery
The CVe Monitor has a battery life of approximately 4.5 years in typical moulding environments where temperatures are controlled. When the battery is within 6 months of its expected end of life, the display will flash as shown at right. Users can then 'snooze' the alert by holding for 2 seconds, returning it to the Total Cycles. The alert will appear every 30 days as a reminder to transfer the stored data to a new CVe Monitor.

Retrofitting and Removal
Users can view additional data by double-clicking the button on the monitor:

Retrofit CVe for CounterView Tools
During initialization, users can start the cycle count with the tool's actual cycle count from an existing CounterView or known cycles from maintenance records. Once entered, the user can see the total cycles for the tool, which includes the count of the cycles from the counter and those run with the CVe Monitor. In the screen at right, the tool had 1,000,000 cycles on it originally, but ran 507,288 cycles after the CVe Monitor was installed.

Removal Monitoring
When the CVe Monitor is removed from the tool for any reason (i.e. cleaning) the pins on the back of the device will record an event of its removal. After viewing the retrofit number above, the display will move into the screen shown at right, designating the number of times the monitor was removed from the mould.

OnDemand Activity Log [Software Version 2.0/2.0.1/2.2]

CVe Initialize Date	May 27, 2013	June 20, 2013
Device ID	MKX1234	MKX1234
Tool ID	8565B	8565B
	Blower Housing	Blower Housing
Part ID	ABT57	ABT57
Program Name	Mocha	Mocha
Customer	Crimson Fan	Crimson Fan
Target Efficiency %	N/A	94%
Target Cycle Time	N/A	7.5
Initial PM Point	50000	50000
Target PM Interval	100000	100000
Cycles Prior to CVe Installation*	0	0
OEM ID	N/A	ABT1
Asset ID	N/A	0356-5686

							Reason for connecting CVe Monitor						
Date/Time	Battery	Cycles	OD User	Conn. By	Company	Destination	REV	PM	REP	GEN	REV#	CVe Removals	Notes
April 7, 2014	OK	507,288	INJECTI1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	Y	N	N/A	0	Replaced damaged core pin in cavity 4
April 7, 2014	OK	506,524	INJECTI1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	N	Y	N/A	0	Data Pull
March 23, 2014	OK	491,274	INJECTI1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	Y	N	N/A	0	Pulled from production for mold operational issues. It is being sent for evaluation and rework
March 19, 2014	OK	482,567	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM: Cavity #2 was shutoff
December 30, 2013	OK	364,001	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	1	Full PM
December 2, 2013	OK	314,856	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM
October 30, 2013	OK	260,002	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM: Cavity #2 was shutoff
October 6, 2013	OK	211,563	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM
September 23, 2013	OK	193,268	INJECTI1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	Y	N	N/A	0	3 cavities are shutdown. Pulled for evaluation and repair
August 11, 2013	OK	106,235	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM
July 14, 2013	OK	58,725	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM
June 20, 2013	OK	9,265	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Initial mold inspection. There is no wear or damage to mold following initial run. Targets are set. Mold is released for production
May 27, 2013	OK	0	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	N	N	Y	N/A	0	Mold is completed and released for sampling

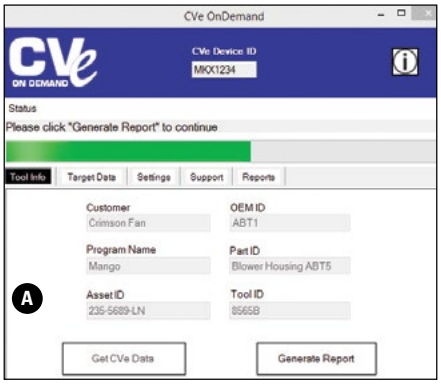
Above: OnDemand software allows users to view data and keep a record of reports run, outlining the reason for the report generation including PM, general queries, revision changes, and repairs. Notes can be included and OnDemand records the person generating the document for accurate history.

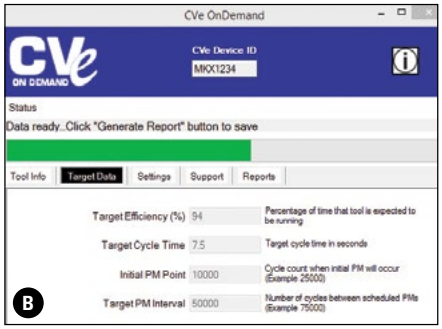
CAD reference point

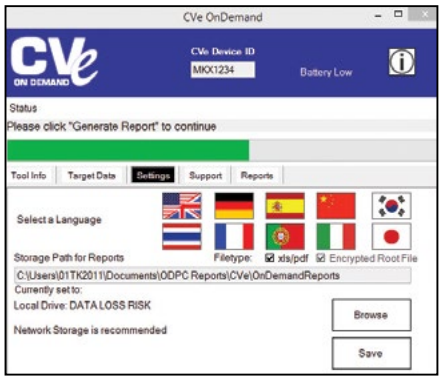
CVE MONITOR

CVE

Drive comprehensive reporting using data from the CVe Monitor when running the OnDemand software is available at no charge from CVeMonitor.com.







OnDemand software enables the user to generate Adobe Acrobat (.pdf), Excel (.xls), and encrypted (.enc) reports to share with customers and other colleagues with these metrics:

A: When the CVe is initialized, users can identify their tool and align with the device serial number which is tracked on reports utilizing different field options.

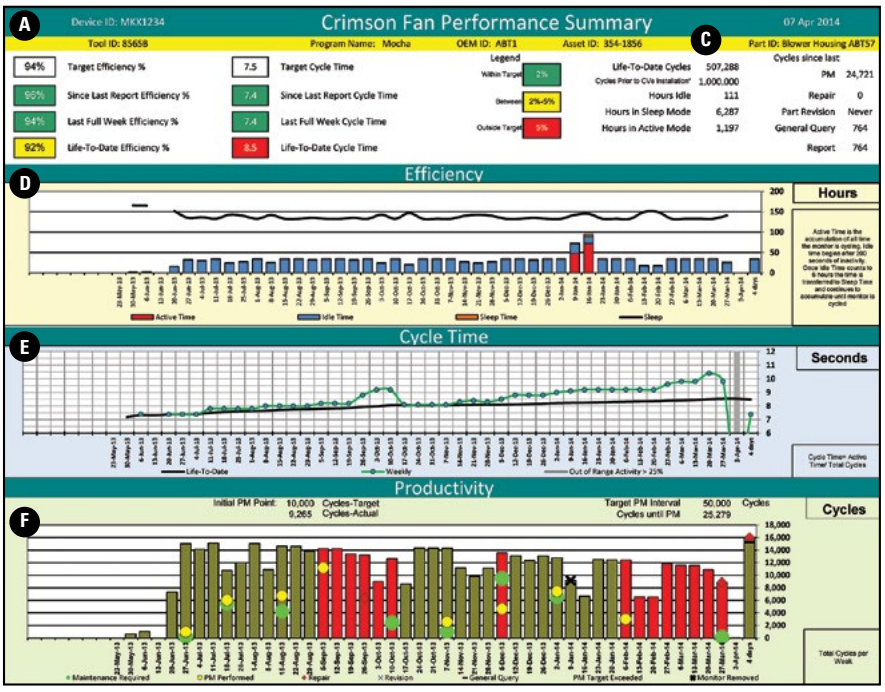
B: The target cycle times and efficiency percentages can be entered. OnDemand also supports 10 languages: English, German, Mandarin, Spanish, French, Italian, Japanese, Korean, Portuguese and Thai. Reports, generated in the chosen language, compare actual values to targets, providing a quick view of any variances.

C: Statistics are provided to show quantity of total cycles and inactivity for the life of the tool.

D: Weekly sessions are presented graphically to show production efficiency levels.

E: Weekly cycle time tracking identifies tools with variances over the past year.

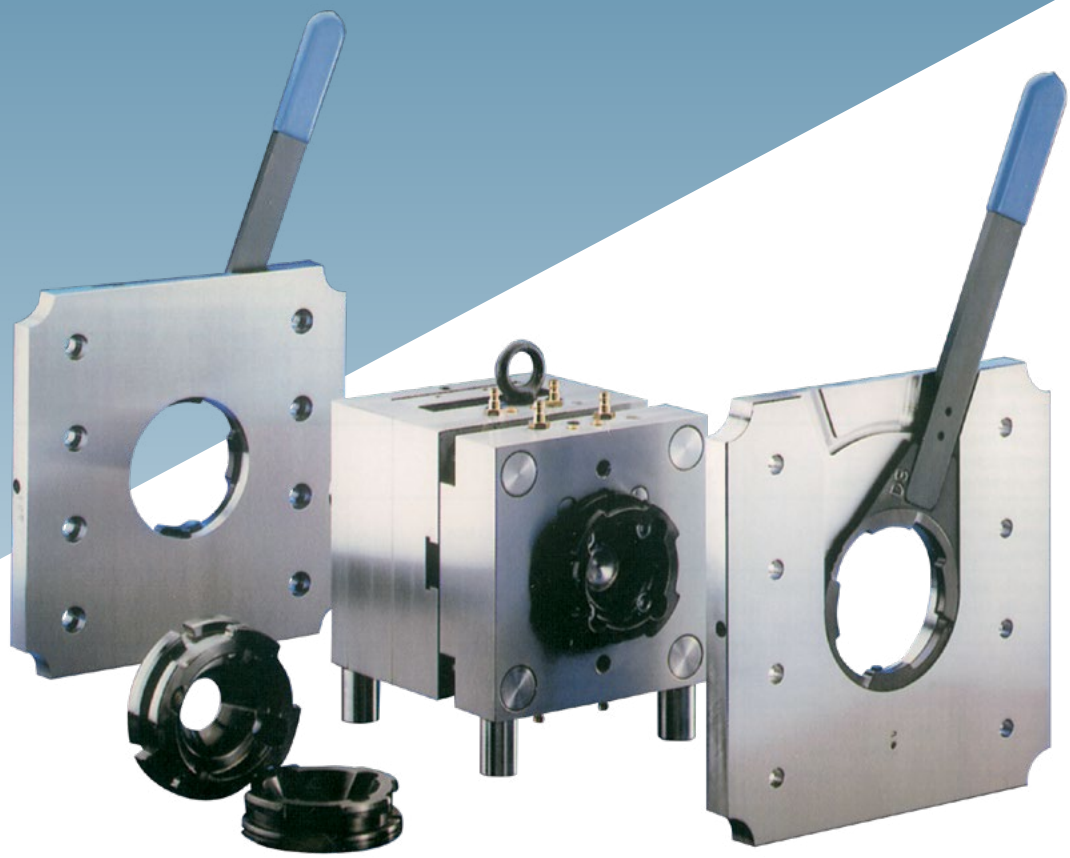
F: The productivity portion of the report takes the target preventive maintenance (PM) points set by the moulder and compares them to actual maintenance.



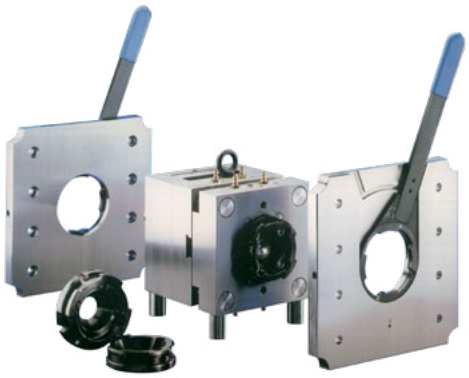
CAD reference point

CAD reference point

QUICK CLAMPING SYSTEM

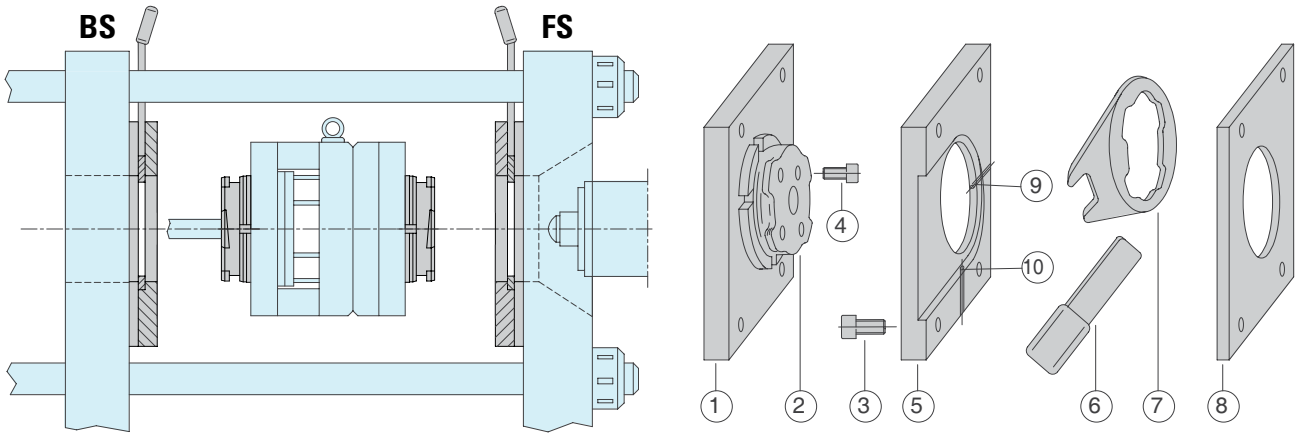


QUICK-ACTION CLAMPING SYSTEM **Bakra**



Maintenance-free, selflocking bayonet type quick-action clamping system suitable for mould weights up to 1000 kg.
Multi-purpose application suitable for all horizontal and vertical injection moulding machines with 2 or 4 tiebars, as well as barless design up to approx. 1800 kN.
Quick mould-change without requiring additional tools.
The system only requires interchanging locating rings on the mould.
The set also includes compact adapter plates, to be mounted on the machine with thermal insulating sheets and cooling connectors when required.
Step-by-step refitting of moulds and machines possible.

Part list



1 Mould Clamping Plate
2 Locating Ring
3 SHC-screw
4 SHC-screw
5 Adapter Plate
6 Wrench
7 Locking Ring
8 Thermal Insulating Sheet
9 Retention Pin
10 Spring Loaded Set screw

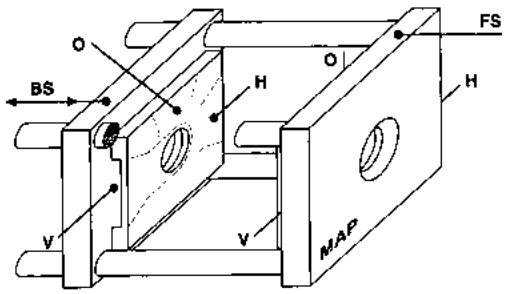
Cost-efficiency comparison for mould-change on a 1000 kN injection moulding machine.

	Clamp DIN 6316 and clamping screw	Bakra
No. of mould changes / year	150	150
No. of operators / change	2	1
Hours required / change	2 x (0,5 h (= 30 Min.))	0,083 h (= 5 Min)
Purchase costs / 5-year depreciation	€ 400 (€ 80 / a)	€ 3800 (€ 760 / a)
Wages / year (€ 41 / h person)	€ 6150	€ 512,50
Machine down times / year (€ 51 / h)	€ 3825	€ 637,50
Costs / year	€ 10055	€ 1910
Savings / year		81%

The complete set contains the following items:

2 Adapter plates (BS/FS)
2 Locking rings (BS/FS)
1 Wrench
2 Locating rings (BS/FS)

Please specify type of moulding machine.
Insulating scheets upon request.
Screws are included.



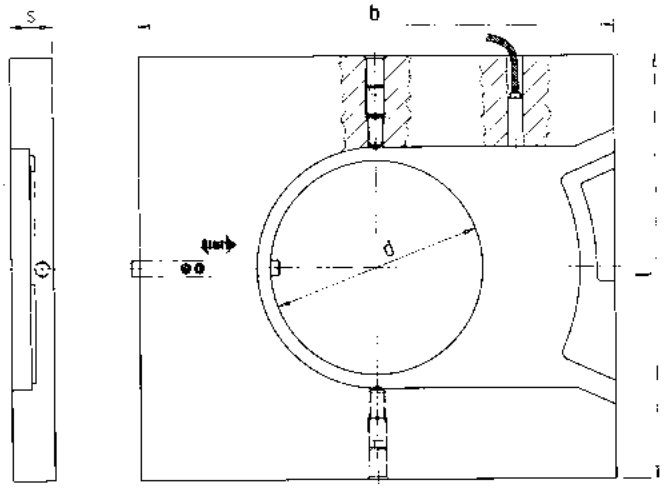
BS = moveable half
FS = fixed half
H = rear *

O = top*
V = front*

* Please specify side of locking system

CAD reference point

ADAPTER PLATES — AD



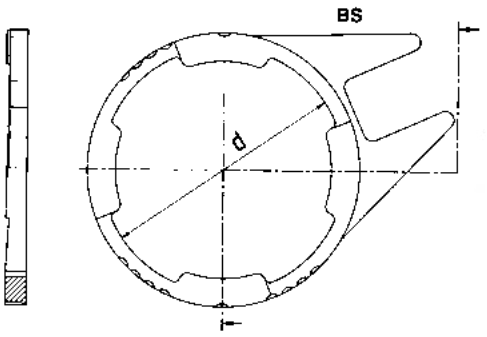
Mat.: 1.2312
BS and FS are mirror-inverted

Mould safety device is available as option.

REF	d	l x b	s
AD	110	218 x 246	22
AD	110	246 x 246	22
AD	110	246 x 296	22
AD	110	296 x 296	22
AD	110	296 x 346	22
AD	110	346 x 346	22
AD	110	346 x 396	22
AD	110	396 x 396	22
AD	110	446 x 446	22
AD	110	496 x 496	22
AD	110	496 x 546	22
AD	110	546 x 596	22
AD	110	596 x 596	22

REF	d	l x b	s
AD	125	218 x 246	27
AD	125	246 x 246	27
AD	125	246 x 296	27
AD	125	296 x 296	27
AD	125	296 x 346	27
AD	125	346 x 346	27
AD	125	346 x 396	27
AD	125	396 x 396	27
AD	125	446 x 446	27
AD	125	496 x 496	27
AD	125	496 x 546	27
AD	125	546 x 596	27
AD	125	596 x 596	27

LOCKING RINGS — SP

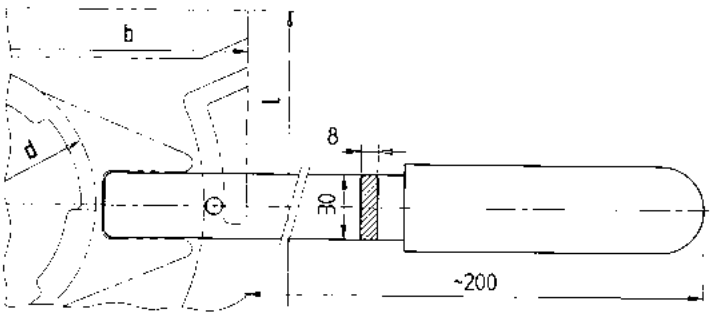


Mat.: 1.2312 ~ 1030 N/mm²
BS and FS are mirror-inverted

REF	d	Type
SP110BS	110	BS*
SP110FS	110	FS*
SP125BS	125	BS*
SP125FS	125	FS*

*BS = moveable half
*FS = fixed half

WRENCH — SPS110

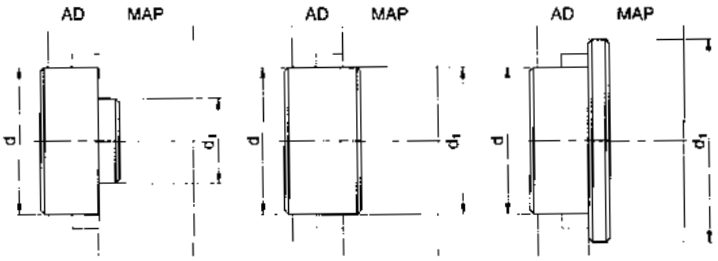


Mat.: St 50
When ordering please specify: Flange dia., size of adapter plate, wrench opening, Type of moulding machine.

CAD reference point

BAKRA CLAMPING SYSTEM

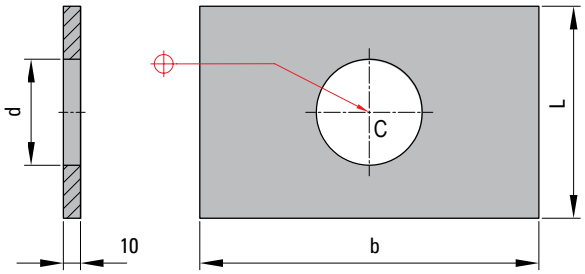
CENTERING DEVICE ZV



Centering Device
Mat.: 1.1730
MAP = Machine plate

REF	d x d1
ZV	110 x 60
ZV	110 x 80
ZV	110 x 90
ZV	110 x 100
ZV	110 x 110
ZV	110 x 125
ZV	110 x 160
ZV	110 x 175
ZV	125 x 60
ZV	125 x 80
ZV	125 x 90
ZV	125 x 100
ZV	125 x 110
ZV	125 x 125
ZV	125 x 160
ZV	125 x 175

THERMAL INSULATING SHEETS WP



Thermal conductivity λ: 0,2 W/mK
T max: 200°C
Compressive strength (20°C): 600 N/mm²

Screw holes and recesses for tiebars will be provided according to your drawing.

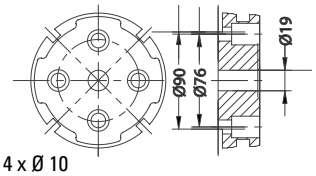
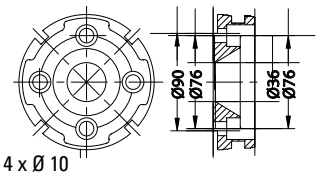
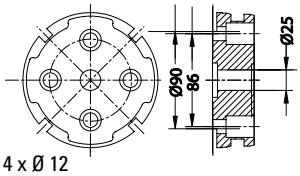
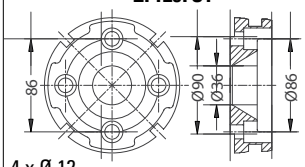
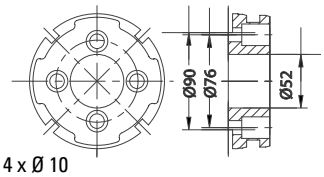
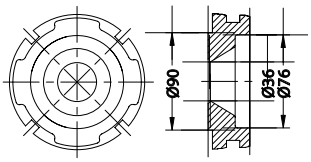
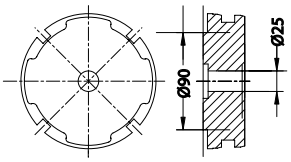
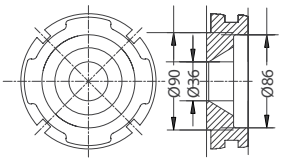
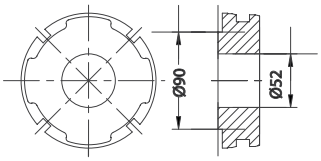
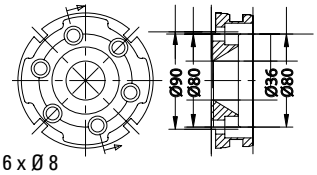
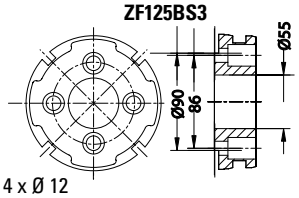
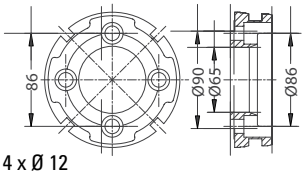
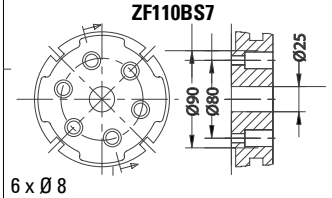
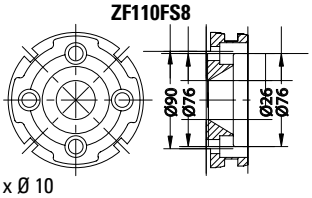
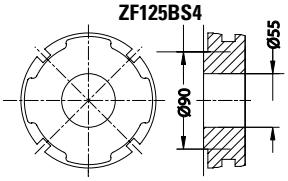
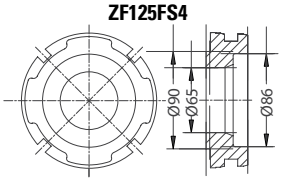
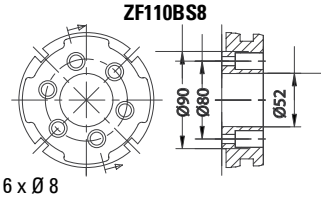
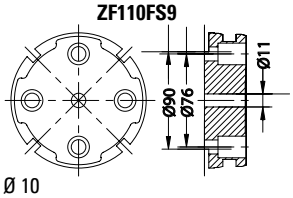
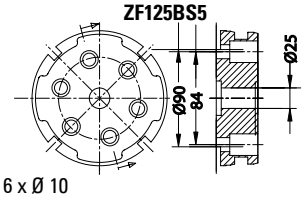
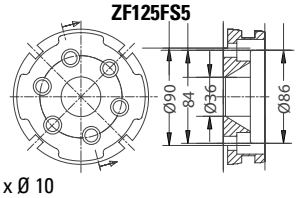
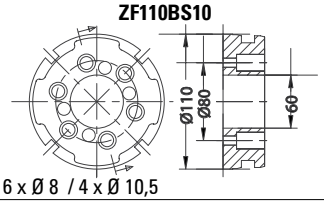
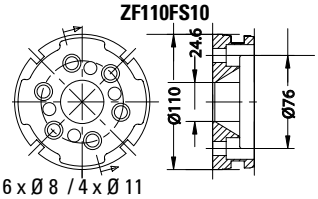
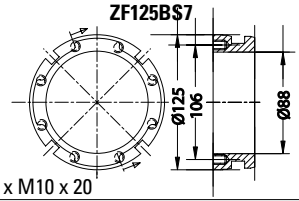
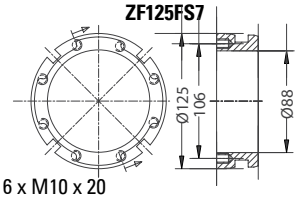
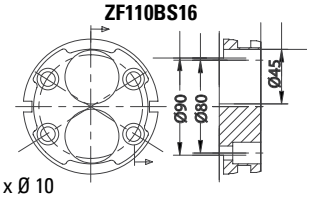
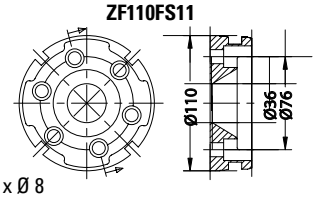
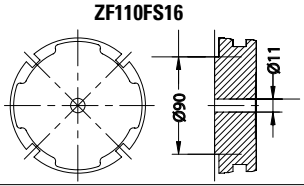
REF	d	l x b
WP	110	218 x 246
WP	110	246 x 246
WP	110	246 x 296
WP	110	296 x 296
WP	110	296 x 346
WP	110	346 x 346
WP	110	346 x 396
WP	110	396 x 396
WP	110	446 x 446
WP	110	496 x 496
WP	110	496 x 546
WP	110	546 x 596
WP	110	596 x 596

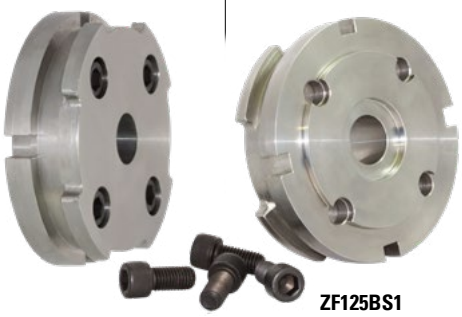
REF	d	l x b
WP	125	218 x 246
WP	125	246 x 246
WP	125	246 x 296
WP	125	296 x 296
WP	125	296 x 346
WP	125	346 x 346
WP	125	346 x 396
WP	125	396 x 396
WP	125	446 x 446
WP	125	496 x 496
WP	125	496 x 546
WP	125	546 x 596
WP	125	596 x 596

CAD reference point

LOCATING RINGS ZF...

Mat.: 1.2312 ~ 1030 N/mm²

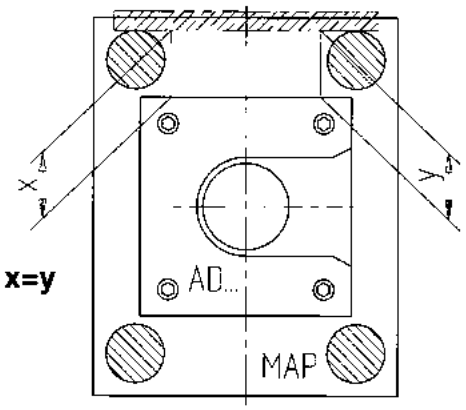
ZF 110		ZF 125	
Moveable half (BS)	**Fixed half (FS)**	**Moveable half (BS)**	**Fixed half (FS)**
ZF110BS3  4 x Ø 10	**ZF110FS3**  4 x Ø 10	**ZF125BS1**  4 x Ø 12	**ZF125FS1**  4 x Ø 12
ZF110BS4  4 x Ø 10	**ZF110FS4** 	**ZF125BS2** 	**ZF125FS2** 
ZF110BS5 	**ZF110FS6**  6 x Ø 8	**ZF125BS3**  4 x Ø 12	**ZF125FS3**  4 x Ø 12
ZF110BS7  6 x Ø 8	**ZF110FS8**  4 x Ø 10	**ZF125BS4** 	**ZF125FS4** 
ZF110BS8  6 x Ø 8	**ZF110FS9**  4 x Ø 10	**ZF125BS5**  6 x Ø 10	**ZF125FS5**  6 x Ø 10
ZF110BS10  6 x Ø 8 / 4 x Ø 10,5	**ZF110FS10**  6 x Ø 8 / 4 x Ø 11	**ZF125BS7**  8 x M10 x 20	**ZF125FS7**  6 x M10 x 20
ZF110BS16  4 x Ø 10	**ZF110FS11**  6 x Ø 8		
	ZF110FS16 		

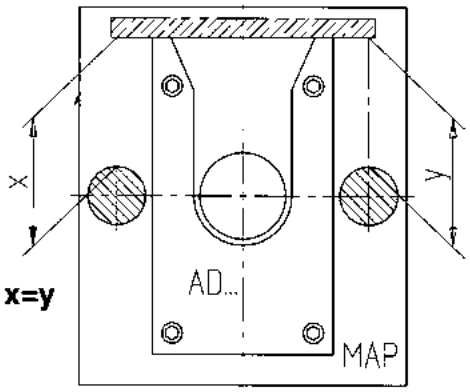


ZF125BS1

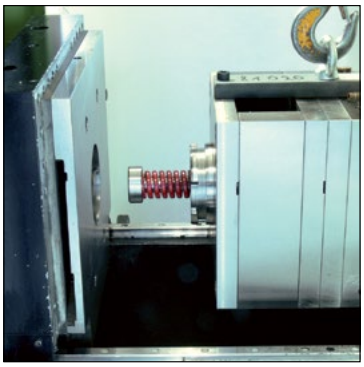
CAD reference point

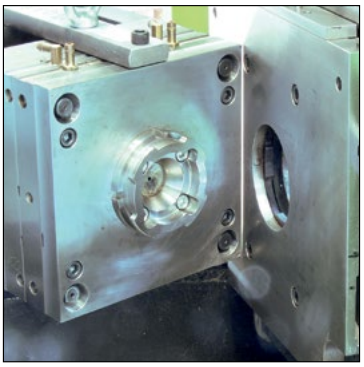
MOUNTING INSTRUCTIONS **Info**

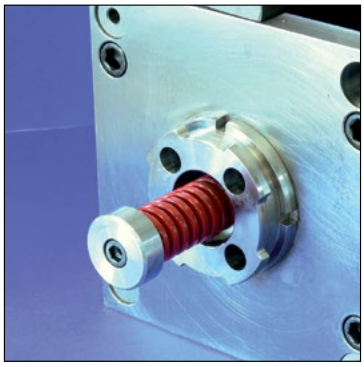


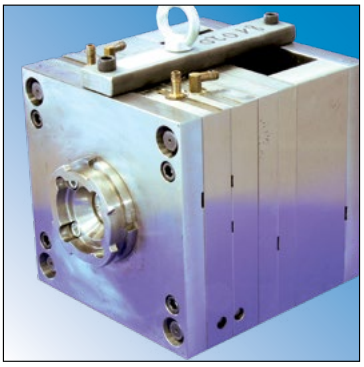


- Mount mould-specific locating rings ZF on the mould.
- Open injection moulding machine, move back injection unit and machine ejector system.
- Mount thermal insulating sheets WP (if available) onto the adapter plates AD using small SHC-screws.
- Push back retention pins fixed to the adapter plates.
- Insert centering device ZV into centering hole Dia. 110 mm or 125 mm of the adapter plates.
- Position these subgroups according to the markings FS or BS onto the machine plates and mount them with SHC-screws. Don't screw in completely so that adjustment is still possible.
- Align horizontal position of adapter plates according to sketch above and tighten screws.
- Remove ZV, if necessary make thread in ZV.
- In case mould set-up in horizontal direction is required, retention pins located in the adapter plates have to be pushed back.
- For mould set-up into the moulding machine proceed as usual. With mould and machine in closed position, mould must be interlocked at the fixed and moveable half using wrench. Remove wrench from the adapter plate.



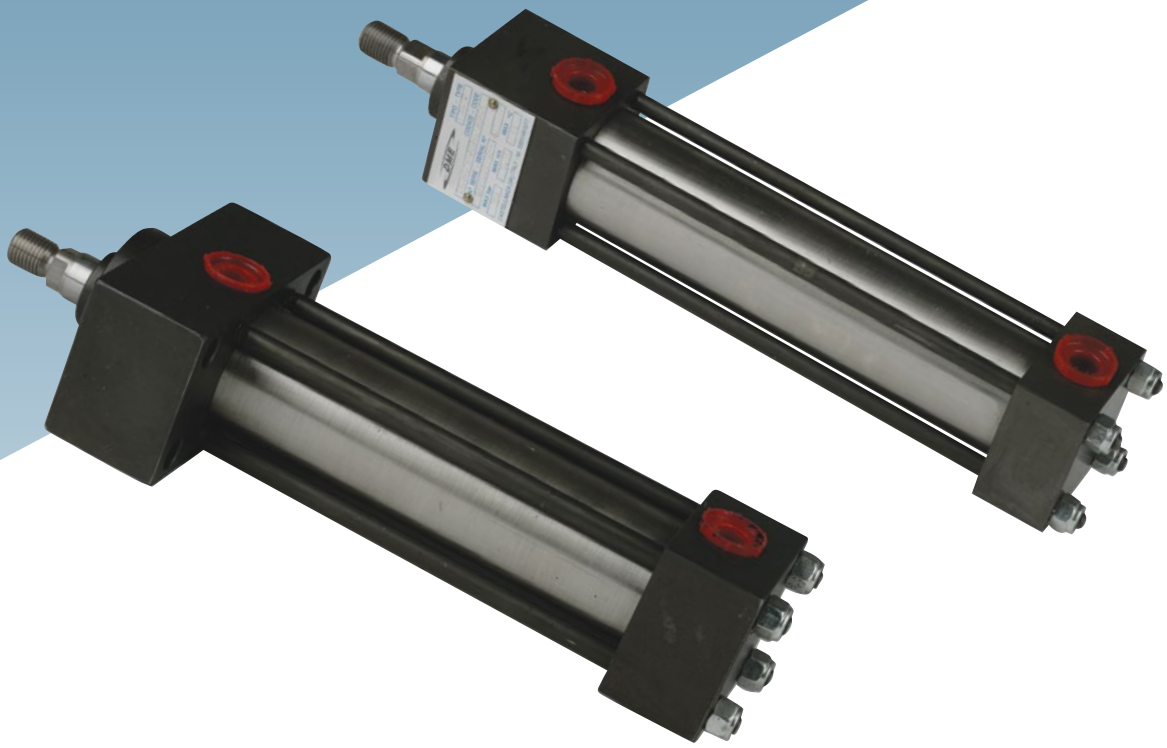






CAD reference point

HYDRAULIC CYLINDER

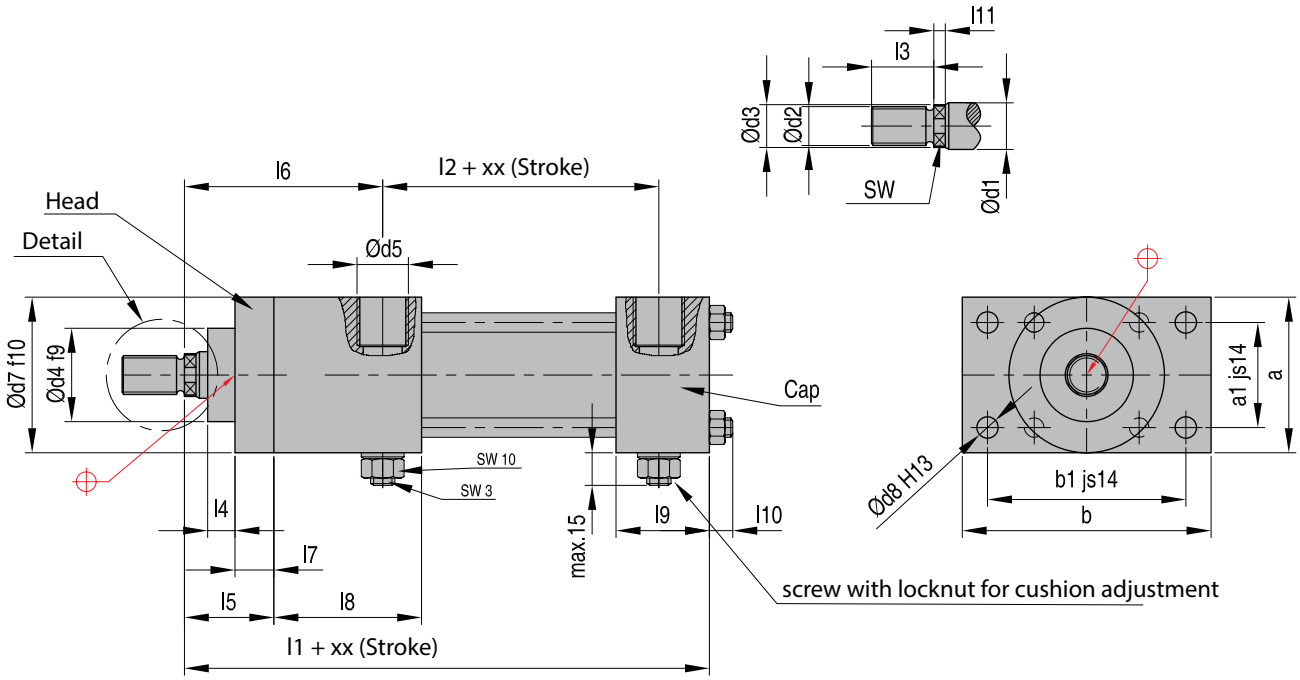


HYDRAULIC CYLINDER HZ160R

Interchangeability acc. to ISO 6020/2-1981
Symbolization acc. to ISO 6099
Standardized accesories acc. to ISO 8133
Installation only with fasteners from property class 10.9

All **DME HZ** cylinders are fitted with magnets mounted on the piston to enable use of magnetic switches. Magnetic switches offer more straightforward installation than mechanical switches, simplifying setup and maintenance costs.

Pmax = 160 bar (for size 50 only 120 bar)
Tmax = 80° C (max working temperature)
Head + rear cushioning and air bleed
Max piston speed: Vmax



Order example for first item (REF + Stroke): **HZ160R25020**

REF	d	Stroke													d1	d2	d3	d4	d5	d7*	d8	a	a1	b	b1	SW	S
		020	050	080	100	125	160	200	250	300	350	400	500	600													
HZ160R25	25	S	S	S	S	S	S	S	UR						12	M10x1,25	11	24	R1/4"	44	5,5	40	27,0	64	51	10	16
HZ160R32	32	S	S	S	S	S	S	S	UR	UR					14	M12x1,25	13	26	R1/4"	50	6,5	46	33,2	70	58	11	17
HZ160R40	40	S	S	S	S	S	S	S	UR	UR	UR	UR			18	M14x1,50	17	30	R3/8"	57	11,0	60	41,0	109	87	15	20
HZ160R50	50	S	S	S	S	S	S	S	UR	UR	UR	UR	UR	UR	22	M16x1,50	21	34	R1/2"	70	13,5	75	52,0	128	105	18	20

FD=thrust in kg FZ=traction force in kg	P bar																								
	80		90		100		120		125		160														
d	FD	FZ	FD	FZ	FD	FZ	FD	FZ	FD	FZ	FD	FZ	l1	l2	l3	l4	l5	l6	l7	l8	l9	l10	l11
25	392	302	442	340	490	377	589	453	613	471	785	603	114	51	14	7	25	51	10	38	24	8	5
32	643	520	724	585	804	650	965	780	1005	812	1286	1040	128	55	16	9	35	61	10	38	25	10	8
40	1004	800	1131	902	1256	1001	1508	1203	1570	1251	2009	1601	153	68	18	8	35	63	10	43	37	12	6
50	1570	1265	1767	1425	1963	1582	2356	1900					159	72	22	9	41	67	16	43	37	16	8

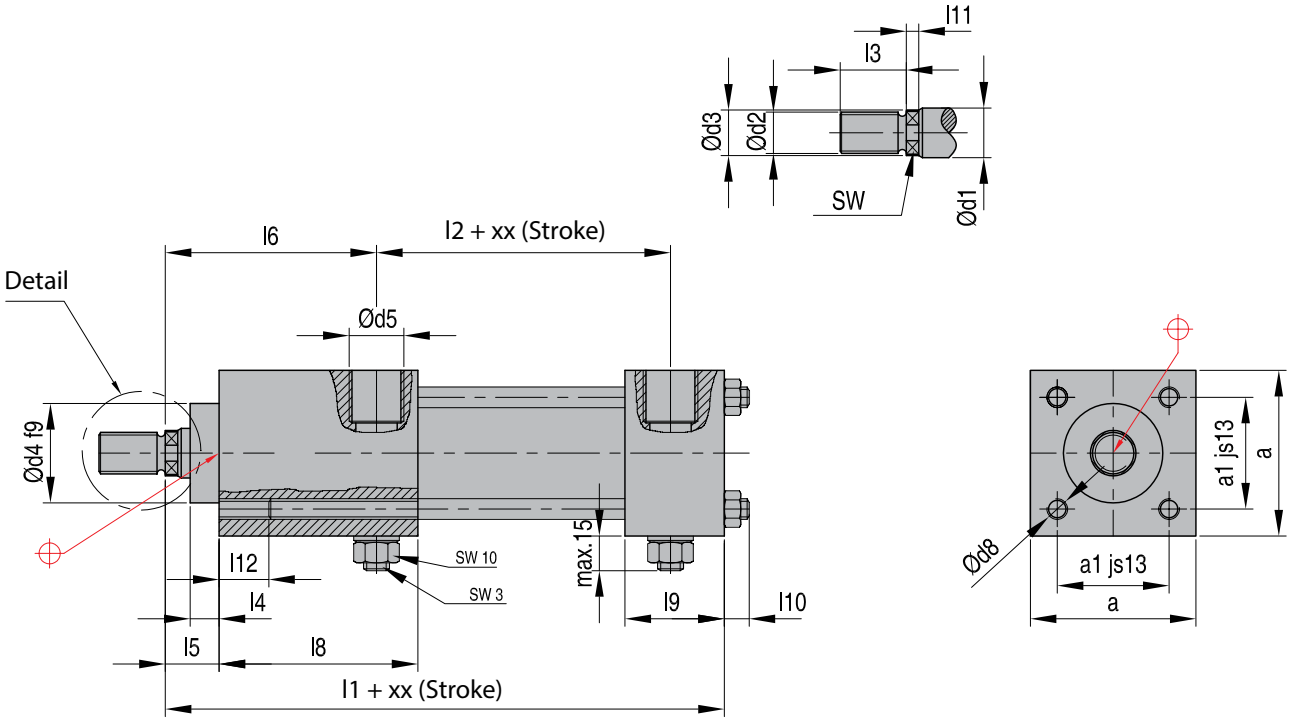
S = Standard
UR = Upon request

CAD reference point

HYDRAULIC CYLINDER HZ160S

All **DME** HZ cylinders are fitted with magnets mounted on the piston to enable use of magnetic switches. Magnetic switches offer more straightforward installation than mechanical switches, simplifying setup and maintenance costs.

Pmax = 160 bar (for size 50 only 120 bar)
Tmax = 80° C (max working temperature)
Head + rear cushioning and air bleed
Max piston speed: Vmax = 0,7 - 0,8 m/s



Order example for first item (REF + Stroke): **HZ160S25020**

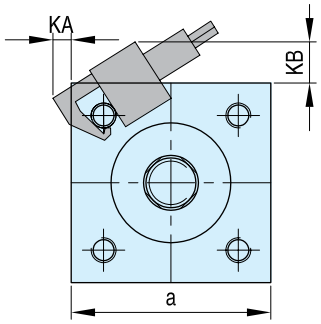
REF	d	Stroke													d1	d2	d3	d4	d5	d8	a	a1	SW	S
		20	50	80	100	125	160	200	250	300	350	400	500	600										
HZ160S25	25	S	S	S	S	S	S	S	UR						12	M10x1,25	11	24	R1/4"	M5x0,80	40	28,3	10	16
HZ160S32	32	S	S	S	S	S	S	S	UR	UR					14	M12x1,25	13	26	R1/4"	M6x1,00	46	33,2	11	17
HZ160S40	40	S	S	S	S	S	S	S	UR	UR	UR	UR			18	M14x1,50	17	30	R3/8"	M8x1,00	60	41,7	15	20
HZ160S50	50	S	S	S	S	S	S	S	UR	UR	UR	UR	UR	UR	22	M16x1,50	21	34	R1/2"	M12x1,25	75	52,3	18	20

FD=thrust in kg FZ=traction force in kg	P bar																							
	80		90		100		120		125		160													
d	FD	FZ	FD	FZ	FD	FZ	FD	FZ	FD	FZ	FD	FZ	l1	l2	l3	l4	l5	l6	l8	l9	l10	l11	l12	
25	392	302	442	340	490	377	589	453	613	471	785	603	114	51	14	7	15	51,0	48	24	8	5	12	
32	643	520	724	585	804	650	965	780	1005	812	1286	1040	128	55	16	9	25	60,5	48	25	10	8	15	
40	1004	800	1131	902	1256	1001	1508	1203	1570	1251	2009	1601	153	68	18	8	25	63,0	53	37	12	6	20	
50	1570	1265	1767	1425	1963	1582	2356	1900					159	72	22	9	25	67,0	59	37	16	8	25	

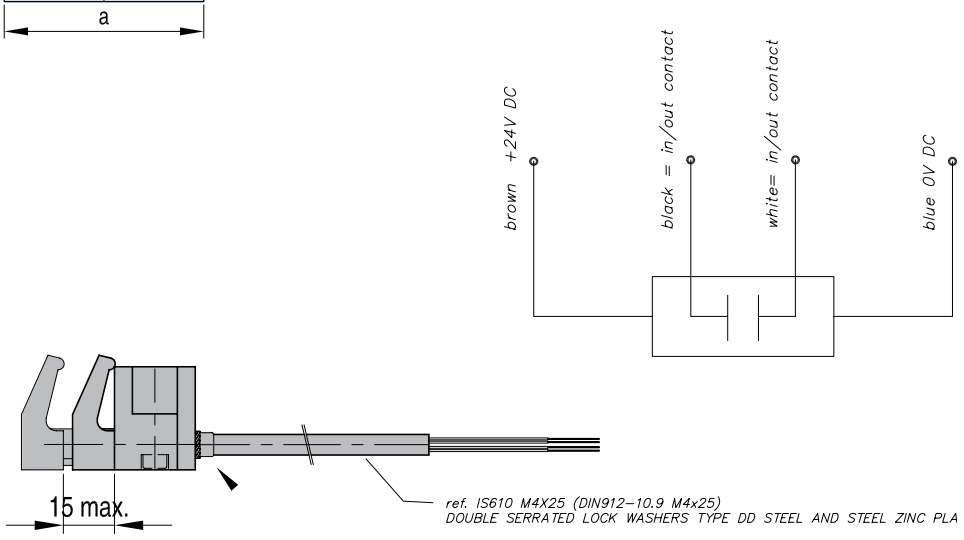
S = Standard
UR = Upon request

CAD reference point

MAGNETIC-SWITCHES FOR HYDRAULIC CYLINDER HZ 160 **HZ161U**



DME introduces the new "Universal" sensor HZ161U as replacement for the REED-switch HZ161U. The universal sensor combines the functionality of REED magnetic sensor with an inductive magnetic sensor, greatly reducing the interference caused by ferrous objects (such as steel mould plates). This gives more accurate readings than the old REED sensor.
Typically 2 sensors per cylinder; to be ordered seperately.



REF
HZ161U

For	a	KA	KB
HZ160 25	40	9,2	23,2
HZ160 32	46	9	23,5
HZ160 40	60	8	21
HZ160 50	75	7,7	18,5

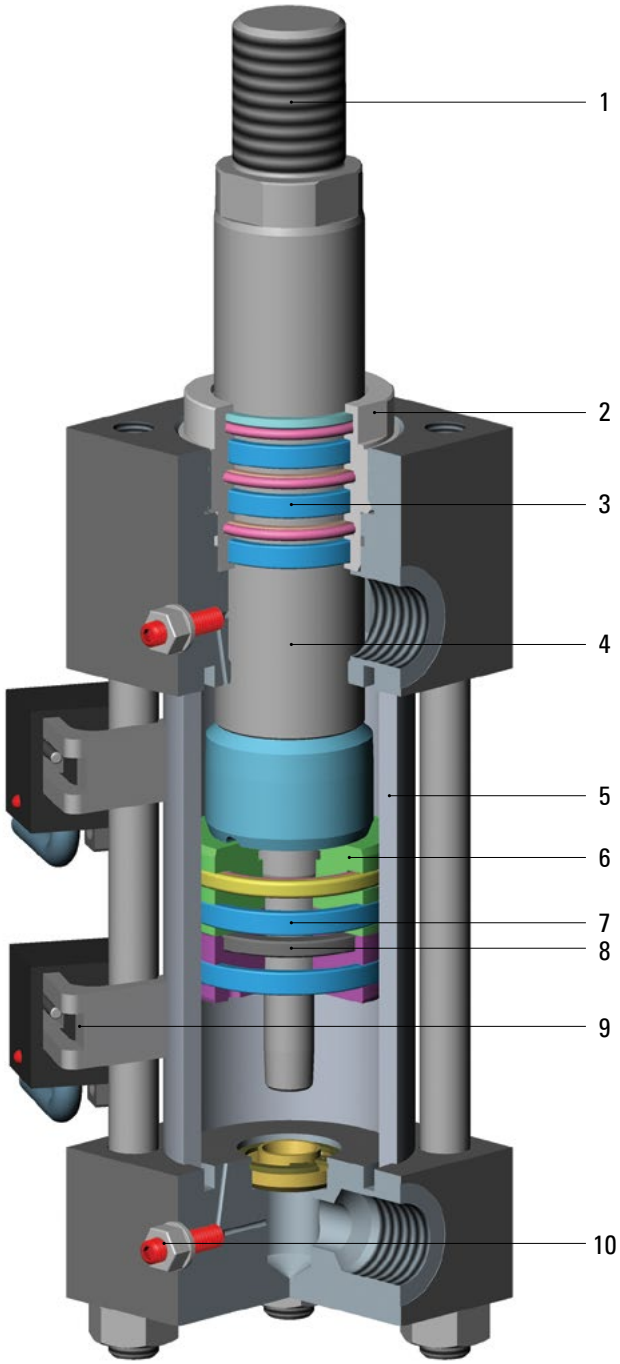
Technical specification	
Supply	24 VDC ± 10%
Protection	polarity inversion
Output	clean contact 0V
Max. switching voltage	125 VAC
Max. switching current	800 mA
Max. switching frequency	60 Hz
Max. switching power	20 W
Electric life at rated power (operations)	10,000,000
Hysteresis	±0,02 mm typical
24 volt disconnection delay	15 m sec.
Max. working temperature	+80° C - +176° F
Cable (Extraflex armoured + transp. PVC sheath)	mm Ø6 x 3000
Section wires	4x0,25 mm²
Serial signal connection	ok, max 6 switches
Switch type	magnet-resistive
Repeatability	> 0,05 mm.
ON minimum time	3 msec.
Max. flow speed	15 mt/sec.
Degree of protection against liquids	IP 67 (DIN 40050)
Dimensions	39x24x28 mm

CAD reference point

SPARE PARTS

HZ160 Spare parts

1. Rod end
2. Rod cartridge
3. Rod cartridge seals (kit)
4. Rod
5. Tube
6. Piston
7. Piston seals (kit)
8. Piston magnet (for magnetic cylinder)
9. Magnetic switch with bracket
10. Screw with locknut for cushion adjustment

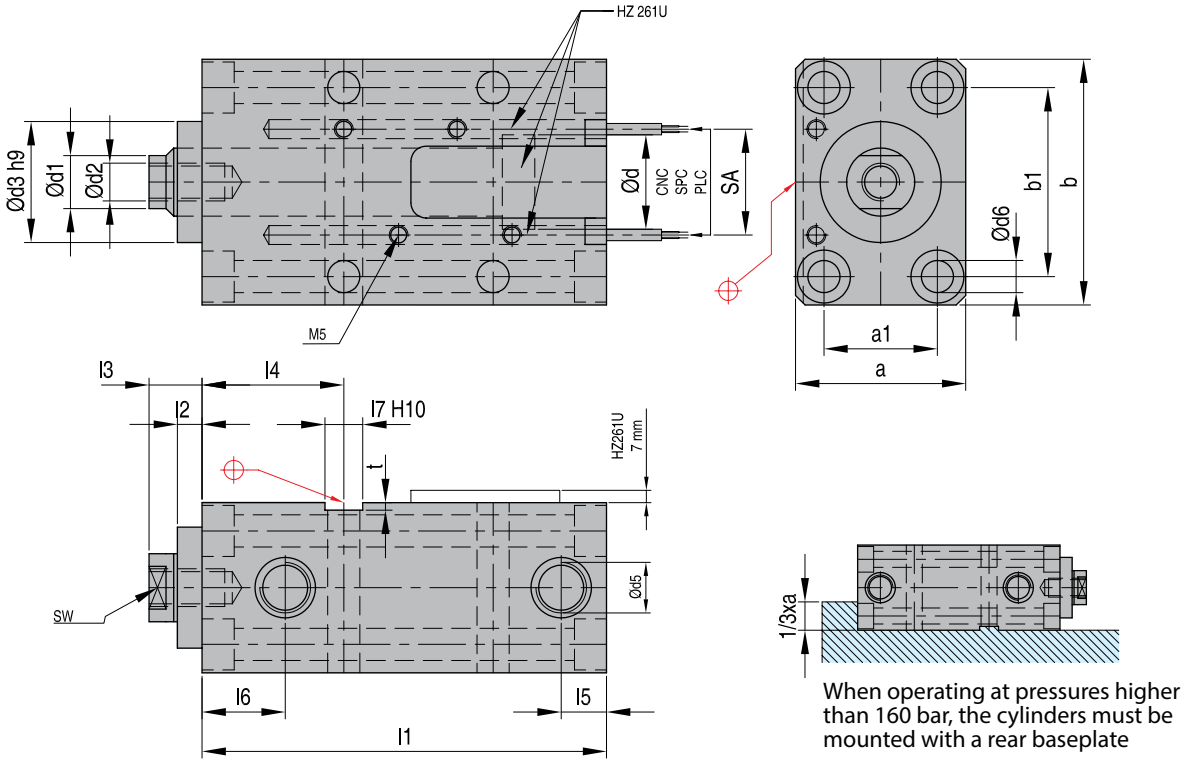


REF (3) ROD CARTRIDGE SEAL	FOR	REF (7) PISTON SEALS	FOR
V16002512KITC	HZ160 25	V16002512KITP	HZ160 25
V16003214KITC	HZ160 32	V16003214KITP	HZ160 32
V16004018KITC	HZ160 40	V16004018KITP	HZ160 40
V16005022KITC	HZ160 50	V16005022KITP	HZ160 50
V16006328KITC	HZ160 63	V16006328KITP	HZ160 63
V16008036KITC	HZ160 80	V16008036KITP	HZ160 80

CAD reference point

HYDRAULIC CYLINDER HZ260

All **DME** HZ cylinders are fitted with magnets mounted on the piston to enable use of magnetic switches. Magnetic switches offer more straightforward installation than mechanical switches, simplifying setup and maintenance costs.



When operating at pressures higher than 160 bar, the cylinders must be mounted with a rear baseplate

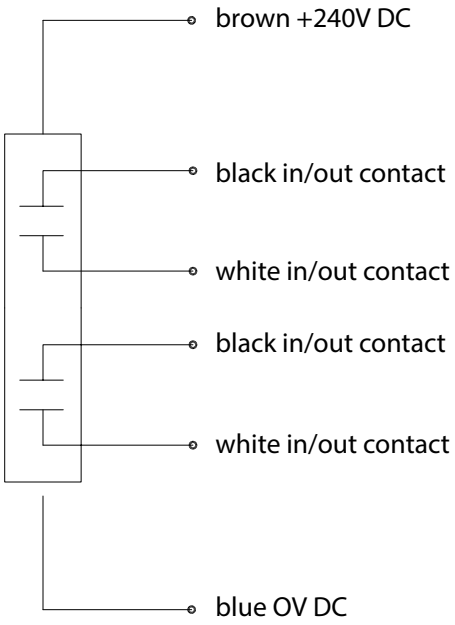
Order example for first item (REF + Stroke): **HZ2602520**

		Stroke																				
		20	50																			
REF	**d**	**l1**	**l2**	**d1**	**d2**	**d3**	**d5**	**d6**	**l2**	**l3**	**l4**	**l5**	**l6**	**l7**	**a**	**a1**	**b**	**b1**	**SW**	**t**	**SA**
HZ26025	25	77	107	18	M10	32	R1/4"	8,5	6,5	14	37	12	22	10	45	30	65	50	14	2	28
HZ26032	32	80	110	22	M12	34	R1/4"	10,5	8	15	40	12	22	12	55	35	75	55	18	3	30
HZ26040	40	93	123	22	M14	34	R1/4"	10,5	7	17	43	14	24	12	63	40	85	63	18	3	36
HZ26050	50	95	125	28	M20	42	R1/4"	13	8	20	45	14,5	25	15	75	45	100	76	24	5	42

FD = thrust in kg **FZ = traction force in kg**	**P bar**											
	80		**100**		**125**		**160**		**200**		**250**	
d	**FD**	**FZ**	**FD**	**FZ**	**FD**	**FZ**	**FD**	**FZ**	**FD**	**FZ**	**FD**	**FZ**
25	392	189	491	236	613	295	785	378	981	473	1227	591
32	643	339	804	424	1005	530	1286	678	1608	848	2010	1060
40	1005	701	1256	876	1570	1095	2010	1402	2512	1752	3140	2190
50	1570	1078	1963	1347	2453	1684	3140	2155	3925	2694	4906	3388

CAD reference point

REED-SWITCHES FOR HYDRAULIC CYLINDER HZ260 **HZ261**



DME introduces this new "Universal" sensor as replacement for the REED-switch HZ261. The Universal sensor combines the functionality of REED magnetic sensor with an inductive magnetic sensor, greatly reducing the interference caused by ferrous objects (such as steel mould plates). This gives more accurate readings than the old REED sensor.

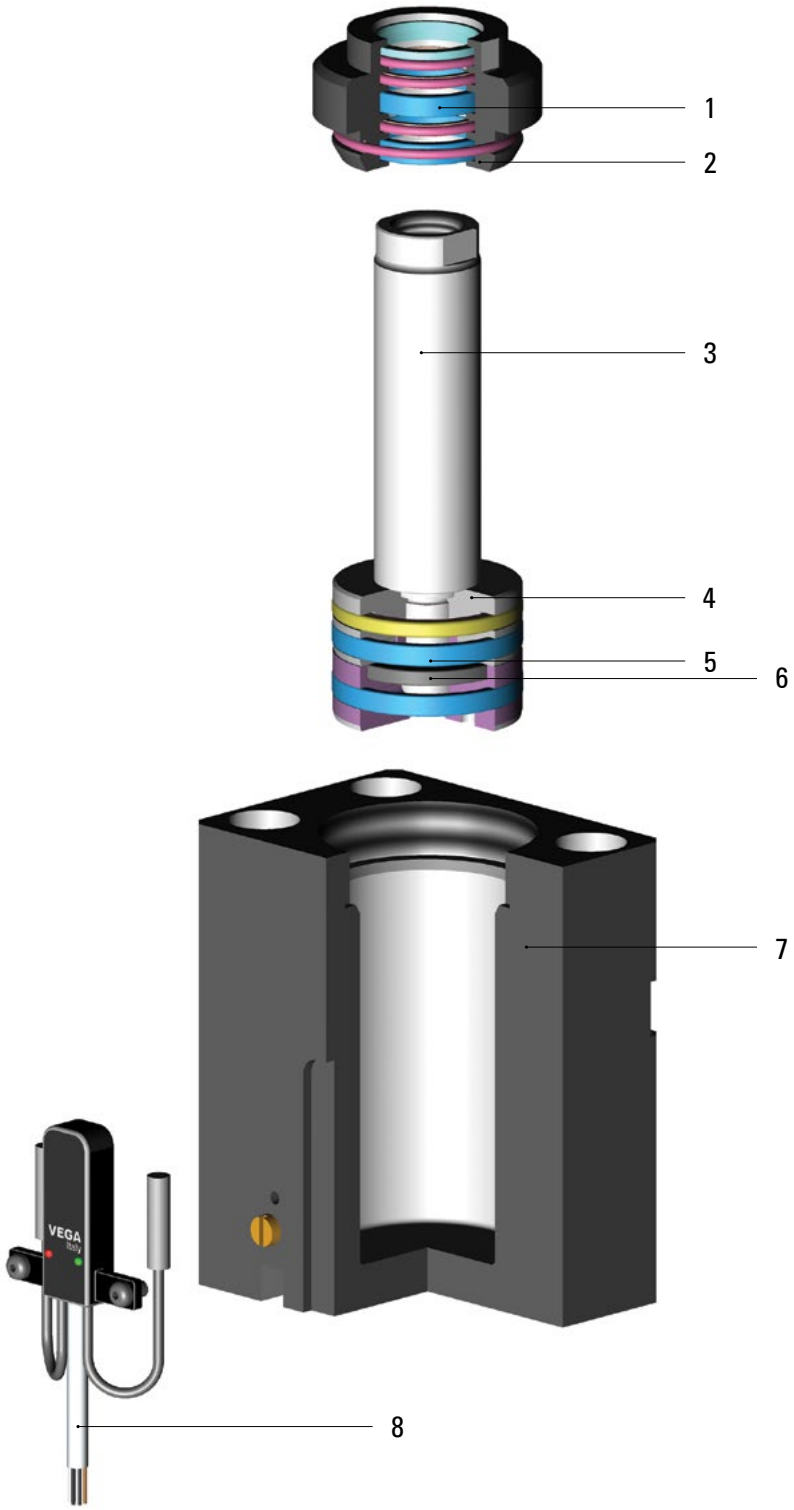
HZ261U is produced in 2 versions with different cable lengths between sensor and connection box. The table indicates the version suitable for each cylinder.

Technical Specifications	
Max switching voltage	125V AC
Max current (resistive load)	800 mA
Max switching power	300 W
Operating temperature	-20 - -> +80°C

Bore Ø	Stroke	
	20 mm	50 mm
25	**HZ261U1**	**HZ261U1**
32	**HZ261U1**	**HZ261U1**
40	**HZ261U1**	**HZ261U2**
50	**HZ261U1**	**HZ261U2**
63	**HZ261U2**	**HZ261U2**
80	**HZ261U2**	**HZ261U2**
100	**HZ261U2**	**HZ261U2**

CAD reference point

LOCKING CYLINDER HZ261

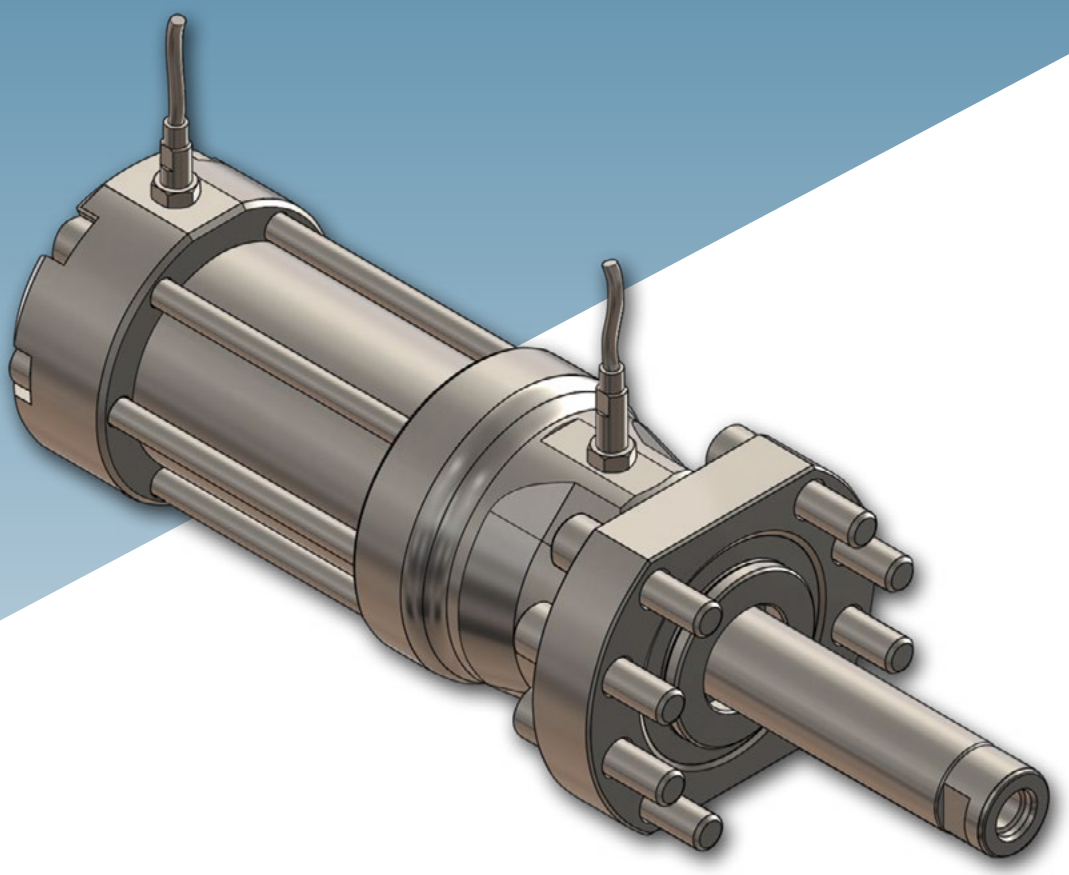


1. Rod seals (kit)
2. Rod cartridge
3. Rod
4. Piston
5. Piston seals (kit)
6. Piston magnet (for magnetic cylinder)
7. Body
8. Magnetic switch with screws (accessory)

REF (1) Rod cartridge seals	FOR	REF (5) Piston seals	FOR
HZ26225G	HZ260 25	HZ26225K	HZ260 25
HZ26232G	HZ260 32	HZ26232K	HZ260 32
HZ26240G	HZ260 40	HZ26240K	HZ260 40
HZ26250G	HZ260 50	HZ26250K	HZ260 50

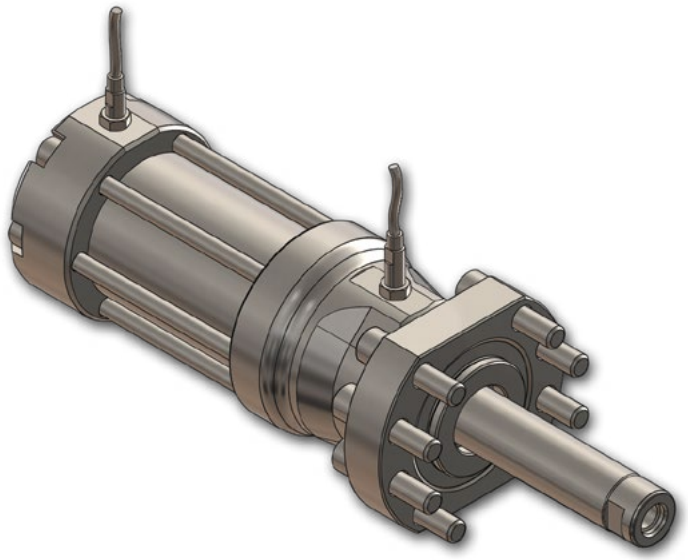
CAD reference point

LOCKING CYLINDER



HYDRAULIC LOCKING CORE PULL CYLINDERS

INTERLOCKING CYLINDER **HLCP**



Product Benefits
Withstands high loads
Large locking surfaces promote extended service life
Pulls sliding cores in injection moulds and die cast tools
Withstands temperatures up to 180°C*
Proximity sensors recognize full forward and full reverse
*Refer to Note #1.

System Cost Savings
Cost savings achieved when the Hydraulic Locking Core Pull Cylinder is used instead of traditional methods:
Mould design and manufacturing time
Mould fitting and assembly time
Mould maintenance time
Material cost (smaller mould base required)
Cycle time reduction

NOTES:
1. When using proximity sensors standard to Core Pull Cylinders, the cylinder assembly will withstand temperatures up to 100°C (212F°)
2. When an external method for sensing sliding core position is used, the cylinder assembly will withstand temperatures up to 180°C (356F°)
3. Proximity sensors are replaced by plugs, REF **WD81NANON**

Product Overview
When designing moulds with sliding cores, the mould designer is often faced with the challenge of fitting all traditional components in as small a mould base as possible. There are different methods of actuating a sliding core, the most common of which uses horn or angle pins (Fig. 1) to move the slide when the mould opens or closes. Heel blocks are normally used behind the sliding core to withstand injection pressure acting on the sliding core. Not only do these components use up precious mould space, but they are tied to the movement of the platen. Some moulded parts also require that the sliding core be moved prior to opening a mould. While it is possible to use standard cylinders (Fig. 2) to actuate the sliding core or heel block, typical designs require additional mould design and machining, and waste mould space.

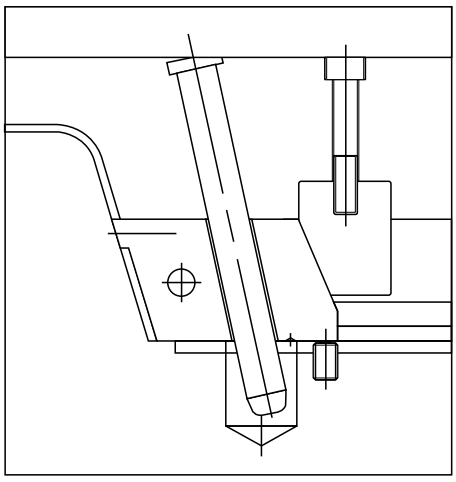


Fig. 1. Slide Movement example using an angle pin and locking with a heel block (wedge).

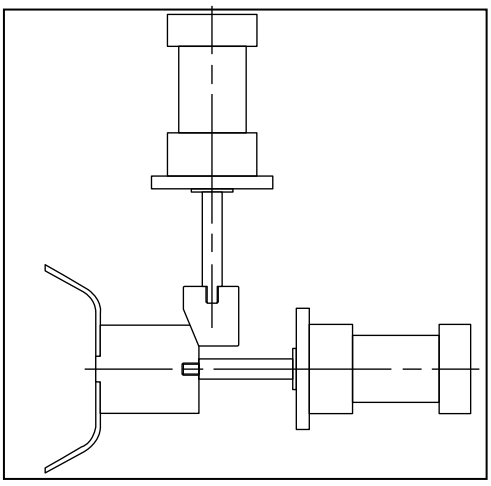
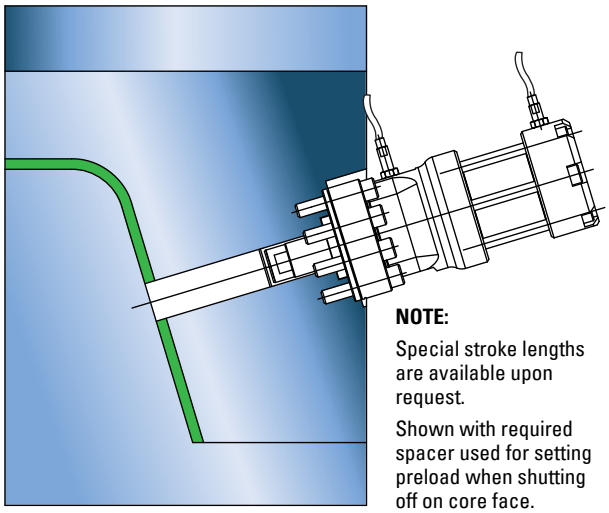


Fig. 2. Slide Movement example using a hydraulic cylinder to actuate slide, and a separate cylinder to actuate the heel block.

CAD reference point

THE HLCP CYLINDER ADVANTAGE



NOTE:

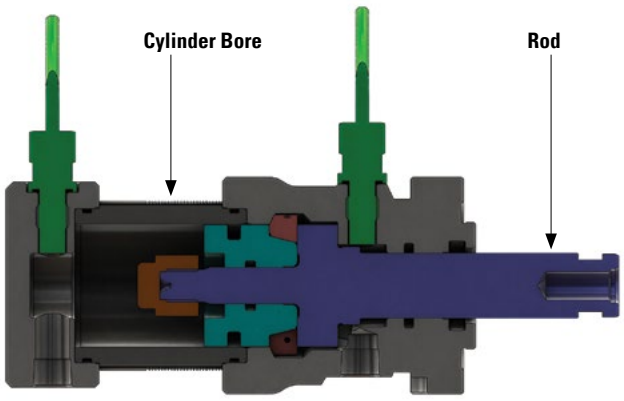
Special stroke lengths are available upon request.

Shown with required spacer used for setting preload when shutting off on core face.

Fig. 3. Slide Movement example using the Hydraulic Locking Core Pull Cylinder.

The Hydraulic Locking Core Pull (HLCP) Cylinder replaces traditional slides and heel blocks, enabling independent movement of the sliding core while eliminating the need for a heel block. By using a segmented ring that presses into an internal groove inside the cylinder assembly while in closed position, the injection pressure from the part cavity acts against the cross section of the segmented ring, eliminating the need for heel blocks.
Eliminating separate heel blocks or additional cylinders can result in a smaller mould base size, simplifying mould designs and increasing cost savings!

The HLCP Cylinder is a robust, compact design. Available in seven sizes, each size has two available standard strokes. Due to the modular design of the HLCP Cylinder, special strokes are available upon request with quick delivery. The cylinder is constructed of hardened steel for extra long service life. Because of the cylinder's special design and breadth of assembly sizes available, a wide range of holding forces are possible with a hydraulic holding pressure of only 60 bar minimum.



REF		Stroke (mm)	Rod Dia. (mm)	Cylinder Bore Dia. (mm)
NPN TYPE	PNP TYPE			
HLCP060-1000DW	HLCP060-1000DWP	25	16	30
HLCP060-2000DW	HLCP060-2000DWP	50		
HLCP100-1250DW	HLCP100-1250DWP	31	20	36
HLCP100-2500DW	HLCP100-2500DWP	63		
HLCP150-1375DW	HLCP150-1375DWP	35	25	45
HLCP150-2750DW	HLCP150-2750DWP	69		
HLCP200-1750DW	HLCP200-1750DWP	44	32	56
HLCP200-3500DW	HLCP200-3500DWP	88		
HLCP300-2000DW	HLCP300-2000DWP	50	42	71
HLCP300-4000DW	HLCP300-4000DWP	100		
HLCP500-2500DW	HLCP500-2500DWP	63	50	84
HLCP500-5000DW	HLCP500-5000DWP	127		
HLCP750-3000DW	HLCP750-3000DWP	76	60	105
HLCP750-6000DW	HLCP750-6000DWP	152		

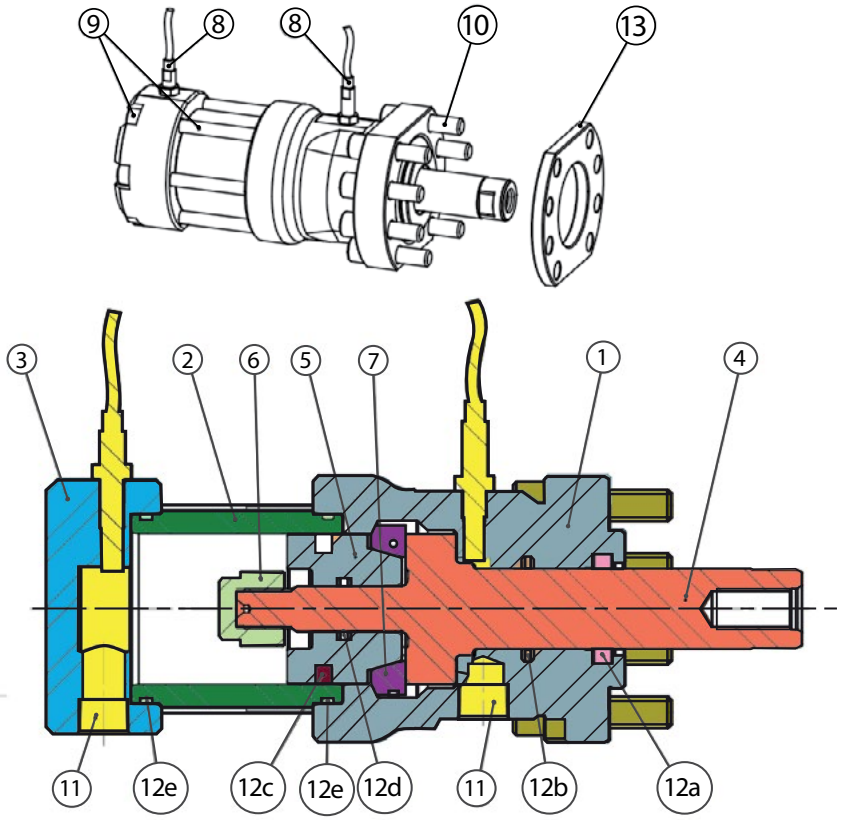
REF		at 160 Bar (2321 PSI) Preload [mm]	Holding Force in kilo Newton [kN]		Holding Force in Pound Force [bf]		Holding Force in Metric ton [ton]		Holding Force in UK (troy) ton [ton]		Holding Force in US (avdp) ton [ton]	
NPN TYPE	PNP TYPE		Without Preload	With Preload	Without Preload	With Preload	Without Preload	With Preload	Without Preload	With Preload	Without Preload	With Preload
HLCP060-1000DW	HLCP060-1000DWP	0.15	60	35	13,488	7,868	6.12	3.57	5.46	3.19	6.74	3.93
HLCP060-2000DW	HLCP060-2000DWP	0.20	60	35	13,488	7,868	6.12	3.57	5.46	3.19	6.74	3.93
HLCP100-1250DW	HLCP100-1250DWP	0.15	100	50	22,480	11,240	10.2	5.10	9.11	4.55	11.24	5.62
HLCP100-2500DW	HLCP100-2500DWP	0.20	100	50	22,480	11,240	10.2	5.10	9.11	4.55	11.24	5.62
HLCP150-1375DW	HLCP150-1375DWP	0.10	150	65	33,720	14,612	15.3	6.63	13.65	5.91	16.86	7.31
HLCP150-2750DW	HLCP150-2750DWP	0.15	150	65	33,720	14,612	15.3	6.63	13.65	5.91	16.86	7.31
HLCP200-1750DW	HLCP200-1750DWP	0.15	200	110	44,960	24,728	20.39	11.21	18.20	10.01	22.48	12.36
HLCP200-3500DW	HLCP200-3500DWP	0.20	200	110	44,960	24,728	20.39	11.21	18.20	10.01	22.48	12.36
HLCP300-2000DW	HLCP300-2000DWP	0.15	300	160	67,440	35,968	30.59	16.31	27.31	14.57	33.72	17.98
HLCP300-4000DW	HLCP300-4000DWP	0.20	300	160	67,440	35,968	30.59	16.31	27.31	14.57	33.72	17.98
HLCP500-2500DW	HLCP500-2500DWP	0.20	500	300	112,400	67,440	50.98	30.59	45.51	27.31	56.20	33.72
HLCP500-5000DW	HLCP500-5000DWP	0.30	500	300	112,400	67,440	50.98	30.59	45.51	27.31	56.20	33.72
HLCP750-3000DW	HLCP750-3000DWP	0.20	750	400	168,600	89,920	76.48	40.79	68.27	36.41	84.30	44.96
HLCP750-6000DW	HLCP750-6000DWP	0.30	750	400	168,600	89,920	76.48	40.79	68.27	36.41	84.30	44.96

CAD reference point

HYDRAULIC LOCKING CORE PULL CYLINDERS

THE HLCP CYLINDER ADVANTAGE

The HLCP Cylinder operates between fully opened and fully closed positions, both of which are sensed by high pressure proximity sensors without any mechanical contact. The HLCP Cylinder has a built-in cushion at the fully retracted end of the piston stroke, extending the service life of the cylinder.
The HLCP Cylinder's integral flange allows easy installation and mounts to the mould using socket head cap screws. Socket head cap screw sizes used for mounting the HLCP Cylinder to the mould are UNC-type. A spacer plate (shim) is supplied with the HLCP Cylinder for installation beneath the HLCP Cylinder flange, enabling fine adjustment in the mould. The spacer plate also provides important preload on the cylinder rod, particularly when the sliding core must shut off against the opposing wall of the core. Hydraulic fittings are NPTF-type fittings.
Due to the nature of the flange mounting design, the same size HLCP Cylinders are easily interchangeable. The cylinder's flange and screw mounting method ensures that the proximity sensors will always be positioned in the same orientation when the HLCP Cylinder is installed to the side of the mould.



Item	Part Name	Notes
1	Body	
2	Sleeve	
3	Cap	
4	Rod	
5	Piston	
6	Piston Bushing	
7	Segment kit	
8	Sensor	BHS006Y (NPN type) BHS006U (PNP type)
9	Assembly screw	
10	Mounting screw	
11	Oil cap	
12	Sealing kit	See installation Instructions on www.dme.net
12a	Excluder	
12b	Step seal	
12c	Glyd ring	
12d	O-ring	
12e	O-ring	
13	Spacer	

NOTES:
Sensors require power.
* NPN and PNP sensors function in a similar manner, except the power supply polarities are reversed for each type. NPN inductive sensors are more common in North America, while PNP is more common in Asia and Europe. If PNP is not requested, the cylinders will be delivered with NPN sensors, even for special orders.

CAD reference point

INTERLOCKING CYLINDER- MOULD DESIGN & INSTALLATION CONSIDERATIONS

Available in several sizes, each size of the Hydraulic Locking Core Pull Cylinder has two available "standard" stroke lengths. If a stroke is required that is different than the available standard strokes, then a non-standard stroke design is required. When ordering this product, specify the required stroke if the available standard strokes are not suitable for the intended application.

Hydraulic Locking Core Pull Cylinder Assembly Sizes

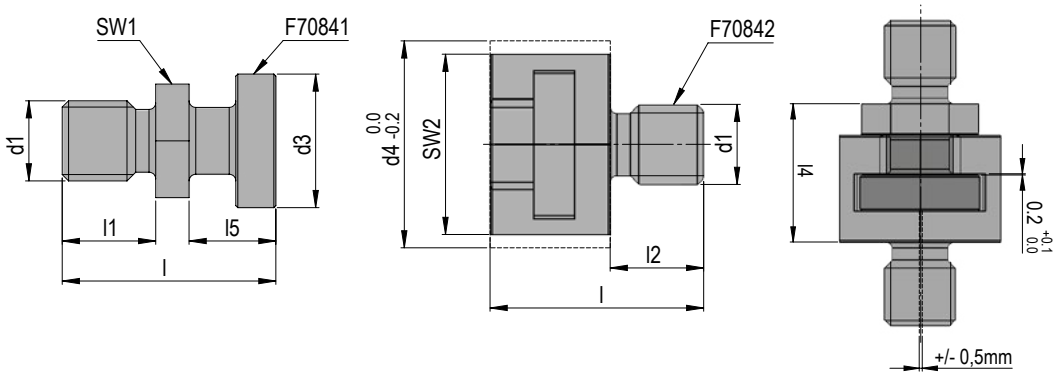
REF		STROKE (mm)	ROD DIA. (mm)	CYLINDER BORE DIA. (mm)	NPTF TAP
NPN TYPE	PNP TYPE				
HLCP060-1000DW	HLCP060-1000DWP	25	16	30	1/8
HLCP060-2000DW	HLCP060-2000DWP	50			
HLCP100-1250DW	HLCP100-1250DWP	31	20	36	1/8
HLCP100-2500DW	HLCP100-2500DWP	63			
HLCP150-1375DW	HLCP150-1375DWP	35	25	45	1/4
HLCP150-2750DW	HLCP150-2750DWP	69			
HLCP200-1750DW	HLCP200-1750DWP	44	32	56	1/4
HLCP200-3500DW	HLCP200-3500DWP	88			
HLCP300-2000DW	HLCP300-2000DWP	50	42	71	3/8
HLCP300-4000DW	HLCP300-4000DWP	100			
HLCP500-2500DW	HLCP500-2500DWP	63	50	84	3/8
HLCP500-5000DW	HLCP500-5000DWP	127			
HLCP750-3000DW	HLCP750-3000DWP	76	60	105	1/2
HLCP750-6000DW	HLCP750-6000DWP	152			

The HLCP Cylinder maintains a sliding core in full back (retracted) or full forward (extended) positions. In order for the cylinder assembly to "lock", the piston must be full extended forward. This product's provided spacer disk is placed between the front of the body flange and pocket installation. The spacer disk must be properly ground to ensure suitable fit at the desired mould operation temperature. The adjustment of the spacer disk is important for when the sliding core must "shut off" against an opposing core wall or face, so that plastic flashing is avoided.
Positional alignment of the cylinder assembly is achieved by aligning the forward collet of the cylinder body (protrudes forward of the mounting flange) into the mould plate via the outer diameter of the collet. The collet will protrude past the spacer disk. Rotational alignment of the overall assembly is achieved via the mounting screws, as rotational alignment is only used to position the proximity sensors and hydraulic fitting connections and/or hoses within the overall installation.
The piston may freely rotate; therefore, if rotational alignment of the sliding core is required, rotational alignment of the sliding core must be achieved via other means.
While recommended installation pocket details are based on the cylinder assembly being recessed into the side of the mould plate, it is possible to have the cylinder assembly mounted fully "proud" of the side of the mould plate. However, positional alignment of the cylinder assembly to the mould plate requires the forward collet (protruding forward of the mounting flange of the cylinder body) to be recessed partially into the side of the mould. An overall installation adjustment is required to fit each application, while maintaining minimum clearances for the hydraulic fitting connections and/or hoses, as well as maintaining clearances for the proximity sensors.

CAD reference point

COUPLING SET FOR HYDRAULIC CYLINDER F7084

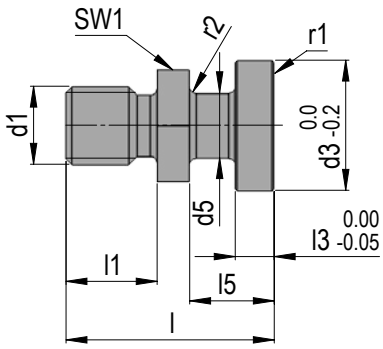
Mat.: 1.6580 with black oxid finish

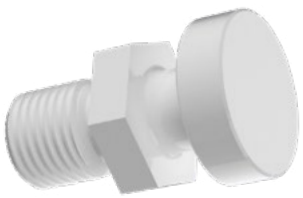


REF	d1	l4	l	l1	l5	SW1	d3	l2	SW2	d4
F7084006	M6	20,3	25	10	10	10	12	10	17	22
F7084008	M8	21,3	27	11	11	13	16	11	21	26
F7084010	M10	25,3	33	14	13	17	20	14	27	32
F7084012	M12	23,3	32	14	13	17	20	14	27	32
F7084016	M16	29,3	46	24	15	22	25	24	32	37
F7084020	M20	41,3	58	28	21	27	32	26	41	47
F7084027	M27	48,3	74	38	27	36	40	35	50	57

COUPLING PIN FOR HYDRAULIC CYLINDER F70841

Mat.: 1.6580 with black oxid finish



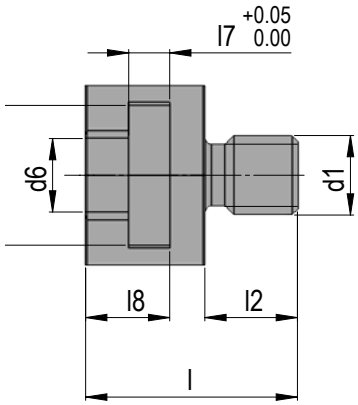


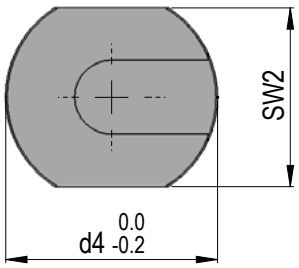
REF	d1	d3	l	l1	l5	SW1	d5	l3	r1	r2
F7084106	M6	12	25	10	6	10	6	5	230	1,0
F7084108	M8	16	27	11	8	13	8	6	240	1,0
F7084110	M10	20	33	14	10	17	10	6	320	1,0
F7084112	M12	20	32	14	10	17	10	6	320	1,0
F7084116	M16	25	46	24	16	22	16	7	400	1,0
F7084120	M20	32	58	28	18	27	18	10	500	1,5
F7084127	M27	40	74	38	24	36	24	13	630	1,5

CAD reference point

COUNTER PIECE FOR COUPLING PIN F70842

Mat.: 1.6580 with black oxid finish





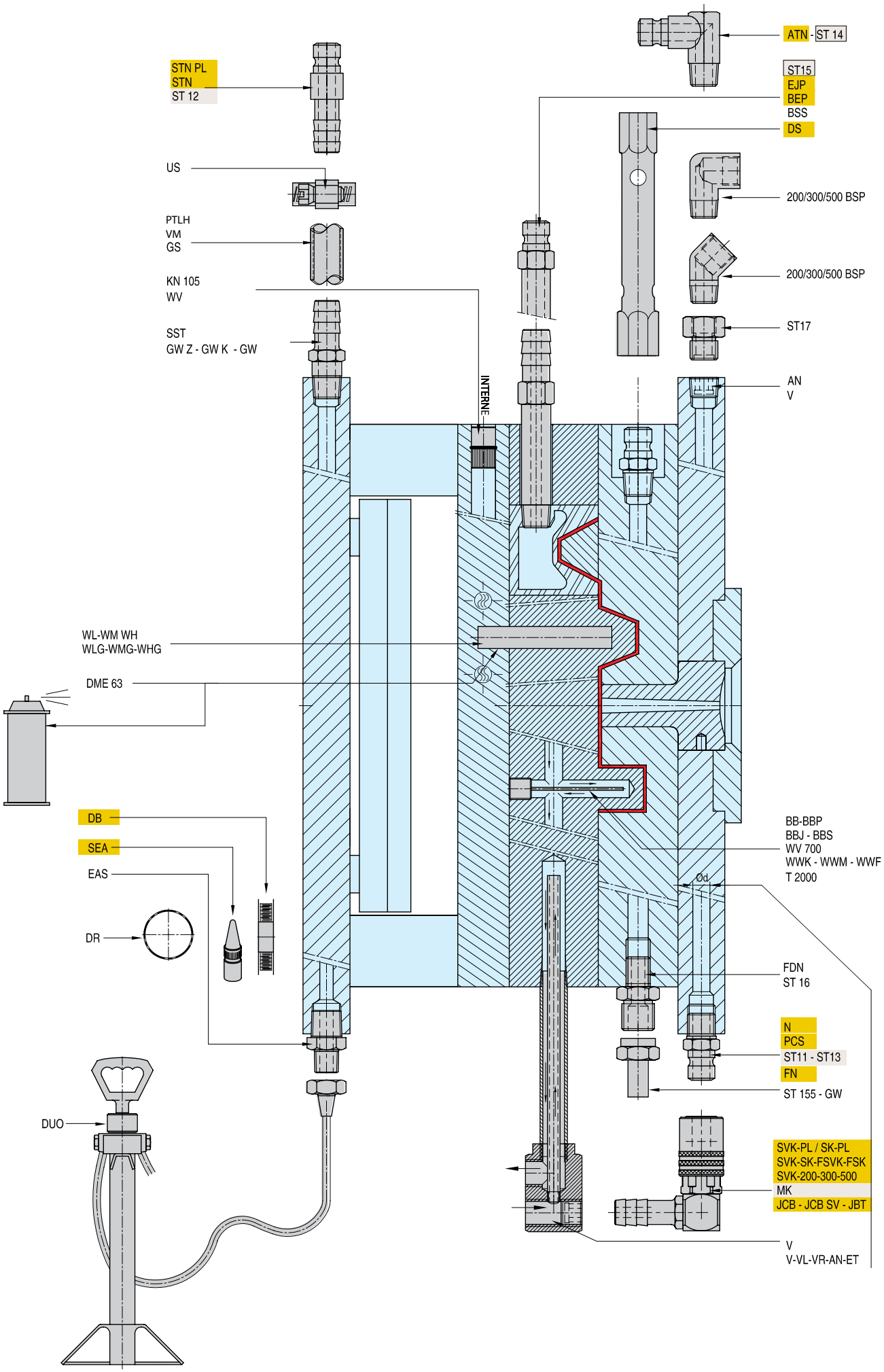
REF	d1	d4	l	l2	l8	SW2	d6	d7	l7
F7084206	M6	22	25	10	9,7	17	7	13	5,2
F7084208	M8	26	27	11	10,7	21	9	17	6,2
F7084210	M10	32	33	14	12,7	27	11	21	6,2
F7084212	M12	32	32	14	12,7	27	11	21	6,2
F7084216	M16	37	46	24	14,7	32	17	26	7,2
F7084220	M20	47	58	26	20,7	41	19	33	10,2
F7084227	M27	57	74	35	26,7	50	25	41	13,2

CAD reference point

CAD reference point

DME

MOULD COOLING



CAD reference point

CONTENT

DME Standard - Jiffy-Tite Connectors

DME Push-to-Lock

DME USA system Connectors

DME USA system with special hose barb

Euro Series

Euro Push-to-Lock

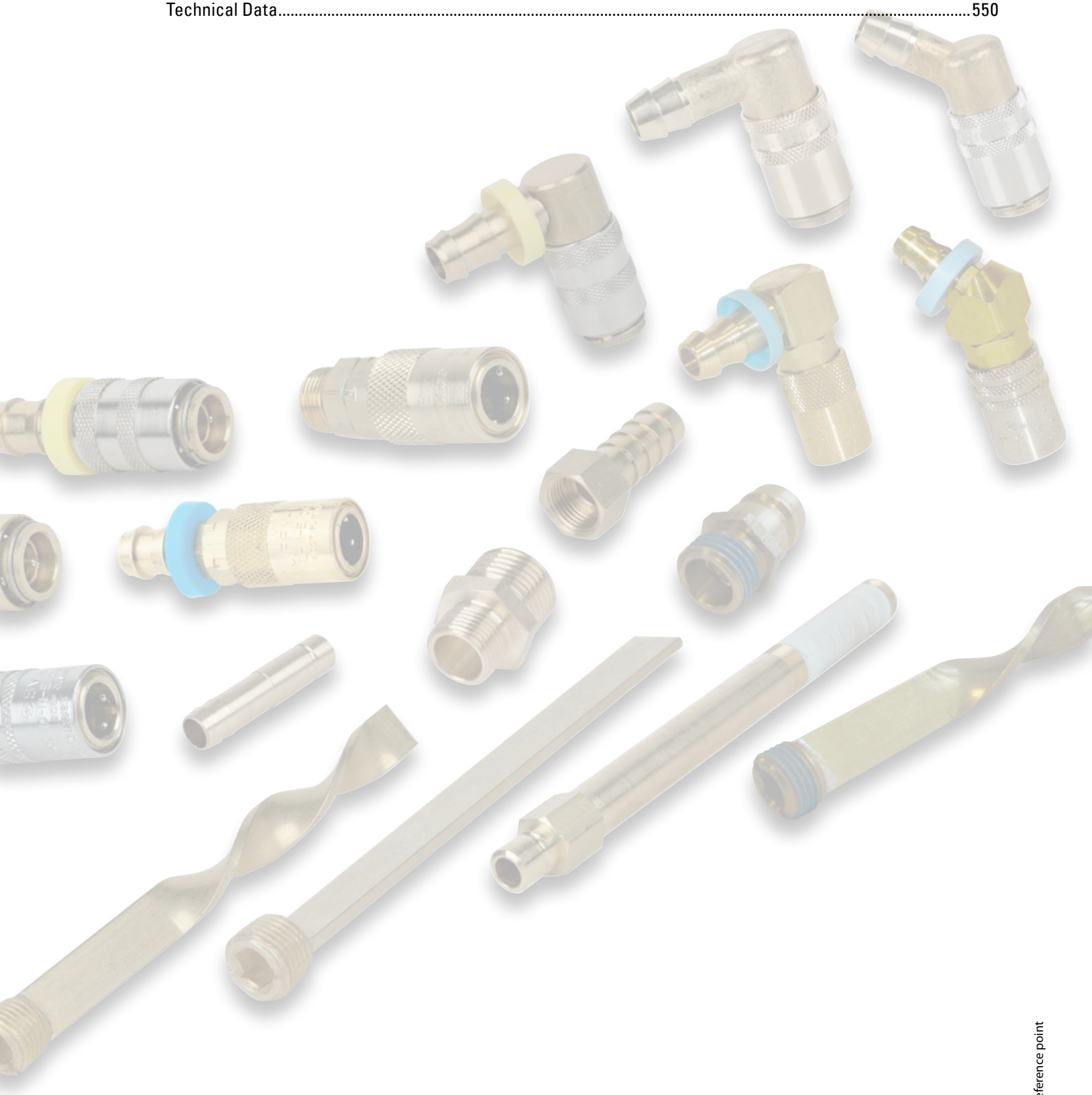
Stainless Steel Couplings

Accessories

CAD reference point

Cooling Manifold

Technical Data



CAD reference point

DME STANDARD - JIFFY-TITE CONNECTORS

DME Jiffy-Tite plugs used with **DME** Jiffy-Tite (flow-through) type sockets and **DME** Jiffy-Matic (automatic shut off type) sockets are designed for use with plastics moulds and die cast dies in water, air or oil lines. They feature a combination brass and stainless steel leak proof construction; have a maximum rated capacity of 13 bar and withstand temperatures of up to 200°C with supplied Viton seals (depending on which medium is used). **DME** Jiffy-Tite and Jiffy-Matic sockets can be used interchangeably with the same Jiffy-Tite plugs already in your mould or die. Comparable sizes of both type sockets have the same OD permitting interchangeability even when the plugs are flush mounted. Seals and hose barbs are easily replaceable saving cost.

JIFFY TITE - TECHNICAL INFORMATION

Jiffy Tite Range

The Jiffy-Tite plugs and sockets provide a quick connect & disconnect method of changing heating & cooling hoses to the mould, as well as, from water manifolds or supply source. It is important to cool the mould so that the plastic material cools as quickly as possible to set up the part sufficiently so that it can be ejected from the mould as quick as possible for short cycle time. This helps to maintain part appearance & flow of material. Countersunk plugs can easily be connected and disconnected because of the extended sleeve. The angular connections prevent kinks from forming in the hose.

Working Pressure

PB = 13 bar, maximum static working pressure with safety factor 4 to 1.

Working Temperature

Air: -15°C up to 200°C
Oil: up to 120°C
Water: up to 100°C

Advantages

Available in single shut-off, double shut-off or straight-through versions. The shut-off couplings (with valve) are equipped with nickel plated sleeves for quick and accurate visual differentiation.

Couplings foreseen with the Replaceable Viton® Seal. Easy to change with Seal Removal Tool for customers benefit.
They are known for their larger flow through-holes what results in more flow, faster cycle times and greater cooling.
Jiffy-Seal® Pre-applied Thread Sealant on all male nipples

Material Coupling

Back Body	Brass
Valve Body	Brass
Sleeve	Brass (without Valve)
Sleeve	Brass, Nickel Plated (with valve)
Valve	Brass
Locking Balls	AISI 420
Seals	Viton®
Spring & Locking Rings	AISI 301

Plug	
Plug Profile	Brass
Adapter	Brass
Valve	Brass
Spring and Locking Ring	AISI 301
Seal	Viton®

Safety instructions:

In the event of incorrect selection, incorrect and improper use, quick connect couplings and their accessories may cause damage to property and personal injury!

The consequences of incorrect selection, incorrect and improper use may be:

- Ends of hoses, coupling and plug components or accessories may fly around.
- Contact with fluids that are damaging to the health, toxic, cold or hot.
- Leakage of fluids under high pressure.
- Explosion or combustion of leaking fluids.
- Injuries and damage caused by uncontrolled movements of system parts through drop in fluid pressure.

CAD reference point

JIFFY TITE - TECHNICAL INFORMATION

Operating Instructions

- Coupling with two-handed operation : Couplings is effected by pushing back the sleeve, and at the same time, pushing the connector into the coupling. During the coupling make sure that the connector is pushed into the coupling as far as it will go. When the maximum push-in position has been reached, the sleeve must be released and only then the connector. The sleeve must move towards the connector until it reaches the same initial position as before actuation. It is important to check whether the lock has snapped into place by pulling the connector.
- Caution ! Fluid may leak during coupling, especially with couplings that are under pressure. Make sure that any fluid that may leak under these circumstances does not create any hazard.
- When Uncoupling without the built in valve (Jiffy-Tite®), it is essential that the fluid should be shut off before uncoupling. Uncoupling is affected by pushing back the sleeve. The coupling valve shuts off any further fluid supply, and at the same time the connector is pressed out of the coupling by the remaining fluid pressure and the valve spring. During uncoupling the connector must be firmly held in the hand in order to prevent it from spinning dangerously out of control.

Installation instructions

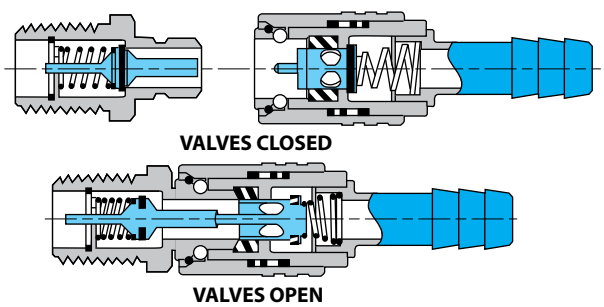
- Before installation make sure that the selected quick coupling is suitable for the fluid to flow through it, with respect to its design , materials, seals, working pressure and working temperature.
- The installation location of the quick coupling or the connector must be in such a way that the operator cannot injure himself through dangerous locations in the direct vicinity, eg. slipping, jamming, contamination or burning
- When using hoses, the permissible operating pressure and temperature must not be exceeded. The hoses must be secured against slipping off the fittings with hose clamps.
- The recommended direction of flow is from the coupling to the connector, insofar as nothing else is specified.
- If no Jiffy-Seal® Thread sealant available the threads must be coated with suitable sealing agents such as PTFE tape.
- Covering caps and protected connectors are recommended for uncoupled connectors and couplings in order to prevent damage or contamination.

Maintenance Instructions

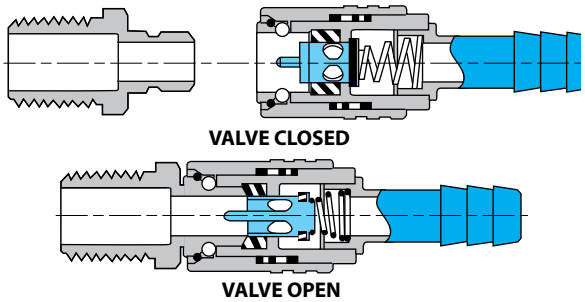
- DME couplings are largely maintenance-free with standard applications and careful treatment, with the correct selection of coupling type and materials. We recommend a regular custom-made maintenance procedure, covering the following points:
- External visual inspection of the DME coupling combination. In the event of dirt accumulation in the functional area of coupling and connector this must be cleaned. The following properties require replacement of the parts in question: torn, damaged, very dirty or corroded parts, leaks in clutch of connector parts.
- Replacement intervals for quick connect couplings or replacement of the Viton seal with the Jiffy Seal Removal Tool JSTK-235

OPERATING COMBINATIONS

PCS-Series male plugs with SVK-Series sockets (equivalent size)**



Std. male, female or extension plugs with SVK-Series sockets (equivalent size)

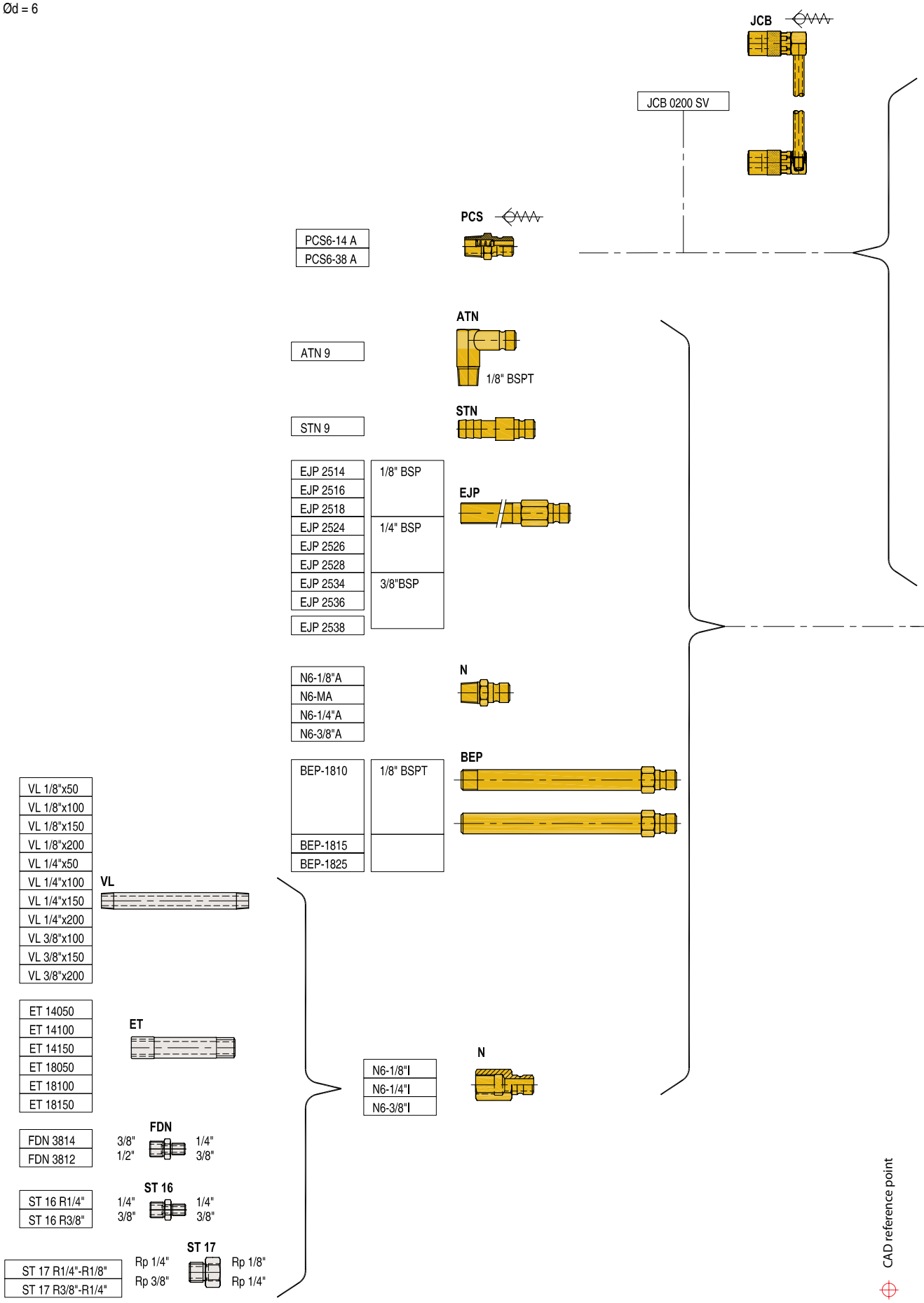


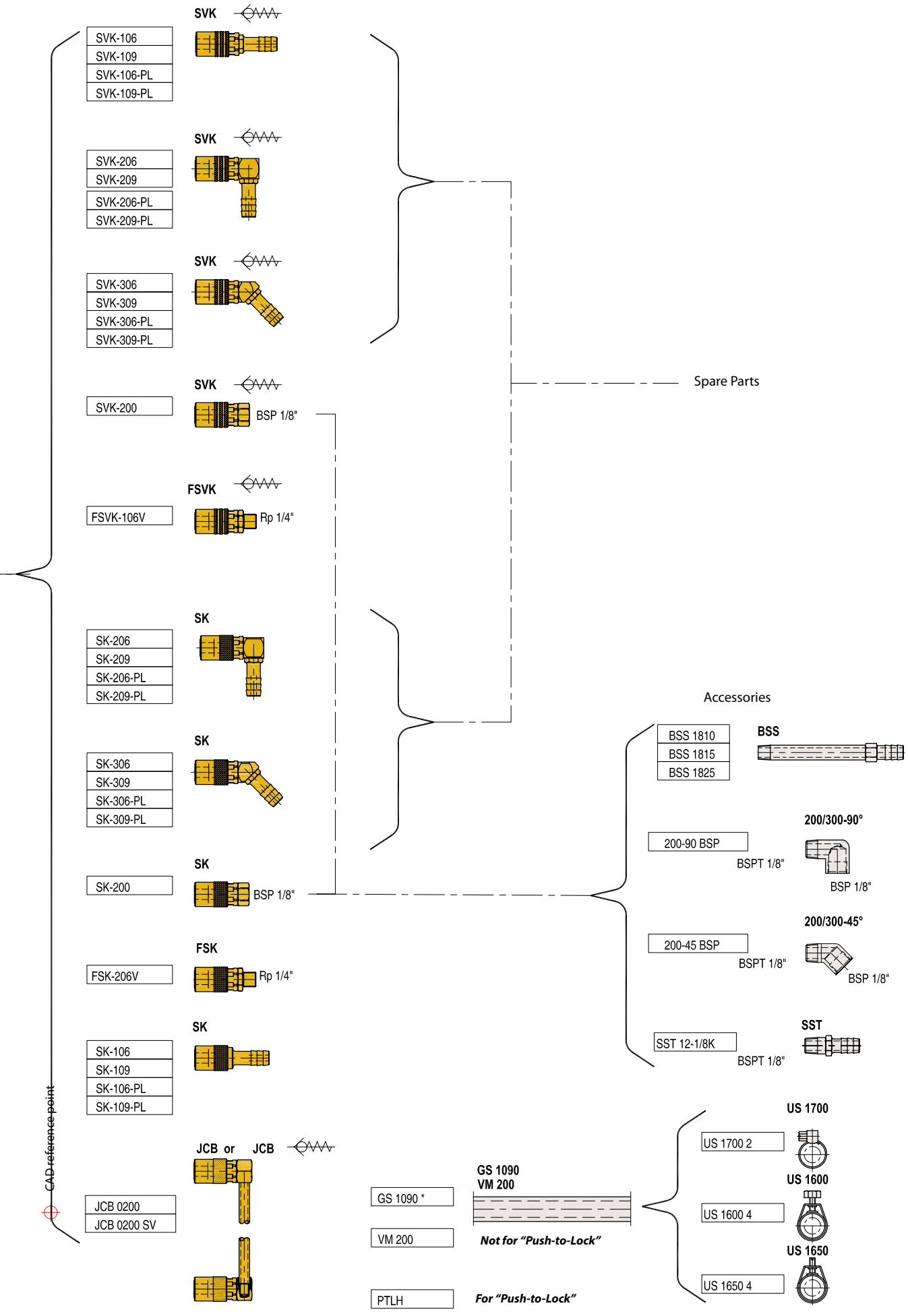
** The PCS-Series Jiffy Matic Male plugs can only be used for two-way shut-offs and must be used with the SVK-Series Jiffy-Matic Sockets.

CAD reference point

DME JIFFY N6

FLOW CHANNEL
max. Ød = 6

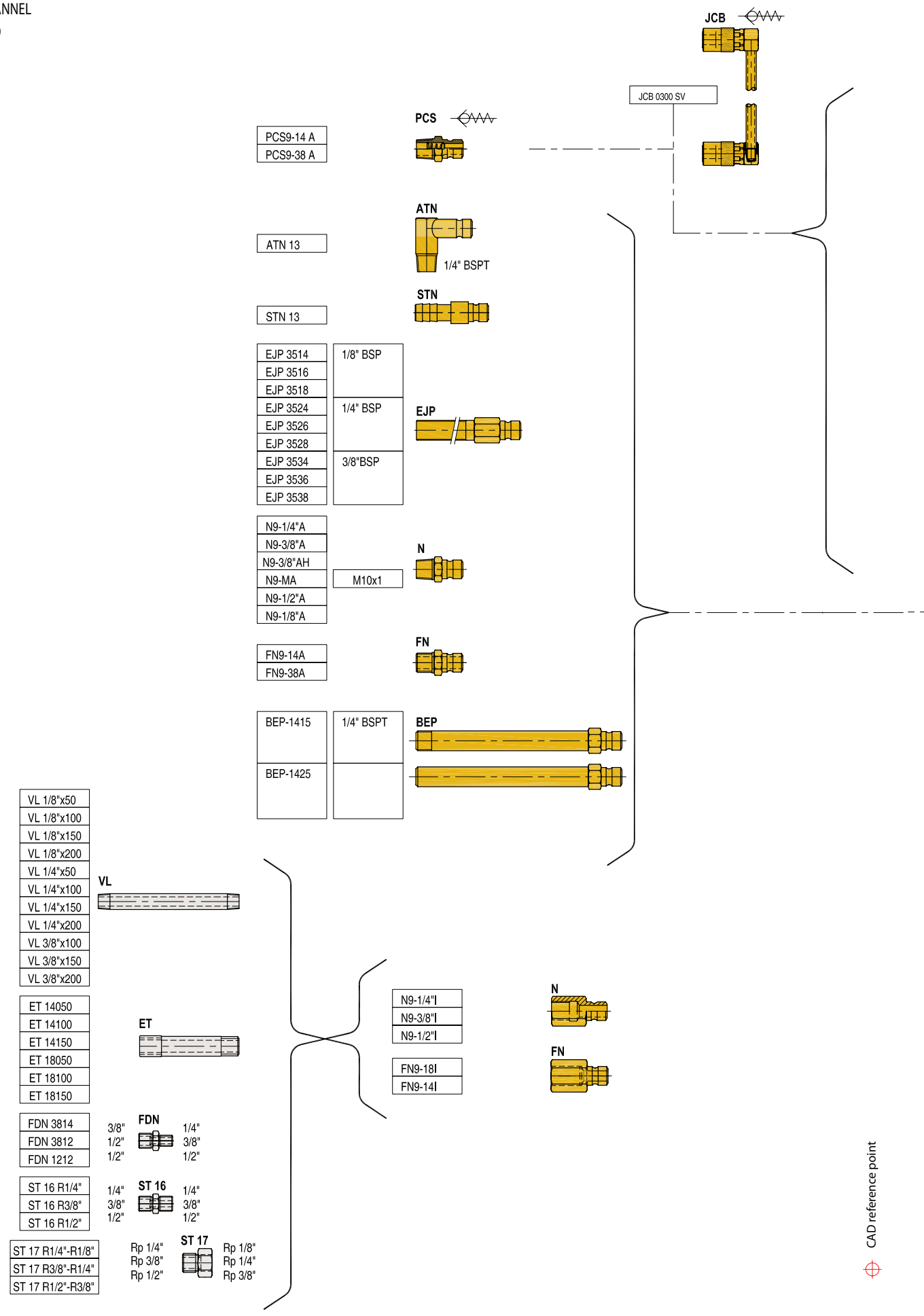



SVK
SVK-106
SVK-109
SVK-106-PL
SVK-109-PL
SVK
SVK-206
SVK-209
SVK-206-PL
SVK-209-PL
SVK
SVK-306
SVK-309
SVK-306-PL
SVK-309-PL
SVK
SVK-200
BSP 1/8"
FSVK
FSVK-106V
Rp 1/4"
SK
SK-206
SK-209
SK-206-PL
SK-209-PL
SK
SK-306
SK-309
SK-306-PL
SK-309-PL
SK
SK-200
BSP 1/8"
FSK
FSK-206V
Rp 1/4"
SK
SK-106
SK-109
SK-106-PL
SK-109-PL
JCB or JCB
JCB 0200
JCB 0200 SV
CAD reference point
Spare Parts
Accessories
BSS 1810
BSS 1815
BSS 1825
BSS
200-90 BSP
BSPT 1/8"
200/300-90°
BSP 1/8"
200-45 BSP
BSPT 1/8"
200/300-45°
BSP 1/8"
SST 12-1/8K
BSPT 1/8"
SST
GS 1090 *
VM 200
GS 1090
VM 200
Not for "Push-to-Lock"
PTLH
For "Push-to-Lock"
US 1700 2
US 1700
US 1600 4
US 1600
US 1650 4
US 1650

DME JIFFY N9

FLOW CHANNEL

max. Ød = 9



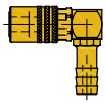
CAD reference point

SVK

SVK-111
SVK-113
SVK-111-PL
SVK-113-PL

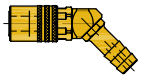
SVK

SVK-211
SVK-213
SVK-211-PL
SVK-213-PL



SVK

SVK-311
SVK-313
SVK-311-PL
SVK-313-PL



SVK

SVK-300

BSP 1/4"

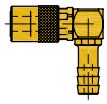
FSVK

FSVK-111V

Rp 3/8"

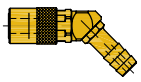
SK

SK-211
SK-213
SK-211-PL
SK-213-PL



SK

SK-311
SK-313
SK-311-PL
SK-313-PL



SK

SK-300

BSP 1/4"

FSK

FSK-211V

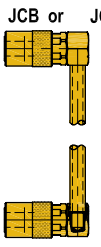
Rp 3/8"

SK

SK-111
SK-113
SK-111-PL
SK-113-PL

JCB or JCB

JCB 0300
JCB 0300 SV



Spare Parts

Accessories

BSS

BSS 1415
BSS 1425

200/300-90°

300-90 BSP

BSPT 1/4"

BSP 1/4"

200/300-45°

300-45 BSP

BSPT 1/4"

BSP 1/4"

SST

SST 14-1/4K

BSPT 1/4"

US 1700

US 1700 4

US 1600

US 1600 6

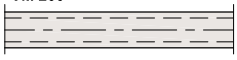
US 1650

US 1650 6

GS 1090
VM 200

GS 1090 13 *

VM 200



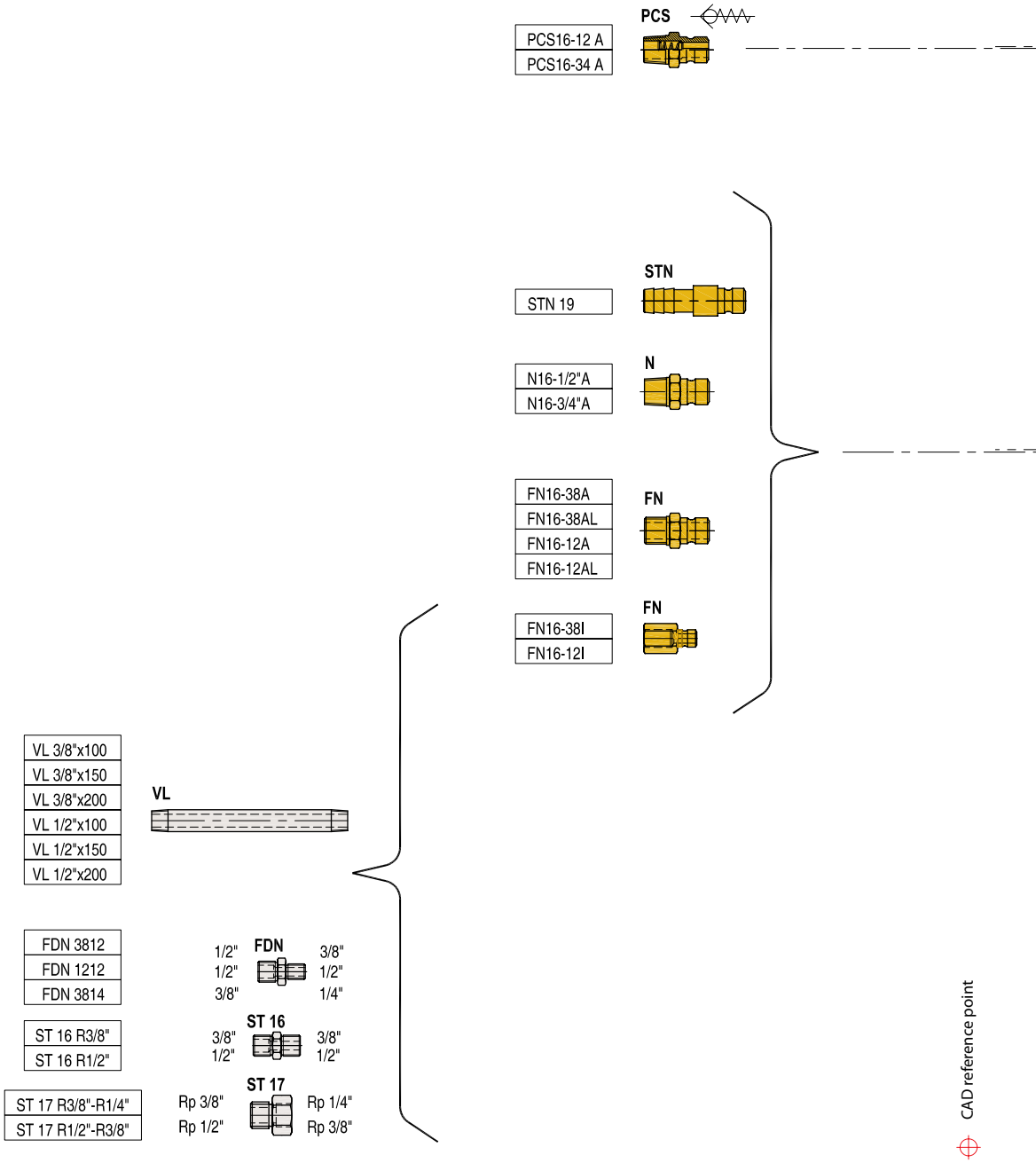
Not for "Push-to-Lock"

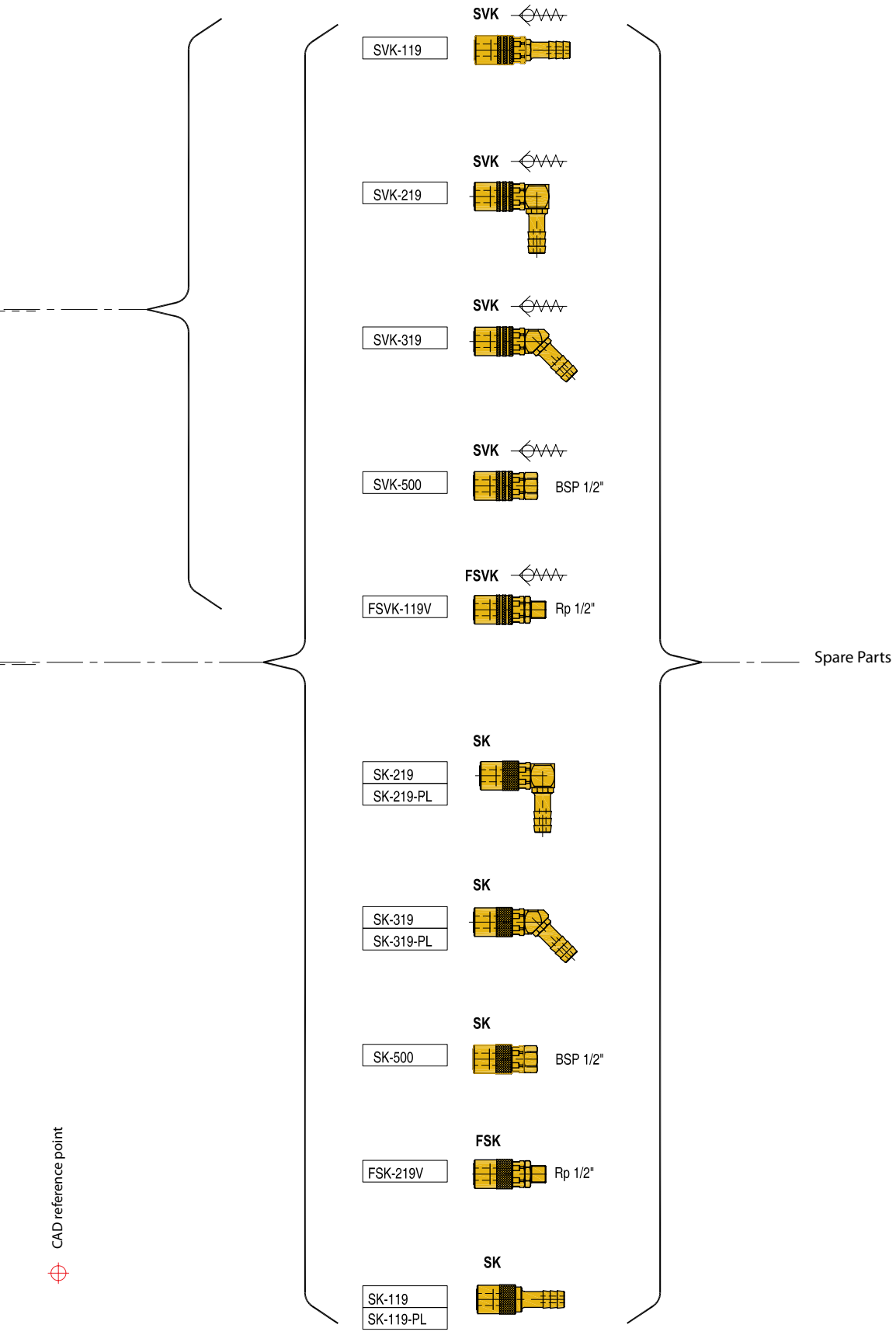
PTLH

For "Push-to-Lock"

DME JIFFY N16

FLOW CHANNEL

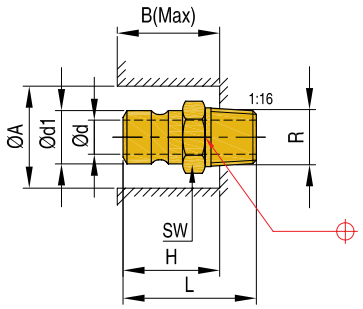



SVK
SVK-119
SVK
SVK-219
SVK
SVK-319
SVK
SVK-500
BSP 1/2"
FSVK
FSVK-119V
Rp 1/2"
Spare Parts
SK
SK-219
SK-219-PL
SK
SK-319
SK-319-PL
SK
SK-500
BSP 1/2"
FSK
FSK-219V
Rp 1/2"
SK
SK-119
SK-119-PL
CAD reference point

COUPLINGS

CONNECTOR PLUGS WITH PTFE SEAL N

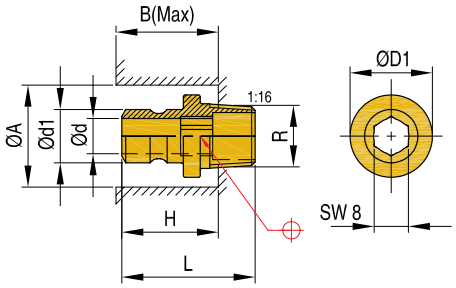
Mat.: Brass



REF	R	d1	d	L	A	B	H	SW	Series
N618A	1/8" BSPT	9,4	6	24,0	22	18	17	13	N6
N6MA	M10x1	9,4	6	23,0	22	18	17	13	N6
N614A	1/4" BSPT	9,4	6	29,0	26	20	19	16	N6
N638A	3/8" BSPT	9,4	6	30,0	30	22	21	19	N6
N918A	1/8" BSPT	13,5	9	30,0	26	26	25	14	N9
N914A	1/4" BSPT	13,5	9	34,0	26	26	25	16	N9
N938A	3/8" BSPT	13,5	9	34,0	30	28	26	19	N9
N9MA	M10x1	13,5	6	29,5	26	26	25	16	N9
N912A	1/2" BSPT	13,5	9	39,0	37	28	26	24	N9
N1612A	1/2" BSPT	19,9	16	44,0	32	38	37	22	N16
N1634A	3/4" BSPT	19,9	16	45,0	38	40	38	29	N16

CONNECTOR PLUG WITH INNER HEXAGON N

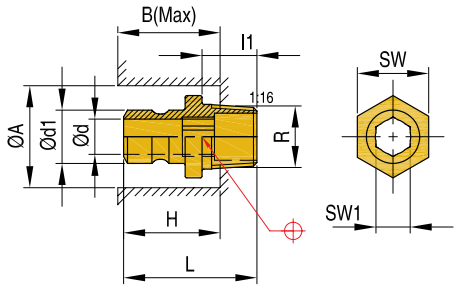
Mat.: Brass



REF	R	d1	d	L	D1	A	B	H	Series
N938AH	3/8" BSPT	13,5	9	34	21	30	28	26	N9

CONNECTOR PLUG WITH INNER HEXAGON N

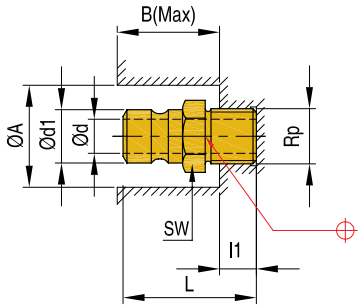
Mat.: Brass
- the Jiffy inner hexacon connector plugs enable easy mounting where space is limited when working with a wrench
- complete range supplied with thread sealant



REF	R	d	d1	L	l1	A	B	H	SW	SW1	Series
N618AHN	1/8" BSPT	6	9,4	23	9	22	16	14	11	5	N6
N6M10AHN	M10x1	6	9,4	23	9	22	16	14	11	5	N6
N614AHN	1/4" BSPT	6	9,4	23	14	26	16	14	16	5	N6
N6M14AHN	M14x1,5	6	9,4	23	14	26	16	14	16	5	N6
N914AHN	1/4" BSPT	9,3	13,5	34	14	26	22	20	16	8	N9
N9M14AHN	M14x1,5	9,3	13,5	34	14	26	22	20	16	8	N9
N9M16AHN	M16x1,5	9,3	13,5	34	14	30	23	21	19	8	N9
N938AHN	3/8" BSPT	9,3	13,5	34	14	30	23	21	19	8	N9

CONNECTOR PLUGS FOR FSK AND FSVK FN

Mat.: Brass

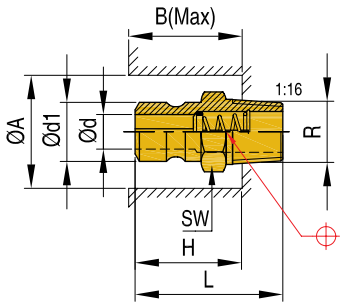


REF	Rp	A	B	d1	d	L	l1	SW	Series
FN914A	1/4" BSP	30	23,5	13,5	9	34	11,5	16	N9
FN938A	3/8" BSP	30	23,5	13,5	9	34	11,5	19	N9
FN1638A	3/8" BSP	32	29,5	19,9	15	40	11,5	22	N16
FN1638AL	3/8" BSP	32	29,5	19,9	15	53	24,5	22	N16
FN1612A	1/2" BSP	32	29,5	19,9	15	45	16,5	22	N16
FN1612AL	1/2" BSP	32	29,5	19,9	15	54	25,5	22	N16

All Male plugs (including PCS-Series) and extension plugs are now supplied with Jiffy-seal™ thread sealant .
Eliminating the initial need for joint tape or compound.

CAD reference point

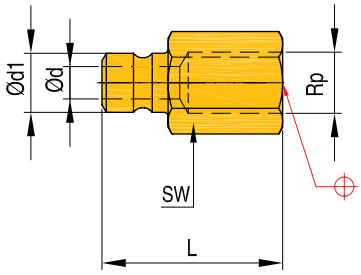
SHUT-OFF CONNECTOR PLUGS FOR SVK — PCS



Mat.: Brass

REF	R	d1	d	L	A	B	H	SW	Series
PCS614A	1/4" BSPT	9,4	6	29,0	28	20	18	16	N6
PCS638A	3/8" BSPT	9,4	6	29,5	30	20	18	19	N6
PCS914A	1/4" BSPT	13,5	9	34,0	28	27	25	16	N9
PCS938A	3/8" BSPT	13,5	9	34,0	30	28	26	19	N9
PCS912A	1/2" BSPT	13,5	9	37,0	35	28	26	24	N9
PCS1612A	1/2" BSPT	19,9	15	44,4	35	34	32	7/8"	N16
PCS1634A	3/4" BSPT	19,9	15	44,4	42	32	30	1 1/8"	N16

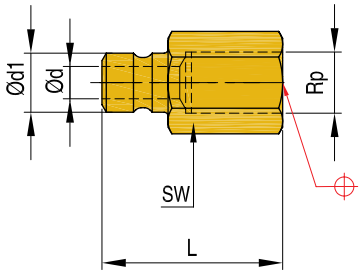
CONNECTOR PLUGS — N



Mat.: Brass

REF	Rp	d1	d	L	SW	Series
N618I	1/8" BSP	9,4	6	28	13	N6
N614I	1/4" BSP	9,4	6	32	16	N6
N638I	3/8" BSP	9,4	6	34	19	N6
N914I	1/4" BSP	13,5	9	37	16	N9
N938I	3/8" BSP	13,5	9	39	19	N9
N912I	1/2" BSP	13,5	9	46	24	N9

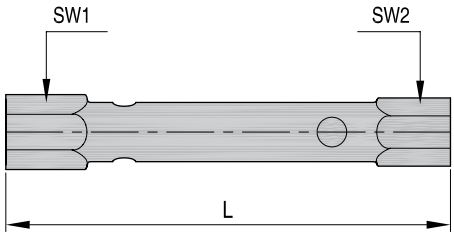
CONNECTOR PLUGS FOR FSK AND FSVK — FN



Mat.: Brass

REF	Rp	d1	d	L	SW	Series
FN918I	1/8" BSP	13,5	9	32	16	N9
FN914I	1/4" BSP	13,5	9	37	19	N9
FN1638I	3/8" BSP	19,9	15	40	22	N16
FN1612I	1/2" BSP	19,9	15	45	24	N16

SOCKET WRENCHES — DS

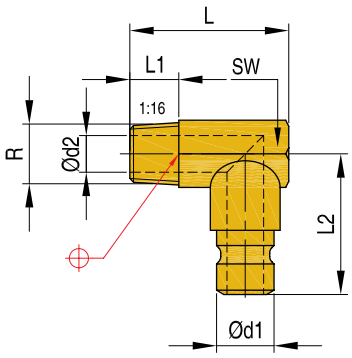


Mat.: St. 55 DIN 2391

REF	L	SW1	SW2
DS1314	140	13	14
DS1617	150	16	17
DS1922	170	19	22
DS2427	190	24	27

CAD reference point

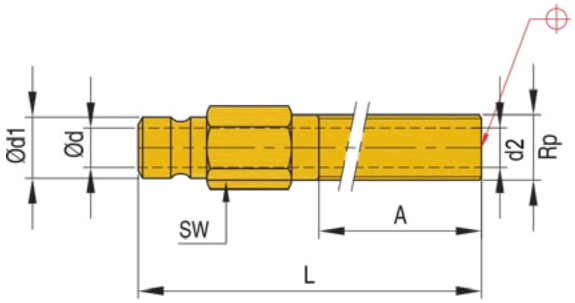
ANGLE NIPPLES — ATN



Mat.: Brass

REF	R	d1	d2	L	L1	L2	SW	Series
ATN9	1/8" BSPT	9,4	6	27	9	23,0	11	N6
ATN13	1/4" BSPT	13,5	9	34	9	24,5	15	N9

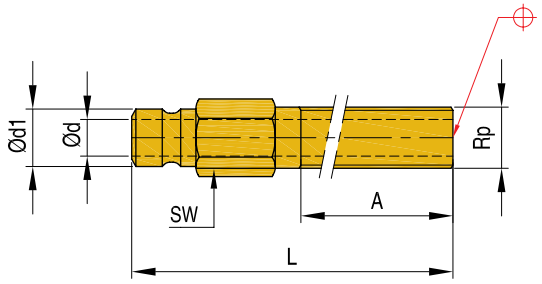
EXTENSION PIPES — EJP



Mat.: Brass

REF	Rp	d1	d	L	A	SW	Series
EJP2514	1/8" BSP	9,4	6,3	100	61	12	N6
EJP2516	1/8" BSP	9,4	6,3	150	61	12	N6
EJP2518	1/8" BSP	9,4	6,3	200	61	12	N6
EJP2524	1/4" BSP	9,4	6,3	100	61	15	N6
EJP2526	1/4" BSP	9,4	6,3	150	61	15	N6
EJP2528	1/4" BSP	9,4	6,3	200	61	15	N6
EJP2534	3/8" BSP	9,4	6,3	100	61	18	N6
EJP2536	3/8" BSP	9,4	6,3	150	61	18	N6
EJP2538	3/8" BSP	9,4	6,3	200	61	18	N6

EXTENSION PIPES — EJP



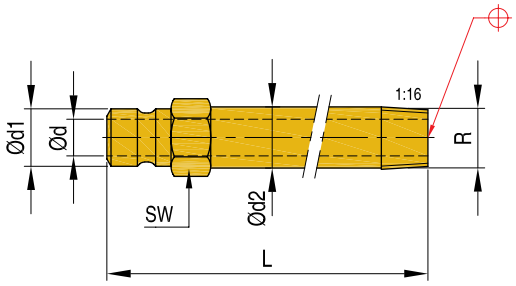
Mat.: Brass

REF	Rp	d1	d	L	A	SW	Series
EJP3514	1/8" BSP	13,5	6,3	100	61	15	N9
EJP3516	1/8" BSP	13,5	6,3	150	61	15	N9
EJP3518	1/8" BSP	13,5	6,3	200	61	15	N9
EJP3524	1/4" BSP	13,5	9,5	100	61	15	N9
EJP3526	1/4" BSP	13,5	9,5	150	61	15	N9
EJP3528	1/4" BSP	13,5	9,5	200	61	15	N9
EJP3534	3/8" BSP	13,5	9,5	100	61	18	N9
EJP3536	3/8" BSP	13,5	9,5	150	61	18	N9
EJP3538	3/8" BSP	13,5	9,5	200	61	18	N9

CAD reference point

BRASS EXTENSION PIPES — BEP

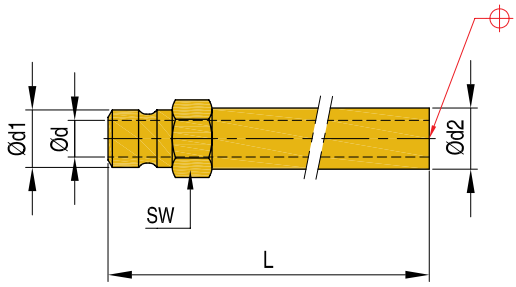
Mat.: Brass



REF	R	L	SW	d	d1	d2	Series
BEP1810	1/8" BSPT	100	11	6	9,4	10	N6
BEP1415	1/4" BSPT	150	15	9	13,5	14	N9

BRASS EXTENSION PIPES — BEP

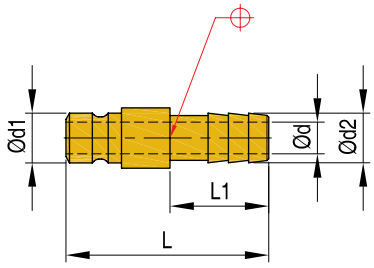
Mat.: Brass



REF	L	SW	d	d1	d2	Series
BEP1815	150	11	6	9,4	10	N6
BEP1825	250	11	6	9,4	10	N6
BEP1425	250	15	9	13,5	14	N9

HOSE NIPPLES — STN / STN PL

Mat.: Brass

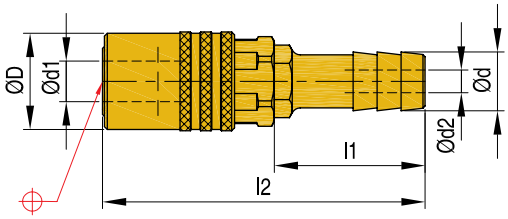


REF	d	d1	d2	L1	L	Fits hose ID	Series
STN9	6,0	9,4	10	17	39,0	-	N6
STN13	9,0	13,5	14	21	41,0	-	N9
STN19	15,5	19,9	20	46	91,0	-	N16
STN9PL	6,0	9,4	-	24	37,0	3/8"	N6
STN13PL	9,0	13,5	-	28	48,0	1/2"	N9
STN19PL	14,0	19,9	-	28	63,5	3/4"	N16

CAD reference point

JIFFY MATICS STRAIGHT WITH VALVE — SVK

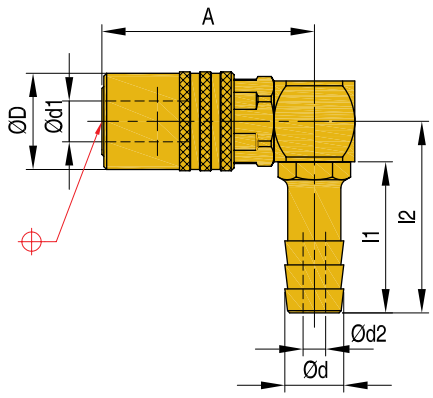
Mat.: Brass-stainless steel



REF	d1	d2	d	D	l1	l2	Series
SVK106	9,5	5	7,3	17,0	27	57	N6
SVK109	9,5	6	10,5	17,0	27	57	N6
SVK111	13,6	9	12,2	22,6	27	68	N9
SVK113	13,6	9	14,0	22,6	27	68	N9
SVK119	20,0	16	20,0	30,0	46	103	N16

JIFFY MATICS 90° WITH VALVE — SVK (90°)

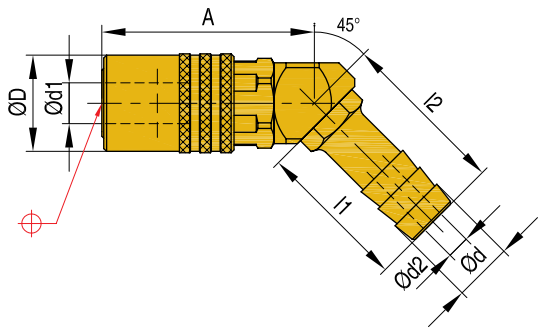
Mat.: Brass-stainless steel



REF	d1	d2	d	D	A	l1	l2	Series
SVK206	9,5	5	7,3	17,0	38	27	34	N6
SVK209	9,5	6	10,5	17,0	38	27	34	N6
SVK211	13,6	9	12,2	22,6	52	27	37	N9
SVK213	13,6	9	14,0	22,6	52	27	37	N9
SVK219	20,0	16	20,0	30,0	74	46	69	N16

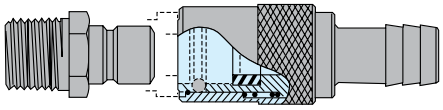
JIFFY MATICS 45° WITH VALVE — SVK (45°)

Mat.: Brass-stainless steel



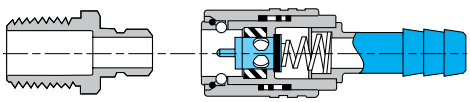
REF	d1	d2	d	D	A	l1	l2	Series
SVK306	9,5	5	7,3	17,0	38	27	34	N6
SVK309	9,5	6	10,5	17,0	38	27	34	N6
SVK311	13,6	9	12,2	22,6	52	27	37	N9
SVK313	13,6	9	14,0	22,6	52	27	37	N9
SVK319	20,0	16	20,0	30,0	74	46	69	N16

Jiffy-Tite® Sockets
Flow-thru type

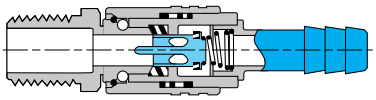


Jiffy-Tite sockets have a large thru hole to provide unrestricted flow.

Jiffy-Matic® Sockets
Automatic shut-off type



VALVE CLOSED

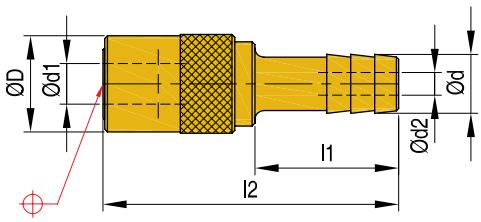


VALVE OPEN

Jiffy-Tite & Jiffy-Matic sockets can be used interchangeably with the same Jiffy-Tite plugs already in your mould or die. Comparable sizes of both type sockets have the same O.D., permitting interchangeability even when the plugs are flush mounted.

CAD reference point

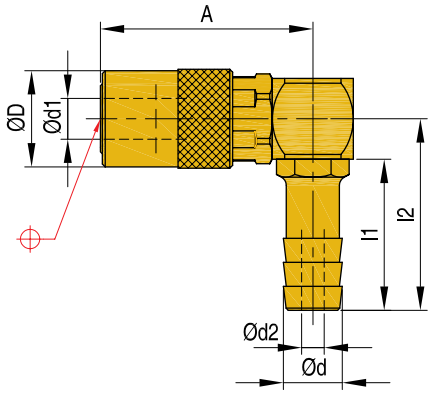
JIFFY TITES STRAIGHT — SK



Mat.: Brass-stainless steel

REF	d1	d2	d	D	l1	l2	Ses
SK106	9,5	5	7,3	17,0	25	52	N6
SK109	9,5	6	10,5	17,0	25	52	N6
SK111	13,6	9	12,2	22,6	25	62	N9
SK113	13,6	9	14,0	22,6	25	62	N9
SK119	20,0	16	20,0	30,0	32	77	N16

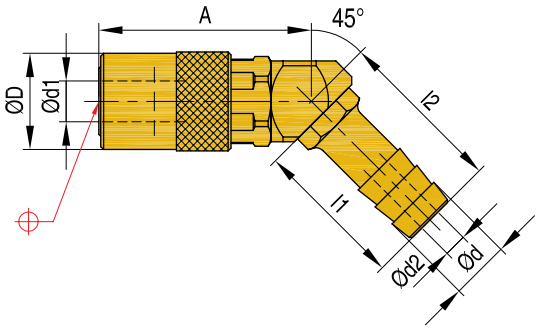
JIFFY TITES 90° — SK (90°)



Mat.: Brass-stainless steel

REF	d1	d2	d	D	A	l1	l2	Ses
SK206	9,5	5	7,3	17,0	38	27	34	N6
SK209	9,5	6	10,5	17,0	38	27	34	N6
SK211	13,6	9	12,2	22,6	52	27	37	N9
SK213	13,6	9	14,0	22,6	52	27	37	N9
SK219	20,0	16	20,0	30,0	68	46	69	N16

JIFFY TITES 45° — SK (45°)



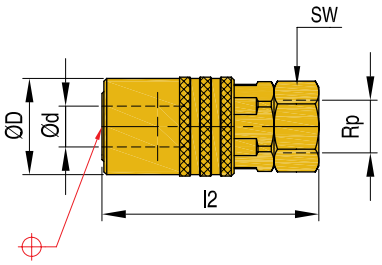
Mat.: Brass-stainless steel

REF	d1	d2	d	D	A	l1	l2	Series
SK306	9,5	5	7,3	17,0	38	27	34	N6
SK309	9,5	6	10,5	17,0	38	27	34	N6
SK311	13,6	9	12,2	22,6	52	27	37	N9
SK313	13,6	9	14,0	22,6	52	27	37	N9
SK319	20,0	16	20,0	30,0	67	46	69	N16

CAD reference point

COUPLINGS

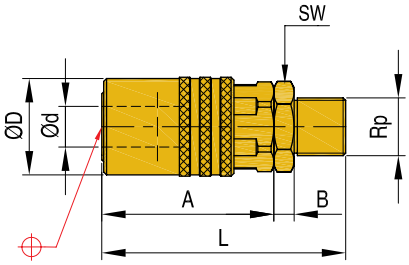
FEMALE JIFFY MATICS WITH VALVE — SVK 200 - 300 - 500



Mat.: Brass-stainless steel

REF	Rp	d	l2	D	SW	Series
SVK200	1/8" BSP	9,5	39	17,0	1/2"	N6
SVK300	1/4" BSP	13,6	53	22,6	3/8"	N9
SVK500	1/2" BSP	20,0	57	30,0	1 1/8"	N16

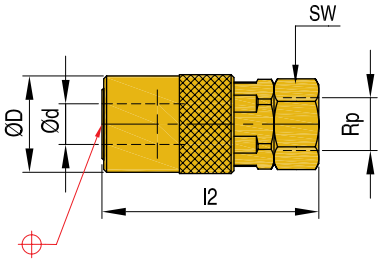
JIFFY MATICS WITH VALVE — FSVK



Mat.: Brass-stainless steel

REF	Rp	d	L	D	A	B	SW	Series
FSVK106V	1/4" BSP	9,5	46	17,0	30,5	8,0	9/16"	N6
FSVK111V	3/8" BSP	13,6	60	22,6	41,0	8,5	3/4"	N9
FSVK119V	1/2" BSP	17,5	76	30,6	57,0	7,0	1 1/8"	N16

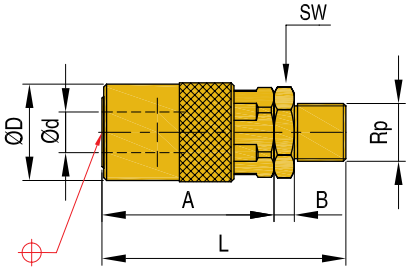
FEMALE JIFFY TITES — SK 200 - 300 - 500



Mat.: Brass-stainless steel

REF	Rp	d	l2	D	SW	Series
SK200	1/8" BSP	9,5	39	17,0	1/2"	N6
SK300	1/4" BSP	13,6	53	22,6	3/8"	N9
SK500	1/2" BSP	20,0	59	30,0	1 1/8"	N16

JIFFY TITES — FSK



Mat.: Brass-stainless steel

REF	Rp	d	L	D	A	B	SW	Series
FSK206V	1/4" BSP	9,5	46	17,0	30,5	7,0	9/16"	N6
FSK211V	3/8" BSP	13,6	60	22,6	41,0	8,0	3/4"	N9
FSK219V	1/2" BSP	20,0	72	30,0	51,0	8,5	1 1/8"	N16

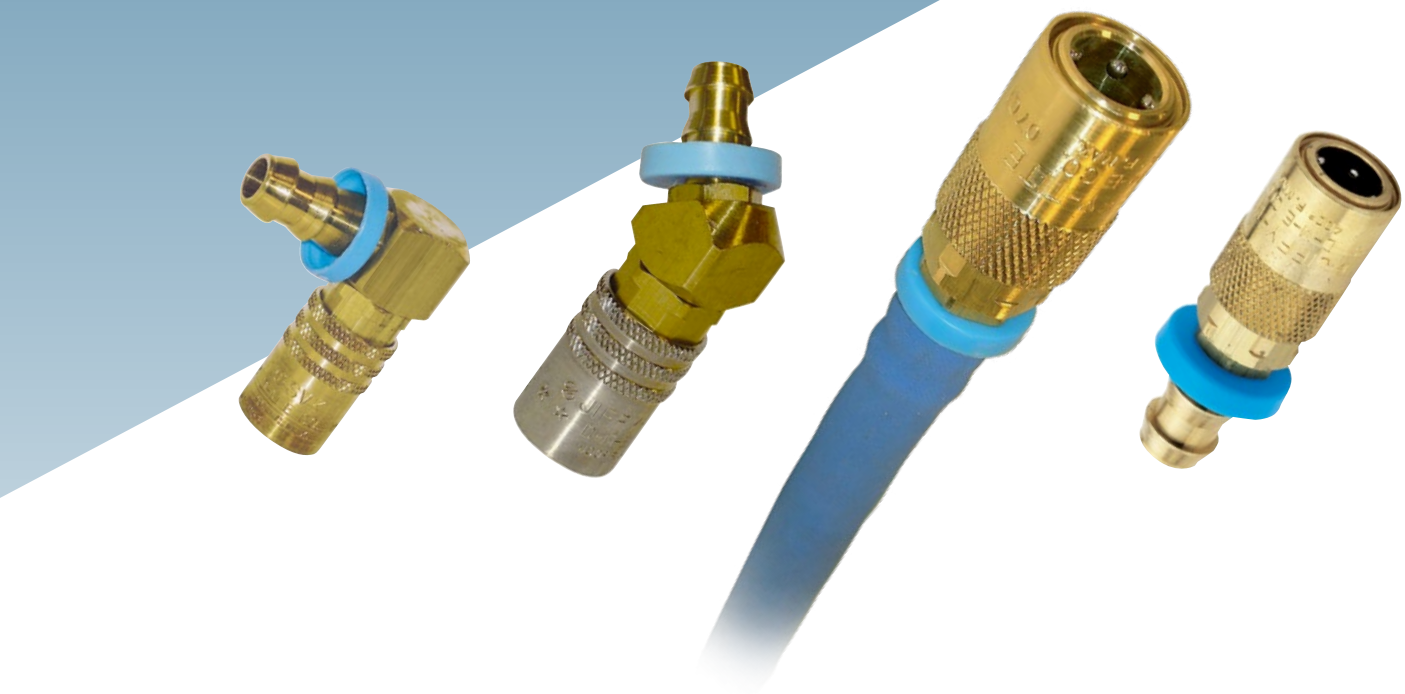
CAD reference point

DME PUSH-TO-LOCK

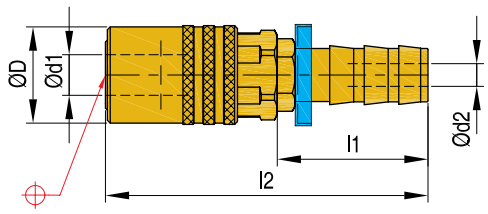
DME Jiffy-Lok™ sockets used with special Push-to-Lock™ hose do not require the use of a hose clamp for hose retention. The special hose is simply pushed onto the stem and will stay on without any additional fasteners, even under conditions of severe temperature, vibration and pressure. The sockets have a blue plastic collar, purely for identification, to cover the cut end of the hose.

Jiffy-Lok™ sockets are compatible with standard Jiffy sockets/plugs. They are made of exactly the same brass and use the same high quality Viton seals.

Use special Push-to-Lock™ hose (PTLH) only. Jiffy-Lok™ connector sockets are for use with water and water-based coolants only. Although the Sockets are suitable to temperatures to 200°C observe the temperature ratings of the hose. Never exceed 13 bar.



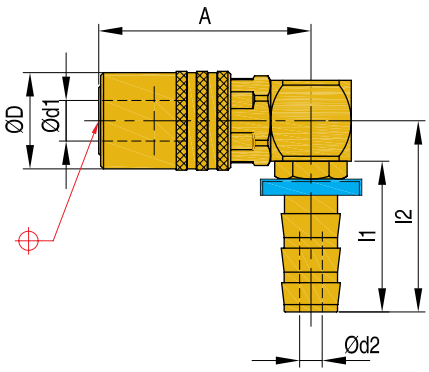
JIFFY LOK STRAIGHT WITH VALVE "PUSH-TO-LOCK" SVK - PL



Mat.: Brass-stainless steel

REF	d1	d2	fits	D	l1	l2	Series
SVK106PL	9,5	5	1/4"	17,0	22	53	N6
SVK109PL	9,5	6	3/8"	17,0	28	59	N6
SVK111PL	13,6	6	3/8"	22,6	28	70	N9
SVK113PL	13,6	9	1/2"	22,6	29	71	N3

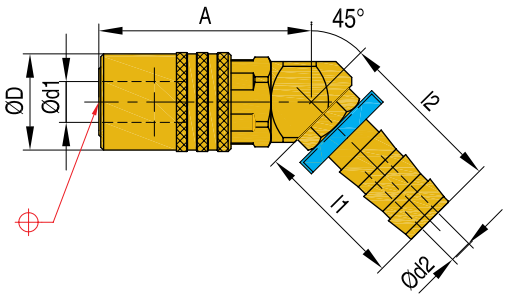
JIFFY LOK 90° WITH VALVE "PUSH-TO-LOCK" SVK - 90° PL



Mat.: Brass-stainless steel

REF	d1	d2	fits	D	A	l1	l2	Series
SVK206PL	9,5	5	1/4"	17,0	38	27	34	N6
SVK209PL	9,5	6	3/8"	17,0	38	27	34	N6
SVK211PL	13,6	6	3/8"	22,6	52	27	37	N9
SVK213PL	13,6	9	1/2"	22,6	52	27	37	N9

JIFFY LOK 45° WITH VALVE "PUSH-TO-LOCK" SVK - 45° PL



Mat.: Brass-stainless steel

REF	d1	d2	fits	D	A	l1	l2	Series
SVK306PL	9,5	5	1/4"	17,0	38	27	34	N6
SVK309PL	9,5	6	3/8"	17,0	38	27	34	N6
SVK311PL	13,6	6	3/8"	22,6	52	27	37	N9
SVK313PL	13,6	9	1/2"	22,6	52	27	37	N9

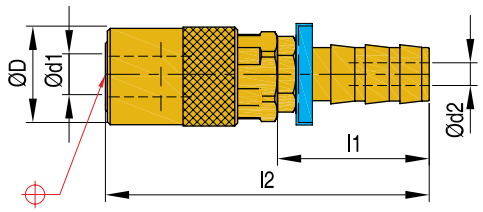
Jiffy-Lok® Connector Sockets

With clampless hose stems for use with "Push-to-Lock" type hose

- ✓ Saves set-up time by eliminating the need for hose clamps.
- ✓ Popular sizes for interchangeability with existing Jiffy-Tite, Jiffy-Matic sockets.
- ✓ More compact and consistently sized than competitive sockets.
- ✓ Leakproof brass and stainless steel construction.
- ✓ Replaceable seals and valves for long service life.

CAD reference point

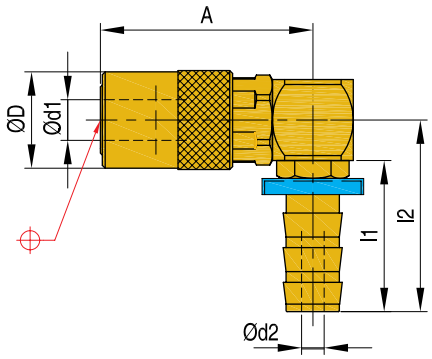
JIFFY LOK STRAIGHT "PUSH-TO-LOCK" — SK - PL



Mat.: Brass-stainless steel

REF	d1	d2	fits	D	l1	l2	Series
SK106PL	9,5	5	1/4"	17,0	22	53	N6
SK109PL	9,5	6	3/8"	17,0	28	59	N6
SK111PL	13,6	6	3/8"	22,6	28	70	N9
SK113PL	13,6	9	1/2"	22,6	29	71	N9
SK119PL	20,0	14	3/4"	30,0	55	105	N16

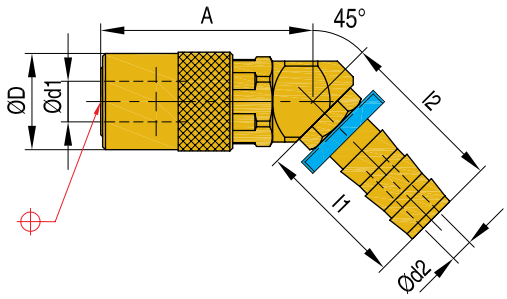
JIFFY LOK 90° "PUSH-TO-LOCK" — SK - 90° PL



Mat.: Brass-stainless steel

REF	d1	d2	fits	D	A	l1	l2	Series
SK206PL	9,5	5	1/4"	17,0	38	27	34	N6
SK209PL	9,5	6	3/8"	17,0	38	27	34	N6
SK211PL	13,6	6	3/8"	22,6	52	27	37	N9
SK213PL	13,6	9	1/2"	22,6	52	27	37	N9
SK219PL	20,0	14	3/4"	30,0	68	46	69	N16

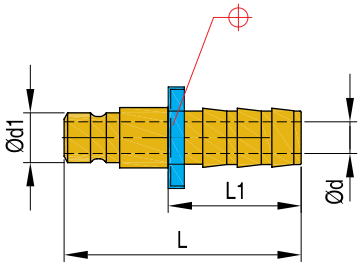
JIFFY LOK 45° "PUSH-TO-LOCK" — SK - 45° PL



Mat.: Brass-stainless steel

REF	d1	d2	fits	D	A	l1	l2	Series
SK306PL	9,5	5	1/4"	17,0	38	27	34	N6
SK309PL	9,5	6	3/8"	17,0	38	27	34	N6
SK311PL	13,6	6	3/8"	22,6	52	27	37	N9
SK313PL	13,6	9	1/2"	22,6	52	27	37	N9
SK319PL	20,0	14	3/4"	30,0	67	46	69	N16

HOSE NIPPLES — STN PL

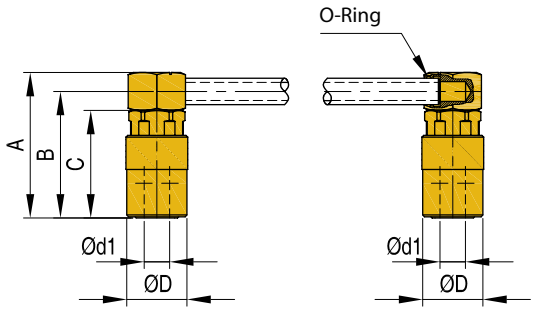


Mat.: Brass-stainless steel

REF	d	d1	d2	L1	L	Fits hose ID	Series
STN9PL	6,0	9,4	-	24	37,0	3/8"	N6
STN13PL	9,0	13,5	-	28	48,0	1/2"	N9
STN19PL	14,0	19,9	-	28	63,5	3/4"	N16

CAD reference point

JIFFY MATICS SOCKET ADAPTER WITH VALVE — JCB-SV



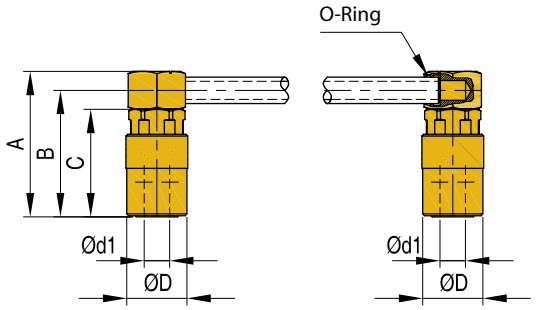
Mat.: Brass. Max. T: 200°C & 13,7 bar

Provides more compact port-to-port connections than conventional hose methodes.

Socket adapter marked with cut-line groove for quick sizing of brass tube length.

REF	d1	D	A	B	C	Description	Series
JCB0200SV	9,5	17,0	44,2	37,3	30,5	TWO - WAY SHUTOFF	N6
JCB0300SV	13,6	22,6	57,4	49,3	41,4	TWO - WAY SHUTOFF	N9

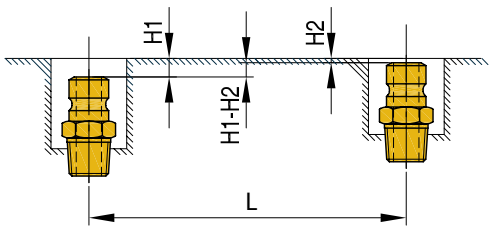
JIFFY TITE SOCKET ADAPTER — JCB



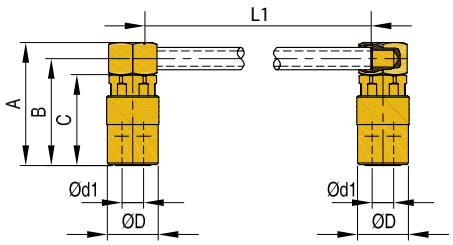
Mat.: Brass. Max. T: 200°C P 13,7 bar

REF	d1	D	A	B	C	Description	Series
JCB0200	9,5	17,0	44,2	37,3	30,5	FLOW - THRU	N6
JCB0300	13,6	22,6	57,4	49,3	41,4	FLOW - THRU	N9

INSTALATION GUIDLINES



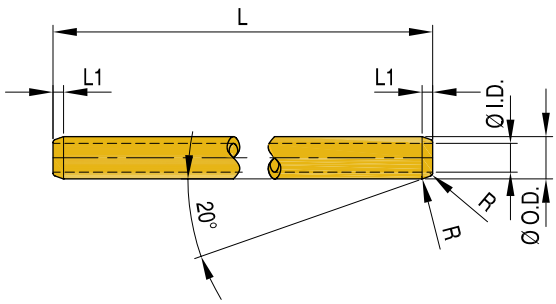
Use the groove on top of the sockets to accurately measure where to cut the tube JBT.



It is important to reduce the misalignement between the two nipples. It must not be bigger than the value shown on this table.

H1–H2	D
±0.3	50–100 mm
±0.5	100–200 mm
±0.8	200–300 mm
±1	300–400 mm

BRASS TUBE — JBT



Mat.: Brass

REF	d1	D	R	L	L1	Series
JBT0450	5,4	7,9	0,3	457	1,75	N6
JBT0570	7,8	11,1	0,3	457	2,00	N9

CAD reference point

COLLAR SPRINGS 200 - 300 - 500

REF	Series
200-3	N6
300-3	N9
500-3	N16

RETAINER RINGS 200 - 300 - 500

REF	Series
200-4	N6
300-4	N9
500-4	N16

STAINLESS STEEL BALLS 200 - 300 - 500

REF	Series
200-5	N6
300-5	N9
500-5	N16

SEALS 200 - 300 - 500

Mat.: Viton 220°C

REF	Series
P2008NP	N6
P3008NP	N9
P5008NP	N16

SPAREPART FOR COOLANT BRIDGE JCB - 200 - 300

Mat.: Viton O-Ring

REF	Series
JCB0011	N6
JCB0013	N9
200-8	N6
300-8	N9

CAD reference point

VALVES + SPRINGS — N / DK

REF	Series
N6601	N6
N9601	N9
DKN16V	N16

JIFFY TITE SEAL REMOVAL KIT — JSTK

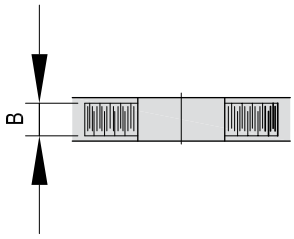
Seals are replaceable saving costs.
When worn out, simply replace the seal instead of the whole coupling.

The Jiffy-Tite seal removal kit can be used for removal of connector seals from Jiffy-Matic sockets. Can also be used with Jiffy-Tite sockets to provide easier seal removal.

REF
JSTK235

SEALING TAPES — DB

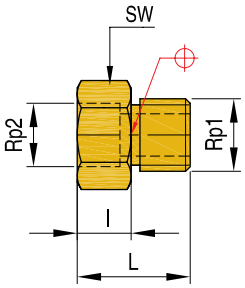
Mat.: PTFE Max.T=250°C



REF	L	B
DB1206	12 m	6 mm
DB1212	12 m	12 mm

CAD reference point

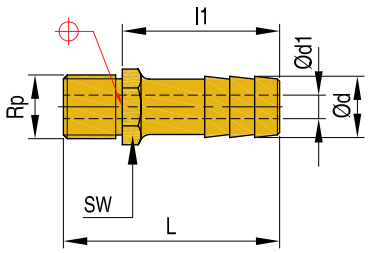
ADAPTERS N



Mat.: Brass

REF	Rp1	Rp2	L	l	SW	Series
N618	UNEF 7/16"-32	1/8" BSP	13	8	13	N6
N914	UNEF 5/8"-24	1/4" BSP	18	11	19	N9

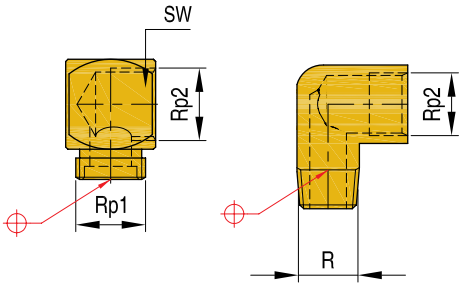
HOSE NIPPLES N / 500



Mat.: Brass

REF	Rp	d1	d	L	L1	SW	Series
N66M	UNEF 7/16"-32	5	7,3	32	27	11	N6
N69M	UNEF 7/16"-32	6	10,5	32	27	11	N6
N911M	UNEF 5/8"-24	9	12,2	33	27	16	N9
N913M	UNEF 5/8"-24	9	14,0	33	27	16	N9
50019M	BSP 1/2"-14	16	20,0	56	46	22	N16

90° ANGLES N / 500

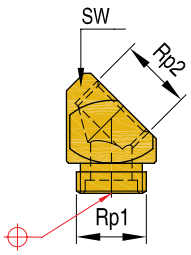


N6 / N9 N16

Mat.: Brass

REF	Rp1	Rp2	R	SW	Series
N690	UNEF 7/16"-32	UNEF 7/16"-32	-	15	N6
N990	UNEF 5/8"-24	UNEF 5/8"-24	-	21	N9
50090	-	1/2" NPT	1/2" BSPT	26	N16

45° ANGLES N / 500



Mat.: Brass

REF	Rp1	Rp2	SW	Series
N645	UNEF 7/16"-32	UNEF 7/16"-32	15	N6
N945	UNEF 5/8"-24	UNEF 5/8"-24	21	N9
50045	1/2" NPT	1/2" BSP	26	N16

CAD reference point

CAD reference point

DME USA SYSTEM CONNECTORS

DME USA System plugs used with **DME USA System** (flow-through) type sockets and **DME USA System** (automatic shut off type) sockets are designed for use with plastics moulds and die cast dies in water, air or oil lines. They feature a combination brass and stainless steel leak proof construction; have a maximum rated capacity of 13 bar and withstand temperatures of up to 200°C with supplied Viton seals (depending on which medium is used). **DME USA System** sockets can be used interchangeably with the same Jiffy-Tite plugs already in your mould or die. Comparable sizes of both type sockets have the same OD permitting interchangeability even when the plugs are flush mounted. Seals and hose barbs are easily replaceable saving cost.

DME USA SYSTEM - TECHNICAL INFORMATION

DME USA System Range

The **DME USA System** plugs and sockets provide a quick connect & disconnect method of changing heating & cooling hoses to the mould, as well as, from water manifolds or supply source. It is important to cool the mould so that the plastic material cools as quickly as possible to set up the part sufficiently so that it can be ejected from the mould as quick as possible for short cycle time. This helps to maintain part appearance & flow of material. Countersunk plugs can easily be connected and disconnected because of the extended sleeve. The angular connections prevent kinks from forming in the hose.

Working Pressure

0 - 10 bar N6
0-15 bar N9
0 - 20 bar N16

Working Temperature

Viton sealing: -10°C up to 200°C
Nitril sealing: -20°C up to +100°C

Advantages

Available in single shut-off, double shut-off or straight-through versions. The shut-off couplings (with valve) are equipped with nickel plated sleeves for quick and accurate visual differentiation.

Couplings foreseen with the Replaceable Viton® Seal. Easy to change with Seal Removal Tool for customers benefit.
They are known for their larger flow through-holes what results in more flow, faster cycle times and greater cooling.
Some DME USA System male nipples have pre-applied thread sealant.

Material Coupling

Back Body	Brass
Valve Body	Brass
Sleeve	Brass (without Valve)
Sleeve	Brass, Nickel Plated (with valve)
Valve	Brass
Locking Balls	AISI 420
Seals	Viton®
Spring & Locking Rings	AISI 301

Plug	
Plug Profile	Brass
Adapter	Brass
Valve	Brass
Spring and Locking Ring	AISI 301
Seal	Viton®

Safety instructions:

In the event of incorrect selection, incorrect and improper use, quick connect couplings and their accessories may cause damage to property and personal injury!

The consequences of incorrect selection, incorrect and improper use may be:

- Ends of hoses, coupling and plug components or accessories may fly around.
- Contact with fluids that are damaging to the health, toxic, cold or hot.
- Leakage of fluids under high pressure.
- Explosion or combustion of leaking fluids.
- Injuries and damage caused by uncontrolled movements of system parts through drop in fluid pressure.

CAD reference point

DME USA SYSTEM - TECHNICAL INFORMATION

Operating Instructions

- Coupling with two-handed operation : Couplings is effected by pushing back the sleeve, and at the same time, pushing the connector into the coupling. During the coupling make sure that the connector is pushed into the coupling as far as it will go. When the maximum push-in position has been reached, the sleeve must be released and only then the connector. The sleeve must move towards the connector until it reaches the same initial position as before actuation. It is important to check whether the lock has snapped into place by pulling the connector.
- Caution ! Fluid may leak during coupling, especially with couplings that are under pressure. Make sure that any fluid that may leak under these circumstances does not create any hazard.
- When Uncoupling without the built in valve (DME USA System), it is essential that the fluid should be shut off before uncoupling. Uncoupling is affected by pushing back the sleeve. The coupling valve shuts off any further fluid supply, and at the same time the connector is pressed out of the coupling by the remaining fluid pressure and the valve spring. During uncoupling the connector must be firmly held in the hand in order to prevent it from spinning dangerously out of control.

Installation instructions

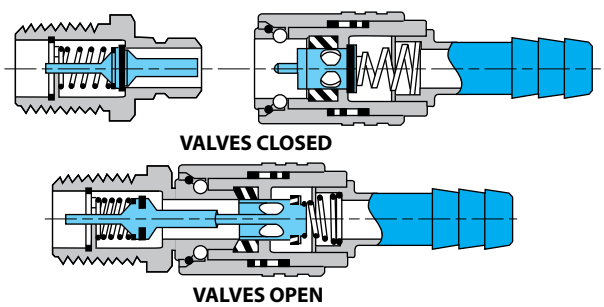
- Before installation make sure that the selected quick coupling is suitable for the fluid to flow through it, with respect to its design , materials, seals, working pressure and working temperature.
- The installation location of the quick coupling or the connector must be in such a way that the operator cannot injure himself through dangerous locations in the direct vicinity, eg. slipping, jamming, contamination or burning
- When using hoses, the permissible operating pressure and temperature must not be exceeded. The hoses must be secured against slipping off the fittings with hose clamps.
- The recommended direction of flow is from the coupling to the connector, insofar as nothing else is specified.
- If no thread sealant available the threads must be coated with suitable sealing agents such as PTFE tape.
- Covering caps and protected connectors are recommended for uncoupled connectors and couplings in order to prevent damage or contamination.

Maintenance Instructions

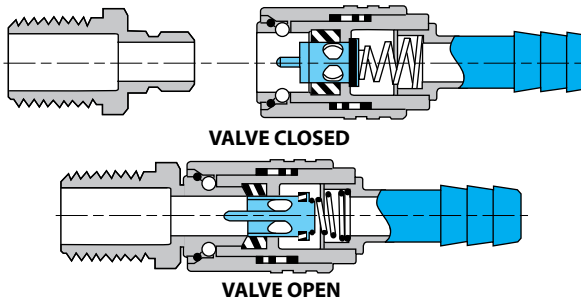
- DME couplings are largely maintenance-free with standard applications and careful treatment, with the correct selection of coupling type and materials. We recommend a regular custom-made maintenance procedure, covering the following points:
- External visual inspection of the DME coupling combination. In the event of dirt accumulation in the functional area of coupling and connector this must be cleaned. The following properties require replacement of the parts in question: torn, damaged, very dirty or corroded parts, leaks in clutch of connector parts.
- Replacement intervals for quick connect couplings or replacement of the Viton seal with the Seal Removal Tool JSTK-235

OPERATING COMBINATIONS

SUEPS male plugs with SUEV sockets (equivalent size)**



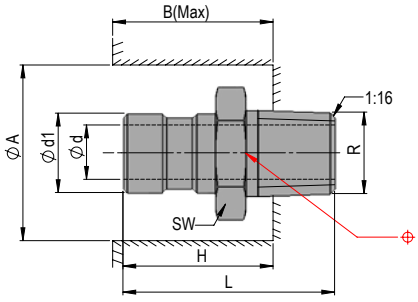
Std. male, female or extension plugs with SUEV sockets (equivalent size)



** The SUEPS plugs can only be used for two-way shut-offs and must be used with the SUEV sockets.

CAD reference point

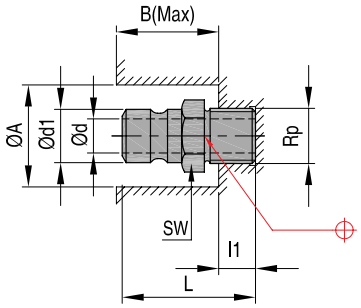
CONNECTOR PLUGS — SUE...A



Mat.: Brass

REF	R	A	d1	d	L	B	H	SW	Series
SUE618A	1/8" BSPT	22	9,4	6	24	18	17	13	N6
SUE6MA	M10 × 1	22	9,4	6	24	18	17	11	N6
SUE614A	1/4" BSPT	26	9,4	6	29	20	19	16	N6
SUE638A	3/8" BSPT	30	9,4	6	27	22	21	17	N6
SUE918A	1/8" BSPT	26	13,5	9	30	26	25	16	N9
SUE914A	1/4" BSPT	26	13,5	9	32,5	26	25	19	N9
SUE938A	3/8" BSPT	30	13,5	9	32,5	28	26	16	N9
SUE9MA	M10 × 1	26	13,5	9	30	26	26	14	N9
SUE912A	1/2" BSPT	37	13,5	9	37	28	26	22	N9
SUE1612A	1/2" BSPT	37	19,9	15	42,5	38	37	22	N16
SUE1634A	3/4" BSPT	38	19,9	15	45	40	38	29	N16

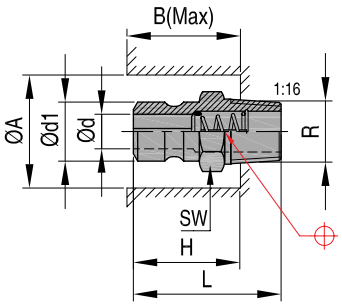
CONNECTOR PLUGS FOR SUEF...V/FSK AND SUEFV...V/FSVK — SUEF...A



Mat.: Brass

REF	Rp	A	d1	d	L	B	H	SW	Series
SUEF914A	1/4" BSP	30	13,5	9	29,5	22	11,5	16	N9
SUEF938A	3/8" BSP	30	13,5	9	29,5	22	11,5	19	N10
SUEF1638A	3/8" BSP	32	19,9	15	40	25	11,5	22	N16
SUEF1612A	1/2" BSP	32	19,9	15	37,5	25	16,5	22	N16

SHUT-OFF CONNECTOR PLUGS FOR SUEV/SVK — SUEPS



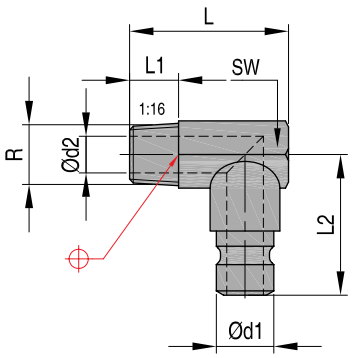
Mat.: Brass

REF	R	d1	d	L	A	B	H	SW	Series
SUEPS614A	1/4" BSPT	9,4	6	29	28	21	19	14	N6
SUEPS638A	3/8" BSPT	9,4	6	29	30	21	21	17	N6
SUEPS914A	1/4" BSPT	13,5	9	32,5	28	21	25	14	N9
SUEPS938A	3/8" BSPT	13,5	9	32,5	30	21	26	17	N9
SUEPS912A	1/2" BSPT	13,5	9	37	32	28	26	22	N9
SUEPS1612A	1/2" BSPT	19,9	15	45,4	32	28	28	22	N16
SUEPS1634A	3/4" BSPT	19,9	15	45,4	38	32	32	27	N16

CAD reference point

ANGLE NIPPLES — SUEA

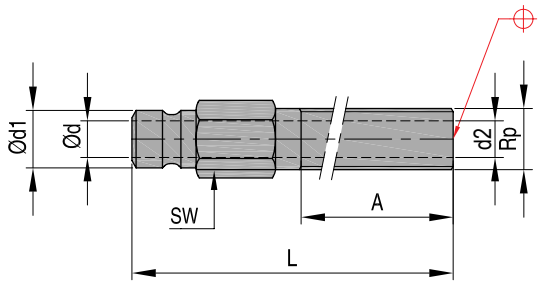
Mat.: Brass



REF	R	L	L1	L2	d1	d2	SW	Series
SUEA9	1/8" BSPT	27	9	23	9,4	6	11	N6
SUEA13	1/4" BSPT	34	9	24	13	9	15	N9

EXTENSION PIPES — SUEE

Mat.: Brass

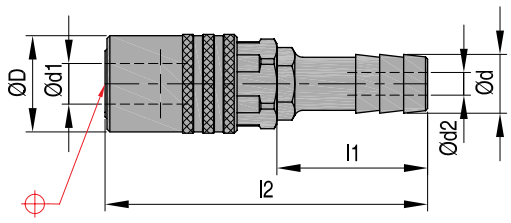


REF	Rp	d	d1	d2	L	A	SW	Series
SUEE2514	1/8" BSP	6	9,4	6	100	41	11	N6
SUEE2516	1/8" BSP	6	9,4	6	150	41	11	N6
SUEE2518	1/8" BSP	6	9,4	6	200	41	11	N6
SUEE2524	1/4" BSP	6	9,4	9	100	41	14	N6
SUEE2526	1/4" BSP	6	9,4	9	150	41	14	N6
SUEE2528	1/4" BSP	6	9,4	9	200	41	14	N6
SUEE2534	3/8" BSP	6	9,4	10	100	41	17	N6
SUEE2536	3/8" BSP	6	9,4	10	150	41	17	N6
SUEE2538	3/8" BSP	6	9,4	10	200	41	17	N6
SUEE3514	1/8" BSP	9	13,5	6	100	41,5	14	N9
SUEE3516	1/8" BSP	9	13,5	6	150	41,5	14	N9
SUEE3518	1/8" BSP	9	13,5	6	200	41,5	14	N9
SUEE3524	1/4" BSP	9	13,5	9	100	41,5	15	N9
SUEE3526	1/4" BSP	9	13,5	9	150	41,5	15	N9
SUEE3528	1/4" BSP	9	13,5	9	200	41,5	15	N9
SUEE3534	3/8" BSP	9	13,5	12	100	61	18	N9
SUEE3536	3/8" BSP	9	13,5	12	150	61	18	N9
SUEE3538	3/8" BSP	9	13,5	12	200	61	18	N9

CAD reference point

COUPLINGS

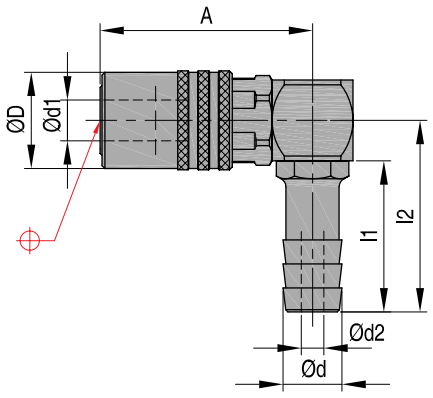
QUICK COUPLING 0° WITH VALVE — SUEV (0°)



Mat.: Brass-stainless steel

REF	D	d1	d	d2	l2	l1	Series
SUEV106	17	9,6	7,3	4	56,5	27	N6
SUEV109	17	9,6	10,3	7	56,5	27	N6
SUEV111	22,6	13,6	12,2	9	61	25,3	N9
SUEV113	22,6	13,6	14	10	61	25,3	N9
SUEV119	32	20,1	20	16	94	36	N16

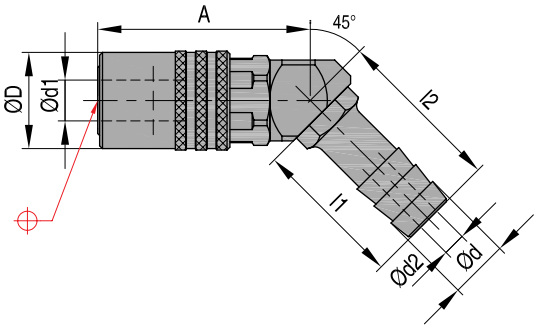
QUICK COUPLING 90° WITH VALVE — SUEV (90°)



Mat.: Brass-stainless steel

REF	D	d1	d	d2	A	l1	l2	Series
SUEV206	17	9,6	7,3	4,5	38	27	34	N6
SUEV209	17	9,6	10,5	7	38	27	34	N6
SUEV211	22,6	13,6	12,2	9	52	29,5	39	N9
SUEV213	22,6	13,6	14	10	52	29,5	39	N9
SUEV219	32	20,1	20	16	74	40	51	N16

QUICK COUPLING 45° WITH VALVE — SUEV (45°)



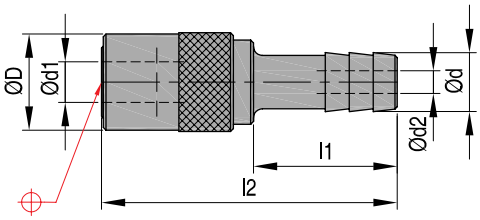
Mat.: Brass-stainless steel

REF	D	d1	d	d2	A	l1	l2	Series
SUEV306	17	9,6	7,3	4,5	30	29	32	N6
SUEV309	17	9,6	10,5	6	38	29	32	N6
SUEV311	22,6	13,6	12,2	9	52	29	38	N9
SUEV313	22,6	13,6	14	10	52	29	38	N9
SUEV319	32	20,1	20	16	74	40	48	N16

CAD reference point

QUICK COUPLING 0° OPEN — SUE (0°)

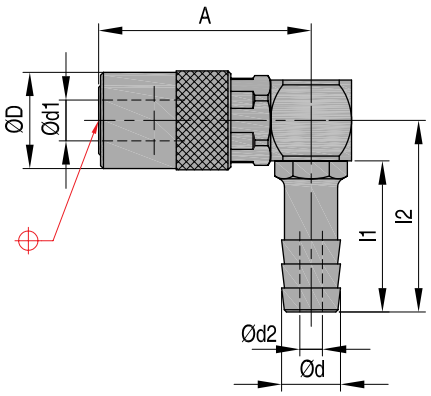
Mat.: Brass-stainless steel



REF	D	d1	d	d2	l2	l1	Series
SUE106	17	9,6	7,3	4	56,5	27	N6
SUE109	17	9,6	10,5	7	56,5	27	N6
SUE111	22,6	13,6	12,2	9	61	25,3	N9
SUE113	22,6	13,6	14	10	61	25,3	N9
SUE119	32	20,1	20	16	94	36	N16

QUICK COUPLING 90° OPEN — SUE (90°)

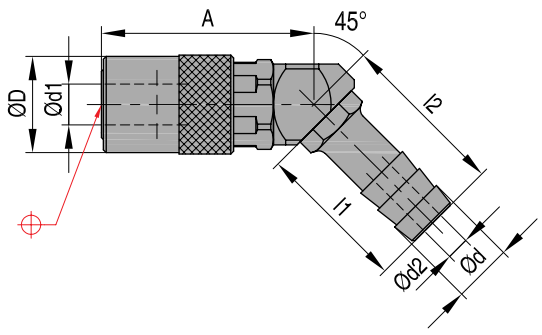
Mat.: Brass-stainless steel



REF	D	d1	d	d2	A	l1	l2	Series
SUE206	17	9,6	7,3	4,5	38	30	34	N6
SUE209	17	9,6	10,5	7	38	30	34	N6
SUE211	22,6	13,6	12,2	9	52	32	39	N9
SUE213	22,6	13,6	14	10	52	32	39	N9
SUE219	32	20,1	20	16	68	40	51	N16

QUICK COUPLING 45° OPEN — SUE (45°)

Mat.: Brass-stainless steel

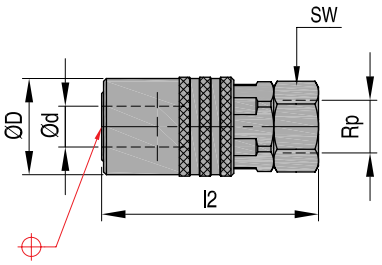


REF	D	d1	d	d2	A	l1	l2	Series
SUE306	17	9,6	7,3	4,5	38	29	32	N6
SUE309	17	9,6	10,5	6	38	29	32	N6
SUE311	22,6	13,6	12,2	9	52	29	38	N9
SUE313	22,6	13,6	14	10	52	31	38	N9
SUE319	32	20,1	20	16	67	40	48	N16

CAD reference point

COUPLINGS

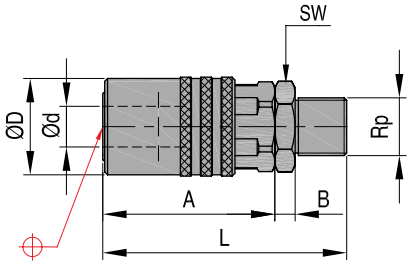
QUICK COUPLING OPEN, FEMALE — SUEV 200 - 300 - 500



Mat.: Brass-stainless steel

REF	Rp	D	d	l2	SW	Series
SUEV200	1/8" BSP	17	9,6	40	14	N6
SUEV300	1/4" BSP	22,6	13,6	52	17	N9
SUEV500	1/2" BSP	32	20,1	78,5	22	N16

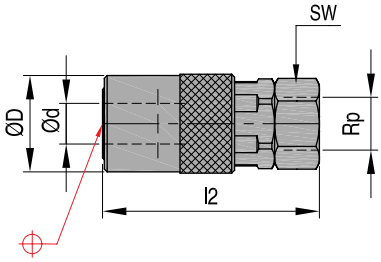
QUICK COUPLING WITH VALVE, MALE — SUEFV



Mat.: Brass-stainless steel

REF	Rp	D	d	L	A	B	SW	Series
SUEFV106V	1/4" BSP	17	9,6	46	30	11	14	N6
SUEFV111V	3/8" BSP	22,6	13,6	56	41	11	17	N9
SUEFV119V	1/2" BSP	32	20,1	80	57,5	11	22	N16

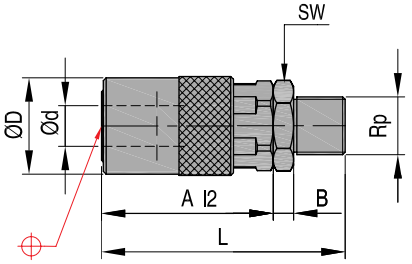
QUICK COUPLING OPEN, FEMALE — SUE 200 - 300 - 500



Mat.: Brass-stainless steel

REF	Rp	D	d	l2	SW	Series
SUE200	1/8" BSP	17	9,6	35	14	N6
SUE300	1/4" BSP	22,6	13,6	52	17	N9
SUE500	1/2" BSP	32	20,1	78,5	22	N16

QUICK COUPLING OPEN, MALE — SUEF



Mat.: Brass-stainless steel

REF	Rp	D	d	L	A	B	SW	Series
SUEF206V	1/4" BSP	17	9,6	46	30	11	14	N6
SUEF211V	3/8" BSP	22,6	13,6	56	41	11	17	N9
SUEF219V	1/2" BSP	32	20,1	80	57,5	11	22	N16

CAD reference point

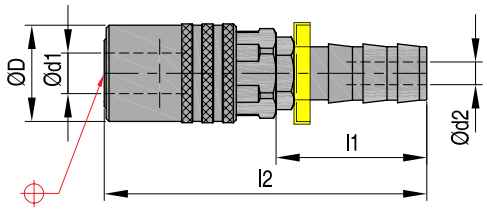
DME USA SYSTEM WITH SPECIAL HOSE BARB

DME USA System sockets used with special hose do not require the use of a hose clamp for hose retention. The special hose is simply pushed onto the stem and will stay on without any additional fasteners, even under conditions of severe temperature, vibration and pressure. The sockets have a blue plastic collar, purely for identification, to cover the cut end of the hose.

DME USA Stystem sockets with special hose barb are compatible with sanother DME USA Standard. They are made of exactly the same brass and use the same high quality Viton seals.

Use special Push-to-Lock™ hose (PTLH) only. The hose barbs are for use with water and water-based coolants only. Although the Sockets are suitable to temperatures to 200°C observe the temperature ratings of the hose. Never exceed 13 bar.

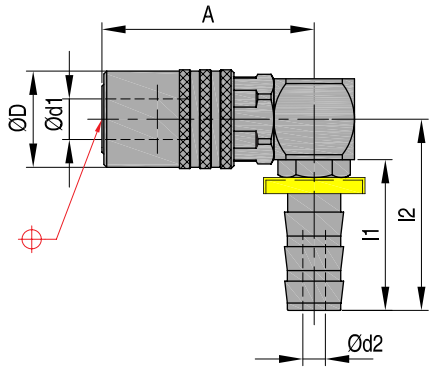
QUICK COUPLING 0° WITH VALVE PL — SUEV (0°) PL



Mat.: Brass-stainless steel

REF	D	d1	d2	l2	l1	Fitting Hose	Series
SUEV106PL	17	9,6	5	53	24	1/4"	N6
SUEV109PL	17	9,6	7	53	24	3/8"	N6
SUEV111PL	22,6	13,6	8	63	24	3/8"	N9
SUEV113PL	22,6	13,6	9	64	28	1/2"	N9

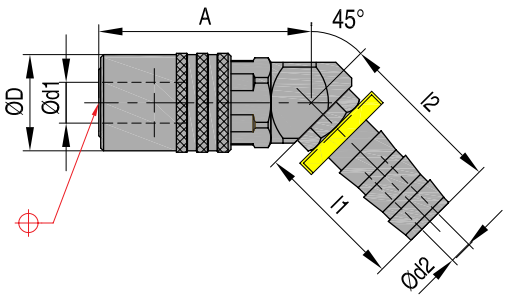
QUICK COUPLING 90° WITH VALVE PL — SUEV (90°) PL



Mat.: Brass-stainless steel

REF	D	d1	d2	A	l2	l1	Fitting Hose	Series
SUEV206PL	17	9,6	4,5	38	29	27	1/4"	N6
SUEV209PL	17	9,6	6	38	29	27	3/8"	N6
SUEV211PL	22,6	13,6	8	52	29	27	3/8"	N9
SUEV213PL	22,6	13,6	10	50	44	34	1/2"	N9

QUICK COUPLING 45° WITH VALVE PL — SUEV (45°) PL



Mat.: Brass-stainless steel

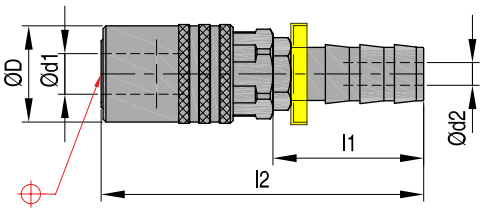
REF	D	d1	d2	A	l2	l1	Fitting Hose	Series
SUEV306PL	17	9,6	5	38	29	24	1/4"	N6
SUEV309PL	17	9,6	6	38	29	24	3/8"	N6
SUEV311PL	22,6	13,6	8	52	29	24	3/8"	N9
SUEV313PL	22,6	13,6	10	49,8	38,75	28	1/2"	N9

DME USA System Connector Sockets - With clampless hose stems for use with " BSPTPush-to-Lock" BSPT type hose

✓ Saves set-up time by eliminating the need for hose clamps.
✓ Popular sizes for interchangeability with existing DME USA System sockets.
✓ More compact and consistently sized than competitive sockets.
✓ Leakproof brass and stainless steel construction.
✓ Replaceable seals and valves for long service life.

CAD reference point

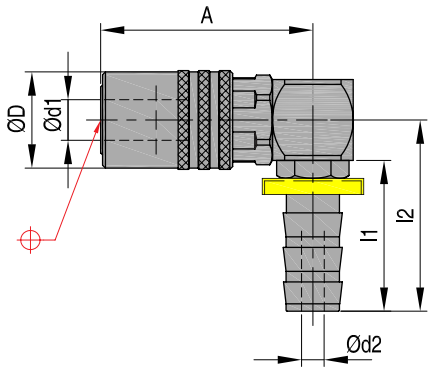
QUICK COUPLING 0° WITH VALVE PL — SUE (0°) PL



Mat.: Brass-stainless steel

REF	D	d1	d2	l2	l1	Fitting hose	Series
SUE106PL	17	9,6	5	53	24	1/4"	N6
SUE109PL	17	9,6	7	50	24	3/8"	N6
SUE111PL	22,6	13,6	8	63	24	3/8"	N9
SUE113PL	22,6	13,6	9	64	28	1/2"	N9
SUE119PL	32	20,1	15	96	38	3/4"	N16

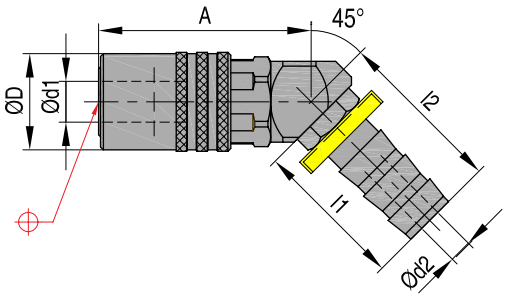
QUICK COUPLING 90° OPEN PL — SUE (90°) PL



Mat.: Brass-stainless steel

REF	D	d1	d2	d3	A	l1	l2	Fitting hose	Series
SUE206PL	17	9,6	4,5	6,3	38	27	29	1/4"	N6
SUE209PL	17	9,6	6	6,3	38	27	29	3/8"	N6
SUE211PL	22,6	13,6	8	6,3	52	27	29	3/8"	N9
SUE213PL	22,6	13,6	10	10,6	50	34	44	1/2"	N9
SUE219PL	32	20,1	15	10,6	68	42	57	3/4"	N16

QUICK COUPLING 45° OPEN PL — SUE (45°) PL

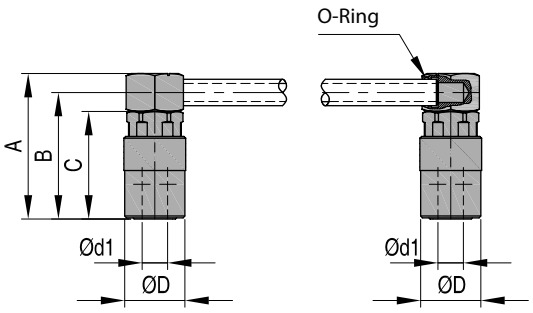


Mat.: Brass-stainless steel

REF	D	d1	d2	A	l1	l2	Fitting hose	Series
SUE306PL	17	9,6	5	38	27	29	1/4"	N6
SUE309PL	17	9,6	6	38	27	29	3/8"	N6
SUE311PL	22,6	13,6	8	52	27	29	3/8"	N9
SUE313PL	22,6	13,6	10	49,8	34	38,75	1/2"	N9
SUE319PL	32	20,1	15	67	42	57	3/4"	N16

CAD reference point

SOCKET ADAPTER WITH VALVE — SUEC...V



Mat.: Brass. Max. T: 200°C & 13,7 bar

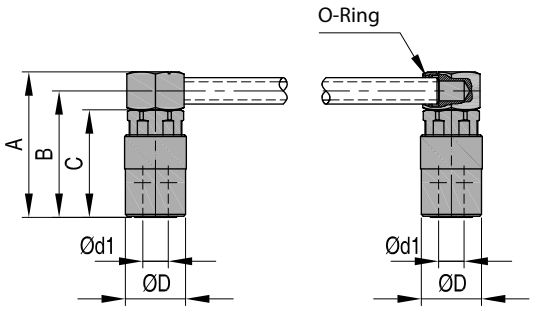
Provides more compact port-to-port connections than conventional hose methodes.

Socket adapter marked with cut-line groove for quick sizing of brass tube length.

REF	A	B	C	D	d1	SW	Series
SUEC0200V	44,2	37,3	30,5	17	9	20	N6
SUEC0300V	57	49,3	41,4	22	13	26	N9

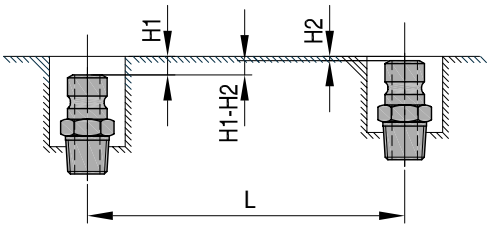
SOCKET ADAPTER OPEN — SUEC

Mat.: Brass. Max. T: 200°C P 13,7 bar

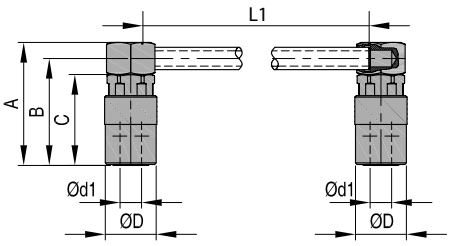


REF	A	B	C	D	d1	SW	Series
SUEC0200	44,2	37,3	30,5	17	9	20	N6
SUEC0300	57	49,3	41,4	22	13	26	N9

INSTALATION GUIDELINES



Use the groove on top of the sockets to accurately measure where to cut the tube JBT.



It is important to reduce the misalignement between the two nipples. It must not be bigger than the value shown on this table.

CAD reference point

COLLAR SPRINGS — SUE 200 - 300 - 500

REF	Series
SUE2003	N6
SUE3003	N9
SUE5003	N16

RETAINER RINGS — SUE 200 - 300 - 500

REF	Series
SUE2004	N6
SUE3004	N9
SUE5004	N16

STAINLESS STEEL BALLS — SUE 200 - 300 - 500

REF	Series
SUE2005	N6
SUE3005	N9
SUE5005	N16

SEALS — SUE 200 - 300 - 500

Mat.: Viton 220°C

REF	Series
SUEP2008NP	N6
SUEP3008NP	N9
SUEP5008NP	N16

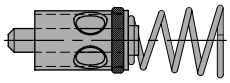
SEALS FOR COOLANT BRIDGE — SUEC - 200 - 300

Mat.: Viton O-Ring

REF	Series
SUEC0011	N6
SUEC0013	N9

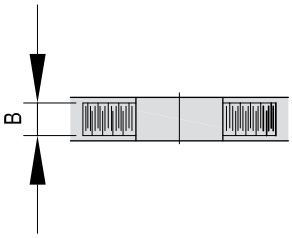
CAD reference point

VALVES + SPRINGS — SUEC - 200 - 300



REF	Series
SUE6601	N6
SUE9601	N9
SUE16601	N16

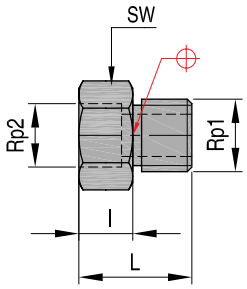
SEALING TAPES — SUEDB



Mat.: PTFE
Max.T=250°C

REF	L	B
SUEDB1206	12 m	6 mm
SUEDB1212	12 m	12 mm

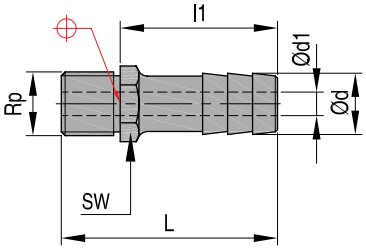
ADAPTERS — SUE



Mat.: Brass

REF	Rp1	Rp2	d	L	l	SW	Series
SUE618	UNEF 7/16"- 32	1/8" BSP	6,4	13	8	13	N6
SUE914	UNEF 5/8"- 24	1/4" BSP	9,5	18	11	19	N9

HOSE NIPPLES — SUE

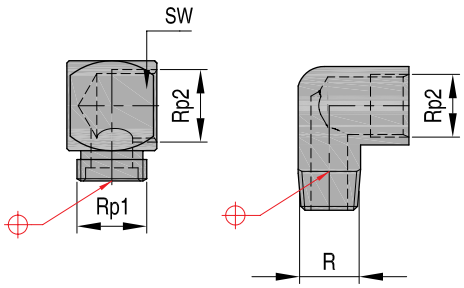


Mat.: Brass

REF	Rp	d1	d	L	l1	SW	Series
SUE66M	UNEF 7/16"-32	5	7,3	32	27	11	N6
SUE69M	UNEF 7/16"-32	6	10,5	32	27	11	N6
SUE911M	UNEF 5/8"-24	9	12,2	33	27	16	N9
SUE913M	UNEF 5/8"-24	9	14,0	33	27	16	N9
SUE50019M	BSP 1/2"-14	16	20,0	56	46	22	N16

CAD reference point

90° ANGLES — SUE



Mat.: Brass

REF	Rp1	Rp2	R	SW	Series
SUE690	UNEF 7/16"-32	UNEF 7/16"-32	-	15	N6
SUE990	UNEF 5/8"-24	UNEF 5/8"-24	-	21	N9

HOSE STEM — SUEPL

Mat.: Brass

REF	Application
SUEPL66	HOSE STEM SERIES N6 SUITED FOR: **SUE106PL - SUEV106PL | SUE206PL - SUEV206PL | SUE306PL - SUEV306PL**
SUEPL69	HOSE STEM SERIES N6 SUITED FOR: **SUE109PL - SUEV109PL | SUE209PL - SUEV209PL | SUE309PL - SUEV309PL**
SUEPL911	HOSE STEM SERIES N9 SUITED FOR: **SUE111PL - SUEV111PL | SUE211PL - SUEV211PL | SUE311PL - SUEV311PL**
SUEPL913	HOSE STEM SERIES N9 SUITED FOR: **SUE113PL - SUEV113PL | SUE213PL - SUEV213PL | SUE313PL - SUEV313PL**
SUEPL1619	HOSE STEM SERIES N16 SUITED FOR: **SUE119PL | SUE219PL | SUE319PL**

HOSE CAP — SUEPLC

Mat.: PVC

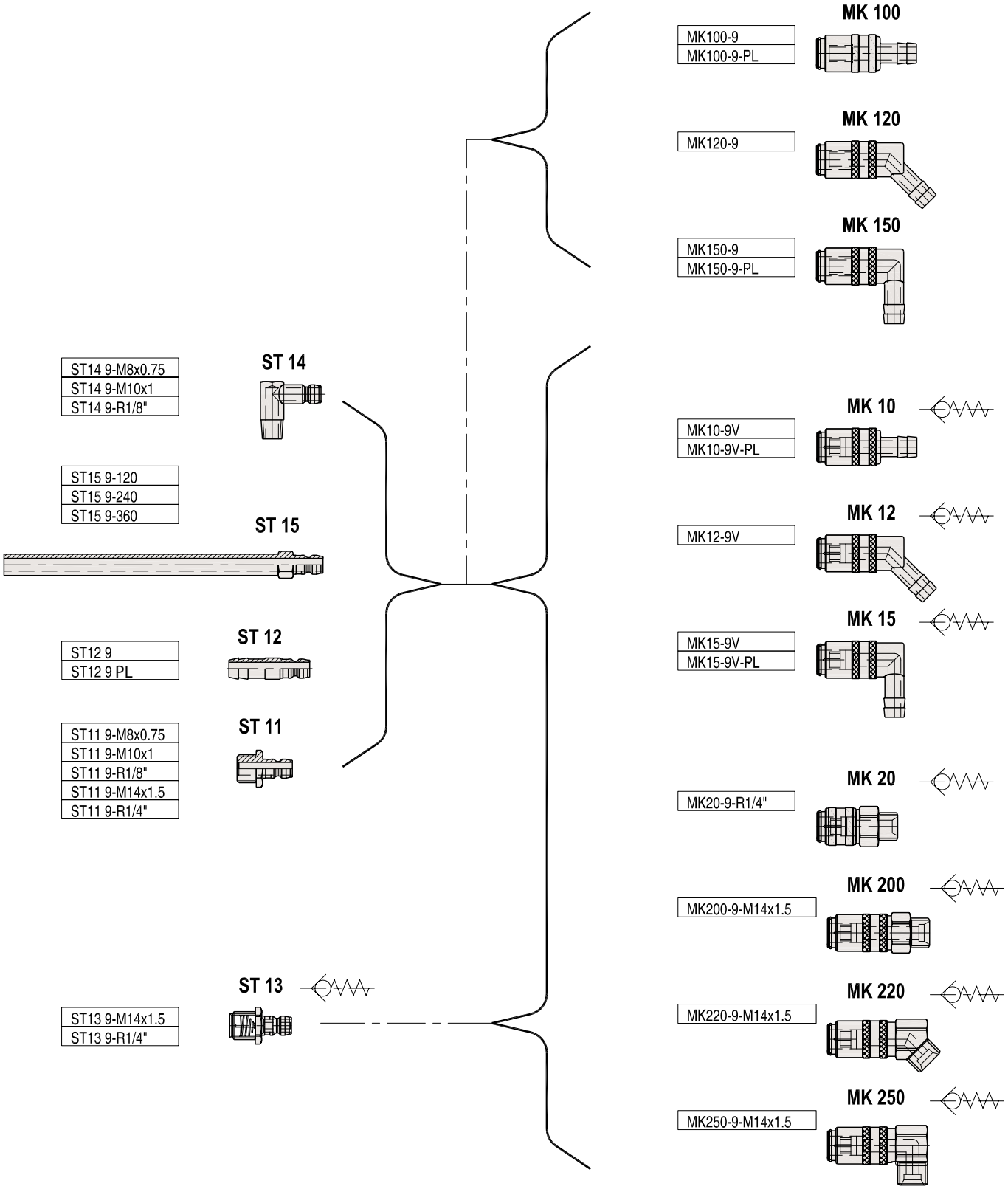
REF	Application
SUEPLC66	HOSE STEM SERIES N6 SUITED FOR: **SUE106PL - SUEV106PL | SUE206PL - SUEV206PL | SUE306PL - SUEV306PL**
SUEPLC69	HOSE STEM SERIES N6 SUITED FOR: **SUE109PL - SUEV109PL | SUE209PL - SUEV209PL | SUE309PL - SUEV309PL**
SUEPLC911	HOSE STEM SERIES N9 SUITED FOR: **SUE111PL - SUEV111PL | SUE211PL - SUEV211PL | SUE311PL - SUEV311PL**
SUEPLC913	HOSE STEM SERIES N9 SUITED FOR: **SUE113PL - SUEV113PL | SUE213PL - SUEV213PL | SUE313PL - SUEV313PL**
SUEPLC1619	HOSE STEM SERIES N16 SUITED FOR: **SUE119PL | SUE219PL | SUE319PL**

CAD reference point

CAD reference point

EURO SERIES

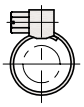
FLOW CHANNEL



CAD reference point

US 1700

US 1700 4

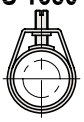


US 1600

US 1600 6

US 1650

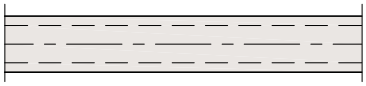
US 1650 6



GS 1090
VM 200

GS 1090 9 *

VM 200 9



Not for "Push-to-Lock"

PTLH

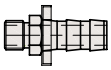
For "Push-to-Lock"

ST 155

ST155 9-120 M14x1.5
ST155 9-240 M14x1.5

HN

HN R1/8" - PL
HN M10x1 - PL



ST 16

ST16 R1/2"
ST16 R3/4"

Accessories

ST 17

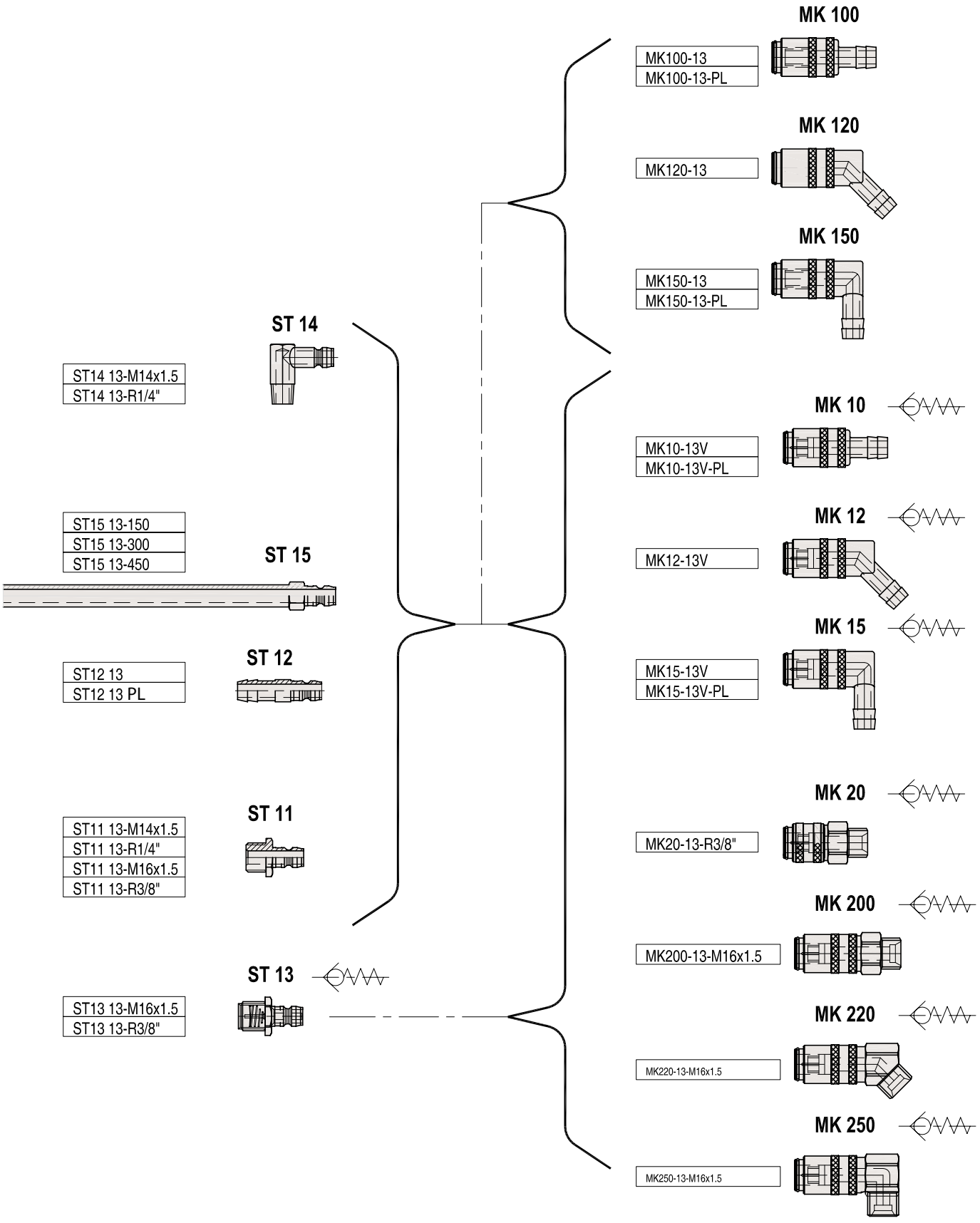
ST17 M14x1.5 - M18x1

M18x1

CAD reference point

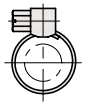
FLOW CHANNEL

max. Ød = 9



US 1700

US 1700 4

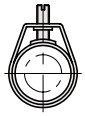


US 1600

US 1600 6

US 1650

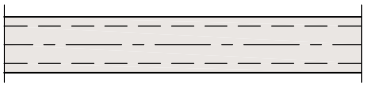
US 1650 6



GS 1090
VM 200

GS 1090 13 *

VM 200 13



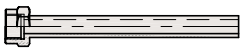
Not for "Push-to-Lock"

PTLH

For "Push-to-Lock"

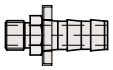
ST 155

ST155 13-150 M16x1.5
ST155 13-300 M16x1.5



HN

HN M14x1.5 - PL
HN R1/4" - PL
HN R3/8" - PL
HN R1/2" - PL



ST 16

ST16 R1/2"
ST16 R3/4"

ST 17

ST17 M24x1.5 - M16x1,5
ST17 R1/2" - R3/8"

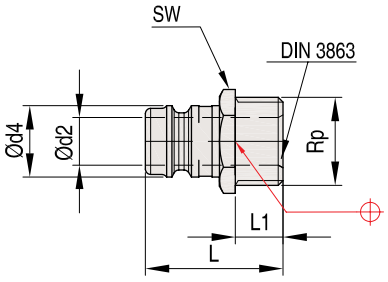
M18x1

Accessories

CAD reference point

OPEN CONNECTOR PLUG ST11

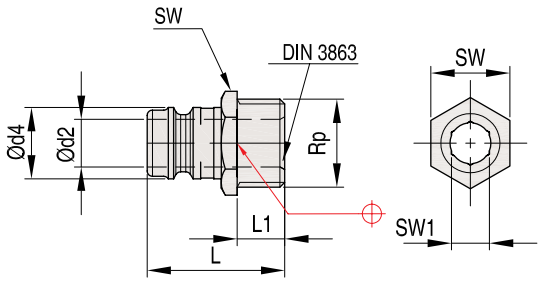
Mat.: Brass



REF	Rp	d2	d4	L	L1	P (bar)	T (°C)	SW
ST1109M80-75	M8x0,75	4,5	9	24	7	15	200	11
ST1109M101	M10x1	6,0	9	24	7	15	200	11
ST1109R1/8	1/8" BSP	6,0	9	24	7	15	200	11
ST1109M141-5	M14x1,5	6,0	9	26	9	15	200	15
ST1109R1/4	1/4" BSP	6,0	9	26	9	15	200	15
ST1113M141-5	M14x1,5	9,0	13	26	9	10	200	15
ST1113R1/4	1/4" BSP	9,0	13	26	9	10	200	15
ST1113M161-5	M16x1,5	9,0	13	26	9	10	200	17
ST1113R3/8	3/8" BSP	9,0	13	26	9	10	200	17

CONNECTOR PLUG WITH INNER HEXAGON ST11

Mat.: Brass
- the inner hexacon connector plugs enable easy mounting where space is limited when working with a wrench
- complete range supplied with thread sealant

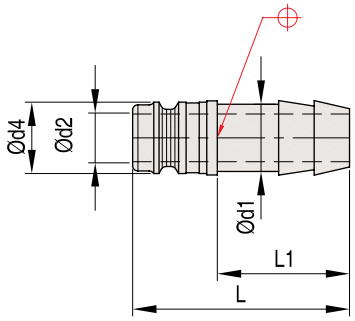


REF	Rp	d2	d4	L	L1	P (bar)	T (°C)	SW	SW1
ST1109R1/8H	1/8" BSP	6	9	24	7	15	200	11	5
ST1109M101H	M10 x 1	6	9	24	7	15	200	11	5
ST1109R1/4H	1/4" BSP	6	9	26	9	15	200	15	5
ST1109M141-5H	M14 x 1,5	6	9	26	9	15	200	15	5
ST1113R1/4H	1/4" BSP	9,3	13	26	9	15	200	15	8
ST1113M141-5H	M14 x 1,5	9,3	13	26	9	15	200	15	8
ST1113M161-5H	M16 x 1,5	9,3	13	26	9	15	200	17	8
ST1113R3/8H	3/8" BSP	9,3	13	26	9	15	200	17	8

CAD reference point

HOSE NIPPLES ST12

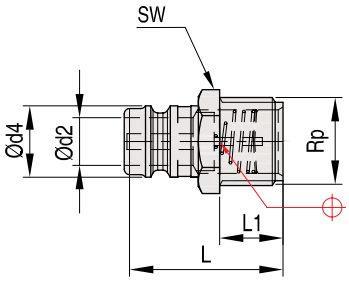
Mat.: Brass



REF	d1	d2	d4	L	L1
ST1209	9	6	9	40	17
ST1213	13	9	13	41	25

SHUT-OFF CONNECTOR PLUG ST13

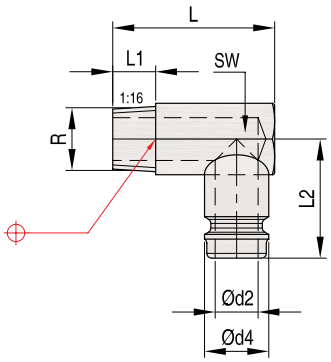
Mat.: Brass, O-ring: Viton



REF	Rp	d2	d4	L	L1	P (bar)	T (°C)	SW
ST1309M141-5	M14x1,5	6	9	29	12	15	200	15
ST1309R1/4	1/4" BSP	6	9	29	12	15	200	15
ST1313M161-5	M16x1,5	9	13	30	12	10	200	17
ST1313R3/8	3/8" BSP	9	13	30	12	10	200	17

CAD reference point

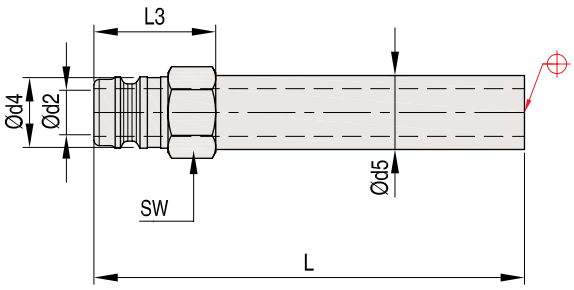
ANGLE CONNECTOR PLUGS ST14



Mat.: Brass

REF	R	d2	d4	L	L1	L2	SW
ST1409M08-075	M8x0,75	4,5	9	27	9	23	11
ST1409M101	M10x1	6,0	9	27	9	23	11
ST1409R1/8	1/8" BSPT	6,0	9	27	9	23	11
ST1413M141-5	M14x1,5	9,0	13	34	9	25	15
ST1413R1/4	1/4" BSPT	9,0	13	34	9	25	15

EXTENSION NIPPLES ST15



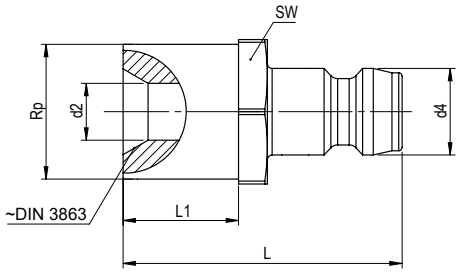
Mat.: Brass

REF	d2	d4	d5	l3	L	SW
ST1509120	6	9	10	21	120	11
ST1509240	6	9	10	21	240	11
ST1509360	6	9	10	21	360	11
ST1513150	9	13	14	23	150	15
ST1513300	9	13	14	23	300	15
ST1513450	9	13	14	23	450	15

CAD reference point

SHUT-OFF VALVE WITH NIPPLE — STH13

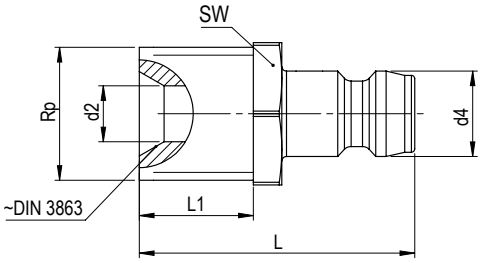
Mat.: 2.0401



REF	Rp	d2	d4	L	L1	SW	P
STH1309M14	M14 x 1,5	6	9	29	12	15	25
STH1309R1/4	G 1/4"	6	9	29	12	15	25
STH1313M16	M16 x 1,5	9	13	30	12	17	25
STH1313R38	G 3/8"	9	13	30	12	17	25

SHUT-OFF NIPPLE — STEH13

Mat.: 1.4305



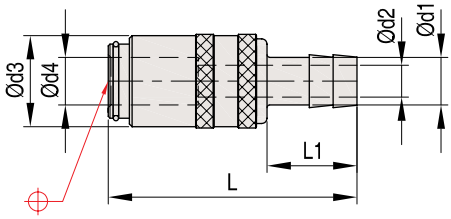
REF	Rp	d2	d4	L	L1	SW	P
STEH1309VM14	M14 x 1,5	6	9	29	12	15	25
STEH1309VR1/4	G 1/4"	6	9	29	12	15	25
STEH1309VNPT14	1/4" NPT	6	9	30	13	15	25
STEH1313VM16	M16 x 1,5	9	13	30	12	17	25
STEH1313VR38	G 3/8"	9	13	30	12	17	25
STEH1313NPT38	3/8" NPT	9	13	31	13	17	25

CAD reference point

COUPLINGS

QUICK RELEASE COUPLING STRAIGHT WITH VALVE **MK10**

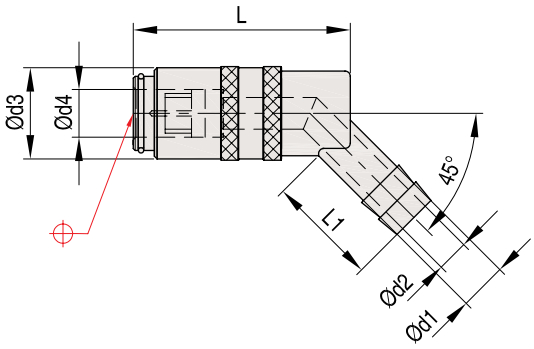
Mat.: Brass, O-ring: Viton



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK1009V	9	6	17	9	47	17	15	200
MK1013V	13	9	22	13	61	25	10	200

QUICK RELEASE COUPLING 45° WITH VALVE **MK12**

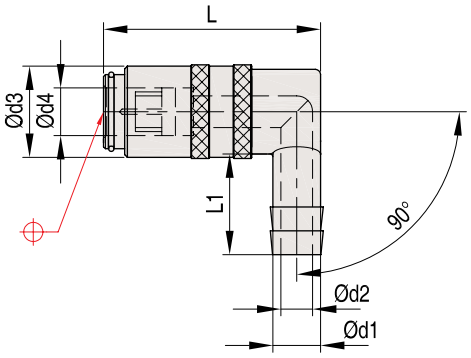
Mat.: Brass, O-ring: Viton



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK1209V	9	6	17	9	41	17	15	200
MK1213V	13	9	22	13	51	25	10	200

QUICK RELEASE COUPLING 90° WITH VALVE **MK15**

Mat.: Brass, O-ring: Viton

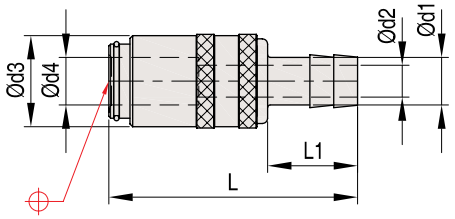


REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK1509V	9	6	17	9	41	19	15	200
MK1513V	13	9	22	13	51	28	10	200

CAD reference point

QUICK RELEASE COUPLING STRAIGHT — MK100

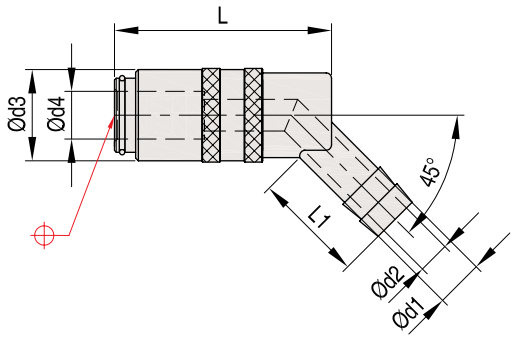
Mat.: Brass, O-ring: Viton



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK10009	9	6	17	9	47	17	15	200
MK10013	13	9	22	13	61	25	10	200

QUICK RELEASE COUPLING 45° — MK120

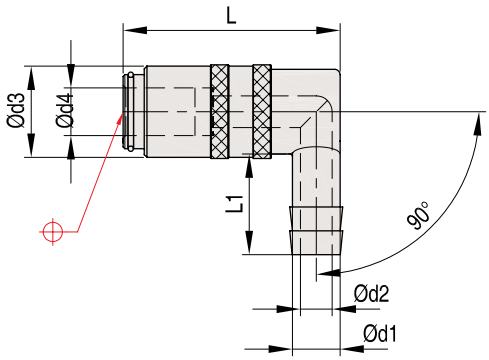
Mat.: Brass, O-ring: Viton



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK12009	9	6	17	9	41	17	15	200
MK12013	13	9	22	13	51	25	10	200

QUICK RELEASE COUPLING 90° — MK150

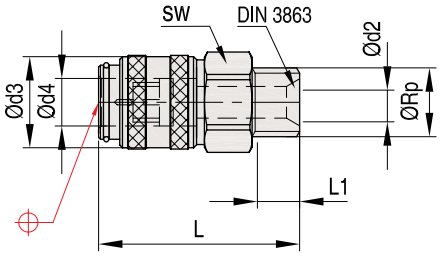
Mat.: Brass, O-ring: Viton



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK15009	9	6	17	9	41	19	15	200
MK15013	13	9	22	13	51	28	10	200

CAD reference point

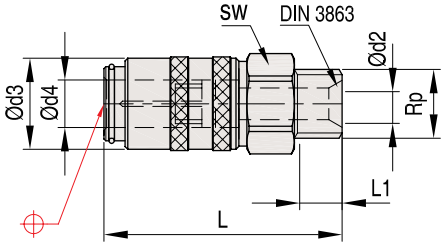
QUICK RELEASE COUPLING STRAIGHT WITH VALVE AND THREAD **MK20**



Mat.: Brass, O-ring: Viton

REF	Rp	d2	d3	d4	L	L1	P (bar)	T (°C)	SW
MK2009R1/4	1/4" BSP	7	18	9	38	9	15	200	17
MK2013R3/8	3/8" BSP	10	23	13	38	9	10	200	22

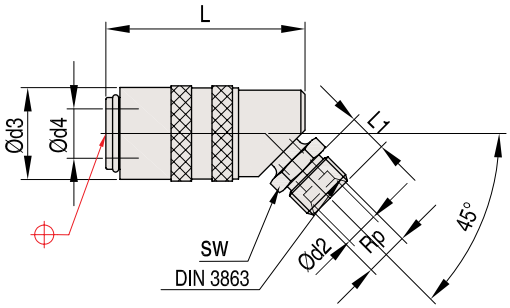
QUICK RELEASE COUPLING STRAIGHT WITH VALVE AND THREAD **MK200**



Mat.: Brass, O-ring: Viton

REF	Rp	d2	d3	d4	L	L1	P (bar)	T (°C)	SW
MK20009M141-5	M14x1,5	6	17	9	48	9	15	200	17
MK20013M161-5	M16x1,5	9	23	13	52	9	10	200	22

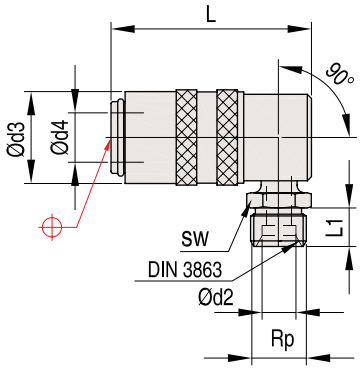
QUICK RELEASE COUPLING 45° WITH VALVE AND THREAD **MK220**



Mat.: Brass, O-ring: Viton

REF	Rp	d2	d3	d4	L	L1	P (bar)	T (°C)	SW
MK22009M141-5	M14x1,5	6	18	9	42	9	15	200	17
MK22013M161-5	M16x1,5	9	23	13	52	10	10	200	17

QUICK RELEASE COUPLING 90° WITH VALVE AND THREAD **MK250**



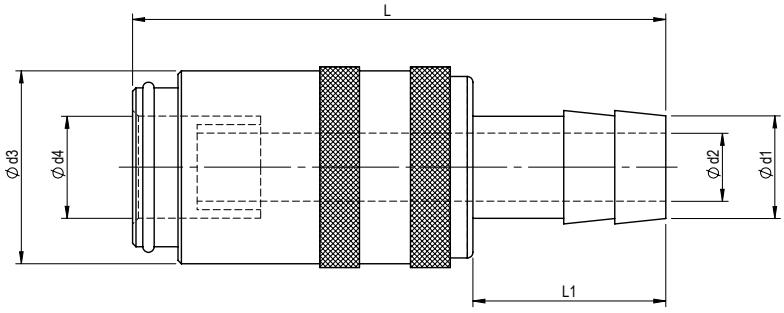
Mat.: Brass, O-ring: Viton

REF	Rp	d2	d3	d4	L	L1	P (bar)	T (°C)	SW
MK25009M141-5	M14x1,5	6	18	9	42	9	15	200	17
MK25013M161-5	M16x1,5	9	23	13	52	10	10	200	17

CAD reference point

SHUT-OFF COUPLING WITH VALVE — MKH10

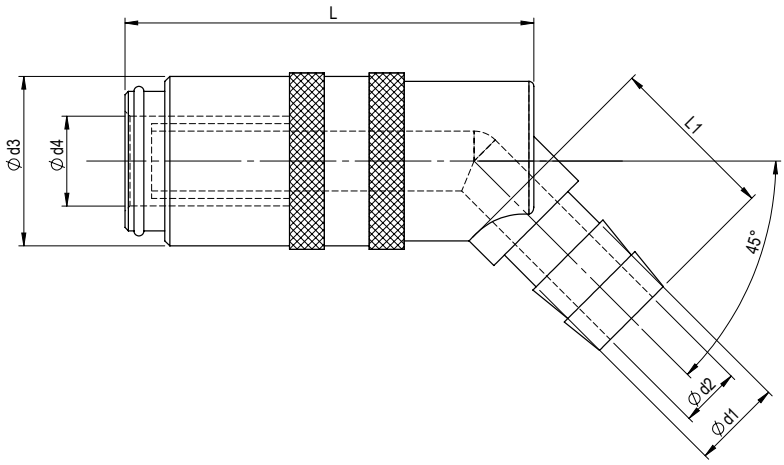
Mat.: 2.0401



REF	d1	d2	d3	d4	L	L1	P
MKH1009V	9	6	17	9	53	22	25
MKH1013V	13	9	22	13	62	25	25

SHUT-OFF COUPLING WITH VALVE, 45° — MKH12

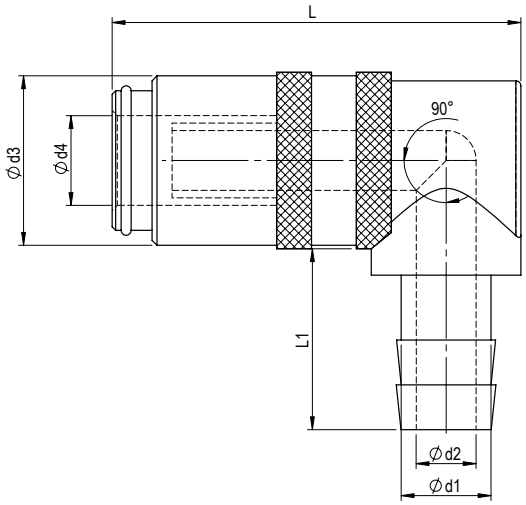
Mat.: 2.0401



REF	d1	d2	d3	d4	L	L1	P
MKH1209V	9	6	17	9	41	28	25
MKH1213V	13	9	22	13	51	28	25

SHUT-OFF COUPLING WITH VALVE, 90° — MKH15

Mat.: 2.0401

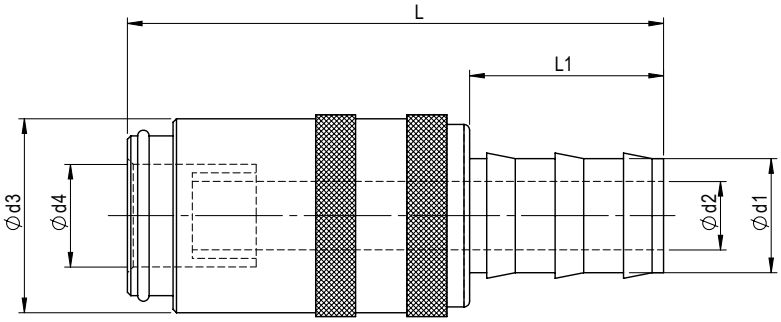


REF	d1	d2	d3	d4	L	L1	P
MKH1509V	9	6	17	9	41	24	25
MKH1513V	13	9	22	13	51	28	25

CAD reference point

SHUT-OFF COUPLING WITH VALVE — MKEH10

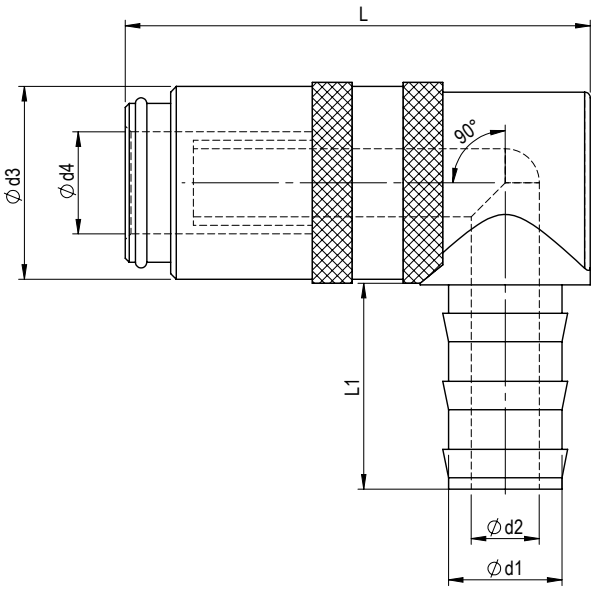
Mat.: 2.0401



REF	d1	d2	d3	d4	L	L1	P
MKEH1009V	9	6	17	9	52,5	22,5	25
MKEH1013V	13	9	22	13	61,5	25	25

SHUT-OFF COUPLING WITH VALVE, 90° — MKEH15

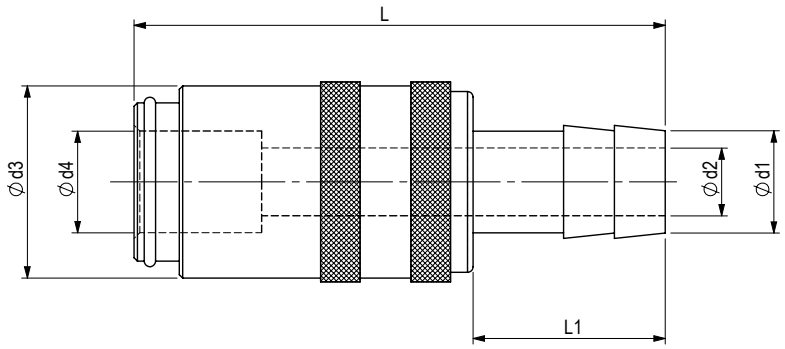
Mat.: 2.0401



REF	d1	d2	d3	d4	L	L1	P
MKEH1509V	9	6	17	9	48	26	25
MKEH1513V	13	9	22	13	53,5	30,5	25

CAD reference point

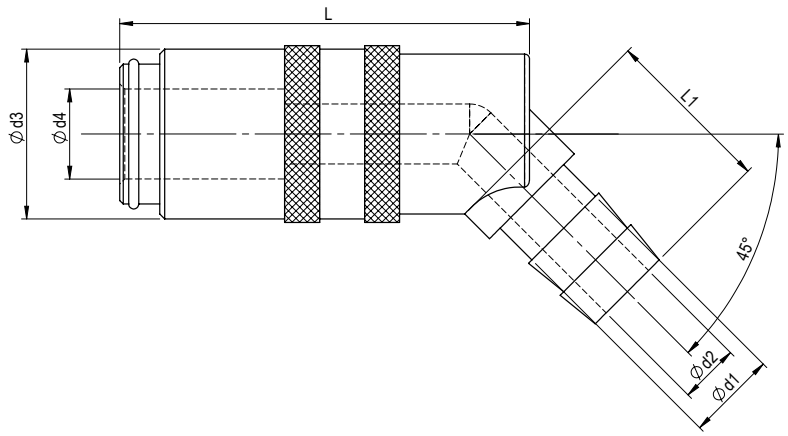
RAPID COUPLING, OPEN FLOW — MKH100



Mat.: 2.0401

REF	d1	d2	d3	d4	L	L1	P
MKH1009	9	6	17	9	53	22	25
MKH1013	13	9	22	13	62	25	25

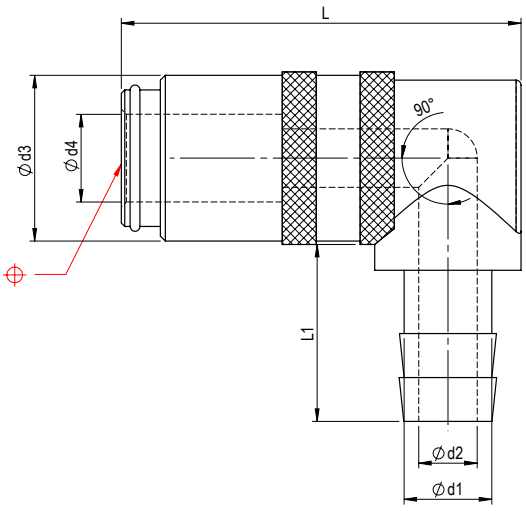
RAPID COUPLING, OPEN FLOW, 45° — MKH120



Mat.: 2.0401

REF	d1	d2	d3	d4	L	L1	P
MKH1209	9	6	17	9	41	28	25
MKH1213	13	9	22	13	51	28	25

RAPID COUPLING, OPEN FLOW, 90° — MKH150



Mat.: 2.0401

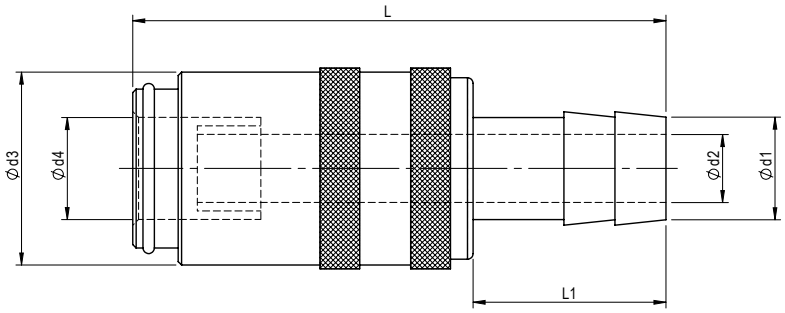
REF	d1	d2	d3	d4	L	L1	P
MKH1509	9	6	17	9	41	28	25
MKH1513	13	9	22	13	51	28	25

CAD reference point

COUPLINGS

SHUT-OFF COUPLING WITH VALVE — MKH200

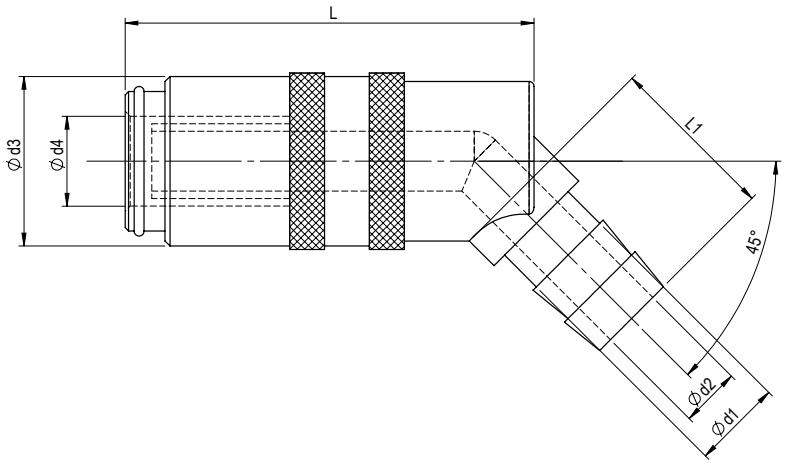
Mat.: 2.0401



REF	Rp	d2	d3	d4	L	L1	SW	P
MKH20009M14V	M14 × 1,5	6	17	9	48	9	17	25
MKH20013M16V	M16 × 1,5	9	23	13	52	9	22	25

SHUT-OFF COUPLING WITH VALVE, 45° — MKH220

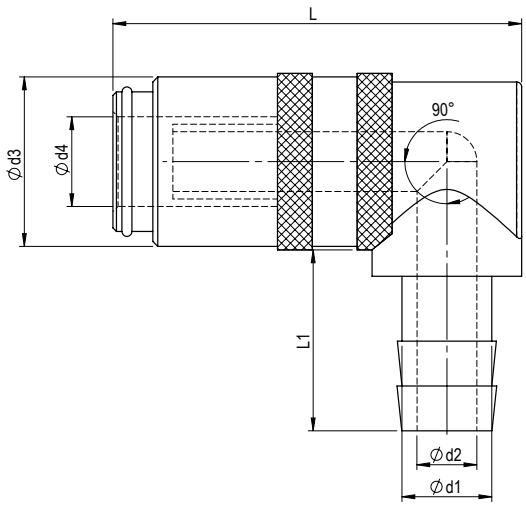
Mat.: Mat.: 2.0401



REF	Rp	d2	d3	d4	L	L1	SW	P
MKH22009M14V	M14 × 1,5	6	17	9	47	9	17	25
MKH22013M16V	M16 × 1,5	9	22	13	54	9	22	25

SHUT-OFF COUPLING WITH VALVE, 90° — MKH250

Mat.: Mat.: 2.0401

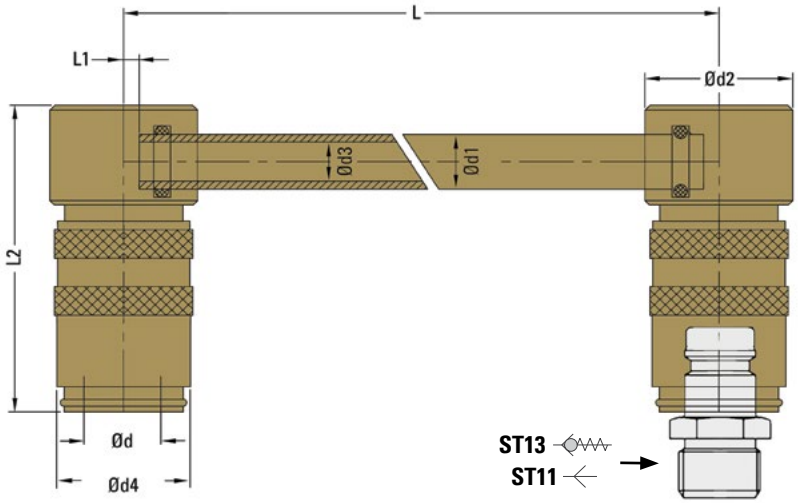


REF	Rp	d2	d3	d4	L	L1	SW	P
MKH25009M14V	M14 × 1,5	6	17	9	47	9	17	25
MKH25013M16V	M16 × 1,5	9	22	13	54	9	22	25

CAD reference point

PLUG-IN BRIDGE — MKUV

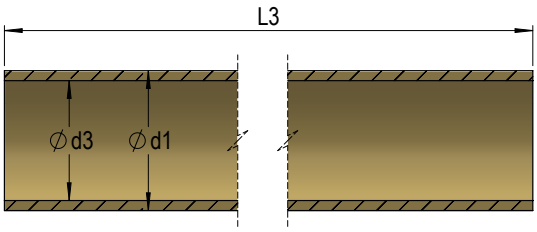
Mat.: Brass



REF		d	d1	d2	d3	d4	L	L1	L2	REF	
MKUV09125	MKU09125	9	8	20	6	17,3	125	0	44	MKUV09	MKU09
MKUV09250	MKU09250	9	8	20	6	17,3	250	0	44		
MKUV09500	MKU09500	9	8	20	6	17,3	500	0	44		
MKUV13125	MKU13125	13,5	10	26	8	23	125	2	53	MKUV13	MKU13
MKUV13250	MKU13250	13,5	10	26	8	23	250	2	53		
MKUV13500	MKU13500	13,5	10	26	8	23	500	2	53		
MKUV19160	MKU19160	19	14	36	12	31	160	3	80	MKUV19	MKU19
MKUV19315	MKU19315	19	14	36	12	31	315	3	80		
MKUV19500	MKU19500	19	14	36	12	31	500	3	80		

SPARE TUBE — MKUT

Mat.: Brass



REF	d1	d3	L3	For
MKUT09125	8	6	125	MKUV09 / MKU09
MKUT09250	8	6	250	
MKUT09500	8	6	500	
MKUT13125	10	8	121	MKUV13 / MKU13
MKUT13250	10	8	246	
MKUT13500	10	8	496	
MKUT19160	14	12	154	MKUV19 / MKU19
MKUT19315	14	12	309	
MKUT19500	14	12	494	

CAD reference point

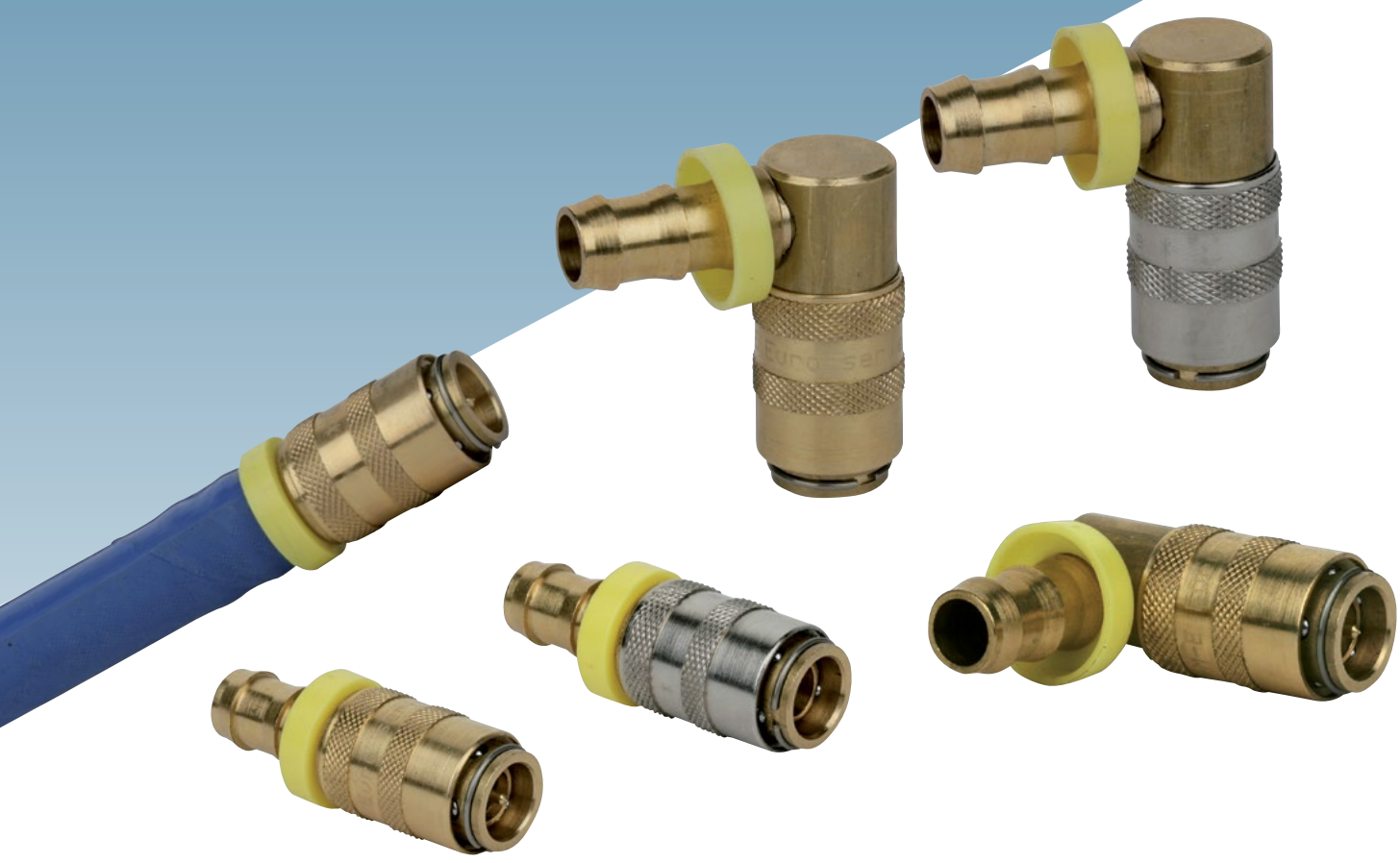
CAD reference point

EURO PUSH-TO-LOCK

DME Euro Series sockets used with special Push-to-Lock™ hose do not require the use of a hose clamp for hose retention. The special hose is simply pushed onto the stem and will stay on without any additional fasteners, even under conditions of severe temperature, vibration and pressure. The sockets have a yellow plastic collar, purely for identification, to cover the cut end of the hose.

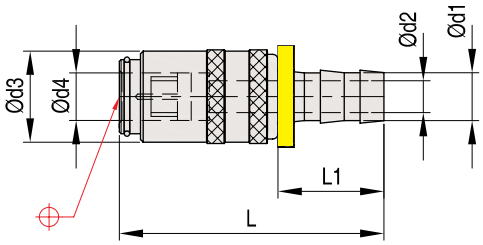
Euro sockets are compatible with standard sockets/plugs. They are made of exactly the same brass and use the same high quality Viton seals.

Use special Push-to-Lock™ hose (PTLH) only. Euro connector sockets are for use with water and water-based coolants only. Although the Sockets are suitable for temperatures to 200°C observe the temperature ratings of the hose (standard 85°C). Never exceed 13 bar.



QUICK RELEASE COUPLING STRAIGHT WITH VALVE "PUSH-TO-LOCK" MK10-PL

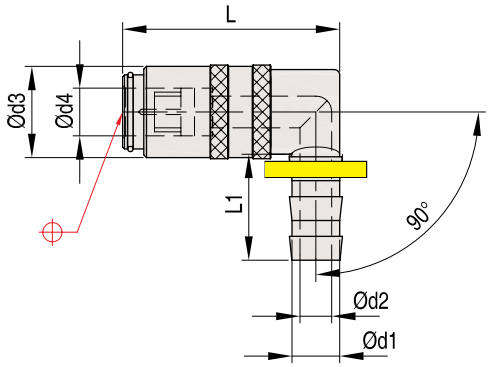
Mat.: Brass, O-ring: Viton



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK1009VPL	10	7,5	17	9	54	24	15	200
MK1013VPL	13	10	23	13	64	28	10	200

QUICK RELEASE COUPLING 90° WITH VALVE "PUSH-TO-LOCK" MK15-PL

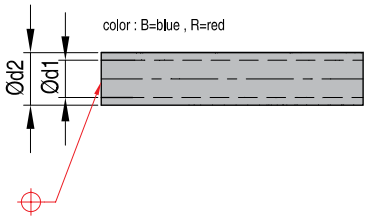
Mat.: Brass, O-ring: Viton



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK1509VPL	10	7,5	17	9	42	24	15	200
MK1513VPL	13	10	23	13	52	28	10	200

"PUSH-TO-LOCK" HOSES PTLH

Mat.: Mixture of synthetic elastomers, black smooth

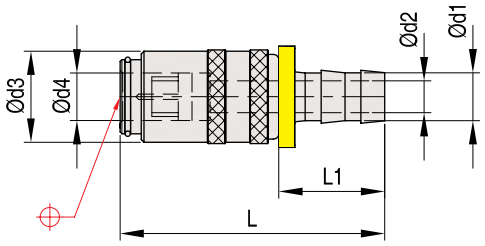


REF	d1	d2	Pmax.	T (°C)	Info
PTLH10R	3/8"	16	20bar	-35->85	20m roll
PTLH10B					
PTLH13R	1/2"	19	20bar	-35->85	20m roll
PTLH13B					

CAD reference point

QUICK RELEASE COUPLING STRAIGHT "PUSH-TO-LOCK" — MK 100 - PL

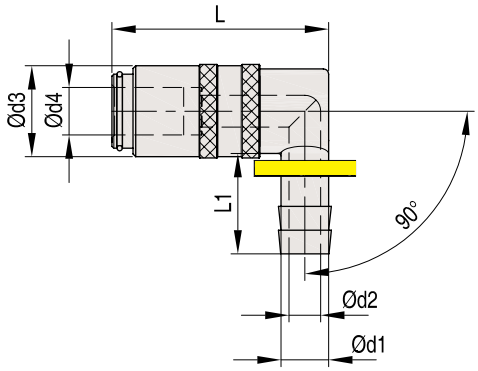
Mat.: Brass, O-ring: Viton



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK10009PL	10	7,5	17	9	54	24	15	200
MK10013PL	13	10	23	13	64	28	10	200

QUICK RELEASE COUPLING 90° "PUSH-TO-LOCK" — MK 150 - PL

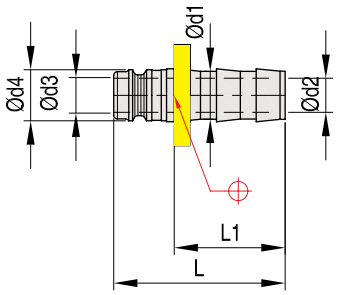
Mat.: Brass, O-ring: Viton



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MK15009PL	10	7,5	17	9	42	24	15	200
MK15013PL	13	10	23	13	52	28	10	200

HOSE NIPPLES "PUSH-TO-LOCK" — ST 12 - PL

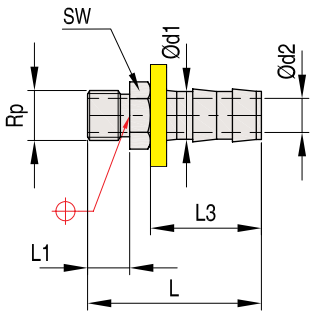
Mat.: Brass



REF	d1	d2	d3	d4	L1	L
ST1209PL	10	7,5	6	9	24	44
ST1213PL	13	10	9	13	28	45

HOSE NIPPLES "PUSH-TO-LOCK" — HN - PL

Mat.: Brass

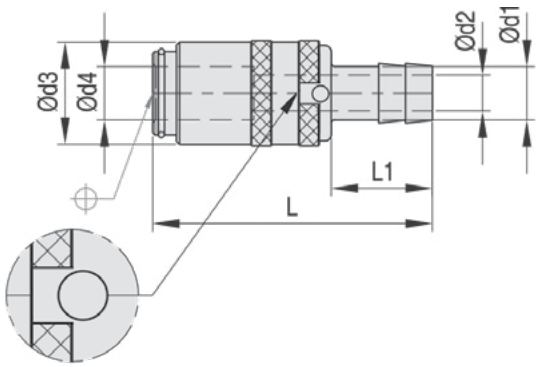


REF	Rp	d1	d2	L	L1	L3	SW
HNR18PL	R1/8" BSP	10	6	39	9	24	17
HNM101PL	M10x1	10	6	39	9	24	17
HNM141-5PL	M14x1,5	12,7	9	45	11	28	17
HNR14PL	R1/4" BSP	12,7	9	45	11	28	17
HNR38PL	R3/8" BSP	12,7	10	45	11	28	19
HNR12PL	R1/2" BSP	12,7	10	49	14	28	22

CAD reference point

SAFETY COUPLINGS

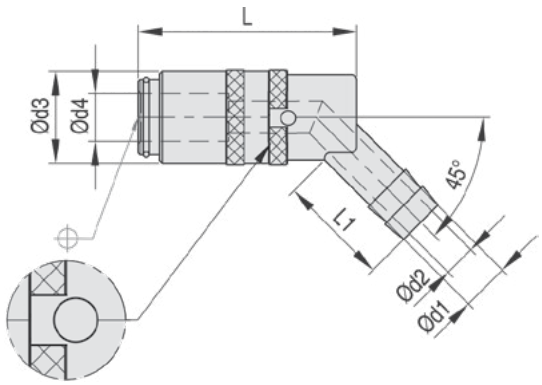
QUICK RELEASE SAFETY COUPLING STRAIGHT **MKS100**



Mat.: Brass, O-ring: Viton
- Extra bayonet-safety sleeve prevents accidental unlocking

REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MKS10009	9	6	17	9	47	17	15	200
MKS10013	13	9	22	13	61	25	10	200

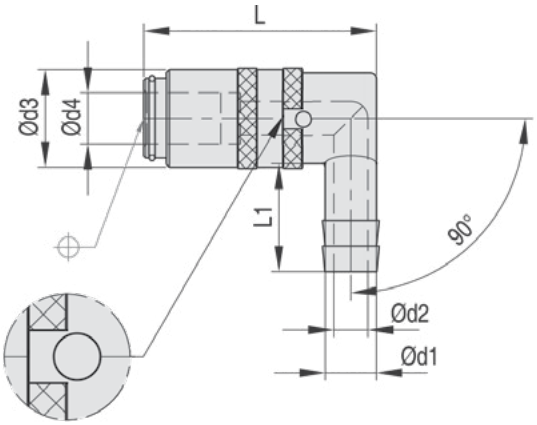
QUICK RELEASE SAFETY COUPLING 45° **MKS120**



Mat.: Brass, O-ring: Viton

REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MKS12009	9	6	17	9	41	17	15	200
MKS12013	13	9	22	13	51	25	10	200

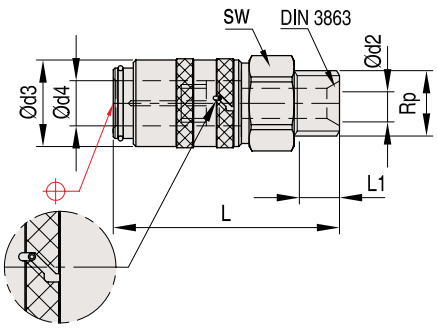
QUICK RELEASE SAFETY COUPLING 90° **MKS150**



Mat.: Brass, O-ring: Viton

REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MKS15009	9	6	17	9	41	19	15	200
MKS15013	13	9	22	13	51	28	10	200

QUICK RELEASE SAFETY COUPLING STRAIGHT WITH VALVE AND THREAD **MKS200**



Mat.: Brass, O-ring: Viton

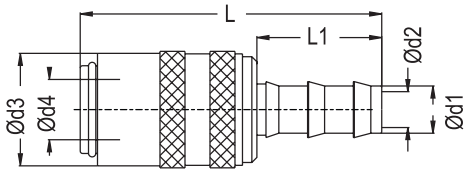
REF	Rp	d2	d3	d4	L	L1	P (bar)	T (°C)	SW
MKS20009M141-5	M14x1,5	6	17	9	48	9	15	200	17
MKS20013M161-5	M16x1,5	9	23	13	52	9	10	200	22

CAD reference point

STAINLESS STEEL COUPLINGS

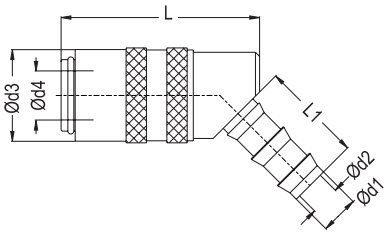
STAINLESS STEEL COUPLINGS

STAINLESS STEEL COUPLINGS WITH VALVE AND PUSH TO LOCK **MKE10**



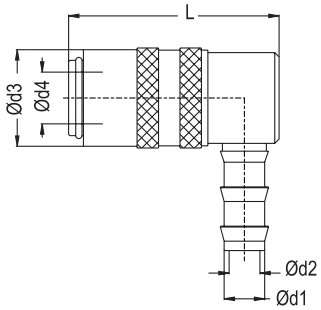
REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MKE1009VPL	10	7	17	9	52	24	10	200
MKE1013VPL	13	10	23	13	64	28	15	200

STAINLESS STEEL COUPLINGS WITH VALVE AND PUSH TO LOCK 45° **MKE12**



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MKE1209VPL	10	7	17	9	48	24	10	200
MKE1213VPL	13	10	23	13	55	28	15	200

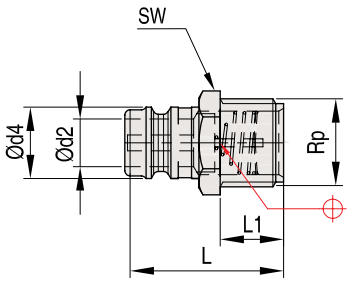
STAINLESS STEEL COUPLINGS WITH VALVE AND PUSH TO LOCK 90° **MKE15**



REF	d1	d2	d3	d4	L	L1	P (bar)	T (°C)
MKE1509VPL	10	7	17	9	47	24	10	200
MKE1513VPL	13	10	23	13	55	28	15	200

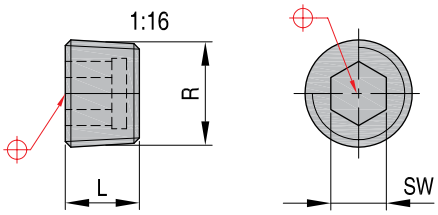
CAD reference point

STAINLESS STEEL CONNECTOR PLUG WITH VALVE — STE



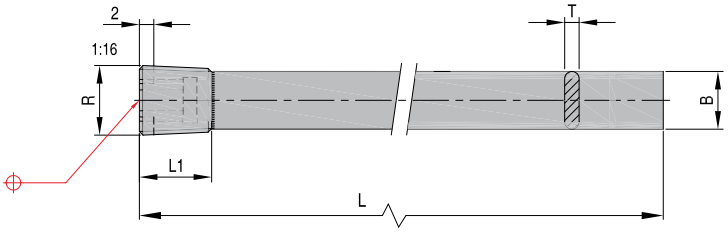
REF	Rp	d2	d4	L	L1	P (bar)	T (°C)	SW
STE1309VM14	M14 x 1,5	6	9	30	12	10	200	14
STE1313VM14	M14 x 1,5	9	13	30	12	15	200	14

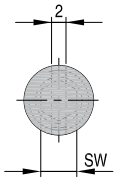
STAINLESS STEEL PRESSURE PLUGS — ANE

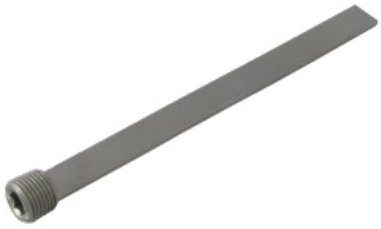


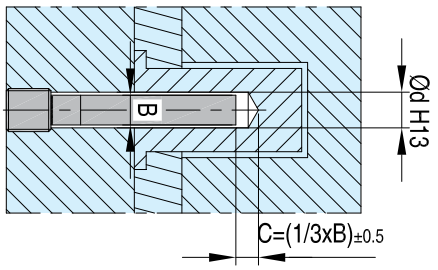
REF	R	L	SW
ANE8	BSPT1/8	8	5
ANE4	BSPT 1/4	10	6
ANE3	BSPT 3/8	11	8
ANE2	BSPT 1/2	13	10
ANEM8	M8 x 0,75	8	4
ANEM10	M10 x 1	8	5
ANEM12	M12 x 1,5	10	6
ANEM14	M14 x 1,5	10	7

STAINLESS STEEL PLUG BAFFLES — BBE









REF	R	B	L	L1	T	d	SW
BBE10018	1/8" BSPT	8,2	104	8	1,6	8,5	5
BBE20018	1/8" BSPT	8,2	204	8	1,6	8,5	5
BBE12514	1/4" BSPT	11,2	131	10	2,4	11,5	7
BBE25014	1/4" BSPT	11,2	258	10	2,4	11,5	7
BBE15038	3/8" BSPT	14,2	156	10	2,4	15,0	8
BBE30038	3/8" BSPT	14,2	309	10	2,4	15,0	8
BBE20012	1/2" BSPT	18,2	207	10	2,4	18,5	10
BBE40012	1/2" BSPT	18,2	410	10	2,4	18,5	10
BBE30034	3/4" BSPT	23,2	309	12	3,2	23,5	12
BBE50034	3/4" BSPT	23,2	512	12	3,2	23,5	12

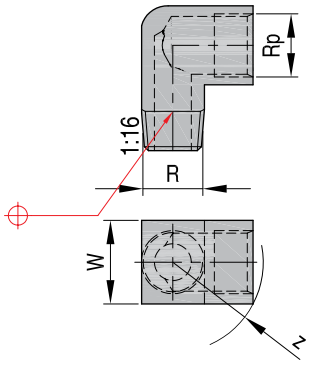
CAD reference point

CAD reference point

ACCESSORIES

NIPPLES

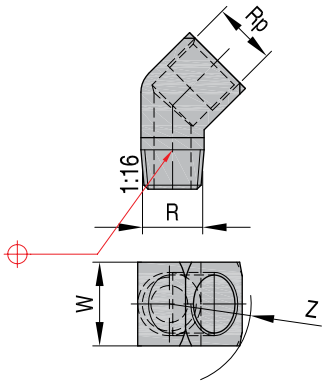
90° BSP ELBOWS — 200 / 300 / 500 - 90°



Mat.: Brass

REF	R	Rp	W	Z
20090BSP	1/8" BSPT	1/8" BSP	13	13
30090BSP	1/4" BSPT	1/4" BSP	18	18
50090BSP	1/2" BSPT	1/2" BSPT	26	27

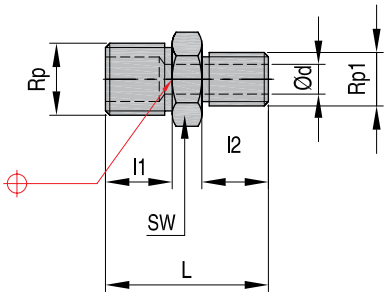
45° BSP ELBOWS — 200 / 300 / 500 - 45°



Mat.: Brass

REF	R	Rp	W	Z
20045BSP	1/8" BSPT	1/8" BSP	13	13
30045BSP	1/4" BSPT	1/4" BSP	18	18
50045BSP	1/2" BSPT	1/2" BSPT	24	23

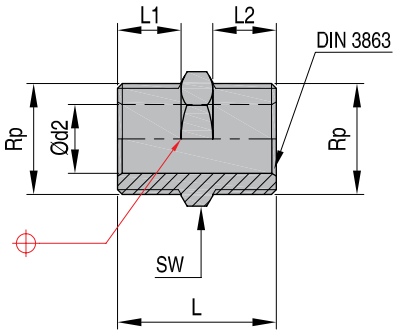
DOUBLE NIPPLES — FDN



Mat.: Brass

REF	Rp	Rp1	L	l1	l2	d	SW
FDN3814	3/8" BSP	1/4" BSP	27	11	11	6,5	19
FDN3812	1/2" BSP	3/8" BSP	30	12	9	12	22
FDN1212	1/2" BSP	1/2" BSP	33	12	12	14	22

DOUBLE NIPPLES — ST16

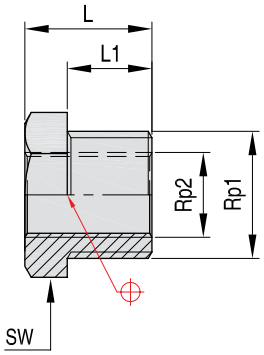


Mat.: Brass

REF	Rp	d2	L	L1	L2	SW
ST16M141-5	M14x1,5	6	23	9	9	17
ST16R1/4	1/4" BSP	6	23	9	9	17
ST16M161-5	M16x1,5	9	23	9	9	19
ST16R3/8	3/8" BSP	9	23	9	9	19
ST16R1/2	1/2" BSP	13	30	12	12	22
ST16M241-5	M24x1,5	13	40	16	16	27
ST16R3/4	3/4" BSP	13	40	16	16	27

CAD reference point

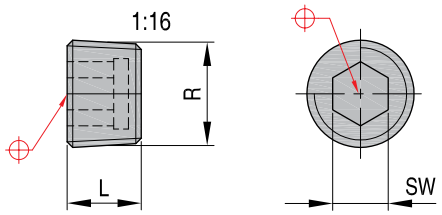
REDUCING NIPPLES — ST17



Mat.: Brass

REF	Rp1	Rp2	L	L1	SW
ST17M141-5M101	M14x1,5	M10x1	11	7	17
ST17M181-5M1415	M18x1,5	M14x1,5	14	9	22
ST17R1/4R1/8	1/4" BSP	1/8" BSP	11	7	17
ST17R3/8R1/4	3/8" BSP	1/4" BSP	13	9	19
ST17R1/2R3/8	1/2" BSP	3/8" BSP	18	12	24
ST17G3/4R3/8	3/4" BSPP	3/8" BSPT	25	17	27
ST17M241-5M1615	M24x1,5	M16x1,5	24	16	27

PRESSURE PLUGS — AN

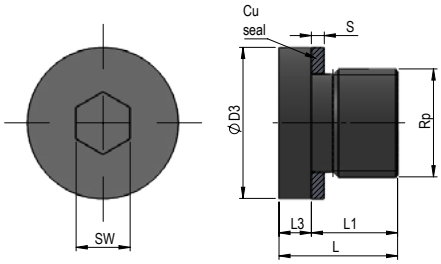


Mat.: Brass

REF	R	L	SW
AN2	1/2" BSPT	10	10
AN3	3/8" BSPT	10	8
AN4	1/4" BSPT	10	7
AN8	1/8" BSPT	8	5
ANM5	M5x0,5	5	3
ANM6	M6x0,75	7	3
ANM7	M7x1	8	4

REF	R	L	SW
ANM8	M8 x 0,75	8	4
ANM9	M9x1	8	5
ANM10	M10 x 1	8	5
ANM11	M11x1	8	5
ANM12	M12 x 1,5	10	6
ANM14	M14 x 1,5	10	7

SCREW PLUG WITH COLLAR AND COPPER SEALING WASHER — R170R



Mat.: 2.0401 (CuZn) DIN 908
Max. P: = 16 bar
Max. T: = 250°C

REF	Rp	SW	S	L	L1	L3	D3	D1	L1 min.	D4	T [Nm][1)]
R170RM09	M9 x 1	4	1,0	11	8	3	13	9	8	14	5 Nm
R170RM10	M10 x 1	5	1,5	11	8	3	14	10	8	15	6 Nm
R170RM11	M11 x 1	5	1,0	11	8	3	15	11	8	16	9 Nm
R170RM12	M12 x 1,5	6	1,5	15	12	3	17	12	12	18	12 Nm
R170RM14	M14 x 1,5	6	1,2	15	12	3	19	14	12	20	22 Nm
R170R1/8	G1/8"	5	1,5	11	8	3	14	9.73	8	15	6 Nm
R170R1/4	G1/4"	6	1,5	15	12	3	18	13.16	12	20	22 Nm
R170R3/8	G3/8"	8	1,5	15	12	3	22	16.66	12	23	30 Nm
R170R1/2	G1/2"	10	1,5	18	14	4	26	20.96 [2)]	14	28	42 Nm
R170R3/4	G3/4"	12	2,0	20	15	3	32	26.44 [2)]	16	33	50 Nm

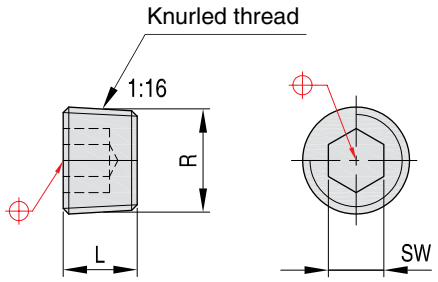
Note:

1. T: max. tightening torque [Nm]
2. ≥ G 1/2: countersink D1 + 0.8 mm

CAD reference point

KNURLED PRESSURE PLUGS V3...

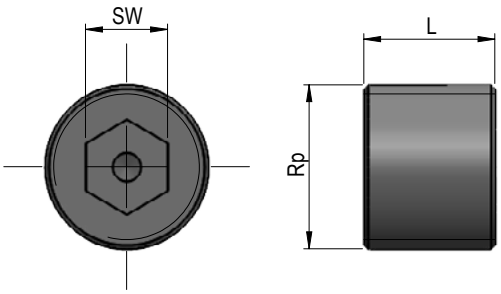
Mat.: Brass
Norm DIN 906



REF	R	L	SW
V368M050-50	M5 x 0,5	5	3
V369M060-75	M6 x 0,75	7	3
V370M071-00	M7 x 1	8	4
V360M080-75	M8 x 0,75	8	4
V371M091-00	M9 x 1	8	5
V361M101	M10 x 1	8	5
V372M111-00	M11 x 1	8	5
V365M121-5	M12 x 1,5	8	6
V366M141-5	M14 x 1,5	10	7
V362R1/8	1/8" BSPT	8	5
V363R1/4	1/4" BSPT	10	7
V364R3/8	3/8" BSPT	10	8
V367R1/2	1/2" BSPT	10	10
V373N1/8	NPT 1/8"	8	5
V374N1/4	NPT 1/4"	10	7
V375N3/8	NPT 3/8"	10	8
V376N1/2	NPT 1/2"	12	12

SCREW PLUG WITH CYLINDRICAL KNURLED THREAD V3...C

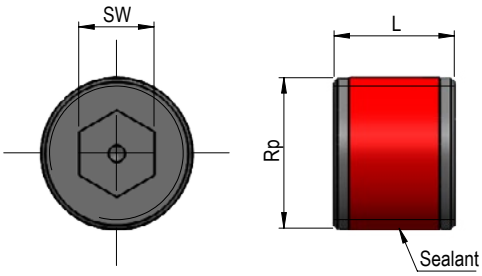
Mat.: 2.0401 (CuZn)
Max. P.: 16 bar
Without sealant



REF	RP	L	SW
V368CM050-50	M5 x 0,5	6	3
V369CM060-75	M6 x 0,75	7	3
V370CM071-00	M7 x 1	8	4
V360CM080-75	M8 x 0,75	8	4
V371CM091-00	M9 x 1	8	5
V361CM101-00	M10 x 1	8	5
V372CM111-00	M11 x 1	8	5
V365CM121-50	M12 x 1,5	8	6
V366CM141-50	M14 x 1,5	10	7
V362CR1/8	G 1/8"	8	5
V363CR1/4	G 1/4"	10	7
V364CR3/8	G 3/8"	10	8
V367CR1/2	G 1/2"	10	10

CAD reference point

CYLINDRICAL SCREW PLUG WITH KNURLED THREAD & SEALANT — F2075

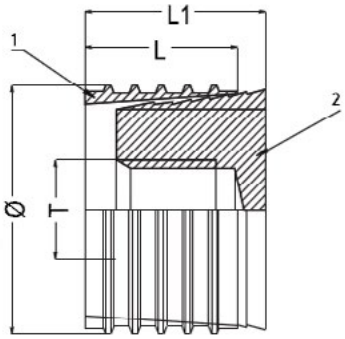


Mat.: 2.0401 (CuZn)
Max. P: = 16 bar
Max. T: = 160°C

REF	Rp	L	SW
F2075M050-50	M5 x 0,5	5	3
F2075M060-75	M6 x 0,75	7	3
F2075M071-00	M7 x 1	8	4
F2075M080-75	M8 x 0,75	8	4
F2075M091-00	M9 x 1	8	5
F2075M101-00	M10 x 1	8	5
F2075M111-00	M11 x 1	8	5
F2075M121-50	M12 x 1,5	8	6
F2075M141-50	M14 x 1,5	10	7
F2075G1/8	G 1/8"	8	5
F2075G1/4	G 1/4"	10	7
F2075G3/8	G 3/8"	10	8
F2075G1/2	G 1/2"	10	10

THREADLESS PRESSURE PLUGS — SPH

Mat.: MS58 Brass & Stainless Steel

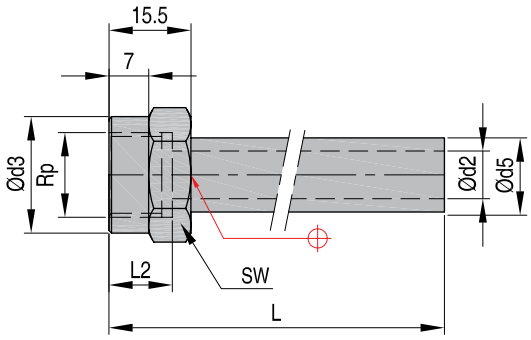


REF	T	Ø	L	L1
SPH06	M3	6	8	11,5
SPH08	M4	8	8	10,9
SPH09	M4	9	8	11,5
SPH10	M6	10	10	14
SPH12	M6	12	10	14
SPH14	M8	14	12,3	17
SPH15	M8	15	12	16
SPH16	M8	16	12	16
SPH20	M8	20	12	16

CAD reference point

NIPPLES

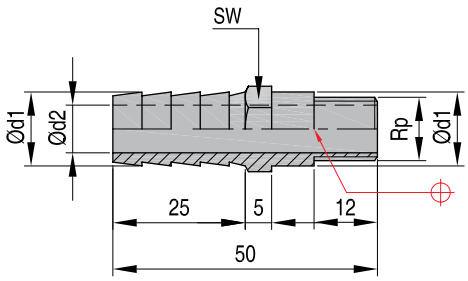
EXTENSION PIPES — ST155



Mat.: Brass

REF	Rp	L	L1	d2	d3	d5	L2	SW
ST155M14159120	M14x1,5	120	7	6	16	10	12	17
ST155M14159240	M14x1,5	240	7	6	16	10	12	17
ST155M161513150	M16x1,5	150	7	9	21	14	12	22
ST155M161513300	M16x1,5	300	7	9	21	14	12	22

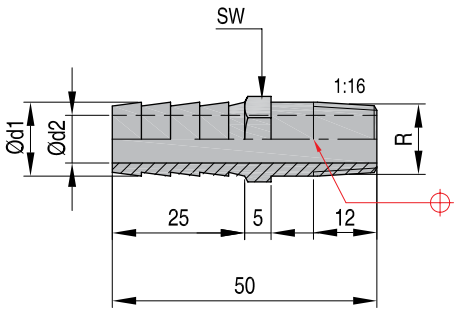
HOSE NIPPLES — GW-Z



Mat.: Brass

REF	Rp	d1	d2	SW
GW299Z	M8 x 0,75	9,5	4,5	12
GW300Z	M10 x 1	12,0	6,0	12
GW302Z	1/8" BSP	7,0	3,5	12
GW305Z	1/8" BSP	12,0	6,0	12
GW315Z	M10	12,0	6,0	12
GW320Z	M12x1,5	11,8	8,0	12
GW307Z	1/4" BSP	7,0	3,5	14
GW310Z	1/4" BSP	14,0	9,0	14

HOSE NIPPLES — GW-K

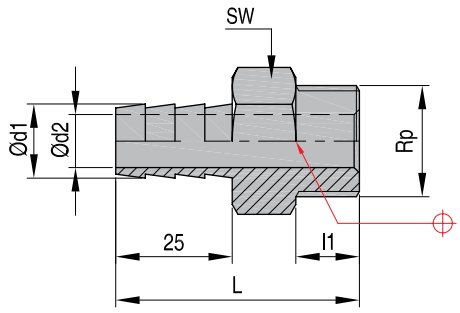


Mat.: Brass

REF	R	d1	d2	SW
GW301K/M10x1	M10x1	12	6	12
GW306K/R1/8"	1/8" BSPT	12	6	12
GW311K/R1/4"	1/4" BSPT	14	9	14

CAD reference point

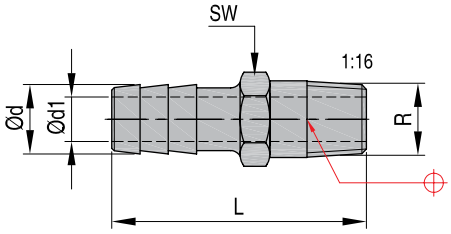
HOSE NIPPLES GW



Mat.: Brass

REF	Rp	d1	d2	L	l1	SW
GW330R3/8	3/8" BSP	14	10	44	10	19
GW340R1/2	1/2" BSP	14	10	46	12	22

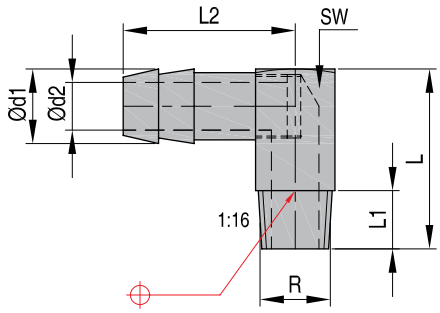
HOSE NIPPLES SST



Mat.: Brass

REF	R	d1	d	L	SW
SST1218K	1/8" BSPT	6	12	50	12
SST121K	M10 x 1	6	12	50	12
SST1414K	1/4" BSPT	9	14	54	14

ANGLE HOSE NIPPLES GW

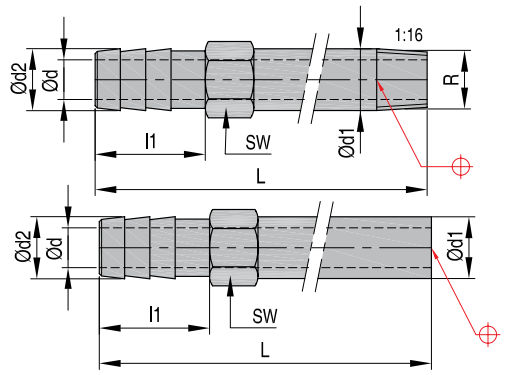


Mat.: Brass

REF	R	d1	d2	L	L1	L2	SW
GW500M101	M10x1	9	6,0	27	9	23,5	11
GW510R1/8	1/8" BSPT	9	6,0	27	9	23,5	11
GW520M080-7	M8x0,75	9	4,5	27	9	23,5	11
GW530M141-5	M14x1,5	13	9,0	34	9	32,5	15
GW540R1/4	1/4" BSPT	13	9,0	34	9	32,5	15

CAD reference point

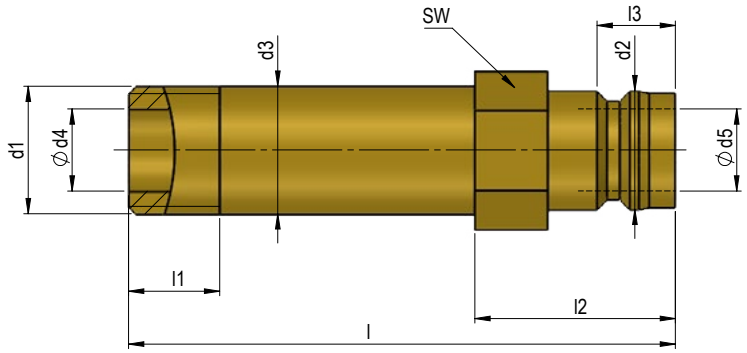
BRASS EXTENSION PIPES — BSS



Mat.: Brass

REF	R	L	l1	d	d1	d2	SW
BSS1810	1/8" BSPT	100	17	6	10	10	11
BSS1815	NO THREAD	150	17	6	10	10	11
BSS1825	NO THREAD	250	17	6	10	10	11
BSS1415	1/4" BSPT	150	25	9	14	14	15
BSS1425	NO THREAD	250	25	9	14	14	15

FITTING EXTENSION WITH THREAD — F2016



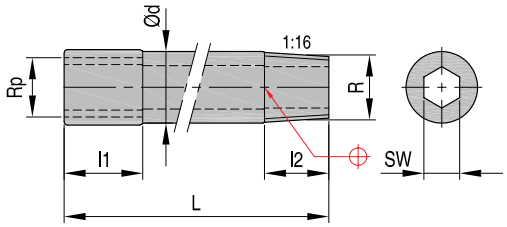
Mat.: 2.0401 (CuZn)

REF	d1	l	d2	d3	d4	d5	SW	l1	l2
F201609M08060	M8x0,75	60	9	8	4,5	4,5	10	7	21
F201609M08080	M8x0,75	80	9	8	4,5	4,5	10	7	21
F201609M08100	M8x0,75	100	9	8	4,5	4,5	10	7	21
F201609M10060	M10x1	60	9	10	6,0	6,0	11	7	21
F201609M10080	M10x1	80	9	10	6,0	6,0	11	7	21
F201609M10100	M10x1	100	9	10	6,0	6,0	11	7	21
F201609M10120	M10x1	120	9	10	6,0	6,0	11	7	21
F201609M10140	M10x1	140	9	10	6,0	6,0	11	7	21
F201609G18060	G 1/8"	60	9	10	6,0	6,0	11	7	21
F201609G18080	G 1/8"	80	9	10	6,0	6,0	11	7	21
F201609G18100	G 1/8"	100	9	10	6,0	6,0	11	7	21
F201609G18120	G 1/8"	120	9	10	6,0	6,0	11	7	21
F201609G18140	G 1/8"	140	9	10	6,0	6,0	11	7	21
F201613M14060	M14x1,5	60	13	14	9,0	9,0	15	10	22
F201613M14080	M14x1,5	80	13	14	9,0	9,0	15	10	22
F201613M14100	M14x1,5	100	13	14	9,0	9,0	15	10	22
F201613M14120	M14x1,5	120	13	14	9,0	9,0	15	10	22
F201613M14140	M14x1,5	140	13	14	9,0	9,0	15	10	22
F201613M14160	M14x1,5	160	13	14	9,0	9,0	15	10	22
F201613G14060	G 1/4"	60	13	13	8,0	8,0	14	10	22
F201613G14080	G 1/4"	80	13	13	8,0	8,0	14	10	22
F201613G14100	G 1/4"	100	13	13	8,0	8,0	14	10	22
F201613G14120	G 1/4"	120	13	13	8,0	8,0	14	10	22
F201613G14140	G 1/4"	140	13	13	8,0	8,0	14	10	22
F201613G14160	G 1/4"	160	13	13	8,0	8,0	14	10	22
F201619G12100	G 1/2"	100	19	21	13,0	13,0	22	12	37
F201619G12150	G 1/2"	150	19	21	13,0	13,0	22	12	37
F201619G12250	G 1/2"	250	19	21	13,0	13,0	22	12	37

CAD reference point

EXTENSION PIPE HEX KEY — ET

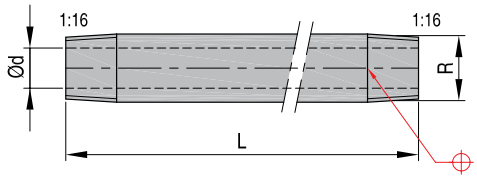
Mat.: Zinc plated steel



REF	R	Rp	L	d	l1	l2	SW
ET18050	1/8" BSPT	1/8" BSP	50	10	11	9	5
ET18100	1/8" BSPT	1/8" BSP	100	10	11	9	5
ET18150	1/8" BSPT	1/8" BSP	150	10	11	9	5
ET14050	1/4" BSPT	1/4" BSP	50	14	12	10	8
ET14100	1/4" BSPT	1/4" BSP	100	14	12	10	8
ET14150	1/4" BSPT	1/4" BSP	150	14	12	10	8

EXTENSION PIPES — VL

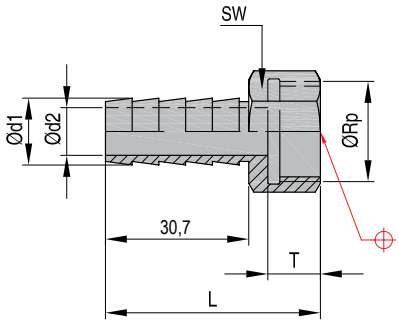
Mat.: Zinc plated steel



REF	R	L	d
VL18x50	1/8" BSPT	50	6
VL18x100	1/8" BSPT	100	6
VL18x150	1/8" BSPT	150	6
VL18x200	1/8" BSPT	200	6
VL14x50	1/4" BSPT	50	9
VL14x100	1/4" BSPT	100	9
VL14x150	1/4" BSPT	150	9
VL14x200	1/4" BSPT	200	9
VL38x100	3/8" BSPT	100	12
VL38x150	3/8" BSPT	150	12
VL38x200	3/8" BSPT	200	12
VL12x100	1/2" BSPT	100	16
VL12x150	1/2" BSPT	150	16
VL12x200	1/2" BSPT	200	16

HOSE NIPPLES — GW

Mat.: Brass

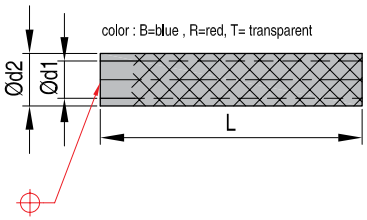


REF	Rp	d1	d2	L	T	SW
GW350R3/8	3/8" BSP	14	10	43	9	19
GW360R1/2	1/2" BSP	14	10	45	11	24

CAD reference point

CLAMPS

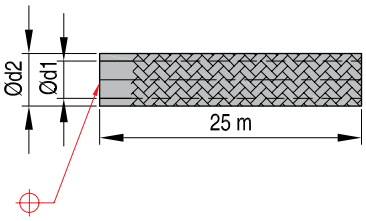
HOSES — GS 1090



Mat.: Nylon reinforced
R* = bending radius
T °C: -15 up to 60°C

REF L	d1	d2	P20bar	P16bar	P8bar	R*	L
GS10906063	6	12	22bar	16bar	8bar	R min=36 mm	25
GS10908083	8	13	20bar	14bar	7bar	R min=54 mm	50
GS10909103B	10	15	20bar	14bar	7bar	R min=74 mm	25
GS10909103R	10	15	20bar	14bar	7bar	R min=74 mm	25
GS1090131245B	12,5	18	18bar	12bar	6bar	R min=90 mm	25
GS1090131245R	12,5	18	18bar	12bar	6bar	R min=90 mm	25

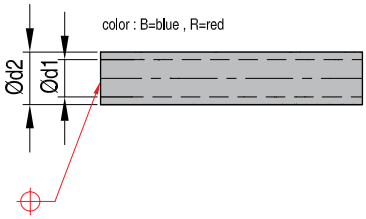
HOSES (NOT FOR VACUUM) — VM 200



Mat.: Viton
R* = bending radius
Min. T: -40°C
Max. T(°C) air: 200°C
Max. T(°C) water and oil: 150°C

REF	d1	d2	Pmax.	R*
VM20009	9	13,5	20 bar	R min=50 mm
VM20013	13	18,0	20 bar	R min=60 mm

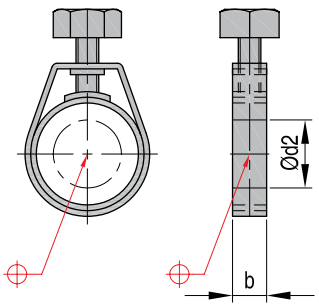
"PUSH-TO-LOCK" HOSES — PTLH



Mat.: Mixture of synthetic elastomers, black smooth
R* = bending radius

REF	d1	d2	Pmax.	T (°C)	Info	R*
PTLH10R	3/8"	16	28bar	-35->85	20m roll	R min=70 mm
PTLH10B						
PTLH13R	1/2"	19				R min=84 mm
PTLH13B						

HOSE CLAMPS — US 1600



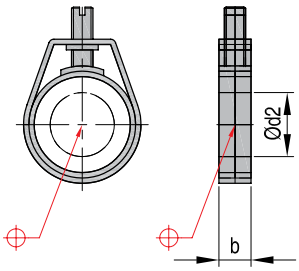
Mat.: St (CrNi)

REF	d2	b
US16001	7-12	10
US16002	9-14	11
US16004	12-17	11
US16005	14-19	11

REF	d2	b
US16006	16-21	11
US16007	17-22	11
US16008	20-25	11

CAD reference point

HOSE CLAMPS — US 1650

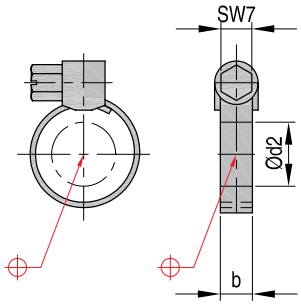


Mat.: St (CrNi)

REF	d2	b
US16501	7-12	10
US16502	9-14	11
US16503	10-15	11
US16504	12-17	11

REF	d2	b
US16505	14-19	11
US16506	16-21	11
US16507	17-22	11
US16508	20-25	11

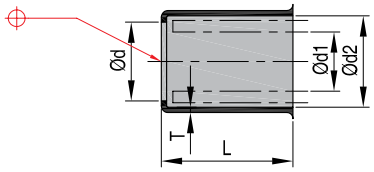
HOSE CLAMPS — US 1700



Mat.: St DIN 3017

REF	d2	b
US17001	8-12	9
US17002	10-16	9
US17003	12-20	9
US17004	16-25	9
US17005	20-32	9

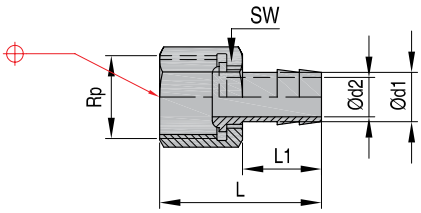
PRESS-FIT ASSEMBLY SLEEVES — MH 1



Mat.: Steel zinc coated

REF	d1	d2	d	L	T
MH109155	9	15,5	12	20	0,8
MH113195	13	19,0	14	26	0,9
MH11322	13	23,0	17	32	0,9

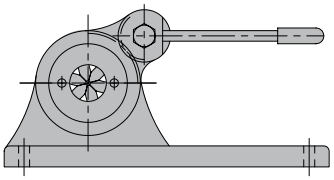
2-PIECE HOSE NIPPLE FOR MH1 — ST 19

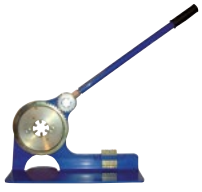


Mat.: Brass

REF	Rp	d1	d2	L	L1	SW
ST1909M141-5	M14x1,5	9	6	34,5	19	17
ST1909R1/4	1/4" BSP					
ST1913M161-5	M16x1,5	13	9	41,0	27	22
ST1913R3/8	3/8" BSP					

HOSE ASSEMBLY TOOL — SM 1

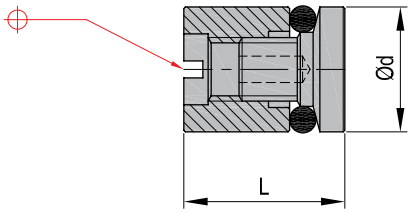




REF
SM1

CAD reference point

THREADLESS TURN OFF PRESSURE PLUGS — WV



Mat.: Brass, O-ring: Viton

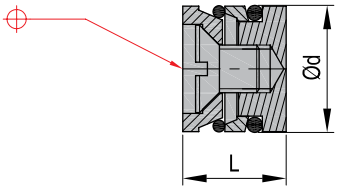
REF	L	d	BORE HOLE d H13	Installation Key
WV006	15	6	6	WV106 / WV306
WV007	15	7	7	WV107 / WV307
WV008	15	8	8	WV108 / WV308
WV010	15	10	10	WV110 / WV310
WV012	15	12	12	WV112 / WV312

INSTALLATION KEY, PLUG EXTRACTOR INCL. — WV

Mat.: Tool steel

REF	for plug d	L
WV106	6	150
WV107	7	150
WV108	8	150
WV110	10	150
WV112	12	150
WV306	6	300
WV307	7	300
WV308	8	300
WV310	10	300
WV312	12	300

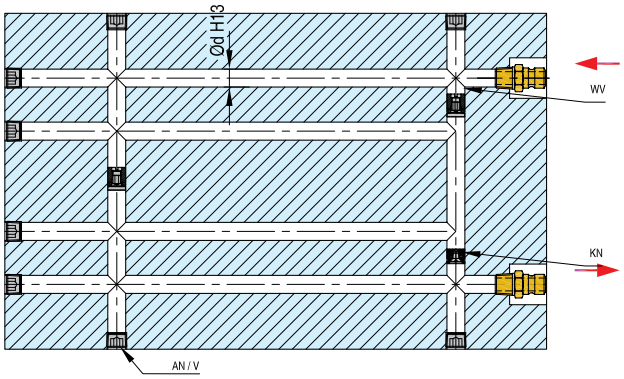
THREADLESS PRESSURE PLUGS — KN 105



Mat.: Brass, O-ring: Viton

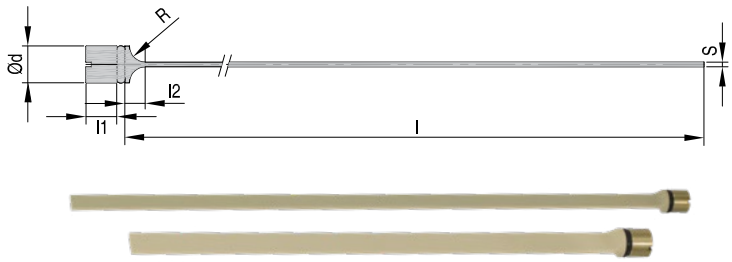
REF	L	d	BORE HOLE d H13	Pmax	T (°C)
KN10505	10	5	5	10	200
KN10506	10	6	6	10	200
KN10507	10	7	7	10	200
KN10508	11	8	8	10	200
KN10508-5	10	8,5	8,5	10	180
KN10510	11	10	10	10	200
KN10511-5	11	11,5	11,5	10	180
KN10512	11	12	12	10	200
KN10514	13	14	14	10	200
KN10516	13	16	16	10	200
KN10520	13	20	20	10	200

INSTALLATION INSTRUCTIONS KN-WV-AN-V



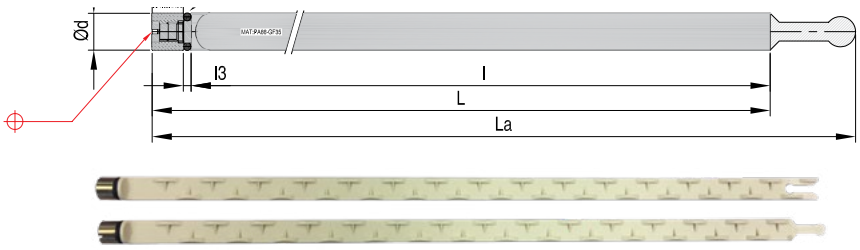
CAD reference point

BAFFLE RIBS WV 700

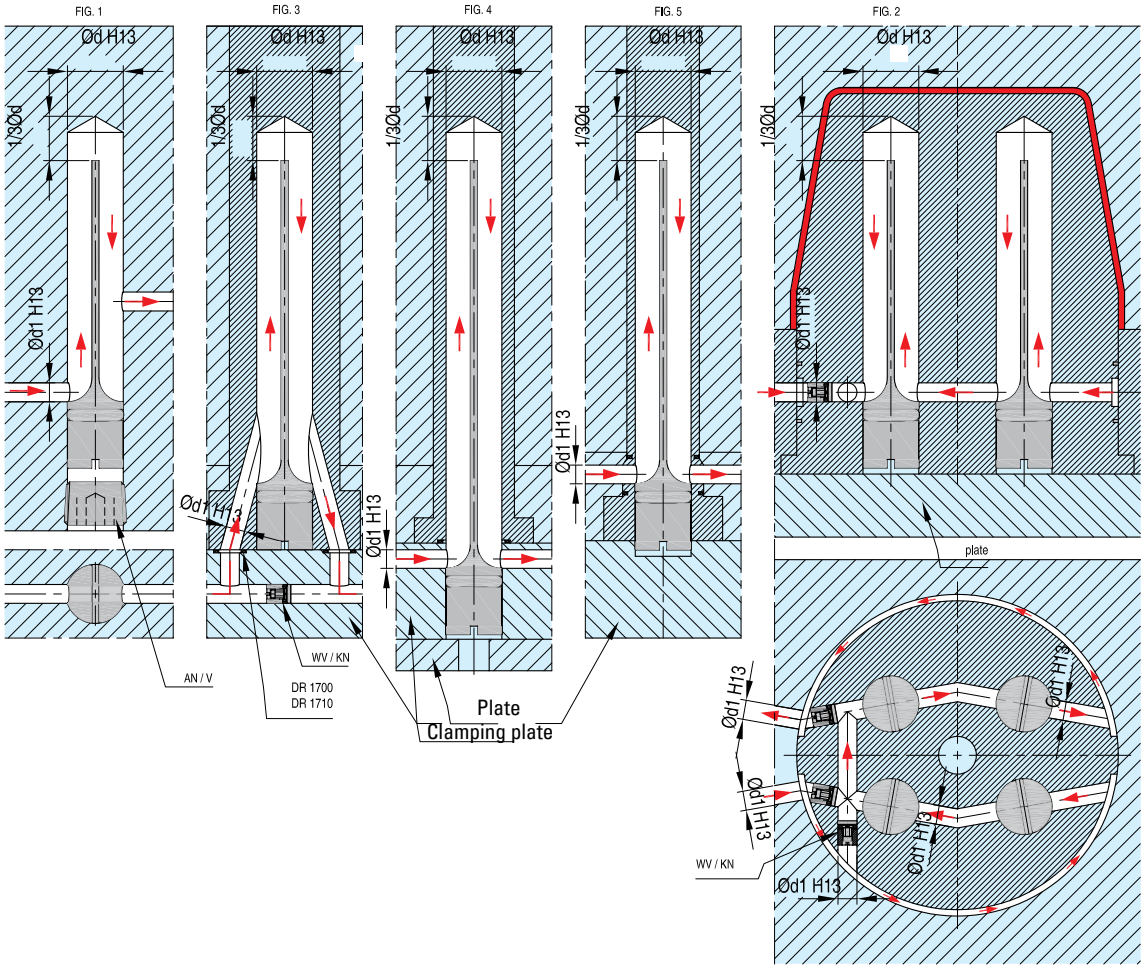


T Max.: 200°C
Base: brass
Seals: Viton
Bar: PA66-GF35

REF / Flat	d	Total length	l	l1	l2	R	S	O-ring thickness	O-ring	Installation Key
WV70006	6	211	202	7	3,5	2,4	1	1	2	WV106 / WV306
WV70008	8	211	202	6	4,5	3,4	1	1,5	2	WV108 / WV308
WV70010	10	212	204	6	5	3,5	1,5	2	1	WV110 / WV310
WV70012	12	213	201,5	9	6	4,5	1,5	2,5	1	WV112 / WV312
WV70014	14	213	200	10,5	7,5	5,5	1,5	2,5	1	WV112 / WV312



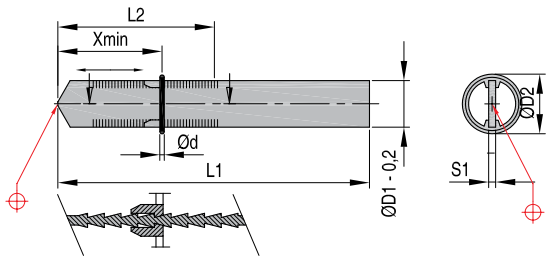
REF / Turbulent	d	Total length La	L	l	l1	l3	O-ring	Installation Key
WV70006320	6	329	329	318	10	1	1x	WV106 / WV306
WV70008320	8	329	329	318	9,5	1,5	1x	WV108 / WV308
WV70010320	10	330	313,5	302	9,5	2	1x	WV110 / WV310
WV70012320	12	330	313,5	299	12	2,5	1x	WV112 / WV312
WV70014320	14	330	313,5	298	13	2,5	1x	WV112 / WV312



CAD reference point

PLASTIC BAFFLE RIBS — BBP - BBJ

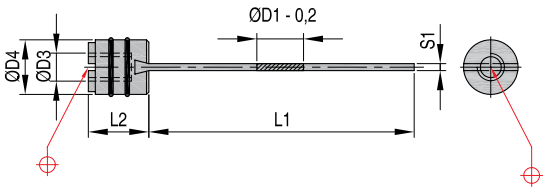
Mat.: High temperature resistant plastic

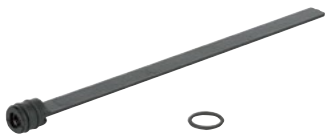


REF	D1	D2	L1	L2	X min.	S1	S2	d	REF. O-RING (VITON 200°C)
BBP0001	10	17	220	55	12	1,5	2,0	2,4	BBJ0001
BBP0002	15	22	300	70	16	1,8	2,0	2,4	BBJ0002
BBP0003	20	28	350	90	20	2,0	2,4	2,9	BBJ0003
BBP0004	25	33	380	115	24	2,2	2,4	2,9	BBJ0004

PLASTIC BAFFLE RIBS — BBP - BBJ

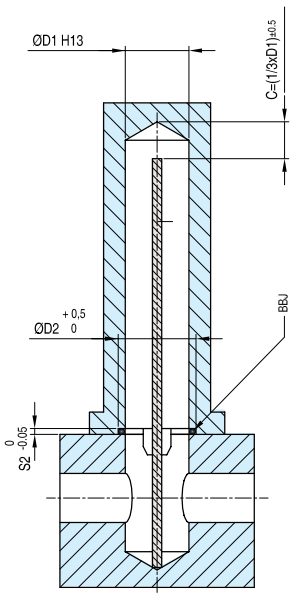
Mat.: High temperature resistant plastic

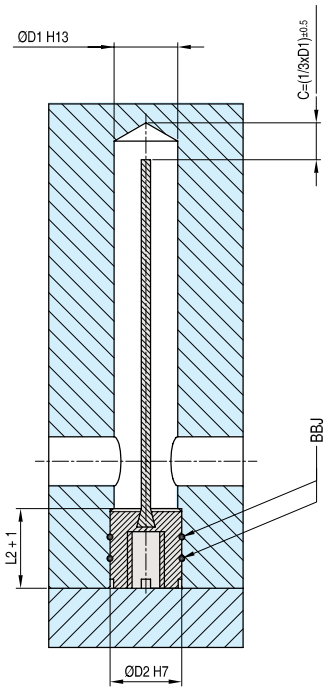




REF	D1	D2	D3	D4	L1	L2	S1	REF. O-RING (VITON 200°C)
BBP0101	10	12	M6	11,7	180	13	1,5	BBJ0101
BBP0102	15	16	M8	15,7	250	16	1,8	BBJ0102
BBP0103	20	22	M12	21,7	300	20	2,0	BBJ0103
BBP0104	25	26	M16	25,7	390	22	2,2	BBJ0104

INSTALLATION INSTRUCTIONS BBP

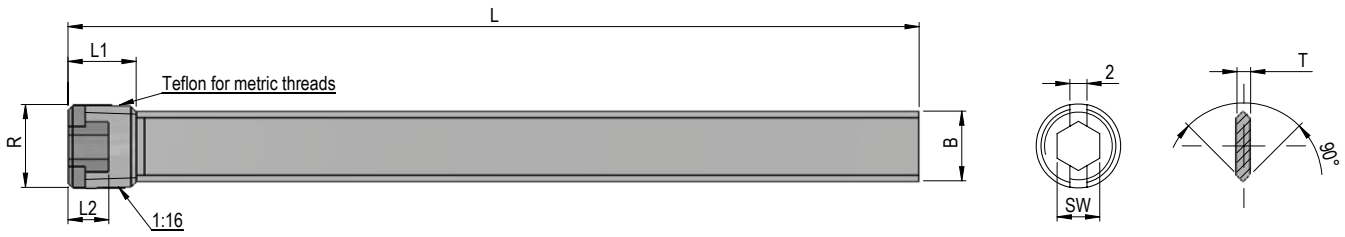




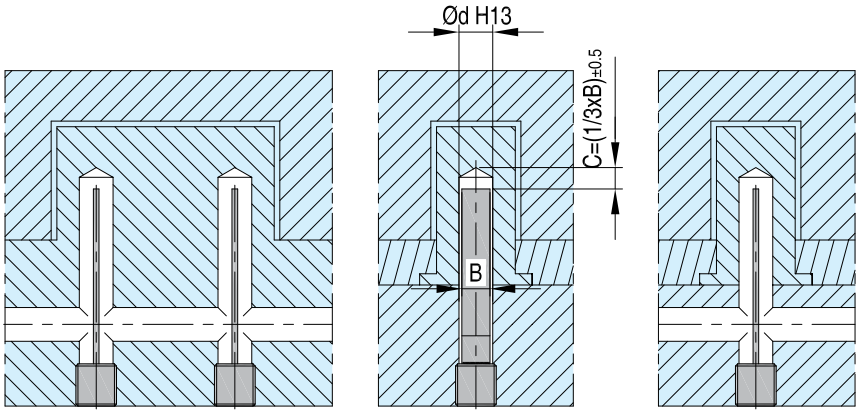
CAD reference point

BRASS PLUG BAFFLES BB

Mat.: Brass



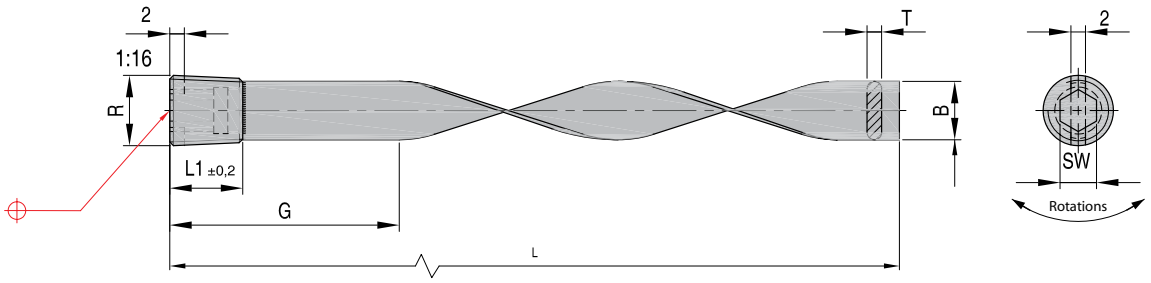
REF	L	R	B	L1	T	d	SW
BB10018	104	1/8" BSPT	8,2	8	1,6	8,5	5
BB20018	204	1/8" BSPT	8,2	8	1,6	8,5	5
BB12514	131	1/4" BSPT	11,2	10	2,4	11,5	7
BB25014	258	1/4" BSPT	11,2	10	2,4	11,5	7
BB15038	156	3/8" BSPT	14,7	10	2,4	15,0	8
BB30038	309	3/8" BSPT	14,7	10	2,4	15,0	8
BB20012	207	1/2" BSPT	18,2	10	2,4	18,5	10
BB40012	410	1/2" BSPT	18,2	10	2,4	18,5	10
BB30034	309	3/4" BSPT	23,2	12	3,2	23,5	12
BB50034	512	3/4" BSPT	23,2	12	3,2	23,5	12
BB40010	410	1" BSPT	28,2	15	3,2	28,5	14
BB60010	614	1" BSPT	28,2	15	3,2	28,5	14



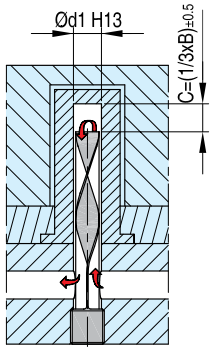
CAD reference point

SPIRAL BRASS PLUGS BAFFLES BBS

Mat.: Brass



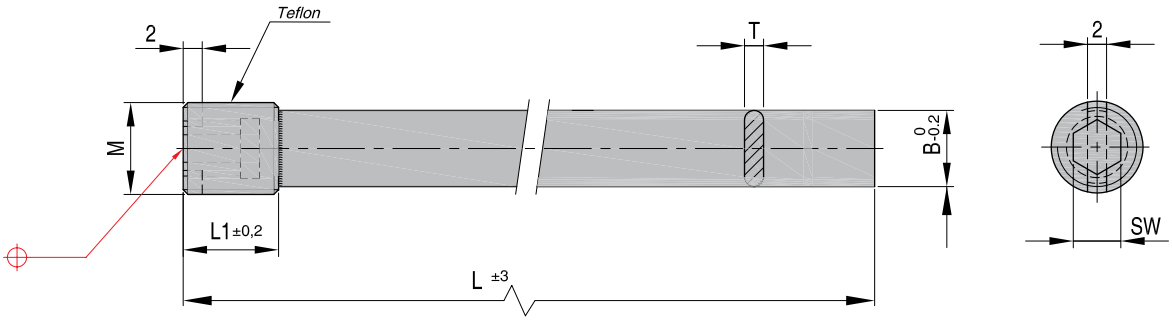
REF	M	G	SW	B	L	L1	T	d1	Rotation
BBS100M08	M8 x 0,75	50	4	5,8	102	8	1,6	6	360°
BBS200M08	M8 x 0,75	100	4	5,8	202	8	1,6	6	540°
BBS300M08	M8 x 0,75	150	4	5,8	302	8	1,6	6	720°
BBS100M10	M10 x 1	50	5	7,8	102	8	1,6	8	360°
BBS200M10	M10 x 1	100	5	7,8	202	8	1,6	8	540°
BBS300M10	M10 x 1	150	5	7,8	302	8	1,6	8	720°
BBS125M12	M12 x 1,5	50	6	9,8	127	8	2,0	10	360°
BBS250M12	M12 x 1,5	100	6	9,8	252	8	2,0	10	540°
BBS150M14	M14 x 1,5	45	6	11,8	152	10	2,0	12	360°
BBS300M14	M14 x 1,5	100	6	11,8	252	10	2,0	12	540°
BBS150M16	M16 x 1,5	50	8	13,8	152	10	2,4	14	360°
BBS300M16	M16 x 1,5	100	8	13,8	302	10	2,4	14	540°
BBS150M18	M18 x 1,5	45	8	15,8	152	10	2,0	16	360°
BBS300M18	M18 x 1,5	100	8	15,8	252	10	2,0	16	540°
BBS150M20	M20 x 1,5	50	10	17,8	152	10	2,4	18	360°
BBS300M20	M20 x 1,5	100	10	17,8	302	10	2,4	18	540°
BBS150M24	M24 x 2	50	12	19,8	152	12	2,5	20	180°
BBS300M24	M24 x 2	100	12	19,8	302	12	2,5	20	540°



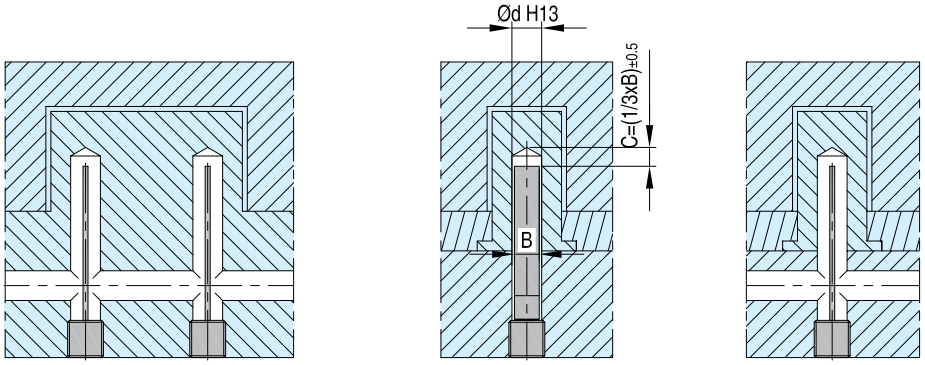
CAD reference point

BRASS PLUG BAFFLES BB

Mat.: Brass



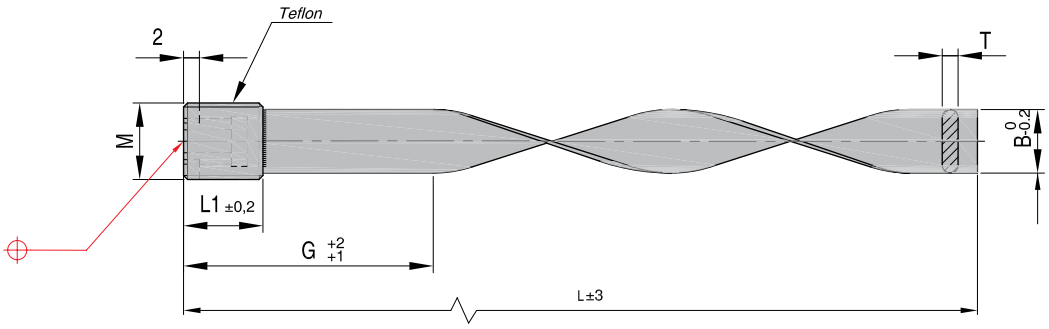
REF	M	SW	B	L	L1	T	d
BB100M08	M8x0,75	4	5,8	104	8	1,6	6
BB200M08	M8x0,75	4	5,8	204	8	1,6	6
BB100M10	M10x1	5	7,8	104	8	1,6	8
BB200M10	M10x1	5	7,8	204	8	1,6	8
BB125M12	M12x1,5	6	9,8	129	8	2,0	10
BB250M12	M12x1,5	6	9,8	254	8	2,0	10
BB150M14	M14x1,5	7	11.8	154	10	2,4	12
BB300M14	M14x1,5	7	11.8	304	10	2,4	12
BB150M16	M16x1,5	8	13,8	154	10	2,4	14
BB300M16	M16x1,5	8	13,8	304	10	2,4	14
BB150M18	M18x1,5	8	15.8	154	10	2,4	16
BB300M18	M18x1,5	8	15.8	304	10	2,4	18
BB150M20	M20x1,5	10	17,8	154	10	2,4	18
BB200M20	M20x1,5	10	17,8	304	10	2,4	18
BB300M20	M20x1,5	10	17,8	204	10	2,4	18
BB400M20	M20x1,5	10	17,8	404	10	2,4	18
BB150M24	M24x2	12	19,8	154	12	2,5	20
BB300M24	M24x2	12	19,8	304	12	2,5	20



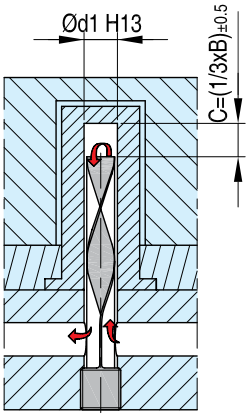
CAD reference point

SPIRAL BRASS PLUGS BAFFLES BBS

Mat.: Brass



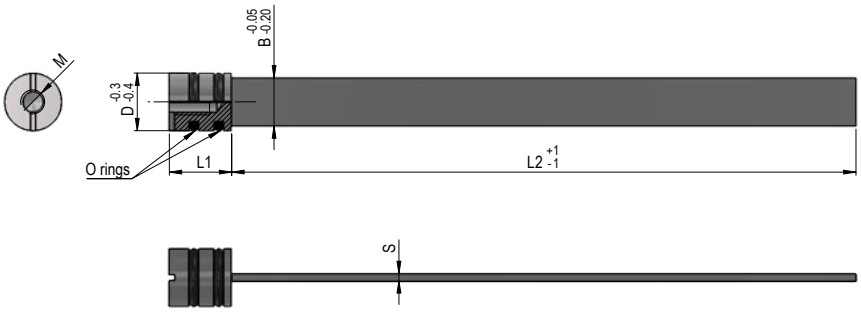
REF	M	G	SW	B	L	L1	T	d1	Rotation
BBS100M08	M8x0,75	50	4	5,8	102	8	1,6	6	360°
BBS200M08	M8x0,75	100	4	5,8	202	8	1,6	6	540°
BBS300M08	M8x0,75	150	4	5,8	302	8	1,6	6	720°
BBS100M10	M10x1	50	5	7,8	102	8	1,6	8	360°
BBS200M10	M10x1	100	5	7,8	202	8	1,6	8	540°
BBS300M10	M10x1	150	5	7,8	302	8	1,6	8	720°
BBS125M12	M12x1,5	50	6	9,8	127	8	2,0	10	360°
BBS250M12	M12x1,5	100	6	9,8	252	8	2,0	10	540°
BBS150M16	M16x1,5	50	8	13,8	152	10	2,4	14	360°
BBS300M16	M16x1,5	100	8	13,8	302	10	2,4	14	540°
BBS150M20	M20x1,5	50	10	17,8	152	10	2,4	18	360°
BBS300M20	M20x1,5	100	10	17,8	302	10	2,4	18	540°
BBS150M24	M24x2	50	12	19,8	152	12	2,5	20	180°
BBS300M24	M24x2	100	12	19,8	302	12	2,5	20	540°



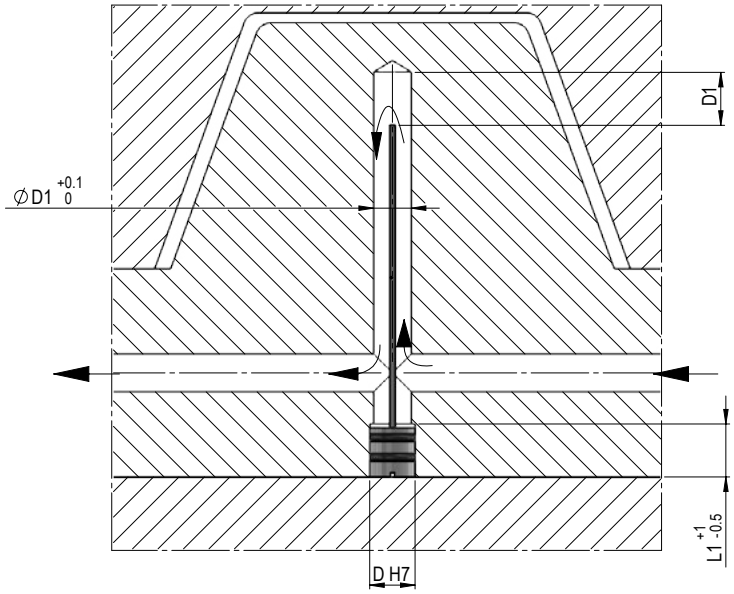
CAD reference point

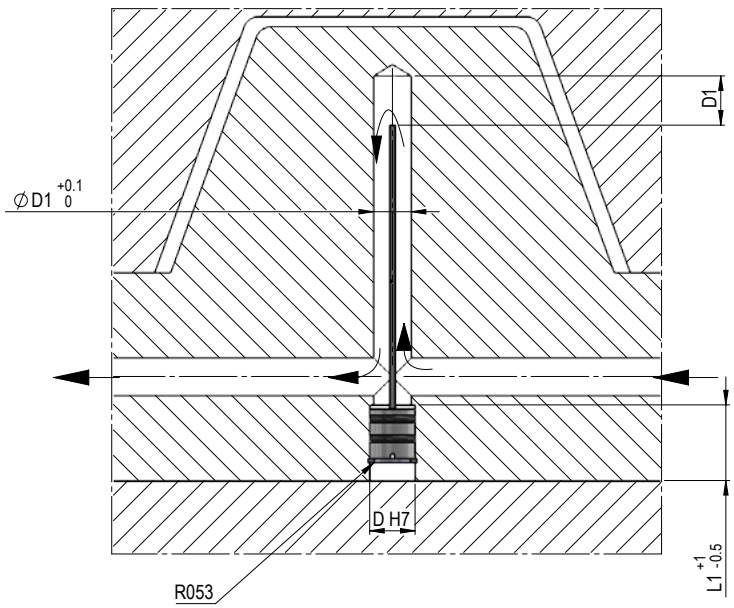
DEFLECTION BAFFLE WITH O-RING SEALS F2108

Mat.: 2.0401 (CuZn) / FKM (Viton)
Max. T.: = 100°C water / 180°C oil



REF	B	L2	D1	S	L1	D	M	O-rings
F210810180	10	180	10	2	13	12	M6	8 x 2
F210815250	15	250	15	2,4	16	16	M8	12 x 2
F210818300	18	300	18	2,4	20	20	M10 x 1,25	16 x 2
F210820300	20	300	20	2,4	20	22	M12	17 x 2,5
F210825390	25	390	25	2,4	22	26	M16	21,3 x 2,4



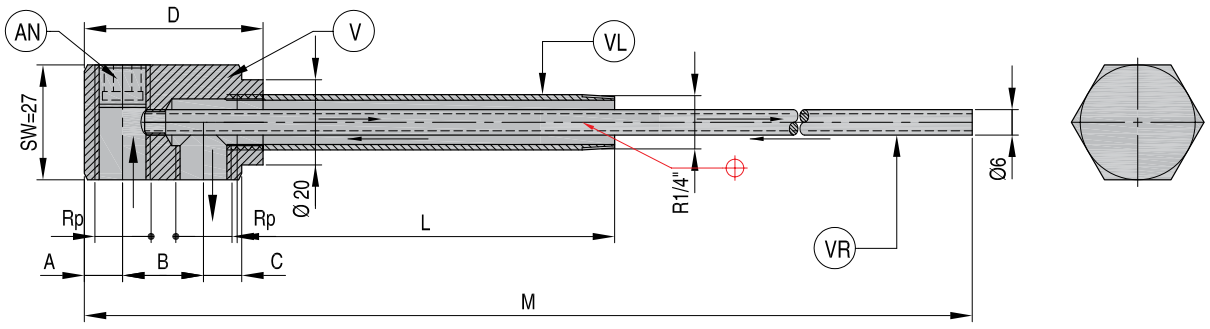


CAD reference point

CASCADE WATER JUNCTIONS

CASCADE WATER JUNCTIONS V

Mat.: Brass



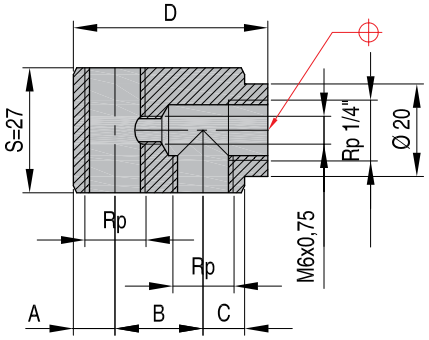
REF	Rp	M	A	B	D	C	L
V485	1/8"	356	9	19	42	9	50
V4810	1/8"	356	9	19	42	9	100
V4815	1/8"	356	9	19	42	9	150
V4820	1/8"	356	9	19	42	9	200
V445	1/4"	356	9	19	42	9	50
V4410	1/4"	356	9	19	42	9	100
V4415	1/4"	356	9	19	42	9	150
V4420	1/4"	356	9	19	42	9	200
V585	1/8"	362	9	26	54	12	50
V5810	1/8"	362	9	26	54	12	100
V5815	1/8"	362	9	26	54	12	150
V5820	1/8"	362	9	26	54	12	200
V545	1/4"	362	9	26	54	12	50
V5410	1/4"	362	9	26	54	12	100
V5415	1/4"	362	9	26	54	12	150
V5420	1/4"	362	9	26	54	12	200

Cascade Water Junctions are ideal for cooling plastics moulds and die cast dies where drilled waterlines through the block are not possible due to interference with ejector pins, sprue puller pins, etc.

The brass tube has the rigidity to maintain uniform spacing inside the water channel and is threaded into the body for firm support. Waterlines may be connected to the same side or opposing sides of the brass hexagonal body.

CAD reference point

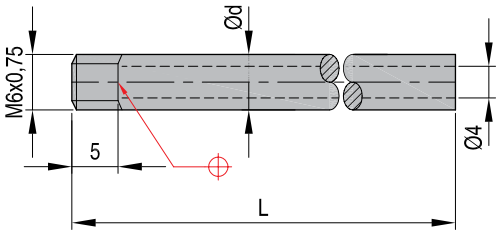
BODY V



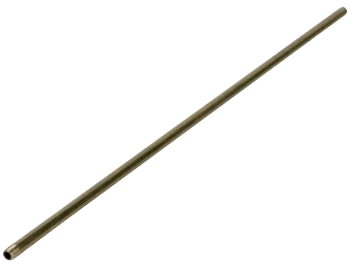
Mat.: Brass

REF	Rp	A	B	D	C
V48	1/8" BSP	9	19	42	9
V44	1/4" BSP	9	19	42	9
V58	1/8" BSP	9	26	54	12
V54	1/4" BSP	9	26	54	12

FEED PIPES VR

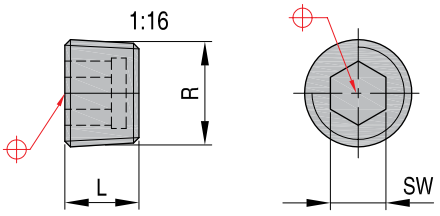


Mat.: Brass



REF	d	L
VR6340	6	340

PRESSURE PLUGS AN



Mat.: Brass

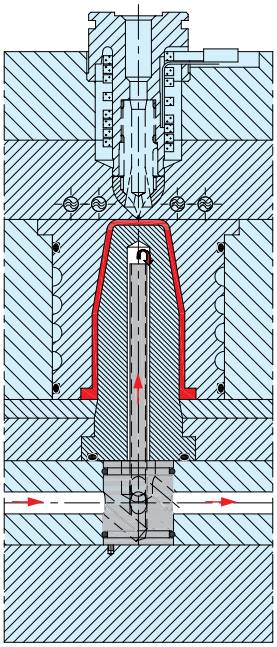
REF	R	L	SW
AN8	1/8" BSPT	8	5
AN4	1/4" BSPT	10	7

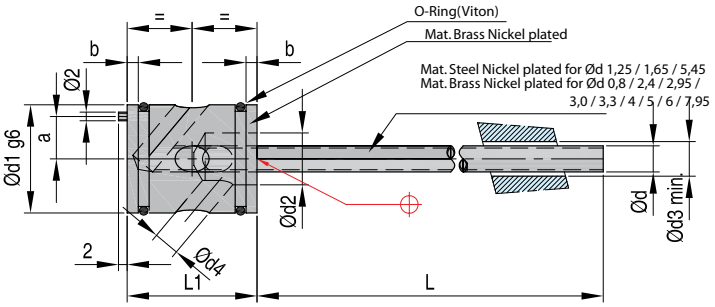
CAD reference point

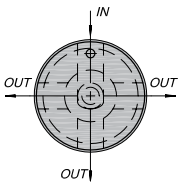
CASCADE WATER JUNCTIONS

CASCADE WATER JUNCTIONS T 2000

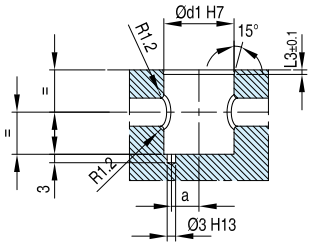
Mat.: Tube: Steel Nickel plated
Cylinder: Mat.: Brass Nickel plated

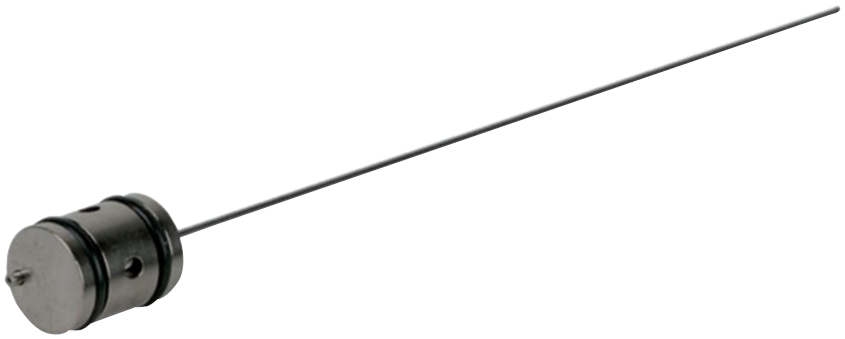






Note: T max: 200° C

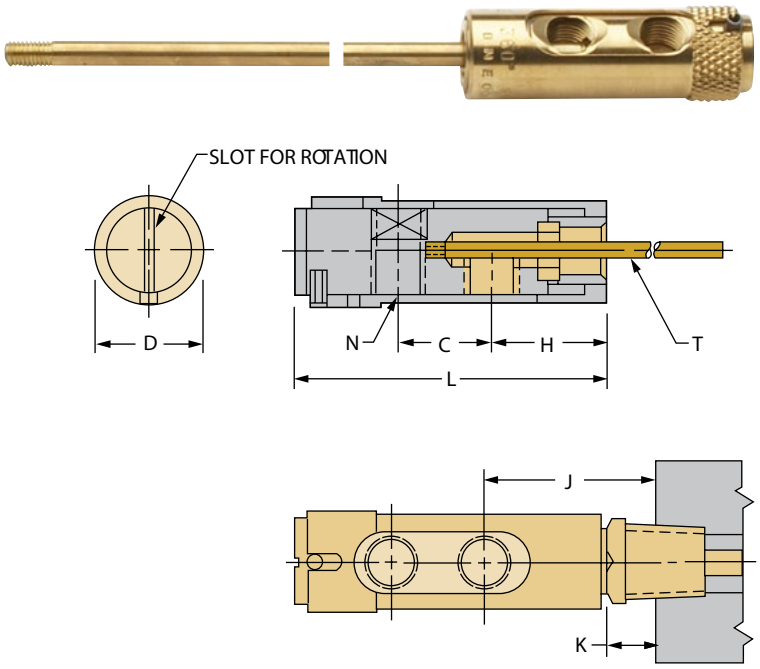




REF	d1	d	L	d2	d4	d3	L1	L3	a	b	REF O-RINGS
T2000100-80160	10	0,80	160	4,2	2	1,0	15	1,2	3,0	1,1	DR171006-002-00
T2000101-25160	10	1,25	160	4,2	2	1,5	15	1,2	3,0	1,1	DR171006-002-00
T2000101-65160	10	1,65	160	4,2	2	2,0	15	1,2	3,0	1,1	DR171006-002-00
T2000102-40160	10	2,40	160	4,2	2	3,2	15	1,2	3,0	1,1	DR171006-002-00
T2000103-00160	10	3,00	160	4,2	2	4,0	15	1,2	3,0	1,1	DR171006-002-00
T2000160-80160	16	0,80	160	6,0	3	1,0	20	1,6	5,5	2,2	DR171012-002-00
T2000160-80300	16	0,80	300	6,0	3	1,0	20	1,6	5,5	2,2	DR171012-002-00
T2000161-25160	16	1,25	160	6,0	3	1,5	20	1,6	5,5	2,2	DR171012-002-00
T2000161-25300	16	1,25	300	6,0	3	1,5	20	1,6	5,5	2,2	DR171012-002-00
T200016165160	16	1,65	160	6,0	3	2,0	20	1,6	5,5	2,2	DR171012-002-00
T200016165300	16	1,65	300	6,0	3	2,0	20	1,6	5,5	2,2	DR171012-002-00
T2000162-40160	16	2,40	160	6,0	3	3,2	20	1,6	5,5	2,2	DR171012-002-00
T2000162-40300	16	2,40	300	6,0	3	3,2	20	1,6	5,5	2,2	DR171012-002-00
T2000162-95160	16	2,95	160	6,0	3	4,0	20	1,6	5,5	2,2	DR171012-002-00
T2000162-95300	16	2,95	300	6,0	3	4,0	20	1,6	5,5	2,2	DR171012-002-00
T2000163-30160	16	3,30	160	6,0	3	4,5	20	1,6	5,5	2,2	DR171012-002-00
T2000163-30300	16	3,30	300	6,0	3	4,5	20	1,6	5,5	2,2	DR171012-002-00
T2000254-00160	25	4,00	160	12,0	6	5,0	30	1,6	9,8	3,4	DR171021-002-00
T2000254-00300	25	4,00	300	12,0	6	5,0	30	1,6	9,8	3,4	DR171021-002-00
T2000255-00160	25	5,00	160	12,0	6	6,0	30	1,6	9,8	3,4	DR171021-002-00
T2000255-00300	25	5,00	300	12,0	6	6,0	30	1,6	9,8	3,4	DR171021-002-00
T2000255-45160	25	5,45	160	12,0	6	7,0	30	1,6	9,8	3,4	DR171021-002-00
T2000255-45300	25	5,45	300	12,0	6	7,0	30	1,6	9,8	3,4	DR171021-002-00
T2000256-00160	25	6,00	160	12,0	6	8,0	30	1,6	9,8	3,4	DR171021-002-00
T2000256-00300	25	6,00	300	12,0	6	8,0	30	1,6	9,8	3,4	DR171021-002-00
T2000257-95160	25	7,95	160	12,0	6	10,0	30	1,6	9,8	3,4	DR171021-002-00
T2000257-95300	25	7,95	300	12,0	6	10,0	30	1,6	9,8	3,4	DR171021-002-00

CAD reference point

JIFFY-TITE JW



Compact design
360° seal – leak proof
Accurate predetermination of port locations
Easy "one-piece" installation and removal

For cascade-type cooling applications, the Jiffy-Tite Cascade Water Junctions provide the utmost in versatility and ease of use. Their compact design makes them ideal for cooling inserted cores or spot cooling in hard to reach areas of moulds or dies. They can be rotated a full 360° without affecting their positive Jiffy-Tite seal and are easily connected and disconnected – even when installed internally.

Final location of the ports on the body of the Water Junction can be accurately predetermined, thus ensuring proper lateral alignment with pipe clearance holes. Waterlines may be connected to the same side or opposing sides of the Water Junction. A slot on the end of the Water Junction body indicates port position and can be turned with a screwdriver to align the ports with pipe clearance holes.

The brass tube has the rigidity to maintain uniform spacing inside the water channel and is threaded into the body for firm support.

Jiffy-Tite® Cascade Water Junction (JW)

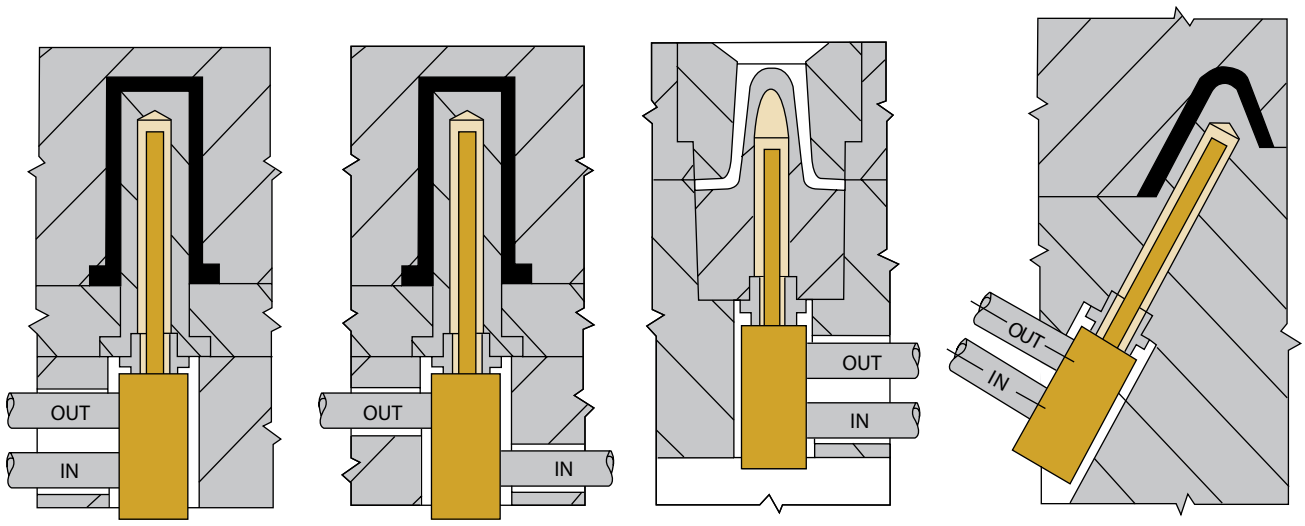
REF	D	L	C	H	N N.P.T. (3 places)	T 18" long tube supplied		
						O. D.	I.D.	Thread
JW220	.70	2.12	.69	.77	1/8	.190	.126	NO. 1–32
JW320	.96	2.38	.69	1.03	1/8	.250	.170	1/4-28
JW321	.96	2.69	1.00	1.03	1/8	.250	.170	1/4-28
JW541	1.19	3.13	1.00	1.28	1/4	.437	.307	1/16-20

All dimensions are in INCHES.

Notes:
1. Bubbler Tubes may be used as replacements in Water Junctions above.
2. The 200, 300 and 500 Series Water Junctions are equipped with 200, 300 and 500 series Viton seals respectively, rated at 200 psi and suitable for temperatures up to 400 °F.

Reference dimensions for port location				
REF	DME jiffy-serie	Mating Jiffy-Tite plug	j	k
JW220	N6	JP251	.99	.21
		JP252	1.24	.46
		JP253	1.28	.50
JW320 AND JW321	N9	JP352	1.48	.42
		JP353	1.51	.45
		JP354	1.63	.56
JW541	N16	JP554	1.96	.66
		JP556	2.02	.72

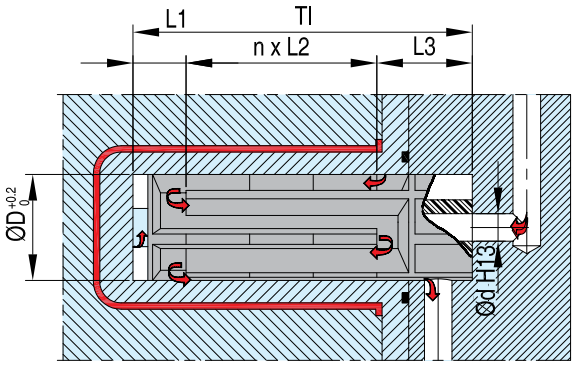
All dimensions are in INCHES.

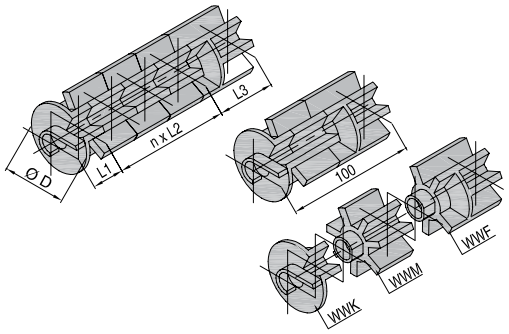


CAD reference point

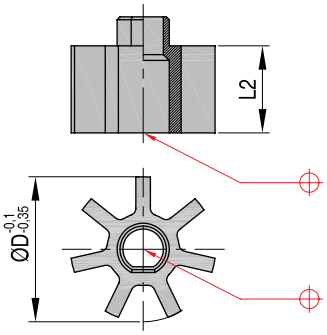
COOLING CORES

PLASTIC COOLING CORES — WWK-WWM-WWF



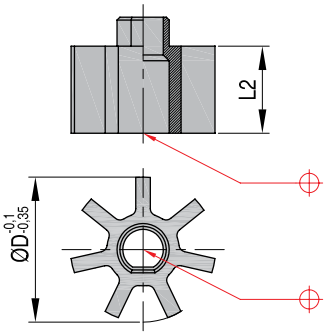


HEAD — WWK



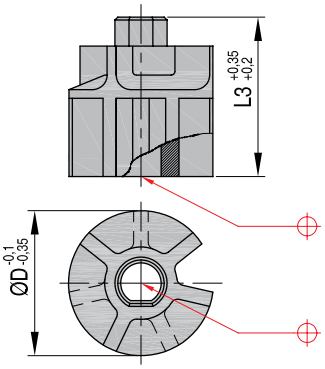
REF	D	L1
WWK020	20	25
WWK025	25	25
WWK028	28	25
WWK032	32	25
WWK035	35	25
WWK040	40	25
WWK045	45	25
WWK050	50	25

CENTER PIECE — WWM



REF	D	L2
WWM020	20	30
WWM025	25	30
WWM028	28	30
WWM032	32	30
WWM035	35	30
WWM040	40	30
WWM045	45	30
WWM050	50	30

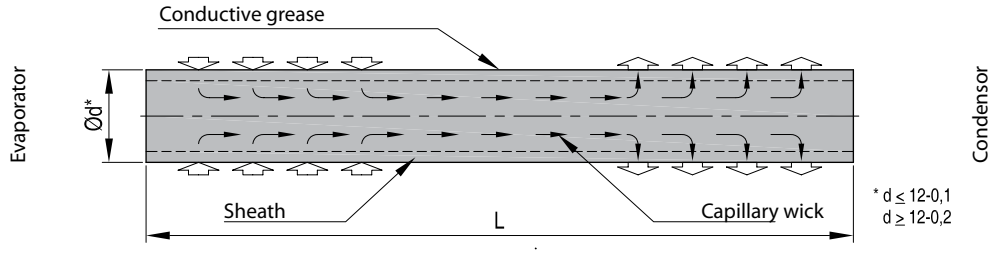
BASE — WWF



REF	D	L3	d
WWF020	20	45	10
WWF025	25	45	10
WWF028	28	45	12
WWF032	32	45	12
WWF035	35	45	14
WWF040	40	45	14
WWF045	45	45	14
WWF050	50	45	14

CAD reference point

HEAT TRANSFER RODS WL - WM - WH



General description

The DME Heat Transfer Rods are static devices with very high thermal conductivity (over a thousand times greater than copper rods).
It allows an important transmission of thermal power with a very low temperature gradient (a few degrees only).

Operation

DME Heat Transfer Rods work on the basis of latent heat with a difference of only about 10°C in temperature between each end.
At the "hot" end of the tube, the liquid evaporates and absorbs energy. The resulting vapour moves to the "cold" end of the tube, where it condenses and releases energy. The liquid then flows back to the other end by gravity and capillary action. The latter occurs over a mesh inside the rod.

DME Service

DME provides recommendations on the most efficient use of Heat Transfer Rods in injection moulding or diecasting applications. In most cases, an application analysis will determine the estimated cycle time.

Application

Heat Transfer Rods are used in the following industries:

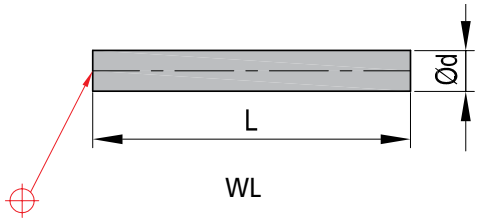
- Die casting
- Injection moulding for:
  a) Cooling (moulds)
  b) Pre-heating of material
  c) Leveling of service temperatures

Advantages

1. **Simplified mould construction**
   The DME Heat Transfer Rods are used in cores, core slides, cavities and other areas of a mould or die requiring cooling or controlled temperatures. In addition, the ability to locate Heat Transfer Rods in areas inaccessible to other cooling devices can further simplify the overall mould design.
   In most of the cases, the machining and construction time required for the mould is reduced, thus lowering mould making costs.
2. **Faster cycle times**
   The cooling lines, throughout the entire mould can be larger in diameter, permitting a higher cooling velocity. A larger volume of fluid flowing through the cooling lines results in a lower overall coolant temperature rise.
   The ability to transfer heat away from the otherwise inaccessible areas improves the overall cooling rate and reduces the cycle time.
3. **Improved product quality**
   The Heat Transfer Rod transfers heat to the coolant, air or mould components, it also dissipates heat evenly along its entire length. This isotherm action provides faster and more uniform cooling, thus eliminating hot spots which cause sink marks, pulling and spotting.
4. **Reduced maintenance costs**
   The increased waterline diameter, coolant velocity and heat capacity eliminate scale formation. Consequently, cooling system maintenance and overall operating costs are almost nil.
5. **Retrofit in existing moulds and dies**
   In addition to their many applications Heat Transfer Rods have been retrofitted as replacement parts for bubblers of baffles and provide heat

CAD reference point

HEAT TRANSFER RODS WL



The **DME** Heat Transfer Rods are static devices with very high thermal conductivity (over a thousand times greater than copper rods).
It allows an important transmission of thermal power with a very low temperature gradient (a few degrees only).
DME Heat Transfer Rods work on the basis of latent heat with a difference of only about 10°C in temperature between each end.
At the "hot" end of the tube, the liquid evaporates and absorbs energy. The resulting vapour moves to the "cold" end of the tube, where it condenses and releases energy. The liquid then flows back to the other end by gravity and capillary action. The latter occurs over a mesh inside the rod.

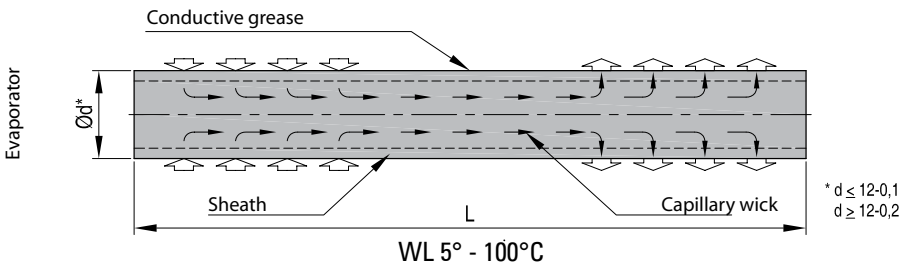
Application

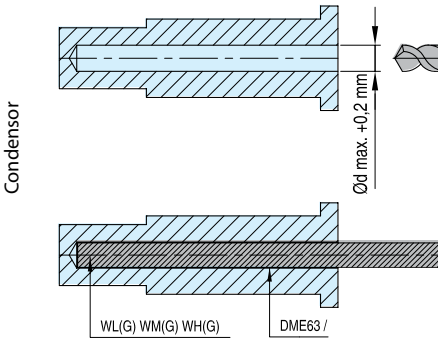
- Die casting
- Injection moulding: Cooling (moulds), Pre-heating of material, Leveling of service temperatures

Benefits

- **Simplified mould construction**
- **Faster cycle times**
- **Improved product quality**
- **Reduced maintenance costs**
- **Retrofit in existing moulds and dies**

Installation instructions on p. 531





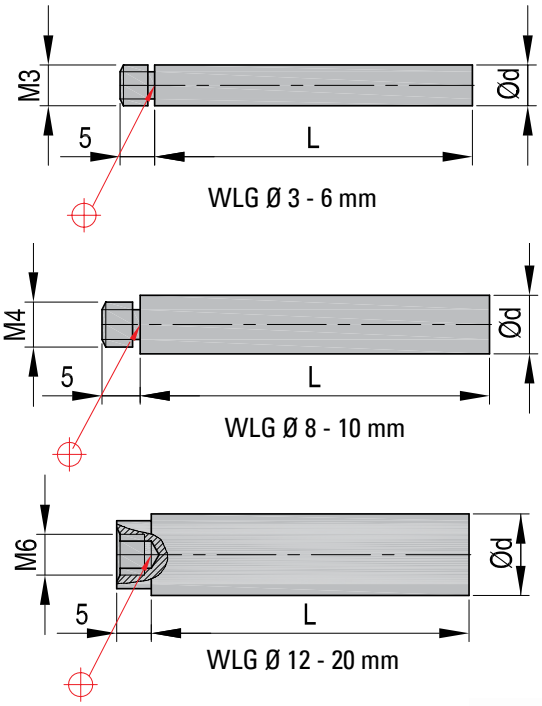
REF	d	L
WL250	2	50
WL265	2	65
WL280	2	80
WL290	2	90
WL2120	2	120
WL350	3	50
WL365	3	65
WL380	3	80
WL390	3	90
WL3120	3	120
WL450	4	50
WL465	4	65
WL480	4	80
WL490	4	90
WL4120	4	120
WL4160	4	160
WL4200	4	200
WL550	5	50
WL565	5	65
WL580	5	80
WL590	5	90
WL5120	5	120
WL5160	5	160
WL5200	5	200
WL650	6	50
WL665	6	65

REF	d	L
WL680	6	80
WL690	6	90
WL6120	6	120
WL6160	6	160
WL6200	6	200
WL6270	6	270
WL850	8	50
WL865	8	65
WL880	8	80
WL890	8	90
WL8120	8	120
WL8160	8	160
WL8200	8	200
WL8270	8	270
WL1050	10	50
WL1065	10	65
WL1080	10	80
WL1090	10	90
WL10120	10	120
WL10160	10	160
WL10200	10	200
WL10270	10	270
WL10320	10	320
WL1250	12	50
WL1265	12	65
WL1280	12	80

REF	d	L
WL1290	12	90
WL12120	12	120
WL12160	12	160
WL12200	12	200
WL12270	12	270
WL12320	12	320
WL1650	16	50
WL1665	16	65
WL1680	16	80
WL1690	16	90
WL16120	16	120
WL16160	16	160
WL16200	16	200
WL16270	16	270
WL16320	16	320
WL2050	20	50
WL2065	20	65
WL2080	20	80
WL2090	20	90
WL20120	20	120
WL20160	20	160
WL20200	20	200
WL20270	20	270
WL20320	20	320

CAD reference point

HEAT TRANSFER RODS — WLG



The **DME** Heat Transfer Rods are static devices with very high thermal conductivity (over a thousand times greater than copper rods).
It allows an important transmission of thermal power with a very low temperature gradient (a few degrees only).
DME Heat Transfer Rods work on the basis of latent heat with a difference of only about 10°C in temperature between each end.
At the "hot" end of the tube, the liquid evaporates and absorbs energy. The resulting vapour moves to the "cold" end of the tube, where it condenses and releases energy. The liquid then flows back to the other end by gravity and capillary action. The latter occurs over a mesh inside the rod.

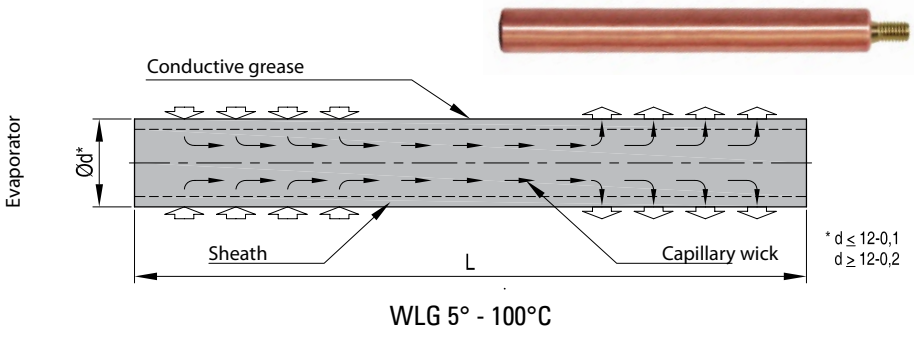
Application

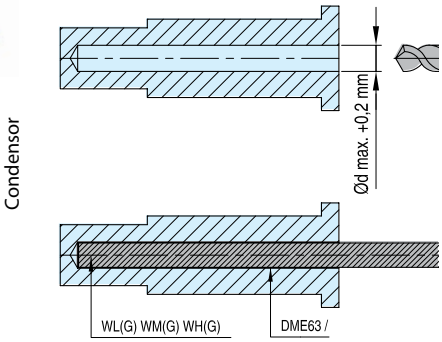
- Die casting
- Injection moulding: Cooling (moulds), Pre-heating of material, Leveling of service temperatures

Benefits

- **Simplified mould construction**
- **Faster cycle times**
- **Improved product quality**
- **Reduced maintenance costs**
- **Retrofit in existing moulds and dies**

Installation instructions on p. 531





REF	d	L	Thread
WLG350	3	50	M3
WLG365	3	65	M3
WLG380	3	80	M3
WLG390	3	90	M3
WLG3120	3	120	M3
WLG450	4	50	M3
WLG465	4	65	M3
WLG480	4	80	M3
WLG490	4	90	M3
WLG4120	4	120	M3
WLG4160	4	160	M3
WLG4200	4	200	M3
WLG550	5	50	M3
WLG565	5	65	M3
WLG580	5	80	M3
WLG590	5	90	M3
WLG5120	5	120	M3
WLG5160	5	160	M3
WLG5200	5	200	M3
WLG650	6	50	M3
WLG665	6	65	M3

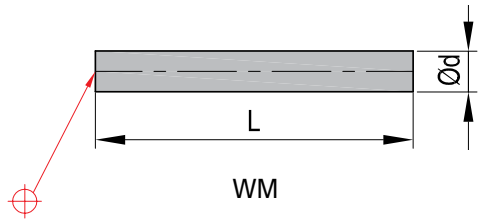
REF	d	L	Thread
WLG680	6	80	M3
WLG690	6	90	M3
WLG6120	6	120	M3
WLG6160	6	160	M3
WLG6200	6	200	M3
WLG6270	6	270	M3
WLG850	8	50	M4
WLG865	8	65	M4
WLG880	8	80	M4
WLG890	8	90	M4
WLG8120	8	120	M4
WLG8160	8	160	M4
WLG8200	8	200	M4
WLG8270	8	270	M4
WLG1050	10	50	M4
WLG1065	10	65	M4
WLG1080	10	80	M4
WLG1090	10	90	M4
WLG10120	10	120	M4
WLG10160	10	160	M4
WLG10200	10	200	M4
WLG10270	10	270	M4
WLG10320	10	320	M4
WLG1250*	12	50	M6
WLG1265*	12	65	M6
WLG1280*	12	80	M6

REF	d	L	Thread
WLG1290*	12	90	M6
WLG12120*	12	120	M6
WLG12160*	12	160	M6
WLG12200*	12	200	M6
WLG12270*	12	270	M6
WLG12320*	12	320	M6
WLG1650	16	50	M6
WLG1665	16	65	M6
WLG1680	16	80	M6
WLG1690	16	90	M6
WLG16120	16	120	M6
WLG16160	16	160	M6
WLG16200	16	200	M6
WLG16270	16	270	M6
WLG16320	16	320	M6
WLG2050	20	50	M6
WLG2065	20	65	M6
WLG2080	20	80	M6
WLG2090	20	90	M6
WLG20120	20	120	M6
WLG20160	20	160	M6
WLG20200	20	200	M6
WLG20270	20	270	M6
WLG20320	20	320	M6

*these items have a female M6 thread, not a male thread

CAD reference point

HEAT TRANSFER RODS WM



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- Injection moulding: Cooling (moulds), Pre-heating of material, Leveling of service temperatures

Benefits

- **Simplified mould construction**
- **Faster cycle times**
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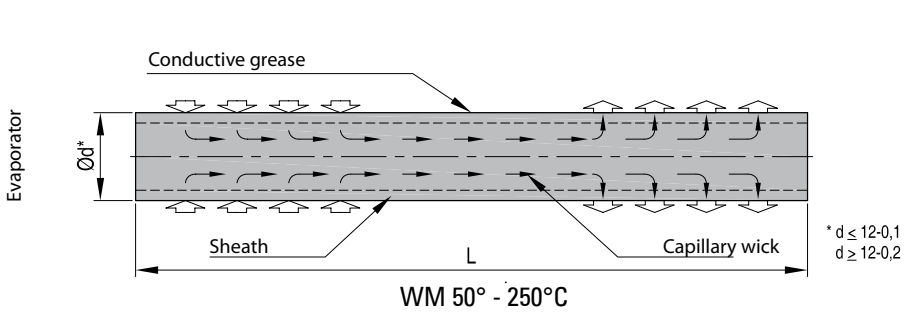
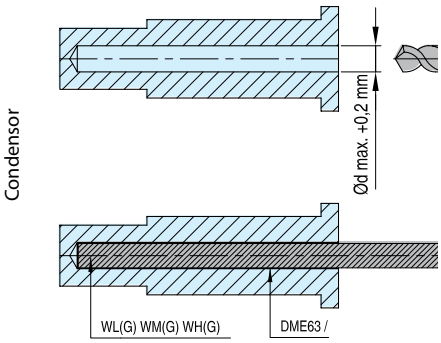
Installation instructions on p. 531





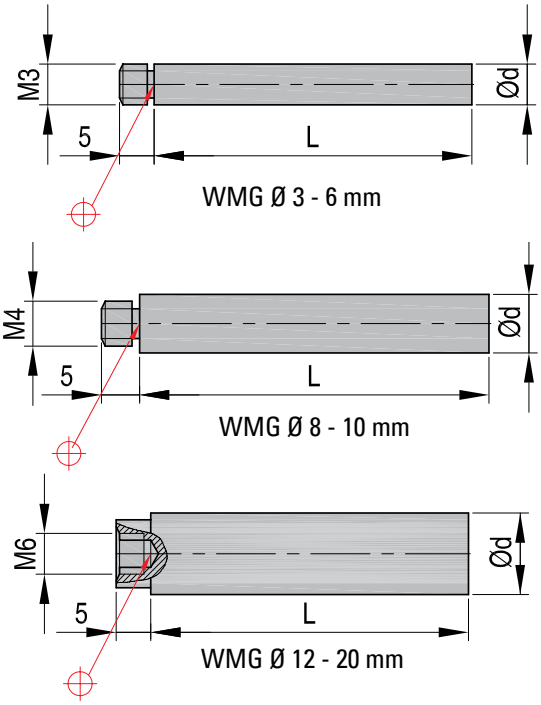
REF	d	L
WM250	2	50
WM265	2	65
WM280	2	80
WM290	2	90
WM2120	2	120
WM350	3	50
WM365	3	65
WM380	3	80
WM390	3	90
WM3120	3	120
WM450	4	50
WM465	4	65
WM480	4	80
WM490	4	90
WM4120	4	120
WM4160	4	160
WM4200	4	200
WM550	5	50
WM565	5	65
WM580	5	80
WM590	5	90
WM5120	5	120
WM5160	5	160
WM5200	5	200
WM650	6	50
WM665	6	65

REF	d	L
WM680	6	80
WM690	6	90
WM6120	6	120
WM6160	6	160
WM6200	6	200
WM6270	6	270
WM850	8	50
WM865	8	65
WM880	8	80
WM890	8	90
WM8120	8	120
WM8160	8	160
WM8200	8	200
WM8270	8	270
WM1050	10	50
WM1065	10	65
WM1080	10	80
WM1090	10	90
WM10120	10	120
WM10160	10	160
WM10200	10	200
WM10270	10	270
WM10320	10	320
WM1250	12	50
WM1265	12	65
WM1280	12	80

REF	d	L
WM1290	12	90
WM12120	12	120
WM12160	12	160
WM12200	12	200
WM12270	12	270
WM12320	12	320
WM1650	16	50
WM1665	16	65
WM1680	16	80
WM1690	16	90
WM16120	16	120
WM16160	16	160
WM16200	16	200
WM16270	16	270
WM16320	16	320
WM2050	20	50
WM2065	20	65
WM2080	20	80
WM2090	20	90
WM20120	20	120
WM20160	20	160
WM20200	20	200
WM20270	20	270
WM20320	20	320

CAD reference point

HEAT TRANSFER RODS — WMG



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- Injection moulding: Cooling (moulds), Pre-heating of material, Leveling of service temperatures

Benefits

- **Simplified mould construction**
- **Faster cycle times**
- **Improved product quality**
- **Reduced maintenance costs**
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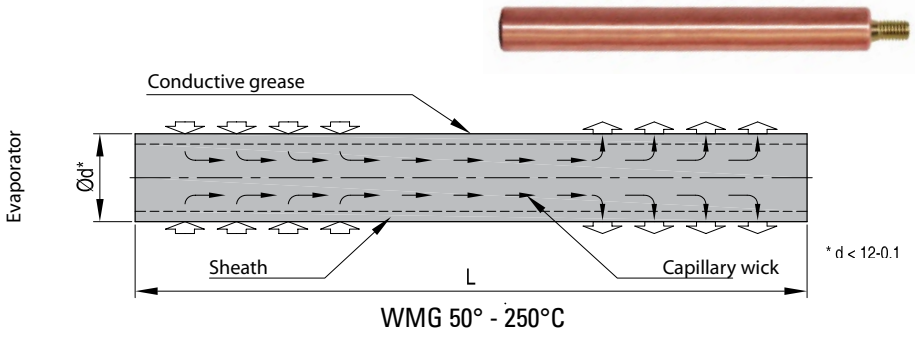
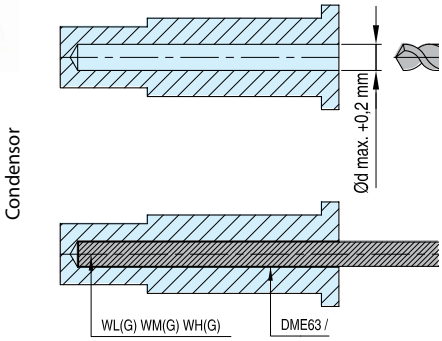
Installation instructions on p. 531





REF	d	L	Thread
WMG350	3	50	M3
WMG365	3	65	M3
WMG380	3	80	M3
WMG390	3	90	M3
WMG3120	3	120	M3
WMG450	4	50	M3
WMG465	4	65	M3
WMG480	4	80	M3
WMG490	4	90	M3
WMG4120	4	120	M3
WMG4160	4	160	M3
WMG4200	4	200	M3
WMG550	5	50	M3
WMG565	5	65	M3
WMG580	5	80	M3
WMG590	5	90	M3
WMG5120	5	120	M3
WMG5160	5	160	M3
WMG5200	5	200	M3
WMG650	6	50	M3
WMG665	6	65	M3

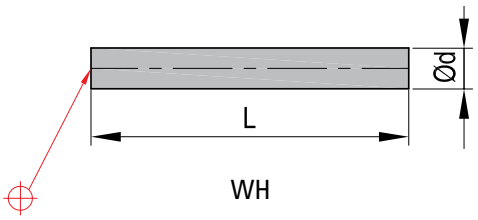
REF	d	L	Thread
WMG680	6	80	M3
WMG690	6	90	M3
WMG6120	6	120	M3
WMG6160	6	160	M3
WMG6200	6	200	M3
WMG6270	6	270	M3
WMG850	8	50	M4
WMG865	8	65	M4
WMG880	8	80	M4
WMG890	8	90	M4
WMG8120	8	120	M4
WMG8160	8	160	M4
WMG8200	8	200	M4
WMG8270	8	270	M4
WMG1050	10	50	M4
WMG1065	10	65	M4
WMG1080	10	80	M4
WMG1090	10	90	M4
WMG10120	10	120	M4
WMG10160	10	160	M4
WMG10200	10	200	M4
WMG10270	10	270	M4
WMG10320	10	320	M4
WMG1250*	12	50	M6
WMG1265*	12	65	M6
WMG1280*	12	80	M6

REF	d	L	Thread
WMG1290*	12	90	M6
WMG12120*	12	120	M6
WMG12160*	12	160	M6
WMG12200*	12	200	M6
WMG12270*	12	270	M6
WMG12320*	12	320	M6
WMG1650	16	50	M6
WMG1665	16	65	M6
WMG1680	16	80	M6
WMG1690	16	90	M6
WMG16120	16	120	M6
WMG16160	16	160	M6
WMG16200	16	200	M6
WMG16270	16	270	M6
WMG16320	16	320	M6
WMG2050	20	50	M6
WMG2065	20	65	M6
WMG2080	20	80	M6
WMG2090	20	90	M6
WMG20120	20	120	M6
WMG20160	20	160	M6
WMG20200	20	200	M6
WMG20270	20	270	M6
WMG20320	20	320	M6

*these items have a female M6 thread, not a male thread

CAD reference point

HEAT TRANSFER RODS WH



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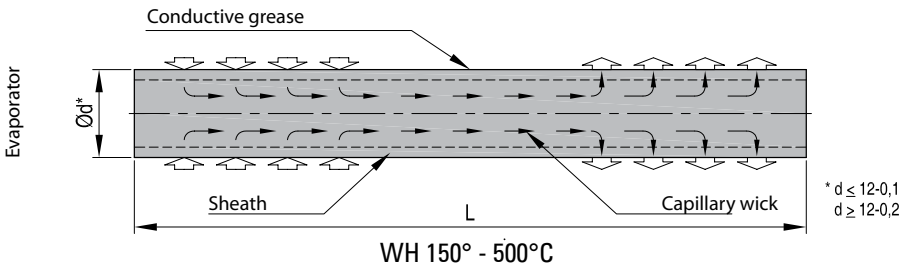
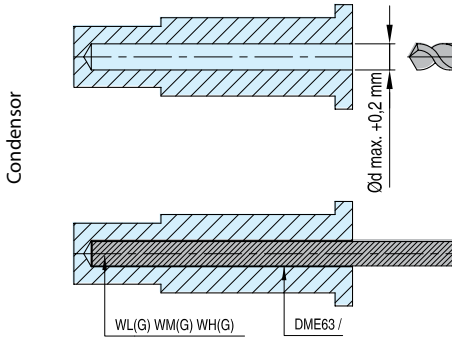
Installation instructions on p. 531





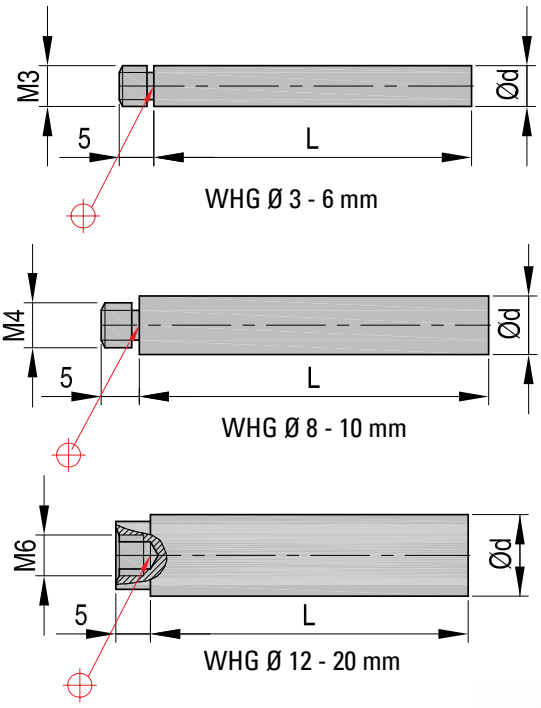
REF	d	L
WH350	3	50
WH365	3	65
WH380	3	80
WH390	3	90
WH3120	3	120
WH450	4	50
WH465	4	65
WH480	4	80
WH490	4	90
WH4120	4	120
WH4160	4	160
WH4200	4	200
WH550	5	50
WH565	5	65
WH580	5	80
WH590	5	90
WH5120	5	120
WH5160	5	160
WH5200	5	200
WH650	6	50
WH665	6	65

REF	d	L
WH680	6	80
WH690	6	90
WH6120	6	120
WH6160	6	160
WH6200	6	200
WH6270	6	270
WH850	8	50
WH865	8	65
WH880	8	80
WH890	8	90
WH8120	8	120
WH8160	8	160
WH8200	8	200
WH8270	8	270
WH1050	10	50
WH1065	10	65
WH1080	10	80
WH1090	10	90
WH10120	10	120
WH10160	10	160
WH10200	10	200
WH10270	10	270
WH10320	10	320
WH1250	12	50
WH1265	12	65
WH1280	12	80

REF	d	L
WH1290	12	90
WH12120	12	120
WH12160	12	160
WH12200	12	200
WH12270	12	270
WH12320	12	320
WH1650	16	50
WH1665	16	65
WH1680	16	80
WH1690	16	90
WH16120	16	120
WH16160	16	160
WH16200	16	200
WH16270	16	270
WH16320	16	320
WH2050	20	50
WH2065	20	65
WH2080	20	80
WH2090	20	90
WH20120	20	120
WH20160	20	160
WH20200	20	200
WH20270	20	270
WH20320	20	320

CAD reference point

HEAT TRANSFER RODS — WHG



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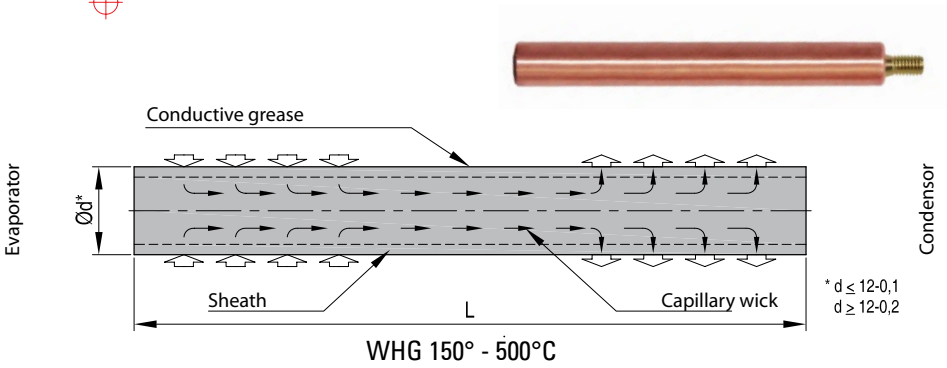
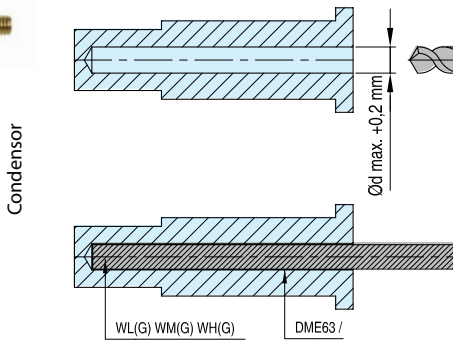




REF	d	L	Thread
WHG350	3	50	M3
WHG365	3	65	M3
WHG380	3	80	M3
WHG390	3	90	M3
WHG3120	3	120	M3
WHG450	4	50	M3
WHG465	4	65	M3
WHG480	4	80	M3
WHG490	4	90	M3
WHG4120	4	120	M3
WHG4160	4	160	M3
WHG4200	4	200	M3
WHG550	5	50	M3
WHG565	5	65	M3
WHG580	5	80	M3
WHG590	5	90	M3
WHG5120	5	120	M3
WHG5160	5	160	M3
WHG5200	5	200	M3
WHG650	6	50	M3
WHG665	6	65	M3
WHG680	6	80	M3
WHG690	6	90	M3
WHG6120	6	120	M3
WHG6160	6	160	M3
WHG6200	6	200	M3

REF	d	L	Thread
WHG6270	6	270	M3
WHG850	8	50	M3
WHG865	8	65	M3
WHG880	8	80	M3
WHG890	8	90	M3
WHG8120	8	120	M3
WHG8160	8	160	M4
WHG8200	8	200	M4
WHG8270	8	270	M4
WHG1050	10	50	M4
WHG1065	10	65	M4
WHG1080	10	80	M4
WHG1090	10	90	M4
WHG10120	10	120	M4
WHG10160	10	160	M4
WHG10200	10	200	M4
WHG10270	10	270	M4
WHG10320	10	320	M4
WHG1250	12	50	M4
WHG1265	12	65	M4
WHG1280	12	80	M4
WHG1290	12	90	M4
WHG12120	12	120	M4
WHG12160	12	160	M6
WHG12200	12	200	M6
WHG12270	12	270	M6

REF	d	L	Thread
WHG12320	12	320	M6
WHG1650	16	50	M6
WHG1665	16	65	M6
WHG1680	16	80	M6
WHG1690	16	90	M6
WHG16120	16	120	M6
WHG16160	16	160	M6
WHG16200	16	200	M6
WHG16270	16	270	M6
WHG16320	16	320	M6
WHG2050	20	50	M6
WHG2065	20	65	M6
WHG2080	20	80	M6
WHG2090	20	90	M6
WHG20120	20	120	M6
WHG20160	20	160	M6
WHG20200	20	200	M6
WHG20270	20	270	M6
WHG20320	20	320	M6
WMG20120	20	120	M6
WMG20160	20	160	M6
WMG20200	20	200	M6
WMG20270	20	270	M6
WMG20320	20	320	M6

CAD reference point

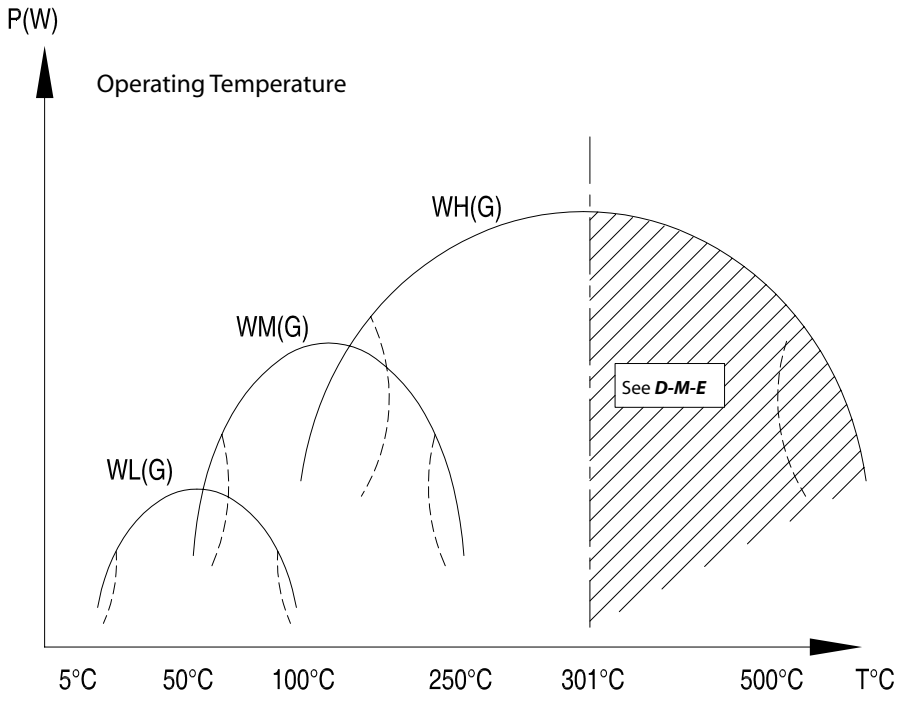
FLUIDS FOR HEAT TRANSFER RODS — DME 63 - MS 110 - MS 120

REF	Quantity
DME63	400 ml
MS110	450 gr
MS120	10 gr

Working range

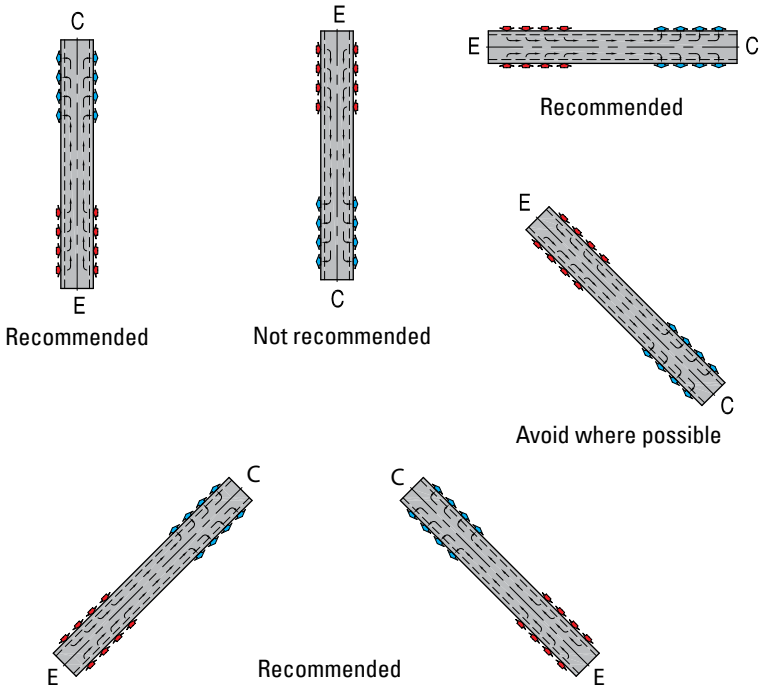
The DME Heat Transfer Rods contain heat exchange fluid specially selected for the temperature of operation. They are available in 3 Series providing high transfer efficiency over a given range of temperatures.
For low and medium temperatures, the WL Series covers the range from 5 to 100°C and the WM Series from 50°C to 250°C.
For high temperatures, the WH Series covers the range from 150°C to 500°C.
It is always recommended to choose the largest diameter and greatest length.
Graphs should not be used for determining energy values.
At each end of each curve, there is a critical zone in which the operation of the Heat Transfer Rod does not present the best guarantee of efficiency.

OPERATING TEMPERATURE OF HEAT TRANSFER RODS



CAD reference point

INSTALLATION INSTRUCTION WL(G) - WM(G) - WH(G)



With proper installation, the rod may last as long as the mould. Efficiency of the Heat Transfer Rods varies, according to their position, length and diameter. A correct working action of the rod is obtained by reducing the thermal resistances to a minimum by using a thermal bond of the DME Heat Transfer Paste 63.

As the fluid inside the rod circulates by gravity and capillarity, the best position for the rod is the vertical position (bottom: heat source + evaporation / top: cold section + condensation).

The less efficient position is the reserved position (bottom: cold section + condensation / top: heat source + evaporation).

- Drill a blind hole of 0,1 mm larger than the nominal diameter of the rod for diameters ranging from 2 to 10 mm and 0,2 mm for those larger than 12 mm.
- Make sure no chips remain into the drilled hole.
- Insert into the hole the DME Heat Transfer Paste 63 which will insure a thermal contact (thermal bond) between the rod and the steel mass of the mould.
- Push the rod into the hole, thus allowing the Heat Transfer Paste 63 to drive back along the hole wall.

C = condensator + cold section
E = evaporator + heat source

Irregular shapes of the zone to be cooled
As a general rule, it is advisable to install a Heat Transfer Rod with maximum diameter and maximum length acceptable. When there is a narrow section into the zone to be cooled, where a small diameter should be necessary, it is better to install the rod farther away from the surface to be cooled in order to have a bigger diameter rather than to install a small diameter closer to the surface to be cooled.

Fig. I

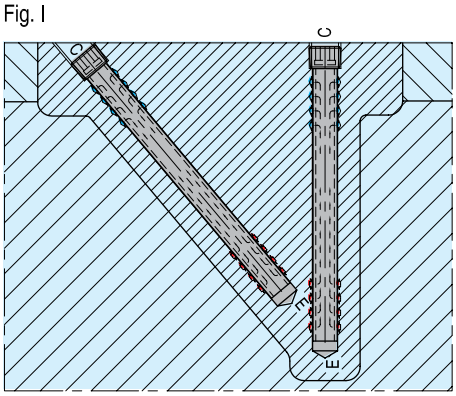
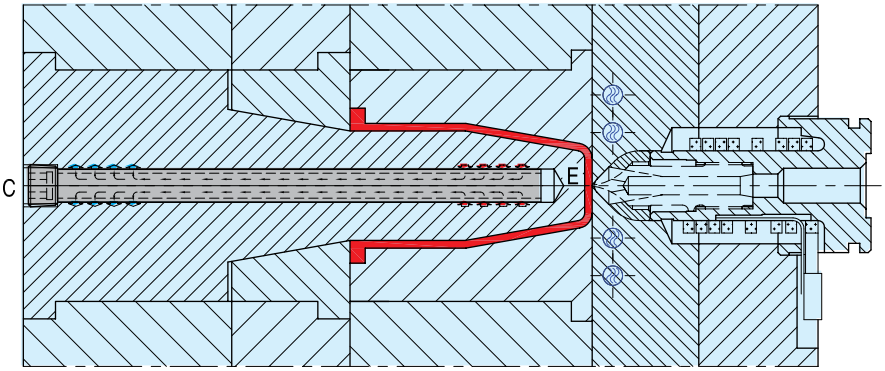


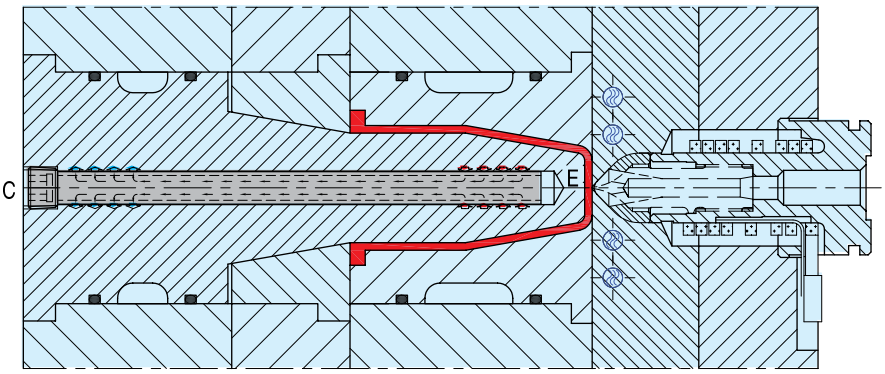
Fig. II



Examples
Inside a core:

1. All types: without cooling lines (thermal conduction into the cold part of the mould).
2. Heat Transfer Rod not in contact with the cooling fluid. The transfer is obtained by means of a cooling line circulating close to the end of the rod.
3. Cooling by means of air circulation. It is however preferable to allow the heat transfer by thermal conduction into the mould rather than by air circulation, the thermal exchanges being low in this latter case.

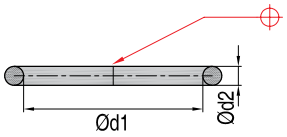
Fig. III

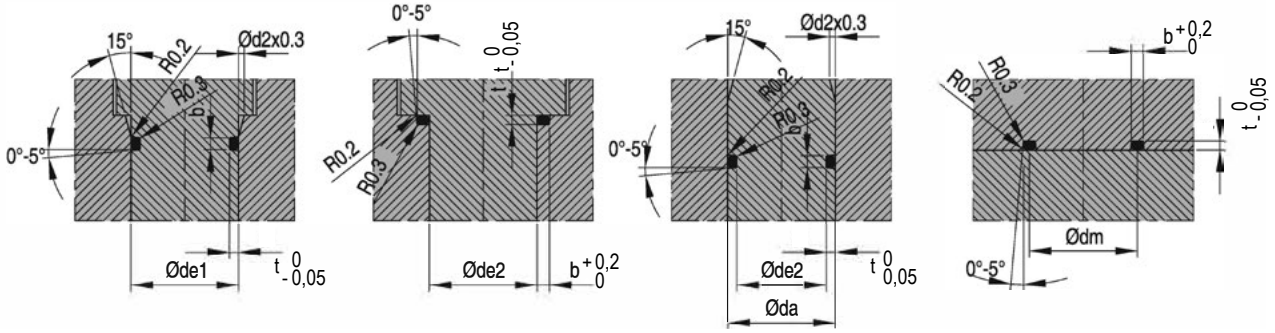


CAD reference point

O-RINGS — DR 1700

Info:
Mat.: Perbunan
Hardness: ~ 80 shore
Temp.: -40°C - 100°C





REF	d1	d2	da	de1	de2	dm	b	t
DR17000062-00	6	2,00	9,2	9,2	6	8,00	2,6	1,6
DR17000062-50	6	2,50	10,0	10,0	6	8,50	3,2	2,0
DR17000082-00	8	2,00	11,2	11,2	8	10,00	2,6	1,6
DR17000102-00	10	2,00	13,2	13,2	10	12,00	2,6	1,6
DR17000103-00	10	3,00	14,8	14,8	10	13,00	3,9	2,4
DR17000121-50	12	1,50	14,2	14,8	12	13,50	1,9	1,2
DR17000122-00	12	2,00	15,2	15,2	12	14,00	2,6	1,6
DR17000123-00	12	3,00	16,8	16,8	12	15,00	3,9	2,4
DR17000133-00	13	3,00	17,8	17,8	13	16,00	3,9	2,4
DR17000141-60	14	1,60	16,6	16,6	14	15,60	2,0	1,3
DR17000142-00	14	2,00	17,2	17,2	14	16,00	2,6	1,6
DR17000161-25	16	1,25	18,0	18,0	16	17,25	1,6	1,0
DR17000162-00	16	2,00	19,2	19,2	16	18,00	2,6	1,6
DR17000173-00	17	3,00	21,8	21,8	17	20,00	3,9	2,4
DR17000181-50	18	1,50	20,4	20,4	18	19,50	1,9	1,2
DR17000202-00	20	2,00	23,2	23,2	20	22,00	2,6	1,6
DR17000203-00	20	3,00	24,8	24,8	20	23,00	3,9	2,4
DR17000204-00	20	4,00	26,4	26,4	20	24,00	5,2	3,2
DR17000223-00	22	3,00	26,8	26,8	22	25,00	3,9	2,4
DR17000263-00	26	3,00	30,8	30,8	26	29,00	3,9	2,4
DR17000273-20	27	3,20	32,2	32,2	27	30,20	4,2	2,6
DR17000302-00	30	2,00	33,2	33,2	30	32,00	2,6	1,6
DR17000303-00	30	3,00	34,8	34,8	30	33,00	3,9	2,4
DR17000304-00	30	4,00	36,4	36,4	30	34,00	5,2	3,2
DR17000324-00	32	4,00	38,4	38,4	32	36,00	5,2	3,2
DR17000353-20	35	3,20	40,2	40,2	35	38,20	4,2	2,6
DR17000384-00	38	4,00	44,4	44,4	38	42,00	5,2	3,2
DR17000402-00	40	2,00	43,2	43,2	40	42,00	2,6	1,6
DR17000403-00	40	3,00	44,8	44,8	40	43,00	3,9	2,4
DR17000404-00	40	4,00	46,4	46,4	40	44,00	5,2	3,2
DR17000423-00	42	3,00	46,8	46,8	42	45,00	3,9	2,4
DR17000454-00	45	4,00	51,4	51,4	45	49,00	5,2	3,2
DR17000484-00	48	4,00	54,4	54,4	48	52,00	5,2	3,2
DR17000502-00	50	2,00	53,2	53,2	50	52,00	2,6	1,6
DR17000504-00	50	4,00	56,4	56,4	50	54,00	5,2	3,2
DR17000523-00	52	3,00	56,8	56,8	52	55,00	3,9	2,4
DR17000593-00	59	3,00	63,8	63,8	59	62,00	3,9	2,4
DR17000603-00	60	3,00	64,8	64,8	60	63,00	3,9	2,4
DR17000604-00	60	4,00	66,4	66,4	60	64,00	5,2	3,2

CAD reference point

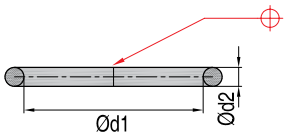
O-RINGS DR 1700

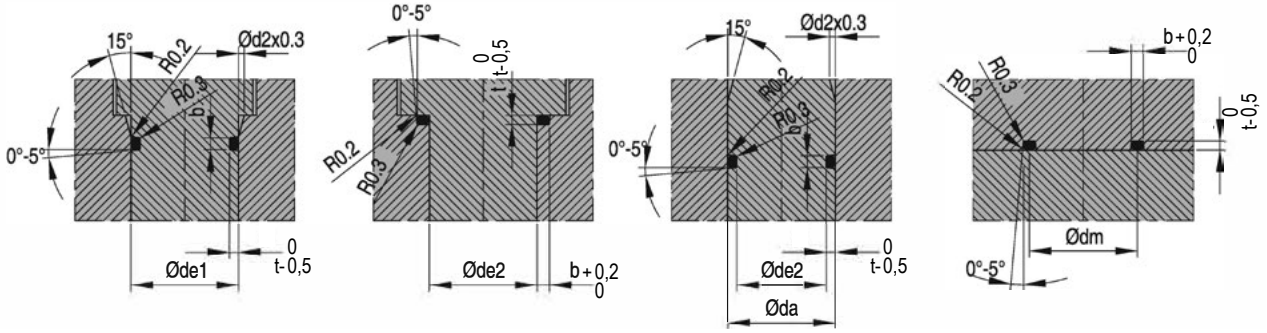
REF	d1	d2	da	de1	de2	dm	b	t
DR17000703-00	70	3,00	74,8	74,8	70	73,00	3,9	2,4
DR17000704-00	70	4,00	76,4	76,4	70	74,00	5,2	3,2
DR17000802-80	80	2,80	84,4	84,4	80	82,80	3,7	2,2
DR17000804-00	80	4,00	86,4	86,4	80	84,00	5,2	3,2
DR17000843-00	84	3,00	88,8	88,8	84	87,00	3,9	2,4
DR17000904-00	90	4,00	96,4	96,4	90	94,00	5,2	3,2
DR17001003-00	100	3,00	104,8	104,8	100	103,00	3,9	2,4
DR17001004-00	100	4,00	106,4	106,4	100	104,00	5,2	3,2
DR17001054-00	105	4,00	111,4	111,4	105	109,00	5,2	3,2
DR17001202-00	120	2,00	123,2	123,2	120	122,00	2,6	1,6
DR17001305-00	130	5,00	138,0	138	130	135,00	6,5	4,0
DR17001404-00	140	4,00	146,4	146,4	140	144,00	5,2	3,2
DR17001502-00	150	2,00	153,2	153,2	150	152,00	2,6	1,6
DR17001504-00	150	4,00	156,4	156,4	150	154,00	5,2	3,2
DR17001856-00	185	6,00	194,6	194,6	185	191,00	7,5	4,8
DR17002104-00	210	4,00	216,4	216,4	210	214,00	5,2	3,2

CAD reference point

O-RINGS DR 1710

Mat.: FPM (Viton)
Hardness: ~ 80 shore
T. max: + 200°C air permanent
+ 250°C air temporary
+ 100°C water permanent



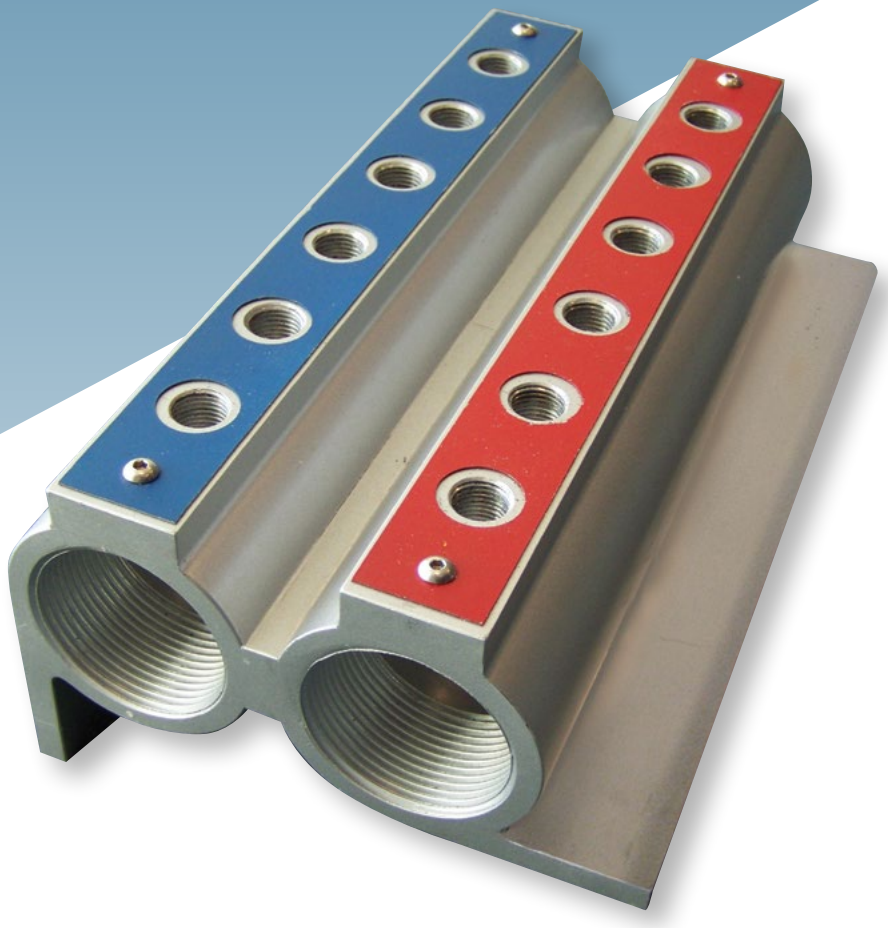


REF	d1	d2	da	de1	de2	dm	b	t
DR171003-501-50	3,50	1,50	5,7	6	3,5	5,00	1,9	1,20
DR171005-501-50	5,50	1,50	7,7	8	5,5	7,00	1,9	1,20
DR171006-002-00	6,00	2,00	9,0	10	6,0	8,00	2,7	1,50
DR171006-351-78	6,35	1,78	9,1	10	6,5	8,13	2,2	1,45
DR171007-501-50	7,50	1,50	9,7	10	7,5	9,00	1,9	1,20
DR171008-002-50	8,00	2,50	11,7	12	8,0	10,50	3,2	2,00
DR171010-002-50	10,00	2,50	13,7	14	10,0	12,50	3,2	2,00
DR171012-002-00	12,00	2,00	15,0	16	12,0	14,00	2,7	1,50
DR171012-002-50	12,00	2,50	15,7	16	12,0	14,50	3,2	2,00
DR171012-421-78	12,42	1,78	15,1	16	12,5	14,20	2,2	1,45
DR171014-002-50	14,00	2,50	17,7	18	14,0	16,50	3,2	2,00
DR171016-002-50	16,00	2,50	19,7	20	16,0	18,50	3,9	2,00
DR171017-003-00	17,00	3,00	21,6	22	17,0	20,00	3,9	2,40
DR171020-003-00	20,00	3,00	24,6	25	20,0	23,00	3,9	2,40
DR171021-002-00	21,00	2,00	24,0	25	21,0	23,00	2,7	1,50
DR171021-951-78	21,95	1,78	24,6	25	22,0	23,73	2,2	1,45
DR171023-003-00	23,00	3,00	27,6	28	23,0	26,00	3,9	2,40
DR171025-003-00	25,00	3,00	29,6	30	25,0	28,00	3,9	2,40
DR171027-003-00	27,00	3,00	31,6	32	27,0	30,00	3,9	2,40
DR171030-003-00	30,00	3,00	34,6	35	30,0	33,00	3,9	2,40
DR171035-003-00	35,00	3,00	39,6	40	35,0	38,00	3,9	2,40
DR171040-003-00	40,00	3,00	44,6	45	40,0	43,00	3,9	2,40
DR171045-003-00	45,00	3,00	49,6	50	45,0	48,00	3,9	2,40
DR171055-003-00	55,00	3,00	59,6	60	55,0	58,00	3,9	2,40
DR171058-003-00	58,00	3,00	62,6	63	58,0	61,00	3,9	2,40
DR171064-004-00	64,00	4,00	70,2	70	64,0	68,00	5,2	3,20
DR171074-004-00	74,00	4,00	80,2	80	74,0	78,00	5,2	3,20
DR171084-004-00	84,00	4,00	90,2	90	84,0	88,00	5,2	3,20
DR171094-004-00	94,00	4,00	100,2	100	94,0	98,00	5,2	3,20
DR1710104-04-00	104,00	4,00	110,2	110	104,0	108,00	5,2	3,20
DR171012000400	120,00	4,00	126,2	126	120,0	124,00	5,2	3,20
DR171013400400	134,00	4,00	140,2	140	134,0	138,00	5,2	3,20
DR171015500400	155,00	4,00	161,2	161	155,0	159,00	5,2	3,20

CAD reference point

COOLING MANIFOLD

- no loss in pressure due to long hoses or too many flow meters
- efficient parallel mouldcooling with shorter cycle times
- easily install and group cooling connections and hoses
- in- and outlets can be connected seperately
- hose lengths can be reduced, enabling the moulder to work with lower pressure in the system
- cooling manifold can be installed horizontally and vertically



COOLING MANIFOLD

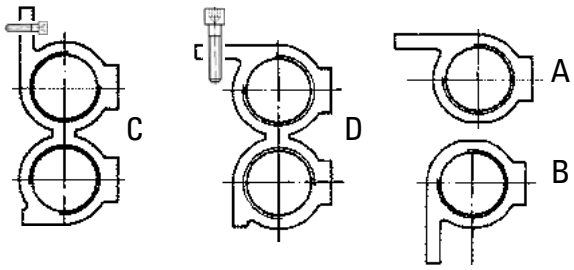
COOLING MANIFOLD UPON REQUEST

Traditional cooling connection

DME cooling manifold

- One piece Aluminium Extrusion Anodized
- Corrosion resistant / No Welds
- Standard Inlets: 1 ½"
- Predrilled Mounting Holes
- Red / Blue Marking plate Included
- Specials upon demand
- Max T°C: 200

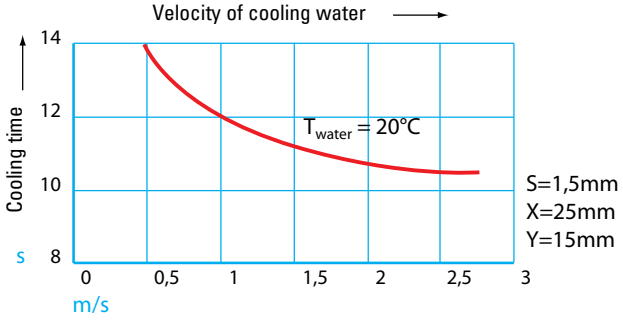
Manifold Type

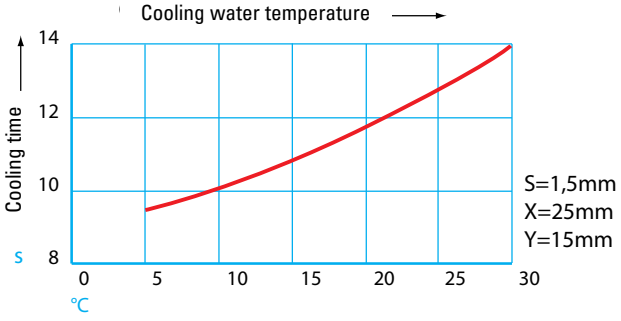


Double option
On side of the mould/machine

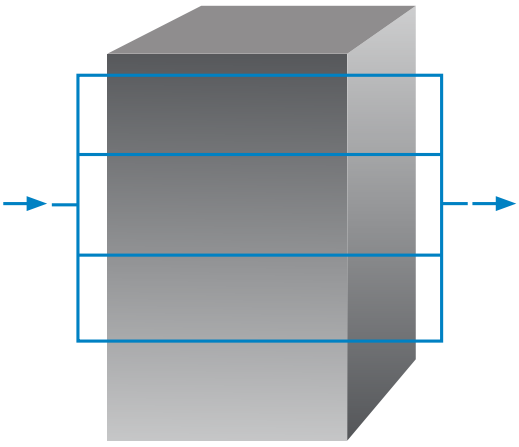
Double option
On top of mould/ machine

Single option
(Upon request)



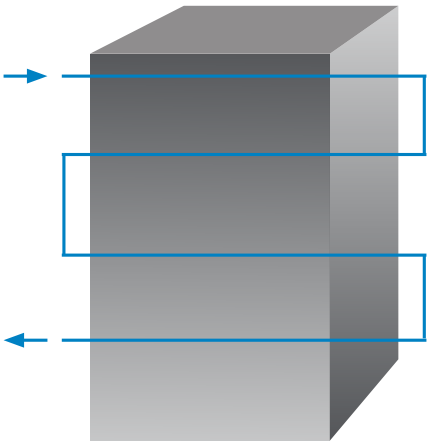


Parallel



High flow
Low pressure loss

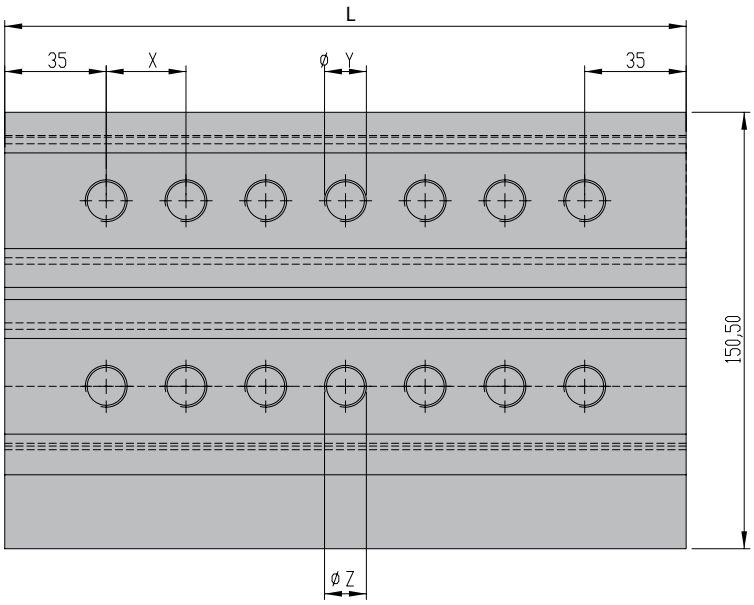
Serial

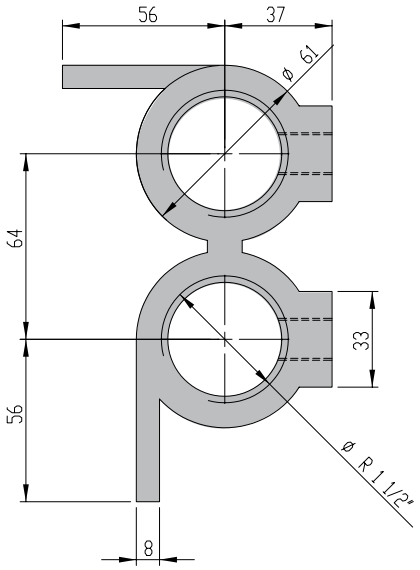


Low flow
High pressure loss

CAD reference point

EXAMPLE





For use	Y/Z	X
Nipple/plug	1/4" 3/8" M14x1,5	27,50 mm
Nipple/plug	1/2" / M16x1,5	33,00 mm
Nipple/plug	3/4" / M24x1,5	41,25 mm
Valves	upon request	Minimum 50 when using collector valves with handle

HOW TO ORDER*

- Number of holes per row
- Thread upper row "Y"
- Thread lower row "Z"
- Distance "X"
- Total length manifold
- Manifold type (A, B, C or D - for details see previous page)

Example:

COLM	2x7	3/8	3/8	33	268	(A, B, C, D)
REF	N° holes	Thread Y	Thread Z	X	Total Length	Manifold type

mandatory info to be supplied by customer

STANDARD ACCESSORIES AVAILABLE

Collector valve with handle 1/2"
For use with X = 41,5mm

REF
CVH12

GK extension brass 1/2"
- Length 50mm
- Total length 61mm
- To be used for second row
- DIN3523
- Inside thread 1/2" x 42

REF
GKMF12

Mechanical flowmeter
BSP 1/2" (female) - BSP 3/4" (male)
- Hexagonal: SW19
- Length: 81mm
- Flow capacity: 2 - 8 lt/min
- Temperature Range: +0°C - +100 °C
- Working Pressure: max 10 Bar
- Springs: Stainless Steel indicator
- Seal: Buna

REF
FM1234

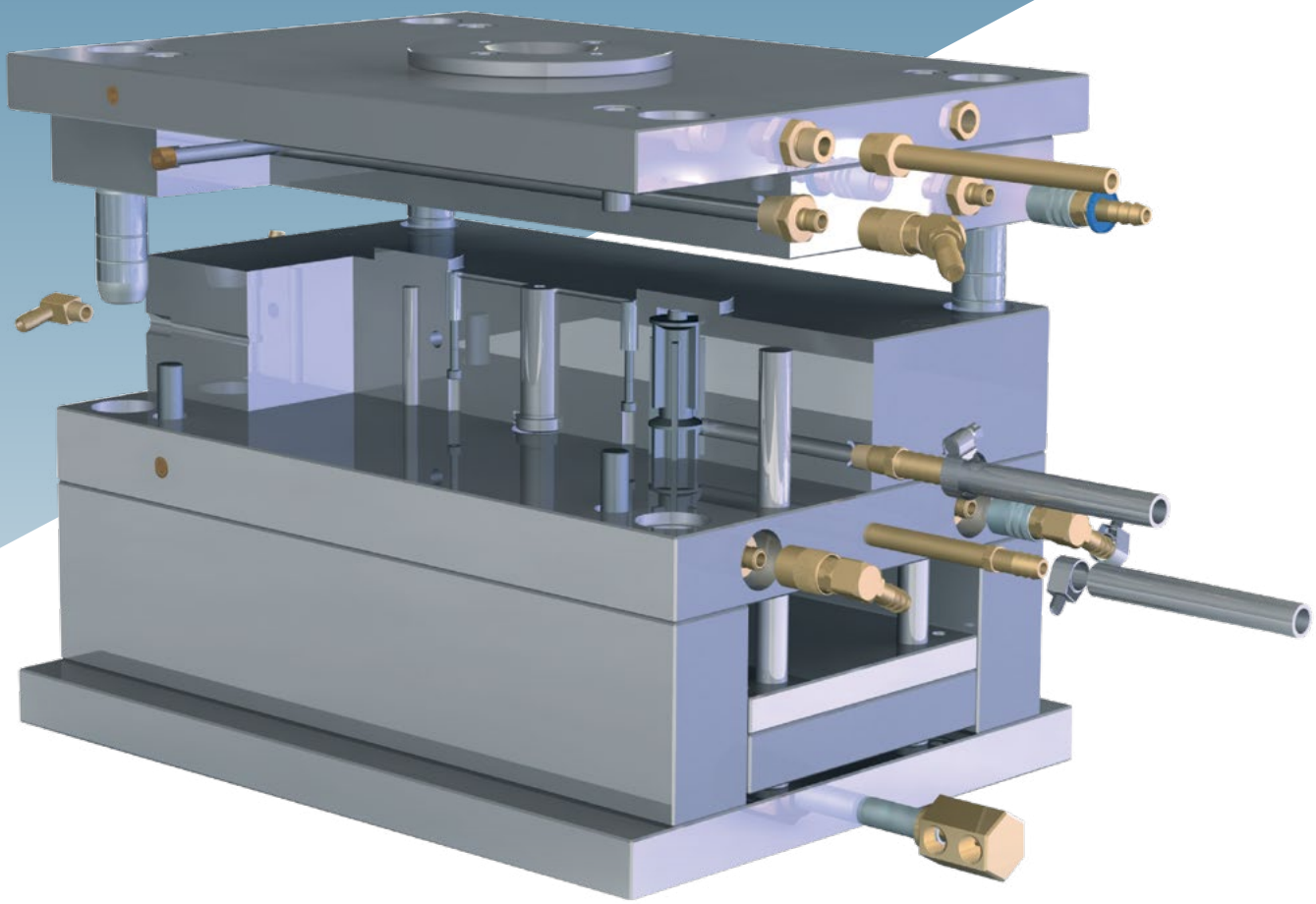
Standard inlets 1 ½"
DIN908
BSPT 1 1/2"

REF
COMFD0001

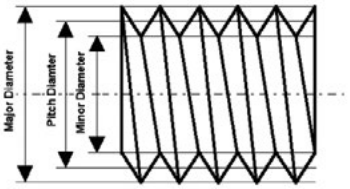
CAD reference point

CAD reference point

TECHNICAL DATA



International Thread Standards



The most frequently used thread standard is the metric ISO Thread. However, there are other thread standards as well. These are either based on foreign standards or are used for special applications. E.G. in the medical technology, in aeronautical engineering or astronautics.

The most common threads are:

- ISO Thread (metric)
- Pipe Thread
- Knuckle Thread
- Whitworth Thread
- Trapezoidal Thread
- Buttress Thread

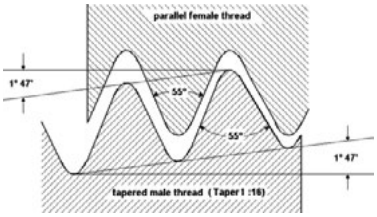
The thread abbreviation includes the thread code letter and the nominal thread diameter or the thread size. Additional values for pitch or TPI, tolerance, multi-lead, taper and left-handedness are added. Often threads that are according to DIN Standard have the major DIN number put in front of the thread abbreviation.

Talking of screws the major diameter for screws is determined by the thread tips.
The minor diameter by the groove of the thread.
The pitch diameter is the distance of two opposite flanks or the distance of the center line of the profile.

Thread Specifications

Abbreviation	Country	Thread Angle °	Description
ISO		60°	International Organization for Standardization
NC	USA	60°	National Coarse
UNC	USA	60°	Unified National Coarse
NF	USA	60°	National Fine
UNF	USA	60°	Unified National Fine
UNEF	USA	60°	Unified National Extra Fine
UN	USA	60°	Unified National 8-, 12- and 16 pitch Series
UNS	USA	60°	Special Threads of American National Form
NPT	USA	60°	National Taper Pipe 1:16
NPTF	USA	60°	National Taper Pipe Dryseal 1:16
NPS	USA	60°	National Standard Straight Pipe
NPSM	USA	60°	National Standard Straight Pipe for free fitting mechanical
NPSF	USA	60°	National Standard Internal Straight Pipe Dryseal
BSW	GB	55°	British Standard Withworth Coarse
BSF	GB	55°	British Standard Fine
BSP	GB	55°	British Strandard Pipe
BSPT	GB	55°	British Standard Pipe Taper
BA	GB	47°	British Standard Association

Whitworth Tapered Pipe Thread DIN 2999 _ BSPT (British Standard Tapered Pipe)



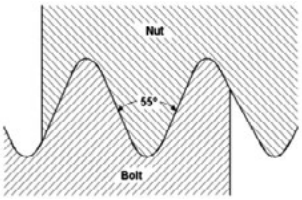
Whitworth Pipe Thread for pipes and fittings. Parallel female thread and tapered male thread (taper 1 : 16).
An appropriate sealing compound can be used in the thread to ensure a leak-proof joint.

Thread Specifications

Male Thread Diameter	Female Thread Diameter	Pipe Minor Diameter mm	Pipe Major Diameter mm	Tapping Drill Size mm	TPI	Pitch mm
R 1/16"	Rp 1/16"	3	7,723	6,561	28	0,907
R 1/8"	Rp 1/8"	6	9,728	8,566	28	0,907
R 1/4"	Rp 1/4"	8	13,157	11,445	19	1,337
R 3/8"	Rp 3/8"	10	16,662	14,950	19	1,337
R 1/2"	Rp 1/2"	15	20,995	18,631	14	1,814
R 3/4"	Rp 3/4"	20	26,441	24,117	14	1,814
R 1"	Rp 1"	25	33,249	30,291	11	2,309
R 1 1/4"	Rp 1 1/4"	32	41,910	38,952	11	2,309
R 1 1/2"	Rp 1 1/2"	40	47,803	44,845	11	2,309
R 2"	Rp 2"	50	59,614	56,656	11	2,309
R 2 1/2"	Rp 2 1/2"	65	75,184	72,226	11	2,309
R 3"	Rp 3"	80	87,884	84,926	11	2,309
R 4"	R 4"	100	113,030	110,072	11	2,309
R 5"	Rp 5"	125	138,430	135,472	11	2,309
R 6"	Rp 6"	150	163,830	160,872	11	2,309

CAD reference point

Whitworth Pipe Thread DIN ISO 228
BSP (British Standard Pipe)

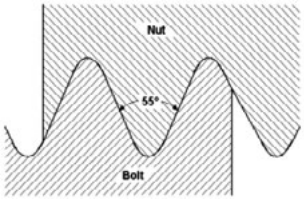


British Standard Pipe Thread, with sealant compound
(parallel, cylindrical), external = G

Thread Specifications

Nominal Diameter	Major Diameter	Minor Diamter Nut mm	Tapping Drill Size	TPI	Pitch mm
G 1/8"	9,73	8,85	8,80	28	0,907
G 1/4"	13,16	11,89	11,80	19	1,337
G 3/8"	16,66	15,39	15,25	19	1,337
G 1/2"	20,95	19,17	19,00	14	1,814
G 5/8"	22,91	21,13	21,00	14	1,814
G 3/4"	26,44	24,66	24,50	14	1,814
G 7/8"	30,20	28,42	28,25	14	1,814
G 1"	33,25	30,93	30,75	11	2,309
G 1 1/8"	37,90	35,58	35,30	11	2,309
G 1 1/4"	41,91	39,59	39,25	11	2,309
G 1 3/8"	44,32	42,00	41,70	11	2,309
G 1 1/2"	47,80	45,48	45,25	11	2,309
G 1 3/4"	53,74	51,43	51,10	11	2,309
G 2"	59,61	57,29	57,00	11	2,309
G 2 1/4"	65,71	63,39	63,10	11	2,309
G 2 1/2"	75,18	72,86	72,60	11	2,309
G 2 3/4"	81,53	79,21	78,90	11	2,309
G 3"	87,88	85,56	85,30	11	2,309
G 3 1/4"	93,98	91,66	91,50	11	2,309
G 3 1/2"	100,33	98,01	97,70	11	2,309
G 3 3/4"	106,68	104,30	104,00	11	2,309
G 4"	113,03	110,71	110,40	11	2,309

UNEF Thread ANSI B1.1



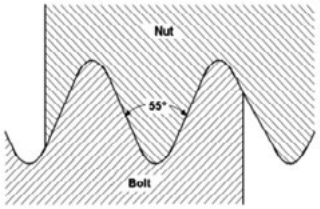
UNEF - Unified Extra Fine Thread, which is used for special purposes

Thread Specifications

Nominal Diameter	Major Diameter Inch	Major Diameter mm	Tapping Drill Size mm	TPI	Pitch mm
N 12 - 32 UNEF	0,216	5,486	4,80	32	0,794
1/4" - 32 UNEF	0,250	6,350	5,70		
5/16" - 32 UNEF	0,313	7,938	7,25		
3/8" - 32 UNEF	0,375	9,525	8,85		
7/16" - 28 UNEF	0,438	11,112	10,35	28	0,907
1/2" - 28 UNEF	0,500	12,700	11,80		
9/16" - 24 UNEF	0,563	14,288	13,40	24	1,058
5/8" - 24 UNEF	0,625	15,875	15,00		
11/16" - 24 UNEF	0,688	17,462	16,60		
3/4" - 20 UNEF	0,750	19,050	18,00	20	1,270
13/16" - 20 UNEF	0,813	20,638	19,60		
7/8" - 20 UNEF	0,875	22,225	21,15		
15/16" - 20 UNEF	0,938	23,812	22,70		
1" - 20 UNEF	1,000	25,400	24,30		
1 1/16" - 18 UNEF	1,063	26,988	25,80	18	1,411
1 1/8" - 18 UNEF	1,125	28,575	27,35		
1 1/4" - 18 UNEF	1,250	31,750	30,55		
1 5/16" - 18 UNEF	1,313	33,338	32,10		
1 3/8" - 18 UNEF	1,375	34,925	33,70		
1 7/16" - 18 UNEF	1,438	36,512	35,30		
1 1/2" - 18 UNEF	1,500	38,100	36,90		
1 9/16" - 18 UNEF	1,563	39,688	38,55		
1 5/8" - 18 UNEF	1,625	41,275	40,10		
1 11/16" - 18 UNEF	1,688	42,862	41,60		

CAD reference point

ISO Metric Coarse Thread DIN 13



Thread Specifications

Nominal Diameter M	Pitch mm	Tapping Drill Size mm
1,0	0,25	0,75
1,1	0,25	0,85
1,2	0,25	0,95
1,4	0,30	1,10
1,6	0,35	1,25
1,8	0,35	1,45
2,0	0,40	1,60
2,2	0,45	1,75
2,5	0,45	2,05
3,0	0,50	2,50
3,5	0,60	2,90
4,0	0,70	3,30
4,5	0,75	3,70
5,0	0,80	4,20
6,0	1,00	5,00
7,0	1,00	6,00
8,0	1,25	6,80

Nominal Diameter M	Pitch mm	Tapping Drill Size mm
9,0	1,25	7,80
10,0	1,50	8,50
11,0	1,50	9,50
12,0	1,75	10,20
14,00	2,00	12,00
16,00	2,00	14,00
18,00	2,50	15,50
20,00	2,50	17,50
22,00	2,50	19,50
24,00	3,00	21,00
27,00	3,00	24,00
30,00	3,50	26,50
33,00	3,50	29,50
36,00	4,00	32,00
39,00	4,00	35,00
42,00	4,50	37,50
45,00	4,50	40,50

Nominal Diameter M	Pitch mm	Tapping Drill Size mm
48,00	5,00	43,00
52,00	5,00	47,00
56,00	5,50	50,50
60,00	5,50	54,50
64,00	6,00	58,00
68,00	6,00	62,00

CAD reference point

DME

UNIVERSAL LINE

CAD reference point

CONTENT

U100 Series

U101 Series

Multi Couplings

CAD reference point

CAD reference point

U100 SERIES

These new couplers (with valve) have been designed according to industrial requirements. This new product works perfectly with full flow nipples and valved nippels. You will be able to have clean working areas with the help of this coupling and its valve system. Connection variety permits great flexible working conditions.

- Socket with valve / Full flow plug
- Socket with valve / Plug with valve
- Full flow Socket / Plug with valve
- Full flow Socket / Full flow plug

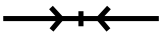
In this new system you can easily recognise the fluid is hot or cold by the new colored ring.

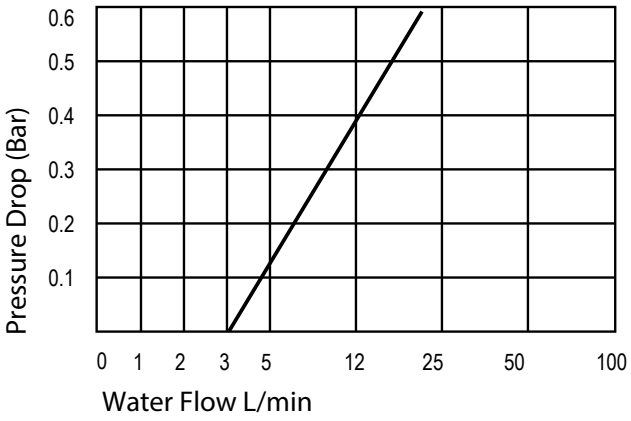
Using Area :

- On mould temperature control connections lines of plastic, zamak, and alüminium injection press.
- On hot oil lines connection
- On hot, cold or chilled water circuits.

The RPL Serie is quick to operate, reliable and designed for one hand operations. According to internal diameter there are 2 different sizes of U100 couplers.
Serie : U100.08B = 8.3 mm
Serie : U100.12B = 1 3 mm

COUPLING WITH VALVE — U100.06





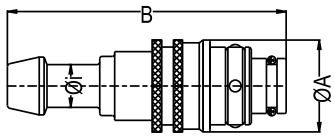
Temperature Range : -20°C +100°C (-40°F +250°F)
Working Pressure : 0 - 10 bar (0 - 160 PSI)
Flow capacity : NW 6

Material
Coupler Body : Brass Nickel Plated
Sleeve : Brass Nickel Plated
Springs : Stainless Steel
Locking O-Ring : Stainless Steel
Balls : Stainless Steel
Seals : NBR Nitrile (Ni)
Plug - Nippel : Brass Nickel Plated
Standard version : Brass
NBR Nitrile (Ni)
Nickel plated
Locking balls 6 units

Options
V - Seal
E - EPDM Seal
For optional orders please add the symbol of your option end of the order no.

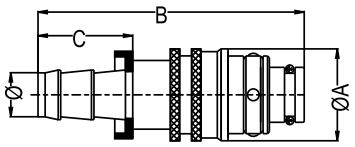
Please add: B - for Blue, R - for Red at the end of the REF for identification of the right colour.

STANDARD HOSE TAIL PLUG - SOCKET AND PLUG



Ø Connection		REF	Dimension in mm	
			A	B
Ø 6 mm	1/4"	U10006HGF06	17	32,5
Ø 8 mm	5/16"	U10006HGF08	17	32,5

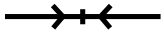
PUSH-LOCK HOSE TAIL PLUG

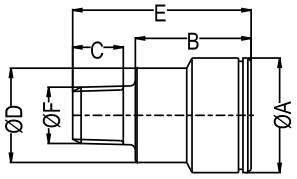


Ø Connection		REF	Dimension in mm	
			A	B
Ø 6 mm	1/4"	U10006FGF06	17	32,5
Ø 8 mm	5/16"	U10006FGF08	17	32,5
Ø 10 mm	5/16"	U10006FGF10	17	32,5

CAD reference point

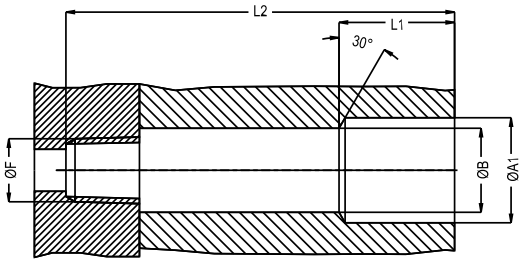
MALE THREADED PLUG SOCKET - SOCKET AND PLUG **U100.06**

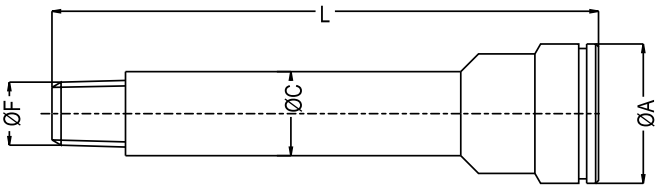




Ø F Connection	REF	Dimension in mm					Allen SW
		A	B	C	D	E	
BSPT 1/8"	**U10006RU10T**	17	18.5	10	14	28.5	6
BSPT 1/4"	**U10006RU13T**	17	18.5	12	14	31.5	6
NPT 1/8"	**U10006TU10T**	17	18.5	10	14	28.5	1/4"
NPT 1/4"	**U10006TU13T**	17	18.5	12	14	31.5	1/4"
M10x1.0	**U10006EUM101T**	17	18.5	10	14	30.5	6

EXTENSION (CONICAL THREADED VERSION BSPT-NPT)

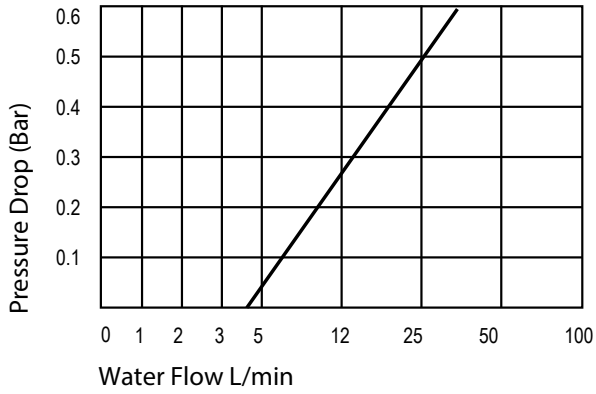




Series	F Thread	L min./max.	REF without collar	Assembling Sizes						Allen SW	Torque (m.daN)
				L1	L2	0A	0A1	0B	0C		
U100.06	BSPT 1/8"	33/100	**U10006100R10**	20	L-5.5	17	18.5	11	10.2	6	1
U100.06	NPT 1/8"	33/100	**U10006100T10**	20	L-5.5	17	18.5	11	10.2	1/4"	1
U100.06	M10x1.0	33/100	**U10006100M10**	20	L-5.5	17	18.5	11	10.2	6	1

CAD reference point

COUPLING - 9 BALLS / 20% HIGHER FLOW — U100.08

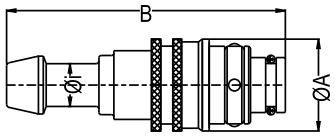


Temperature Range : -20°C +100°C (-40°F +250°F)
Working Pressure : 0 - 10 bar (0 - 160 PSI)
Flow capacity : NW 8.3

Material
Coupler Body : Brass Nickel Plated
Sleeve : Brass Nickel Plated
Springs : Stainless Steel
Locking O-Ring : Stainless Steel
Balls : Stainless Steel
Seals : NBR Nitrile (Ni)
Plug : Brass Nickel Plated
Standard version : Brass
NBR Nitrile (Ni)
Nickel plated
Locking balls 9 units

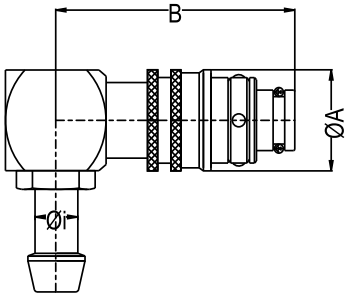
Options
B - Blue
R - Red
V - FPM Seal
E - EPDM Seal
For optional orders please add the symbol of your option end of the order no.

PLUG - STANDARD HOSE TAIL PLUG



Ø Connection		REF	Dimension in mm	
			A	B
Ø 6 mm	1/4"	U10008HGF06	20	37.5
Ø 8 mm	5/16"	U10008HGF08	20	37.5
Ø 10 mm	3/8"	U10008HGF10	20	37.5
Ø 12 mm	15/32"	U10008HGF12	20	37.5
Ø 13 mm	1/2"	U10008HGF13	20	37.5

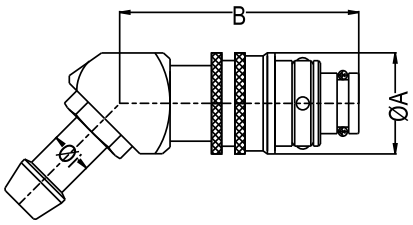
STANDARD HOSE TAIL PLUG 90°



Ø Connection		REF	Dimension in mm	
			A	B
Ø 6 mm	1/4"	U10008HGF0690	20	45.5
Ø 8 mm	5/16"	U10008HGF0890	20	45.5
Ø 10 mm	3/8"	U10008HGF1090	20	45.5
Ø 12 mm	15/32"	U10008HGF1290	20	45.5
Ø 13 mm	1/2"	U10008HGF1390	20	45.5

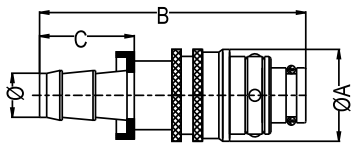
CAD reference point

STANDARD HOSE TAIL PLUG 135° U100.08



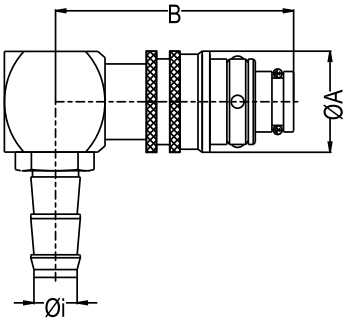
Ø Connection		REF	Dimension in mm	
			A	B
Ø 6 mm	1/4"	U10008HGF06-135	20	47.5
Ø 8 mm	5/16"	U10008HGF08-135	20	47.5
Ø 10 mm	3/8"	U10008HGF10-135	20	47.5
Ø 12 mm	15/32"	U10008HGF12-135	20	47.5
Ø 13 mm	1/2"	U10008HGF13-135	20	47.5

PUSH-LOCK HOSE TAIL PLUG



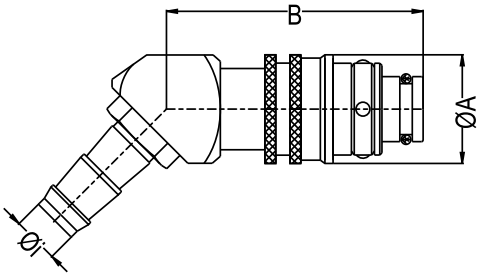
Ø Connection		REF	Dimension in mm	
			A	B
Ø 10 mm	3/8"	U10008FGF10	20	37
Ø 13 mm	1/2"	U10008FGF13	20	40

PUSH-LOCK HOSE TAIL PLUG 90°



Ø Connection		REF	Dimension in mm	
			A	B
Ø 10 mm	3/8"	U10008FGF10-90	20	45.5
Ø 13 mm	1/2"	U10008FGF13-90	20	45.5

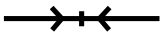
PLUG - PUSH-LOCK HOSE TAIL PLUG 135°

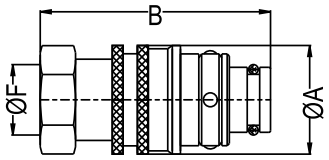


Ø Connection		REF	Dimension in mm	
			A	B
Ø 10 mm	3/8"	U10008FGF10-135	20	47.5
Ø 13 mm	1/2"	U10008FGF13-135	20	45.5

CAD reference point

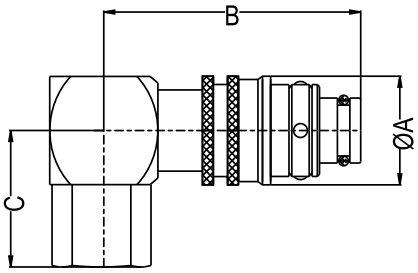
FEMALE THREADED PLUG U100.08





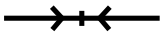
Ø Connection	REF	Dimension in mm	
		A	B
BSP 1/4"	**U10008DGF13**	20	43
BSP 3/8"	**U10008DGF17**	20	52
NPT 1/4"	**U10008NGF13**	20	43
NPT 3/8"	**U10008NGF17**	20	52

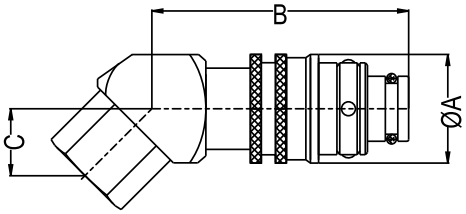
FEMALE THREADED PLUG 90°



Ø Connection	REF	Dimension in mm		
		A	B	C
BSP 1/4"	**U10008DGF13-90**	20	45.5	24
BSP 3/8"	**U10008DGF17-90**	20	45.5	
NPT 1/4"	**U10008NGF13-90**	20	45.5	27
NPT 3/8"	**U10008NGF17-90**	20	45.5	

FEMALE THREADED PLUG 35°

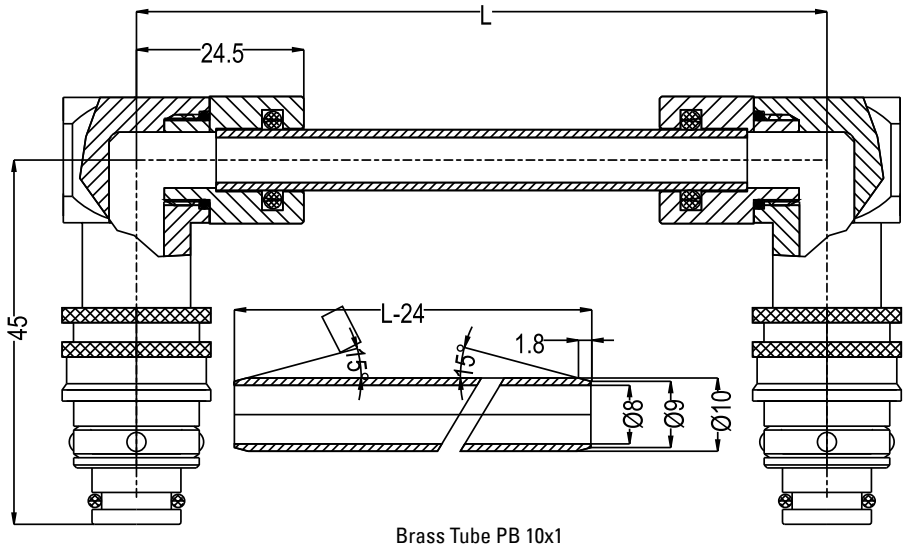




Ø Connection	REF	Dimension in mm		
		A	B	C
BSP 1/4"	**U10008DGF13-135**	20	47.5	17
BSP 3/8"	**U10008DGF17-135**	20	47.5	
NPT 1/4"	**U10008NGF13-135**	20	47.5	20
NPT 3/8"	**U10008NGF17-135**	20	47.5	

CAD reference point

DIVERTING CONNECTOR (FOR U100.08) U100.08

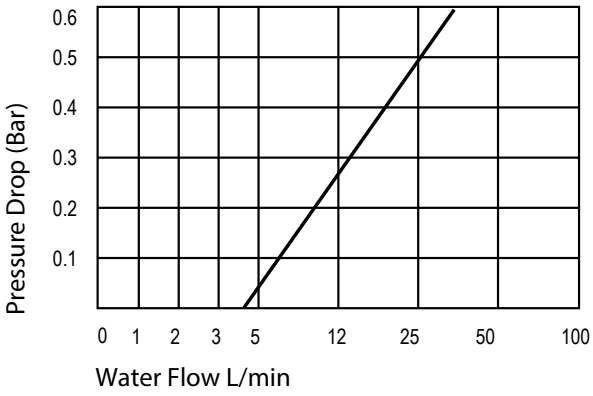


Brass Tube PB 10x1

REF	L	L-24
U10008KG125	125	90
U10008KG250	250	250
U10008KG500	500	470

CAD reference point

COUPLING WITH VALVE - 9 BALLS — U100.08

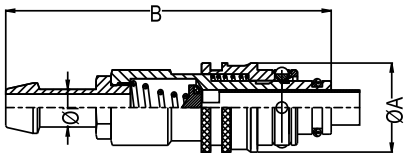


Temperature Range : -20°C +100°C
(-40°F +250°F)
Working Pressure : 0 - 10 bar
(0 - 160 PSI)
Flow capacity : NW 8.3

Material
Coupler Body : Brass Nickel Plated
Sleeve : Brass Nickel Plated
Springs : Stainless Steel
Locking O-Ring : Stainless Steel
Balls : Stainless Steel
Seals : NBR Nitrile (Ni)
Plug : Brass Nickel Plated
Standard version : Brass
NBR Nitrile (Ni)
Nickel plated
Locking balls 9 units

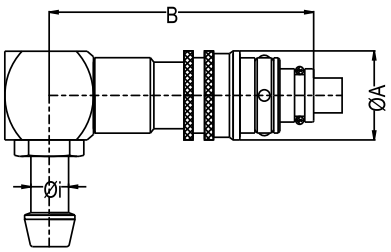
Options
B - Blue
R - Red
V - FPM Seal
E - EPDM Seal
For optional orders please add the symbol of your option end of the order no.

PLUG - STANDARD HOSE TAIL PLUG WITH VALVE



Ø Connection		REF	Dimension in mm	
			A	B
Ø 6 mm	1/4"	U10008HGB06	20	59
Ø 8 mm	5/16"	U10008HGB08	20	59
Ø 10 mm	3/8"	U10008HGB10	20	59
Ø 12 mm	15/32"	U10008HGB12	20	59
Ø 13 mm	1/2"	U10008HGB13	20	59

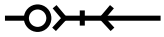
STANDARD HOSE TAIL PLUG WITH VALVE 90°

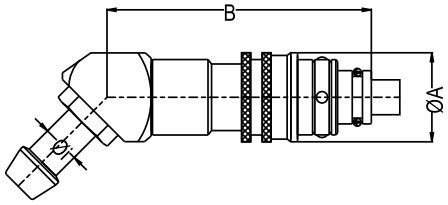


Ø Connection		REF	Dimension in mm	
			A	B
Ø 6 mm	1/4"	U10008HGB06-90	20	64
Ø 8 mm	5/16"	U10008HGB08-90	20	64
Ø 10 mm	3/8"	U10008HGB10-90	20	64
Ø 12 mm	15/32"	U10008HGB12-90	20	64
Ø 13 mm	1/2"	U10008HGB13-90	20	64

CAD reference point

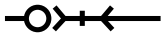
STANDARD HOSE TAIL PLUG WITH VALVE 135° U100.08

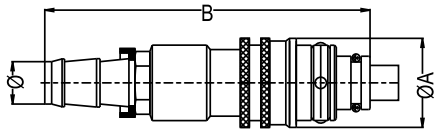




Ø Connection		REF	Dimension in mm	
			A	B
Ø 6 mm	1/4"	U10008HGB06-135	20	64
Ø 8 mm	5/16"	U10008HGB08-135	20	64
Ø 10 mm	3/8"	U10008HGB10-135	20	64
Ø 12 mm	15/32"	U10008HGB12-135	20	64
Ø 13 mm	1/2"	U10008HGB13-135	20	64

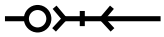
PUSH-LOCK HOSE TAIL PLUG WITH VALVE

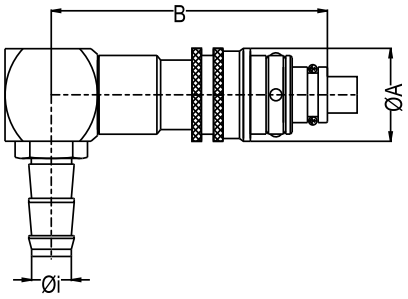




Ø Connection		REF	Dimension in mm	
			A	B
Ø 10 mm	3/8"	U10008FGB10	20	59
Ø 13 mm	1/2"	U10008FGB13	20	59

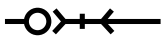
PUSH-LOCK HOSE TAIL PLUG WITH VALVE 90°

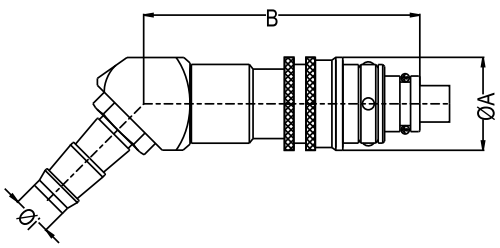




Ø Connection		REF	Dimension in mm	
			A	B
Ø 10 mm	3/8"	U10008FGB10-90	20	64
Ø 13 mm	1/2"	U10008FGB13-90	20	64

PLUG - PUSH-LOCK HOSE TAIL PLUG WITH VALVE 135°

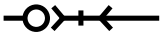


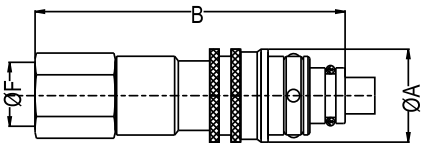


Ø Connection		REF	Dimension in mm	
			A	B
Ø 10 mm	3/8"	U10008FGB10-135	20	64
Ø 13 mm	1/2"	U10008FGB13-135	20	64

CAD reference point

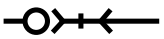
FEMALE THREADED PLUG WITH VALVE U100.08

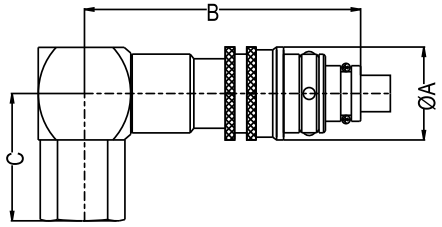




Ø Connection	REF	Dimension in mm	
		A	B
BSP 1/4"	**U10008DGB13**	20	57
BSP 3/8"	**U10008DGB17**	20	57
NPT 1/4"	**U10008NGB13**	20	60
NPT 3/8"	**U10008NGB17**	20	60

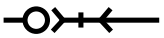
FEMALE THREADED PLUG WITH VALVE 90°

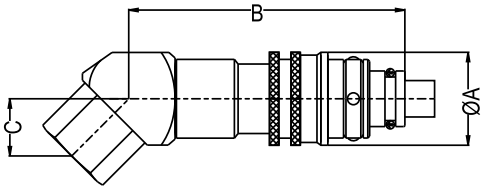




Ø Connection	REF	Dimension in mm		
		A	B	C
BSP 1/4"	**U10008DGB13-90**	20	54	24
BSP 3/8"	**U10008DGB17-90**	20	54	24
NPT 1/4"	**U10008NGB13-90**	20	54	27
NPT 3/8"	**U10008NGB17-90**	20	54	24

FEMALE THREADED PLUG WITH VALVE 135°

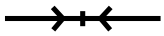


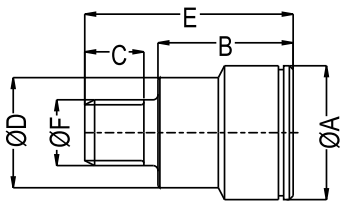


Ø Connection	REF	Dimension in mm		
		A	B	C
BSP 1/4"	**U10008DGB13-135**	20	54	17
BSP 3/8"	**U10008DGB17-135**	20	54	17
NPT 1/4"	**U10008NGB13-135**	20	54	20
NPT 3/8"	**U10008NGB17-135**	20	54	17

CAD reference point

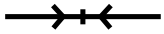
SOCKET - MALE THREADED SOCKET U100.08

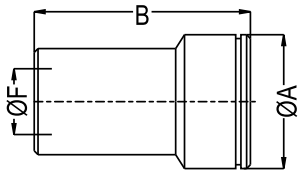




Ø Connection	REF withoutcollar	Dimension in mm					Allen SW
		A	B	C	D	E	
BSPT 1/8"	**U10008RU10T**	21	21	8	17,5	31	6
BSPT 1/4"	**U10008RU13T**	21	21	10	17,5	33	8
BSPT 3/8"	**U10008RU17T**	21	11	11	17,5	24	8
NPT 1/8"	**U10008TU10T**	21	21	7	17,5	31	1/4"
NPT 1/4"	**U10008TU13T**	21	21	11	17,5	33	5/16"
NPT 3/8"	**U10008TU17T**	21	11	11	17,5	24	5/16"
M10x10	**U10008EUM101T**	21	21	10	17,5	31	6
M10x15	**U10008EUM10T**	21	21	20	17,5	31	6
M14x15	**U10008EUM14T**	21	21	11	17,5	31	8

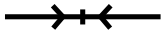
FEMALE THREADED SOCKET

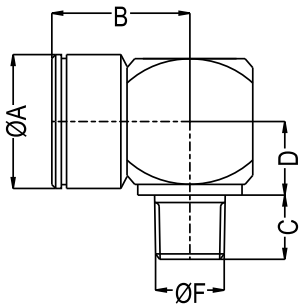




Ø Connection	REF without collar	Dimension in mm		Allen SW
		A	B	
BSP 1/8"	**U10008DU10**	21	39	8
BSP 1/4"	**U10008DU13**	21	39	8
NPT 1/8"	**U10008NU10**	21	39	5/16"
NPT 1/4"	**U10008NU13**	21	39	5/16"

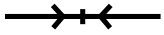
MALE THREADED SOCKET 90°

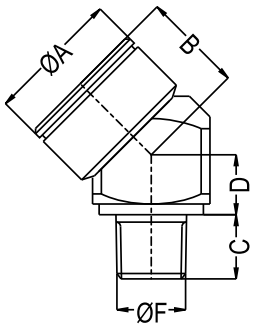




Ø Connection	REF without collar	Dimension in mm			Allen SW
		A	B	C	
BSPT 1/8"	**U10008RU10-90T**	21	33	24	20
BSPT 1/4"	**U10008RU13-90T**	21	33	24	20
BSPT 3/8"	**U10008RU17-90T**	21	33	24	20
NPT 1/4"	**U10008TU13-90T**	21	21	11	20

MALE THREADED SOCKET 135°

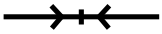


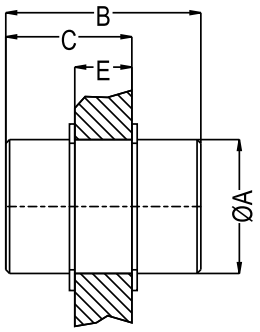


Ø Connection	REF without collar	Dimension in mm			Allen SW
		A	B	C	
BSPT 1/8"	**U10008RU10-135T**	21	33	24	20
BSPT 1/4"	**U10008RU13-135T**	21	33	24	20
BSPT 3/8"	**U10008RU17-135T**	21	33	24	20
NPT 1/4"	**U10008TU13-135T**	21	21	11	20

CAD reference point

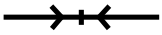
THROUGH THE WALL STRAIGHT CONNECTOR U100.08

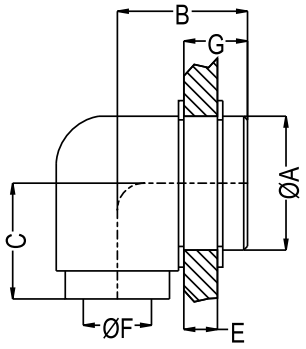




REF without collar	Dimension in mm			
	A	B	C	E
U10008PU00	22	35	23	10 Max.

THROUGH THE WALL 90° CONNECTOR

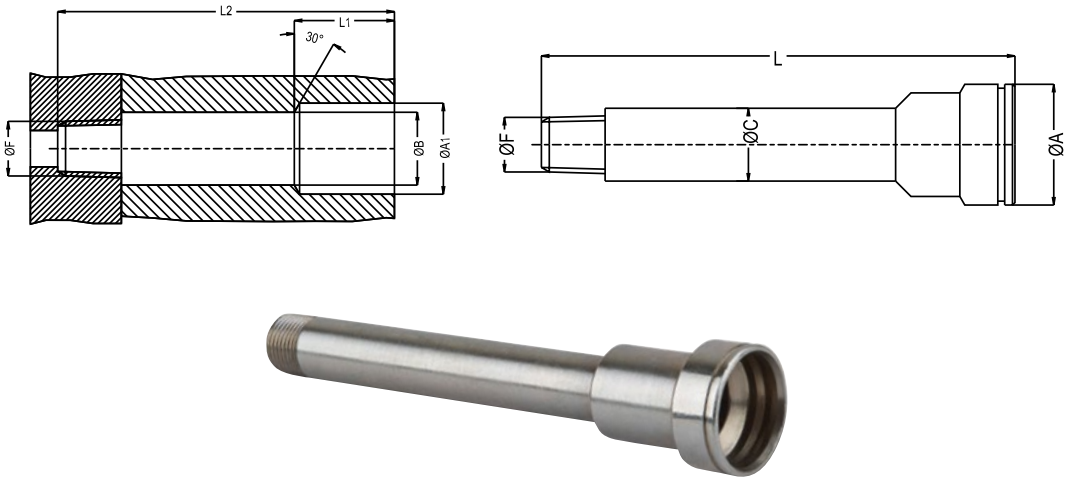




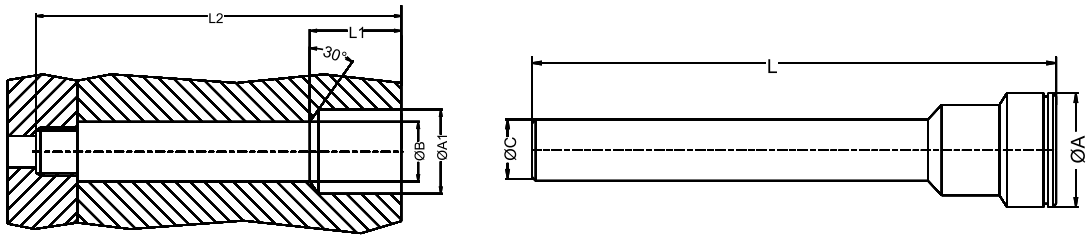
Ø Connection	REF without collar	Dimension in mm			
		A	B	C	E
BSPT 1/4"	U10008PU13-90	22	22	21	10 Max.

CAD reference point

EXTENSION (CONICAL THREADED VERSION BSPT-NPT) U100.08



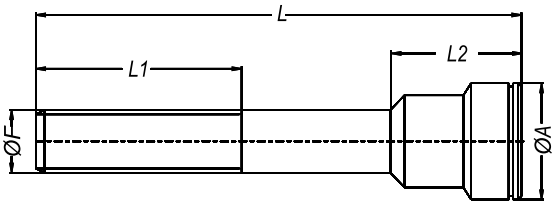
Series	F thread	L min./max.	REF without collar	Assembling sizes						Allen SW	Torque (m/daN)
				L1	L2	0A	0A1	0B	0C		
U100.08 BSPT	BSPT 1/8"	33/100	**U10008100R10**	23	L-5.5	21	22	11	10.2	6	1
U100.08 BSPT	BSPT 1/8"	100/150	**U10008150R10**	23	L-5.5	21	22	11	10.2	6	1
U100.08 BSPT	BSPT 1/8"	150/200	**U10008200R10**	23	L-5.5	21	22	11	10.2	6	1
U100.08 BSPT	BSPT 1/8"	200/250	**U10008250R10**	23	L-5.5	21	22	11	10.2	6	1
U100.08 NPT	NPT 1/8"	33/100	**U10008100T10**	23	L-5.5	21	22	11	10.2	1/4'	1
U100.08 NPT	NPT 1/8"	100/150	**U10008150T10**	23	L-5.5	21	22	11	10.2	1/4'	1
U100.08 NPT	NPT 1/8"	150/200	**U10008200T10**	23	L-5.5	21	22	11	10.2	1/4'	1
U100.08 NPT	NPT 1/8"	200/250	**U10008250T10**	23	L-5.5	21	22	11	10.2	1/4'	1
U100.08 BSPT	BSPT 1/4"	33/100	**U10008100R13**	23	L-7.5	21	22	14	13.5	8	3
U100.08 BSPT	BSPT 1/4"	100/150	**U10008150R13**	23	L-7.5	21	22	14	13.5	8	3
U100.08 BSPT	BSPT 1/4"	150/200	**U10008200R13**	23	L-7.5	21	22	14	13.5	8	3
U100.08 BSPT	BSPT 1/4"	200/250	**U10008250R13**	23	L-7.5	21	22	14	13.5	8	3
U100.08 NPT	NPT 1/4"	33/100	**U10008100T13**	23	L-5.5	21	22	11	10.2	1/4'	1
U100.08 NPT	NPT 1/4"	100/150	**U10008150T13**	23	L-5.5	21	22	11	10.2	1/4'	1
U100.08 NPT	NPT 1/4"	150/200	**U10008200T13**	23	L-5.5	21	22	11	10.2	1/4'	1
U100.08 NPT	NPT 1/4"	200/250	**U10008250T13**	23	L-5.5	21	22	11	10.2	1/4'	1



Series	0C	L	REF without collar	Assembling sizes					Allen SW
				L1	L2	0A	0A1	0B	
U100.08	10.2	50	**U1000810BU50**	23	L-5.5	21	22	11	6
U100.08	10.2	100	**U1000810BU100**	23	L-5.5	21	22	11	6
U100.08	10.2	150	**U1000810BU150**	23	L-5.5	21	22	11	6
U100.08	10.2	200	**U1000810BU200**	23	L-5.5	21	22	11	6
U100.08	13.5	50	**U1000813BU50**	23	L-7.5	21	22	14	8
U100.08	13.5	100	**U1000813BU100**	23	L-7.5	21	22	14	8
U100.08	13.5	150	**U1000813BU150**	23	L-7.5	21	22	14	8
U100.08	13.5	200	**U1000813BU200**	23	L-7.5	21	22	14	8
U100.08	13.5	250	**U1000813BU250**	23	L-7.5	21	22	14	8

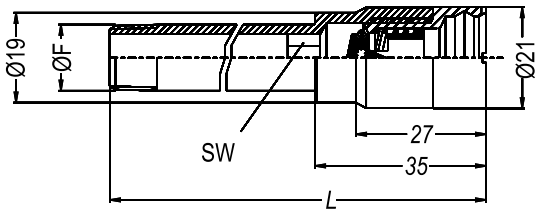
CAD reference point

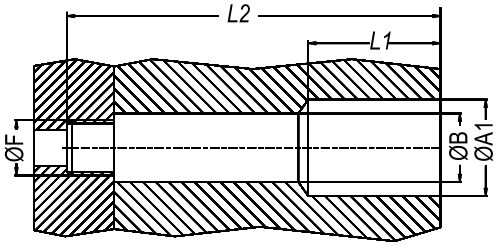
EXTENSION (CYLINDRICAL BSP THREADED VERSION) U100.08



Series	F thread	L min./ max.	REF without collar	Assembling sizes			Allen SW
				L1	L2	0A	
U100.08	BSP 1/8"	50	**U1000850RF10**	26	21	21	6
U100.08	BSP 1/8"	100	**U10008100RF10**	26	21	21	6
U100.08	BSP 1/8"	150	**U10008150RF10**	26	21	21	6
U100.08	BSP 1/4"	50	**U1000850RF13**	6.5	21	21	8
U100.08	BSP 1/4"	100	**U10008100RF13**	60	21	21	8
U100.08	BSP 1/4"	150	**U10008150RF13**	60	21	21	8
U100.08	BSP 1/4"	200	**U10008200RF13**	60	21	21	8

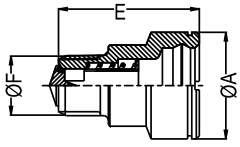
MALE THREADED EXTENSION SHUT-OFF PLUGS





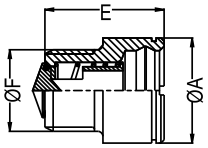
Series	F thread	L min./ max.	REF without collar	Assembling sizes			Allen SW
				L1	L2	0A	
U100.08	BSP 1/8"	50	**U1000850EUB10**	32	L-5.5	22	6
U100.08	BSP 1/8"	100	**U10008100EUB10**	32	L-5.5	22	6
U100.08	BSP 1/8"	150	**U10008150EUB10**	32	L-5.5	22	6
U100.08	BSP 1/8"	50	**U1000850RUB10**	32	L-5.5	22	6
U100.08	BSP 1/8"	100	**U10008100RUB10**	32	L-5.5	22	6
U100.08	BSP 1/8"	150	**U10008150RUB10**	32	L-5.5	22	6
U100.08	BSP 1/4"	50	**U1000850EUB13**	32	L-5.5	22	6
U100.08	BSP 1/4"	100	**U10008100EUB13**	32	L-5.5	22	6
U100.08	BSP 1/4"	150	**U10008150EUB13**	32	L-5.5	22	6
U100.08	BSP 1/4"	200	**U10008200EUB13**	32	L-5.5	22	6
U100.08	BSP 1/4"	50	**U1000850RUB13**	32	L-5.5	22	6
U100.08	BSP 1/4"	100	**U10008100RUB13**	32	L-5.5	22	6
U100.08	BSP 1/4"	150	**U10008150RUB13**	32	L-5.5	22	6
U100.08	BSP 1/4"	200	**U10008200RUB13**	32	L-5.5	22	6

MALE THREADED SHUT-OFF SOCKET



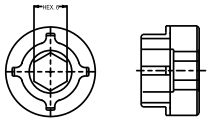
Male thread socket with valve

Ø Connection	REF without collar	Dimension in mm	
		0A	L
1/4"	**U10008EUB13**	21	36



Male thread socket with valve

Ø Connection	REF without collar	Dimension in mm	
		0A	L
3/8"	**U10008EUB17**	21	28.5

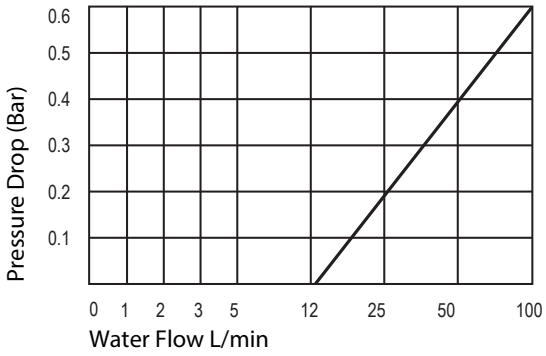


Assembling apparatus

REF
U10008EUB00

CAD reference point

COUPLING - 9 BALLS — U100.12

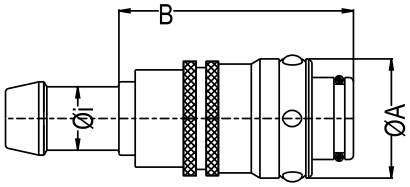


Temperature Range : -20°C +100°C
(-40°F +250°F)
Working Pressure : 0 - 10 bar
(0 - 160 PSI)
Flow capacity : NW 13

Material
Coupler Body : Brass Nickel Plated
Sleeve : Brass Nickel Plated
Springs : Stainless Steel
Locking O-Ring : Stainless Steel
Balls : Stainless Steel
Seals : NBR Nitrile (Ni)
Standard version : Messing
NBR Nitrile (Ni)
Nickel plated
Locking balls 9 units

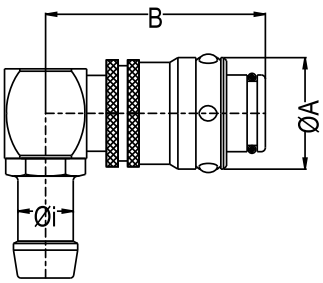
Options
B - Blue
R - Red
V - FPM Seal
E - EPDM Seal
For optional orders please add the symbol of your option end of the order no.

PLUG - STANDARD HOSE TAIL PLUG



Ø F / Ø FI Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	**U10012HGF13**	28	44
Ø 16 mm	5/8"	**U10012HGF16**	28	44

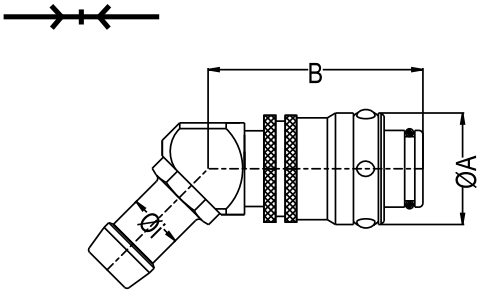
STANDARD HOSE TAIL PLUG 90°



Ø F / Ø FI Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	**U10012HGF13-90**	28	54
Ø 16 mm	5/8"	**U10012HGF16-90**	28	44

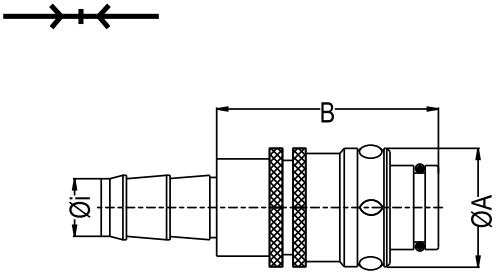
CAD reference point

STANDARD HOSE TAIL PLUG 135° U100.12



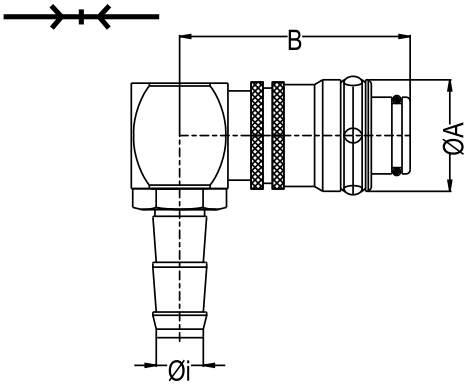
Ø F / Ø FI Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	U10012HGF13-135	28	54
Ø 16 mm	5/8"	U10012HGF16-135	28	54

PUSH-LOCK HOSE TAIL PLUG



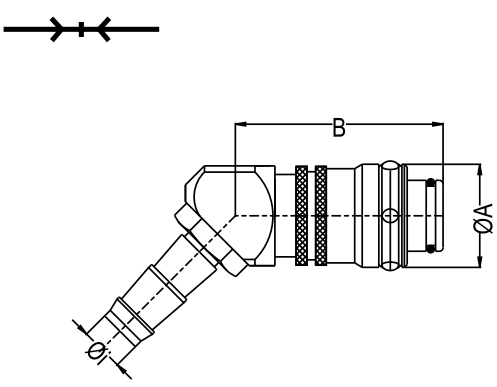
Ø F / Ø FI Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	U10012FGF13	28	44
Ø 16 mm	5/8"	U10012FGF16	28	44

PUSH-LOCK HOSE TAIL PLUG 90°



Ø F / Ø FI Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	U10012FGF13-90	28	54
Ø 16 mm	5/8"	U10012FGF16-90	28	54

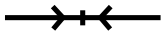
PLUG - PUSH-LOCK HOSE TAIL PLUG 135°

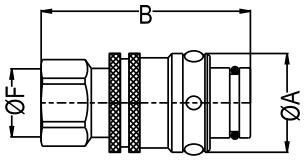


Ø F / Ø FI Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	U10012FGF13-135	28	54
Ø 16 mm	5/8"	U10012FGF16-135	28	54

CAD reference point

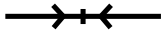
FEMALE THREADED PLUG U100.12

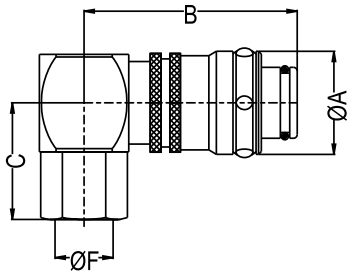




Ø F Connection	REF	Dimension in mm		
		A	B	C/SW
BSP 1/2"	**U10012DGF21**	28	60	24
NPT1/2"	**U10012NGF21**	28	60	24
BSP 3/4"	**U10012DGF26**	28	70	35
NPT 3/4"	**U10012NGF26**	28	70	35

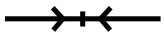
FEMALE THREADED PLUG 90°

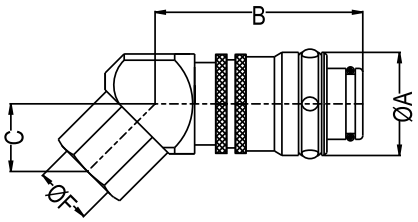




Ø F Connection	REF	Dimension in mm		
		A	B	C/SW
BSP 3/8"	**U10012DGF17-90**	28	54	29
NPT3/8"	**U10012NGF17-90**	28	54	29
BSP 1/2"	**U10012DGF21-90**	28	54	35
NPT 1/2"	**U10012NGF21-90**	28	54	35

FEMALE THREADED PLUG 135°

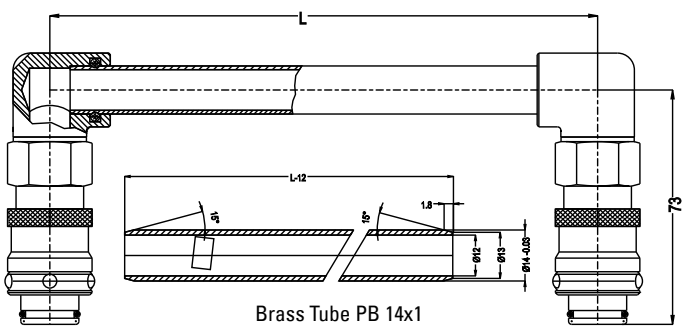




Ø F Connection	REF	Dimension in mm		
		A	B	C/SW
BSP 3/8"	**U10012DGF17-135**	28	54	10
NPT3/8"	**U10012NGF17-135**	28	54	10
BSP 1/2"	**U10012DGF21-135**	28	54	16
NPT 1/2"	**U10012NGF21-135**	28	54	16

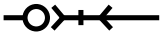
DIVERTING CONNECTOR (FOR U100.12)

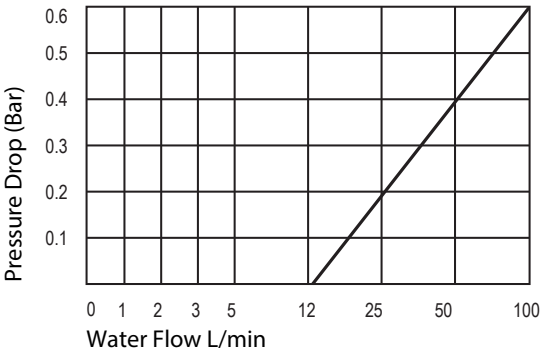
REF	L	L-24
U10012KG125	125	90
U10012KG250	250	250
U10012KG500	500	470



CAD reference point

COUPLING WITH VALVE - 9 BALLS — U100.12



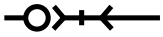


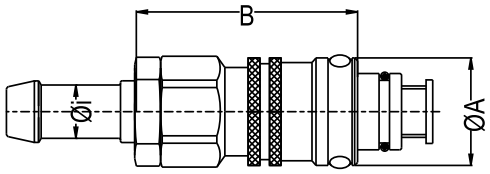
Temperature Range : -20°C +100°C
(-40°F +250°F)
Working Pressure : 0 - 10 bar
(0 - 160 PSI)
Flow capacity : NW 13

Material
Coupler Body : Brass Nickel Plated
Sleeve : Brass Nickel Plated
Springs : Stainless Steel
Locking O-Ring : Stainless Steel
Balls : Stainless Steel
Seals : NBR Nitrile (Ni)
Standard version : Brass
NBR Nitrile (Ni)
Nickel plated
Locking balls 9 units

Options
B - Blue
R - Red
V - FPM Seal
E - EPDM Seal
For optional orders please add the symbol of your option end of the order no.

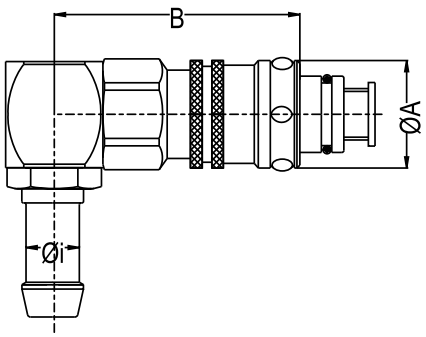
PLUG - STANDARD HOSE TAIL PLUG WITH VALVE





Ø F / Ø I Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	**U10012HGB13**	28	65
Ø 16 mm	5/8"	**U10012HGB16**	28	65

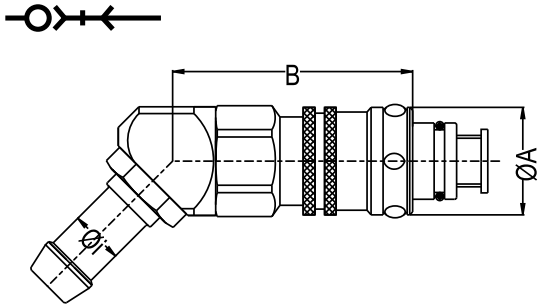
STANDARD HOSE TAIL PLUG WITH VALVE 90°



Ø F / Ø I Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	**U10012HGB13-90**	28	70
Ø 16 mm	5/8"	**U10012HGB16-90**	28	70

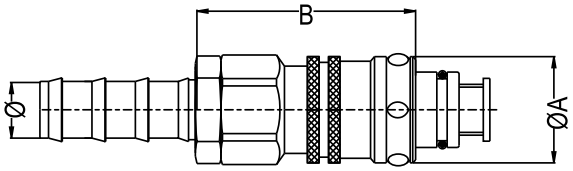
CAD reference point

STANDARD HOSE TAIL PLUG WITH VALVE 135° U100.12



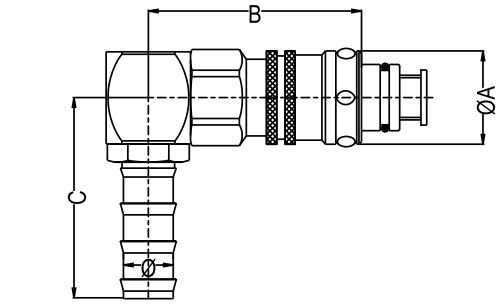
Ø Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	U10012HGB13-45	28	70
Ø 16 mm	5/8"	U10012HGB16-45	28	70

PUSH-LOCK HOSE TAIL PLUG WITH VALVE



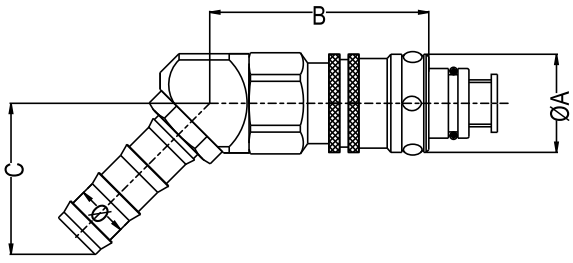
Ø Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	U10012FGB13	28	65
Ø 16 mm	5/8"	U10012FGB16	28	65

PUSH-LOCK HOSE TAIL PLUG WITH VALVE 90°



Ø Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	U10012FGB13-90	28	70
Ø 16 mm	5/8"	U10012FGB16-90	28	70

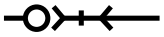
PLUG - PUSH-LOCK HOSE TAIL PLUG WITH VALVE 135°

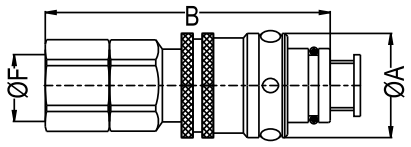


Ø Connection		REF	Dimension in mm	
			A	B
Ø 13 mm	1/2"	U10012FGB13-45	28	70
Ø 16 mm	5/8"	U10012FGB16-45	28	70

CAD reference point

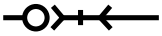
FEMALE THREADED PLUG WITH VALVE U100.12

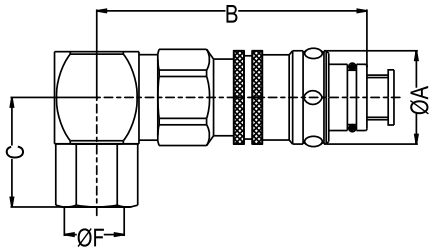




Ø F- / Ø FI Connections		REF	Dimension in mm	
			A	B
BSP	1/2"	**U10012DGB21**	28	80
NPT	1/2"	**U10012NGB021**	28	80

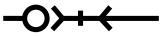
FEMALE THREADED PLUG WITH VALVE 90°

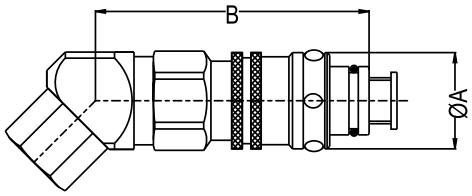




Ø F- / Ø FI Connections		REF	Dimension in mm		
			A	B	C
BSP	3/8"	**U10012DGB17-90**	28	70	29
NPT	3/8"	**U10012NGB17-90**	28	70	29
BSP	1/2"	**U10012DGB21-90**	28	70	29
NPT	1/2"	**U10012NGB21-90**	28	70	29

FEMALE THREADED PLUG WITH VALVE 135°

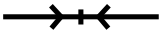


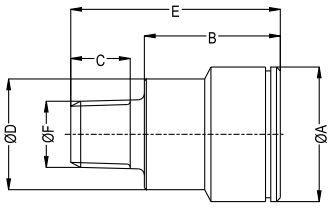


Ø F- / Ø FI Connections		REF	Dimension in mm		
			A	B	C
BSP	3/8"	**U10012DGB17-135**	28	54	10
NPT	3/8"	**U10012NGB17-135**	28	54	10
BSP	1/2"	**U10012DGB21-135**	28	54	16
NPT	1/2"	**U10012NGB21-135**	28	54	16

CAD reference point

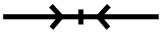
SOCKET U100.12

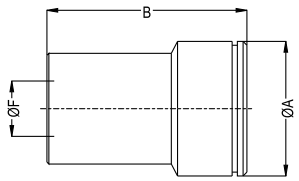




F Thread	REF without collar	Dimension in mm					Allen SW
		A	B	C	D	E	
BSPT 3/8"	**U10012RU17T**	32	28	11	25	41	10
BSPT 1/2"	**U10012RU21T**	32	28	16	25	44	14
BSPT 3/4"	**U10012RU26T**	32	13	14		32	14
NPT 3/8"	**U10012TU17T**	32	28	11	25	41	3/8"
NPT 1/2"	**U10012TU21T**	32	28	14	25	44	9/16"
NPT 3/4"	**U10012TU26T**	32	13	14		32	9/16"

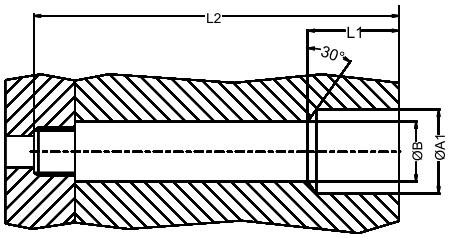
SOCKET

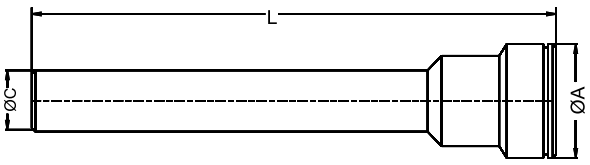




F Thread	REF without collar	Dimension in mm		Allen SW
		A	B	
BSP 3/8"	**U10012DU17**	32	49	12
BSP 1/2"	**U10012DU21**	32	50	12

EXTENSION PLUG (SMOOTH VERSION)

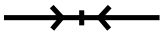


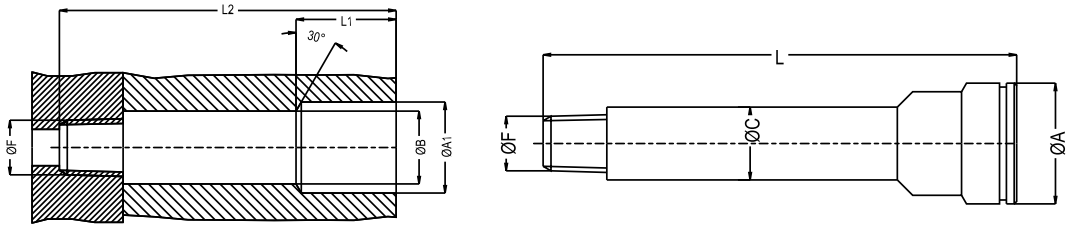


Series	0C	L	REF without collar	Assembling sizes					Allen SW
				L1	L2	0A	0A1	0B	
U100.12	17.2	50	**U1001217BU050**	41	L-8.5	32	33	18	14
U100.12	17.2	100	**U1001217BU100**	41	L-8.5	32	33	18	14
U100.12	17.2	150	**U1001217BU150**	41	L-8.5	32	33	18	14
U100.12	17.2	200	**U1001217BU200**	41	L-8.5	32	33	18	14
U100.12	17.2	250	**U1001217BU250**	41	L-8.5	32	33	18	14
U100.12	21.3	50	**U1001221BU050**	43	L-11.5	32	33	22	14
U100.12	21.3	100	**U1001221BU100**	43	L-11.5	32	33	22	14
U100.12	21.3	150	**U1001221BU150**	43	L-11.5	32	33	22	14
U100.12	21.3	200	**U1001221BU200**	43	L-11.5	32	33	22	14
U100.12	21.3	250	**U1001221BU 50**	43	L-11.5	32	33	22	14

CAD reference point

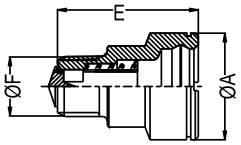
EXTENSION (CONICAL THREADED VERSION BSPT-NPT) U100.12





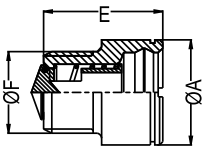
Series	F thread	L min./max.	REF without collar	Assembling sizes						Allen SW	Torque (m/daN)
				L1	L2	0A	0A1	0B	0C		
U100.12 BSPT	BSPT 3/8"	56/100	**U10012100R17**	43	L-8.5	32	33	18	17.2	14	3
U100.12 BSPT	BSPT 3/8"	100/150	**U10012150R17**	43	L-8.5	32	33	18	17.2	14	3
U100.12 BSPT	BSPT 3/8"	150/200	**U10012200R17**	43	L-8.5	32	33	18	17.2	14	3
U100.12 BSPT	BSPT 3/8"	200/250	**U10012250R17**	43	L-8.5	32	33	18	17.2	14	3
U100.12 NPT	NPT 3/8"	56/100	**U10012100T17**	43	L-8.5	32	33	18	17.2	3/8"	3
U100.12 NPT	NPT 3/8"	100/150	**U10012150T17**	43	L-8.5	32	33	18	17.2	3/8"	3
U100.12 NPT	NPT 3/8"	150/200	**U10012200T17**	43	L-8.5	32	33	18	17.2	3/8"	3
U100.12 NPT	NPT 3/8"	200/250	**U10012250T17**	43	L-8.5	32	33	18	17.2	3/8"	3
U100.12 BSPT	BSPT 1/2"	56/100	**U10012100R21**	45	L-11.5	32	33	22	21.3	14	5
U100.12 BSPT	BSPT 1/2"	100/150	**U10012150R21**	45	L-11.5	32	33	22	21.3	14	5
U100.12 BSPT	BSPT 1/2"	150/200	**U10012200R21**	45	L-11.5	32	33	22	21.3	14	5
U100.12 BSPT	BSPT 1/2"	200/250	**U10012250R21**	45	L-11.5	32	33	22	21.3	14	5
U100.12 NPT	NPT 1/2"	56/100	**U10012100T21**	45	L-11.5	32	33	22	21.3	3/8"	5
U100.12 NPT	NPT 1/2"	100/150	**U10012150T21**	45	L-11.5	32	33	22	21.3	3/8"	5
U100.12 NPT	NPT 1/2"	150/200	**U10012200T21**	45	L-11.5	32	33	22	21.3	3/8"	5
U100.12 NPT	NPT 1/2"	200/250	**U10012250T21**	45	L-11.5	32	33	22	21.3	3/8"	5

MALE THREADED SOCKET WITH VALVE



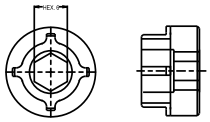
Male thread socket with valve

ØF Connection	REF without collar	Dimension in mm		
		0A		L
BSP 3/8"	**U10012EUB17**	32	24	40.5
BSP 1/2"	**U10012EUB21**	32	24	42.5
BSP 3/4"	**U10012EUB26**	32	30	38.5



Male thread socket with valve

ØF Connection	REF without collar	Dimension in mm	
		0A	L
BSP 1/2"	**U100.12 DUB 21V**	32	62
BSP 3/4"	**U100.12 DUB 26V**	32	62

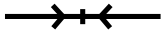


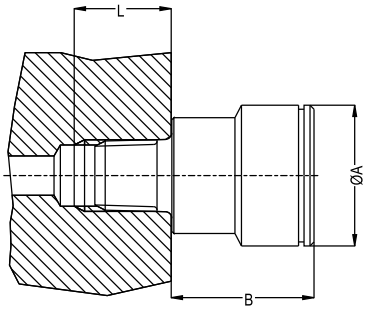
Assembling apparatus

REF
U10012EUB00

CAD reference point

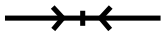
SLIGHTLY RAISED SOCKET U100.12

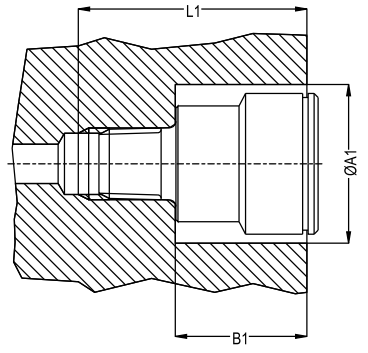




Series	F Thread	Slightly raised socket			Allen SW	Torque (m/daN)
		0A	B	L min.		
U100.06	1/8" BSP	17	20	10	6	15
U100.06	1/4" BSP	17	18	13	6	30
U100.06	1/8" NPT	17	22	10	1/4"	15
U100.06	1/4" NPT	17	20	13.5	1/4"	30
U100.08	1/8" BSP	21	23	10	6	15
U100.08	1/4" BSP	21	22	12	8	30
U100.08	3/8" BSP	21	12	13	8	30
U100.08	1/8" NPT	21	25.5	10	1/4"	15
U100.08	1/4" NPT	21	24	12	5/16"	30
U100.08	3/8" NPT	21	14	13	5/16"	30
U100.12	3/8" BSP	32	29	13	10	50
U100.12	1/2" BSP	32	10	15	14	50
U100.12	3/4" BSP	32	15	18	14	50
U100.12	3/8" NPT	32	33	13	3/8"	50
U100.12	1/2" NPT	32	35	15	9/16"	50
U100.12	3/4" NPT	32	17.5	18	9/16"	50

FLUSH MOUNTED SOCKET

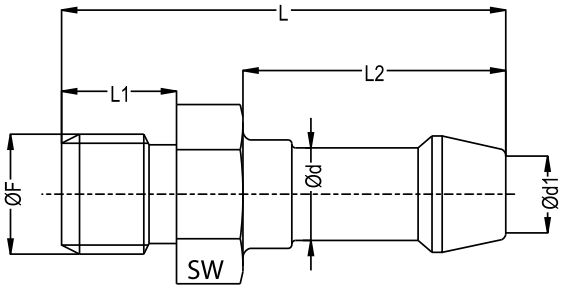




Series	F Thread	Flush mounted socket			Allen SW	Torque (m/daN)
		0A1 min	B1	L1		
U100.06	1/8" BSP	18.5	20.5	29.5	6	15
U100.06	1/4" BSP	18.5	18.5	30.5	6	30
U100.06	1/8" NPT	18.5	22.5	31.5	1/4"	15
U100.06	1/4" NPT	18.5	20.5	33	1/4"	30
U100.08	1/8" BSP	22.5	24	33	6	15
U100.08	1/4" BSP	22.5	23	34	8	30
U100.08	3/8" BSP	22.5	13	25	8	30
U100.08	1/8" NPT	22.5	25.5	35	1/4"	15
U100.08	1/4" NPT	22.5	23.5	35.5	5/16"	30
U100.08	3/8" NPT	22.5	14	27	5/16"	30
U100.12	3/8" BSP	33.5	30	42	10	50
U100.12	1/2" BSP	33.5	31	45	14	50
U100.12	3/4" BSP	33.5	20	36	14	50
U100.12	3/8" NPT	33.5	33	46	3/8"	50
U100.12	1/2" NPT	33.5	34.5	51	9/16"	50
U100.12	3/4" NPT	33.5	17.5	36.5	9/16"	50

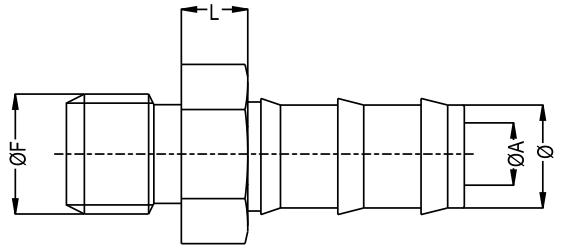
CAD reference point

NIPPLE WITH RUBBER HOSE — TAF ...



REF	Male Thread ØF	Hose Inner	d	L	L1	L2	SW
UTAF1004	BSP 1/8"	4	3	38	8	23	14
UTAF1006	BSP 1/8"	6	4	38	8	23	14
UTAF1008	BSP 1/8"	8	5.5	43	8	28	14
UTAF1010	BSP 1/8"	10	5.5	43	8	28	14
UTAF1306	BSP 1/4"	6	4	41	11	28	17
UTAF1308	BSP 1/4"	8	5.5	46	11	33	17
UTAF1309	BSP 1/4"	9	6	46	11	33	17
UTAF1310	BSP 1/4"	10	7	46	11	33	17
UTAF1313	BSP 1/4"	13	8	51	11	33	17
UTAF1708	BSP 3/8"	8	5.5	47	12	28	19
UTAF1710	BSP 3/8"	10	7	47	12	28	19
UTAF1713	BSP 3/8"	13	9	52	12	33	19
UTAF1716	BSP 3/8"	16	11	52	12	33	19
UTAF2113	BSP 1/2"	13	9	54	14	33	23
UTAF2116	BSP 1/2"	16	11	54	14	33	23
UTAF2616	BSP 3/4"	16	13	58	16	33	30
UTAF2619	BSP 3/4"	19	16	58	16	33	30

PUSH LOCK HOSE NIPPLE — EHF ...



REF	F-Ød Connection	Ød	Ød1	L
UEHF1308	BSP 1/4" - Ø 7.7	1/4"	5.5	7
UEHF1310	BSP 1/4" - Ø 9.7	3/8"	7.5	7
UEHF1313	BSP 1/4" - Ø 12.7	1/2"	979	8
UEHF1710	BSP 3/8" - Ø 9.7	3/8"	12	7
UEHF1713	BSP 3/8" - Ø 12.7	1/2"	10	8
UEHF1716	BSP 3/8" - Ø 15.9	5/8"	12	8
UEHF2113	BSP 1/2" - Ø 12.7	1/2"	13	8
UEHF2116	BSP 1/2" - Ø 15.9	5/8"	16	8
UEHF2616	BSP 3/4" - Ø 15.9	1/2"	51	10
UEHF2619	BSP 3/4" - Ø 15.9	3/4"	47	10

CAD reference point

WATER DRAIN GUN FROM THE MOULD — UTS ...

Series	REF
U100.08	**UTS10008**
U100.12	**UTS10012**

WATER DRAIN GUN FROM THE INJECTION MACHINE — UTSM ...

Series	REF
U100.08	**UTSM10008**
U100.12	**UTSM10012**

CAD reference point

SPARE O-RING (NBR) - NITRIL (N) — UCG ...

Series	REF	Temperature	Quantity
U100.06	**UCG10006N**	-15°C / +100°C	25
U100.08	**UCG10008N**	-4°F / +212°F	25
U100.12	**UCG10012N**	-4°F / +212°F	25

SPARE O-RING (NBR) - VITON (V) — UCG ...

Series	REF	Temperature	Quantity
U100.06	**UCG10006V**	-15°C / +200°C	25
U100.08	**UCG10008V**	-4°F / +392°F	25
U100.12	**UCG100012V**	-4°F / +392°F	25

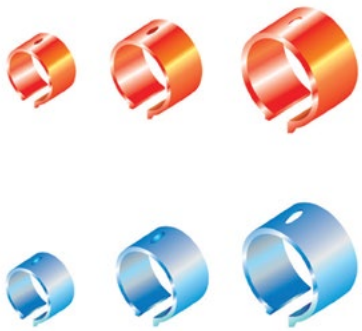
COLOR IDENTIFICATION RINGS FOR SOCKETS

Series	REF	Color	Quantity
U100.06	**U10006KB**		25
U100.08	**U10008KB**		25
U100.12	**U10012KB**		25
U100.06	**U10006KR**		25
U100.08	**U10008KR**		25
U100.12	**U10012KR**		25

COLOR IDENTIFICATION RINGS FOR NIPPELS

Series	REF	Color	Quantity
U100.06	**U10006SB**		25
U100.08	**U10008SB**		25
U100.12	**U10012SB**		25
U100.06	**U10006SR**		25
U100.08	**U10008SR**		25
U100.12	**U10012SR**		25

COLOR IDENTIFICATION COLLAR FOR HOSES — URH ... / UBH ...



Hose Outer Dia.	REF	Color	Quantity
Ø 13 to 17 mm	**URH13**		25
Ø 17 to 24 mm	**URH17**		25
Ø 24 to 28 mm	**URH24**		25
Ø 13 to 17 mm	**UBH13**		25
Ø 17 to 24 mm	**UBH17**		25
Ø 24 to 28 mm	**UBH24**		25

Packaging: Bag of 25 red or blue collars of the same numbers.

CAD reference point

U101 SERIES

For plastic injection moulding, heat transfer fluids and all industrial applications.

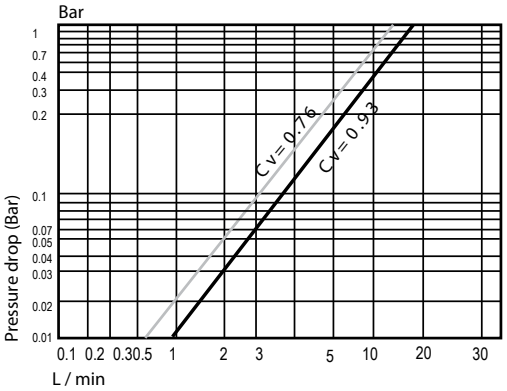
Using Area :

- On cooling system of plastic zamak and aluminium injection moulds
- On mould temperature control lines of termoplastic injection moulding
- On water cooling circuit of welding machines
- On cleaning and washing systems of machines
- On hot oil lines connections
- All industries
- On steam lines

Technical Specifications:

Single or double shut-off U101.16 plug body manufactured from stainless steel and hardened U101.20 - U101.25 - U101.38 plug body manufactured from stainless steel The O-ring for all 101 serie couplers are Fluorocarbon FPM (V).

QUICK COUPLINGS FOR MOULD AND GENERAL INDUSTRY U101.06



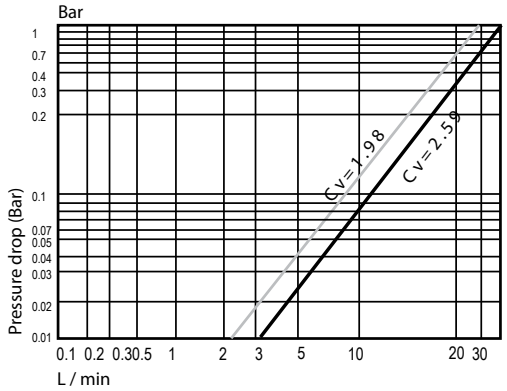
Double shut-off
Single shut-off

Material
Coupler Body: Brass
Sleeve: Stainless Steel(AISI 420)
Valve: Brass
Springs: Stainless Steel
Balls: Stainless Steel
Seals: Fluorocarbon FPM (V)
Plug: Brass Nickel Plated

Flow drection: Plug to socket
Oil Viscosity at 40°: C:13.4 cst

Ø Nominal (mm)		6
Working Pressure (bar)		16
Cross section (mm2)		28,3
Number of the Balls		6
Working Temperature	V - Viton (FPM)	-10°C +200°C
	E - Ethylene Prop. (EPDM)	-20°C +150°C
	Ni - Nitrile (NBR)	-15°C +100°C
Flowing	Single Shut-Off	
	Double Shut-Off	
	Full Flow	

QUICK COUPLINGS FOR MOULD AND GENERAL INDUSTRY U101.09



Double shut-off
Single shut-off

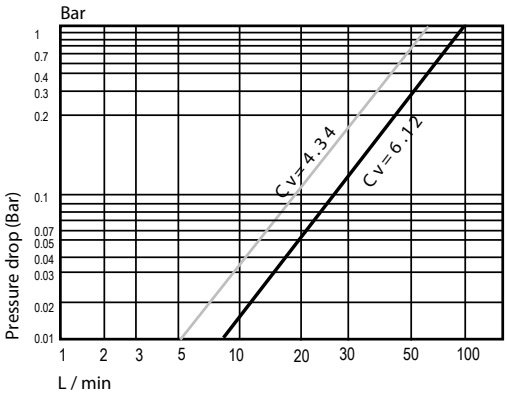
Material
Coupler Body: Brass
Sleeve: Stainless Steel(AISI 420)
Valve: Brass
Springs: Stainless Steel
Balls: Stainless Steel
Seals: Fluorocarbon FPM (V)
Plug: Brass Nickel Plated

Flow drection: Plug to socket
Oil Viscosity at 40°: C:13.4 cst

Ø Nominal (mm)		9
Working Pressure (bar)		16
Cross section (mm2)		63,9
Number of the Balls		6
Working Temperature	V - Viton (FPM)	-10°C +200°C
	E - Ethylene Prop. (EPDM)	-20°C +150°C
	Ni - Nitrile (NBR)	-15°C +100°C
Flowing	Single Shut-Off	
	Double Shut-Off	
	Full Flow	

CAD reference point

QUICK COUPLINGS FOR MOULD AND GENERAL INDUSTRY **U101.12**



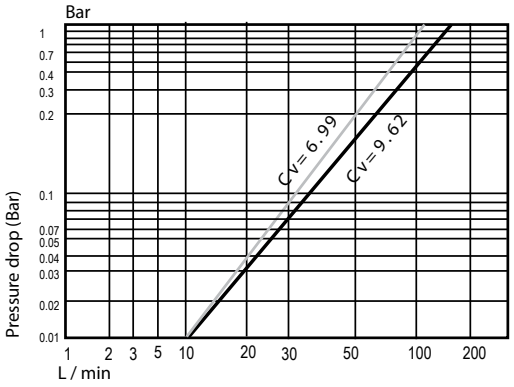
Double shut-off
Single shut-off

Material
Coupler Body: Brass
Sleeve: Stainless Steel(AISI 420)
Valve: Brass
Springs: Stainless Steel
Balls: Stainless Steel
Seals: Fluorocarbon FPM (V)
Plug: Brass Nickel Plated

Flow drection: Plug to socket
Oil Viscosity at 40°: C:13.4 cst

Ø Nominal (mm)		12
Working Pressure (bar)		16
Cross section (mm2)		113
Number of the Balls		6
Working Temperature	V - Viton (FPM)	-10°C +200°C
	E - Ethylene Prop. (EPDM)	-20°C +150°C
	Ni - Nitrile (NBR)	-15°C +100°C
Flowing	Single Shut-Off	
	Double Shut-Off	
	Full Flow	

QUICK COUPLINGS FOR MOULD AND GENERAL INDUSTRY **U101.16**



Double shut-off
Single shut-off

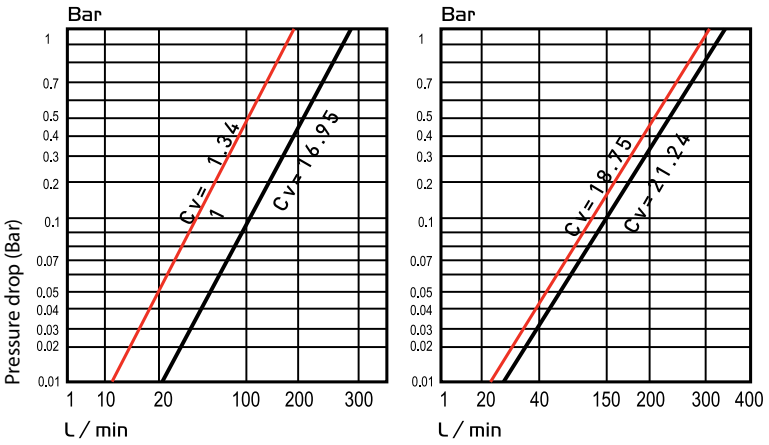
Material
Coupler Body: Brass
Sleeve: Stainless Steel(AISI 420)
Valve: Brass
Springs: Stainless Steel
Balls: Stainless Steel
Seals: Fluorocarbon FPM (V)
Plug: Brass Nickel Plated

Flow drection: Plug to socket
Oil Viscosity at 40°: C:13.4 cst

Ø Nominal (mm)		16
Working Pressure (bar)		16
Cross section (mm2)		201
Number of the Balls		12
Working Temperature	V - Viton (FPM)	-10°C +200°C
	E - Ethylene Prop. (EPDM)	-20°C +150°C
	Ni - Nitrile (NBR)	-15°C +100°C
Flowing	Single Shut-Off	
	Double Shut-Off	
	Full Flow	

CAD reference point

QUICK COUPLINGS FOR MOULD AND GENERAL INDUSTRY U101.20 / U101.25



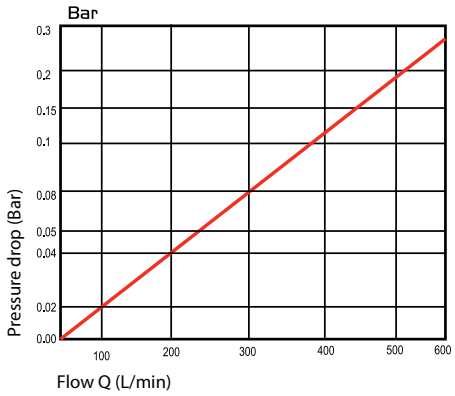
Material
Coupler Body: Brass Nickel plated
Sleeve: Stainless Steel (AISI 420)
Valve: Brass Nickel plated
Springs: Stainless Steel
Balls: Stainless Steel
Seals: Fluorocarbon FPM (V)
Plug: Stainless Steel (AISI 420)

Flow drection: Plug to socket
Oil Viscosity at 40°: C:13.4 cst

Double shut-off
Single shut-off

Ø Nominal (mm)		20	25
Working Pressure (bar)		16	16
Cross section (mm2)		314	314
Number of the Balls		12	12
Working Temperature	V - Viton (FPM)	-10°C +200°C	-10°C +200°C
	E - Ethylene Prop. (EPDM)	-20°C +150°C	-20°C +150°C
	Ni - Nitrile (NBR)	-15°C +100°C	-15°C +100°C
Flowing	Single Shut-Off		
	Double Shut-Off		
	Full Flow		

QUICK COUPLINGS FOR MOULD AND GENERAL INDUSTRY U101.38



Double shut-off
Single shut-off

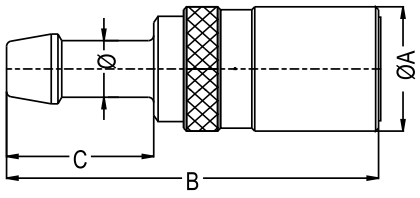
Material
Coupler Body: Brass Nickel plated
Sleeve: Stainless Steel (AISI 420)
Valve: Brass Nickel plated
Springs: Stainless Steel
Balls: Stainless Steel
Seals: Fluorocarbon FPM (V)
Plug: Stainless Steel (AISI 420)

Flow drection: Plug to socket
Oil Viscosity at 38°: C:43 cst

Ø Nominal (mm)		38
Working Pressure (bar)		16
Cross section (mm2)		1130
Number of the Balls		14
Working Temperature	V - Viton (FPM)	-10°C +200°C
	E - Ethylene Prop. (EPDM)	-20°C +150°C
	Ni - Nitrile (NBR)	-15°C +100°C
Flowing	Single Shut-Off	
	Double Shut-Off	
	Full Flow	

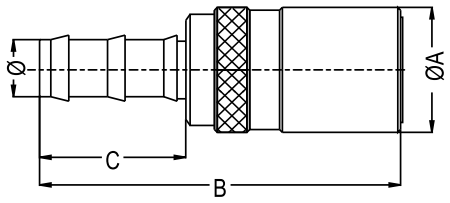
CAD reference point

COUPLER WITH HOSE TAIL — U101.06 - 09 - 12 - 16



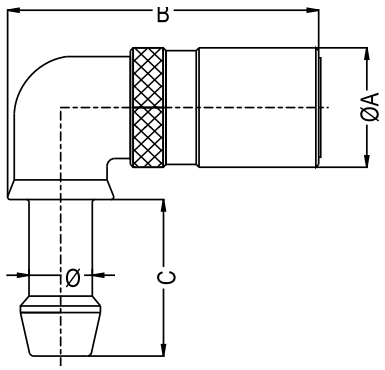
NW Size mm	Ø Connection	Single & double shut-off REF	Full Flow REF	ØA	B	C
6	08 - 5/16"	U10106HGB08	U10106HGF08	19	60	23
9	12 - 15/32"	U10109HGB12	U10109HGF12	25	69,5	28
12	13 - 1/2"	U10112HGB13	U10112HGF13	31	82	28
	16 - 5/8"	U10112HGB16	U10112HGF16			
16	16 - 5/8"	U10116HGB16	U10116HGF16	32	109	28
	19 - 3/4"	U10116HGB19	U10116HGF19		108,5	
	19 - 3/4"		U10116HGF19SP		88	

PUSH LOCK COUPLER WITH HOSE TAIL



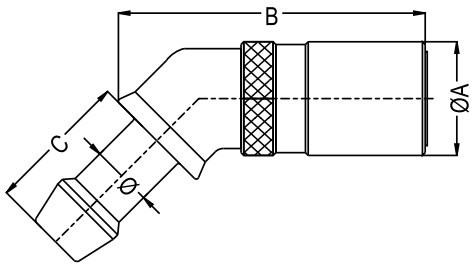
NW Size mm	Ø Connection	Single & double shut-off REF	Full Flow REF	ØA	B	C
6	10 - 3/8"	U10106FGB10	U10106FGF10	19	60	24
9	10 - 3/8"	U10109FGB10	U10109FGF10	25	69,5	24
12	13 - 1/2"	U10109FGB13	U10109FGF13	25	69,5	28
12	13 - 1/2"	U10112FGB13	U10112FGF13	31	92	28
12	11 - 5/8"	U10116FGB16	U10116FGF16	32	109	28
16	19 - 3/4"	U10116FGB19	U10116FGF19	38	109	38

COUPLER WITH HOSE TAIL 90°



NW Size mm	Ø Connection	Single & double shut-off REF	Full Flow REF	ØA	B	C
6	08 - 5/16"	U10106HGB0890	U10106HGF0890	19	59	23
9	10 - 3/8"	U10109HGB1090	U10109HGF1090	25	60	28
9	12 - 15/32"	U10109HGB1290	U10109HGF1290	25	65	28
12	16 - 5/8"	U10112HGB1690	U10112HGF1690	31	82	28
16	19 - 3/4"	U10116HGB1990	U10116HGF1990	38	132	60

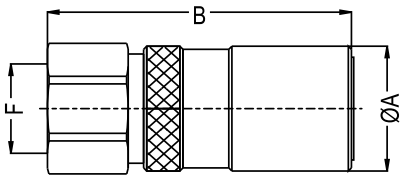
COUPLER WITH HOSE TAIL 135°



NW Size mm	Ø Connection	Single & double shut-off REF	Full Flow REF	ØA	B	SW
6	08 - 5/16"	U10106HGB08135	U10106HGF08135	19	59	23

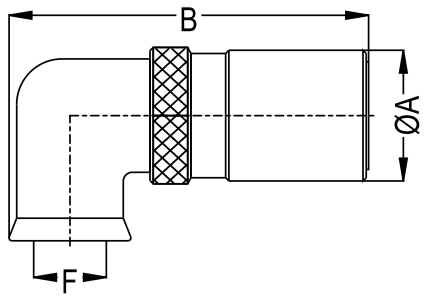
CAD reference point

COUPLER WITH FEMALE THREAD — U101.06 - 09 - 12 - 16



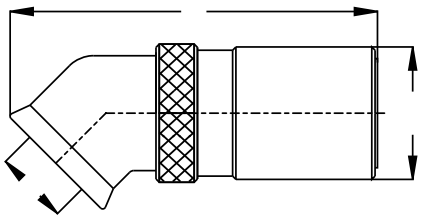
NW Size mm	Ø Connection	Single & double shut-off REF	Full Flow REF	ØA	B	SW
6	BSP 1/4"	**U10106DGB13**	**U10106DGF13**	19	46	17
6	NPT 1/4"	**U10106NGB13**	**U10106NGF13**	19	46	17
9	BSP 3/8"	**U10109DGB17**	**U10109DGF17**	25	53	22
9	NPT 1/4"	**U10109NGB17**	**U10109NGF17**	25	51	22
12	BSP 1/2"	**U10112DGB21**	**U10112DGF21**	31	67	27
12	NPT 1/2"	**U10112NGB21**	**U10112NGF21**	31	65	27
16	BSP 3/4"	**U10116DGB26**	**U10116DGF26**	38	90,5	35
16	BSP 3/4"	-	**U10116NGF26SP**	38	55	35
16	NPT 3/4"	**U10116NGB26**	**U10116NGF26**	38	88,5	35

COUPLER WITH FEMALE THREAD 90°



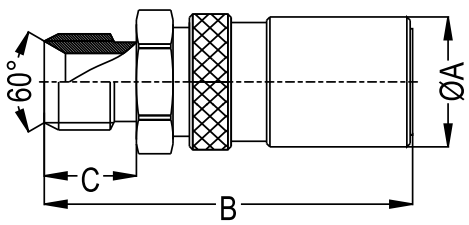
NW Size mm	Ø Connection	Single & double shut-off REF	Full Flow REF	ØA	B
6	BSP 1/4"	**U10106DGB1390**	**U10106DGF1390**	19	59
6	NPT 1/4"	**U10106NGB1390**	**U10106NGF1390**	19	59
9	BSP 3/8"	**U10109DGB1790**	**U10109DGF1790**	25	65
9	NPT 3/8"	**U10109NGB1790**	**U10109NGF1790**	25	65
12	BSP 1/2"	**U10112DGB2190**	**U10112DGF2190**	31	82
12	NPT 1/2"	**U10112NGB2190**	**U10112NGF2190**	31	82

COUPLER WITH FEMALE THREAD 135°



NW Size mm	Ø Connection	Single & double shut-off REF	Full Flow REF	ØA	B
6	BSP 1/4"	**U10106DGB13135**	**U10106DGF13135**	19	59

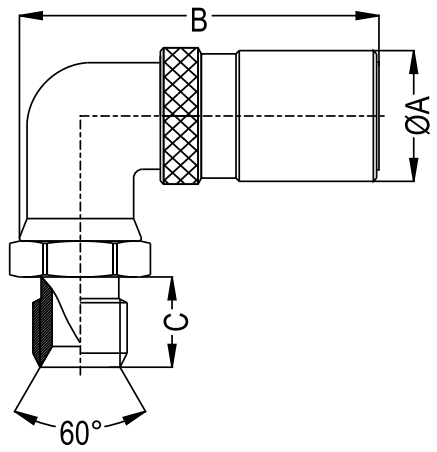
COUPLER WITH MALE THREAD



NW Size mm	Ø Connection	Single & double shut-off REF	Full Flow REF	ØA	B	SW
6	BSP 1/4"	**U10106EGB13**	**U10106EGF13**	19	55	17
6	BSP 3/8"	**U10109EGB17**	**U10109EGF17**	25	61	22
12	BSP 1/2"	**U10112EGB21**	**U10112EGF21**	31	72	27
16	BSP 3/4"	**U10116EGB26**	**U10116EGF26**	38	115,5	32

CAD reference point

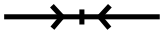
COUPLER WITH MALE THREAD 90° U101.06 - 09 - 12 - 16

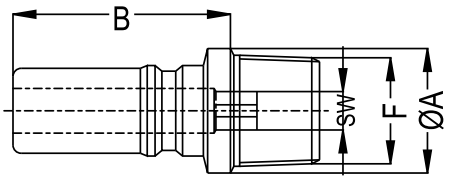


NW Size mm	Ø Connection	Single & double shut-off REF	Full Flow REF	ØA	B	SW
6	BSP 1/4"	**U10106EGB1390**	**U10106EGF1390**	19	55	17
9	BSP 3/8"	**U10109EGB1790**	**U10109EGF1790**	25	61	22
12	BSP 1/2"	**U10112EGB2190**	**U10112EGF2190**	31	72	27
16	BSP 3/4"	**U10116EGB2690**	**U10116EGF2690**	38	115,5	32

CAD reference point

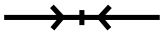
TAPERED MALE THREADED PLUGS U101. ...

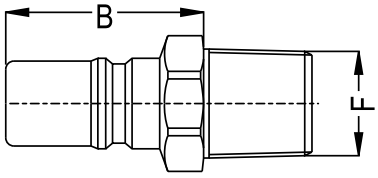




NW size mm	Connection F/0	REF	B	0D	SW
6	BSPT 1/8"	**U10106RU10**	21	10	5
6	BSPT 1/4"	**U10106RU13**	21	11	5
6	NPT 1/8"	**U10106TU10**	21	11	5
6	NPT 1/4"	**U10106TU13**	21	11	5
9	BSPT 1/4"	**U10109RU13**	21	14	8
9	BSPT 3/8"	**U10109RU17**	21	14	8
9	NPT 1/4"	**U10109TU13**	23	17	8
9	NPT 3/8"	**U10109TU17**	23	17	8
12	BSPT 3/8"	**U10112RU17**	26	18	10

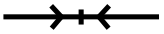
TAPERED MALE THREADED PLUGS

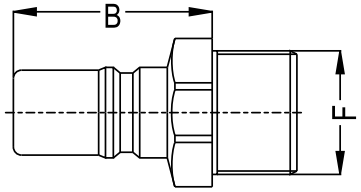




NW size mm	Connection F/0	REF	B	SW
12	BSPT 1/2"	**U10112RU21**	51,5	24
12	NPT 3/8"	**U10112RU17**	28	24
12	NPT 1/2"	**U10112TU21**	38	24
16	BSPT 1/2"	**U10116TU21**	39	24
16	BSPT 3/4"	**U10116RU26**	41,5	27

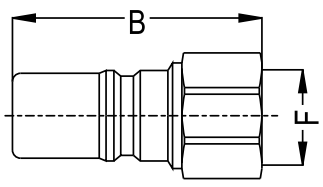
MALE THREADED PLUGS





NW size mm	Connection F/0	REF	B	SW
9	BSP 1/2"	**U10109EU21**	25	22
12	BSP 3/4"	**U10112EU26**	30	27
16	BSP 1"	**U10116EU33**	38	32
	M24x1.5	**U10116EUM26**	41,5	27

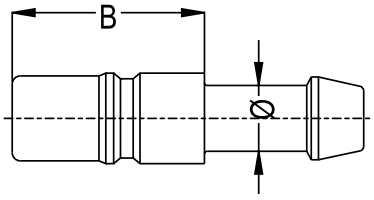
FEMALE THREADED PLUGS



NW size mm	Connection F/0	REF	B	SW
6	BSP 1/4"	**U10106DU13**	34	17
	NPT 1/4"	**U10106NU13**	47	
9	BSP 3/8"	**U10109DU17**	37	22
	NPT 3/8"	**U10109NU17**	49	
12	BSP 1/2"	**U10112DU21**	45	27
	NPT 1/2"	**U10112NU21**	67	
16	BSP 3/4"	**U10116DU26**	58	32
	NPT 3/4"	**U10116NU26**	80	

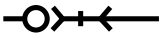
CAD reference point

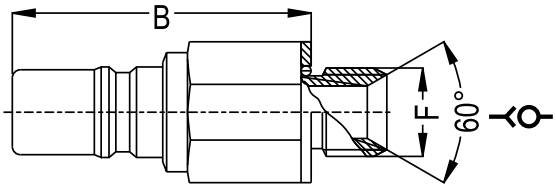
HOSE TAIL PLUG U101. ...



NW size mm	Connection F/0	REF	B
6	08 5/16"	**U10106HU08**	24,5
9	012 15/21"	**U10109HU26**	25,5
12	016 5/8"	**U10112HU16**	30
16	019 3/4"	**U10116HU19**	37

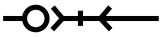
MALE THREADED SHUT-OFF PLUGS WITH PARALLEL THREAD

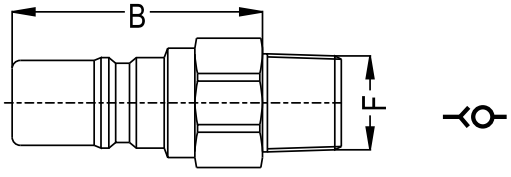




NW size mm	Connection F/0	REF	B	SW
6	BSP 1/8"	**U10106OUB10**	38	17
6	BSP 1/4"	**U10106OUB13**	36	17
9	BSP 1/4"	**U10109OUB13**	42	19
9	BSP 3/8"	**U10109OUB17**	38	20
12	BSP 3/8"	**U10112OUB17**	53,5	24
12	BSP 1/2"	**U10112OUB21**	50	24
16	BSP 3/4"	**U10116OUB26**	67	32

TAPERED MALE SHUT-OFF THREADED PLUGS

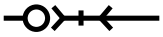


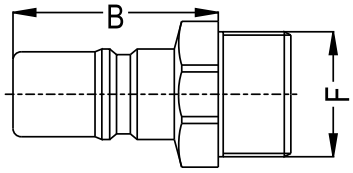


NW size mm	Connection F/0	REF	B	SW
6	BSPT 1/8"	**U10106RUB10**	36	17
6	BSPT 1/4"	**U10106RUB13**	33	17
6	NPT 1/8"	**U10106TUB10**	36	17
6	NPT 1/4"	**U10106TUB13**	33	17
9	BSPT 1/4"	**U10109RUB13**	39	19
9	BSPT 3/8"	**U10109RUB17**	39,5	19
9	NPT 1/4"	**U10109TUB13**	39	19
9	NPT 3/8"	**U10109TUB17**	35,5	19
12	BSPT 3/8"	**U10112RUB17**	51,5	24
12	BSPT 1/2"	**U10112RUB21**	46	24
12	NPT 3/8"	**U10112TUB17**	51,5	24
12	NPT 1/2"	**U10112TUB21**	46	24
16	BSPT 3/4"	**U10116RUB26**	62	32
16	NPT 3/4"	**U10116TUB26**	62	32

CAD reference point

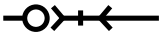
BSP MALE THREADED SHUT-OFF PLUGS U101. ...

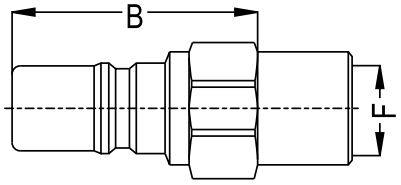




NW size mm	Connection F/0	REF	B	SW
6	BSP 3/8"	**U10106EUB17**	26	19
9	BSP 1/2"	**U10109EUB21**	25	22
12	BSP 3/4"	**U10112EUB26**	30	27
16	BSP 1"	**U10116EUB33**	38	32

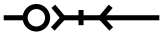
FEMALE THREADED SHUT-OFF PLUGS

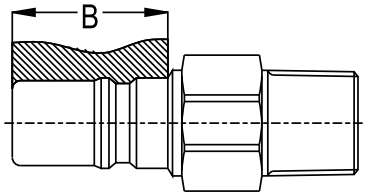




NW size mm	Connection F/0	REF	B	SW
6	BSP 1/4"	**U10106DUB13**	47	17
6	NPT 1/4"	**U10106NUB13**	47	17
9	BSP 1/4"	**U10109DUB13**	485	19
9	NPT 1/4"	**U10109NUB13**	485	19
9	BSP 3/8"	**U10109DUB17**	49	22
12	NPT 1/2"	**U10112NUB21**	85	27
16	BSP 3/4"	**U10116DUB26**	81	32
16	NPT 3/4"	**U10116NUB26**	81	32

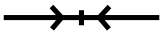
CONNECTING SIZE

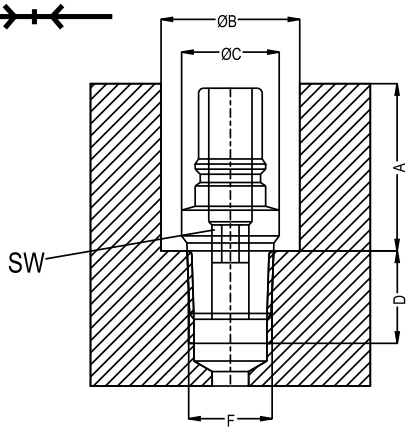




NW size mm	REF	B
6	**U10106**	17.5
9	**U10109**	18.5
12	**U10112**	23
16	**U10116**	30

TAPERED MALE THREADED PLUGS



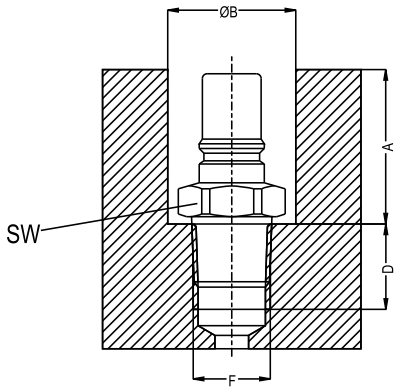


NW size mm	Connection F/0	REF	B	ØB	ØC	D	SW
6	BSPT 1/8"	**U10106RU10**	26	20	10	9	5
	NPT 1/8"	**U10106TU10**	28		11		
6	BSPT 1/4"	**U10106RU13**	27	20	14	12	5
	NPT 1/4"	**U10106TU13**				13	
9	BSPT 1/4"	**U10109RU13**	26	26	14	12	8
	NPT 1/4"	**U10109TU13**				13	
9	BSPT 3/8"	**U10109RU17**	28	26	17	13	8
	NPT 3/8"	**U10109TU17**					
12	BSPT 3/8"	**U10112RU17**	31	33	18	13	10

CAD reference point

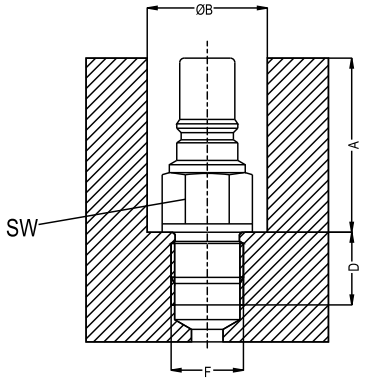
TAPERED MALE THREADED PLUGS

ASSEMBLY



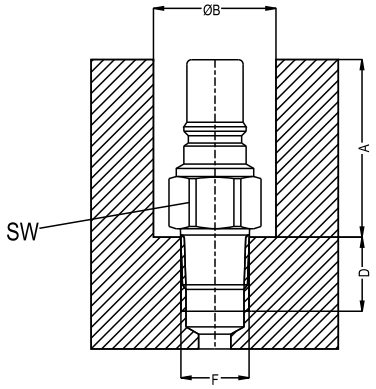
NW size mm	Connection F/0	REF	B	ØB	D	SW
12	NPT 3/8"	**U10112TU17**	55	36	11	24
12	BSPT 1/2"	**U10112RU21**	34	33	15	22
12	NPT 1/2"	**U10112TU21**	34	33	15	22
16	BSPT 3/4"	**U10116RU26**	50	40	19	27

SHUT-OFF PLUG WITH CYLINDRICAL MALE THREAD



NW size mm	Connection F/0	REF	B	ØB	D	SW
6	BSP 1/8"	**U10106EUB10**	41	26	9	17
6	BSP 1/4"	**U10106EUB13**	38	26	12	17
9	BSP 1/4"	**U10109EUB13**	44	29	12	19
9	BSP 3/8"	**U10109EUB17**	40	30	13	20
12	BSP 3/8"	**U10112EUB17**	56	36	13	24
12	BSP 1/2"	**U10112EUB21**	52	36	15	24
16	BSP 3/4"	**U10116EUB26**	70	46	16	32

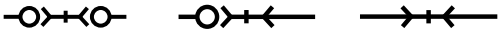
SHUT-OFF PLUG WITH CYLINDRICAL MALE THREAD



NW size mm	Connection F/0	REF	B	ØB	ØC	D	SW
6	BSPT 1/8"	**U10106RUB10**	42	26	-	9	17
6	NPT 1/8"	**U10106TUB10**	42	26	9	17	-
6	BSPT 1/4"	**U10106RUB13**	38	26	-	13	17
6	NPT 1/4"	**U10106TUB13**	38	26	13	17	-
9	BSPT 1/4"	**U10109RUB13**	44	29	-	13	19
9	NPT 1/4"	**U10109TUB13**	44	29	13	19	-
9	BSPT 3/8"	**U10109RUB17**	40	29	-	13	19
9	NPT 3/8"	**U10109TUB17**	40	29	13	19	-
12	BSPT 3/8"	**U10112RUB17**	56	36	-	13	24
12	NPT 3/8"	**U10112TUB17**	56	36	13	24	-
12	BSPT 1/2"	**U10112RUB21**	52	36	-	15	24
12	NPT 1/2"	**U10112TUB21**	52	36	15	24	-
16	BSPT 3/4"	**U10116RUB26**	70	46	-	16	32
16	NPT 3/4"	**U10116RUB26**	70	46	16	32	-

CAD reference point

COUPLER AND PLUG U101....

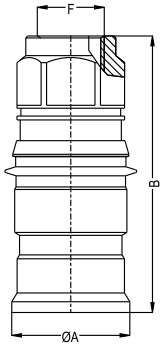


Standard version
Viton O-ing (FPM)
Double shut-off

Options
E - EPDM seal
F - Through flow
For optional orders please add the symbol of your option at the end of the REF

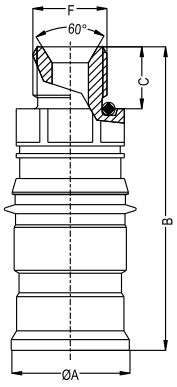
Material
Coupler Body: Brass
Sleeve: Stainless Steel
Valve: Brass
Springs: Stainless Steel
Balls: Stainless Steel
Seals: Viton (V)
Plug: Stainless Steel

SHUT-OFF COUPLER WITH FEMALE THREAD



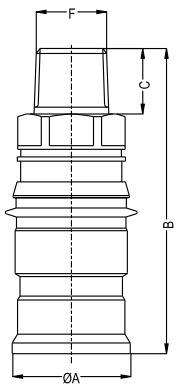
Sizemm	Connection F/0	REF	0A	B	SW
20	BSPT 3/4"	**U10120DGB26**	53	119,5	42
20	NPT 3/4"	**U10120NGB26**	53	119,5	42
20	BSP 1"	**U10120DGB33**	53	119,5	42
20	NPT 1"	**U10120NGB33**	53	119,5	42
25	BSP 1"	**U10125DGB33**	60	140	50
25	BSP 1"1/4	**U10125DGB42**	60	140	50
38	BSP 1"1/2	**U10138DGB48**	82	158	70
38	BSP 2"	**U10138DGB60**	82	158	70

SHUT-OFF COUPLER WITH MALE PARALLEL THREAD



Size mm	Connection F/0	REF	0A	B	C	SW
20	BSP 1"	**U10120EGB33**	53	132	20	42
25	BSP 1"	**U10120EGB33**	60	144	20	50
25	BSP 1"1/4	**U10120EGB42**	60	144	21	50
38	BSP 1"1/2	**U10120EGB48**	82	167	24	70

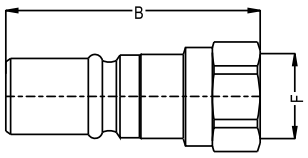
NPT MALE THREADED SHUT-OFF COUPLER



Size mm	Connection F/0	REF	0A	B	C	SW
20	NPT 1"	**U10120TGB33**	53	132	20	42
25	NPT 1"	**U10125TGB33**	60	144	20	50
25	NPT 1"1/2	**U10125TGB48**	60	148,5	24,5	50
38	NPT 1"1/2	**U10138TGB48**	82	167	24,5	70
38	NPT 2"	**U10138TGB60**	82	167	24,5	70

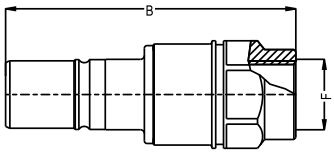
CAD reference point

PLUG WITH FEMALE THREAD U101....



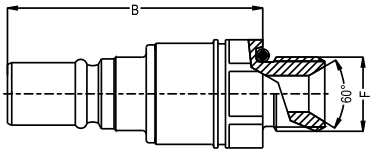
Size mm	Connection F/0	REF	B	SW
20	BSP 1"	**U10120DU33**	92	41
25	BSP 1"	**U10125DU33**	100	41
38	BSP 1"1/2	**U10138DU48**	110	65

SHUT-OFF PLUG WITH FEMALE THREAD



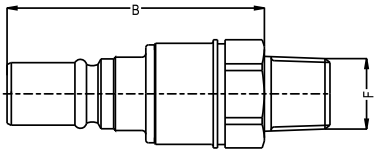
Size mm	Connection F/0	REF	B	SW
20	BSP 3/4"	**U10120DUB26**	126,5	42
20	BSP 1"	**U10120DUB33**	126,5	42
20	NPT 1"	**U10120NUB33**	126,5	42
25	BSP 1"	**U10125DUB33**	148,5	50
25	BSP 1"1/4	**U10125DUB42**	158	50
38	BSP 1"1/2	**U10138DUB48**	156	70
38	BSP 2"	**U10138DUB60**	156	70

SHUT-OFF PLUG WITH MALE PARALLEL THREAD



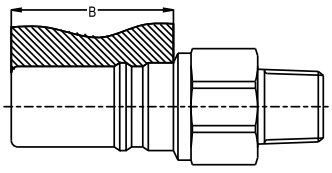
Size mm	Connection F/0	REF	B	SW
20	BSP 1"	**U10120EUB33**	120	42
25	BSP 1"	**U10125EUB33**	127	50
25	BSP 1"1/4	**U10125EUB42**	131,5	50
38	NPT 1"1/2	**U10138EUB48**	156	70
38	NPT 2"	**U10138EUB60**	161	70

NPT MALE THREADED SHUT-OFF PLUG



Size mm	Connection F/0	REF	B	SW
20	NPT 1"	**U10120TUB33**	120	42
25	NPT 1"	**U10125TUB33**	127	50
25	NPT 1"1/2	**U10125TUB48**	131,5	50
38	NPT 1"1/2	**U10138TUB48**	156	70
38	NPT 2"	**U10138TUB60**	161	70

CONNECTING SIZE



Size mm	REF	B
20	**U10120**	60
25	**U10125**	72,5
38	**U10138**	75

CAD reference point

COMPARISON TABLE

REFERENCE COMPARISON TABLE (INTERCHANGEABLE)

Series	Market Compatible	DME REF
06	RPL06.1150	U100.06 RU10T
06	RPL06.1151	U100.06 RU13T
06	RPL06.1250	U100.06 TU 10T
06	RPL06.1251	U100.06 TU 13T
06	RPL06.1410	U100.06 EUM 10-1T
06	RPL06,6806	U100.06 HGF 06
06	RPL06.6808	U100.06 HGF 08
08	RPL08.1150	U100.08 RU 10T
08	RPL08.1151	U100.08 RU 13T
08	RPL08.1152	U100.08 RU 17T
08	RPL08.1250	U100.08 TU 10T
08	RPL08.1251	U100.08 TU 13T
08	RPL08.1252	U100.08 TU 17T
08	RPL08.1410	U100.08 EUM 10-1T
08	RPL08.1411	U100.08 EUM 10T
08	RPL08.1414	U100.08 EUM 14T
08	RPL08.1100	U100.08 DU 10
08	RPL08.1101	U100.08 DU 13
08	RPL08.1200	U100.08 NU 10
08	RPL08.1201	U100.08 NU 13
08	RPL08.1150/RE	U100.08 RU 10-90°T
08	RPL08.1151/RE	U100.08 RU 13-90°T
08	RPL08.1152/RE	U100.08 RU 17-90°T
08	RPL08.1150/RO	U100.08 RU 10-135°T
08	RPL08.1151/RO	U100.08 RU 13-135°T
08	RPL08.1152/RO	U100.08 RU 17-135°T
08	RPL08.2000	U100.08 PU 00
08	RPL08.1010/50/RF	U100.08-50 RF10
08	RPL08.1010/100/RF	U100.08-100 RF10
08	RPL08.1010/150/RF	U100.08-150 RF10
08	RPL08.1011/50/RF	U100.08-50 RF13
08	RPL08.1011/100/RF	U100.08-100 RF13
08	RPL08.1011/150/RF	U100.08-150 RF13
08	RPL08.1011/200/RF	U100.08-200 RF13
08	RPL08.6000/RE	U100.08 KG 00
08	R11391000	UPB 10x1 meter
08	RPL08.1010/100/R	U100 08-10 BU 100
08	RPL08.1010/150/R	U100 08-10 BU 150
08	RPL08.1010/200/R	U100 08-10 BU 200
08	RPL08.1011/100/R	U100 08-13 BU 100
08	RPL08.1011/150/R	U100 08-13 BU 150
08	RPL08.1011/200/R	U100 08-13 BU 200
08	RPL08.1011/250/R	U100 08-13 BU 250
08	RPL08.1152/ON	U100.08 EUB 17
08	RPL08.9000	U100.08 EUB 00
08	RPL08.6806	U100.08 HGF 06
08	RPL08.6808	U100.08 HGF 08
08	RPL08.6810	U100.08 HGF 10
08	RPL08.6812	U100.08 HGF 12
08	RPL08.6813	U100.08 HGF 13
08	RPL08.6806/RE	U100.08 HGF 06-90°
08	RPL08.6808/RE	U100.08 HGF 08-90°
08	RPL08.6810/RE	U100.08 HGF 10-90°
08	RPL08.6812/RE	U100.08 HGF 12-90
08	RPL08.6813/RE	U100.08 HGF 13-90
08	RPL08.6806/RO	U100.08 HGF 06-135°
08	RPL08.6808/RO	U100.08 HGF 08-135°
08	RPL08.6810/RO	U100.08 HGF 10-135°
08	RPL08.6812/RO	U100.08 HGF 12-135
08	RPL08.6813/RO	U100.08 HGF 13-135
08	RPL08.6810/CN	U100.08 FGF 10
08	RPL08.6813/CN	U100.08 FGF 13
08	RPL08.6810/CN/RE	U100.08 FGF 10-90°
08	RPL08.6813/CN/RE	U100.08 FGF 13-90°
08	RPL08.6810/CN/RO	U100.08 FGF 10-135°
08	RPL08.6813/CN/RO	U100.08 FGF 13-135°
08	RPL08.6101	U100.08 DGF 13

Series	Market Compatible	DME REF
08	RPL08.6201	U100.08 NGF 13
08	RPL08.6101/RE	U100.08 DGF 13-90°
08	RPL08.6201/RE	U100.08 NGF 13-90°
08	RPL08.6101/RO	U100.08 DGF 13-135°
08	RPL08.6201/RO	U100.08 NGF 13-135°
12	RPL12.1152	U100.12 RU 17T
12	RPL12.1153	U100.12 RU 21T
12	RPL12.1154	U100.12 RU 26T
12	RPL12.1252	U100.12 TU 17T
12	RPL12.1253	U100.12 TU 21T
12	RPL12.1254	U100.12 TU 26T
12	RPL12.1102	U100.12 DU 17
12	RPL12.1103	U100.12 DU 21
12	RPL12.1002/150/R	U100.12-17 BU 150
12	RPL12.1002/200/R	U100.12-17 BU 200
12	RPL12.1002/250/R	U100.12-17 BU 250
12	RPL12.1003/150/R	U100.12-21 BU 150
12	RPL12.1003/200/R	U100.12-21 BU 200
12	RPL12.1003/250/R	U100.12-21 BU 250
12	RPL12.9000	U100.12 EUB 00
12	RPL12.1103/ON/JV	U100.12 DUB 21V
12	RPL12.1104/ON/JV	U100.12 DUB 26V
12	RPL12.6813	U100.12 HGF 13
12	RPL12.6816	U100.12 HGF 16
12	RPL12.6813/RO	U100.12 HGF 13-135°
12	RPL12.6816/RO	U100.12 HGF 16-135°
12	RPL12.6813/CN	U100.12 FGF 13
12	RPL12.6816/CN	U100.12 FGF 16
12	RPL12.6813/RE	U100.12 HGF 13-90°
12	RPL12.6813/CN/RE	U100.12 FGF 13-90°
12	RPL12.6816/CN/RE	U100.12 FGF 16-90°
12	RPL12.6813/CN/RO	U100.12 FGF 13-135°
12	RPL12.6816/CN/RO	U100.12 FGF 16-135°
12	RPL12.6102	U100.12 DGF 17
12	RPL12.6103	U100.12 DGF 21
12	RPL12.6203	U100.12 NGF 21
12	RPL12.6104	U100.12 DGF 26
12	RPL12.6204	U100.12 NGF 26
12	RPL12.6102/RE	U100.12 DGF 17-90°
12	RPL12.6202/RE	U100.12 NGF 17-90°
12	RPL12.6103/RE	U100.12 DGF 21-90°
12	RPL12.6203/RE	U100.12 NGF 21-90°
12	RPL12.6102/RO	U100.12 DGF 17-135°
12	RPL12.6202/RO	U100.12 NGF 17-135°
12	RPL12.6103/RO	U100.12 DGF 21-135°
12	RPL12.6203/RO	U100.12 NGF 21-135°
06	R603.507.11	UCG 100.06N
06	RMI06.6101	U101.06 DU 13
06	RMI06.6201	U101.06 NU 13
06	RMI06.6150	U101.06 RU 10
06	RMI06.6151	U101.06 RU 13
06	RMI06.6250	U101.06 TU 10
06	RMI06.6251	U101.06 TU 13
06	RMI06.7201/JV	U101.06 NUB 13
06	RMI06.7150/JV	U101.06 RUB 10
06	RMI06.7151/JV	U101.06 RUB 13
06	RMI06.7250/JV	U101.06 TUB 10
06	RMI06.7251/JV	U101.06 TUB 13
06	RMI06.1808/JV	U101.06 HGB 08
06	RMI06.1808/JV/RE	U101.06 HGB 08-90°
06	RMI06.1808/JV/RO	U101.06 HGB 08-135°
06	RMI06.1808	U101.06 HGB 08
06	RMI06.1808/RE	U101.06 HGB 08-90°
06	RMI06.1808/RO	U101.06 HGB 08-135°
06	RMI06.1101/JV	U101.06 DGB 13
06	RMI06.1101	U101.06 DGF 13
06	RMI06.1201/JV	U101.06 NGB 13

CAD reference point

REFERENCE COMPARISON TABLE (INTERCHANGEABLE)

Series	Market Compatible	DME REF
06	RMI06.1201	U101.06 NGF 13
06	RMI06.1101/JV/RE	U101.06 DGB 13-90°
06	RMI06.1101/JV/RO	U101.06 DGB 13-135°
06	RMI06.1101/RE	U101.06 DGF 13-90°
06	RMI06.1101/RO	U101.06 DGF 13-135°
06	RMI06.1810/JV/CN	U101.06 FGB 10
06	RMI06.1810/CN	U101.06 FGF 10
06	RMI06.1151/JV	U101.06 EGB 13
06	RMI06.1151/JV/RE	U101.06 EGB 13-90°
06	RMI06.1151	U101.06 EGF 13
06	RMI06.1151/RE	U101.06 EGF 13-90°
08	R600.007.11	UCG 100.08N
09	RMI09.6102	U101.09 DU 17
09	RMI09.6202	U101.09 NU 17
09	RMI09.6151	U101.09 RU 13
09	RMI09.6152	U101.09 RU 17
09	RMI09.6153	U101.09 RU 21
09	RMI09.6251	U101.09 TU 13
09	RMI09.6252	U101.09 TU 17
09	RMI09.6253	U101.09 TU 21
09	RMI09.7101/JV	U101.09 DUB 13
09	RMI09.7102/JV	U101.09 DUB 17
09	RMI09.7201/JV	U101.09 NUB 13
09	RMI09.7151/JV	U101.09 RUB 13
09	RMI09.7152/JV	U101.09 RUB 17
09	RMI09.7153/JV	U101.09 EUB 21
09	RMI09.7251/JV	U101.09 TUB 13
09	RMI09.7252/JV	U101.09 TUB 17
09	RMI09.7253/JV	U101.09 TUB 21
09	RMI09.1812/JV	U101.09 HGB 12
09	RMI09.1810/JV/RE	U101.09 HGB 10-90°
09	RMI09.1812/JV/RE	U101.09 HGB 12-90°
09	RMI09.1812/JV/RO	U101.09 HGB 12-45
09	RMI09.1812	U101.09 HGB 12
09	RMI09.1810/RE	U101.09 HGB 10-90°
09	RMI09.1812/RE	U101.09 HGB 12-90°
09	RMI09.1812/RO	U101.09 HGB 12-45
09	RMI09.1102/JV	U101.09 DGB 17
09	RMI09.1102	U101.09 DGF 17
09	RMI09.1202/JV	U101.09 NGB 17
09	RMI09.1202	U101.09 NGF 17
09	RMI09.1102/JV/RE	U101.09 DGB 17-90°
09	RMI09.1102/RE	U101.09 DGF 17-90°
09	RMI09.1810/JV/CN	U101.09 FGB 10
09	RMI09.1813/JV/CN	U101.09 FGB 13
09	RMI09.1810/CN	U101.09 FGF 10
09	RMI09.1813/CN	U101.09 FGF 13
09	RMI09.1152/JV	U101.09 EGB 17
09	RMI09.1152/JV/RE	U101.09 EGB 17-90°
09	RMI09.1152	U101.09 EGF 17
09	RMI09.1152/RE	U101.09 EGF 17-90°
12	R600.011.10	UCG 100.12N
12	RMI12.6103	U101.12 DU 21
12	RMI12.6203	U101.12 NU 21
12	RMI12.6152	U101.12 RU 17
12	RMI12.6153	U101.12 RU 21
12	RMI12.6154	U101.12 RU 26
12	RMI12.6252	U101.12 TU 17
12	RMI12.6253	U101.12 TU 21
12	RMI12.6254	U101.12 TU 26
12	RMI12.7203/JV	U101.12 NUB 21
12	RMI12.7152/JV	U101.12 RUB 17
12	RMI12.7153/JV	U101.12 RUB 21
12	RMI12.7154/JV	U101.12 EUB 26
12	RMI12.7252/JV	U101.12 TUB 17
12	RMI12.7253/JV	U101.12 TUB 21
12	RMI12.7254/JV	U101.12 TUB 26

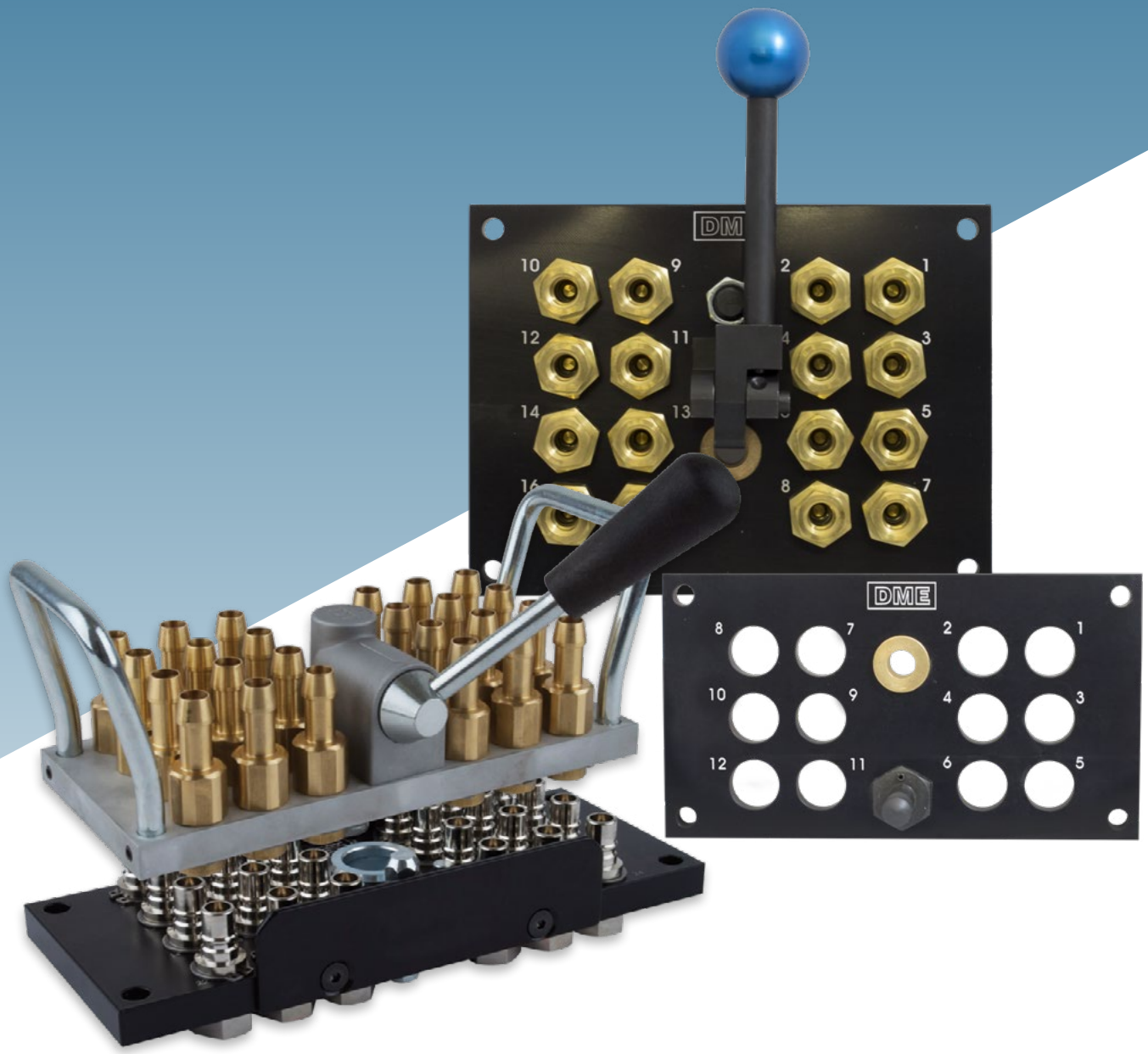
Series	Market Compatible	DME REF
12	RMI12.1813/JV	U101.12 HGB 13
12	RMI12.1816/JV	U101.12 HGB 16
12	RMI12.1816/JV/RE	U101.12 HGB 16-90
12	RMI12.1813	U101.12 HGB 13
12	RMI12.1816	U101.12 HGB 16
12	RMI12.1816/RE	U101.12 HGB 16-90
12	RMI12.1103/JV	U101.12 DGB 21
12	RMI12.1103	U101.12 DGF 21
12	RMI12.1203/JV	U101.12 NGB 21
12	RMI12.1203	U101.12 NGF 21
12	RMI12.1103/JV/RE	U101.12 DGB 21-90°
12	RMI12.1103/RE	U101.12 DGF 21-90°
12	RMI12.1813/JV/CN	U101.12 FGB 13
12	RMI12.1816/JV/CN	U101.12 FGB 16
12	RMI12.1813/CN	U101.12 FGF 13
12	RMI12.1816/CN	U101.12 FGF 16
12	RMI12.1153/JV	U101.12 EGB 21
12	RMI12.1153/JV/RE	U101.12 EGB 21-90°
12	RMI12.1153	U101.12 EGF 21
12	RMI12.1153/RE	U101.12 EGF 21-90°
12	RMI12.7154/JV	U101.12.EUB 26
16	RMI16.6104	U101.16 DU 26
16	RMI16.6204	U101.16 NU 26
16	RMI16.6154	U101.16 RU 26
16	RMI16.6819	U101.16 HU 19
16	RMI16.7104/JV	U101.16 DUB 26
16	RMI16.7204/JV	U101.16 NUB 26
16	RMI16.7154/JV	U101.16 RUB 26
16	RMI16.7155/JV	U101.16 EUB 33
16	RMI16.7254/JV	U101.16 TUB 26
16	RMI16.1819/JV	U101.16 HGB 19
16	RMI16.1819/JV/RE	U101.16 HGB 19-90
16	RMI16.1819	U101.16 HGB 19
16	RMI16.1819/RE	U101.16 HGB 19-90
16	RMI16.1104/JV	U101.16 DGB 26
16	RMI16.1104	U101.16 DGF 26
16	RMI16.1204/JV	U101.16 NGB 26
16	RMI16.1204	U101.16 NGF 26
16	RMI16.1819/JV/CN	U101.16 FGB 19
16	RMI16.1819/CN	U101.16 FGF 19
16	RMI16.1154/JV	U101.16 EGB 26
16	RMI16.1154/JV/RE	U101.16 EGB 26-90°
16	RMI16.1154	U101.16 EGF 26
16	RMI16.1154/RE	U101.16 EGF 26-90°
20	RMI20.6105/EA	U101.20 DU 33
20	RMI20.7104/EA/JV	U101.20 DUB 26
20	RMI20.7105/EA/JV	U101.20 DUB 33
20	RMI20.7155/JV	U101.20 EUB 33
20	RMI20.1104/EA/JV	U101.20 DGB 26
20	RMI20.1105/EA/JV	U101.20 DGB 33
20	RMI20.1154/EA/JV	U101.20 EGB 26
20	RMI20.1155/EA/JV	U101.20 EGB 33
20	RMI20.1204/EA/JV	U101.20 NGB 26
20	RMI20.1205/EA/JV	U101.20 NGB 33
20	RMI20.1254/EA/JV	U101.20 TGB 26
20	RMI20.1255/EA/JV	U101.20 TGB 33
25	RMI25.6105/EA	U101.25 DU 33
25	RMI25.7105/EA/JV	U101.25 DUB 33
25	RMI25.7106/EA/JV	U101.25 DUB 42
25	RMI25.7206/EA/JV	U101.25 NUB 42
25	RMI25.7156/EA/JV	U101.25 EUB 42
25	RMI25.1105/EA/JV	U101.25 DGB 33
25	RMI25.1105/EA	U101.25 DGF 33
25	RMI25.1156/EA/JV	U101.25 EGB 42
25	RMI25.1206/EA/JV	U101.25 NGB 42
25	RMI25.1257/EA/JV	U101.25 TGB 48
25	RMI25.7257/EA/JV	U101.25 TUB 48

CAD reference point

CAD reference point

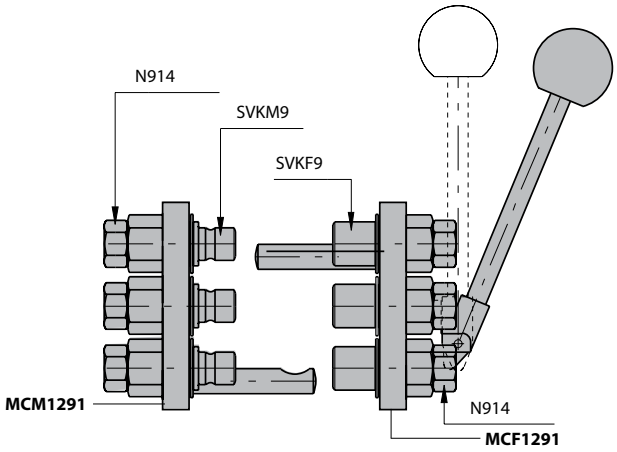
MULTI COUPLINGS

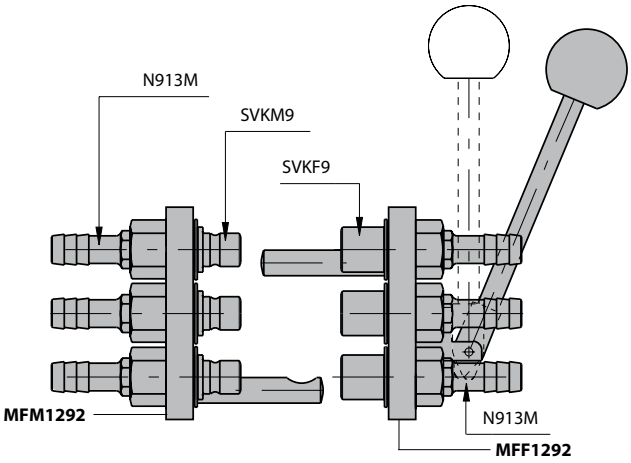
DME Multi coupling systems are applicable for quick changing of injection moulding and die cast equipments.
This system avoids wrong connections in a quick and simple way.



DME JIFFY MULTICOUPLING

MULTI-COUPLING SYSTEM 6 + 6 COUPLINGS — MCM - MCF - MFM - MFF

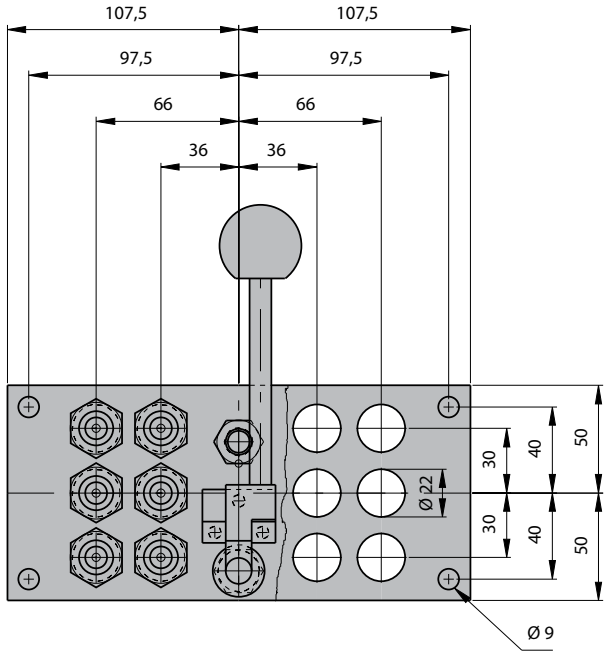


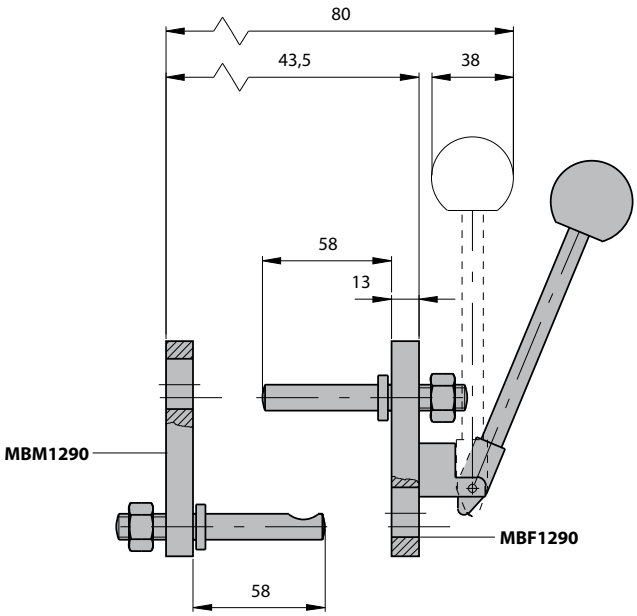


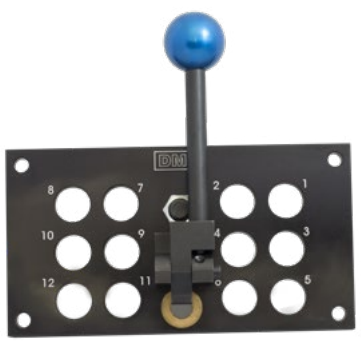
REF	Plug	Thread	Position
MCM1291	N914	1/4" BSP	Mould side
MCF1291	N914	1/4" BSP	Injection machine side

REF	Plug	Connection	Position
MFM1292	N913M	Ød 13 mm	Mould side
MFF1292	N913M	Ød 13 mm	Injection machine side

PLATE FOR 6 + 6 COUPLINGS — MBM - MBF



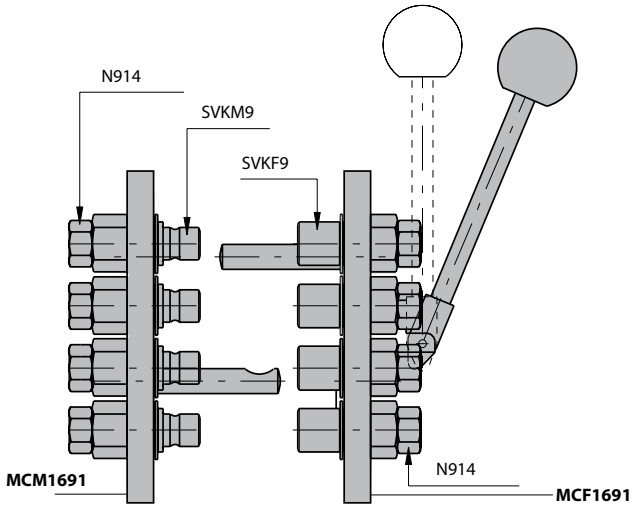


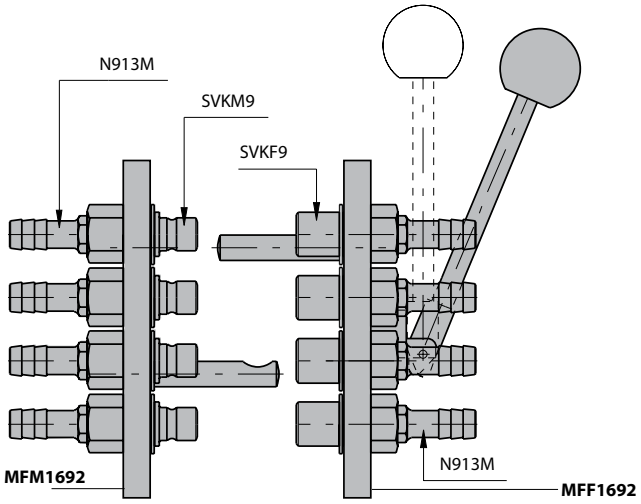


REF	Position
MBM1290 (plate only)	Mould side
MBF1290 (plate only)	Injection machine side

CAD reference point

MULTI-COUPLING SYSTEM 8 + 8 COUPLINGS — MFM - MFF - MCM - MCF

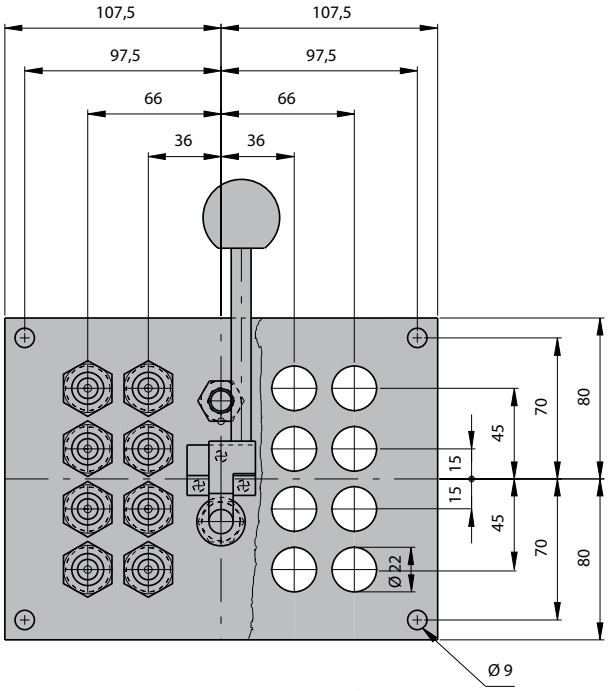


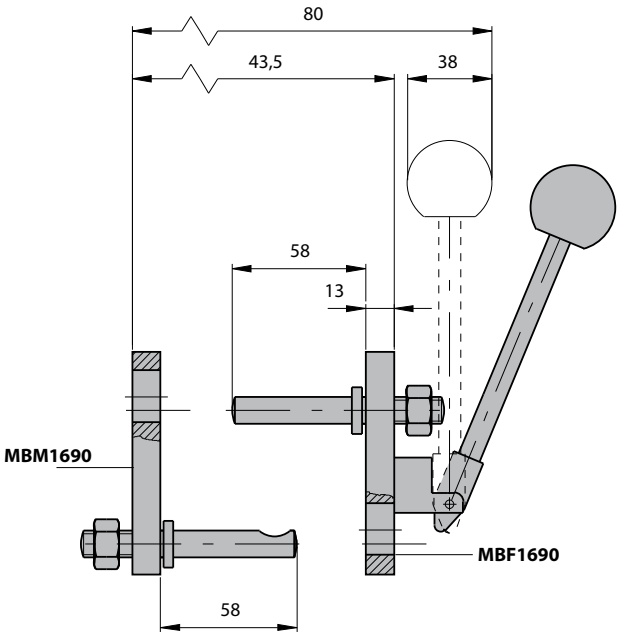


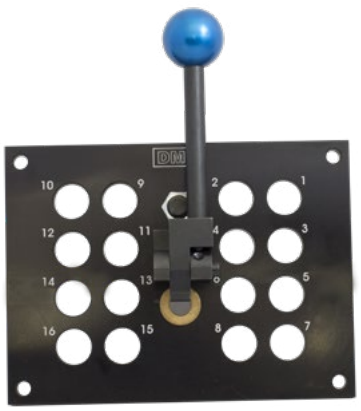
REF	Plug	Thread	Position
MCM1691	N914	1/4" BSP	Mould side
MCF1691	N914	1/4" BSP	Injection machine side

REF	Plug	Thread	Position
MFM1692	N913M	Ød 13 mm	Mould side
MFF1692	N913M	Ød 13 mm	Injection machine side

PLATE FOR 8 + 8 COUPLINGS — MBM - MBF





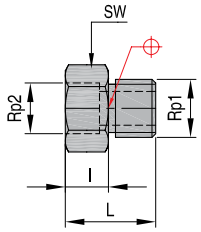


REF	Position
MBM1690 (plate only)	Mould side
MBF1690 (plate only)	Injection machine side

CAD reference point

DME JIFFY MULTICOUPLING ACCESSORIES

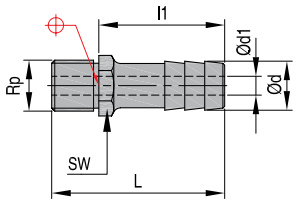
ADAPTER N9



Mat.: Brass

REF	Rp1	Rp2	L	l	SW	Series
N914	UNEF 5/8"-24	1/4" BSP	18	11	19	N9

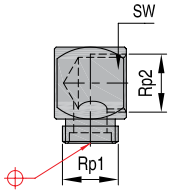
HOSE NIPPLE N9



Mat.: Brass

REF	Rp	d1	d	L	L1	SW	Series
N911M	UNEF 5/8"-24	9	11	33	27	16	N9
N913M	UNEF 5/8"-24	9	13	33	27	16	N9

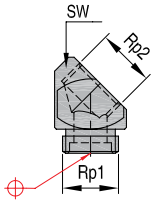
90° ANGLE ADAPTER N9



Mat.: Brass

REF	Rp1	Rp2	R	SW	Series
N990	UNEF 5/8"-24	UNEF 5/8"-24	-	21	N9

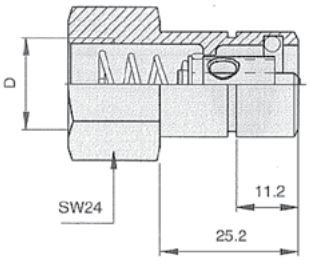
45° ANGLE ADAPTER N9



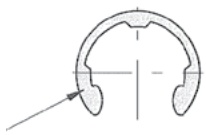
Mat.: Brass

REF	Rp1	Rp2	SW	Series
N945	UNEF 5/8"-24	UNEF 5/8"-24	21	N9

FEMALE THREADED SHUT OFF COUPLER SVKF9



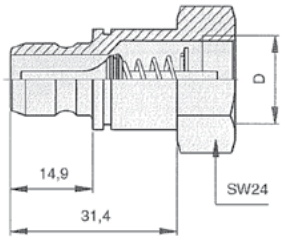
MCF3004



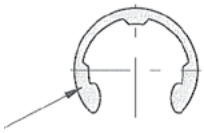
Mat.: Brass

REF	D	Position
SVKF9	UNEF 5/8"-24	Mould side

MALE THREADED SHUT OFF COUPLER SVKM9



MCF3004



Mat.: Brass

REF	D	Position
SVKM9	UNEF 5/8"-24	Injection machine side

CAD reference point

HOW TO ORDER

When you need a complete system, your order must include 3 elements:

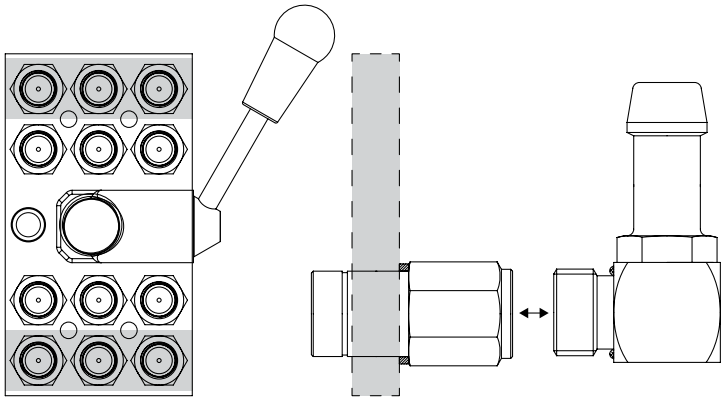
A MUF plate, which includes all couplings
(example of a 3+3 system)

A MUM plate, which does not include couplings
(example of a 3+3 system)

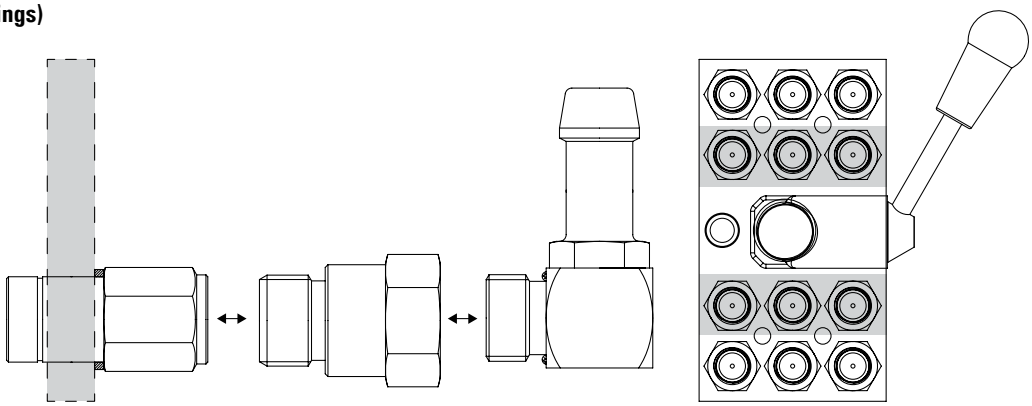
The MUC couplings that you want to have on your MUM plate, see instructions below and list of parts at page page 608 and page 470.

INSTALLATION OPTIONS

Without extension
(external couplings)



With extension
(internal couplings)

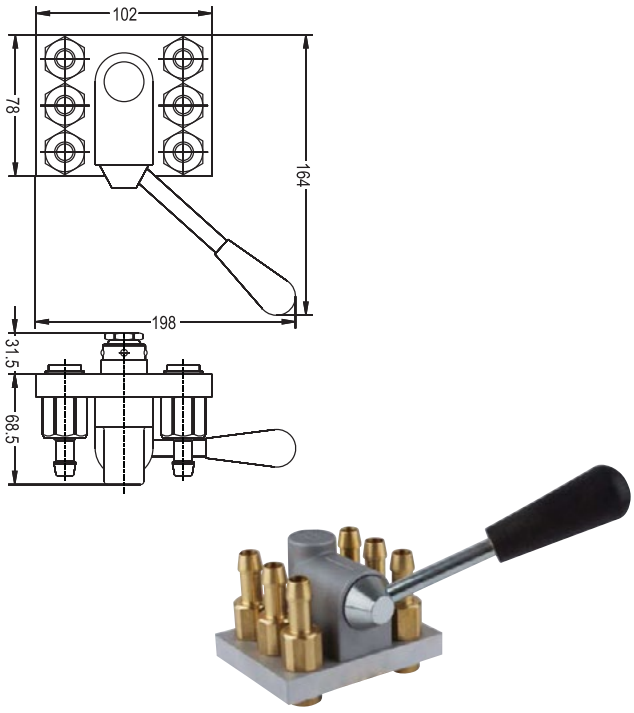


Coupling to be installed on **MUM** plate is **MUC0938MS/MUC1238MS**
On **MUC0938MS/MUC1238MS** you can mount **MUC0910EB... / MUC0912EB... / MUC1213EB... / MUC1216EB...** with or without the extension **MUC09EXTMS / MUC12EXTMS**

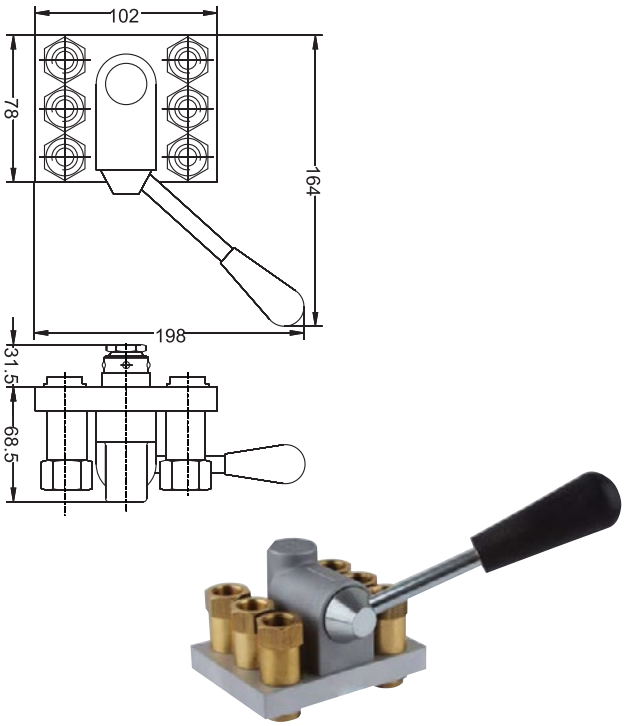
CAD reference point

UNIVERSAL MULTICOUPLING

MULTI-COUPLING SYSTEM 3 + 3 COUPLINGS, 09 SERIE **MUF**

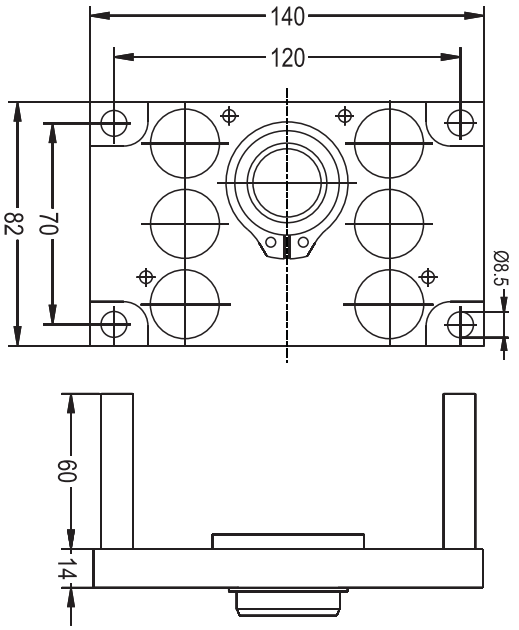


REF	D	Position
MUF 093310	Ø10	Injection machine side
MUF 093312	Ø12	Injection machine side



REF	D	Position
MUF093338	BSP 3/8"	Injection machine side

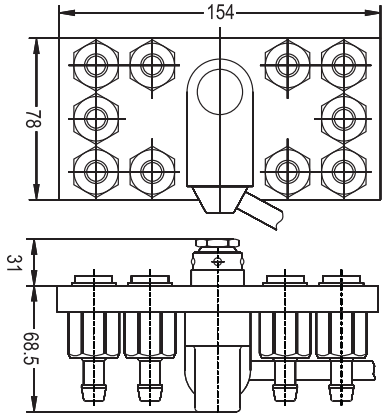
MOULD PLATE FOR 3 + 3 COUPLINGS, 09 SERIE **MUM**

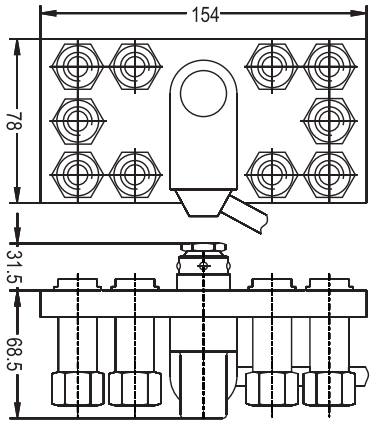


REF	Position
MUM 0933	Mould side

CAD reference point

MULTI-COUPLING SYSTEM 5 + 5 COUPLINGS, 09 SERIE — MUF

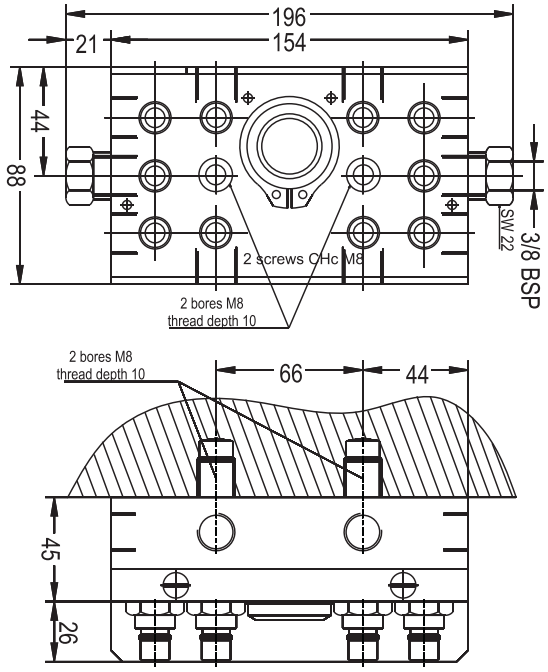




REF	D	Position
MUF 095510	Ø10	Injection machine side
MUF 095512	Ø12	Injection machine side

REF	D	Position
MUF 095538	BSP 3/8"	Injection machine side

MOULD PLATE FOR 5 + 5 COUPLINGS, 09 SERIE — MUM

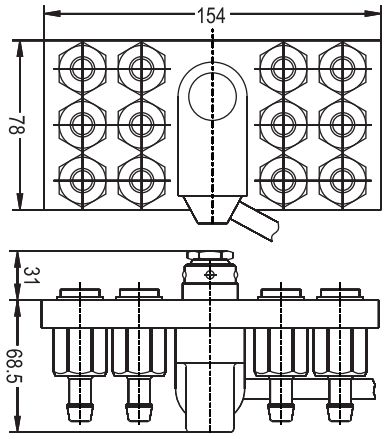


REF	Position
MUM 0955	Mould side

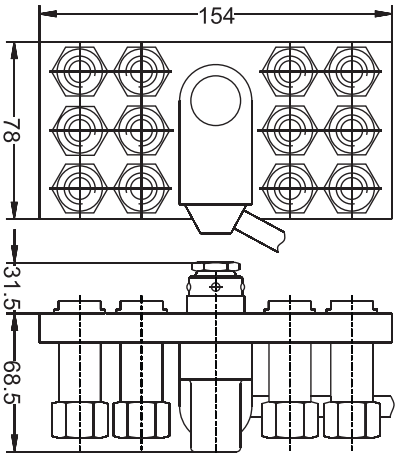
CAD reference point

UNIVERSAL MULTICOUPLING

MULTI-COUPLING SYSTEM 6 + 6 COUPLINGS, 09 SERIE **MUF**

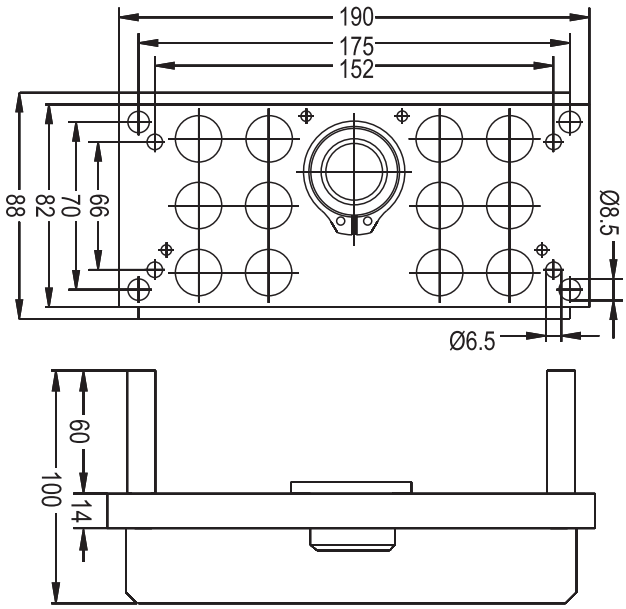


REF	D	Position
MUF 096610	Ø10	Injection machine side
MUF 096612	Ø12	Injection machine side



REF	D	Position
MUF 096638	BSP 3/8"	Injection machine side

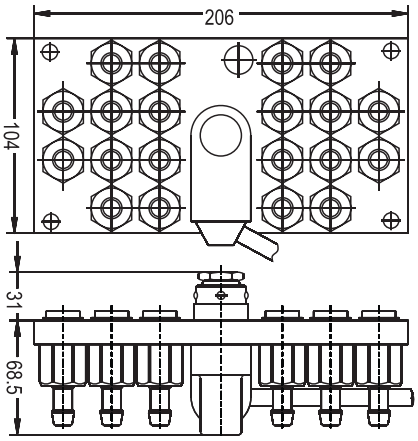
MOULD PLATE FOR 6 + 6 COUPLINGS, 09 SERIE **MUM**



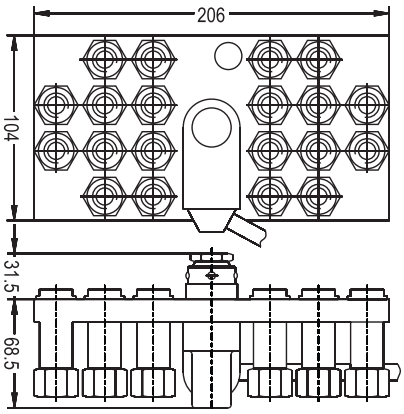
REF	Position
MUM 0966	Mould side

CAD reference point

MULTI-COUPLING SYSTEM 10 + 10 COUPLINGS, 09 SERIE — MUF

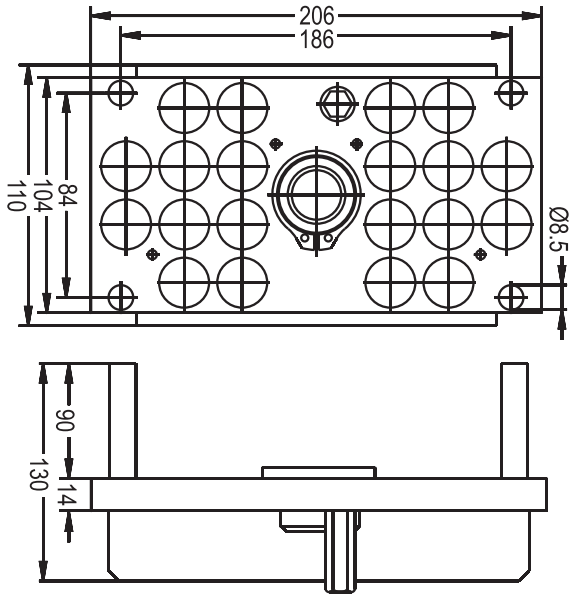


REF	D	Position
MUF 091010	Ø10	Injection machine side
MUF 091012	Ø12	Injection machine side



REF	D	Position
MUF 091038	NPT 3/8"	Injection machine side

MOBILE PLATE FOR 10 + 10 COUPLINGS, 09 SERIE — MUM



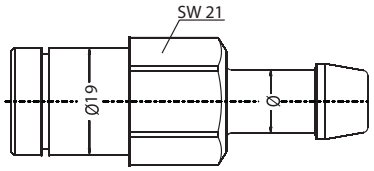
REF	Position
MUM 0910	Mould side

CAD reference point

UNIVERSAL MULTICOUPLING

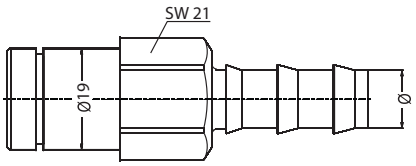
COUPLINGS FOR MUTLI COUPLINGS, 09 SERIE — MUC

HOSE TAIL SHUT-OFF COUPLER



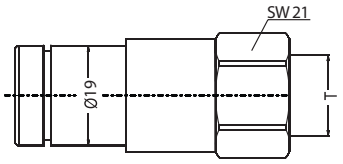
REF	D	Position
MUC 0910 IS	Ø 10	Injection machine side (for MUF plate)
MUC 0912 IS	Ø 12	Injection machine side (for MUF plate)

PUSH-LOCK HOSE TAIL SHUT-OFF COUPLER



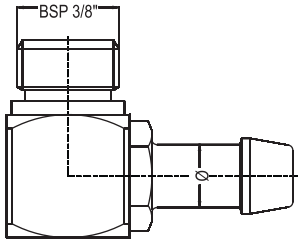
REF	D	Position
MUC 0910 ISPL	Ø 10	Injection machine side (for MUF plate)
MUC 0913 ISPL	Ø 13	Injection machine side (for MUF plate)

FEMALE THREADED SHUT-OFF COUPLER



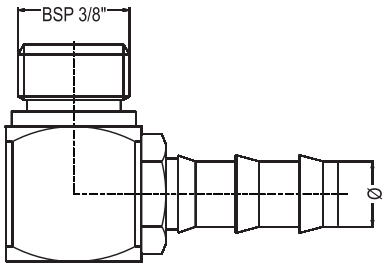
REF	D	Position
MUC 0938 IS	BSP 3/8"	Injection machine side (for MUF plate)

ELBOW HOSE TAIL



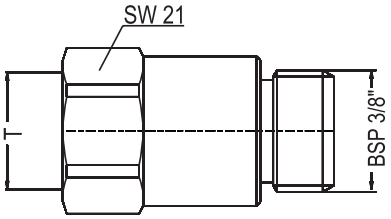
REF	T
MUC 0910 EBMS	Ø10
MUC 0912 EBMS	Ø12 to be installed on MUC0938MS

ELBOW PUSH-LOCK HOSE TAIL



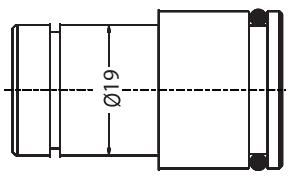
REF	T
MUC 0910 EBMSPL	Ø10
MUC 0912 EBMSPL	Ø12

EXTENSION



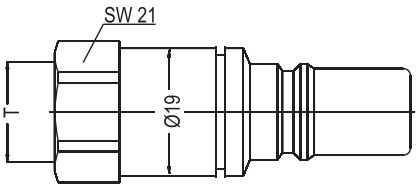
REF	Female	Male
MUC 09EXTMS	BSP 3/8" to be installed on MUC0938MS	BSP 3/8" to be installed on MUC0938MS

SHUT-OFF COUPLER FOR QUICK COUPLING



REF	Position
MUC 09 CVMS	Injection machine side (for MUF plate)

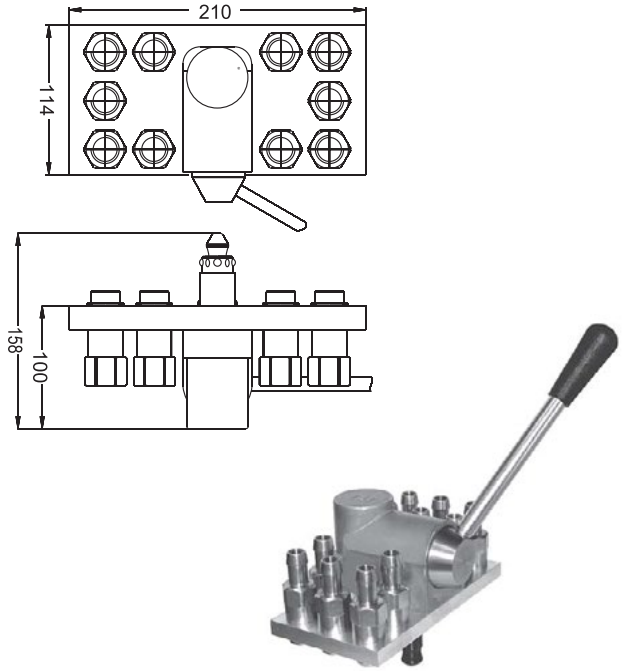
FEMALE THREADED SHUT-OFF PLUG



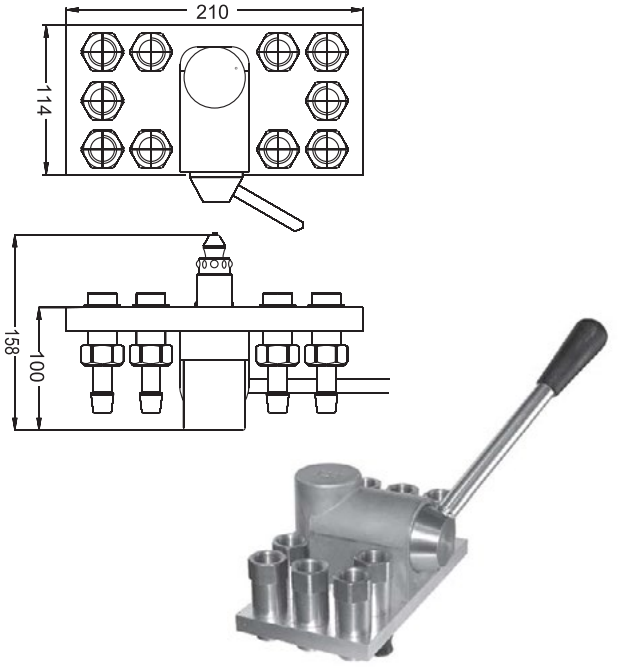
REF	T
MUC 0938MS	BSP 3/8" to be installed on MUM plate

CAD reference point

MULTI-COUPLING SYSTEM 5 + 5 COUPLINGS, 12 SERIE **MUF**

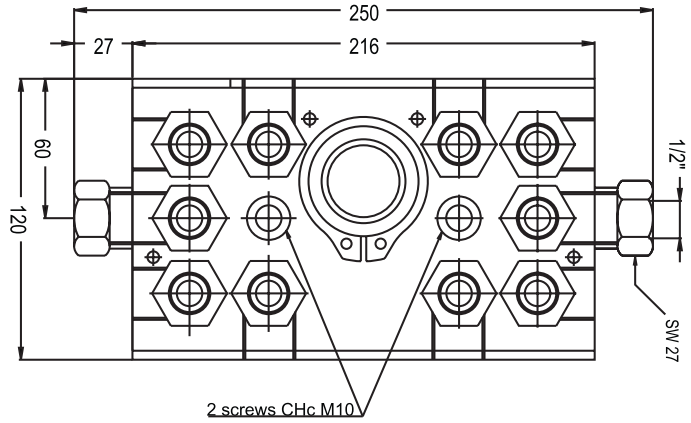


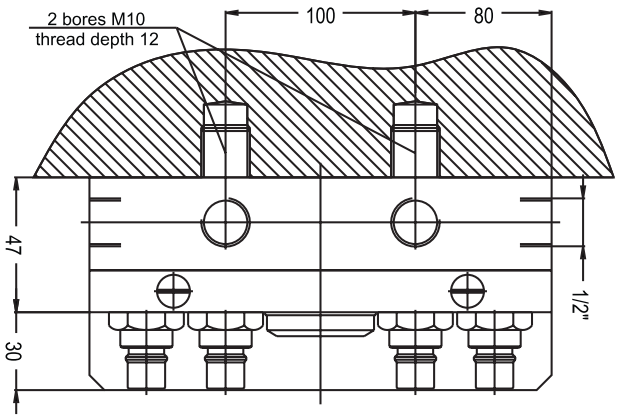
REF	D	Position
MUF 12SS10	Ø10	Injection machine side
MUF 12SS12	Ø12	Injection machine side



REF	D	Position
MUF 125538	BSP 1/2"	Injection machine side

MOULD PLATE FOR 5 + 5 COUPLINGS, 12 SERIE **MUM**



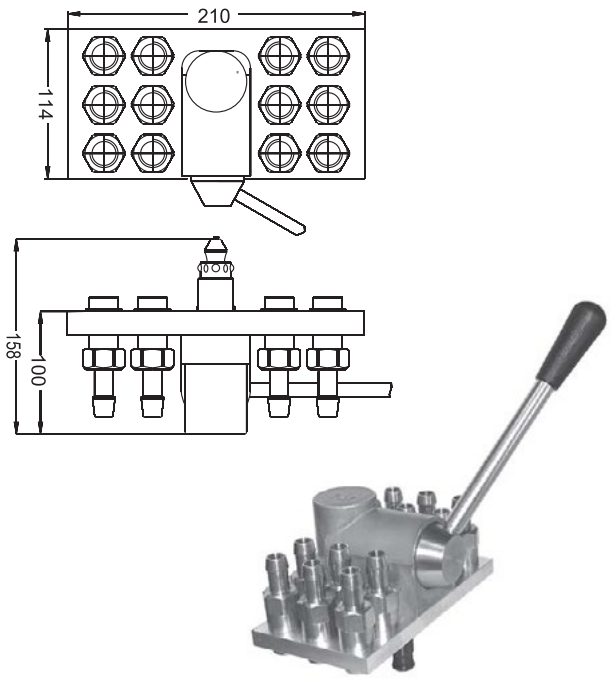


REF	
MUM 1255	plate only

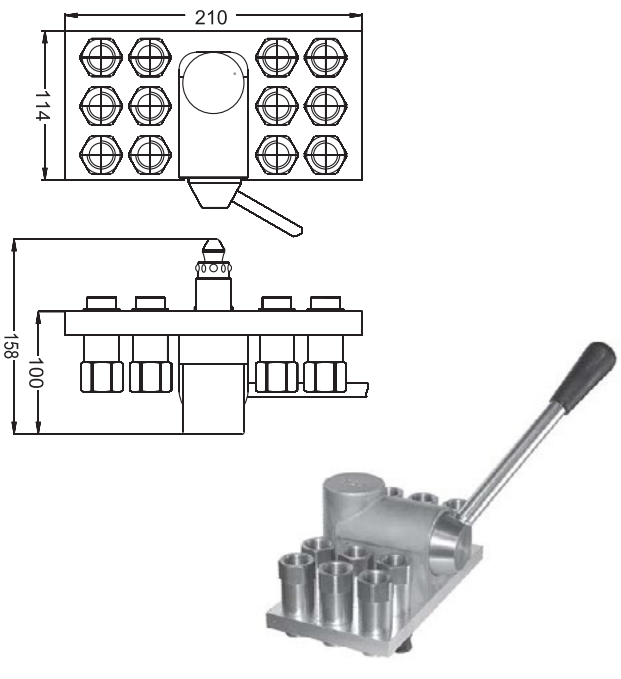
CAD reference point

UNIVERSAL MULTICOUPLING

MULTI-COUPLING SYSTEM 6 + 6 COUPLINGS, 12 SERIE **MUF**

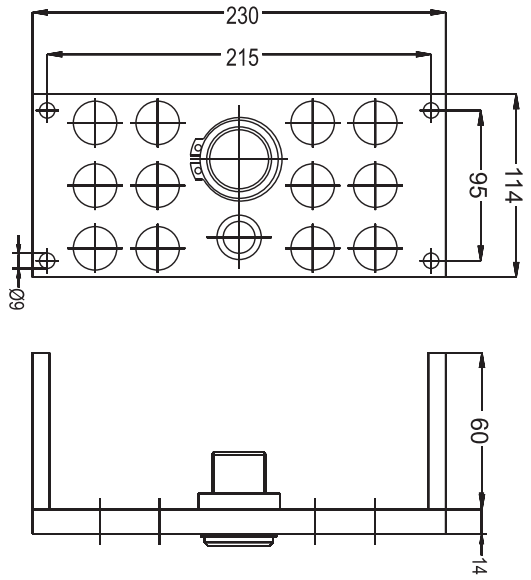


REF	D	Position
MUF 126610	Ø13	Injection machine side
MUF 126612	Ø16	Injection machine side



REF	D	Position
MUF 126638	BSP 1/2"	Injection machine side

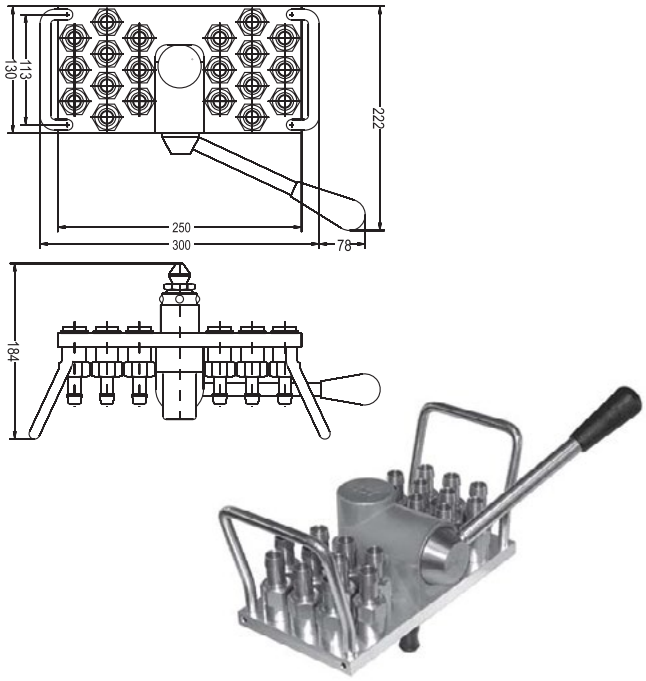
MOULD PLATE FOR 6 + 6 COUPLINGS, 12 SERIE **MUM**



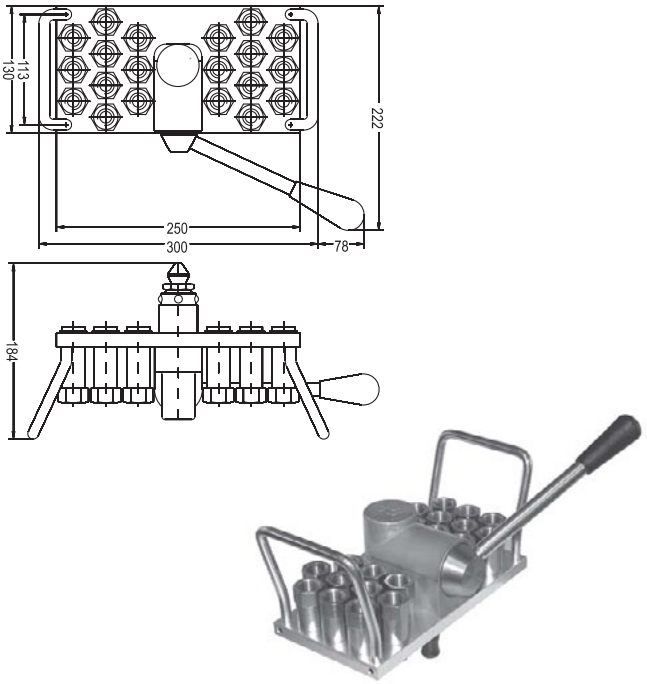
REF	Position
MUM 1266	Mould side

CAD reference point

MULTI-COUPLING SYSTEM 10 + 10 COUPLINGS, 12 SERIE **MUF**

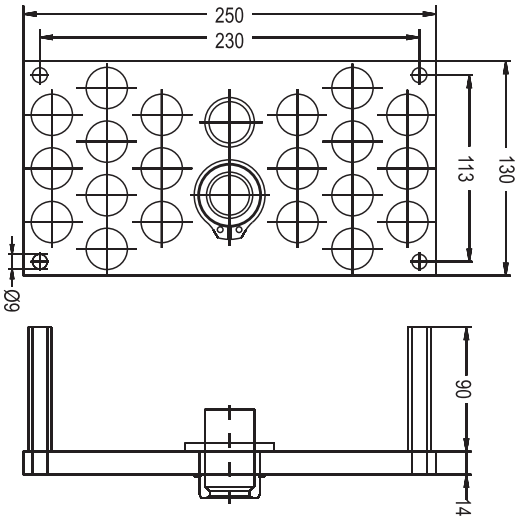


REF	D	Position
MUF 121010	Ø13	Injection machine side
MUF 121012	Ø16	Injection machine side



REF	D	Position
MUF 121038	BSP 1/2"	Injection machine side

MOULD PLATE FOR 10 + 10 COUPLINGS, 12 SERIE **MUM**

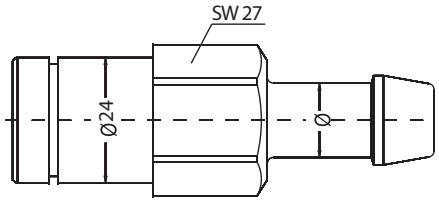


REF	Position
MUM1210	Mould side

CAD reference point

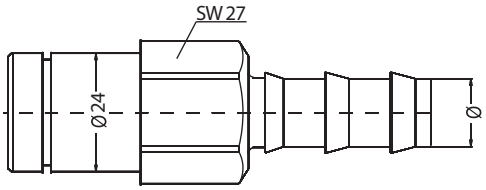
COUPLINGS FOR MULTI COUPLING, 12 SERIE — MUC

HOSE TAIL SHUT-OFF COUPLER



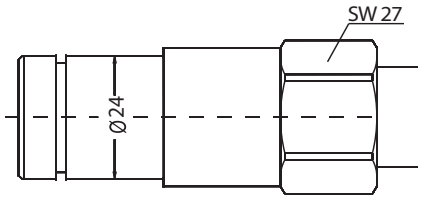
REF	D	Position
MUC 1213 IS	Ø13	Injection machine side (for MUF plate)
MUC 1216 IS	Ø16	Injection machine side (for MUF plate)

PUSH-LOCK HOSE TAIL SHUT-OFF COUPLER



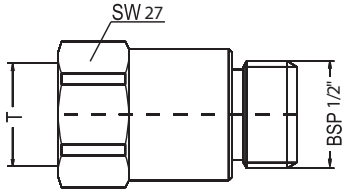
REF	D	Position
MUC 1213 ISPL	Ø16	Injection machine side (for MUF plate)
MUC 1216 ISPL	Ø13	Injection machine side (for MUF plate)

FEMALE THREADED SHUT-OFF COUPLER



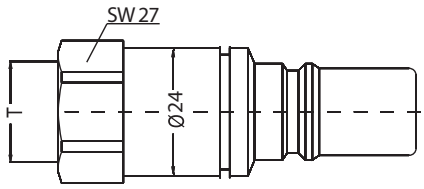
REF	D	Position
MUC 121215	BSP 1/2"	Injection machine side (for MUF plate)

EXTENSION



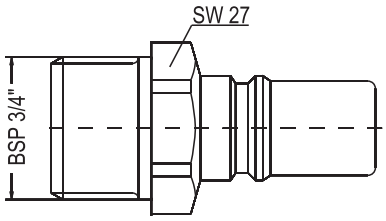
REF	Female	Male
MUC 12 EXTMS	BSP 1/2" to be installed on MUC0938MS	BSP 1/2" to be installed on MUC0938MS

FEMALE THREADED UNVALVED PLUG



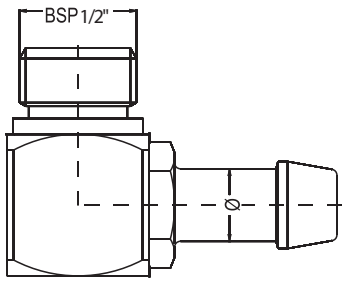
REF	T
MUC 1238 MS	BSP 1/2" for MUM plate

MALE THREADED UNVALVED PLUG



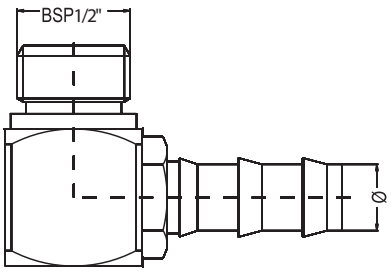
REF	T
MUC 12 CVMS	BSP 3/4"

ELBOW HOSE TAIL



REF	T
MUC 1213 EBMS	Ø13
MUC 1216 EBMS	Ø16 to be installed on MUC0938MS

ELBOW PUSH-LOCK HOSE TAIL



REF	T
MUC 1213 EBMSPL	Ø13
MUC 1216 EBMSPL	Ø16 to be installed on MUC0938MS

CAD reference point

MULTI COUPLINGS U101.M...

Standard multi couplings ranges
M 106 (flow size: 6mm)
M 109 (flow size: 9mm)
M 112 (flow size: 12mm)
M 116 (flow size: 16mm)

According to the requested coupler quantity
6 couplers: 3 circuits
8 couplers: 4 circuits
10 couplers: 5 circuits
12 couplers: 6 circuits
16 couplers: 8 circuits
20 couplers: 10 circuits
24 couplers: 12 circuits

CAD reference point

CAD reference point

DME

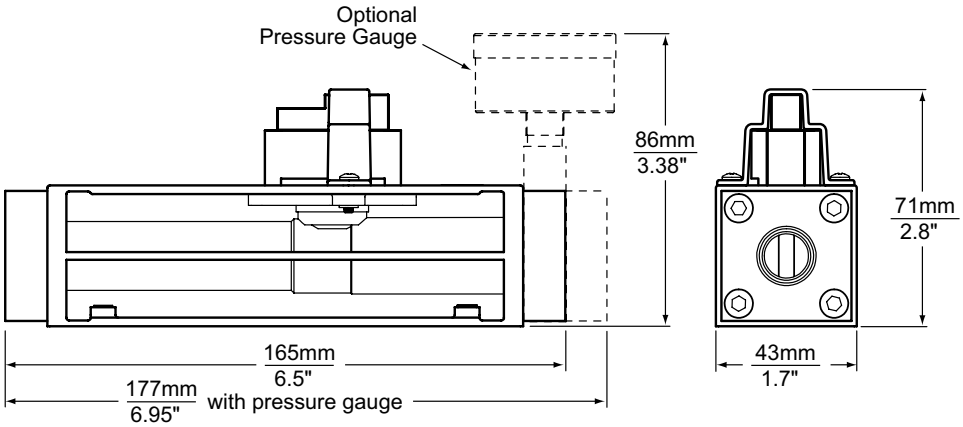
FLOWMETERS

BASE FLOWMETERS VM

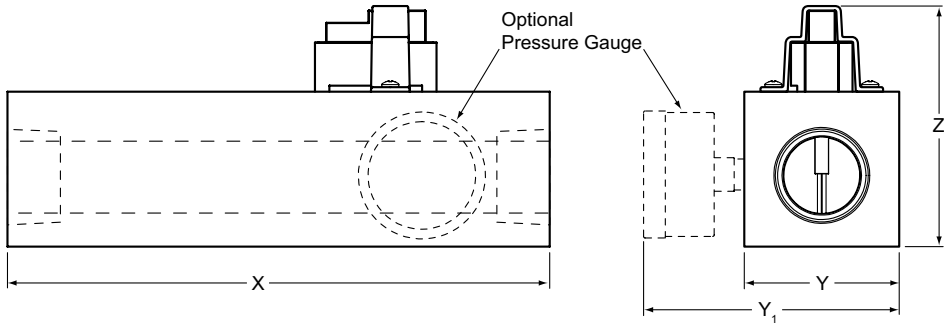
Benefits

- Non display flowmeter, sending a voltage signal to data acquisition system or Bluetooth interface
- No moving parts for reliable operation based on Vortex sensor technology
- Flow and Temperature Sensors in one unit for compact installation
- Quick temperature response from direct media contact
- Economical and versatile construction with corrosion-resistant materials

3/8" or 1/2" Body Sizes (Nylon or Brass End Caps)



3/4" or 1-1/2" Body Sizes (Nylon or Brass End Caps)
Aluminum or Stainless Steel (pressure gague not available with AL body)



Dimensions (mm/inches)					
Body Size	Flow	X	Y	Y_1	Z
3/4", 5 to 100 LPM	5 to 100 LPM	178/7.0	45.7/1.8	77/3.1	74.2/2.9
1", 5 to 100 LPM		178/7.0	45.7/1.8	77/3.1	74.2/2.9
1" 10 to 200 LPM		178/7.0	51/2.0	84/3.3	79/3.1
1-1/2", 10 to 200 LPM		198/7.8	58/2.3	90/3.6	86/3.4

CAD reference point

BASE FLOWMETERS VM

REF	Body size	Connection	Body Material	Flow Range l/min
VM6AL100HB	3/4"	NPT	Anodized Aluminium	100
VM8AL100HB	1"	NPT	Anodized Aluminium	100
VM8AL200HB	1"	NPT	Anodized Aluminium	200
VM12AL200HB	1-1/2"	NPT	Anodized Aluminium	200
VM3B15HB	3/8"	NPT	Glass-Filled Nylon + Brass End Caps	015
VM3B40HB	3/8"	NPT	Glass-Filled Nylon + Brass End Caps	040
VM4B15HB	1/2"	NPT	Glass-Filled Nylon + Brass End Caps	015
VM4B40HB	1/2"	NPT	Glass-Filled Nylon + Brass End Caps	040
VM3N15HB	3/8"	NPT	Nylon End Caps	015
VM3N40HB	3/8"	NPT	Nylon End Caps	040
VM4N15HB	1/2"	NPT	Nylon End Caps	015
VM4N40HB	1/2"	NPT	Nylon End Caps	040
VM6SS100HB	3/4"	NPT	Stainless Steel	100
VM8SS100HB	1"	NPT	Stainless Steel	100
VM8SS200HB	1"	NPT	Stainless Steel	200
VM12SS200HB	1-1/2"	NPT	Stainless Steel	200
VM6BAL100HB	3/4"	BSPP	Anodized Aluminium	100
VM8BAL100HB	1"	BSPP	Anodized Aluminium	100
VM8BAL200HB	1"	BSPP	Anodized Aluminium	200
VM12BAL200HB	1-1/2"	BSPP	Anodized Aluminium	200
VM3BB15HB	3/8"	BSPP	Glass-Filled Nylon + Brass End Caps	015
VM3BB40HB	3/8"	BSPP	Glass-Filled Nylon + Brass End Caps	040
VM4BB15HB	1/2"	BSPP	Glass-Filled Nylon + Brass End Caps	015
VM4BB40HB	1/2"	BSPP	Glass-Filled Nylon + Brass End Caps	040
VM3BN15HB	3/8"	BSPP	Nylon End Caps	015
VM3BN40HB	3/8"	BSPP	Nylon End Caps	040
VM4BN15HB	1/2"	BSPP	Nylon End Caps	015
VM4BN40HB	1/2"	BSPP	Nylon End Caps	040
VM6BSS100HB	3/4"	BSPP	Stainless Steel	100
VM8BSS100HB	1"	BSPP	Stainless Steel	100
VM8BSS200HB	1"	BSPP	Stainless Steel	200
VM12BSS200HB	1"NPT	BSPP	Stainless Steel	200

CAD reference point

FLOWMETERS WITH LOCAL OR REMOTE INTERFACE VM

Features and benefits

- Flowmeter with user interface, showing flow rate, temperature, FCI, indication of TF turbulent flow, Reynolds number and totalizer of volume
- Special FCI Flow Characteristic Indicator system to optimize water usage sending a voltage signal to data acquisition system
- Is suitable to use in injection mould cooling and die casting cooling
- R version stands for remote (provided with 2,9m cable) and L stands for Local (display on the flowmeter case)

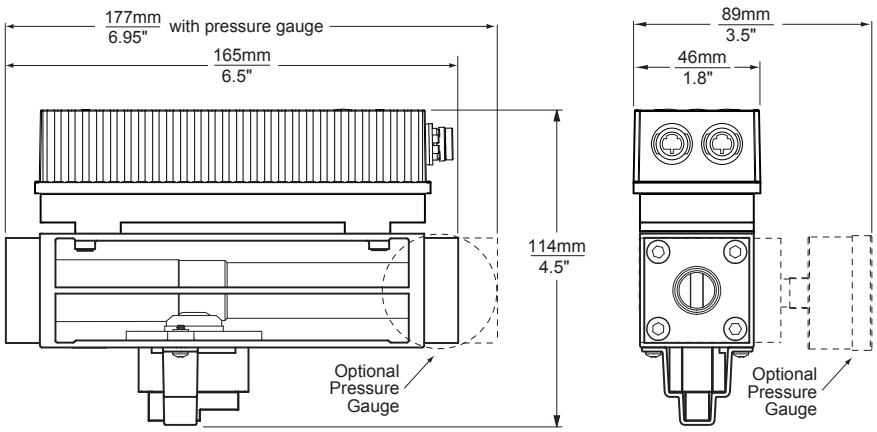
Specifications:

Flow accuracy	+/-1.5% of Full Scale
Temp. range	0°C to 120°C
Temp. accuracy	+/-0.5°C
Operating pressure	10.3 bar max (150 psi max
Power supply	8 to 28 VDC (external)
Switch rating	30 VDC/30VAC
Flow and temp. signals	0 to 5 or 0 to 10 VDC

Materials

Sensing element	Silicone-Based MEMS Sensor
Seal (sensor to housing)	EPDM
Insert	PPA 40 GF
3/8" and 1/2" body size	Glass Filled Nylon Flow Body Brass or Nylon End Caps
3/4" thru 1-1/2" body size	Anodized Aluminum or Stainless Steel Flow Body

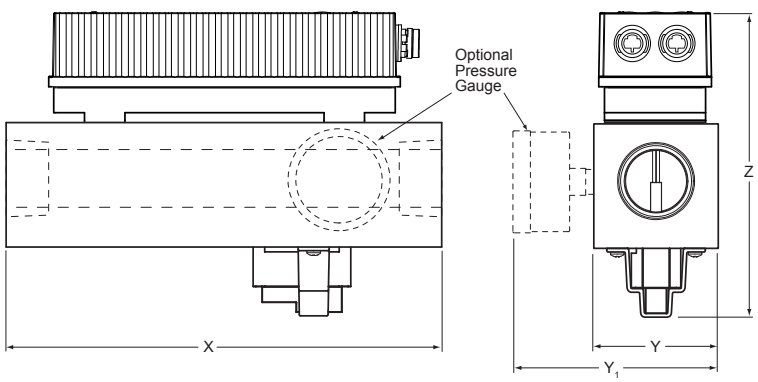
3/8" or 1/2" Body Sizes (Nylon or Brass End Caps)



Dimensions (mm/inches)				
Body Size	X	Y	Y_1	Z
3/4", 5 TO 100 LPM	178/7.0	45.7/1.8	77/3.1	117/4.6
1", 5 TO 100 LPM	178/7.0	45.7/1.8	77/3.1	117/4.6
1" 10 TO 200 LPM	178/7.0	51/2.0	84/3.3	122/4.8
1-1/2", 10 TO 200 LPM	198/7.8	58/2.3	90/3.6	130/5.1

3/4" or 1-1/2" Body Sizes (Nylon or Brass End Caps)

Aluminum or Stainless Steel (pressure gague not available with AL body)



CAD reference point

FLOWMETERS WITH LOCAL OR REMOTE INTERFACE **VM**

REF (Local flowmeter)	Body size	Connection	Body Material	Flow Range l/min
VM6AL100HL	3/4"	NPT	Anodized Aluminium	100
VM8AL100HL	1"	NPT	Anodized Aluminium	100
VM8AL200HL	1"	NPT	Anodized Aluminium	200
VM12AL200HL	1-1/2"	NPT	Anodized Aluminium	200
VM3B15HL	3/8"	NPT	Glass-Filled Nylon + Brass End Caps	15
VM3B40HL	3/8"	NPT	Glass-Filled Nylon + Brass End Caps	40
VM4B15HL	1/2"	NPT	Glass-Filled Nylon + Brass End Caps	15
VM4B40HL	1/2"	NPT	Glass-Filled Nylon + Brass End Caps	40
VM3N15HL	3/8"	NPT	Nylon End Caps	15
VM3N40HL	3/8"	NPT	Nylon End Caps	40
VM4N15HL	1/2"	NPT	Nylon End Caps	15
VM4N40HL	1/2"	NPT	Nylon End Caps	40
VM6SS100HL	3/4"	NPT	Stainless Steel	100
VM8SS100HL	1"	NPT	Stainless Steel	100
VM8SS200HL	1"	NPT	Stainless Steel	200
VM6BAL100HL	3/4"	BSPP	Anodized Aluminium	100
VM8BAL100HL	1"	BSPP	Anodized Aluminium	100
VM8BAL200HL	1"	BSPP	Anodized Aluminium	200
VM12BAL200HL	1-1/2"	BSPP	Anodized Aluminium	200
VM3BB15HL	3/8"	BSPP	Glass-Filled Nylon + Brass End Caps	15
VM3BB40HL	3/8"	BSPP	Glass-Filled Nylon + Brass End Caps	40
VM4BB15HL	1/2"	BSPP	Glass-Filled Nylon + Brass End Caps	15
VM4BB40HL	1/2"	BSPP	Glass-Filled Nylon + Brass End Caps	40
VM3BN15HL	3/8"	BSPP	Stainless Steel	15
VM3BN40HL	3/8"	BSPP	Stainless Steel	40
VM4BN15HL	1/2"	BSPP	Stainless Steel	15
VM4BN40HL	1/2"	BSPP	Stainless Steel	40
VM12SS200HL	1-1/2"	BSPP	Stainless Steel	200
VM6BSS100HL	3/4"	BSPP	Anodized Aluminium	100
VM8BSS100HL	1"	BSPP	Anodized Aluminium	100
VM8BSS200HL	1"	BSPP	Anodized Aluminium	200
VM12BSS200HL	1-1/2"	BSPP	Anodized Aluminium	200
REF (Remote flowmeter)	**Body size**	**Connection**	**Body Material**	**Flow Range l/min**
VM6AL100HR	3/4"	NPT	Anodized Aluminium	100
VM8AL100HR	1"	NPT	Anodized Aluminium	100
VM8AL200HR	1"	NPT	Stainless Steel	200
VM12AL200HR	1-1/2"	NPT	Stainless Steel	200
VM3B15HR	3/8"	NPT	Glass-Filled Nylon + Brass End Caps	15
VM3B40HR	3/8"	NPT	Glass-Filled Nylon + Brass End Caps	40
VM4B15HR	1/2"	NPT	Glass-Filled Nylon + Brass End Caps	15
VM4B40HR	1/2"	NPT	Glass-Filled Nylon + Brass End Caps	40
VM3N15HR	3/8"	NPT	Nylon End Caps	15
VM3N40HR	3/8"	NPT	Nylon End Caps	40
VM4N15HR	1/2"	NPT	Nylon End Caps	15
VM4N40HR	1/2"	NPT	Nylon End Caps	40
VM6SS100HR	3/4"	NPT	Glass-Filled Nylon + Brass End Caps	100
VM8SS100HR	1"	NPT	Glass-Filled Nylon + Brass End Caps	100
VM8SS200HR	1"	NPT	Glass-Filled Nylon + Brass End Caps	200
VM6BAL100HR	3/4"	BSPP	Glass-Filled Nylon + Brass End Caps	100
VM8BAL100HR	1"	BSPP	Nylon End Caps	100
VM8BAL200HR	1"	BSPP	Nylon End Caps	200
VM12BAL200HR	1-1/2"	BSPP	Nylon End Caps	200
VM3BB15HR	3/8"	BSPP	Nylon End Caps	15
VM3BB40HR	3/8"	BSPP	Anodized Aluminium	40
VM4BB15HR	1/2"	BSPP	Anodized Aluminium	15
VM4BB40HR	1/2"	BSPP	Stainless Steel	40
VM3BN15HR	3/8"	BSPP	Stainless Steel	15
VM3BN40HR	3/8"	BSPP	Anodized Aluminium	40
VM4BN15HR	1/2"	BSPP	Anodized Aluminium	15
VM4BN40HR	1/2"	BSPP	Anodized Aluminium	40
VM12SS200HR	1-1/2"	BSPP	Anodized Aluminium	200
VM6BSS100HR	3/4"	BSPP	Stainless Steel	100
VM8BSS100HR	1"	BSPP	Stainless Steel	100
VM8BSS200HR	1"	BSPP	Stainless Steel	200
VM12BSS200HR	1-1/2"	BSPP	Stainless Steel	200

CAD reference point

BLUETOOTH INTERFACE FLOWMETERS VMBT

Features and benefits

- Transmits temperature and flow conditions in real time to mobile devices for process monitoring up to 20 meters away.
- Simplifies multiple Tracer$_{VM}$ Base installations by providing power, ground and signal termination near the process.
- Gasketed, water-resistant plastic enclosure provides secure mounting in locations where occasional water spray is present.
- Housing mounting holes are integral for easy installation.
- Ethernet port connects the Interface to a local network for communication with Data Logger software.
- USB port provides mobile device charging plus flash drive connection.
- Smartflow Data Logger PC software included.
- It can be connected up to 8 flowmeters at one time.

Specifications:

Housing	NEMA4X compliant
Operating temperature	0°C to 52°C
Maximum wireless range	20 m
Distance to Bluetooth I/F	3 m
Power required	8 to 28VDC with earth ground (external)
Cord grips	9 pc. light-tight inclu.
Data logging software	Included

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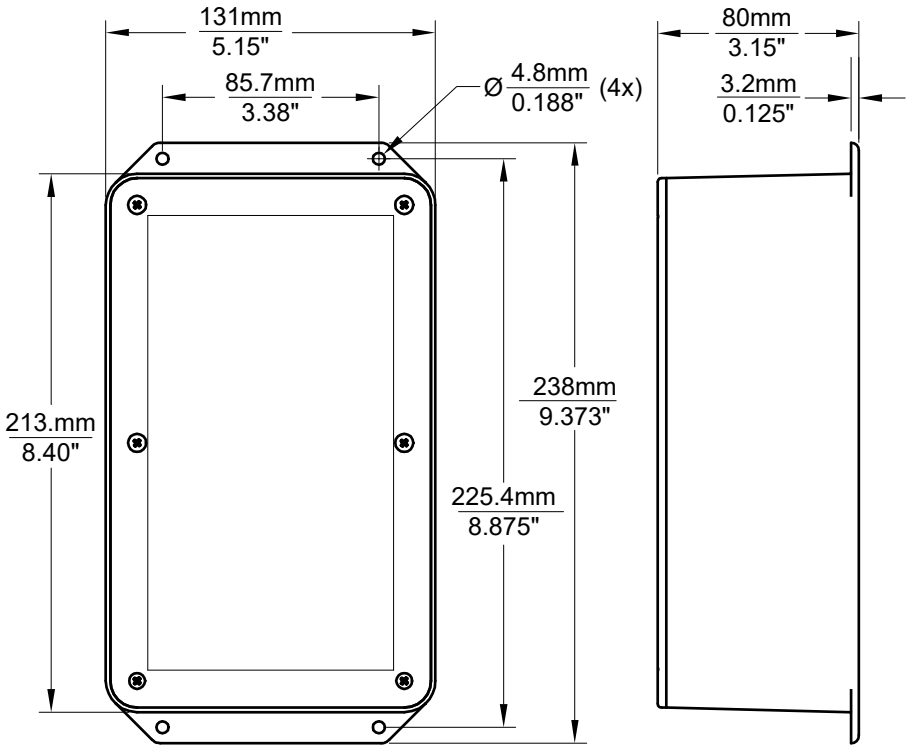
GET IT ON Google Play

REF
VMBTI100



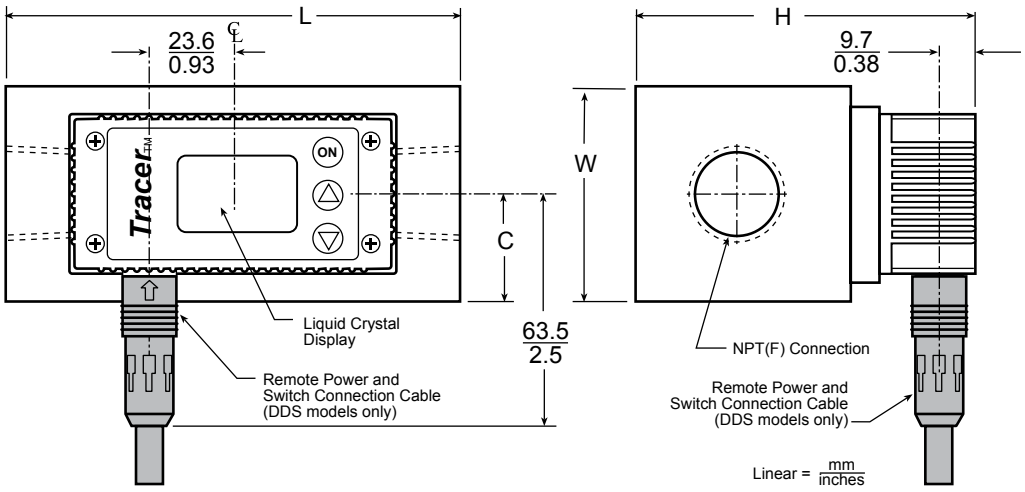
CAD reference point

FLOWMETERS WITH FCI TECHNOLOGY DD

Features and benefits

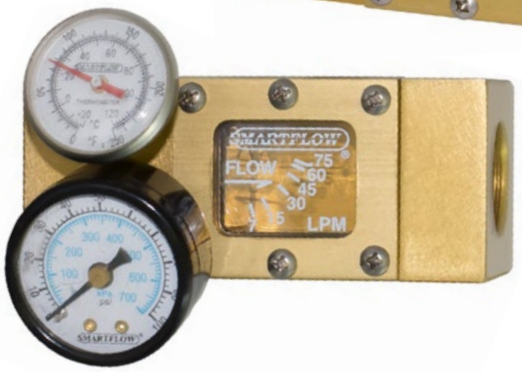
- Measures water flow and temperature
- Calculates BTU per minute
- Displays a special message (TFLOW) when turbulent flow is present
- Can be mounted in any position
- LCD digital display is battery powered and easy to read
- Programmable auto shut-off feature extends battery life

REF	Inlet/Outlet	Temp. range	Temp. accuracy	Flow	Flow accuracy	Weight
DD3B	3/8" BSP inlet and outlet	0–82 °C	± 2%	2–30 lpm	± 5%	0,7 kg
DD3BB	3/8" BSPP inlet and outlet	0–82 °C	± 2%	2–30 lpm	± 5%	0,7 kg



CAD reference point

MECHANICAL FLOWMETERS F



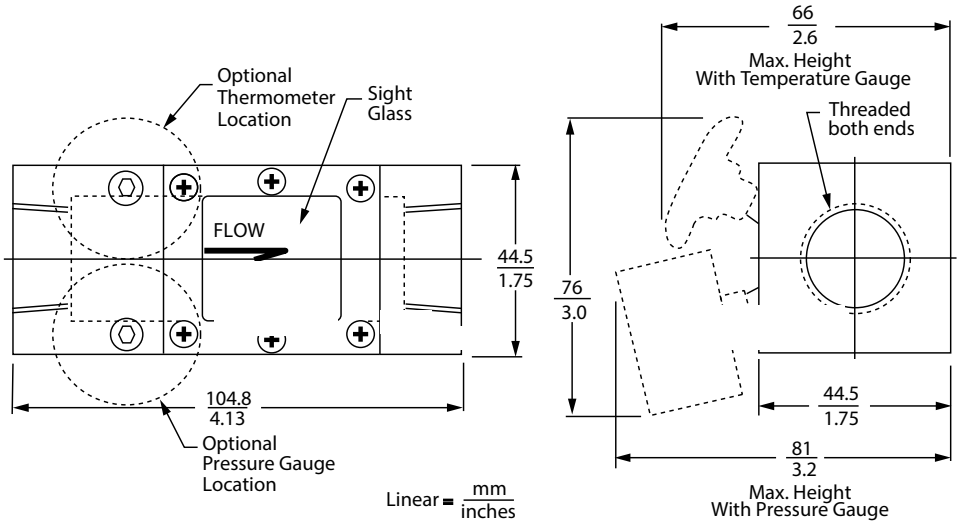
Features and benefits

- Compact, rugged design
- 99° (210 °F) temperature rating
- Operating pressure 6,9 bar max
- Max flow 75lpm
- Aluminum body
- Polysulfone sight glass
- Can be mounted in any position
- Optional thermometer & pressure gauge

Materials & Options

Body	Anodized aluminum
Sight glass	Polysulfone
Gasket	Neoprene
Vane	Stainless steel
Spring	Stainless steel
Pin & screws	Stainless steel
Thermometer (opt.)	0° 250°F/–20° –120°C
Pressure gauge (opt.)	0 to 100 PSI

REF	Flow	Measurement	Inlet/Outlet
F06BA75	7 – 75 lpm	Flow	3/4" BSP
F06BB75	7 – 75 lpm	Flow and temperature	3/4" BSP
F6BC375	7 – 75 lpm	Flow, temperature and pressure	3/4" BSP



CAD reference point

ICECUBE™ FLOWMETERS FP

Features and Benefits

- Compact size works well in restricted-space locations
- Rugged construction gives years of dependable service
- 99°C (210°F) temperature rating allows installation into a wide range of applications
- Optional temperature and pressure gauges display pressure and temperature information in addition to flow in one unit
- No mounting restrictions ease installation in any position without extra brackets or hardware

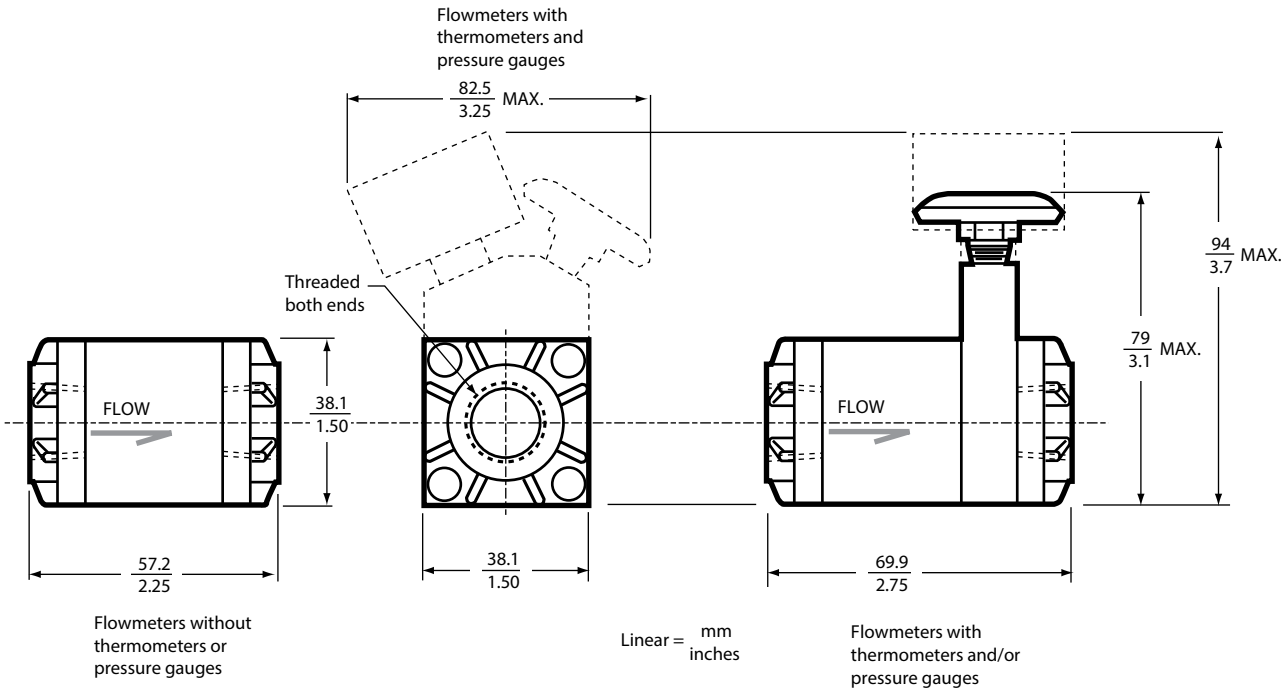
Materials & Options

End caps	Glass-filled nylon
Flow body	Polysulfone
Vane	Glass-filled nylon
Spring	Stainless steel
O-rings	EPDM
Cap screws	Stainless steel
Optional quick connect fittings	Brass

Specifications

Flow accuracy	±10% full scale
Operating temperature	99°C max.
Operating pressure	100 PSI max.
Dial thermometer	-20°1C - 120°C ±2% accuracy (full scale)
Pressure gauge	0 to 100 PSI max. ±3% accuracy (full scale)

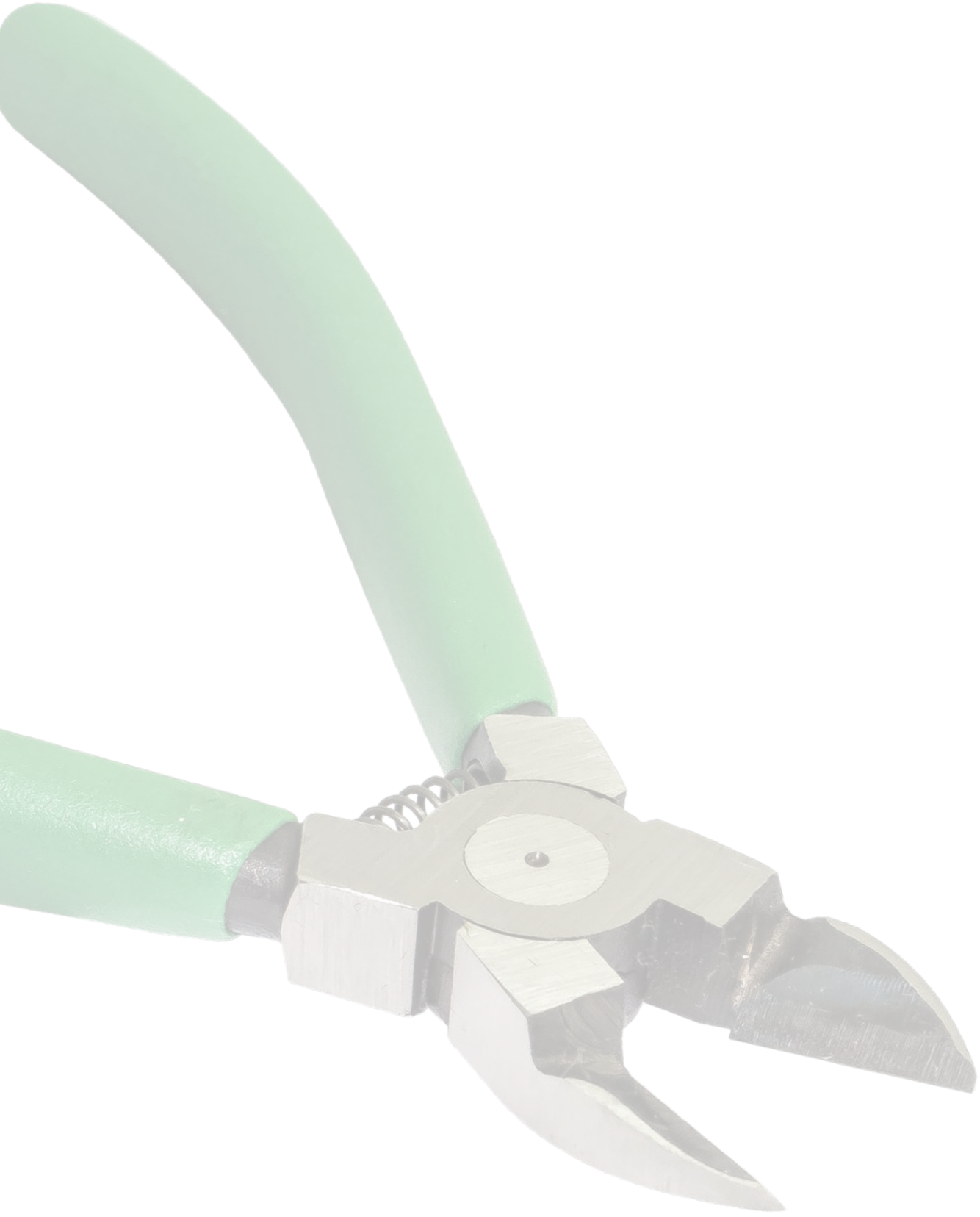
REF	Flow range	Measurements	Inlet Size
FP3BA30	4 – 30 lpm	Flow	3/8 " BSP
FP3BC30	4 – 30 lpm	Flow, temperature and pressure	3/8 " BSP



CAD reference point

CAD reference point

TOOLS & AUXILIAIRES



CAD reference point

CONTENT

Tools

Casting Resins & Chemical Products

CAD reference point

CAD reference point

TOOLS

MICROTEC: HAND WELDING MACHINE — MT 1500 S

Technical data	Microtec 1500 S
Input voltage	230 V, 50 - 60 Hz
Charging voltage	600 VA
Control system	SCR pulse system
Cycle time	0,2 - 0,4 sec.
Power output	700 W
Output voltage	0 - 9 V
Output current	0 - 1100 A
Dimensions WxDxH	165 x 450 x 405 mm
Weight	28 kg

Standard equipment

Control unit, mains cable, foot switch cable for electrode holder (1300 mm), ground cable (1300 mm) with copper ground plate (2 x 20 x 100 mm)
Electrode holder, black Ø 2, 3, 4 and 5 mm (1 off each)
Electrode holder, brown Ø 3, 4 mm (1 off each)
Magnetic electrodes Ø 2 x 50 mm, Ø 3x 50 mm, Ø 4 x50 mm, Ø 4 x60 mm (1 off each)
Standard electrodes Ø 2 x 50 mm, Ø 3 x 50 mm, Ø 4 x50 mm (1 off each)
Standard flat electrodes 1,2 x 5 x 35 mm
Adapter for clamping of flat electrodes
Tool cabinet
Sheet metal shears
1 pair of protective gloves
1 off protective glasses
1 off adhesive tape
1off spare fuse
Welding powder (50 g each):
MP 66/ N 51 (approx. 63 HRC)
MP 70/ N 80 (approx. 38 - 40 HRC)
Sheet metal strips (10 off each):
NAK 80- 0,1 x5 x100 mm, approx 38-40 HRC
NTA 1 - 0,1 x 30 x 70 mm, approx.135 HV
NTA 2 - 0.2 x 30 x 70 mm, approx.135 HV

REF
MT1500S

MICROTEC: HAND WELDING MACHINE — MT 2500

Technical data	Microtec 2500 Standard function	Microtec 2500 Precision function
Input voltage	230 V, 50 - 60 Hz	230 V, 50 - 60 Hz
Charging voltage	1000 VA	400 VA
Control system	SCR pulse system	SCR pulse system
Cycle time	0,2 - 0,4 sec.	0,2 - 0,4 sec.
Power output	1000 W	400 W
Output voltage	0 - 10 V	0 - 6 V
Dimensions WxDxH	375 x 520 x 270 mm	375 x 520 x 270 mm
Weight	35 kg	35 kg

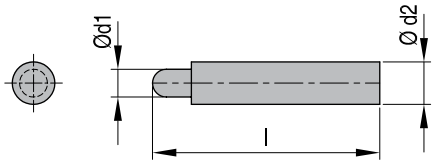
Standard equipment

Control unit, mains cable, foot switch câble for electrode holder (1300 mm), ground cable (1300 mm) with copper ground plate (2 x 20 x 100 mm)
Electrode holder black Ø 2, 3 and 4 mm (1 off each) Ø 5 mm (2 off)
Electrode holder, brown Ø 3 mm (2 off) Ø 4 mm (1 off)
Magnetic electrodes Ø 2 x 50 mm, Ø 3 x 50 mm, Ø4 x 50 mm, Ø 4 x 60 mm (1 off each)
Standard electrodes Ø 2 x 50 mm, Ø3 x 50 mm, Ø 4 x50 mm, Ø 5 x 60 mm (1 off each)
Standard flat electrodes 1,2 x 5 x 35 mm
Adapter for clamping of flat electrodes
Tool cabinet
Sheet metal shears
1 pair of protective cloves
1 off protective glasses
1 off adhesive tape
1 off spare fuse
Welding powder (50 g each):
MP 66/N 51 (approx. 63 HRC)
MP 70/N 80 (approx. 38-40 HRC)
Sheet metal strips (10 off each):
NAK 80 - 0,1 x 5 x 100 mm, approx. 38-40 HRC NTA 1 - 0,1 x 30 x 70 mm, approx. 135 HV
NTA 2 - 0.2 x 30 x 70 mm, approx. 135 HV

REF
MT 2500

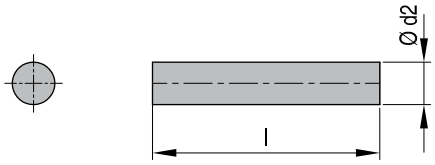
CAD reference point

MAGNETIC ELECTRODES FOR POWDER — EM



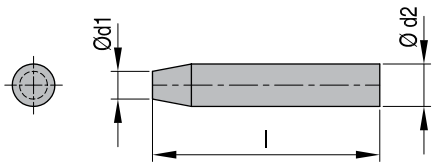
REF	d1	d2	l
EM-R2	2	3	50
EM-R3	3	3	50
EM-R4	4	4	60
EM-R5	5	5	60

MAGNETIC ELECTRODES FOR POWDER — EM



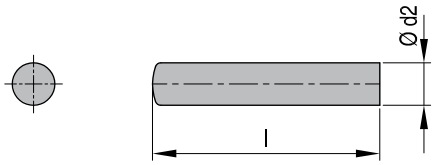
REF	d2	l
EM210	2	50
EM211	3	50
EM212	4	50
EM213	5	50

MAGNETIC ELECTRODES FOR POWDER — EM



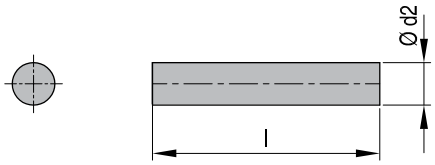
REF	d1	d2	l
EM-T4	1,5	4	50
EM-T5	2,5	5	50

STANDARD ELECTRODES — E



REF	d2	l
E-R22	2	50
E-R33	3	50
E-R44	4	50
ER55	5	50

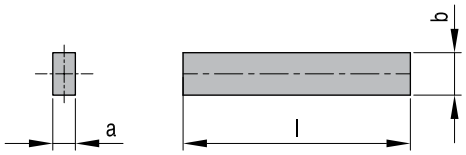
STANDARD ELECTRODES — E



REF	d2	l
E201	2	50
E202	3	50
E203	4	50
E204	5	50

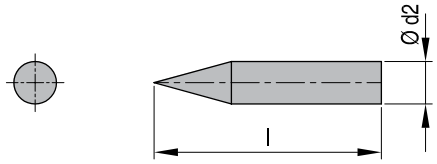
CAD reference point

STANDARD ELECTRODES E



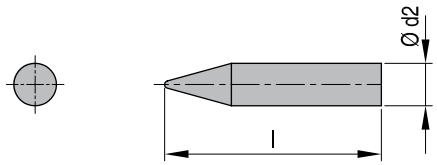
REF	d1	d2	l
E205	1,2	5	35
E206	2,2	5	35

STANDARD ELECTRODES E



REF	d1	d2	l
ESP2	-	2	45

STANDARD ELECTRODES E



REF	d1	d2	l
E-SR 2	-	2	45

ELECTRODE HOLDER / ADAPTER H / A

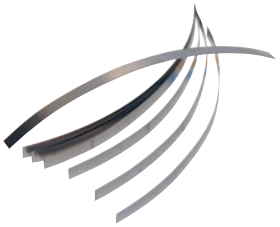
REF	Suitable for electrodes	ø	REF	Suitable for electrodes
H-301	EM-210, E-R22, E-201, E-SP2, E-SR2	15 mm	**A-403**	E-205
H-302	EM-R2, EM-R3, EM211, E-R33, E-202	15 mm	**A-404**	E-206
H-303	EM-R4, EM212, EM-T4, E-R44, E-203	15 mm	**A-403**	E-205
H-304	EM-R5, EM213, EM-T5, E-R55, E-204	15 mm	**A-404**	E-206
H-306	EM-210, E-R22, E-201, E-SP2, E-SR2	12 mm		
H-307	EM-R2, EM-R3, EM211, E-R33, E-202	12 mm		

CAD reference point

WELDING MATERIAL - WIRE — MTD ...

REF	Designation	Ø	Hardness	for steel types
MTD1	S 2	0,2	90 HRB	All mouldsteels
MTD2	S 3	0,3	90 HRB	
MTD3	S4	0,4	90 HRB	
MTD4	S5	0,5	90 HRB	

WELDING MATERIAL - SHEET — MTB ...



REF	Designation	Dim.	Hardness	for steel types
MTB1	NT 6	0,2 x 5 x 100 mm	30 HRC	All mouldsteels
MTB2	NTA 1	0,1 x 30 x 70 mm	135 HV	
MTB3	NTA 2	0,2 x 30 x 70 mm	135 HV	
MTB4	NS 1	0,1 x 30 x 70 mm	90 HRB	
MTB5	NS 2	0,2 x 30 x 70 mm	90 HRB	
MTB6	NAK 80	0,1 x 5 x100 mm	38-40 HRC	preheat-treated steel
MTB7	NAK 80	0,2 x 5 x 100 mm	38-40 HRC	
MTB8	HPM 2	0,1 x 5 x 100 mm	30-35 HRC	1.2311
MTB9	HPM 2	0,2 x 5 x 100 mm	30-35 HRC	
MTB10	NAK 55	0,1 x 5 x 100 mm	38-41 HRC	preheat-treated steel
MTB11	NAK 55	0,2 x 5 x 100 mm	38-41 HRC	
MTB12		0,1 x 50 x 70 mm	45-48 HRC	All mouldsteels
MTB13		0,2 x 50 x 70 mm	45-48 HRC	
MTB14		0,2 x 5 x 100 mm	40-42 HRC	Stavax

WELDING MATERIAL - POWDER — MTP ...

REF	Designation	Hardness	for steel types
MTP1	N 90	16-20 HRC	All mouldsteels (esp. Ni alloys)
MTP2	N 51	63 HRC	1.3343, all mouldsteels
MTP3	N 11	50 HRC	Heat-treated steels
MTP4	N 61	51 HRC	1.2343, 1.2344
MTP5	N 70	50-55 HRC	All mouldsteels
MTP6	N 80	38-40 HRC	1. 2711
MTP7	N 55	34-41 HRC	Heat-treated steels
MTP8	N 39	50-52 HRC	Stavax
MTP9	SP 80	38-40 HRC	Preheat-treated steels
MTP10	SP 55	38-41 HRC	Preheat-treated steels
MTP11	N 5	54-56 HRC	1.2162, All mouldsteels
MTP12	N 6	38-45 HRC	1.2343, 1.2344
MTP13	N 14	30 HRC	1.2311, 1.2312
MTP14	N 15	30-35 HRC	1.2764
MTP15	N16	30-35 HRC	1.2767

CAD reference point

MOULD FINISH COMPARISON KIT

MOULD FINISH COMPARISON KIT — MFK 1200

Expanded version - 12 samples finished to SPI standards

- Eliminates errors or guesswork in achieving desired or specified finishes
- Saves time by eliminating over-polishing
- Provides a visual and numerical standard for specifying mold/part finishes

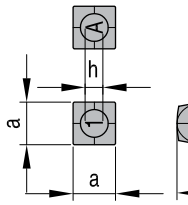
Professionally finished to SPI standards, this kit is an invaluable tool for both selection of finishes required and comparison to work in progress. The visual and numerical standards are also helpful in communications between end user, molder and moldmaker.
Each finish has been generated on a 25 mm diameter x 9 mm thick piece oh H13 steel. Edges are chamfered and the outside diameter is knurled for safe, easy pick-up and handling.
Finish numbers are stamped on the back of each sample for quick reference. A molded plaque in the kit's lid shows the part finish that result from each mouldfinish.

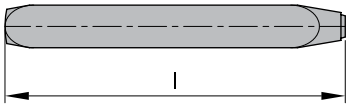
Finish Type	Description	Roughness average Micro-inches	Roughness average Micron	Comments
A1	Grade 3 diamond buff	0-1	0-0,025	• For mirror or optical finishes • Most time consuming • Steel grade important to results • (Steel DME 6 and 7 recommended)
A2	Grade 6 diamond buff	1-2	0,025-0,05	
A3	Grade 15 diamond buff	2-3	0,05-0,076	
B1	600 grit paper	2-3	0,05-0,076	• Removes all tool and machining marks • Provides good mould release • Light reflecting finish on moulded part, some sheen
B2	400 grit paper	4-5	0,10-0,127	
B3	320 grit paper	9-10	0,23-0,25	
C1	600 stone	10-12	0,25-0,30	• Removes all tool and machining marks • Provides good mouldrelease • Mute finish on molded part, no sheen
C2	400 stone	25-28	0,64-0,71	
C3	320 stone	38-42	0,97-1,07	
D1	Dry blast glass bead 11 200 distance at 0,7Mpa; 5 secs	10-12	0,25-0,30	• For decorative finishes • Often used for diecast and thermoset tooling • Helps hide shrink marks and other imperfections • Dull, non-reflecting finish on molded or cast part
D2	Dry blast 240 oxyde 125 mm distance at 0,7 Mpa; 5 secs	26-32	0,66-0,81	
D3	Dry blast 24 oxyde 150 mm distance at 0,7 Mpa; 5 secs	190-230	4,83-5,84	

REF
MFK1200

CAD reference point

HAND STAMP SET — SL 1450



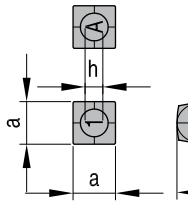


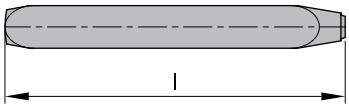
Plastic box with a set ot 9 digits (legible after marking).

Mat.: C 105 W1 - 60 ±2 HRC

REF	h	a	i
SL145009005	0,5	8	75
SL145000901	1,0	8	75
SL145000915	1,5	8	75
SL145000902	2,0	10	80
SL145000902	2,5	10	80
SL145000902	3,0	10	80
SL145000935	3,5	10	80
SL145000904	4,0	12	85
SL145000905	5,0	12	85
SL145000906	6,0	12	85
SL145000907	7,0	14	90
SL145000908	8,0	14	90
SL145000909	9,0	15	100
SL145000910	10,0	15	100

HAND STAMP SET — SL 1460



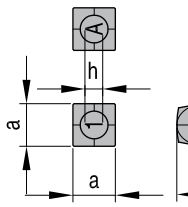


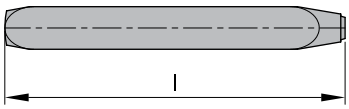
Plastic box with a set ot 9 digits (mirror inverted after marking).

Mat.: C 105 W1 - 60 ±2 HRC

REF	h	a	i
SL146009005	0,5	8	75
SL146000901	1,0	8	75
SL146000915	1,5	8	75
SL146000902	2,0	10	80
SL146000925	2,5	10	80
SL146000903	3,0	10	80
SL146000935	3,5	10	80
SL146000904	4,0	12	85
SL146000905	5,0	12	85
SL146000906	6,0	12	85
SL146000907	7,0	14	90
SL146000908	8,0	14	90
SL146000909	9,0	15	100
SL146000910	10,0	15	100

HAND STAMP SET — SL 1455



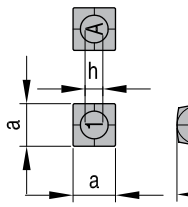


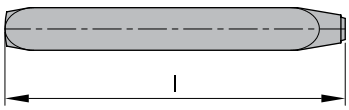
Plastic box with a set of 26 alphabetic characters (legible after marking).

Mat.: C 105 W1 - 60 ±2 HRC

REF	h	a	i
SL1455AZ005	0,5	8	75
SL1455AZ01	1,0	8	75
SL1455AZ015	1,5	8	75
SL1455AZ02	2,0	10	80
SL1455AZ025	2,5	10	80
SL1455AZ03	3,0	10	80
SL1455AZ035	3,5	10	80
SL1455AZ04	4,0	12	85
SL1455AZ05	5,0	12	85
SL1455AZ06	6,0	12	85
SL1455AZ07	7,0	14	90
SL1455AZ08	8,0	14	90
SL1455AZ09	9,0	15	100
SL1455AZ10	10,0	15	100

HAND STAMP SET — SL 1465





Plastic box with a set of 26 alphabetic characters (mirror inverted after marking).

Mat.: C 105 W1 - 60 ±2 HRC

REF	h	a	i
SL1465AZ005	0,5	8	75
SL1465AZ01	1,0	8	75
SL1465AZ015	1,5	8	75
SL1465AZ02	2,0	10	80
SL1465AZ025	2,5	10	80
SL1465AZ03	3,0	10	80
SL1465AZ035	3,5	10	80
SL1465AZ04	4,0	12	85
SL1465AZ05	5,0	12	85
SL1465AZ06	6,0	12	85
SL1465AZ07	7,0	14	90
SL1465AZ08	8,0	14	90
SL1465AZ09	9,0	15	100
SL1465AZ10	10,0	15	100

CAD reference point

PNEUMATIC PLIERS FOR CUTTING OFF SPRUES — PZ 7-3

Suitable for pliers Inserts allowing cuts up to 3,5 mm pliers opening. Appropriate inserts for pliers are Ze 3, ZeV, Ze 4.

Compr.-air consumption/cut	~78 cm3
Pliers opening	3,5 mm
Hose	1,5 m
Connection Nipple	R 1/4"
Pmax	6 bar

The pneumatic pillers PZ 7, PZ 8A and PZ 8B can be supplied with special inserts for handling devices.

REF
PZ7-3

PNEUMATIC PLIERS FOR CUTTING OFF SPRUES — PZ 7

Suitable for pliers Inserts allowing cuts up to 10 mm pliers opening. Appropriate inserts for pliers are Ze 3, ZeV, Ze 4. With safety-device!

Compr.-air consumption/cut	~300 cm3
Pliers opening	10 mm
Hose	1,5 m
Connection Nipple	R 1/4"
Pmax	6 bar

The pneumatic pillers PZ 7, PZ 8A and PZ 8B can be supplied with special inserts for handling devices.

REF
PZ7

PNEUMATIC PLIERS FOR CUTTING OFF SPRUES — PZ 8A - PZ 8B

Suitable for pliers Inserts allowing cuts up to A: 10 mm / B: 14 mm pliers opening. Appropriate inserts for pliers are Ze 3a, ZeVa, Ze 4a. With safety-device!

Compr.-air consumption/cut	~425 cm3
Hose	1,5m
Connection Nipple	R 1/4"
Pmax	6 bar

The pneumatic pillers PZ 7, PZ 8A and PZ 8B can be supplied with special inserts for handling devices.

REF
PZ 8A
PZ 8B

CAD reference point

PLIER INSERTS FOR PNEUMATIC PLIERS — ZE 3 - ZE 3A

REF	Plastic Ø	Cu Ø	Al Ø
PZ7-3	3,0	3,0	3,0
PZ7	8,0	4,0	4,0
PZ8A	8,0	5,0	4,0
PZ8B	12,0	4,0	4,0

Cutting performance of plier inserts when used in pneumatic pliers.

REF	for
PZ7-3	PZ7-3 / PZ7
ZE3 A	PZ8A / PZ8B

PLIER INSERTS FOR PNEUMATIC PLIERS — ZE 3V - ZE 3VA

REF	for
ZE 3V	PZ7-3 / PZ7
ZE 3VA	PZ8A / PZ8B

PLIER INSERTS FOR PNEUMATIC PLIERS — ZE 4 - ZE 4A

REF	Plastic Ø	Cu Ø	Al Ø
PZ7-3	3,0	3,0	3,0
PZ7	9,0	3,5	3,5
PZ8A	9,0	5,0	4,5
PZ8B	12,0	3,5	3,0

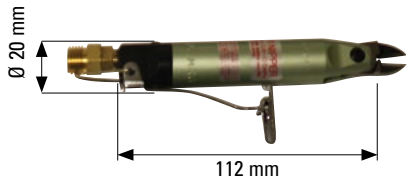
Plier insert induction hardened to 58 HRC. Cutting performance of plier inserts when used in pneumatic pliers.

REF	for
ZE4	PZ7-3 / PZ7
ZE4A	PZ8A / PZ8B

CAD reference point

PNEUMATIC CUTTERS

PNEUMATIC CUTTERS - HAND HELD OR BRACKET MOUNTED **MR3**

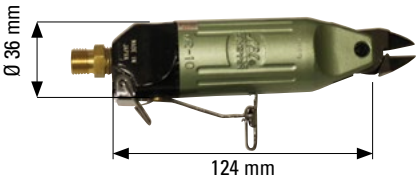


Blade not included

265 N cutting power (blade sold seperately)
Air consumption: 35 cm³/stroke
Air pressure: 0,4~0,5 MPa
Weight: 90 gr
Blade F10 (Standard)
1/4" NPT fitting
Cutting capacity plastic: max 1 mm
Blades - see next page

REF
MR3

PNEUMATIC CUTTERS - HAND HELD OR BRACKET MOUNTED **MR10**



Blade not included

580 N cutting power (blade sold seperately)
Air consumption: 116 cm³/stroke
Air pressure: 0,4~0,5 MPa
Weight: 200 gr
Blade F3 (Standard)
1/4" NPT fitting
Cutting capacity plastic: 2,6 - 4 mm
Blades - see next page

REF
MR10

PNEUMATIC CUTTERS - HAND HELD OR BRACKET MOUNTED **MR30A**

Blade not included

2740 N cutting power (blade sold seperately)
Air consumption: 584 cm³/stroke
Air pressure: 0,5~0,6 MPa
Weight: 520 gr
Blade F9P (Standard)
*Different sizes of blades available for these particular models!
1/4" NPT fitting
Cutting capacity plastic: 6,5 - 13 mm
Blades - see next page

REF
MR30A

CAD reference point

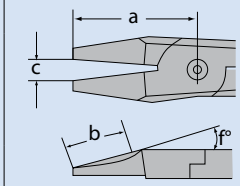
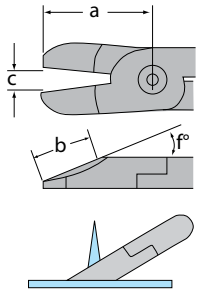
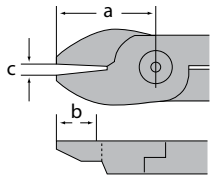
PNEUMATIC CUTTERS - HAND HELD OR BRACKET MOUNTED — MP35A

Blade not included

Heavy duty
4410 N cutting power (blade sold seperately)
Air consumption: 956 cm³/stroke
Air pressure: 0,5~0,6 MPa
Weight: 830 gr
1/4" NPT fitting
Blade F9P* (Standard)
*Different sizes of blades available for these particular models!
Cutting capacity plastic: 6,5 - 13 mm
Blades - see below

REF
MP35A

BLADES — Info

		REF Blade	REF Cutter	a	b	c	f	Cutting Capacity Ø mm	
								Soft plastic	Hard plastic
Plastic Cutting		**F10**	**MR3**	24	12	2,5	15	1,0	-
		F3	**MR10**	27	12	4,5	25	4,0	2,6
		F9P	**MR30A - MP35A**	65	38	15	15	10,0 - 13,0	6,5- 6,5
Level Cutting for plastic		**FD10**	**MR3**	24	10	2,5	40	1,0	-
		FD3	**MR10**	27	10	4,5	40	4,0	2,6
		FD9P	**MR30A - MP35A**	59	27	14	30	10,0 - 13,0	6,5- 6,5
Flat surface for plastic		**F10S**	**MR3**	24	12	2,5	-	1,0	-
		F3S	**MR10**	27	13	4,5	-	4,0	2,6
		F9PS	**MR30A - MP35A**	65	37	15	-	10,0 - 13,0	6,5- 6,5

n = Standard

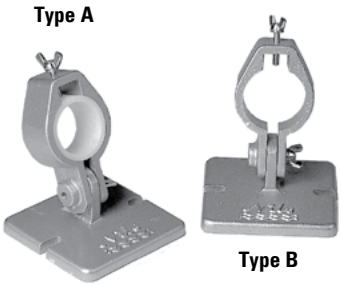
HOW TO ORDER — Info

Ordering example: **MP35A** + **F9P**

REF cutter + REF blade

CAD reference point

MOUNTING BRACKETS — MB...

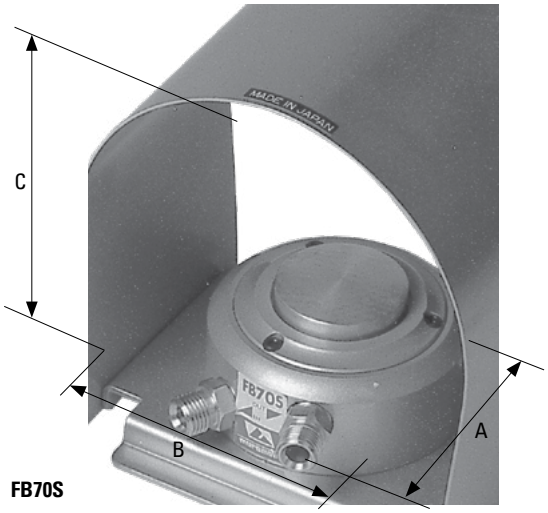


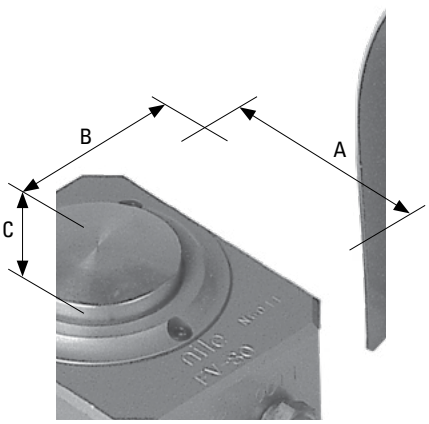
Type A: Mounting Bracket for MR-3 to MR-10 (dia. range = < 46 mm)
Type B: Mounting Bracket for MR30A to MP35A (dia. range = 48 - 56 mm)
All brackets: Base= 140 x 120 mm
Height: 118 mm

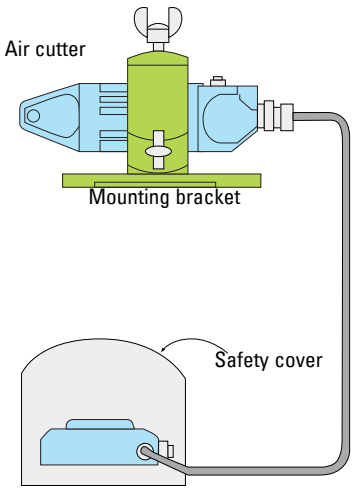
REF
MBA
MBB

FOOT VALVES — FB70S - FV80

For use with all pneumatic cutters with one air inlet NPT fittings.



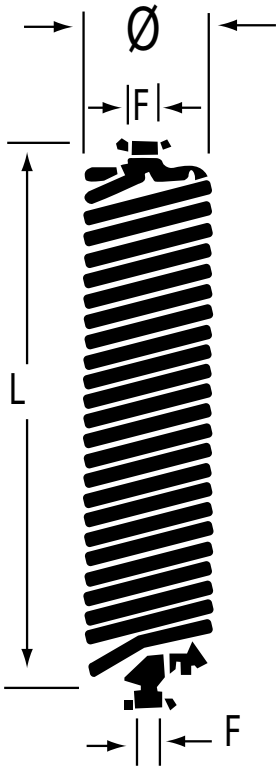




REF	Weight (g)	A (mm)	B (mm)	C (mm)
FB70S	970	110	122	145
FV80	600	83	69	48

CAD reference point

HELICOL-COMBI® TOOL BALANCING SYSTEM — HEC...



Applications:
Balancing and supplying portable pneumatic tools.
On pre-assembly and assembly workstations.
On spot-welding and riveting stations.
On packaging lines: staplers, hoop binders, nailing heads.
2 functions of balancing and supplying the compressed air in one single integrated vertically suspended apparatus.
Fitted with a robust safety chain which prevents the spring from being strained, and a safe platform for suspension of larger air driven tools.

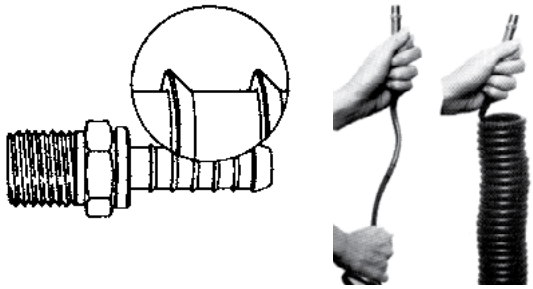
Installation:
Determine the attachment point for your balancing unit after having mounted the air driven tool on the free end. You will then obtain the effective height.
Attach the balancing unit to a bracket. Helicol-Combi® can be attached in a number of ways: by direct thread, with quick-release connectors, flexible hose, or chain type suspension.

Construction:
Hose in special light protected blue color Polyamid 12.
Model HEC 50 is fitted with the SL type safety chain.

	For tools up to	For tools from
	4.5 lbs.	4.5 to 11 lbs.
Tube ø	1/4"	3/8"
L	10" (254 mm)	15" (381 mm)
max. extension	40" (1016 mm)	70" (1778 mm)
Thread F	1/4"	3/8"
Coil ø	3-1/8"	4"

REF	REF
HEC2002	HEC5002

POLYURETHANE RECOIL — PU04-...



Extremely flexible - resists kinking
Impervious to abrasion & heat
Made with pigtails on coil -no need for whip hoses
Less operator fatigue - low tension
Superior elasticity & coil memory
Special full flow fittings

The barb fittings used with our polyurethane hose are designed with this unique serrated gripping surface to hold the hose in place, especially under pressure.

REF	Hose Size	Male Swivel	Hose Length
PU04-10S	1/4"	1/4"	10' (3,0 m)
PU04-15S	1/4"	1/4"	15' (4,6 m)
PU04-20S	1/4"	1/4"	20' (6,1 m)
PU04-25S	1/4"	1/4"	25' (7,6 m)

CAD reference point

NIPPER PLIERS

NIPPER PLIERS FOR CUTTING OFF SPRUES - STRAIGHT CUTTING EDGE **SN1150**

Mat.: Induction hardened cutting edges

REF Lay-on joint	L
SN1150A135	135
SN1150A150	150
SN1150A165	165

NIPPER PLIERS FOR CUTTING OFF SPRUES - CONVEX CUTTING EDGE **SN1151**

Mat.: Induction hardened cutting edges

REF Lay-on joint	L
SN1151A135	135
SN1151A150	150
SN1151A165	165

NIPPER PLIERS FOR CUTTING OFF SPRUES - CUTTING EDGE; A: 35° - 40° - D: 40° - 45° **SN1153**

Mat.: Induction hardened cutting edges

REF Lay-on joint	L
SN1153A135	135
SN1153A150	150
SN1153A165	165

NIPPER PLIERS FOR CUTTING OFF SPRUES - CUTTING EDGE 90° **SN1154**

Mat.: Induction hardened cutting edges

REF Lay-on joint	L
SN1154A150	150

CAD reference point

TRIMMING KNIVES FOR PLASTIC PARTS / SPARE BLADES SET — EM 1150 / EM 1150E

REF - Knife	L
EM1150	155

REF - Spare blade set	Pcs.
EM1150E	100

TRIMMING KNIVES FOR PLASTIC PARTS — 25012M

REF - Knife	L
25012M	140

REF - Spare blade set	Pcs.
EM1150E	100

DEBURRING TOOL — WF 620

REF
WF 620

Safe deburring of hard plastics, non ferrous metals and mouldsteels.
Ceramic blade

DEBURRING TOOL — WF 1540

REF
WF 1540

Safe deburring of hard plastics, non ferrous metals and mouldsteels.
Ceramic blade

CAD reference point

WAX GUN

WAX GUN — FA 891

Specification	FA 891
3,0	3,0
Volt	220 V
8,0	5,0
Power	240 W
Volume Wax	600 cm2
Operating pressure for air connection	6 - 8 bar
Ø Sprue Nozzle	3 mm
Empty weight	3,5 kg

REF
FA891

WAX PACKAGE — FA89WX

REF	Weight
FA89WX	~ 5 kg

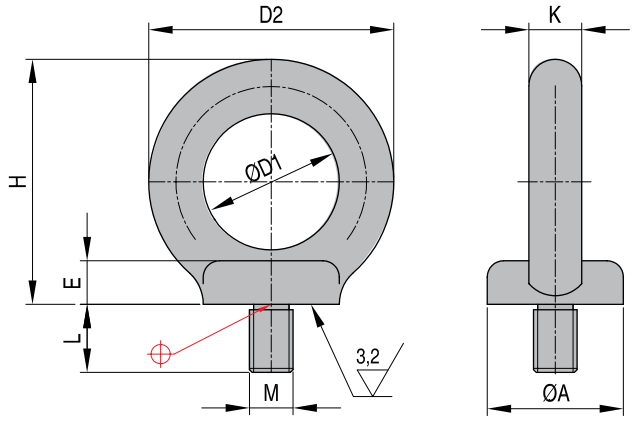
STAND FOR WAX GUN — FA 89-S

REF
FA89ST

CAD reference point

EYEBOLTS **RM**

1.7131 60 HRC



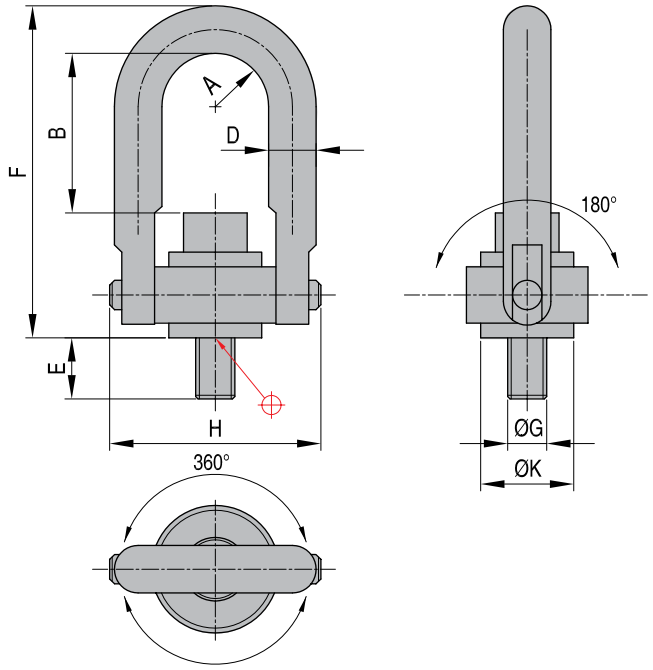
REF	A	D1	D2	L	H	(N)	K	M
RM08	20	20	36	13,0	36	1400	8	M8 x 1,25
RM10	25	25	45	17,0	45	2300	10	M10 x 1,50
RM12	30	30	54	20,5	53	3400	12	M12 x 1,75
RM14	35	35	63	27,0	62	4900	14	M14 x 2,00
RM16	35	35	63	27,0	62	7000	14	M16 x 2,00
RM18	40	40	72	30,0	71	9000	16	M18 x 2,50

REF	A	D1	D2	L	H	(N)	K	M
RM20	40	40	72	30,0	71	12000	16	M20 x 2,50
RM22	45	45	92	34,0	90	15000	18	M22 x 2,50
RM24	50	50	90	36,0	90	18000	20	M24 x 3,00
RM27	50	50	90	36,0	90	18000	20	M27 x 3,00
RM30	65	60	108	45,0	109	36000	24	M30 x 3,50
RM36	75	70	126	54,0	128	51000	28	M36 x 4,00

CAD reference point

HOIST RINGS - CE

SHM - SHMR



Pivots and swivels to compensate for pitch, roll and sway when lifting heavy or unbalanced loads.
High strength alloy steel with minimum tensile strenght of 1,250 MPa (125 kg/mm²).
Certified heat treatment with 100% Magnaflux inspection.
Corrosion resistant plating.
Maximum operating temperature 200°C
Safety factor is 5 times the rated load in any direction.

standard tolerance: ±0,8 mm
E = the use of spacers between bushing flange and mounting surface is not recommended as this will reduce the safety load rating.
TL = recommended torque load +25% - 0.
P = rated
W = weight

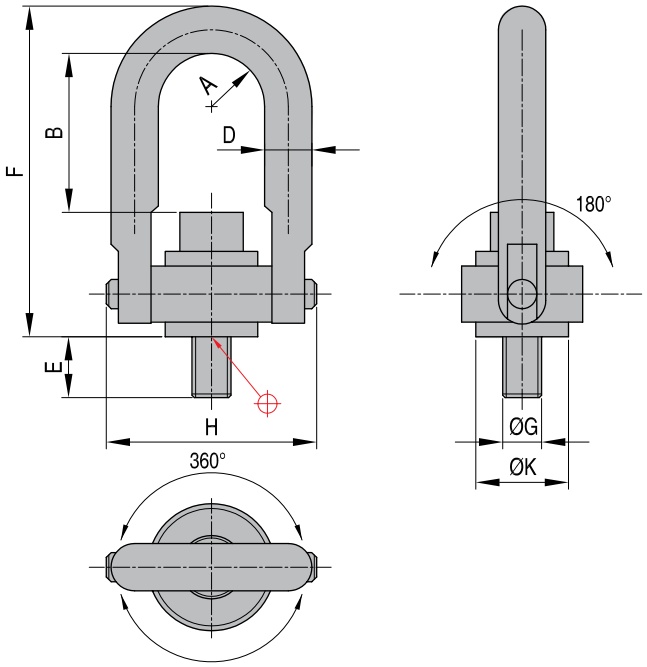
REF	G	A	B	D	E	F	H	K	TL (Kgm)	P (Kg)	W (Kg)	Spare parts
SHM0001	M8x1,25	10,9	32,0	9,7	12,5	67,8	46,7	19,0	1,0	400	0,17	**SHMR0001**
SHM0002	M10x1,50	10,9	30,0	9,7	17,5	67,8	46,7	19,0	1,7	450	0,17	**SHMR0002**
SHM0003	M12x1,75	22,4	60,5	19,0	19,0	121,4	89,4	38,1	3,8	1050	1,08	**SHMR0003**
SHM0004	M16x2,00	22,4	56,5	29,0	29,0	121,4	89,4	38,1	8,2	1900	1,12	**SHMR0004**
SHM0005	M20x2,50	22,4	52,5	34,0	34,0	121,4	89,4	38,1	13,6	2150	1,19	**SHMR0005**
SHM0006	M24x3,00	35,6	69,0	37,0	37,0	165,6	130,6	58,7	31,0	4200	3,10	**SHMR0006**
SHM0007	M30x3,50	44,5	107,4	41,9	41,9	221,7	165,1	81,0	60,0	7000	6,30	**SHMR0007**
SHM0009	M36x4,00	57,2	166,5	63,5	63,5	316,7	217,2	106,4	100,0	11000	15,50	**SHMR0009**
SHM0010	M42x4,50	57,2	160,5	68,0	68,0	316,7	217,2	106,4	100,0	12500	16,00	**SHMR0010**
SHM0011	M48x5,00	57,2	154,5	82,4	82,4	316,7	217,2	106,4	100,0	13500	16,80	**SHMR0011**
SHM0012	M64x6,00	76,2	210,0	101,6	101,6	419,1	297,6	146,0	290,0	22500	40,00	**SHMR0012**

Spare parts SHMR includes screw and retaining ring.

CAD reference point

HOIST RINGS - CE

SHR - SHRR



Pivots and swivels to compensate for pitch, roll and sway when lifting heavy or unbalanced loads.
High strength alloy steel with minimum tensile strenght of 1,250 MPa (125 kg/mm²).
Certified heat treatment with 100% Magnaflux inspection.
Corrosion resistant plating
Maximum operating temperature 200°C
Safety factor is 5 times the rated load in any direction.

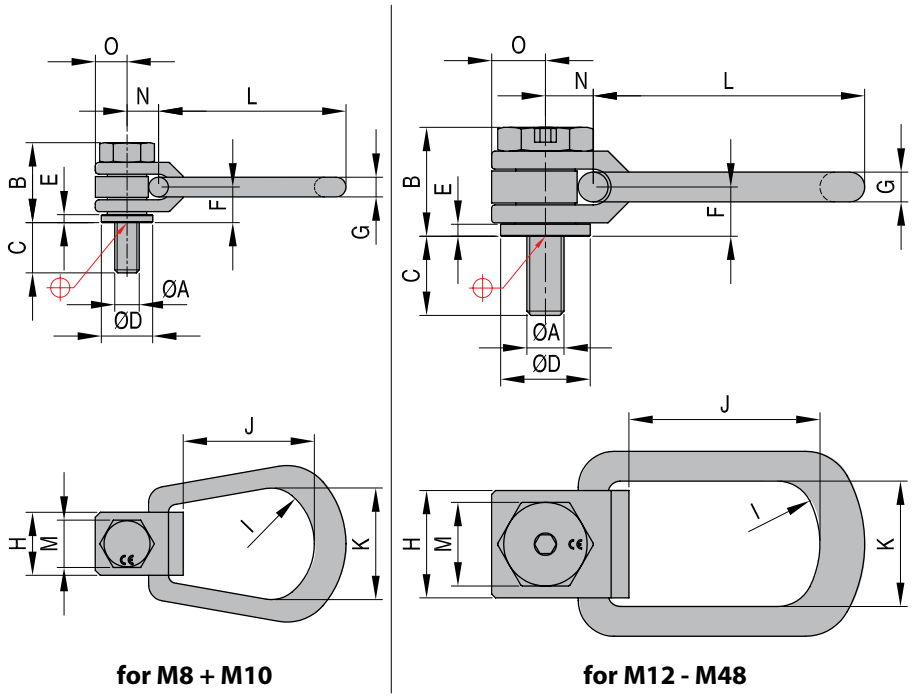
standard tolerance: ±0,8 mm
E = the use of spacers between bushing flange and mounting surface is not recommended as this will reduce the safety load rating.
TL = recommended torque load +25% - 0
P = rated
W = weight

REF	A	B	D	E	F	G	H	K	TL (Kgm)	P (Kg)	W (Kg)
SHR0001	0,43	1 1/4"	0,38	9/16	2,67	5/16"-18	1,84	0,75	1	360	0,15
SHR0002	0,43	1 1/4"	0,38	9/16	2,67	3/8"-16	1,84	0,75	1,6	450	0,15
SHR0003	0,88	2 3/8"	0,75	3/4	4,78	1/2"-13	3,52	1,5	3,8	1130	1,05
SHR0004	0,88	2 1/4"	0,75	1	4,78	5/8"-11	3,52	1,5	8,3	1810	1,10
SHR0005	0,88	2 1/8"	0,75	1	4,78	3/4"-10	3,52	1,5	13,8	2260	1,16
SHR0006	1,44	2 11/16"	1	1 1/2"	6,52	1-8	5,14	2,31	31,7	4525	3,17
SHR0007	1,75	4 1/4"	1,25	1 7/8"	8,73	1 1/4"-7	6,5	3,19	64,8	6785	6,34

Repair kit - screw & retainer ring	
REF	**G**
SHRR0001	5/16-18
SHRR0002	3/8-16
SHRR0003	1/2-13
SHRR0004	5/8-11
SHRR0005	3/4-10
SHRR0006	1-8
SHRR0007	1 1/4-7

CAD reference point

SIDE PULL HOIST RINGS - CE — SHSP



for M8 + M10

for M12 - M48

For lifting molds, tools and dies. Full swivel and pivot action flip and turn parts without unhooking. 200% proof tested. Safety factor is 5 times the rated load capacity. High quality alloy steel, finish black oxide.

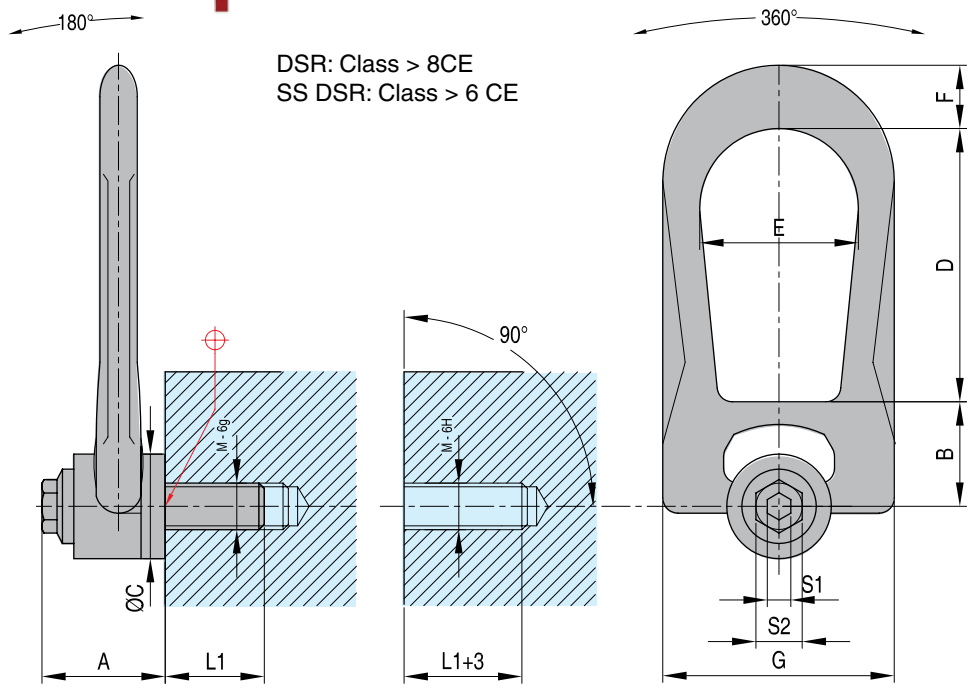
TL = recommended torque load +25% - 0

REF	P (Kg)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	TL
SHSP-0001	325	M8x1,25	33	16	21	3	14	8	25	25	25	44	76	19	13	13	5
SHSP-0002	500	M10x1,5	33	20	21	3	14	8	25	25	25	44	76	19	13	13	10
SHSP-0003	725	M12x1,75	48	24	35	4	21	13	44	38	86	51	120	32	19	22	20
SHSP-0004	1400	M16x2	48	32	48	4	21	13	44	38	86	51	120	32	19	22	40
SHSP-0005	2290	M20x2,5	59	40	48	6	26	16	57	51	102	67	145	44	25	29	70
SHSP-0006	3050	M24x3	59	48	83	6	26	16	57	51	102	67	145	44	25	29	140
SHSP-0007	4850	M30x3,5	90	60	83	9	42	27	95	76	196	111	265	76	49	48	350
SHSP-0009	7500	M36x4	90	72	83	9	42	27	95	76	196	111	265	76	49	48	550
SHSP-0010	8700	M42x4,5	90	84	83	9	42	27	95	76	196	111	265	76	49	48	800
SHSP-0011	10000	M48x5	90	96	83	9	42	27	95	76	196	111	265	76	49	48	1200

CAD reference point

DOUBLE SWIVEL RING — DSR - UP

Gradup



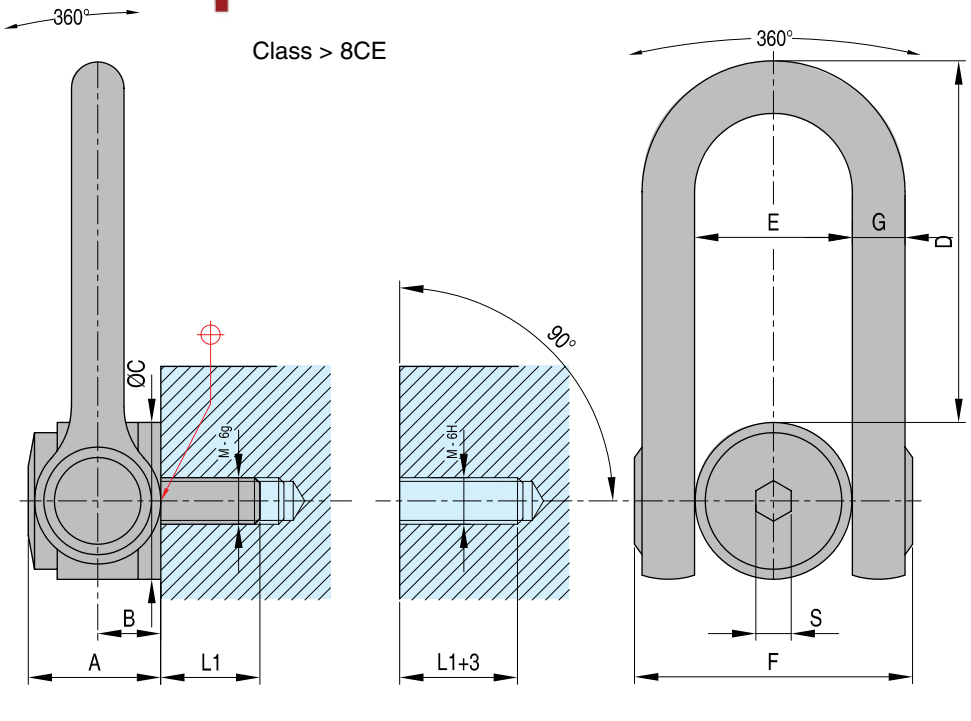
- Swivels under the load
- Designed for loads in rotation with Axial Shackle
- Two ways of tightening; open-ended spanner or allen key
- Axial shackle position
- Standard in Metric and Inch
- Stainless steel, adaptor, centering feature and special thread options available as special order

REF	Thread Ø	SF 5:1 WLL (t)	SF 4:1 WLL (t)	Standard L1 (mm)	Torque N.m	S1 (mm)	S2 (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	Weight (KG)
DSRM5UP	M5 (x0.8)	0.07	0.10	15	3	8	16	32	30	30	38	27	14	53	9,5	0.3
DSRM6UP	M6 (x1)	0.15	0.20	15	4	8	16	33	30	30	38	27	14	53	9,5	0.3
DSRM8UP	M8 (x1.25)	0.40	0.50	15	6	8	16	33	30	30	38	27	14	53	9,5	0.3
DSRM10UP	M10 (x1.50)	0.70	0.90	18	10	8	16	33	30	30	38	27	14	53	9,5	0.3
DSRM12UP	M12 (x1.75)	1.05	1.30	21	15	8	16	33	30	30	38	27	14	53	9,5	0.3
DSRM14UP	M14 (x2)	1.40	1.80	23	30	8	20	33	40	45	53	38	17	76	13	0.9
DSRM16UP	M16 (x2.5)	2.00	2.30	27	50	8	20	45	40	45	53	38	17	76	13	0.9
DSRM18UP	M18 (x2.5)	2.30	2.30	27	70	8	20	45	40	45	53	38	17	76	13	0.9
DSRM202T5UP	M20 (x2.5)	2.50	2.50	30	100	8	20	45	40	45	53	38	17	76	13	0.9
DSRM203T2UP	M20 (x2.5)	2.90	3.20	25	100	14	24	62	55	60	83	55	25	115	19	2.6
DSRM22UP	M22 (x2.5)	3.50	4.50	33	120	14	24	62	55	60	83	55	25	115	19	2.6
DSRM24UP	M24 (x3)	4.40	5.50	36	160	14	24	62	55	60	83	55	25	115	19	2.6
DSRM27UP	M27 (x3)	5.70	6.00	40	200	14	24	62	55	60	83	55	25	115	19	2.6
DSRM306T3UP	M30 (x3.5)	6.00	6.30	45	250	14	24	62	55	60	83	55	25	115	19	2.6
DSRM308TUP	M30 (x3.5)	6.70	8.00	45	250	14	24	80	77	78	83	71	26	141	28	5.4
DSRM36UP	M36 (x4)	8.00	8.50	54	320	14	24	80	77	78	83	71	26	141	28	5.4
DSRM42UP	M42 (x4.5)	8.50	9.00	63	400	14	24	80	77	78	83	71	26	141	28	5.4

CAD reference point

DOUBLE SWIVEL SHACKLE — DSS-UP

Gradup



- Specially Designed for Lifting and Turning Under Heavy Load
- Large shackle for easy secure connection directly to crane hook
- Compact and Ergonomic; requires less clearance
- Tightens with allen wrench
- Double articulation allows perfect alignment with the sling
- Standard in Metric and Inch
- Stainless Steel, adaptor and special thread options available as special order

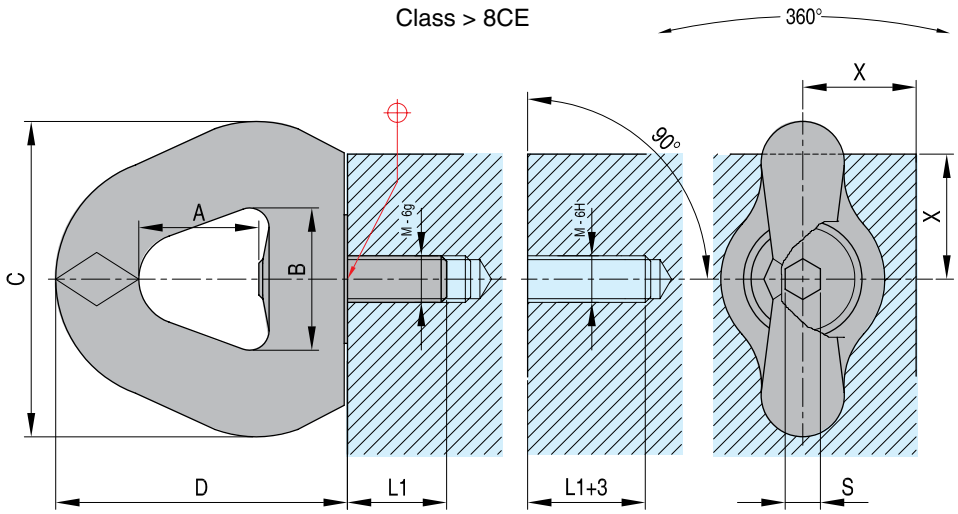
REF	Thread Ø	SF 5:1 WLL (t)	SF 4:1 WLL (t)	Standard L1 (mm)	Torque N.m	S (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Weight (KG)
DSSM24UP	M24 (x3)	4.50	5.50	36	160	19	61	31	70	104	73	149	33	5.4
DSSM30UP	M30 (x3.5)	7.70	8.50	45	250	19	61	31	70	104	73	149	33	5.5
DSSM33UP	M33 (x3.5)	8.50	10.50	50	250	19	61	31	70	104	73	149	33	5.5
DSSM36UP	M36 (x4)	11.00	12.00	54	320	19	61	31	70	104	73	149	33	5.5
DSSM36X3UP	M36 (x3)	11.00	12.00	54	320	19	61	31	70	104	73	149	33	5.5
DSSM39UP	M39 (x4)	12.00	14.00	58	320	19	61	31	70	104	73	149	33	5.7
DSSM42UP	M42 (x4.5)	13.00	15.00	63	400	19	61	31	70	104	73	149	33	5.8
DSSM42X3UP	M42 (x3)	13.00	15.00	63	400	19	61	31	70	104	73	149	33	5.8
DSSM45UP	M45 (x4.5)	14.50	16.00	63	400	19	61	31	70	104	73	149	33	5.9
DSSM48UP	M48 (x5)	17.00	20.00	68	600	19	79	38	90	125	91	182	45	11.0
DSSM48X3UP	M48 (x3)	17.00	20.00	68	600	19	79	38	90	125	91	182	45	11.0
DSSM48X4UP	M48 (x4)	17.00	20.00	68	600	19	79	38	90	125	91	182	45	11.0
DSSM52UP	M52 (x5)	19.00	20.00	68	600	19	79	38	90	125	91	182	45	11.2
DSSM56UP	M56 (x5.5)	22.00	25.00	78	600	19	79	38	90	125	91	182	45	11.3
DSSM56X4UP	M56 (x4)	22.00	25.00	78	600	19	79	38	90	125	91	182	45	11.4
DSSM64UP	M64 (x6)	25.00	32.10	90	600	19	79	38	95	125	91	182	45	12.2
DSSM64X4UP	M64 (x4)	25.00	32.10	90	600	19	79	38	95	125	91	182	45	12.2
DSSM72UP	M72 (x6)	22.00	25.00	90	600	19	79	38	95	125	91	182	45	14.0
DSSM72X4UP	M72 (x4)	22.00	25.00	90	600	19	79	38	95	125	91	182	45	14.0
DSSM80UP	M80 (x6)	25.00	32.10	90	600	19	79	38	100	125	91	182	45	15.0
DSSM90UP	M90 (x6)	25.00	32.10	90	600	19	79	38	100	125	91	182	45	15.5
DSSM100UP	M100 (x6)	25.00	32.10	90	600	19	79	38	110	125	91	182	45	16.5

CAD reference point

SWIVEL EYE BOLT — SEB-UP

Gradup

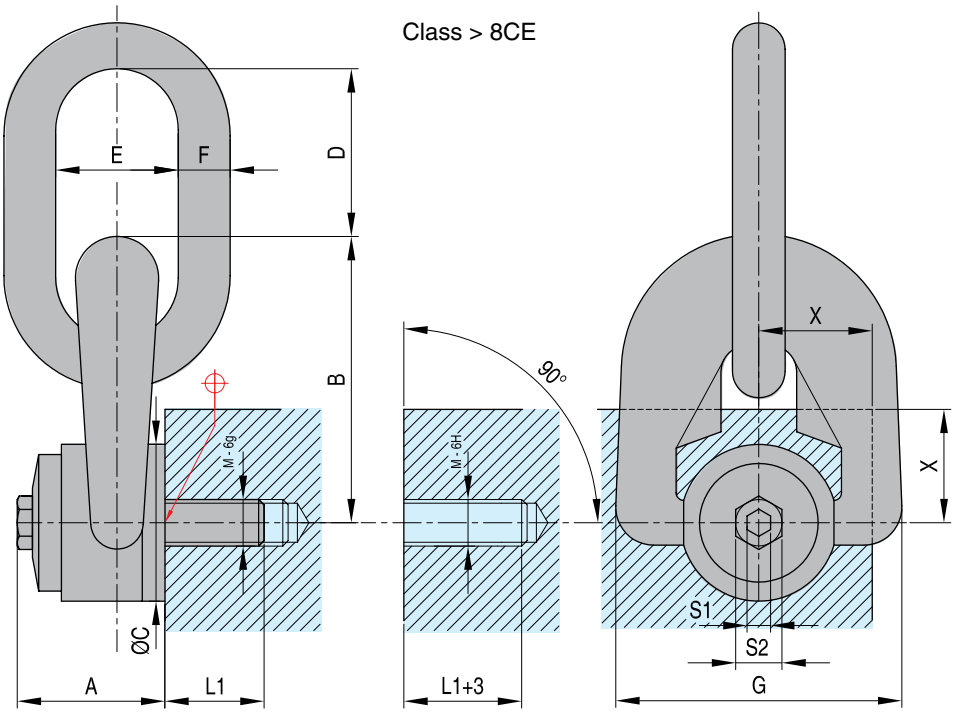
- Swivels under the load
- Equipped with an automatic position recovery system
- Tightens with Allen Wrench
- High WLL in all directions
- Optimizes orientation in the direction of the sling
- Standard in Metric and Inch
- Adaptor, centering feature and special thread options available as special order



REF	Thread	SF 5:1 WLL (t)	SF 4:1 WLL (t)	Standard L1 (mm)	Torque N.m (Nm)	X	S (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)
SEBM8UP	M8 (x1.25)	0.40	0.50	14	6	20	6	30	34	60	57	0.24
SEBM10UP	M10 (x1.5)	0.50	0.70	17	10	20	6	30	34	60	57	0.24
SEBM12UP	M12 (x1.75)	0.80	0.90	21	15	20	6	30	34	60	57	0.24
SEBM16UP	M16 (x2)	1.40	1.80	27	50	35	8	38	45	88	80	0.8
SEBM20UP	M20 (x2.5)	2.00	2.70	30	100	35	8	38	45	88	80	0.8
SEBM243T6UP	M24 (x3)	3.20	3.80	36	160	50	14	38	45	88	80	0.8
SEBM244T2UP	M24 (x3)	3.40	4.20	36	160	50	14	58	70	115	106	2.6
SEBM30UP	M30 (x3.5)	5.50	6.30	45	250	50	14	58	70	115	106	2.7
SEBM36UP	M36 (x4)	9.00	11.00	54	320	70	14	83	94	168	155	7.0
SEBM42UP	M42 (x4.5)	12.00	15.00	63	400	70	14	83	94	168	155	7.0
SEBM48UP	M48 (x5)	15.00	16.00	68	600	70	19	80	94	168	155	7.0

CAD reference point

TRIPLE SWIVEL SHACKLE **TSR**



The hook does not scrape the tool when in traction at 90°
Three free articulations
Very low overhang designed for total safety
Perfectly symmetrical
Two ways of tightening: either by open-ended spanner, or by allen key for total quality
Improved stability with TSR C through centering section
High tensile

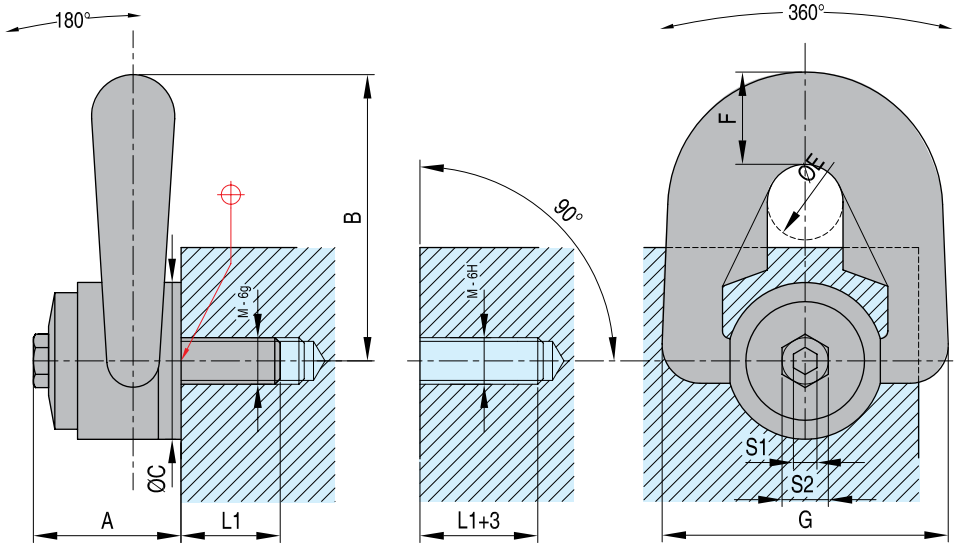
P = max load in Newton
SF = safety factor
KT = chain classification number
TL = recommended tightening torque in NewtonMetre

REF	P	S.F.	KT	M/ø	TL/Nm	L1	X	S1	S2	A	B	C	D	E	F	G
TSRM8	4000	5	4	M 8 (x1,25)	6	14	18	8	16	33	56	30	41	25	10	58
TSRM10	7000	5	5	M 10 (x1,50)	10	17	18	8	16	33	56	30	41	25	10	58
TSRM12	10500	5	6	M 12 (x1,75)	15	21	18	8	16	33	56	30	41	25	10	58
TSRM14	14000	5	6	M 14 (x2)	30	23	24	8	20	45	76	45	56	37	14	79
TSRM16	20000	5	7	M 16 (x2)	50	27	24	8	20	45	76	45	56	37	14	79
TSRM18	23000	5	7	M 18 (x2,5)	70	27	28	8	20	45	76	45	56	37	14	79
TSRM20	25000	5	9	M 20 (x2,5)	100	30	28	8	20	45	81	45	56	37	14	79
TSRM22	30000	5	9	M 22 (x2,5)	120	33	45	14	24	62	105	60	80	45	20	106
TSRM24	40000	5	11	M 24 (x3)	160	36	45	14	24	62	105	60	80	45	20	106
TSRM27	50000	5	13	M 27 (x3)	160	36	45	14	24	62	105	60	80	45	20	106
TSRM30	63000	5	14	M 30 (x3,5)	250	45	45	14	24	62	105	60	80	45	20	106
TSRM36	100000	5	18	M 36 (x4)	320	54	54	19	30	81	140	80	111	71	30	148
TSRM42	125000	5	20	M 42 (x4,5)	400	63	58	19	30	84	146	80	111	71	30	148
TSRM48	200000	4	26	M 48 (x5)	600	68	69	19	30	100	178	110	135	90	42	180
TSRM56	220000	4	36	M 56 (x5,5)	600	78	73	19	30	104	184	110	135	90	42	180

CAD reference point

DOUBLE SWIVEL LIFTING BOLT — DSP

Class > 8CE



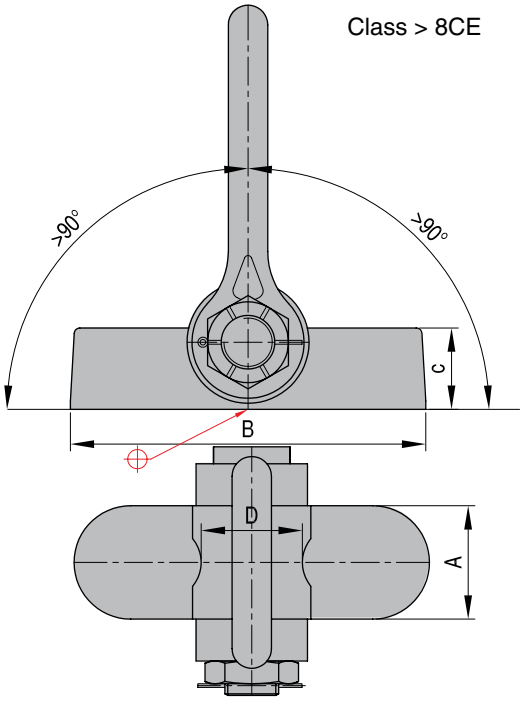
Two free articulations
Very low overhang for improved safety
Automatic realignment of the ring when in traction 90°
Large support surface for a very high Resistance
Two ways of tightening: either by open-ended spanner, or by allen key
Improved stability with DSR C through centering section

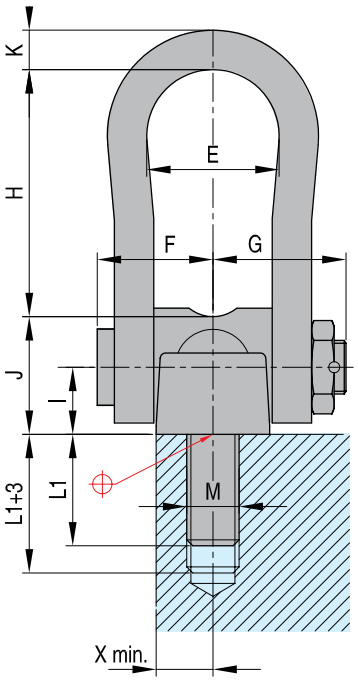
SF = safety factor
KT = chain classification number
TL = recommended tightening torque in NewtonMetre

REF	P	S.F.	KT	M/ø	TL/Nm	L1	S1	S2	A	B	C	E	F	G
DSPM8	4000	5	4	M 8 (x1,25)	6	15	8	16	33	56	30	19	19	58
DSPM10	7000	5	5	M 10 (x1,50)	10	18	8	16	33	56	30	19	19	58
DSPM12	10500	5	5	M 12 (x1,75)	15	21	8	16	33	56	30	19	19	58
DSPM14	14000	5	6	M 14 (x2)	30	23	8	20	45	76	45	25	27	79
DSPM16	20000	5	7	M 16 (x2)	50	27	8	20	45	76	45	25	27	79
DSPM18	23000	5	7	M 18 (x2,5)	70	27	8	20	45	76	45	25	27	79
DSPM20	25000	5	7	M 20 (x2,5)	100	30	8	20	45	81	45	25	27	79

CAD reference point

CENTRAL SAFETY SHACKLE FOR DISPOSE ON PRESS **CSS**





Specially Designed for Lifting and Turning Loads up to metric 55 tons
Large eye on the shackle for easy connections
Compact and Ergonomic base; requires less clearance
Easy to attach and use
Individual engraving
Delivered with a certificate of conformity for each shackle

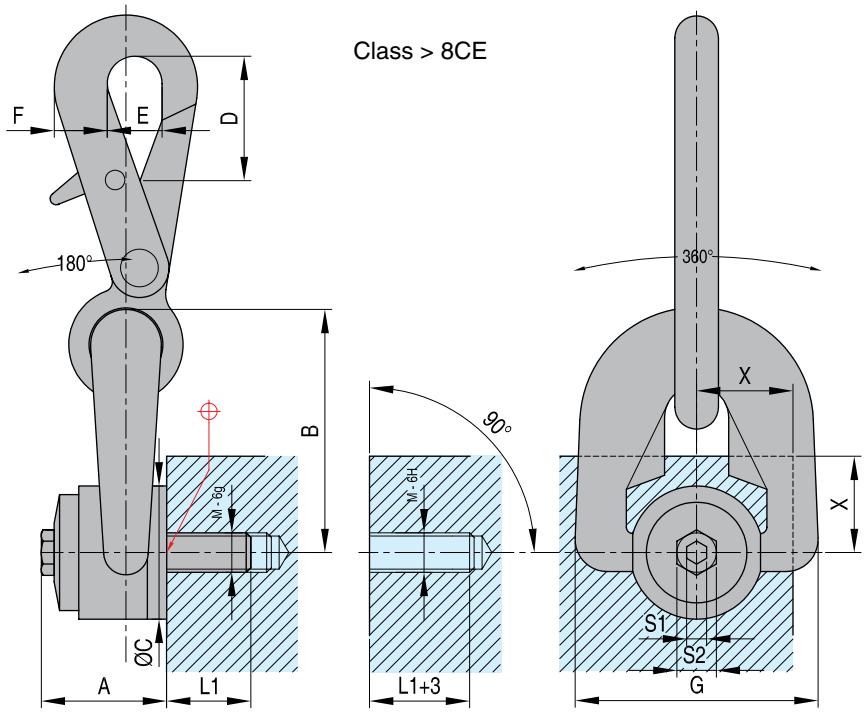
REF	Work load limit (Tons)	X min	A	B	C	D	E	F	G	H	I	J	K
CSS20T	44,000	40	80	220	50	62	90	88	98	132	38	76	41
CSS32T	70,950	40	80	330	50	62	90	88	98	132	38	76	41
CSS55T	121,000	53	105	540	85	175	184	160	170	267	85	175	79.5

Drilling and screw specifications
DIN912-12.9

	Drilling			PTU/UTD	Screw					
								Head		
REF	ØL	M	N	Useful min. thread depth	QTY	Thread	Length	Ø	Height	N.m
CSS20T	38	70	-	54	2	M36	100	54	36	600
CSS32T	38	70	130	54	4	M36	100	54	36	600
CSS55T	50	133	210	85	4	M48	100	72	48	600

CAD reference point

DOUBLE SWIVEL HOOK — DSH

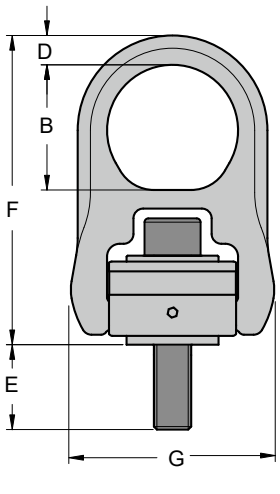


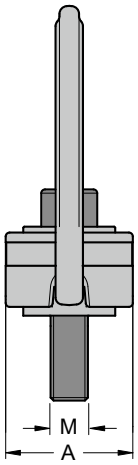
REF	P	S.F.	M/ø	TL/Nm	L1	S1	S2	A	B	C	D	E	F	G
DSHM8	4000	5	M8 (x1,25)	6	14	8	16	33	56	30	44	19	19	58
DSHM10	7000	5	M10 (x1,50)	10	17	8	16	33	56	30	44	19	19	58
DSHM12	10500	5	M12 (x1,75)	15	21	8	16	33	56	30	44	19	19	58
DSHM14	14000	5	M14 (x2)	30	23	8	20	45	76	45	58	25	27	79
DSHM16	20000	5	M16 (x2)	50	27	8	20	45	76	45	58	25	27	79
DSHM18	23000	5	M18 (x2,5)	70	27	8	20	45	76	45	58	25	27	79
DSHM20	25000	5	M20 (x2,5)	100	30	8	20	45	81	45	58	25	27	79

P = max load in N
SF = safety factor
KT = chain classification number
TL = recommended tightening torque in NewtonMetre

CAD reference point

HOIST RING WITH ALLOY STEEL WASHER — 8203 / 8204





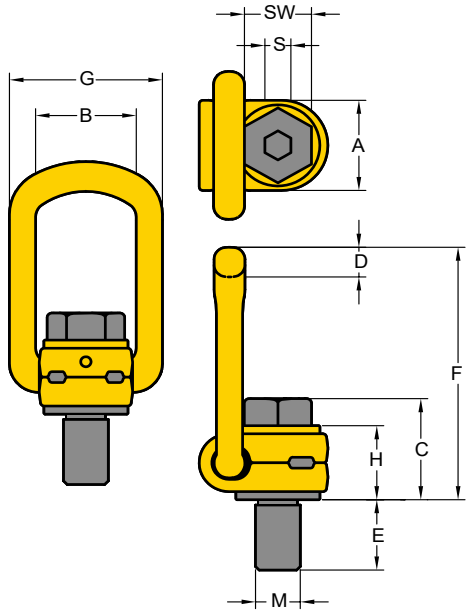
- Rotates through 360° and pivots 90°
- Manufactured from alloy steel, quenched and tempered
- Tested in accordance with EN1677-1
- Certified by DGUV GS-OA 15-04
- Load rated parts are 100% magnaflux cracked detected
- Individual forged parts and cap screw are traceable to Test Certification
- Bolt threads are metric
- Proof tested to 2.5 times the WLL (Working Load Limit)
- Fatigue rated to 20,000 cycles at 1.5 times the WLL
- All YOKE Lifting points meet or exceed all the requirements of ASME B30.26
- Quick and simple assembly, just a tapped hole is required

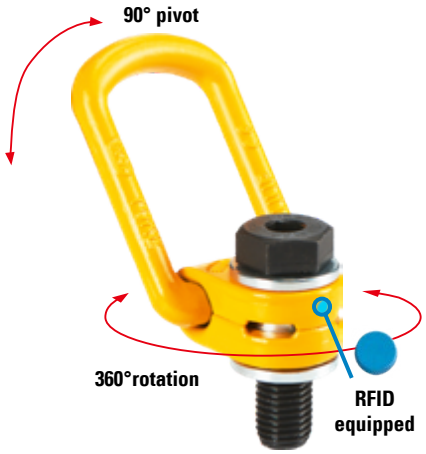
Matric Thread REF	WORKING LOAD LIMIT (tonnes)		M thread	A	B	D	E	F	G	TORQUE IN Nn	N.W kg
	5:1	4:1	mm	MM							
8203004	0.40	0.50	M8x1.25	40	41	9	17	102	65	10	0.4
8203005	0.45	0.55	M10x1.5	40	41	9	11	102	65	16	0.5
8203005L	0.45	0.55	M10x1.5	40	41	9	26	102	65	16	0.5
8203010	1.05	1.30	M12x1.75	65	58	15	15	158	105	38	1.7
8203010L	1.05	1.30	M12x1.75	65	58	15	30	158	105	38	1.7
8203019	1.90	2.40	M16x2	65	58	15	20	158	105	81	1.8
8203019L	1.90	2.40	M16x2	65	58	15	35	158	105	81	1.8
8203021	2.15	2.70	M20x2.5	65	58	15	25	158	105	136	1.8
8203021L	2.15	2.70	M20x2.5	65	58	15	45	158	105	136	1.9
8203030	3.00	3.75	M20x2.5	85	73	22	25	204	134	136	4.0
8203030L	3.00	3.75	M20x2.5	85	73	22	45	204	134	136	5.2
8203042	4.20	5.25	M24x3	85	73	22	26	204	134	312	4.2
8203042L	4.20	5.25	M24x3	85	73	22	56	204	134	312	4.3
8203070	7.00	8.75	M30x3.5	100	80	25	81	218	160	637	6.6
8203110	11.00	13.75	M36x4	120	106	36	76	308	220	1005	15.0
8203125	12.50	15.60	M42x4.5	120	106	36	95	308	220	1005	16.0
8203135	13.50	16.90	M48x5	120	106	36	105	308	220	1350	16.0
8203155	15.50	19.40	M56x5.5	138	109	34	94	308	241	1350	19.1
8203223	22.30	27.90	M64x6	138	95	38	98	312	241	2847	23.0

UNC Thread REF	WORKING LOAD LIMIT (LBS)	M THREAD INCH	A	B	D	E	F	G	TORQUE IN FT.LBS	N.W lbs
			INCH							
8204004	800	5/16-18UNC	1.57	1.61	0.35	0.71	4.02	2.56	7	0.9
8204005	1000	3/8-16UNC	1.57	1.61	0.35	0.71	4.02	2.56	12	0.9
8204010	2500	1/2-13UNC	2.56	2.32	0.59	0.75	6.26	4.13	28	3.7
8204010L	2500	1/2-13UNC	2.56	2.32	0.59	1.226	6.26	4.13	28	3.7
8204019	4000	5/8-11UNC	2.56	2.32	0.59	0.74	6.26	4.13	60	4.0
8204019L	4000	5/8-11UNC	2.56	2.87	0.59	1.75	6.26	4.13	60	4.0
8204021	5000	3/4-10UNC	2.56	2.87	0.59	1.24	6.26	4.13	100	4.0
8204021L	5000	3/4-10UNC	2.56	2.87	0.59	1.73	6.26	5.28	100	4.2
8204030	7000	3/4-10UNC	3.35	2.87	0.59	0.87	8.03	5.28	100	8.8
8204030L	7000	3/4-10UNC	3.35	2.87	0.87	1.87	8.03	5.28	100	9.5
8204042	8000	7/8-9UNC	3.35	2.87	0.87	1.43	8.03	5.28	160	9.3
8204042L	8000	7/8-9UNC	3.35	2.87	0.87	2.37	8.03	5.28	160	9.7
8204045	10000	1-8UNC	3.35	2.87	0.87	1.36	8.03	5.28	230	9.5
8204045L	10000	1-8UNC	3.35	2.87	0.87	2.36	8.03	5.28	230	10.1
8204070	15000	1 1/4-7UNC	3.95	3.15	1.00	2.25	8.58	6.30	470	14.5
8204125	24000	1 1/2-6UNC	4.72	4.29	1.38	2.17	12.09	8.66	800	35.2
8204135	30000	2-4.5UNC	4.72	4.29	1.38	3.01	12.09	8.66	1100	35.2

CAD reference point

LIFTING POINT 8211 / 8212





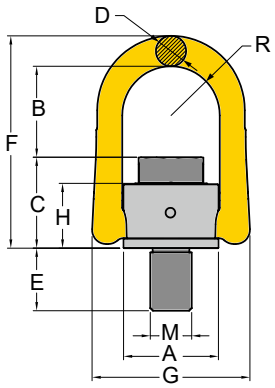
- Rotates through 360° and pivots 90°
- Manufactured from alloy steel, quenched and tempered
- Tested in accordance with EN1677-1
- Certified by DGUV GS-0A 15-04
- Load rated parts are 100% magnaflux cracked detected
- Individual forged parts and cap screw are traceable to Test Certification
- Bolt threads are metric
- Proof tested to 2.5 times the WLL (Working Load Limit)
- Fatigue rated to 20,000 cycles at 1.5 times the WLL
- All YOKE Lifting points meet or exceed all the requirements of ASME B30.26
- Quick and simple assembly, just a tapped hole is required

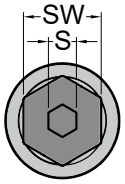
Metric REF	WORKING LOAD LIMIT (tonnes)	M THREAD mm	A	B	C	D	E	F	G	H	S	sw	TORQUE IN Nn	N.W kg
			MM											
8211003	0.3	M8x1.25	30	35	35	10	11	85	55	29	6	13	30	0.2
8211006	0.63	M10x1.5	30	35	36	10	16	85	55	29	6	17	60	0.3
8211010	1	M12x1.75	33	37	44	14	18	98	57	36	8	19	100	0.5
8211012	1.2	M14x2	33	37	45	14	21	98	57	36	10	22	120	0.5
8211015	1.5	M16x2	33	37	46	14	24	98	57	36	10	24	150	0.5
8211020	2	M18x2.5	50	54	57	17	26	140	82	44	12	30	200	1.3
8211025	2.5	M20x2.5	50	54	57	17	30	140	82	44	12	30	250	1.3
8211040	4	M24x3	50	54	59	17	36	140	82	44	14	36	400	1.4
8211042	4	M27x3	60	65	79	23	38	170	99	62	17	41	400	2.8
8211050	5	M30x3.5	60	65	81	23	48	170	99	62	17	46	500	3.1
8211070	7	M36x4	60	65	88	23	54	178	99	65	22	55	700	3.3
8211080	8	M36x4	77	85	101	27	62	225	124	78	22	55	800	5.8
8211100	10	M42x4.5	77	85	104	27	72	225	124	78	24	65	1000	6.3
8211150	15	M42x4.5	95	104	112	36	63	256	158	86	24	65	1500	10.8
8211200	20	M48x5	95	104	120	36	72	259	158	90	27	75	2000	11.6

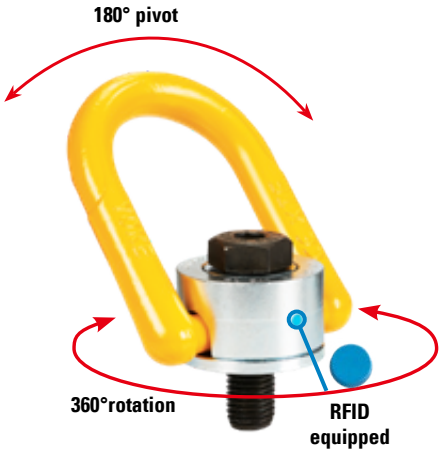
UNC Thread REF	WORKING LOAD LIMIT (tonnes)	M THREAD INCH	A	B	C	D	E	F	G	H	S	sw	TORQUE IN Nn	N.W lbs
			INCH											
8212010	1	1/2-13UNC	1.30	1.46	1.73	0.53	0.75	3.86	2.24	1.42	5/16	3/4	100	1.1
8212015	1.5	5/8-11UNC	1.30	1.46	1.81	0.53	0.94	3.86	2.24	1.42	3/8	1 5/16	150	1.1
8212020	2.5	3/4-10UNC	1.97	2.13	2.20	0.65	1.10	5.51	3.23	1.73	1/2	1 1/8	250	2.9
8212025	2.5	7/8-9UNC	1.97	2.13	2.28	0.65	1.10	5.51	3.23	1.73	5/8	1 5/16	300	2.9
8212040	4	1-8UNC	1.97	2.13	2.34	0.65	1.61	5.51	3.23	1.73	5/8	1 1/2	400	3.1
8212050	5	1 1/4-7UNC	2.36	2.56	3.23	0.89	1.61	6.69	3.90	2.44	7/8	1 7/8	500	6.8
8212080	8	1 1/2-6UNC	3.03	3.35	4.01	1.04	2.25	8.86	4.88	3.07	1	2 1/4	800	12.8
8212150	15	1 3/4-5UNC	3.74	4.09	4.48	1.42	2.63	10.08	6.22	3.39	1	2 5/8	1500	24.0
8212200	20	2-4.5UNC	3.74	4.09	4.76	1.42	3	10.20	6.22	3.54	1 1/4	3	2000	25.5

CAD reference point

ANCHOR POINT 8231 / 8232







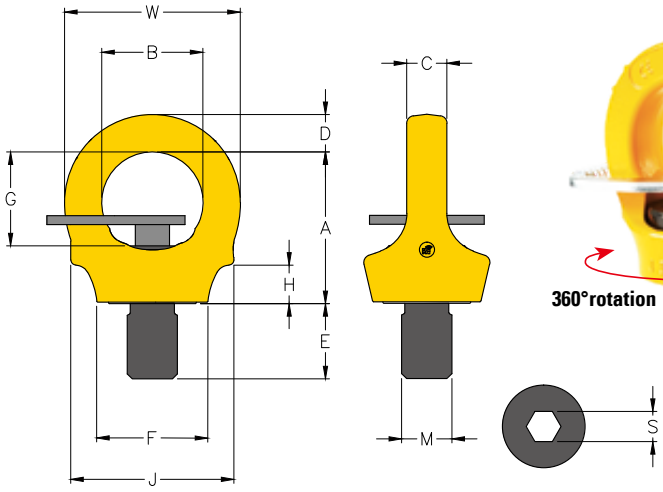
- Rotates through 360° and pivots 90°
- Manufactured from alloy steel, quenched and tempered
- Tested in accordance with EN1677-1
- Certified by DGUV GS-OA 15-04
- Load rated parts are 100% magnaflux cracked detected
- Individual forged parts and cap screw are traceable to Test Certification
- Bolt threads are metric
- Proof tested to 2.5 times the WLL (Working Load Limit)
- Fatigue rated to 20,000 cycles at 1.5 times the WLL
- All YOKE Lifting points meet or exceed all the requirements of ASME B30.26
- Quick and simple assembly, just a tapped hole is required

Metric REF	WORKING LOAD LIMIT (tonnes)	M THREAD	A	B	C	D	E	F	G	H	S	sw	TORQUE IN Nn	N.W kg
		mm	MM											
8231005	0.5	M8x1.25	33	42	28	11	12	80	58	23	6	13	30	0.3
8231007	0.7	M10x1.5	33	41	29	11	15	80	58	23	6	17	60	0.3
8231010	1.0	M12x1.75	33	40	31	11	20	80	58	23	8	19	100	0.3
8231015	1.5	M14x2	50	56	45	17	21	117	90	36	10	22	120	0.9
8231020	2.0	M16x2	50	54	46	17	24	117	90	36	10	24	150	0.9
8231025	2.5	M18x2.5	65	78	57	20	26	153	108	44	12	30	200	1.9
8231030	3.0	M20x2.5	50	52	49	17	30	117	90	36	12	30	250	1.0
8231050	5.0	M24x3	72	81	59	25	36	163	125	44	14	36	400	2.6
8231056	5.6	M27x3	87	86	79	30	38	204	148	62	17	41	400	4.9
8231078	7.8	M30x3.5	87	94	81	30	48	204	148	62	17	46	500	5.0
8231125	12.5	M36x4	110	112	98	36	54	247	188	75	22	55	1000	9.6
8231156	15.6	M42x4.5	110	101	108	36	63	247	188	83	24	65	1500	10.9
8231200	20.0	M48x5	110	97	113	36	72	248	188	83	27	75	2000	11.6
8231220	22.0	M56x5.5	123	116	121	36	84	274	202	91	27	85	2100	15.0
8231225	22.5	M64x6	123	111	126	36	100	274	202	91	32	95	2200	16.3

UNC Thread REF	WORKING LOAD LIMIT (tonnes)	M THREAD	A	B	C	D	E	F	G	H	R	S	SW	TORQUE IN Nn	N.W lbs
		INCH	INCH												
8232010	0.8	1/2-13UNC	1.30	1.57	1.20	0.41	0.81	3.17	2.28	0.90	0.67	5/16	3/4	100	1.8
8232020	1.6	5/8-11UNC	1.97	2.13	1.81	0.65	1.13	4.61	3.54	1.42	1.06	3/8	15/16	150	2.0
8232030	2.4	3/4-10UNC	1.97	2.07	1.89	0.65	1.54	4.61	3.54	1.42	1.06	1/2	1 1/8	250	2.2
8232038	3.0	7/8-9UNC	2.56	2.99	2.28	0.79	1.42	6.02	4.25	1.73	1.34	5/8	15/16	300	4.3
8232050	4.5	1-8UNC	2.81	3.17	2.34	0.98	1.61	6.38	4.92	1.73	1.46	5/8	1 1/2	400	5.7
8232078	6.25	1 1/4-7UNC	3.43	3.66	2.23	1.18	2.09	8.07	5.83	2.44	1.79	7/8	1 7/8	500	11.0
8232125	10.0	1 1/2-6UNC	4.29	4.38	3.87	1.42	2.40	9.92	7.40	3.07	2.22	1	2 1/4	800	21.2
8232200	16	2-4.5UNC	4.61	3.80	4.46	1.42	3	9.93	7.71	3.35	2.38	1 1/4	3	2000	25.6

CAD reference point

KEY EYE POINT 8291K / 8292K



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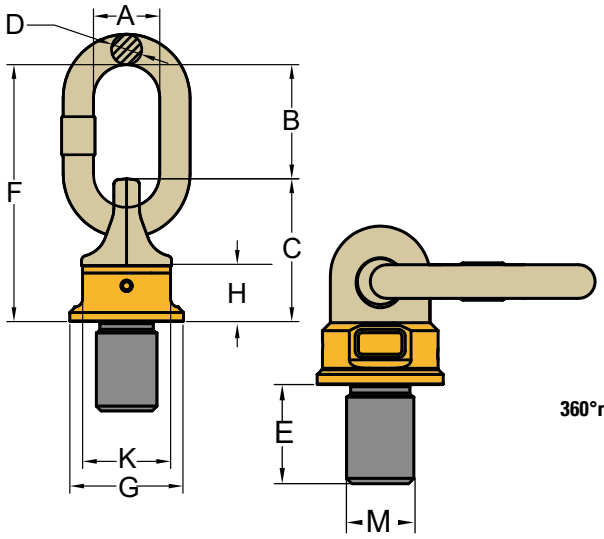
- Quick and simple assembly, just a tapped hole is required

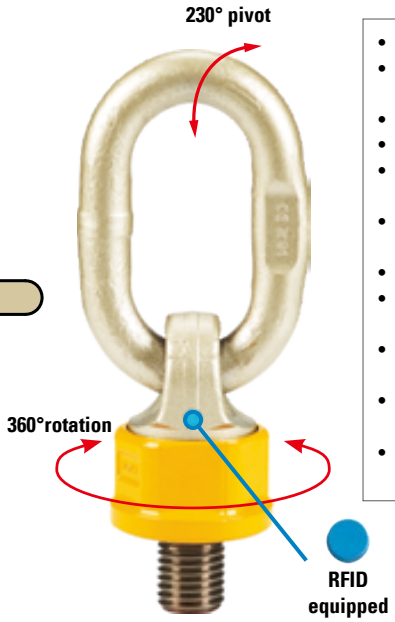
Metric REF	WORKING LOAD LIMIT (tonnes)	M THREAD	A	B	C	D	E	F	G	H	J	S	W	TORQUE IN Nn	N.W kg
		mm	MM												
8291K003	0.3	M8x1.25	38	25	9	9	12	25	24	6	41	6	44	10	0.1
8291K004	0.4	M10x1.5	38	25	9	9	15	25	24	6	41	6	44	10	0.1
8291K007	0.75	M12x1.75	45	30	10	11	18	33	30	9	47	8	52	10	0.2
8291K015	1.5	M16x2	52	35	14	13	24	25	34	11	56	10	61	30	0.4
8291K023	2.3	M20x2.5	60	40	16	15	30	44	37	15	65	12	70	70	0.6
8291K032	3.2	M24x3	72	49	19	18	36	53	47	19	78	14	84	150	1.1
8291K045	4.5	M30x3.5	91	61	24	22	45	62	59	23	95	17	105	350	2.1
8291K070	7.0	M36x4	110	73	29	27	54	76	72	31	114	22	126	410	3.7
8291K090	9.0	M42x4.5	128	83	34	32	63	89	81	38	132	24	147	550	5.8
8291K120	12.0	M48x5	145	95	38	37	72	105	94	44	150	27	168	550	8.6
8291K140	16.0	M56x5.5	148	102	40	43	84	124	92	49	166	27	178	800	11.0
8291K150	18.0	M64x6	148	102	40	43	96	124	92	49	166	27	178	800	11.8

UNC Thread REF	WORKING LOAD LIMIT (tonnes)	M THREAD	A	B	C	D	E	F	G	H	J	S	W	TORQUE IN Nn	N.W lbs
		INCH	INCH												
8292K003	0.3	5/16-18UNC	1.49	1.00	0.33	0.37	0.47	0.99	0.92	0.24	1.60	0.25	1.73	10	0.3
8292K004	0.4	3/8-16UNC	1.49	1.00	0.33	0.37	0.55	0.99	0.92	0.24	1.60	0.25	1.73	10	0.3
8292K007	0.75	1/2-13UNC	1.79	1.19	0.39	0.43	0.75	1.30	1.16	0.37	1.85	0.31	2.05	10	0.5
8292K015	1.5	5/8-11UNC	2.06	1.39	0.55	0.51	0.94	1.38	1.32	0.45	2.20	0.37	2.40	30	0.9
8292K023	2.3	3/4-10UNC	2.38	1.59	0.63	0.58	1.14	1.74	1.47	0.60	2.56	0.5	2.76	70	1.4
8292K025	2.3	7/8-9UNC	2.38	1.59	0.63	0.58	1.30	1.74	1.47	0.60	2.56	0.5	2.76	150	1.5
8292K032	3.2	1-8UNC	2.85	1.91	0.75	0.70	1.52	2.08	1.79	0.75	3.07	0.56	3.31	150	2.5
8292K045	4.5	1 1/4-7UNC	3.57	2.38	0.94	0.88	1.89	2.43	2.23	0.91	3.75	0.63	4.13	350	4.7
8292K070	7	1 1/2-6UNC	4.32	2.85	1.14	1.05	2.24	2.99	2.71	1.20	4.49	0.87	4.96	410	8.7
8292K090	9	1 3/4-5UNC	5.02	3.26	1.34	1.26	2.64	3.51	3.09	1.50	5.20	1.00	5.79	550	12.7
8292K120	12	2-4.5UNC	5.70	3.74	1.50	1.44	3.03	4.12	3.69	1.75	5.91	1.00	6.61	550	19.6

CAD reference point

SUPER POINT 8251 / 8252





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Metric REF	WORKING LOAD LIMIT (tonnes)	M THREAD mm	G	C	K	H	E	F	D	B	A	TORQUE IN Nn	N.W kg
			MM										
825100701	0.5	M10x1.5	36.5	48	34	20.5	18	101	13	53	35	10-40	0.4
825100702	0.7	M12x1.75	36.5	48	34	20.5	18	101	13	53	35	15-40	0.4
825100703	0.7	M12x1.75	36.5	48	34	20.5	25	101	13	53	35	15-40	0.4
825100704	1	M14x2	36.5	48	34	20.5	20	101	13	53	35	30-40	0.4
825101401	1.4	M16x2	36.5	48	34	20.5	20	101	13	53	35	45-130	0.44
825101402	1.4	M16x2	36.5	48	34	20.5	24	101	13	53	35	45-130	0.5
825101403	1.4	M16x2	36.5	48	34	20.5	30	101	13	53	35	75-130	0.5
825101404	1.7	M20x2.5	36.5	48	34	20.5	30	101	13	53	35	90-130	0.5
825101405	1.7	M24x3	36.5	48	34	20.5	30	101	13	53	35	100-170	0.5
825102501	2.5	M20x2.5	52	68	46	28	30	127	16	59	35	100-170	1
825102502	2.5	M20x2.5	52	68	46	28	40	127	16	59	35	100-170	1
825102503	2.5	M20x2.5	52	68	46	28	50	127	16	59	35	100-170	1.1
825102504	2.5	M20x2.5	52	68	46	28	70	127	16	59	35	190-280	1.1
825104001	4	M24x3	57	75	50	34.5	30	148	19	73	40	190-280	1.5
825104002	4	M24x3	57	75	50	34.5	36	148	19	73	40	190-280	1.5
825104003	4	M24x3	57	75	50	34.5	45	148	19	73	40	190-280	1.5
825104004	4	M24x3	57	75	50	34.5	50	148	19	73	40	190-280	1.5
825104005	4	M30x3.5	57	75	50	34.5	35	148	19	73	40	190-280	1.5
825106701	6.7	M30x3.5	70	95	65	41	35	163	19	68	40	230-400	2.4
825106702	6.7	M30x3.5	70	95	65	41	45	163	19	68	40	230-400	2.4
825106703	6.7	M30x3.5	70	95	65	41	50	163	19	68	40	230-400	2.5
825106704	6.7	M30x3.5	70	95	65	41	60	163	19	68	40	230-400	2.5
825108001	8	M30x3.5	81	106	75	48	35	201	22	95	50	270-600	3.6
825108002	8	M30x3.5	81	106	75	48	45	201	22	95	50	270-600	3.7
825110001	10	M36x4	81	106	75	48	50	201	22	95	50	270-600	3.8
825110002	10	M36x4	81	106	75	48	54	201	22	95	50	270-700	3.9
825112501	12.5	M42x4.5	81	106	75	48	50	201	22	95	50	270-700	3.9
825112502	12.5	M42x4.5	81	106	75	48	60	201	22	95	50	270-700	4
825112503	12.5	M42x4.5	81	106	75	48	63	201	22	95	50	270-700	4
825112504	12.5	M45x4.5	104	106	75	48	60	201	22	95	50	270-700	4.1
825112505	12.5	M48x5	104	106	75	48	72	201	22	95	50	270-700	4.4
825117001	13	M42x4.5	104	127	95	58	60	256	32	129	70	350-800	7.4
825117002	17	M45x4.5	104	127	95	58	60	256	32	129	70	350-800	7.5
825117003	17	M48x5	104	127	95	58	60	256	32	129	70	350-800	7.6
825117004	17	M48x5	104	127	95	58	72	256	32	129	70	350-800	7.7
825117005	18	M56x5.5	104	127	95	58	78	256	32	129	70	350-900	8.1
825117006	18	M56x5.5	104	127	95	58	84	256	32	129	70	350-900	8.1

CAD reference point

SUPER POINT 8251 / 8252

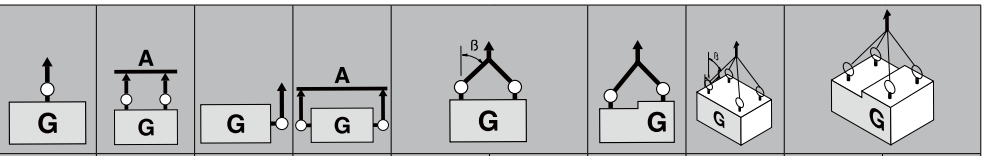
Metric REF	WORKING LOAD LIMIT (tonnes)	M THREAD mm	G	C	K	H	E	F	D	B	A	TORQUE IN Nn	N.W kg
			MM										
825120001	20	M64x6	104	127	95	58	96	256	32	129	70	350-900	8.9
825120002	20	M64x6	104	127	95	58	110	256	32	129	70	350-900	9.3
825128002	28	M72x6	129	174	115	78	120	305	36	131	80	500-1200	17.7
825128003	28	M80x6	129	174	115	78	150	305	36	131	80	500-1200	19.6
825135001	35	M80x6	148	187	135	85	120	366	45	179	100	500-1400	25.3
825135002	35	M90x6	148	187	135	85	150	366	45	179	100	500-1500	27.8
825140001	40	M80x6	170	210	145	83	120	340	45	130	90	500-1500	31.9
825140002	40	M90x6	170	210	145	83	115	340	45	130	90	500-1500	33.6
825140003	40	M90x6	170	210	145	83	150	340	45	130	90	500-1500	34.2
825140004	40	M100x6	170	210	145	83	150	340	45	130	90	500-1700	35.2

UNC Thread REF	WORK-ING LOAD LIMIT (tonnes)	M THREAD INCH	G	C	K	H	E	F	D	B	A	TORQUE IN Nn	N.W lbs
			Inch										
825200701	0.5	3/8-16UNC	1.44	1.89	1.34	0.81	0.56	3.98	.051	2.09	1.38	10-40	1
825200702	0.7	1/2-13UNC	1.44	1.89	1.34	0.81	0.76	3.98	.051	2.09	1.38	15-40	1
825201402	1.4	5/8-11UNC	1.44	1.89	1.34	0.81	0.94	3.98	0.51	2.09	1.38	45-130	1
825202501	2.5	3/4-10UNC	2.05	2.68	1.81	1.1	1.13	5	0.63	2.32	1.38	100-170	2.1
825204002	4	1-8UNC	2.24	2.95	1.97	1.36	1.5	5.83	0.75	2.87	1.57	190-280	3.3
825206702	6.7	1 1/4-7UNC	2.76	3.74	2.56	1.61	1.88	6.42	0.75	2.68	1.57	230-400	5.3
825208002	8	1 1/4-7UNC	3.19	4.17	2.95	1.89	1.88	7.91	0.87	3.74	1.97	270-600	8.1
825210002	10	1 1/2-6UNC	3.19	4.17	2.95	1.89	2.25	7.91	0.87	3.74	1.97	270-600	8.3
825212503	12.5	1 3/4-5UNC	3.19	4.17	2.95	1.89	2.63	7.91	0.87	3.74	1.97	270-700	8.8
825212505	12.5	2-4.5UNC	3.19	4.17	2.95	1.89	3	7.91	0.87	3.74	1.97	270-700	9.7
825217004	17	2-4.5UNC	4.09	5	3.74	2.28	3	10.08	1.26	5.08	2.76	350-800	16.7
825217006	18	2 1/4-4.5UNC	4.09	5	3.74	2.28	3.38	10.08	1.26	5.08	2.76	350-900	17.8
825220001	20	2 1/2-2UNC	4.09	5	3.74	2.28	3.75	10.08	1.26	5.08	2.76	350-900	19.6
825228001	28	2 1/2-4UNC	5.08	6.85	4.53	3.07	3.75	12.01	1.42	5.16	3.15	500-1000	36.1
825235001	35	3 1/2-4UNC	5.83	7.36	5.31	3.35	3.75	14.41	1.77	7.05	3.94	500-1400	55.7

CAD reference point

LIFT SUGGESTIONS

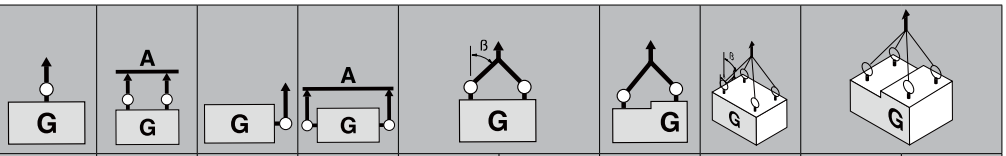
HOIST RING WITH ALLOY STEEL WASHER



	Number of Legs		1	2	1	2	2	2	2	3-4	3-4	3-4
	Load Direction		0°	0°	90°	90°	0-45°	45°-60°	unsymm	0-45°	45°-60°	unsymm
	REF	Thread	WLL (t)									
Metric Thread (8211)	8203004	M8	0.5	1	0.5	1	0.7	0.5	0.5	1.05	0.75	0.5
	8203005	M10	0.55	1.1	0.55	1.1	0.77	0.55	0.55	1.16	0.83	0.55
	8203005L	M10	0.55	1.1	0.55	1.1	0.77	0.55	0.55	1.16	0.83	0.55
	8203010	M12	1.3	2.6	1.3	2.6	1.82	1.3	1.3	2.73	1.95	1.3
	8203010L	M12	1.3	2.6	1.3	2.6	1.82	1.3	1.3	2.73	1.95	1.3
	8203019	M16	2.4	4.8	2.4	4.8	3.36	2.4	2.4	5.04	3.6	2.4
	8203019L	M16	2.4	4.8	2.4	4.8	3.36	2.4	2.4	5.04	3.6	2.4
	8203021	M20	2.7	5.4	2.7	5.4	3.78	2.7	2.7	5.67	4.05	2.7
	8203021L	M20	2.7	5.4	2.7	5.4	3.78	2.7	2.7	5.67	4.05	2.7
	8203030	M20	3.75	7.5	3.75	7.5	5.25	3.75	3.75	7.88	5.63	3.75
	8203030L	M20	3.75	7.5	3.75	7.5	5.25	3.75	3.75	7.88	5.63	3.75
	8203042	M24	5.25	10.5	5.25	10.5	7.35	5.25	5.25	11.03	7.88	5.25
	8203042L	M24	5.25	10.5	5.25	10.5	7.35	5.25	5.25	11.03	7.88	5.25
	8203070	M30	8.75	17.5	8.75	17.5	12.25	8.75	8.75	18.38	13.13	8.75
	8203110	M36	13.75	27.5	13.75	27.5	19.25	13.75	13.75	28.88	20.63	13.75
	8203125	M42	15.6	31.2	15.6	31.2	21.84	15.6	15.6	32.76	23.4	15.6
	8203135	M48	16.9	33.8	16.9	33.8	23.66	16.9	16.9	35.49	25.35	16.9
	8203155	M56	19.4	38.8	19.4	38.8	27.16	19.4	19.4	40.74	29.1	19.4
	8203223	M64	27.9	55.8	27.9	55.8	39.06	27.9	27.9	59.59	41.85	27.9
UNC Thread (8212)	8204004	5/16	0.36	0.72	0.36	0.72	0.5	0.36	0.36	0.76	0.54	0.36
	8204005	3/8	0.45	0.9	0.45	0.9	0.63	0.45	0.45	0.95	0.68	0.45
	8204010	1/2	1.1	2.2	1.1	2.2	1.54	1.1	1.1	2.31	1.65	1.1
	8204010L	1/2	1.1	2.2	1.1	2.2	1.54	1.1	1.1	2.31	1.65	1.1
	8204019	5/8	1.8	3.6	1.8	3.6	2..52	1.8	1.8	3.78	2.7	1.8
	8204019L	5/8	1.8	3.6	1.8	3.6	2.52	1.8	1.8	3.78	2.7	1.8
	8204021	3/4	2.2	4.4	2.2	4.4	3.08	2.2	2.2	4.62	3.3	2.2
	8204021L	3/4	2.2	4.4	2.2	4.4	3.08	2.2	2.2	4.62	3.3	2.2
	8204030	3/4	3.1	6.2	3.1	6.2	4.34	3.1	3.1	6.51	4.65	3.1
	8204030L	3/4	3.1	6.2	3.1	6.2	4.34	3.1	3.1	6.51	4.65	3.1
	8204042	7/8	3.6	7.2	3.6	7.2	5.04	3.6	3.6	7.56	5.4	3.6
	8204042L	7/8	3.6	7.2	3.6	7.2	5.04	3.6	3.6	7.56	5.4	3.6
	8204045	1	4.5	9	4.5	9	6.3	4.5	4.5	9.45	6.75	4.5
	8204045L	1	4.5	9	4.5	9	6.3	4.5	4.5	9.45	6.75	4.5
	8204070	1 1/4	6.8	13.6	6.8	13.6	9.52	6.8	6.8	14.28	10.2	6.8
	8204125	1 1/2	10.9	21.8	10.9	21.8	15.26	10.9	10.9	22.89	16.35	10.9
	8204135	2	13.6	27.2	13.6	27.2	19.04	13.6	13.6	28.56	20.4	13.6

CAD reference point

LIFT SUGGESTIONS

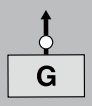
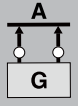
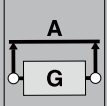
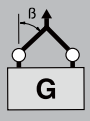
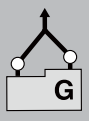
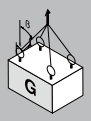
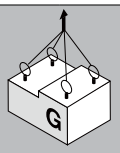


	Number of Legs		1	2	1	2	2	2	2	3-4	3-4	3-4
	Load Direction		0°	0°	90°	90°	0-45°	45°-60°	unsymm	0-45°	45°-60°	unsymm
	REF	Thread	WLL (t)									
LIFTING POINT – Metric Thread (8211)	8211003	M8	0.3	0.6	0.3	0.6	0.42	0.3	0.3	0.63	0.45	0.3
	8211006	M10	0.63	1.26	0.63	1.26	0.88	0.63	0.63	1.32	0.95	0.63
	8211010	M12	1	2	1	2	1.4	1	1	2.1	1.5	1
	8211012	M14	1.2	2.4	1.2	2.4	1.7	1.2	1.2	2.5	1.8	1.2
	8211015	M16	1.5	3	1.5	3	2.1	1.5	1.5	3.1	2.2	1.5
	8211020	M18	2	4	2	4	2.8	2	2	4.2	3	2
	8211025	M20	2.5	5	2.5	5	3.5	2.5	2.5	5.2	3.7	2.5
	8211040	M24	4	8	4	8	5.6	4	4	8.4	6	4
	8211042	M27	4	8	4	8	5.6	4	4	8.4	6	4
	8211050	M30	5	10	5	10	7	5	5	10.5	7.5	5
	8211070	M36	7	14	7	14	9.8	7	7	14.7	10.5	7
	8211080	M36	8	16	8	16	11.2	8	8	16.8	12	8
	8211100	M42	10	20	10	20	14	10	10	21	15	10
	8211150	M42	15	30	14	30	21	15	15	31.5	22.5	15
	8211200	M48	20	40	16	40	28	20	20	42	30	20
UNC Thread (8212)	8212010	1/2	1	2	1	2	1.4	1	1	2.1	1.5	1
	8212015	5/8	1.5	3	1.5	3	2.1	1.5	1.5	3.1	2.2	1.5
	8212020	3/4	2.5	5	2.5	5	3.5	2.5	2.5	5.2	3.7	2.5
	8212025	7/8	2.5	5	2.5	5	3.5	2.5	2.5	5.2	3.7	2.5
	8212040	1	4	8	4	8	5.6	4	4	8.4	6	4
	8212050	1 1/4	5	10	5	10	7	5	5	10.5	7.5	5
	8212080	1 1/2	8	16	8	16	11.2	8	8	16.8	12	8
	8212150	1 3/4	15	30	15	30	21	15	15	31.5	22.5	15
	8212200	2	20	40	20	40	28	20	20	42	30	20
ANCHOR POINT – Metric Thread (8231)	8231005	M8	0.8	1.6	0.5	1	0.7	0.5	0.5	1.1	0.8	0.5
	8231007	M10	1.2	2.4	0.7	1.4	1	0.7	0.7	1.5	1.1	0.7
	8231010	M12	1.5	3	1	2	1.4	1	1	2.1	1.5	1
	8231015	M14	2.4	4.8	1.5	3	2.1	1.5	1.5	3.2	2.3	1.5
	8231020	M16	3.2	6.4	5	4	2.8	2	2	4.2	3	2
	8231025	M18	5	10	2.5	5	3.5	2.5	2.5	5.3	3.8	2.5
	8231030	M20	4.5	9	3	6	4.2	3	3	6.3	4.5	3
	8231050	M24	9	18	5	10	7	5	5	10.5	7.5	5
	8231056	M27	9.5	19	5.6	11.2	7.8	5.6	5.6	11.8	8.4	5.6
	8231078	M30	12	24	7.8	15.6	10.9	7.8	7.8	16.4	11.7	7.8
	8231125	M36	14	28	12.5	25	17.5	12.5	12.5	26.3	18.8	12.5
	8231156	M42	16	32	15.6	31.2	21.8	15.6	15.6	32.8	23.4	15.6
	8231200	M48	20	40	20	40	28	20	20	42	30	20
	8231220	M56	22	44	22	44	30.8	22	22	46.2	33	22
	8231225	M64	22.5	45	22.5	40	28	20	20	42	30	20
UNC Thread (8232)	8232010	1/2	1.2	2.4	0.8	1.6	1.12	0.8	0.8	1.68	1.2	0.8
	8232020	5/8	2.6	5.2	1.6	3.2	2.24	1.6	1.6	3.36	2.4	1.6
	8232030	3/4	3.6	7.2	2.4	4.8	3.36	2.4	2.4	5.04	3.6	2.4
	8232038	7/8	4.5	9	3	6	4.2	3	3	6.3	4.5	3
	8232050	1	7.2	14.4	4	8	5.6	4	4	8.4	6	4
	8232078	1 1/4	9.6	19.2	6.25	12.5	8.75	6.25	6.25	13.13	9.38	6.25
	8232125	1 1/2	11	22	10	20	14	10	10	21	15	10
	8232200	2	16	32	16	32	22.4	16	16	33.6	24	16

CAD reference point

LIFT SUGGESTIONS

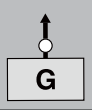
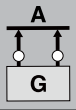
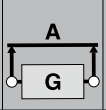
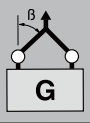
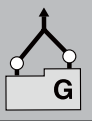
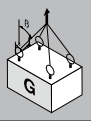
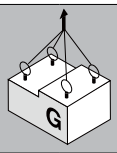
SUPER POINT

												
	Number of Legs		**1**	**2**	**1**	**2**	**2**	**2**	**2**	**3-4**	**3-4**	**3-4**
	Load Direction		**0°**	**0°**	**90°**	**90°**	**0-45°**	**45°-60°**	**unsymm**	**0-45°**	**45°-60°**	**unsymm**
	REF	**Thread**					**WLL (t)**					
UNC Thread (8251)	**8251007xx**	M10	1	2	0.5	1	0.7	0.5	0.5	1	0.75	0.5
		M12	1.4	2	0.7	1.4	1	0.7	0.7	1.4	1	0.7
		M14	2	4	1	2	1.4	1	1	2.12	1.5	1
	8251014xx	M16	2.8	5.6	1.4	2.8	2	1.4	1.4	3	2.12	1.4
		M20	3.4	6.8	1.7	3.4	2.4	1.7	1.7	3.55	2.5	1.7
		M24	3.4	6.8	1.7	3.4	2.4	1.7	1.7	3.55	2.5	1.7
	8251025xx	M20	5	10	2.5	5	3.55	2.5	2.5	5.3	3.75	2.5
	8251040xx	M24	8	16	4	8	5.6	4	4	8.5	6	4
		M30	8	16	4	8	5.6	4	4	8.5	6	4
	8251067xx	M30	12	24	6.7	13.4	9.5	6.7	6.7	14	10	6.7
	8251080xx	M30	12	24	8	16	11.2	8	8	16	12	8
	8251100xx	M36	15	30	10	20	14	10	10	21.2	15	10
	8251125xx	M42	15	30	12.5	25	17	12.5	12.5	25	18	12.5
		M45	15	30	12.5	25	17	12.5	12.5	25	18	12.5
		M48	15	30	12.5	25	17	12.5	12.5	25	18	12.5
	8251170xx	M42	20	40	13	26	18	13	13	27	19	13
		M45	25	50	17	34	23.5	17	17	35	25	17
		M48	25	50	17	34	23.5	17	17	35	25	17
		M56	25	50	18	36	25	18	18	37.5	26.5	18
	8251200xx	M64	25	50	20	40	28	20	20	42.5	30	20
	8251280xx	M72	32.5	65	28	56	39	28	28	58	42	28
		M80	32.5	65	28	56	39	28	28	58	42	28
	8251350xx	M80	40	80	35	70	49	35	35	74	52.5	35
		M90	40	80	35	70	49	35	35	74	52.5	35
	8251400xx	M80	50	100	40	80	56	40	40	84	60	40
		M90	50	100	40	80	56	40	40	84	60	40
		M100	50	100	40	80	56	40	40	84	60	40
UNC Thread (8252)	**825200701**	3/8	1	2	0.5	1	0.7	0.5	0.5	1	0.75	0.5
	825200702	1/2	1.4	2.8	0.7	1.4	1	0.7	0.7	1.4	1	0.7
	825201402	5/8	2.8	5.6	1.4	2.8	2	1.4	1.4	3	2.12	1.4
	825202501	3/4	5	10	2.5	5	3.55	2.5	2.5	5.3	3.75	2.5
	825204002	1	8	16	4	8	5.6	4	4	8.5	6	4
	825206702	1 1/4	12	24	6.7	13.4	9.5	6.7	6.7	14	10	6.7
	825208002	1 1/4	12	24	8	16	11.2	8	8	16	12	8
	825210002	1 1/2	15	30	10	20	14	10	10	21.2	15	10
	825212503	1 3/4	15	30	12.5	25	17	12.5	12.5	25	18	12.5
	825212505	2	15	30	12.5	25	17	12.5	12.5	25	18	12.5
	825217004	2	25	50	17	34	23.5	17	17	35	25	17
	825217006	2 1/4	25	50	18	36	25	18	18	37.5	26.5	18
	825220001	2 1/2	25	50	20	40	28	20	20	42.5	30	20
	825228001	2 1/2	32.5	65	28	56	39	28	28	58	42	28
	825235001	3 1/2	40	80	35	70	49	35	35	74	52.5	35

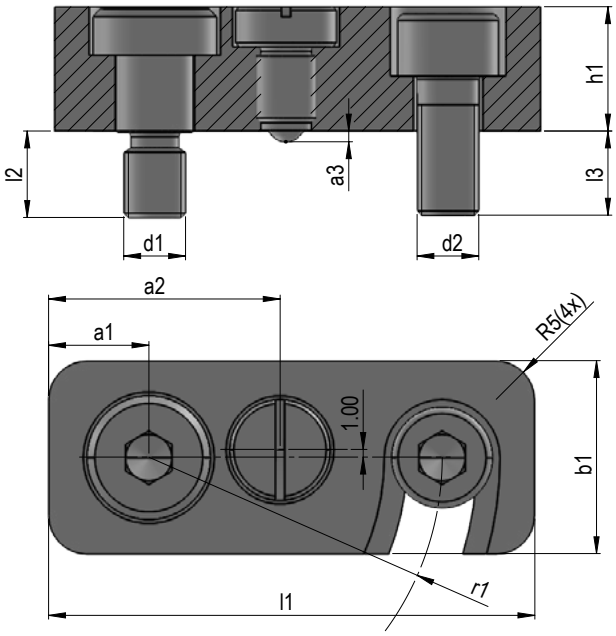
CAD reference point

LIFT SUGGESTIONS

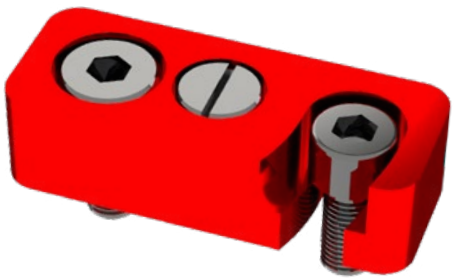
KEY POINT

												
	Number of Legs		1	2	1	2	2	2	2	3-4	3-4	3-4
	Load Direction		0°	0°	90°	90°	0-45°	45°-60°	unsymm	0-45°	45°-60°	unsymm
	REF	Thread	WLL (t)									
Metric Thread (8291)	8291K003	M8	1	2	0.3	0.6	0.42	0.3	0.3	0.63	0.63	0.3
	8291K004	M10	1	2	0.4	0.8	0.56	0.4	0.4	0.84	0.84	0.4
	8291K007	M12	2	4	0.75	1.5	1	0.75	0.75	1.58	1.58	0.75
	8291K015	M16	4	8	1.5	3	2.1	1.5	1.5	3.15	3.15	1.5
	8291K023	M20	6	12	2.3	4.6	3.2	2.3	2.3	4.8	4.8	2.3
	8291K032	M24	8	16	3.2	6.4	4.5	3.2	3.2	6.7	6.7	3.2
	8291K045	M30	12	24	4.5	9	6.3	4.5	4.5	9.4	9.4	4.5
	8291K070	M36	16	32	7	14	9.8	7	7	14.7	14.7	7
	8291K090	M42	24	48	9	18	12.6	9	9	18.9	18.9	9
	8291K120	M48	32	64	12	24	16.8	12	12	25.2	25.2	12
	8291K140	M56	34	68	16	32	22.4	16	16	33.6	33.6	16
	8291K150	M64	36	72	18	36	25.2	18	18	37.8	37.8	18
UNC Thread (8292)	8292K003	5/16	1	2	0.3	0.6	0.42	0.3	0.3	0.63	0.45	0.3
	8292K004	3/8	1	2	0.4	0.8	0.56	0.4	0.4	0.8	0.6	0.4
	8292K007	1/2	2	4	0.75	1.5	1	0.75	0.75	1.5	1.1	0.75
	8292K015	5/8	4	8	1.5	3	2.1	1.5	1.5	3.1	2.2	1.5
	8292K023	3/4	6	12	2.3	4.6	3.2	2.3	2.3	4.8	3.4	2.3
	8292K025	7/8	6	12	2.3	4.6	3.2	2.3	2.3	4.8	3.4	2.3
	8292K032	1	8	16	3.2	6.4	4.5	3.2	3.2	6.7	4.8	3.2
	8292K045	1 1/4	12	24	4.5	9	6.3	4.5	4.5	9.4	6.7	4.5
	8292K070	1 1/2	16	32	7	14	9.8	7	7	14.7	10.5	7
	8292K090	1 3/4	24	48	9	18	12.6	9	9	18.9	13.5	9
	8292K120	2	32	64	12	24	16.8	12	12	25	18	12

TOOL SAFETY DEVICE K73



Mat.: 1.2312 / 1080 N/mm²



CAD reference point

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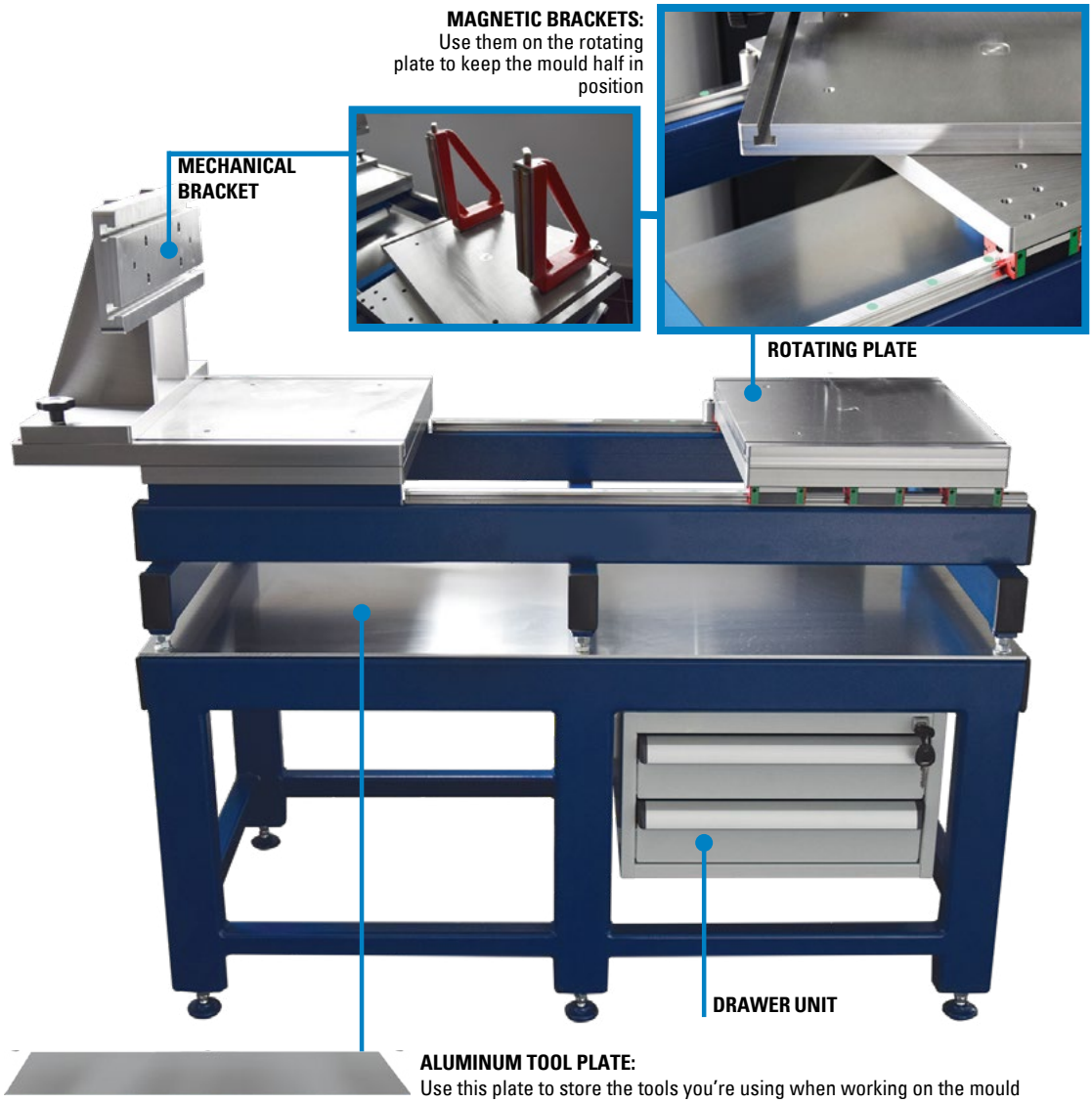
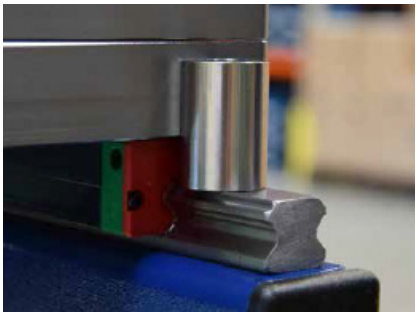
K73122050	50,0	20	12	30	10	24	0,9	M6	M6	9	8
K73162563	63,0	25	16	38	13	30	1,5	M8	M8	11	11
K73203280	80,0	32	20	48	15	35	2	M10	M10	13	13

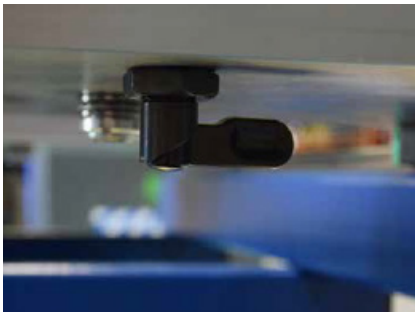
SERVICE TABLE FOR MOULDS — OPTIM

This new generation of platform is specifically designed for:
- Opening and closing of moulds
- Access to each part of the mould for maintenance
- 360° Rotation of each mould-part for direct access to the tool
- 3 sizes: 1500 kg / 2000 kg / 3000 kg / 6000 kg
- Optional base-platform to raise total height to 850 mm





Positioning brake
Available on every plate. It keeps the plates on the Optim Table in position.



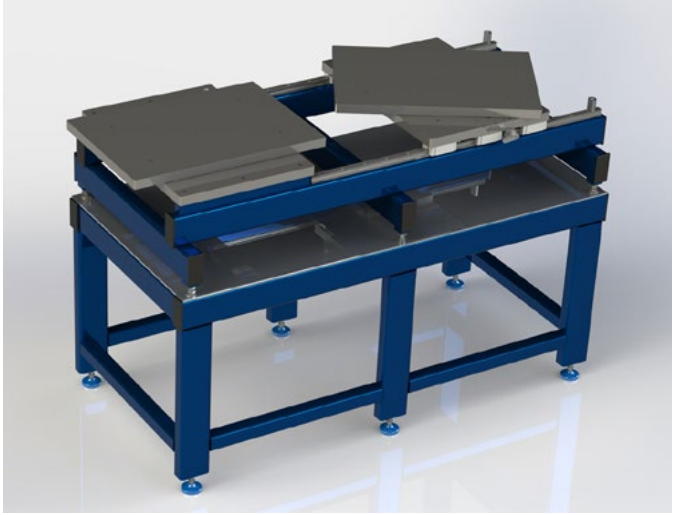
Rotation locking lever
Once you have turned the mould to the position you require, lock the rotating plate with the lever.

Special Length with Mechanical Bracket
Ask DME for a custom Optim table. More dimensions and combinations are possible on demand.

CAD reference point

OPTIM TABLE STANDARD 1,5 / 2 & 3 TONS

OPTIM



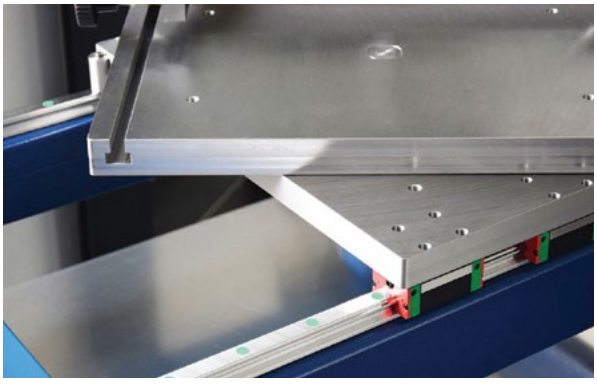
ADVANTAGES

- Top pivot plates easily rotates 360° with locking indexing every 90°
- Mobile pivot plate can be locked into position at the end of opening stroke
- Pivot plates allows the Mould and Plates to be separated and rotated without the use of cranes

OPTIONS

- Base platform provides a working height of 850mm (33.46") includes adjustable feet to adjust working height
- Base platform is available with or without the aluminum tool plate
- Mechanical Brackets to support plates
- Magnetic Brackets to support plates
- T-Slots on pivot plates

Max load :	1500 kg 2000 kg 3000 kg
Length : Width :	1210 mm 590 mm
Plates dimensions :	500 mm x 350 mm
Working height without extension table :	275 mm
Opening stroke :	428 mm

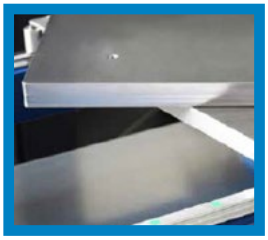


PIVOT PLATES

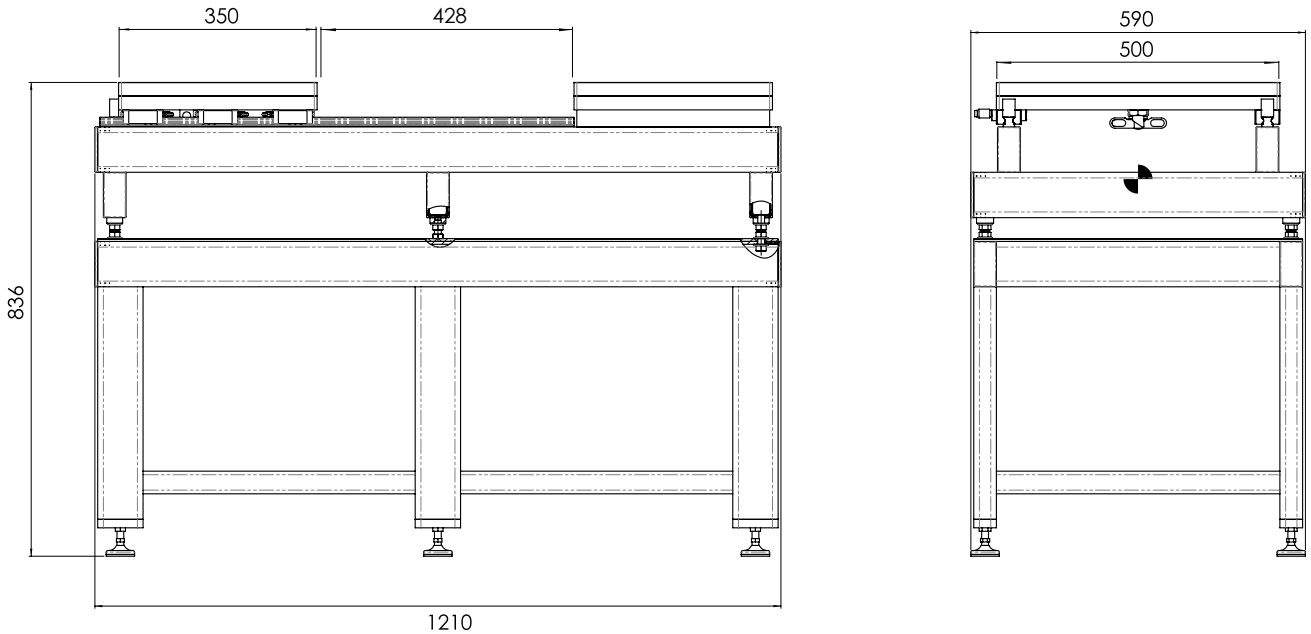
CAD reference point

SERVICE TABLE

OPTIM TABLE STANDARD 1,5 / 2 & 3 TONS **OPTIM**



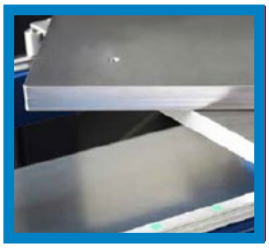
Rotating plates included



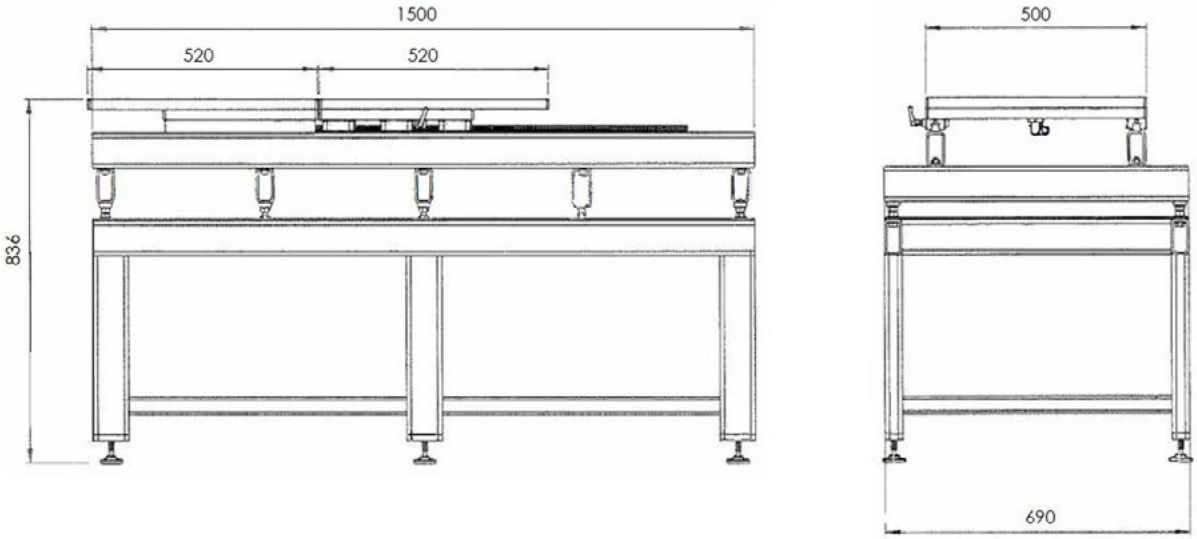
REF	Description
OPTIM2515	Top Table max 1,5T
OPTIM2520	Top Table max 2T
OPTIM2530	Top Table max 3T
OPTIM2515-850	Top Table max 1,5T + Base Platform
OPTIM2520-850	Top Table max 2T + Base Platform
OPTIM2530-850	Top Table max 3T + Base Platform
OPTIM2515-850AL	Top Table max 1,5T + Base Platform + AL Toolplate
OPTIM2520-850AL	Top Table max 2T + Base Platform + AL Toolplate
OPTIM2530-850AL	Top Table max 3T + Base Platform + AL Toolplate
OPTIM850	Base Platform
OPTIM850AL	Aluminium Plate for Tools (thickness of 5mm)

CAD reference point

OPTIM TABLE WITH MECHANICAL BRACKET 1,5 / 2 & 3 TONS **OPTIM**



Rotating plates included



REF	Description
OPTIM2515EQ	Top Table 1,5T EQ
OPTIM2520EQ	Top Table 2T EQ
OPTIM2530EQ	Top Table 3T EQ
OPTIM2515-850ALMB	Top Table 1,5T EQ + Base Platform + AL Toolplate XL + OPTIMEQ (mechanical bracket)
OPTIM2520-850ALMB	Top Table 2T EQ + Base Platform + AL Toolplate XL + OPTIMEQ (mechanical bracket)
OPTIM2530-850ALMB	Top Table 3T EQ + Base Platform + AL Toolplate XL + OPTIMEQ (mechanical bracket)
OPTIM850XL	Base Platform XL
OPTIM850ALXL	Aluminium Plate for Tools XL (thickness of 5mm)

Base platform and Al Tool plate for this version of the table are the same as for XL version

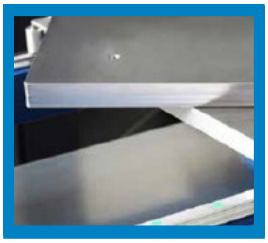
CAD reference point

SERVICE TABLE

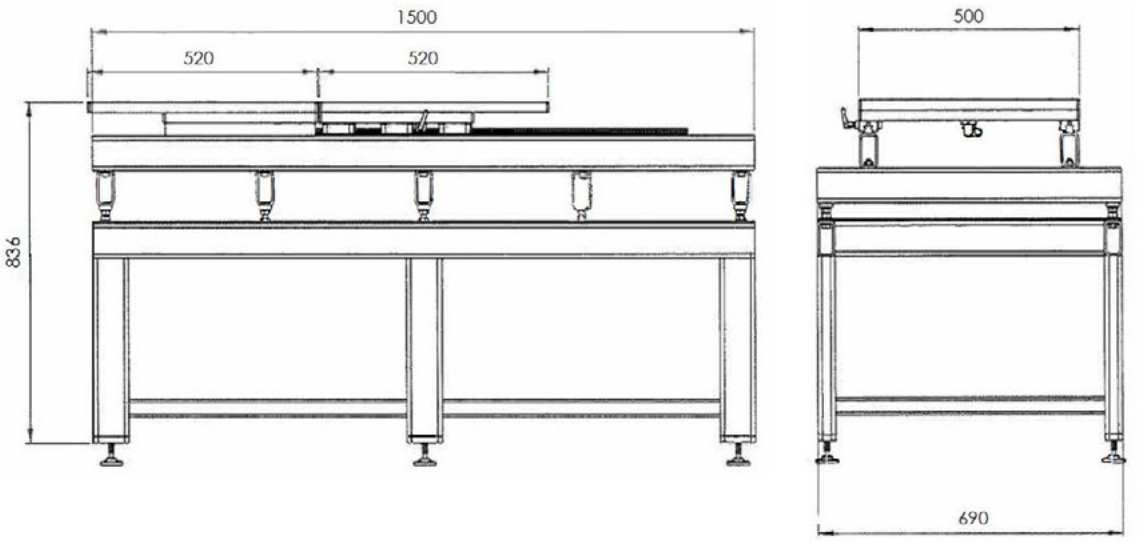
OPTIM TABLE XL VERSION 1,5 / 2 & 3 TONS

OPTIM

Magnetic brackets must be purchased separately



Rotating plates included

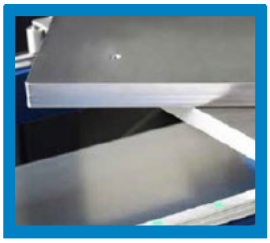


REF	Description
OPTIM2515XL	Top Table 1,5T XL
OPTIM2520XL	Top Table 2T XL
OPTIM2530XL	Top Table 3T XL
OPTIM2515-850ALXL	Top Table 1,5T XL + Base Platform XL + AL Toolplate XL
OPTIM2520-850ALXL	Top Table 2T XL + Base Platform XL + AL Toolplate XL
OPTIM2530-850ALXL	Top Table 3T XL + Base Platform XL + AL Toolplate XL
OPTIM850XL	Base Platform XL
OPTIM850ALXL	Aluminium Plate for Tools XL (thickness of 5mm)

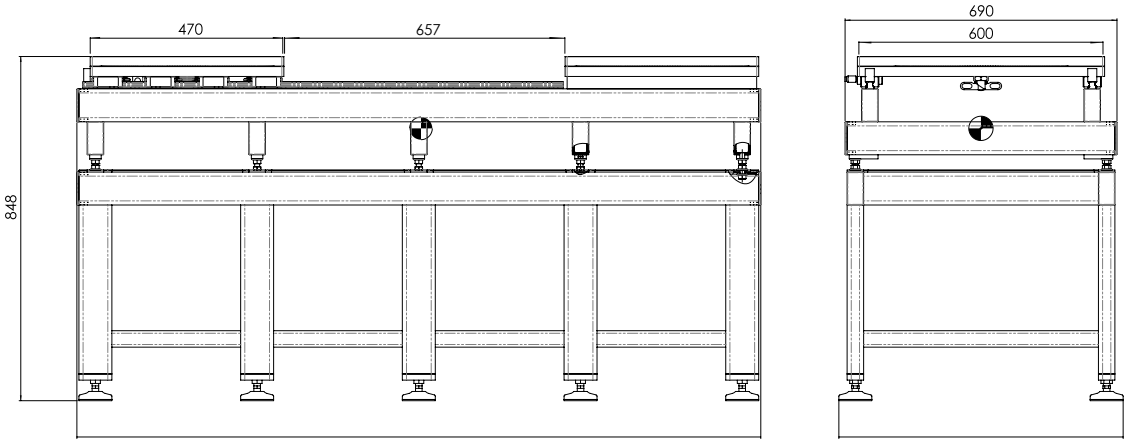
CAD reference point

OPTIM TABLE STANDARD 6 TONS

OPTIM



Rotating plates included



ADVANTAGES

Top pivot plates easily rotates 360° with locking indexing every 90°
Mobile pivot plate can be locked into position at the end of opening stroke
Pivot plates allows the Mould and Plates to be separated and rotated without the use of cranes

OPTIONS

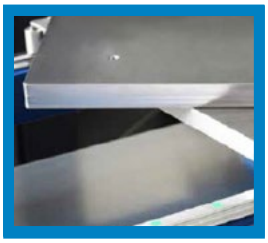
Base platform provides a working height of 850mm (33.46") includes adjustable feet to adjust working height
Base platform is available with or without the aluminum tool plate
Mechanical Brackets to support plates
Magnetic Brackets to support plates
T-Slots on pivot plates

Max load :	6000 kg
Length :	1660 mm
Width :	690 mm
Plates dimensions :	600 mm x 470 mm
Working height without extension table :	275 mm
Opening stroke :	657 mm

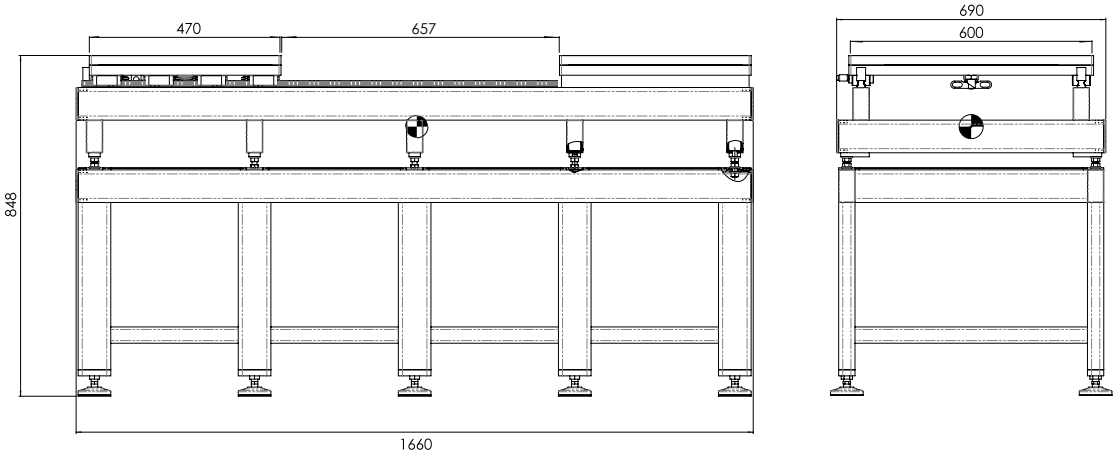
CAD reference point

SERVICE TABLE

OPTIM TABLE STANDARD 6 TONS **OPTIM**



Rotating plates included



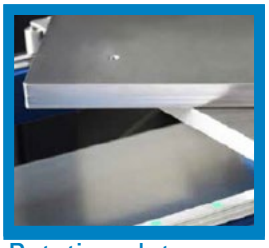
REF	Description
OPTIM2560	Top Table STANDARD 6T
OPTIM2560-850	Top Table STANDARD 6T + Base Platform 6T
OPTIM2560-850AL	Top Table STANDARD 6T + Base Platform 6T + AL Tool Plate 6T
OPTIM8506T	Base Platform 6T
OPTIM850AL6T	Aluminium Plate for Tools 6T (thickness of 5mm)

CAD reference point

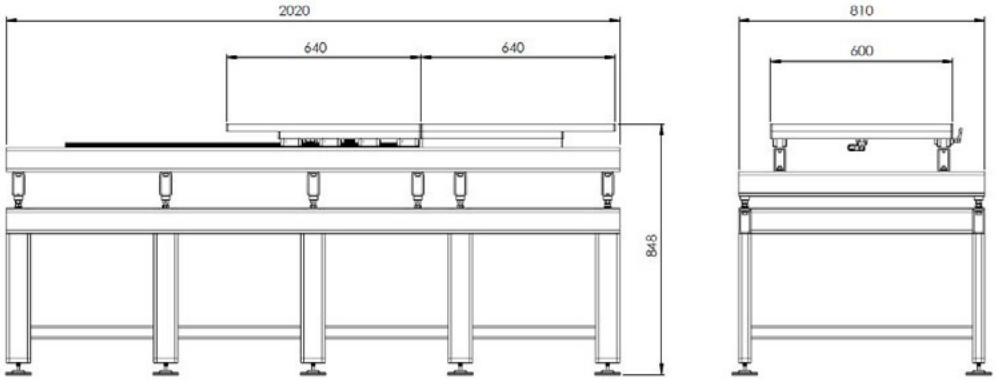
OPTIM TABLE XL VERSION 6 TONS

OPTIM

Magnetic brackets must be purchased separately



Rotating plates included

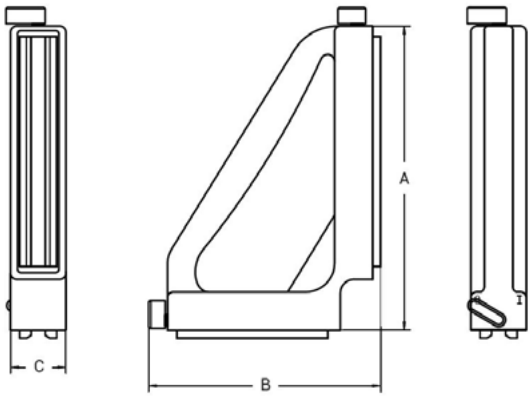


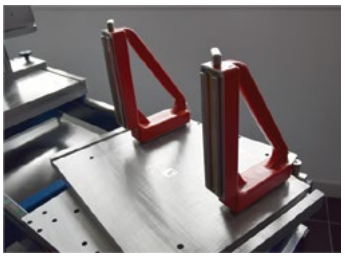
REF	Description
OPTIM2560XL	Base Platform 6T XL
OPTIM2560-850ALXL	Top Table STANDARD XL 6T + Base Platform XL 6T + Alu Tool Plate XL 6T
OPTIM850XL6T	XL Base Platform 6T version
OPTIM850ALXL6T	XL Aluminium Plate for Tools 6T version

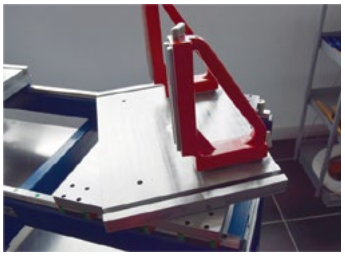
CAD reference point

OPTIM TABLE OPTIONS

MAGNETIC BRACKET — OPTIM



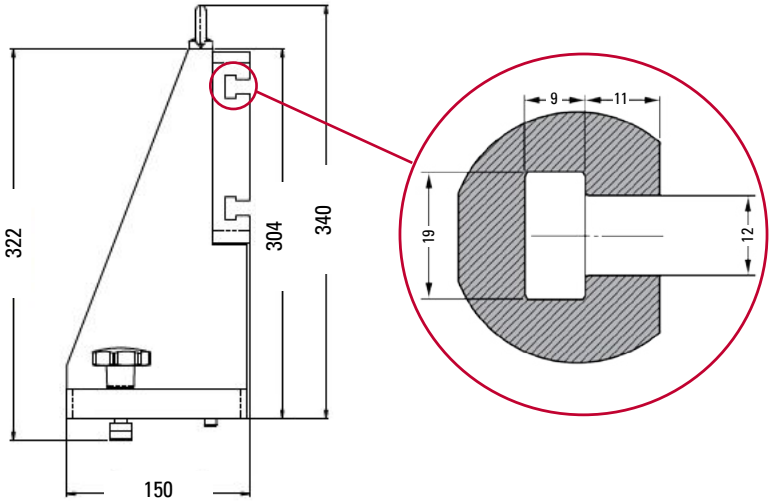




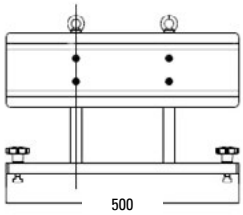
Magnetic Mould Support System Details:
Allows adjustable positioning / support of plates
Magnetic force de-activation/activation system
Not appropriate for tools with floating plates

REF	A - height (mm)	B - length (mm)	C - width (mm)	force (kg)
OPTIMMAG120090	135	125	38	20/20
OPTIMMAG130225	150	150	38	20/20
OPTIMMAG150090	165	165	45	30/30
OPTIMMAG180090	195	195	45	35/35
OPTIMMAG180225	205	205	45	35/35
OPTIMMAG260090	285	195	45	50/35

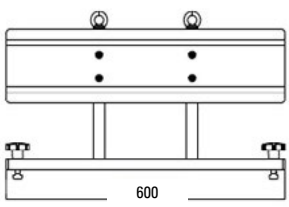
MECHANICAL BRACKET



Mechanical Mould Support System Details:
Mechanical mould holding system
Parallel between the table and the mould
Only available for Optim tables, with plates with T Slot (EQ or MB at the end of the Reference)



OPTIMEQ



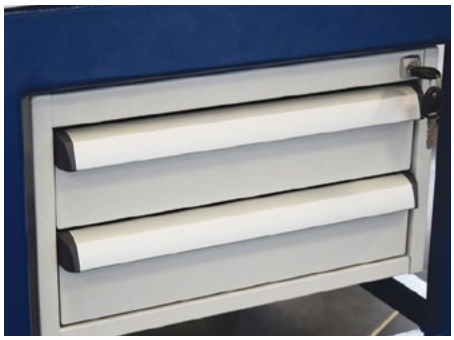
OPTIMEQ6T

REF	height (mm)	length (mm)	width (mm)
OPTIMEQ	340	500	150
OPTIMEQ6T	340	600	150

THE BRACKETS (BOTH TYPES) ARE SOLD IN INDIVIDUAL PIECES

CAD reference point

OPTIONAL DRAWER UNIT — OPTIM



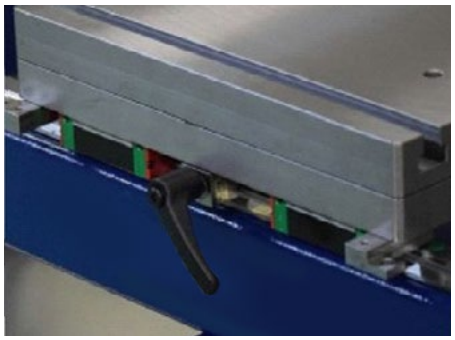
DRAWER UNIT

DRAWER UNIT ON 3-TON TABLE

DRAWER UNIT ON 6-TON TABLE

REF	Description
OPTIMDRAWER	Drawer for optim table 1,5 2 and 3 T standard version
OPTIMDRAWERXL	Drawer for optim table 1,5 2 and 3 T XL version
OPTIMDRAWER6T	Drawer for optim table 6 T standard version
OPTIMDRAWER6TXL	Drawer for optim table 6 T XL version

OPTIMBLOCK



Optimblock
It keeps the plate of the Optim table in position, by disabling the movement on its guidings.

REF
OPTIMBLOCK

OPTIMBUT

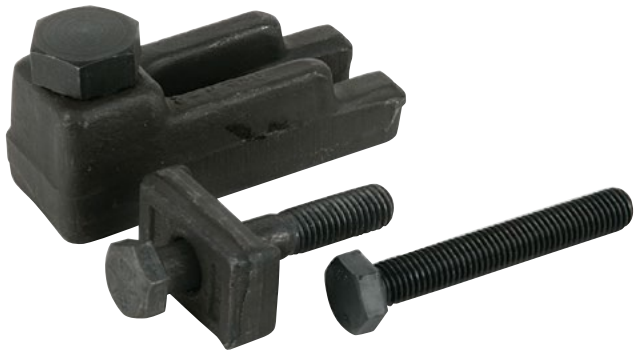
Optimbut
It keeps the mould plate in position.
Only available for Optim tables with plates with T Slot (EQ or MB at the end of the Reference).

REF
OPTIMBUT
OPTIMBUT6T

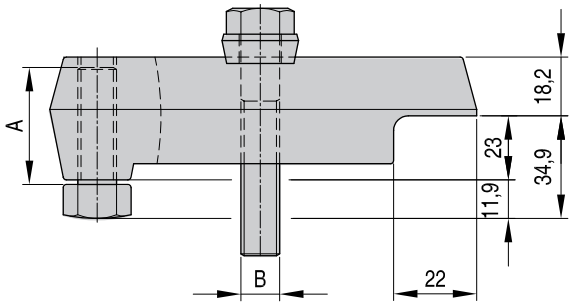
CAD reference point

MOULD CLAMPS — MCA

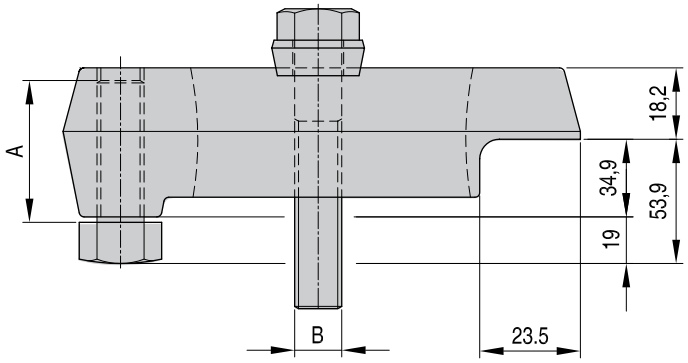
Mat.: Ck 22/CuSn

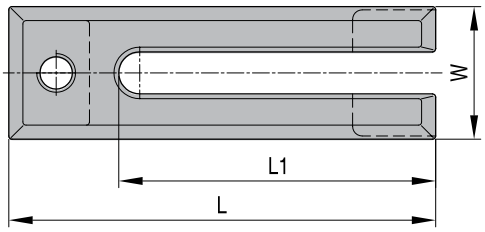


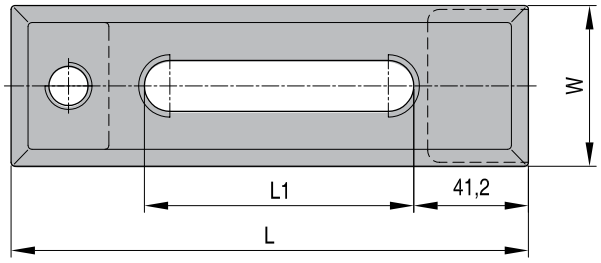
MCA 4-4 --> MCA 6-7



MCA 8-95







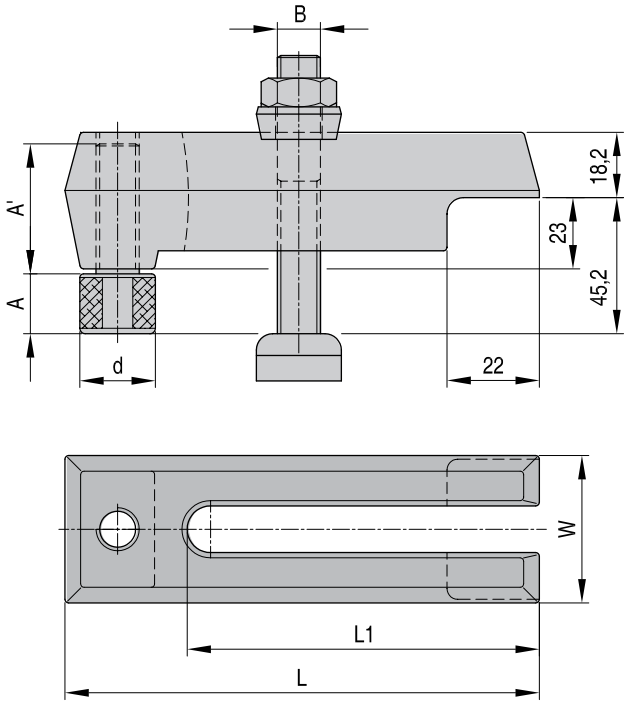
REF	B (DIN 933)	A	L	L1	W
MCA44	HEX M12x80(DIN933)	38	106	72	41
MCA55	HEX M16x100(DIN933)	38	132	86	48
MCA57	HEX M16x100(DIN933)	38	178	127	48
MCA65	HEX M16x100(DIN933)	38	132	86	50
MCA67	HEX M16x100(DIN933)	38	178	125	50
MCA77	HEX M20x110(DIN933)	38	178	125	50

CAD reference point

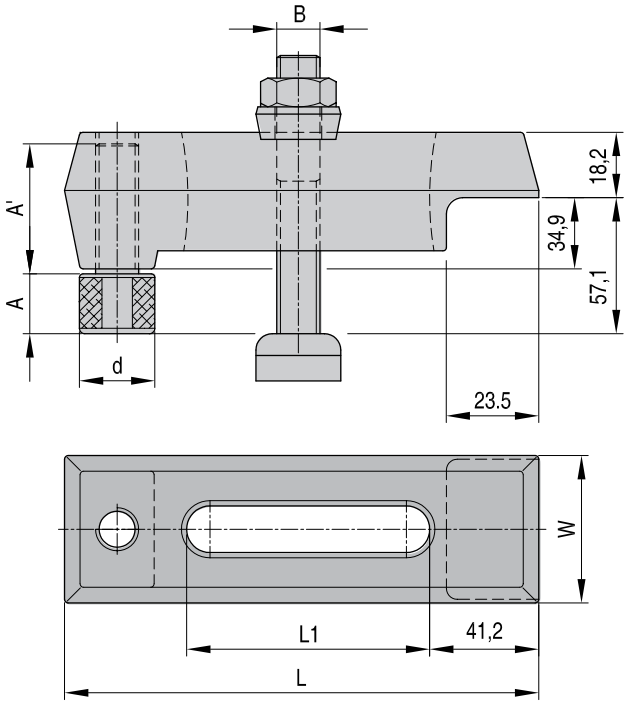
MOULD CLAMPS FOR DIECASTING — DMCA

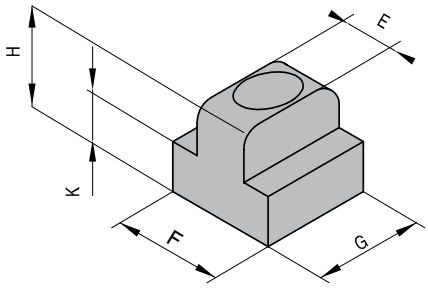
Mat.: Ck 22/CuSn

DMCA 5-5 --> DMCA 6-7



DMCA 8-95





REF	A	A'	B	d	L	L1	W	E	F	G	H	K
DMCA55	15,8	39	5/8"-11 x 4" 1/2	35	132	86	48	15,9	28,6	33,0	16,2	6,4
DMCA57	15,8	39	5/8"-11 x 4" 1/2	35	178	127	48	15,9	28,6	33,0	16,2	6,4
DMCA65	19,0	39	3/4"-10 x 4" 1/2	38	132	86	51	19,0	33,3	37,6	20,6	13,5
DMCA67	19,0	39	3/4"-10 x 4" 1/2	38	178	127	51	19,0	33,3	37,6	20,6	13,5

CAD reference point

CAD reference point

CASTING RESINS & CHEMICAL PRODUCTS

ECO-SPRAYS

SILICONE FREE MOULD RELEASE AGENT — ECO-22

REF	ml
ECO-22	12 x 400

Universally applicable silicone-free release agent
Faultless part removal
Best surface and protection of tools
Checked by FABES Forschungs GMBH and approved towards the FDA regulations for production of parts related to food
ECO-22 doesn't contain chlorinated or mineral oil additives
Processing temperatures up to 180°C
Active substances are from natural sources and none of the materials cause corrosion.
Maintains lubricating effect
Silicon free: Parts removed with mouldrelease agent may be printed, coated, metallized or bonded
Filled with propellant gas (butanepropane)
Excessively greasy parts can be lightly cleaned with water and detergent

SILICONE MOULD RELEASE AGENT — ECO-33

REF	ml
ECO-33	12 x 400

Release agent for plastics and rubber
Protects molds and maintains their bright finish
Checked by FABES Forschungs GMBH and approved towards the FDA regulations for production of parts related to food
Facilitates removal of molded parts and reduces waste percentage
ECO-33 is guaranteed harmless to humans and nature and active substances are physiologically accepted
Processing temperatures –40°C up to 250°C
Maintains lubricating effect
Filled with propellant gas (butane-propane)

CAD reference point

SILICONE-FREE MOULDRELEASE AGENT C 150

REF	ml
C150	400

C 150 has excellent release effects and low consumption as a thin film guarantees best results. The ignition point of our mouldrelease agent C 150 means that even at maximum injection temperatures vapour bubbles or combustion residues cannot be formed. Any subsequent treatment of the injection moldings, like printing, lacquering, metallizing etc. is possible without removing the release agent. C 150 is non-aggressive and can easily be rinsed off. Our mouldrelease agent C 150 cannot be used for working with polycarbonates.
Open bulks on request!

SILICONE RELEASE AGENT C 155

REF	ml
C155	400

This solvent free spray is recommended for the applications of natural and synthetic rubber, for elastomers and thermoplastics (not for silicone rubber).
Temperature range to 180°C.
Open bulks on request!

SILICONE-FREE RELEASE AGENT FOR POLYCARBONATES C 158

REF	ml
C158	300

This spray which is basing on special synthetic oils is recommended for polycarbonate injection moulding. Any subsequent treatment like lacquering, printing, metallizing and glueing is possible. Generally recognized as safe. C 158 is released for the BAYER AG product Makrolon.
Temperature range to 150°C.
Open bulks on request!

MOULDCLEANER C 126

REF	ml
C126	500

C 126 is a special cleaner to remove resin and rubber residues, plastic deposits like PVC, PA, PI, PU, and acrylates. Applications. cleaning of plastic molds, injection and spinning nozzles, removal of adhesive residues, lacquer, and tar. The cleaning effect can be accelerated by heating to 80° C the parts which have to be treated.
The product is well biodegradable.

CAD reference point

ANTI-CORROSION AGENTS

GREASE SOLVENT — C 120

REF	ml
C120	500

C 120 softens coatings of oil and grease so that they are easily removable. With heavy residues it might be necessary to spray for a second time after wiping off. Grease solvent C 120 is particularly suitable for cleaning metal parts before pou-ring in, glueing, varnishing or other work. It may also be used for removing marking colour C 130 but is not suitable for the treatment of varnished surfaces, rubber and insulating parts.

RUST-SOLVING OIL — C 110

REF	ml
C110	400

C 110 loosens slightly rusted or tightly jammed screws, nuts or press joints and removes even thick films of rust on metal parts. Various additives ensure high lubricating effect and permanent rust protection.
Eliminates squeaking.

ANTI-CORROSION AGENT (CRYSTAL CLEAR) — C 100

REF	ml
C100	400

C 100 provides an effective protective film on all metal parts to be protected from rust. The metal surfaces or parts are sprayed, thus protecting them permanently from oxidation. C 100 is crystal-clear and non- aggressive. It can be removed by any solvent as well as by petrol, benzene or grease solvent C 120.

TRANSPARENT ANTICORROSION AGENT — C 106

REF	ml
C106	500

C 106 provides high protection of ground and polished standard parts, injection molds, etc., both during storage and for local transport. The thin waxlike film which is left after spraying on is solid in ageing, does not tear or resinate and is almost impervious to vapours, gasses, steam, and salts. Due to low viscosity inaccessible parts can reliably be moistened and protected. C 106 is chlorine-, nitrite-, and barium-free and is according to VW specification PV 52.02 easily removable even after a long period in stock.

CAD reference point

SYNTHETIC LUBRICANT (SPRAY) / LUBRICATION PASTE — C 138 / C 139

REF	ml
C138	500
C139	150

C 138 and C 139 are used when glide elements, apparatus and machinery should not be contacted with mineral oil containing lubricants. Even under wet , moist conditions oxidation free, high purified raw materials ensure a permanent lubrication film.
The product is physiologically safe and without solid matter.
Temperature range: -30°C - +125°C

SPECIAL HIGH-EFFICIENCY OIL WITH MOS2 — C 160

REF	ml
C160	400

C 160 provides excellent emergency running pro-perties and is particularly suitable for highly stressed axial guides with close tolerances, e.g. die sets and similar equip-ment.
The addition of molybdenum reduces friction.

MULTI-PURPOSE LUBRICANT (SPRAY) / LUBRICATION PASTE — C 167 / C 168

REF	ml
C167	500
C168	150

C 167 and C 168 are heavy-duty lubricants wi-thout solid particles and with high pressure enduring properties. The lubricating film does not tear even under extreme conditions, thus the lubrication intervals are prolonged considerably. C 167 and C 168 is used for all moving parts in injection and diecasting molds in the field of metal and plastics processing, eg. ejector pins, coarse pitch axles, etc.
Temperature resistance to +180°C.

MOULDRELEASING AND LUBRICATING AGENT WITH TEFLON — RZ 30

REF	ml
RZ30	400

RZ 30 provides a waxlike release film being superior by its outstanding parting effect and very good lubricating properties. By spraying a surface (e.g. punching die) once or twice, it is possible to determine the guide clearance of a punch guide to be made with casting resin RZ 20. The melting point of the film is above 240°C. The sprayed-on mouldreleasing and lubricating agent is insoluble in water and organic solvents. RZ 30 provides clean lubrication and release without any contamination. TRI or C 120 grease solvent are used for removing the release and lubricating film. Spray at room temperature.

CAD reference point

CASTING COMPOUND FOR DIE MANUFACTURING

CASTING COMPOUND FOR DIE MANUFACTURING RZ 20

Processing Instructions:

Stir up contents thoroughly before using
Observe mixing ratio exactly by weight (5 – 100)
Instructions for use (see overview)
Close container carefully after using
Use only where good ventilation is ensured. Avoid inhalation of vapours for longer periods of time and any contact with skin
Wearing of plastic gloves will normally be necessary

Mix Ratio	Parts by Weight	
Resin	100	
Hardener	5	
Color	Blue	
Processing temperature	18 – 25 °C	
Viscosity at 25°C	15.000 mPas	
Pot Life at 25°C	45-80 Min	
Max Layer Thickness	30 mm	
Demoulding Time at RT	16 h	
After Cure : 7 days at RT or 14 hours at 60°C		
Density	ISO 1183	2 g/cm³
Hardness	ISO 868	85-90 Shore D
Coefficient of thermal expansion	ISO 11359	35 10^{-6} k^{-1}
Deflection temperature	ISO 75	65 – 70 °C
Compressive strength	ISO 604	140 Mpa
Compressive modulus	ISO 604	11.000 -11.500 Mpa
Flexural strength	ISO 178	110 Mpa
Linear Schrinkage	0.05 mm/m	
Abrasive resistance	Taber	22 mm³/100U

The compound consists of a black, medium viscosity epoxy resin and a clear liquid hardener.

Material characteristics:
1. high abrasion resistance
2. high compressive strength
3. high edge tear tolerance
4. minimum hardening shrin-kage

A maximum casting thickness up to 25 mm can be realized in open moulds.

Applications:
Casting of piercing punch guides, embedding castings of punches, guide bushes and guide pillars. Parts which do not adhere with the casting compound must be treated with the mouldreleasing and lubricating agent RZ 30. The clearance of the punch guide can be influenced by the thickness of the mouldrelease agent which is sprayed on the surface. The clearance can also negatively be influenced by the greater thermal expansion coefficient of the plastics if fluctuations of temperature occur and so a determined value should not be exceeded. The proper value should vary between 2 and 6 mm - for the casting of hardened guide bu-shes with or without collar the clearance should be 2-10 mm. Dies which are furnished with casting compound punch guides should be heated up to room temperature before they are mounted in the press.

REF	Bulk
RZ20	1 x 500 g Resin
	1 x 25 g Hardener

CAD reference point

PLASTILIN — RZ 65

Rz 65 is used for the following applications: mould making, in the field of modelling, to close and to seal holes and recesses at dies when casting guides, etc.
Features: industry quality
Colour: grey-green

REF	Working set
RZ65	2 x 0,5 kg

EPOXY RESIN — PS 220

Aluminium filled, liquid epoxy resin used for moulding duplicate parts and forms and injection moulding dies which are subject to extreme thermal stress. Temperature range up to 220°C. The material is nonrusting, antimagnetic and cures nearly without shrinking. The process of pre-curing as well as post-curing at 120°C produces highly-refractory castings.

REF	Bulk
PS220	1 x 450 g Resin
	1 x 50 g Hardener

CAD reference point

CONDUCTIVE GREASE

CONDUCTIVE GREASE - SPRAY — DME 63

REF	ml
DME63	400

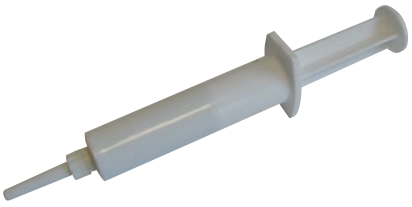
T = -180°C to +1200°C
Protects parts efficitively against corrosion and oxydation, prevents welding and fretting corrosion and reduces friction. Non toxic, non leaded, resistant to alkaline solutions and acids.

CONDUCTIVE GREASE - PASTE — MS 110

REF	g
MS110	450

T = -180°C to +1200°C
Protects parts efficitively against corrosion and oxydation, prevents welding and fretting corrosion and reduces friction. Non toxic, non leaded, resistant to alkaline solutions and acids.

CONDUCTIVE GREASE - INJECTION DISPENSER — MS 120



REF	g
MS120	10

T = -180°C to +1200°C
Protects parts efficitively against corrosion and oxydation, prevents welding and fretting corrosion and reduces friction. Non toxic, non leaded, resistant to alkaline solutions and acids.

CAD reference point

MARKING COLOR (BLUE) — C 130

REF	ml
C130	300

C 130 is suitable for small and large workpieces. It provides a homogeneous, adhering color film on the surface to be marked. The color dries on immediately and is easily removable by grease solvent C 120.
Open bulks on request!

TIGHTNESS TEST SPRAY FOR FLUIDS — C 220

REF	ml
C220	400

C 220 is a liquid, non-toxic, not inflamable, non-corrosive, biodegradable agent. It is used for tightness tests of pipes and facilities filled with inflamable gas (also for pipes with compressed air, oil, fuel and vapour).
Instruction for use: Spray the surfaces to be tested. Haircracks and pores are now indicated by the developing of long time adhering bubbles or foam.
Caution: When testing oxygen facilities do not spray C 220 in the interior due to risk of inflammation.

PURIFYING AGENT — Kapusol

REF	ml
Kapusol	750

Prepare 25 kg of cleaning compound with this bottle of KAPUSOL!

Directions for use
Kapusol is a purging agent for cleaning the screw of injection and extruding machines. It can be used for colour and material changing's. Mix this bottle of KAPUSOL with 25 kg of pellets to be processed till a dry blend. Avoid wet lumps. KAPUSOL can be used at the normal temperature of most materials. Better result will be achieved if during the purge the temperature is 15% under normal.

Also for hand-use as a super-polishing product.

CAD reference point

CAD reference point

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GENERAL CONDITIONS OF SALE DME EUROPE

The contract is validly entered into and the order is accepted after written confirmation by seller. These sales conditions apply to the exclusion of any other terms or conditions, unless expressly accepted in writing beforehand by the vendor.
Seller has 30 (thirty) days since the reception of the order to accept or to refuse it. During this period, buyer shall not withdraw his order.
Absence of any written confirmation of the order shall only be interpreted as being an implicit acceptance in case of performance of the order by seller.

2. PAYMENT
Unless otherwise agreed in writing, invoices are payable in the stated currency within 30 (thirty) days after invoice date to the-bank designated by seller. Transfer charges are for account of buyer.
If buyer does not pay within this term, seller shall automatically have ipso jure and without any prior formal notice, the right to charge legal interest plus 2 % from due date of the invoice. Moreover, in case of late payment, a fixed indemnity corresponding to 10 % of the payable amount shall automatically be due from the first day following the due date, without prejudice to seller's right to prove higher damage and ask for corresponding indemnity. Should payment be in foreign currency, seller has the right to adapt the foreign currency in case of depreciation-of this foreign currency in regard of the euro.
Should payment of the delivered goods be in instalments, the non-payment of one of the instalments gives seller the right to terminate the contract. The payments, which were done until then, shall remain property of seller as indemnity, without prejudice to the right to claim further damages or to the right to require the performance of the contract.
Payment of advance shall not give buyer the right to terminate the contract upon reimbursement of the paid advance, If payment is done by bill of exchange or check, payment is deemed satisfied only when the bill of exchange or the check is honoured.
Place of payment is always Mechelen even if payment is done with bill of exchange.

3. RETENTION OF TITLE
Delivered goods remain property of seller until full payment has been received by seller. The sale of an unpaid item by buyer to a third party results in automatic assignment of the debt due by the third party to buyer, inclusively the retention of title, to seller. Seller has then the authority to take any necessary means in order to validly assign towards the third party. Seller may retake unpaid goods at any time and he may inform any client and/or any subcontractor of buyer about the fact that seller is and remains the only owner of the concerned goods until full payment.
The purchaser undertakes to carefully keep the goods that have not been paid for, and undertakes not to pledge them or use them in any other way as a guarantee or security. The purchaser shall inform third parties who may apply any security rights over his assets (such as, but not limited to, the lessor of the premises occupied by the purchaser) that the products are and shall remain the property of the vendor until full payment of all sums owed by the purchaser to the vendor, and in the event of an attachment
or other measures taken by third parties that apply to products for which full payment has not yet been made the purchaser undertakes to immediately inform the vendor of this to enable him to apply his rights.

4. RISKS
Notwithstanding the preceding provisions, the risk transfers to buyer as soon as he has the goods at his disposal.

5. DISPATCHING OF INSIGNIFICANT VALUE
Each dispatch of less than € 60 will be increased with costs of payments and-may, at sellers option, be sent cash on delivery (COD).

6. PRICE OFFERS AND PRICE LISTS
Price offers and price lists are without obligation and are subject to change without any previous notice.
Any information released by seller is delivered in good faith and seller shall not be responsible for the choice of material and goods.

7. PRICE AND DISPATCHING
All prices are ex works. Transportation, duties and taxes for account of buyer, unless seller's previous and express written specification to the contrary. Seller shall send goods by the fastest and most economic way at the risks of buyer. Goods may be insured by seller at buyer's option, the insurance premiums are for buyer. Seller is not responsible for the choice of packing.

8. DELIVERY
Date of delivery is the date when the goods are ready for inspection at the indicated place. Place of origin is Niel, Belgium, or any other place indicated by seller. Seller is not responsible for any late delivery, except those delays due to his own fault or gross negligence.

9. RETURNING OF GOODS
No goods can be returned without seller's previous, express and written consent. If buyer commits an error in ordering, the retaking of goods is possible only for inventory standard items. Goods must be returned within 15 (fifteen) days after invoice date and all goods must be in original conditions,' all costs of transport are for buyer, as well as insurance and repacking costs. Special-order goods, marked or used items are non-returnable.

10. DEFECTS
Seller warrants defects in material and/or workmanship. Warranty is limited to the replacement or repair, at seller's option, of any merchandise found defective during 1 month. This warranty does not include defects due to buyer's fault or to abnormal use, bad maintenance, imperfect installation, buyer's inadequate repair, unforeseeable circumstances or in case changes were brought to material without previous and express written approval of seller.
Notice of conspicuous defects must be given to seller by registered letter sent within 10 (ten) working days following date of delivery.
Notice of hidden defects must be given to seller by registered letter with in 10 (ten) working days after date of discovery, and in any case, within a 10-month term following date of delivery.
Seller is not responsible for any damage and in particular salary and material costs, losses, loss of profit or loss of a chance incurred by buyer, unless it is demonstrated that defect is due to seller's gross or intentional fault. If seller is responsible for defect, seller has the right either to terminate the contract and to pay back all the invoiced prices or to replace the delivered product within a reasonable term. If goods for repair must be transported, costs and risks of this transport are for buyer.
In case seller is responsible for any damage, this will be limited to the foreseeable damage with a maximum amount corresponding to the amount of the product's invoiced price.
Should a third party lodge a claim against seller to obtain payment of an indemnity for a damage for which seller is not responsible in accordance with the present conditions or for a higher amount than the one seller is responsible for, buyer will warrant seller against those claims.

11. DESCRIPTION
Only product descriptions used in seller's latest literature and correspondence with buyer, are binding for description of goods.
Buyer is responsible for using items in conformity with all regulations, including but not limited to, the safety regulations in force at the place of use.

12. SPECIFIC ORDERS
For the performance of a special work, the project signed by buyer is binding to the extent it has been accepted by seller.
For the performance of such work, special conditions may be required. In case of any inconsistency between general conditions and special conditions, the special conditions shall apply. Should special conditions be unclear, they shall be interpreted in light of the general conditions.

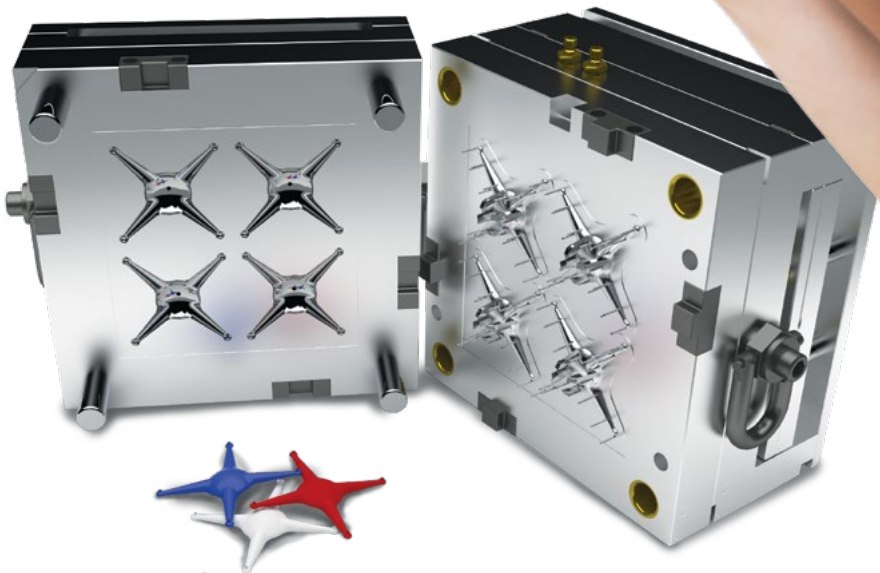
13. ACT OF GOD
Seller shall not pay any damage for non-performance or late performance of his undertakings due to Act of God. Act of God includes in particular and without being limited thereto, strike, lock-out, and the non-performance by seller's suppliers of their undertakings.

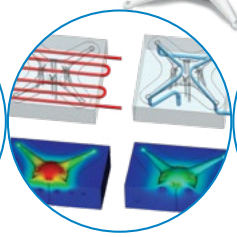
14. VALIDITY AND INDIVIDUAL CLAUSES
If one or more provisions of these present general conditions are held to be invalid, the remaining provisions will continue to be valid and enforceable, and parties will agree upon other provisions having an economic effect that corresponds closest to the economic effect of the invalid provision(s).

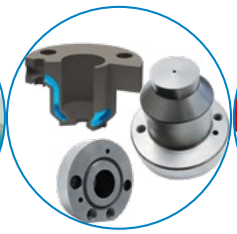
15. WAIVER
In case seller does not exercise one of his rights in accordance with the present conditions, this shall not be interpreted as a waiver of these rights.

16. APPLICABLE LAW – COMPETENT COURTS
This sales contract will be governed by Belgian law. The competent court is the Commercial Court of Mechelen, without prejudice to seller's right to introduce the case before another competent court.

THE WIDEST RANGE OF THE MOULD COMPONENTS IN THE INDUSTRY







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MOULD FLOW SERVICES

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