



FROM PELLET TO PART...
YOUR PARTNER FOR PRODUCTIVITY
& SUSTAINABILITY



**WORKSHOP
EQUIPMENT**



eSTORE

store.dme.net

Your One Stop Shop



Available Online **24/7**



YOUR BENEFITS

- Easy registration process
- 40.000 active items
- Robust 3D CAD library (35 native formats)
- Mouldbase configurators
- 15 language versions
- Bulk order
- Converter features
- LIVE support - chat

MOULD MAINTENANCE EQUIPMENT

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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



No matter what solutions you need from processing equipment to tooling to industrial supplies and aftermarket parts, we deliver the technology you need to optimize the total life cycle of your products. With the industry broadest catalogue, DME provides a single source for virtually any tooling application.

DME's global product platforms provide reliability to our multinational customers, who know they're getting the same high-quality DME solutions worldwide.

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*
- *Extended range of workshop equipment and industrial supplies*
- *Innovative digital platform: eSTORE and 3D libraries*





DME ensures fast and reliable deliveries and carries over 35,000 stock products for all your moulding needs with a large warehouse in central Europe. Modern equipment and the workflow for fast dispatching ensure the swift and flawless processing.

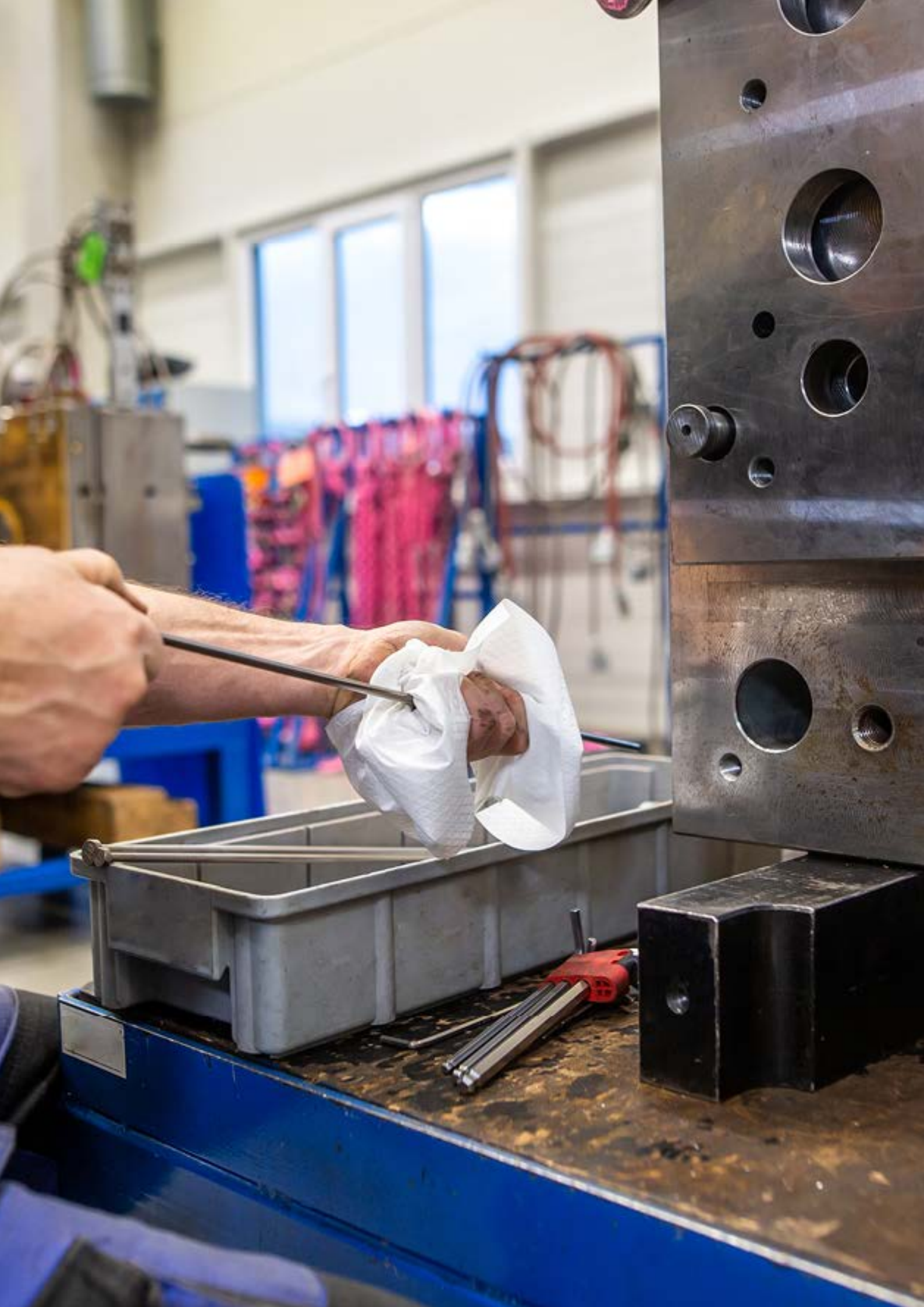
DME manufacturing facilities are ISO 9001 certified to provide consistent, dependable quality.

With eight decades of making mould makers, moulders and designers more efficient and more productive, we've become an essential resource to the industry.



MOULD MAINTENANCE EQUIPMENT





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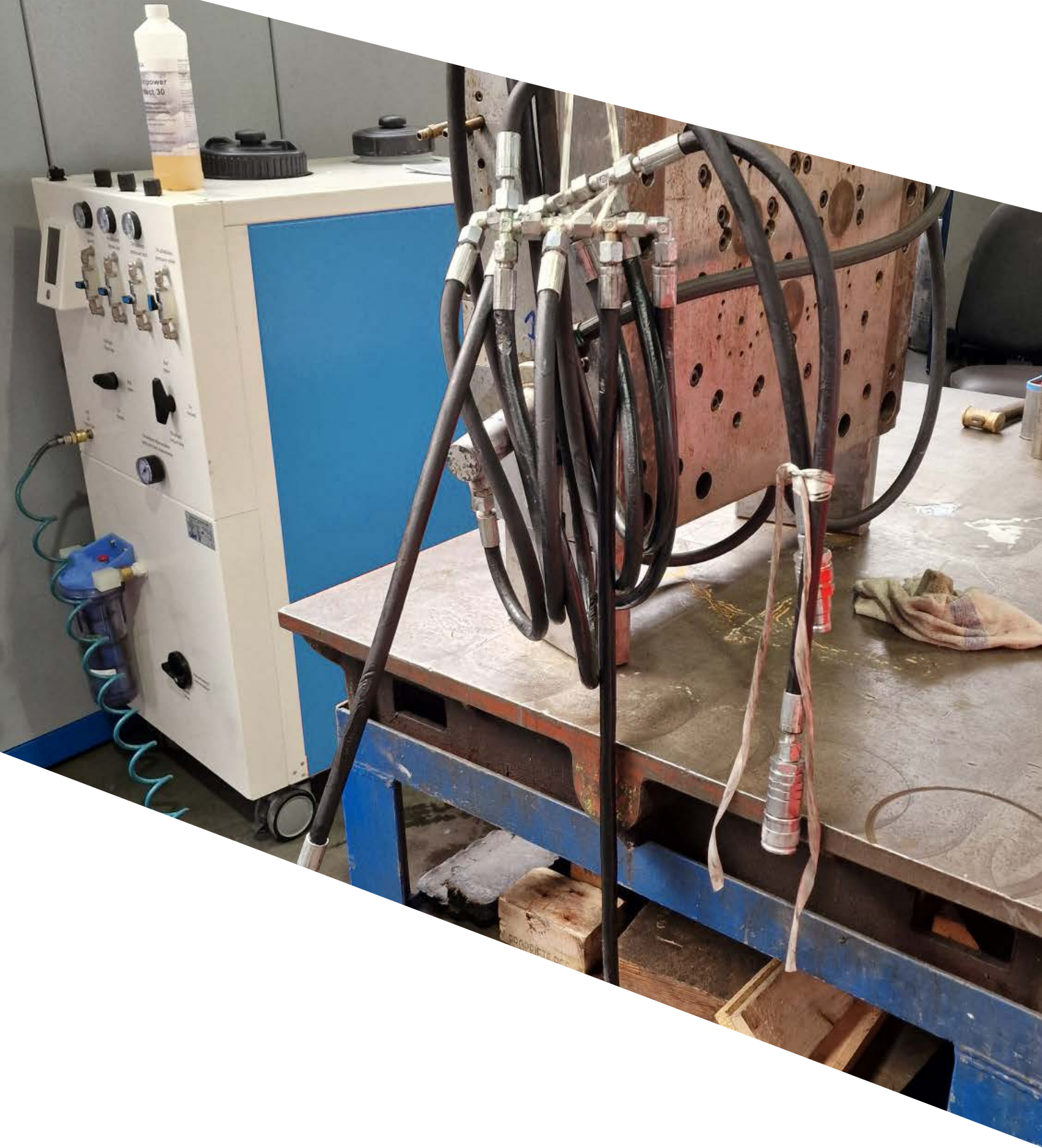
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COOLING CIRCUITS CLEANING



COOLING CIRCUITS CLEANING

CLEANCARE

CCA



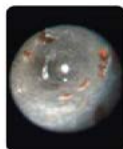
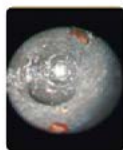
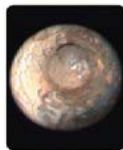
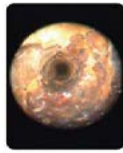
CCA-M4500



CCA-M7000

5 hours operating time

BEFORE



AFTER

CleanCare is the result of decades of experience in industry and trade, reliable and easy-to-use device for automated cleaning of water-bearing systems. CleanCare removes rust, limescale and other deposits from water systems. The cleaning medium is powered by compressed air only. Benefit from a huge increase in performance, comprehensive cost reduction and first-class service.

Benefits:

- **COMPREHENSIVE CLEANING** - Rust, lime and other deposits are removed from your water-bearing systems, tools and machines.
- **QUALITY AND PERFORMANCE IMPROVEMENT** - After cleaning, you will notice a significant difference in the quality, efficiency and performance of your systems.
- **WEAR AND TEAR AND REPAIR MINIMIZATION** - Reduced wear on your machines, less maintenance, minimized production downtime and lower repair costs.
- **ENERGY COST SAVINGS** - You will achieve a significantly lower energy resource consumption with the CleanCare.

Fields of application:

- INJECTION MOULDING MACHINES
- INJECTION MOULDING TOOLS
- TEMPERATURE CONTROL UNITS
- COOLING CIRCUITS

Basic features:

- single rinse of operating cycles
- leakage test of operating cycles
- single operation with compressed air
- low-maintenance and robust membrane pump
- large smooth-running wheels
- large tanks for rinsing / preserving
- extendable hose for flow and return (2 x 5 m)

Technology features:

- USB port for saving the cleaning protocol
- simple to perform software updates
- backlit colour touch display
- direct pH measurement of the rinse water cycle
- direct flow measurement of the rinse water cycle
- display of process data on the touch display
- saves relevant protocol data on a USB stick
- integrated rechargeable batteries for mains-independent operation

Size & Weight:

Size: 528 (width) x 1190 (height) x 790 (depth) mm
Weight: approx. 67 kg (empty)

Performance characteristics:

Max. flow rate: 28 l / min (M7000S with 80l/min)
Feed pressure: 6-8 bar
Max. drive pressure: 8 bar (M7000 and M7000S, can be upgraded to 10 bar)
Cleaning tank capacity: approx. 115 l
Preservation tank capacity: approx. 18 l
Filter mesh size: 60 - 350 µm

Electrical connection:

Power supply: 230V/ 50Hz
Power consumption: max. 50 VA



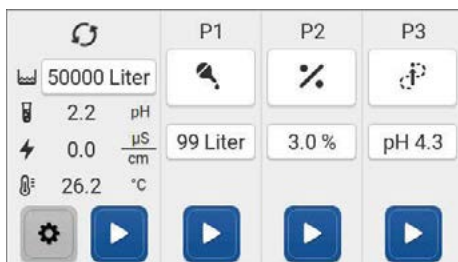
MICROCONTROLLING UNIT FOR AUTOMATIC RINSING

TOUCHSCREEN DISPLAY SHOWING OPERATION VALUES OF THE CLEAN CARE OPTISYSTEMS 4800 / 7000

Chemicals REF	Description
CCA-P0010	High performance descaler 15 l container
CCA-P0010-BIO	High performance descaler 15 l container - BIO
CCA-P0020	Neutraliser

Chemicals REF	Description
CCA-P0030	complexing agent and corrosion protection
CCA-P0030-BF	complexing agent and corrosion protection - boron free
CCA-P0050	cleaning agent, removes oil contamination

CleanCare REF	Basic features	Automation	pH-measurement	Flux measurement	Separate preservation tank
CCA-M4500	✓				
CCA-M4800	✓	✓	✓	✓	
CCA-M6000	✓				✓
CCA-M7000	✓	✓	✓	✓	✓
CCA-M7000S	✓	✓	✓	✓	✓



MIKROCONTROLLER UNIT FOR AUTOMATIC FILTRATION AND DOSAGE

4,3" TOUCH DISPLAY FOR DISPLAYING THE OPERATING VALUES

Clean Care Universal is an easy-to-use, stationary or mobile cleaning device for **filtering, processing, suction and monitoring liquid media** in open and closed circuits.

Benefits:

- **COST SAVINGS** - Reduction of waste volumes, automatic maintaining the quality of the liquid
- **TIME SAVINGS** - Automatic dosing of additives depending on the quality of the fluid
- **ENERGY SAVINGS** - Clean cooling medium reduces the energy costs and cycle times
- **IMPROVEMENT OF THE CLEANING/LUBRICATION/COOLING QUALITY** - Improvement of the quality through continuous filtration and stabilization of the pH-value

Fields of application:

- INJECTION MOULDING MACHINES
- TEMPERATURE CONTROL UNITS
- COOLING CIRCUITS
- CLEANING BATHS
- CNC-MACHINING CENTERS

Basic features:

Superfiltration and maintaining the quality of cooling water, cooling lubricant and cleaning baths

- 3-stage filtration
- 3x dosage pump
- Automatic pump control
- Dosage correlating to target pH-value, target conductivity or target capacity
- Process recording on a USB-flash drive
- 4,3" touch display for displaying the operating values and controlling the device

Performance features:

- Flow rate (reducible): about 3000 l/h at 1 bar
- Max feed pressure: 4 bar
- Max. inlet pressure: 1 bar

Dimensions & weight:

- Dimensions (H/W/T): 121 cm / 73 cm / 100 cm
- Weight: 130 kg (empty)

Supply connections:

- Power supply: 230 V / 50 Hz
- Power consumption: max. 50 VA
- Pneumatic drive pressure: min. 2 bar
- Air consumption: 200 l/min. at 4 bar

Available accessories:

- PH stabilizer, germ reducing agents, corrosion inhibitors, cleaning enhancers
- Canister connections with empty status detection
- Various suction lances / brush / floor cleaning pig / skimmer
- Filter inserts with a mesh size of 1 μ up to 1000 μ and a filter medium degreasing agent







FLOWMETERS



FLOWMETERS

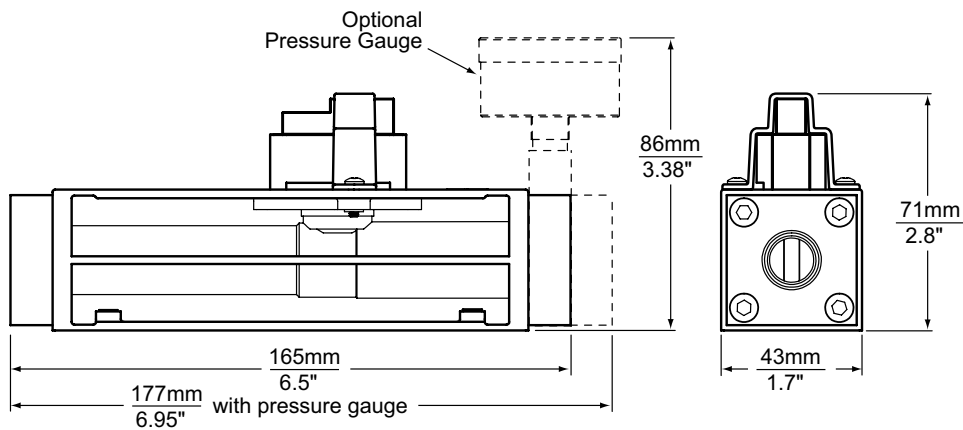
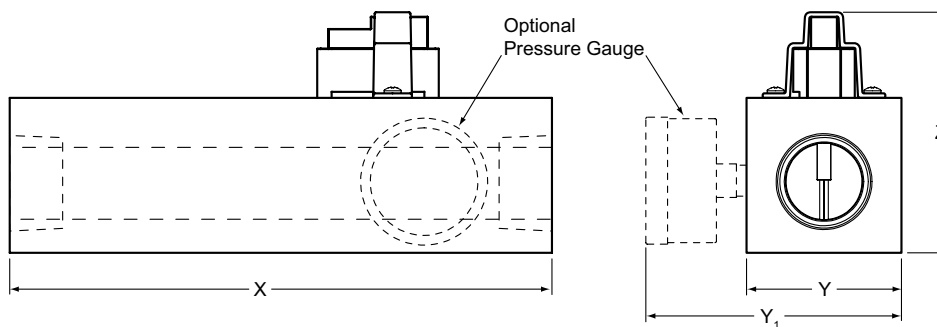
BASE FLOWMETERS

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

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

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 gauge not available with AL body)**


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



FLOWMETERS

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)

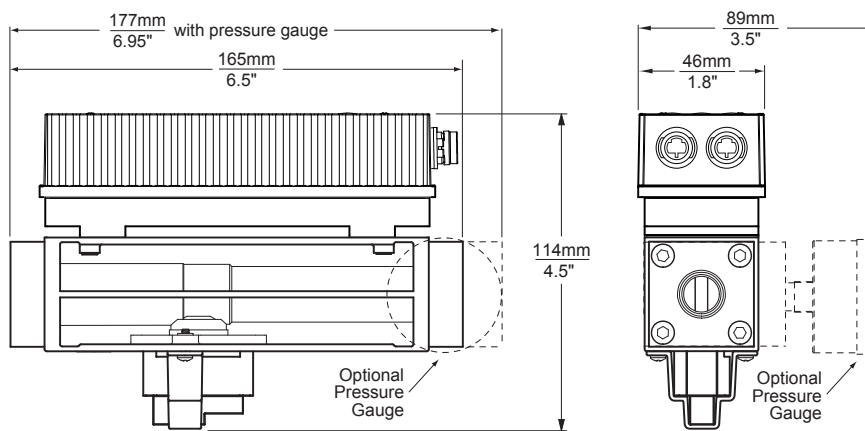
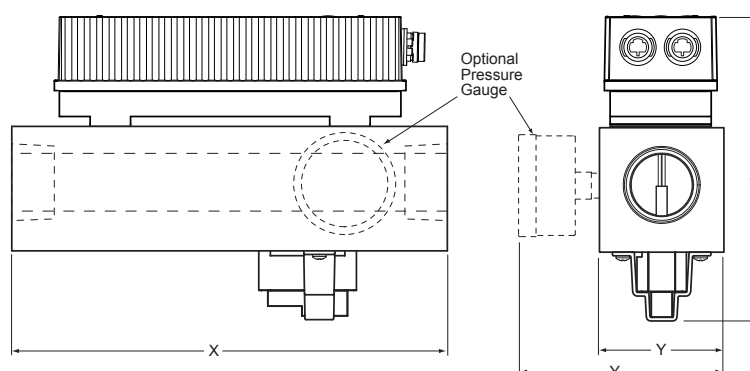
Specifications:

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

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	51.2/2.0	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

3/8" 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 gauge not available with AL body)**


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"	BSP	Anodized Aluminium	100
VM8BAL100HL	1"	BSP	Anodized Aluminium	100
VM8BAL200HL	1"	BSP	Anodized Aluminium	200
VM12BAL200HL	1-1/2"	BSP	Anodized Aluminium	200
VM3BB15HL	3/8"	BSP	Glass-Filled Nylon + Brass End Caps	15
VM3BB40HL	3/8"	BSP	Glass-Filled Nylon + Brass End Caps	40
VM4BB15HL	1/2"	BSP	Glass-Filled Nylon + Brass End Caps	15
VM4BB40HL	1/2"	BSP	Glass-Filled Nylon + Brass End Caps	40
VM3BN15HL	3/8"	BSP	Stainless Steel	15
VM3BN40HL	3/8"	BSP	Stainless Steel	40
VM4BN15HL	1/2"	BSP	Stainless Steel	15
VM4BN40HL	1/2"	BSP	Stainless Steel	40
VM12SS200HL	1-1/2"	BSP	Stainless Steel	200
VM6BSS100HL	3/4"	BSP	Anodized Aluminium	100
VM8BSS100HL	1"	BSP	Anodized Aluminium	100
VM8BSS200HL	1"	BSP	Anodized Aluminium	200
VM12BSS200HL	1-1/2"	BSP	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"	BSP	Glass-Filled Nylon + Brass End Caps	100
VM8BAL100HR	1"	BSP	Nylon End Caps	100
VM8BAL200HR	1"	BSP	Nylon End Caps	200
VM12BAL200HR	1-1/2"	BSP	Nylon End Caps	200
VM3BB15HR	3/8"	BSP	Nylon End Caps	15
VM3BB40HR	3/8"	BSP	Anodized Aluminium	40
VM4BB15HR	1/2"	BSP	Anodized Aluminium	15
VM4BB40HR	1/2"	BSP	Stainless Steel	40
VM3BN15HR	3/8"	BSP	Stainless Steel	15
VM3BN40HR	3/8"	BSP	Anodized Aluminium	40
VM4BN15HR	1/2"	BSP	Anodized Aluminium	15
VM4BN40HR	1/2"	BSP	Anodized Aluminium	40
VM12SS200HR	1-1/2"	BSP	Anodized Aluminium	200
VM6BSS100HR	3/4"	BSP	Stainless Steel	100
VM8BSS100HR	1"	BSP	Stainless Steel	100
VM8BSS200HR	1"	BSP	Stainless Steel	200
VM12BSS200HR	1-1/2"	BSP	Stainless Steel	200

CAD reference point

FLOWMETERS

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.

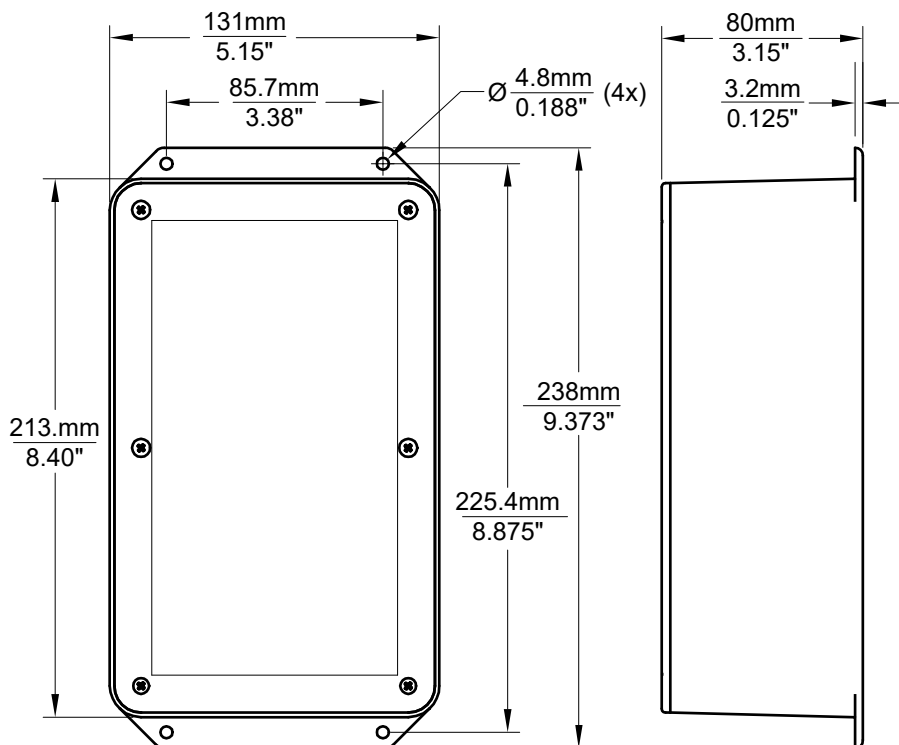
Specifications:

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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REF
VMBT1100



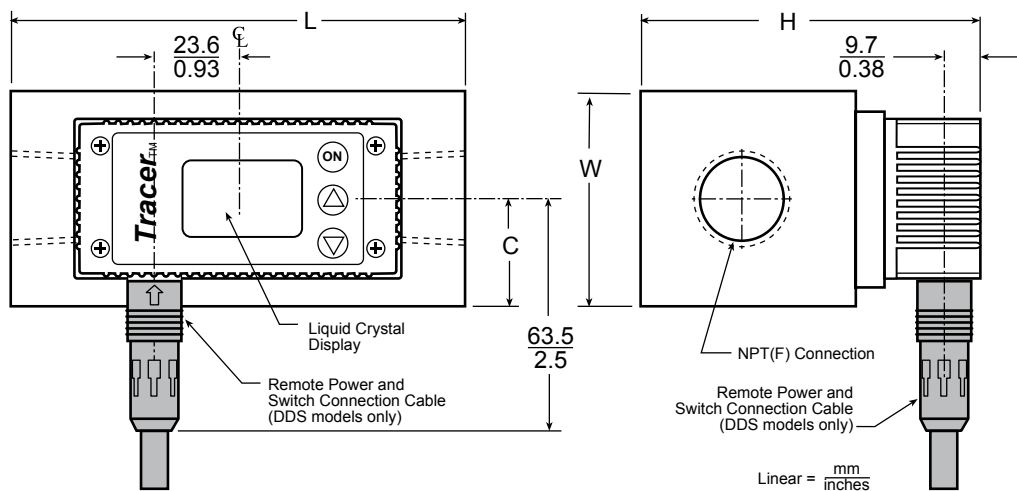
CAD reference point

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

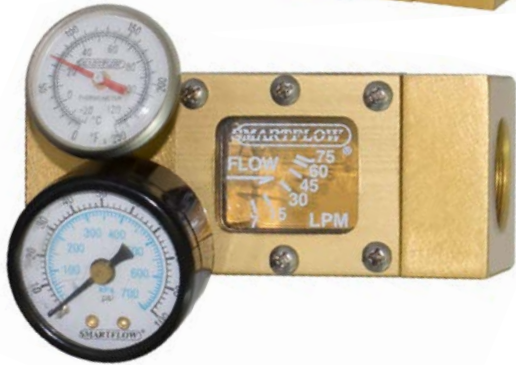
REF	Inlet/Outlet	Temp. range	Temp. accuracy	Flow	Flow accuracy	Weight
DD3B	3/8" NPT inlet and outlet	0-82 °C	± 2%	2-30 lpm	± 5%	0,7 kg
DD3BB	3/8" BSPP inlet and outlet	0-82 °C	± 2%	2-30 lpm	± 5%	0,7 kg



FLOWMETERS

MECHANICAL FLOWMETERS

F

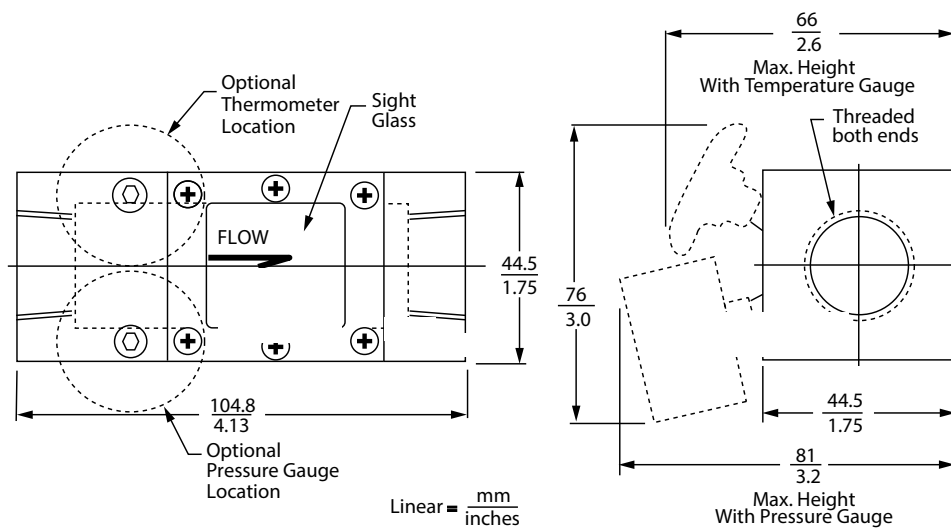

Features and benefits

- 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



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

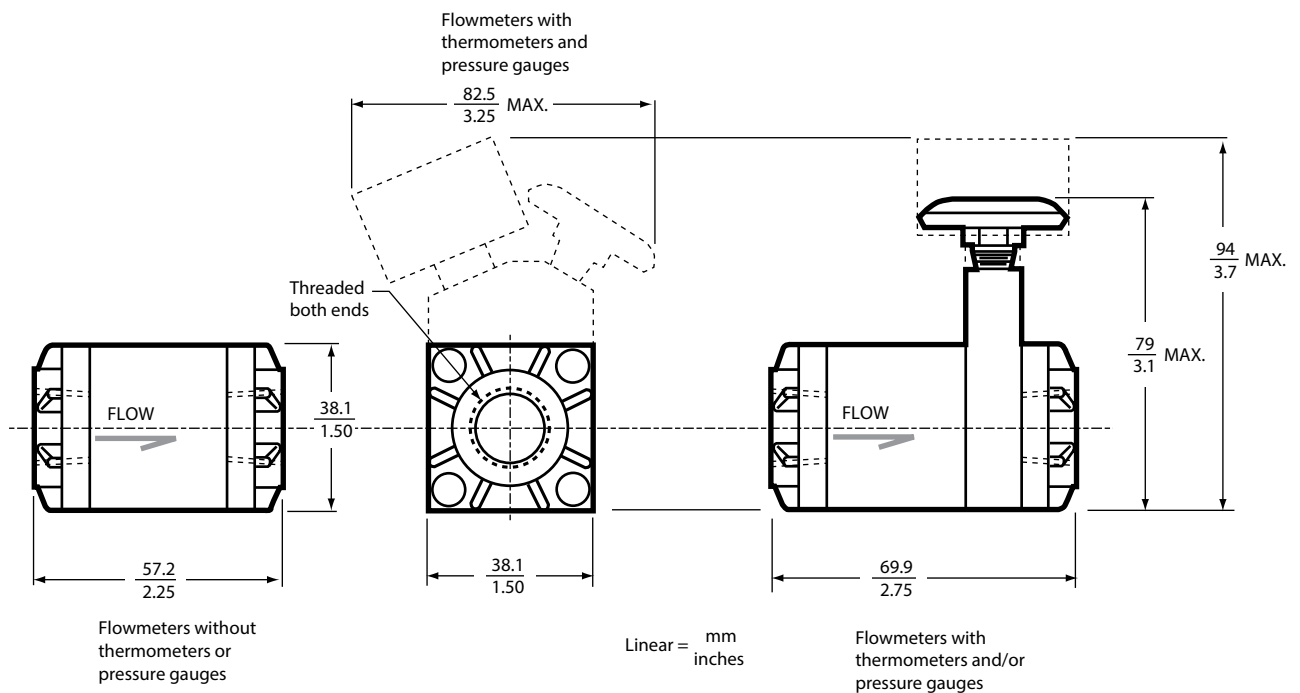
End caps	Glass-filled nylon
Flow body	Polysulfone
Vane	Glass-filled nylon
Spring	Stainless steel
O-rings	EPDM
Cap screws	Stainless steel
Optional quick connect fittings	Brass

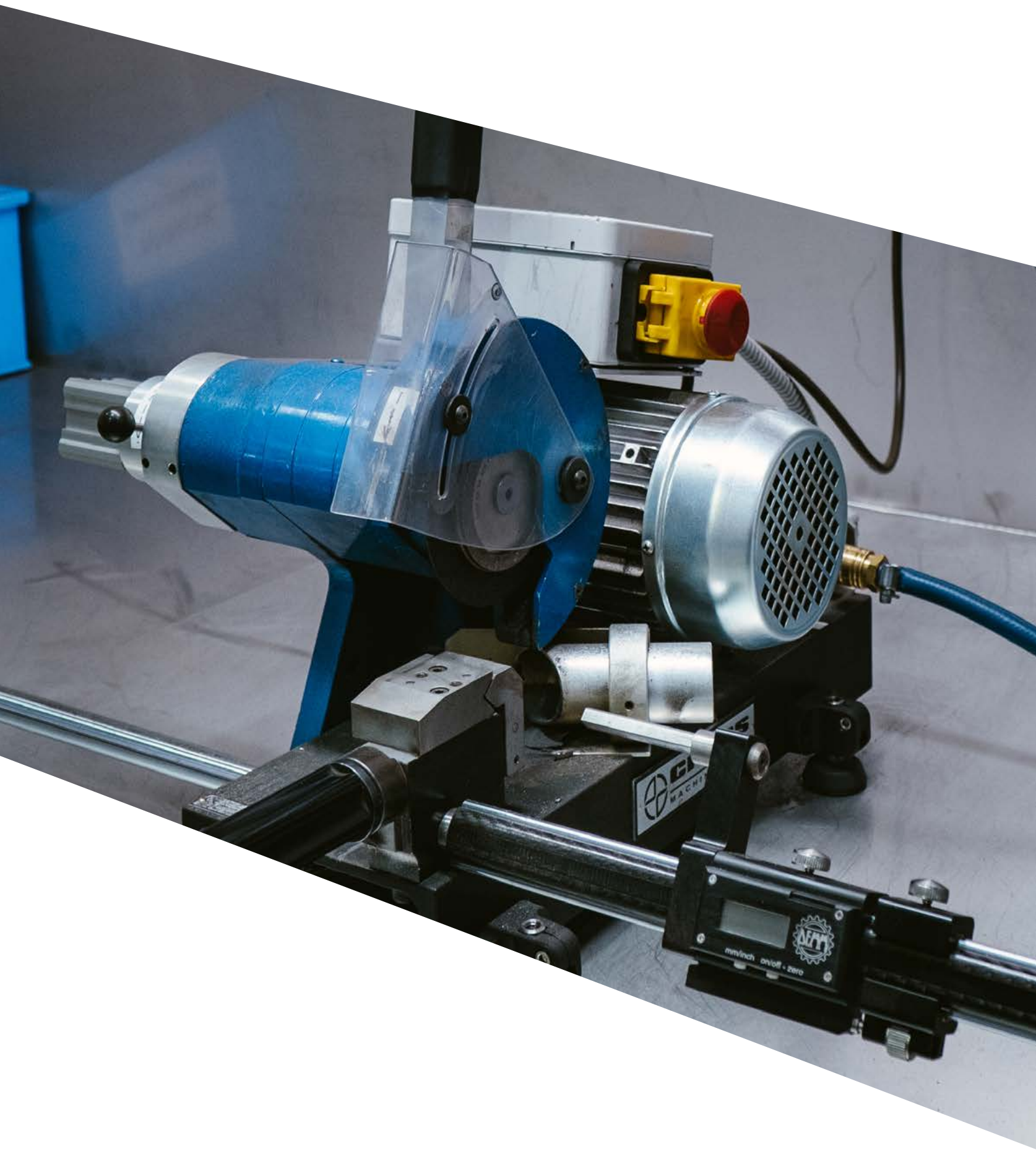
Specifications

Flow accuracy	±10% full scale
Operating temperature	99°C max.
Operating pressure	100 PSI max.
Dial thermometer	-20°C - 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







EJECTOR CUTTING MACHINES



DME CUTTING MACHINES

CUTTING-GRINDING MACHINE

DCMMAX

Description

The DCMMAX300 machine is suitable for cutting ejector pins to length, this is done by precision cutting and front grinding. The cast structure supports the control linkage, the disk-grinding wheel supports the spindle. The micrometric adjustment striker is controlled by a digital rod with centesimal resolution display. An adjustable lever on the spindle side allows the excess metal to be removed while maintaining the machine at position zero. To prevent accidents at start up & shutdown, when changing the workpiece, the control lever needs to be released.

Technical specifications

Max. cuttable diameter	20 mm
Cutting disc diameter	150 mm
Grinding wheel diameter	78 mm
Rotation speed	7500 rpm
Motor power	0,75 kW
Electric connection	400V / 3 Phase
Weight	30 kg
Important	Compressed air required

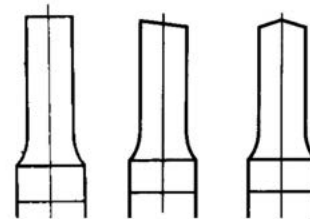
REF	Description
Machines	
DCMMAX300	DCMMAX Cutting-grinding machine with measurement equipment till 300mm
DCMMAX500	DCMMAX Cutting-grinding machine with measurement equipment till 500mm
DCMMAX800	DCMMAX Cutting-grinding machine with measurement equipment till 800mm
Accessories	
DCM500	Measurement equipment till 500 mm
DCM800	Measurement equipment till 800 mm
DCMCD150	Cutting disc diameter 150 mm
DCMGWMAX	Grinding wheel diameter 78 mm

CUTTING MACHINE **DCM200**



Description
 This super-fast cutting machine allows fast and precise cutting of pins, extractors, screws, punches, keys, bars and more. Indispensable for use in the adjustment and assembly.

Technical specifications	
Max. cuttable diameter	20 mm
Adjustable angle of cut	0° - 45°
Cutting disc diameter	150 mm
Rotation speed	7500 rpm
Motor power	0,55 kW
Weight	25 kg
Electric connection	400V / 3 Phase



Adjustable angle of cutting

REF	Description
Machines	
DCM200	DCM Cutting machine with measurement equipment till 300 mm
Accessories	
DCMCD150	Cutting disc diameter 150 mm





MOULD MAINTENANCE TABLE



SERVICE TABLE - INFO

SERVICE TABLE FOR MOULDS - GENERAL OVERVIEW Info

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
 2 sizes for maximal load 1.500 kg / 2.000 kg / 3.000 kg and 2 sizes for maximal load 6.000 kg
 Optional base-platform to raise total height to 850 mm

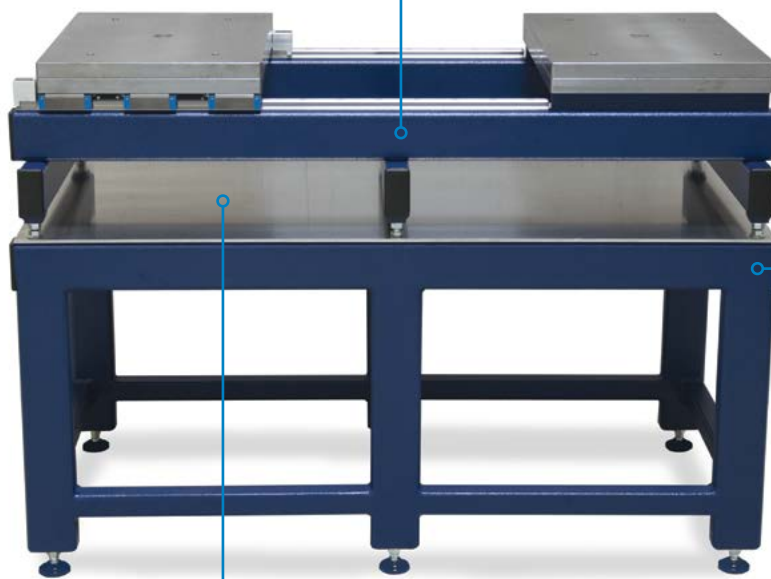
MECHANICAL CLAMPING BRACKET (EQ)
available in 2 standard sizes



MAGNETIC CLAMPING BRACKET (XL)
available in 6 standard sizes



OPTIM TABLE WITH SLIDING PLATES
Standard with screw holes
EQ for bracket with mechanical clamping
XL for brackets with magnetic clamping



BASE PLATFORM
available in 4 standard sizes



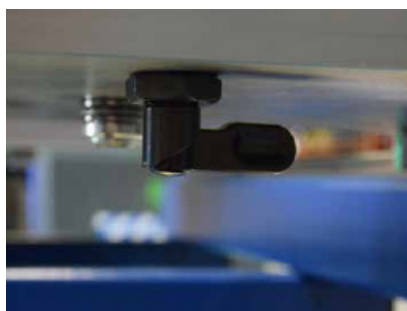
DRAWER UNIT
available in 4 standard sizes



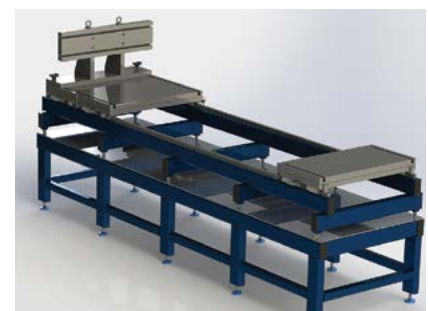
ALUMINIUM PLATE
Use this plate to store the tools you're using when working on the mould



Mechanical stop
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).



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.

OPTIM TABLE STANDARD AND XL VERSION 1,5 / 2 / 3 TONS

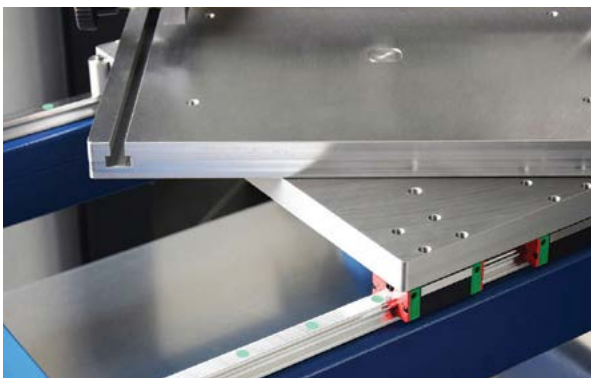
OPTIM TABLE STANDARD AND XL VERSION MAX LOAD 1,5 / 2 / 3 TONS **OPTIM**



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 850 mm (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

Technical specifications		
	Standard version	XL version
Max. load	1500 kg	1500 kg
	2000 kg	2000 kg
	3000 kg	3000 kg
Length	1210 mm	1500 mm
Width	590 mm	690 mm
Working height without base platform	275 mm	275 mm
Sliding plate dimension	500 mm x 350 mm	500 mm x 520 mm
Opening stroke	428 mm	428 mm



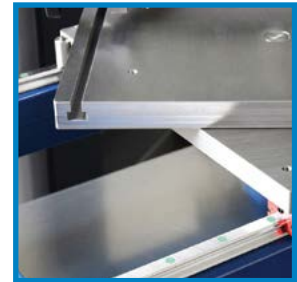
CAD reference point



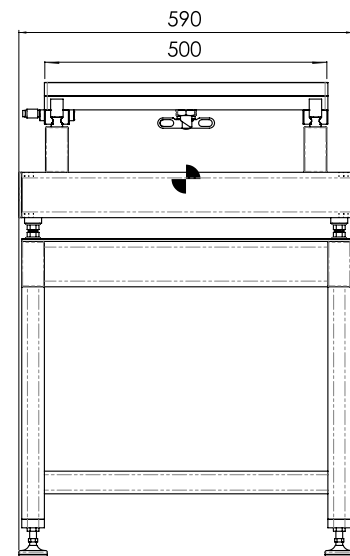
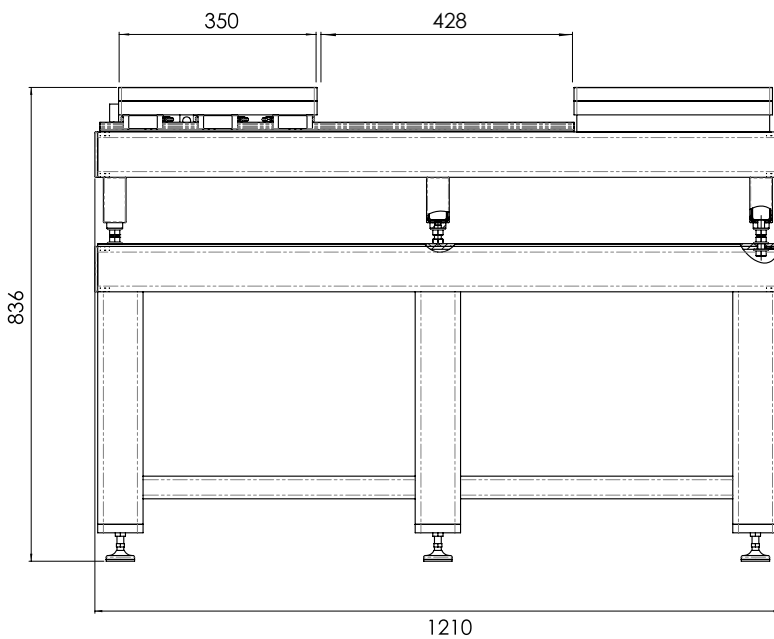
PIVOT PLATES

OPTIM TABLE STANDARD AND XL VERSION 1,5 / 2 / 3 TONS

OPTIM TABLE STANDARD AND XL VERSION MAX LOAD 1,5 / 2 / 3 TONS **OPTIM**



Rotating plates included



REF	Description
OPTIM850	Base platform 850 max 3.000kg for Optim tables 2515; 2520; 2530
OPTIM850AL	Aluminum plate 1200x580x5mm for Base platform 850
OPTIM2515	Optim table 2515 with sliding plates max. 1.500kg with holes for screws
OPTIM2520	Optim table 2520 with sliding plates max. 2.000kg with holes for screws
OPTIM2530	Optim table 2530 with sliding plates max. 3.000kg with holes for screws
SETS for maximal load 1.500kg / 2.000kg / 3.000kg	
OPTIM2515-850	Base platform 850 + Optim table 2515 max. 1.500kg
OPTIM2515-850AL	Base platform 850 + Optim table 2515 + Aluminium plate - max. 1.500kg
OPTIM2520-850	Base platform 850 + Optim table 2520 - max. 2.000kg
OPTIM2520-850AL	Base platform 850 + Optim table 2520 + Aluminium plate - max. 2.000kg
OPTIM2530-850	Base platform 850 + Optim table 2530 - max. 3.000kg
OPTIM2530-850AL	Base platform 850 + Optim table 2530 + Aluminium plate - max. 3.000kg

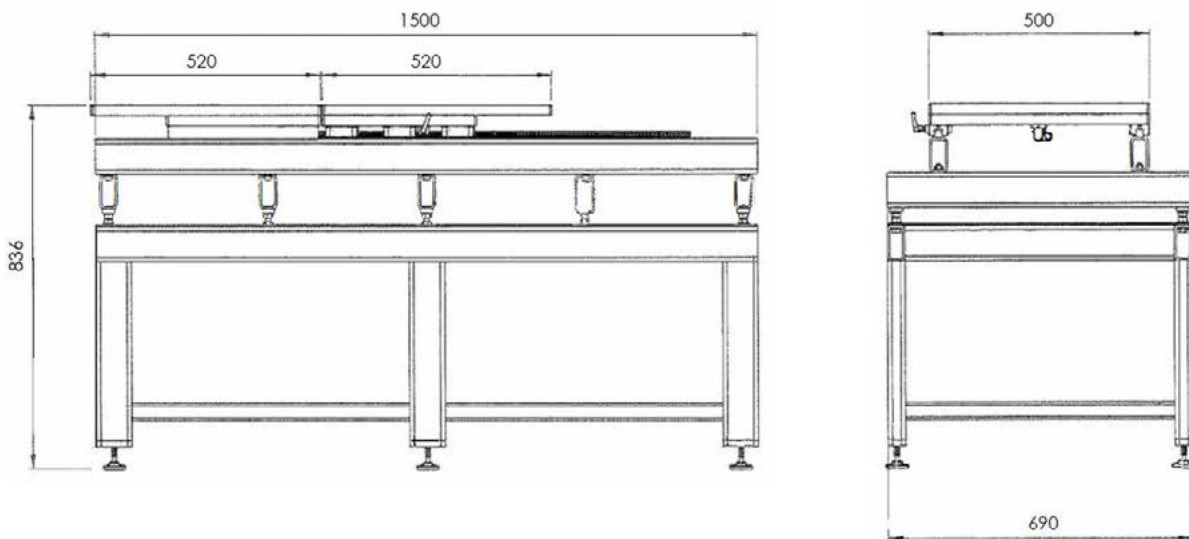
OPTIM TABLE STANDARD AND XL VERSION 1,5 / 2 / 3 TONS

OPTIM TABLE XL VERSION WITH MECHANICAL BRACKET 1,5 / 2 & 3 TONS **OPTIM**



Rotating plates included

One mechanical clamping bracket included in set



REF	Description
OPTIM850XL	Base platform 850XL max 3.000kg for Optim tables 2515EQ/XL; 2520EQ/XL; 2530EQ/XL
OPTIM850ALXL	Aluminum plate 1500x690x5mm for Base platform 850XL
OPTIM2515EQ	Optim table 2515 with sliding plates max. 1.500kg for mechanical brackets
OPTIM2520EQ	Optim table 2520 with sliding plates max. 2.000kg for mechanical brackets
OPTIM2530EQ	Optim table 2530 with sliding plates max. 3.000kg for mechanical brackets
SETS for maximal load 1.500kg / 2.000kg / 3.000kg	
OPTIM2515-850ALMB	Base platform 850XL + Optim table 2515EQ + Aluminium plate + Mechanical clamping bracket 1 piece - max. 1.500kg
OPTIM2520-850ALMB	Base platform 850XL + Optim table 2520EQ + Aluminium plate + Mechanical clamping bracket 1 piece - max. 2.000kg
OPTIM2530-850ALMB	Base platform 850XL + Optim table 2530EQ + Aluminium plate + Mechanical clamping bracket 1 piece - max. 3.000kg
Accessories	
OPTIMEQ	Mechanical clamping bracket for max 3.000kg (1 piece)

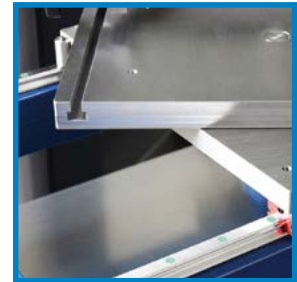
CAD reference point

OPTIM TABLE STANDARD AND XL VERSION 1,5 / 2 / 3 TONS

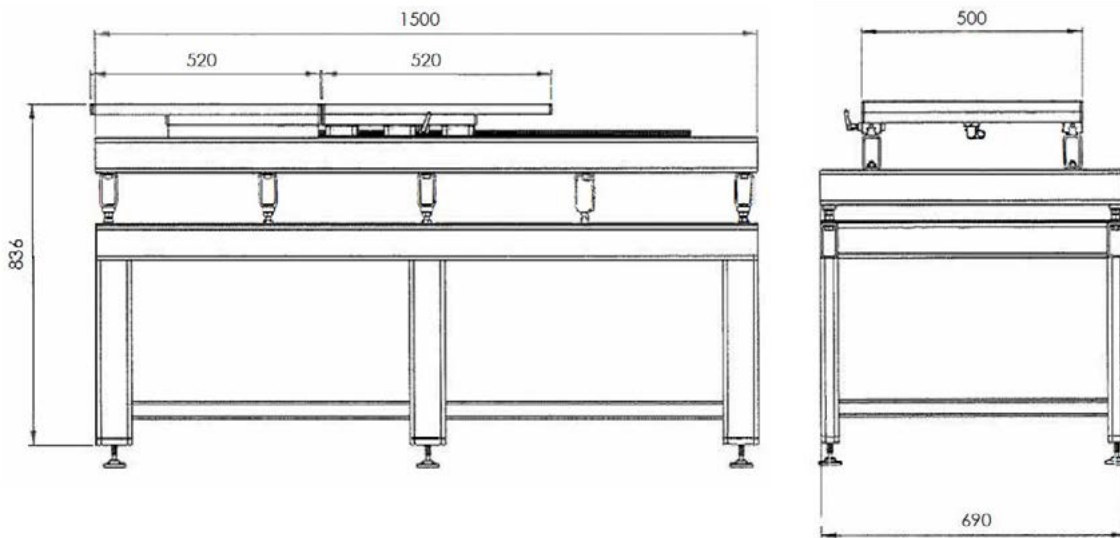
OPTIM TABLE XL VERSION 1,5 / 2 & 3 TONS **OPTIM**



Magnetic brackets must be purchased separately



Rotating plates included



REF	Description
OPTIM850XL	Base platform 850XL max 3.000kg for Optim tables 2515EQ/XL; 2520EQ/XL; 2530EQ/XL
OPTIM850ALXL	Aluminum plate 1500x690x5mm for Base platform 850XL
OPTIM2515XL	Optim table 2515 with sliding plates max. 1.500kg for magnetic brackets
OPTIM2520XL	Optim table 2520 with sliding plates max. 2.000kg for magnetic brackets
OPTIM2530XL	Optim table 2530 with sliding plates max. 3.000kg for magnetic brackets
SETS for maximal load 1.500kg / 2.000kg / 3.000kg	
OPTIM2515-850ALXL	Base platform 850XL + Optim table 2515XL + Aluminium plate - max. 1.500kg
OPTIM2520-850ALXL	Base platform 850XL + Optim table 2520XL + Aluminium plate - max. 2.000kg
OPTIM2530-850ALXL	Base platform 850XL + Optim table 2530XL + Aluminium plate - max. 3.000kg
Accessories	
OPTIMEQMAG120090	Magnet bracket 135/125x38mm
OPTIMEQMAG180090	Magnet bracket 195/195x45mm
OPTIMEQMAG260090	Magnet bracket 285/195 x 45mm

OPTIM TABLE STANDARD MAX LOAD 6 TONS **OPTIM**



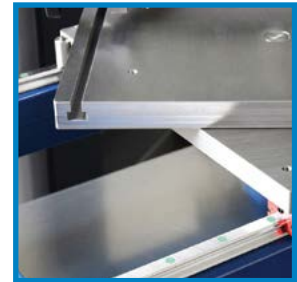
ADVANTAGES
 Top pivot plates easily rotates 360° with locking indexing every 90°
 Mobile pivot plate can be locked into position at the end of opening stroke
 Pivot plates allows the Mould and Plates to be separated and rotated without the use of cranes

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

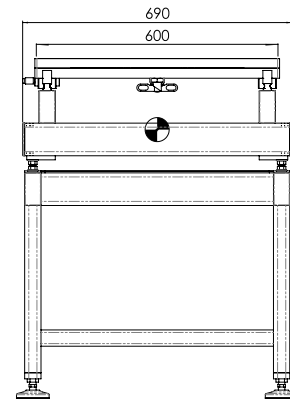
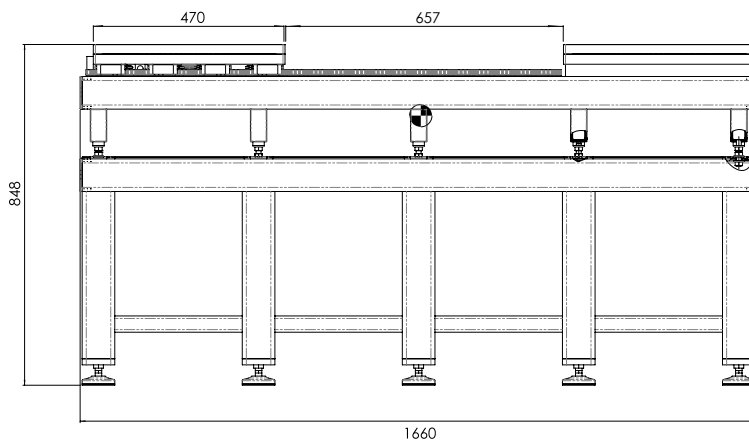
Technical specifications		
	Standard version	XL version
Max. load	6000 kg	6000 kg
Length	1660 mm	2020 mm
Width	690 mm	810 mm
Working height without base platform	275 mm	275 mm
Sliding plate dimension	600 mm x 470 mm	640 mm x 600 mm
Opening stroke	657 mm	740 mm

OPTIM TABLE STANDARD 6 TONS

OPTIM TABLE STANDARD 6 TONS OPTIM

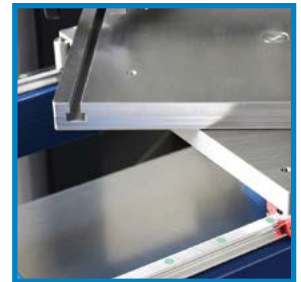


Rotating plates included



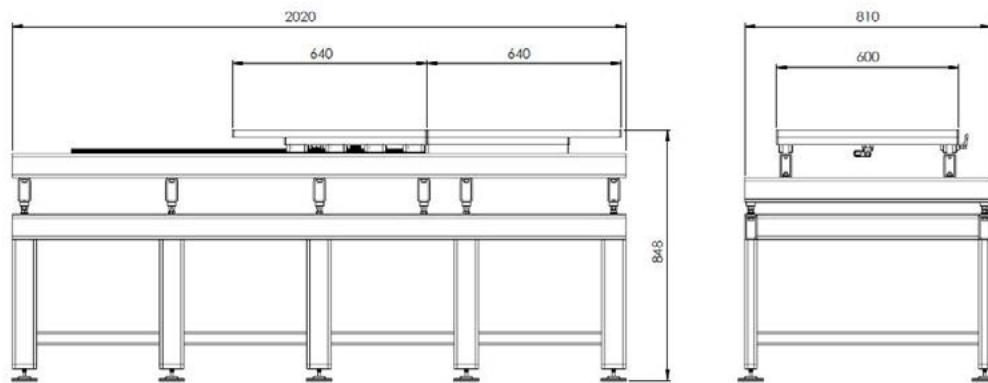
REF	Description
OPTIM8506T	Base platform 8506T max 6.000 kg for Optim tables 2560
OPTIM850AL6T	Aluminum plate 1660 x 690 x 5 mm for Base platform 8506T
OPTIM2560	Optim table 2560 with sliding plates max. 6.000 kg
SETS for maximal load 6.000 kg	
OPTIM2560-850	Base platform 8506T + Optim table 2560 - max. 6.000 kg
OPTIM2560-850AL	Base platform 8506T + Optim table 2560 + Aluminium plate - max. 6.000 kg

OPTIM TABLE XL VERSION WITH MECHANICAL BRACKET 6 TONS **OPTIM**



Rotating plates included

Magnetic brackets must be purchased separately



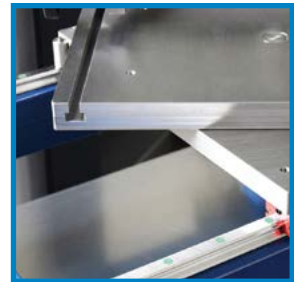
REF	Description
OPTIM850XL6T	Base platform 8506T max 6.000 kg for Optim tables 2560
OPTIM850ALXL6T	Aluminum plate 2020 x 810 x 5 mm for Base platform 8506T
OPTIM2560EQ	Optim table 2560 with sliding plates max. 6.000kg for mechanical brackets
SET for maximal load 6.000 kg	
OPTIM2560-850ALMB	Base platform 850XL6T + Optim table 2560XL + Aluminium plate + Mechanical clamping bracket 1 piece - max. 6.000 kg
Accessories	
OPTIMEQ6T	Mechanical clamping bracket for max 6.000 kg (1 piece)

CAD reference point



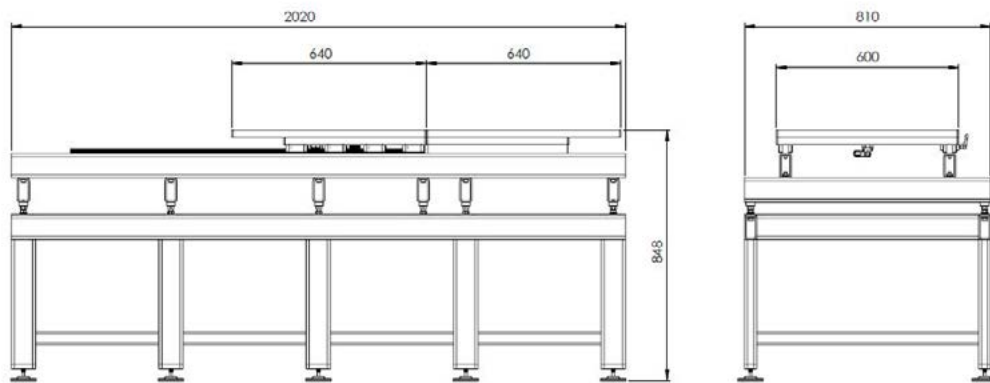
OPTIM TABLE STANDARD 6 TONS

OPTIM TABLE XL VERSION WITH MECHANICAL BRACKET 6 TONS **OPTIM**



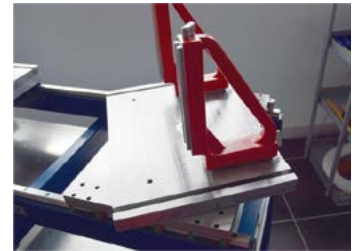
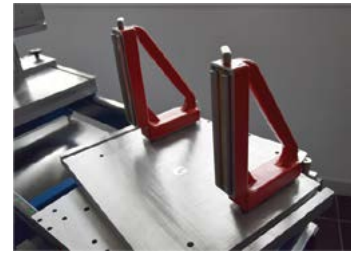
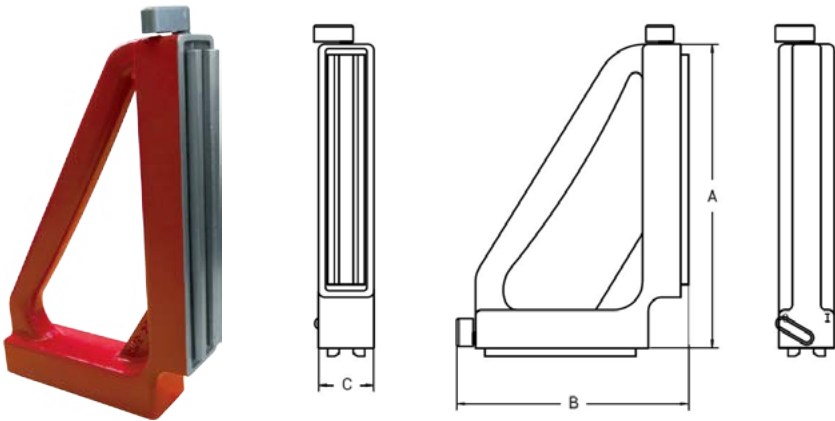
Rotating plates included

Magnetic brackets must be purchased separately



REF	Description
OPTIM850XL6T	Base platform 8506T max 6.000 kg for Optim tables 2560
OPTIM850ALXL6T	Aluminum plate 2020 x 810 x 5mm for Base platform 8506T
OPTIM2560XL	Optim table 2560 with sliding plates max. 6.000 kg for magnetic brackets
SET for maximal load 6.000 kg	
OPTIM2560-850ALXL	Base platform 850XL6T + Optim table 2560XL + Aluminium plate - max. 6.000 kg
Accessories	
OPTIMEQMAG120090	Magnet bracket 135 / 125 x 38 mm
OPTIMEQMAG180090	Magnet bracket 195 / 195 x 45 mm
OPTIMEQMAG260090	Magnet bracket 285 / 195 x 45 mm

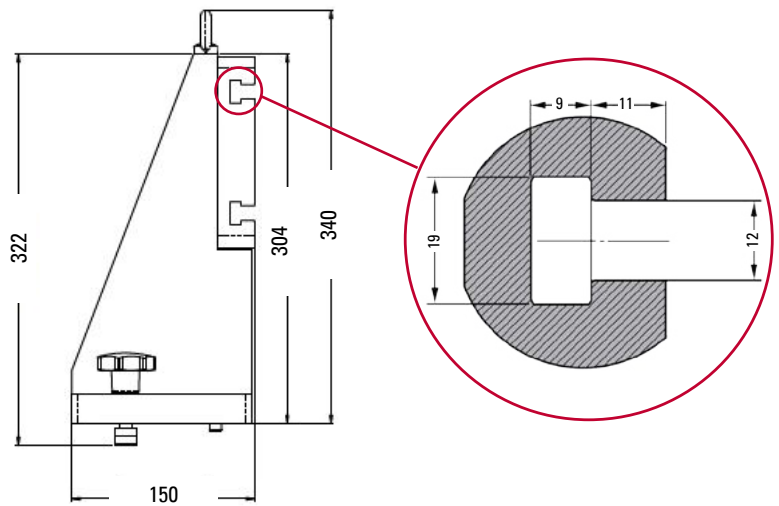
MAGNETIC BRACKET OPTIM



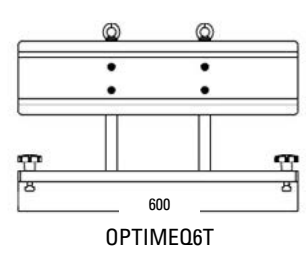
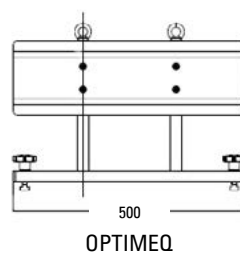
Magnetic Mould Support System Details:
 Allows adjustable positioning / support of plates
 Magnetic force de-activation/activation system
 Not appropriate for tools with floating plates

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)



REF	height (mm)	length (mm)	width (mm)
OPTIMEQ	340	500	150
OPTIMEQ6T	340	600	150

THE BRACKETS (BOTH TYPES) ARE SOLD IN INDIVIDUAL PIECES

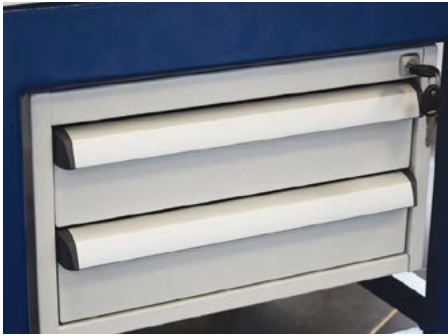
CAD reference point



OPTIM TABLE OPTIONS

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



ULTRASONIC CLEANING UNITS



ULTRASONIC CLEANING UNITS

ULTRASONIC CLEANING UNITS **USC S ...**



Features:

- Electronic time and temperature control
- Autostart temperature-controlled / temperature pre-selection
- High-performance transducer systems
- Dry run proof ceramic heating
- Quick degassing with Autodegas / Degas
- Improved cleaning performance with Sweep
- Safety switch-off

Includes:
Unit, cover and basket

REF with heating	REF without heating
USCS10H	USCS10
USCS15H	USCS15
USCS30H	USCS30
USCS40H	USCS40
USCS60H	USCS60
USCS70H	USCS70
USCS80H	USCS80
USCS100H	USCS100
USCS120H	USCS120

REF with heating	REF without heating
USCS180H	USCS180
USCS300H	USCS300
USCS450H	-
USCS900H	-

ULTRASONIC CLEANING UNITS - BASKET **USC S ...**



REF	Dimension	mesh size	Load
USCS10B	177 x 73 x 35 mm	7 x 1 mm	1 kg
USCS15B	112 x 103 x 50 mm	7 x 1 mm	1 kg
USCS30B	189 x 106 x 55 mm	7 x 1 mm	1 kg
USCS40B	190 x 105 x 80 mm	7 x 1 mm	3 kg
USCS60B	255 x 115 x 80 mm	9 x 1 mm	5 kg
USCS70B	465 x 106 x 55 mm	9 x 1 mm	5 kg
USCS80B	455 x 106 x 80 mm	9 x 1 mm	5 kg
USCS100B	255 x 200 x 80 mm	9 x 1 mm	6 kg
USCS120B	250 x 190 x 120 mm	9 x 1 mm	7 kg
USCS180B	280 x 250 x 120 mm	9 x 1 mm	8 kg
USCS300B	455 x 250 x 120 mm	9 x 1 mm	10 kg
USCS450B	455 x 270 x 194 mm	9 x 1 mm	20 kg
USCS900B	545 x 450 x 250 mm	16 x 1,2 mm	30 kg

ULTRASONIC CLEANING UNITS - NOTES **USC S ...**

	REF	USC S10 USC S10H	USC S15 USC S15H	USC S30 USC S30H	USC S40 USC S40H	USC S60 USC S60H	USC S70 USC S70H
Tank volume max.	liter	0,8	1,75	2,75	4,25	5,75	6,9
Tank internal dim.	WxDxH mm	190x85x60	151x137x100	240x137x100	240x137x150	300x151x150	505x137x100
Tank external dim.	WxDxH mm	206x116x178	175x180x212	300x179x214	300x179x264	365x186x264	568x179x214
Ultrasonic frequency	kHz	37	37	37	37	37	37
Ultrasonic peak max*	W	240 *2)	280 *2)	320 *3)	560 *3)	600 *3)	600 *3)
Heating power	W	0 / 60	0 / 60	0 / 200	0 / 200	0 / 400	0 / 600
Power consumpt. tot.	W	30 / 90	35 / 95	80 / 280	140 / 340	150 / 550	150 / 750
Drain duct / Ø	mm	no	no	9,53	9,53	9,53	9,53
with heating (H)	220-240 Vac	100 1214	100 2060	100 1955	100 2006	100 2238	100 2140
without heating	220-240 Vac	100 5507	100 4626	100 4631	100 4635	100 4643	100 4650

	REF	USC S80 USC S80H	USC S100 USC S100H	USC S120 USC S120H	USC S180 USC S180H	USC S300 USC S300H	USC 450 H	USC 900 H
Tank volume max.	liter	9,4	9,5	12,75	18	28	45	90
Tank internal dim.	WxDxH mm	505x137x150	300x240x150	300x240x200	327x300x200	505x300x200	500x 300x300	600x500x300
Tank external dim.	WxDxH mm	568x179x264	365x278x264	365x278x321	390x340x321	568x340x321	615x370x467	715x570x467
Ultrasonic frequency	kHz	37	37	37	37	37	37	37
Ultrasonic peak max*	W	600 *3)	600 *3)	800 *3)	800 *3)	1200 *3)	1600 *3)	3200 *3)
Heating power	W	0 / 600	0 / 400	0 / 800	0 / 800	0 / 1200	1600	2000
Power consumpt. tot.	W	150 / 750	150 / 550	200 / 1000	200 / 1000	300 / 1500	2000	2800
Drain duct / Ø	mm	9,53	953	9,53	9,53	9,53	12,7	12,7
with heating (H)	220-240 Vac	100 2170	100 2279	100 2825	100 2877	100 3033	100 3908	100 3946
without heating	220-240 Vac	100 4652	100 4655	100 4658	100 4662	100 4669	-	-

* The choice of the waveform has been matched to the relevant tank size. *2) Impulse waveform *3) Standard sine-wave modulation

CLEANING CONCENTRATES

CLEANING SOLUTION

USC A1

Features:

- Cleaning concentrate (alkaline) for electronics and fine optics.
- Removes light oils, grease, fluxing agents, dust, finger prints, etc.

REF	L
USCA12-5	2,5
USCA110	10
USCA125	25

CLEANING SOLUTION

USC A2

Features:

- Intensive cleaner (ammoniacal) with brightening effect for nonferrous and precious metals.
- Removes grinding, polishing and lapping media, grease, oil, etc.

REF	L
USCA22-5	2,5
USCA210	10
USCA225	25

CLEANING SOLUTION

USC A3

Features:

- Cleaning concentrate (alkaline) for iron, steel, stainless steel and precious metals.
- Removes punching oil, drawing grease, soot, forge, grinding and polishing media, high-performance cooling lubricants, etc.

REF	L
USCA32-5	2,5
USCA310	10
USCA325	25

CLEANING SOLUTION

USC A4

Features:

- Universal cleaning concentrate (alkaline)
- Removes oil, grease, soot, coking, forge, dust, finger prints, etc.

REF	L
USCA42-5	2,5
USCA410	10
USCA425	25

CLEANING SOLUTION

USC A5

Features:

- Powerful cleaner (alkaline) in powder form for iron and light metals.
- Removes forged and gummed oil and grease, grinding and polishing media, lacquer and paint remnants, wax, etc.

REF	kg
USCA50-85	0.85
USCA525	25

CLEANING SOLUTION USC N1

Features:

- Neutral cleaning concentrate.
- Removes oil, grease, grinding, lapping and polishing media, dust, sweat, finger prints, etc.

REF	L
USCN12-5	2,5
USCN110	10
USCN125	25

CLEANING SOLUTION USC S1

Features:

- Mild acid cleaning concentrate.
- Removes rust, lime, oxide films (e.g. verdigirs), grease, oil, etc.

REF	L
USCS12-5	2,5
USCS110	10
USCS125	25

CLEANING SOLUTION (25 KG) USC S2

Features:

- Strong acid cleaning concentrate.
- Removes mineral contaminations such as lime, rust and other oxides, films that can be removed with corrosives, etc.

REF	L
USCS22-5	2,5
USCS210	10
USCS225	25

CLEANING SOLUTION (25 KG) EC 100

Features:

- For abrasive and polishing paste, resin, drawing compound

REF
EC100

CLEANING SOLUTION EC 145

Features:

- For abrasive and polishing paste, light oil and grease contamination

REF
EC145





BLASTING CABINETS & ACCESSORIES



BLASTING CABINETS & ACCESSORIES

DRY BLASTING CABINETS

TR 70 / TR 70 EA


Features:

- Blasting cabinet with high blasting capacity and push-up front door.
- Special model with turntable available on request.
- Appropriate dust separator TR 70 K 10
- TR 70 EA with push-up side door

REF
TR70
TR70EA

DRY BLASTING CABINETS

TR 80


Features:

- Blasting cabinet with folding front door and lateral slides for passage of rod materials, incl.
- Special model with turntable available on request.
- Other dimensions upon request

REF
TR80

Description	TR 70	TR 70 EA	TR 80
Dimensions W x H x D	700 x 600 x 1.800 mm	700 x 600 x 1.800 mm	800 x 900 x 1.680 mm
Internal dimensions W x H x D	680 x 550 x 450 mm	680 x 550 x 450 mm	780 x 800 x 700 mm
Air consumption	18-50 m ³ / 5 bar	18-50 m ³ / 5 bar	35-70 m ³ / 5 bar

DUST SEPARATOR **TR ... K**



Features:

- Equipped with cartridge filter and mechanical shaking device

REF	L x W x H	Power	Exhaust capacity
TR80K15	670 x 800 x 970 mm	0,55 W	15m ³ /min

COMPACT PORTABLE SUCTION UNIT **DO 2000**



Features:

- professional lab dust extraction unit
- for sandblaster, bench, trimmer
- improved new motor
- reliable and solid construction
- power regulator 400-1000 W
- ready for all sandblasters
- ready for most popular benches
- special BIA tissue filters (4 pcs Included)
- decibel 62-69
- dimensions 33x25x38 cm
- weight 12 kg

REF	Description
DO 2000	suction unit
DO 2010	suction arm
DO 2020	4 x filter bags

STEEL CORUNDUM **STK ...**



Features:

- Preferably used for cleaning operations and descaling.
- Successfully applied also for deburring operations, also for reproducible decorative blasting operations.
- Abrasive effect.

REF	Grain	kg
STK012006012	0,06 - 0,12 mm	25
STK025012025	0,12 - 0,25 mm	25
STK050025050	0,25 - 0,50 mm	25
STK10050100	0,50 - 1,00 mm	25



ABRASIVE AGENTS FOR BLASTING

STEEL CORUNDUM

STK ...

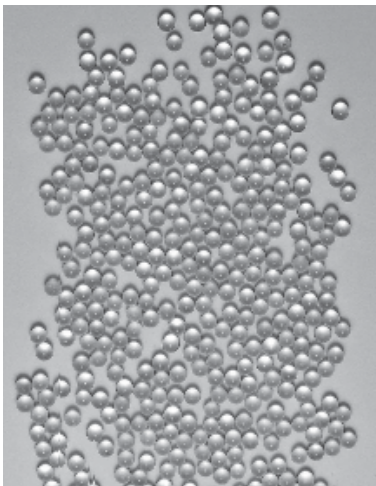

Features:

- Preferably used for cleaning operations and descaling.
- Successfully applied also for deburring operations, also for reproducible decorative blasting operations.
- Abrasive effect.

REF	Grain	kg
STK012006012	0,06 - 0,12 mm	25
STK025012025	0,12 - 0,25 mm	25
STK050025050	0,25 - 0,50 mm	25
STK10050100	0,50 - 1,00 mm	25

GLASS BEADS

STP ...


Features:

- Generally applied for simple cleaning operations or polished surfaces of silk-dull finish.
- Compressing of work piece surfaces, STP 200 is also suitable for deburring operations.
- Can be used for all materials.

REF	Grain	kg
STP050	0 - 50 µm	25
STP070	40 - 70 µm	25
STP110	70 - 110 µm	25
STP150	90 - 150 µm	25
STP200	100 - 200 µm	25

CERAMIC

STC ...


Features:

- Used for simple, gentle cleaning operations, silk-dull surface finish will be obtained.
- Compression of work piece surfaces.
- Preferably used for all kind of metals.
- Service life is up to 20-times higher compared to glass beads.

We can also supply the following products:

As well as glass beads, corundum and ceramic blasting agents, we can also supply other mineral and abrasive agents if required.

- Ceramic jet nozzles: Ø = 6, 8, 10 mm
- Boron carbide jet nozzles: Ø = 6, 8, 10, 12 mm
- Protective gloves: Size: 10

REF	Grain	kg
STC12500000125	0 - 0,125 mm	25
STC12000700250	0,070 - 0,125 mm	25
STC06001250250	0,125 - 0,250 mm	25
STC04002500425	0,250 - 0,425 mm	25
STC03004250600	0,425 - 0,600 mm	25
STC02006000850	0,600 - 0,850 mm	25



WELDING MACHINE & ACCESSORIES



HAND WELDING MACHINES

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

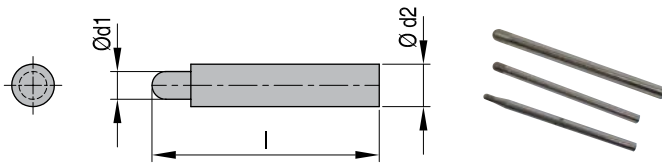
- Control unit, mains cable, foot switch cable for electrode holder (1300 mm), ground cable (1300 mm) with copper ground plate (2 x 20 x 100 mm)
- Electrode holder black Ø 2, 3 and 4 mm (1 off each) Ø 5 mm (2 off)
- Electrode holder, brown Ø 3 mm (2 off) Ø 4 mm (1 off)
- Magnetic electrodes Ø 2 x 50 mm, Ø 3 x 50 mm, Ø 4 x 50 mm, Ø 4 x 60 mm (1 off each)
- Standard electrodes Ø 2 x 50 mm, Ø 3 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 clothes
- 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

MT2500

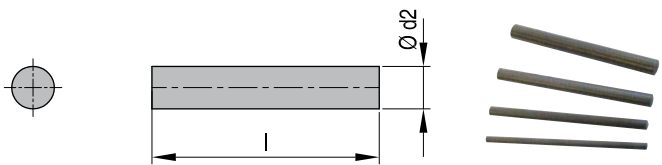


MAGNETIC ELECTRODES FOR POWDER **EM**



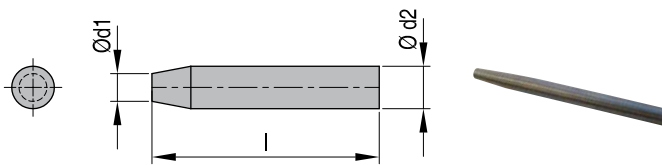
REF	d1	d2	l
EMR2	2	3	50
EMR3	3	3	50
EMR4	4	4	60
EMR5	5	5	60

MAGNETIC ELECTRODES FOR POWDER **EM**



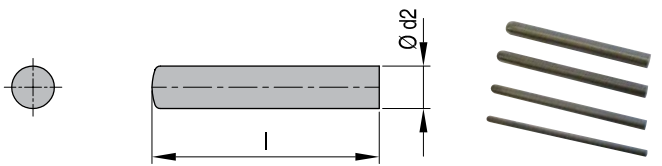
REF	d2	l
EM210	2	50
EM211	3	50
EM212	4	50
EM213	5	50

MAGNETIC ELECTRODES FOR POWDER **EM**



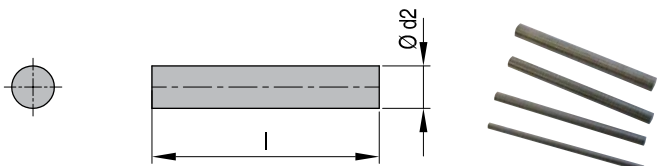
REF	d1	d2	l
EMT4	1,5	4	50
EMT5	2,5	5	50

STANDARD ELECTRODES **E**



REF	d2	l
ER22	2	50
ER33	3	50
ER44	4	50
ER55	5	50

STANDARD ELECTRODES **E**



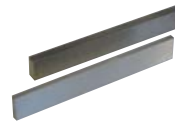
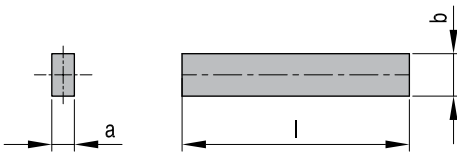
REF	d2	l
E201	2	50
E202	3	50
E203	4	50
E204	5	50

CAD reference point

HAND WELDING MACHINES

STANDARD ELECTRODES

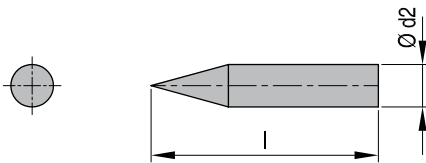
E



REF	a	b	l
E205	1,2	5	35
E206	2,2	5	35

STANDARD ELECTRODES

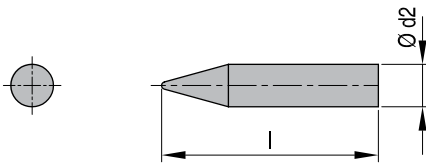
E



REF	d1	d2	l
ESP2	-	2	45

STANDARD ELECTRODES

E



REF	d1	d2	l
ESR2	-	2	45

ELECTRODE HOLDER / ADAPTER

H / A



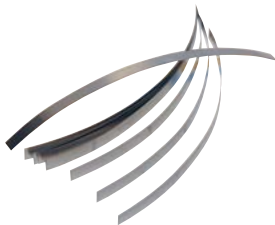
REF	Suitable for electrodes	ø	REF	Suitable for electrodes
H302	EMR2, EMR3, EM211, ER33,E202	15 mm	A403001	E205 (Rectangle electrode)
H303	EMR4, EM212, EMT4, ER44, E203	15 mm	A404	E206 (Rectangle electrode)
H304	EMR5, EM213, EMT5, ER55, E204	15 mm		
E306	EM210, ER22, E201E, ESP2, ESR2	12 mm		
E307	EMR2, EMR3, EM211, ER33,E202	12 mm		

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	preheat-treated steel
MTB6	NAK 80	0,1 x 5 x 100 mm	38-40 HRC	
MTB7	NAK 80	0,2 x 5 x 100 mm	38-40 HRC	1.2311
MTB8	HPM 2	0,1 x 5 x 100 mm	30-35 HRC	
MTB9	HPM 2	0,2 x 5 x 100 mm	30-35 HRC	preheat-treated steel
MTB10	NAK 55	0,1 x 5 x 100 mm	38-41 HRC	
MTB11	NAK 55	0,2 x 5 x 100 mm	38-41 HRC	All mouldsteels
MTB12		0,1 x 50 x 70 mm	45-48 HRC	
MTB13		0,2 x 50 x 70 mm	45-48 HRC	Stavax
MTB14		0,2 x 5 x 100 mm	40-42 HRC	

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





HOT RUNNER CONTROLLERS




ADVANCED HOT RUNNER TEMPERATURE CONTROL AND PROCESS MONITORING WITH WORLD CLASS FEATURES

A fully featured controller platform with advanced capabilities for superior moulding performance. Well suited for tight process control on all co-injection applications, it is your best choice as a direct replacement for many existing outdated controller platforms. Unlock your operations full potential.

Key features
LARGE INTUITIVE TOUCH SCREEN CONTROLS

- Modernized interface
- Quick and easy to use
- Rapid response rates
- Familiar gestures like pinch-to-zoom
- Available in 8", 12" and 17" formats

ADVANCED FUNCTIONALITY

- KORTEC auto cavity balancing
- Auto leak detection
- Auto tool diagnostics
- TC auto slave
- And much more

IO ALARM INTERLOCK

- Interface with any injection machine
- Triggers an alarm when issues are identified
- Pauses the moulding process until corrected
- Helps maintain process consistency

WIRELESS NETWORK CONTROL (WLAN)

- Multi cell operation
- Multiple IP operation
- Download/Upload tool set-up
- Valuable for clean room applications



Cabinet Size	# of Cards (Max)	# of Zones (Max)	Dimensions WxDxH cm (in.)
XS	6	24	31x45x81 (12x18x32)
S	12	48	36x45x96 (14x18x38)
M	24	96	45x60x116 (18x24x46)
L	36	144	45x60x141 (18x24x56)
XL	63	252	56x61x168 (22x24x66)

Based on 4z-15A cards. Increase max zones with 6z-5A cards.

Includes

- 4.8 m (15') cable set.
- Quick start guide.



DME SMART SERIES® M2+ **M2+**

Specifications	
User Interface	Full Color LCD Touch Screen
Display Sizes	8" (203mm), 12" (305mm), or 17" (432mm)
Control Algorithm	APS (Adaptive Process System)
Power Control	Phase Angle and Burst Firing Modes (Time Proportional, Zero-Crossing)
Control Accuracy	+/- 0.5°C (1°F)
Display Resolution	0.1 (°C or °F)
Power Response Time	8.3 ms at 60 Hz
Temperature Scale	°C or °F (Software Selectable)
Thermocouple	J or K-Type (Software Selectable)
Operating Range	0 - 472°C (32 - 882°F)
Output Voltage (Max)	264 VAC
Supply Voltage	200/240V 3P Delta or 380/415V 3P Star with Neutral (480V, 3P with optional transformer)
Frequency	50 - 60 Hz Automatic Switching
Ambient Temperature Range	5 - 45°C (41 - 113°F)
Humidity Range	Up to 95% non-condensing
Ground Fault Detection	40mA per Zone
Alarm Output	Closing Contact Relay 5A, 230V (Max)
T/C Connector	Various Options Available
Power Connector	Various Options Available
Input Protection	63mA Nano Fuses on Both T/C Legs
Overload Protection	Semi-conductor fuses on both heater legs
Heater Fuses	15A @ 220V Fast Blow Type
Control Modes	Closed Loop (Auto), Open Loop (Manual), Standby, Boost, Slave
Ports	USB and Ethernet
LED Indicators	Scan, Fuse, Thermocouple, Failure, Ground Fault, Power%
Communications	SPI, Real VNC, Modbus, OPC-UA
Languages	English, French, German, Portuguese, Spanish, Polish, Russian, Chinese, Japanese, Czech, Italian, Turkish

REF
Upon request

DME SMART SERIES Me

DME SMART SERIES® Me

ME

HOT RUNNER TEMPERATURE CONTROL MADE SIMPLE AND ECONOMICAL

The Me controller platform combines essential features with advanced APS Technology for precision hot runner temperature control. Powerful performance from a compact unit that helps improve part quality and minimize scrap. Optimize the performance of any hot runner system and unlock your operations full potential.

Simple touch screen controls

Probe 1	Probe 2	Probe 3	Probe 4	Run
250	250	249	249	Run
250 °C	250 °C	250 °C	250 °C	Standby
1.0 A	1.1 A	1.2 A	1.3 A	Standby
Probe 5	Probe 6	Probe 7	Probe 8	Shutdn
249	249	250	250	Shutdn
250 °C	250 °C	250 °C	250 °C	Boost
1.4 A	1.5 A	1.6 A	1.7 A	Boost
Probe 9	Probe 10	Probe 11	Probe 12	Stop
250	250	250	250	Stop
250 °C	250 °C	250 °C	250 °C	Stop
1.8 A	1.9 A	2.0 A	2.1 A	Stop
Mode: RUN				Status: NORMAL


Key features
INTUITIVE TOUCH SCREEN COLOR DISPLAY

- Simple, user friendly interface
- Allows for immediate familiarization
- Monitor up to 12 zones at once

INTEGRATED 15-AMP CONTROL CARDS

- Power to control a wide range of hot runner zones from nozzle tips to larger manifolds
- On-board heater fuses
- Quick and easy service access from the cabinet top and bottom

COMPACT, STACKABLE CABINET DESIGN

- Preserves valuable space
- Can be placed almost anywhere
- Available in 6 or 12 zone configurations
- Lightweight

2 YEAR COMPREHENSIVE WARRANTY

- Worry free global support coverage
- Protects against manufacturers defects (fuses excluded)


includes:

- 4.8m (15') Cable Set
- Quick Start Guide

DME SMART SERIES® Me **ME**

CAPABILITIES

Control Features	Operational Features	Alarms
APS (Adaptive Process System)	Auto/Manual Control	Audible Alarm
Phase Angle, Burst Firing	Zone "on", "off" and "locked off"	Zone Alarm Configure
Infield Calibration Mode	Menu "Auto Save"	(+) High Temperature
Thermocouple Slave (Manual)	Tool Store (4)	(-) Low Temperature
Auto Standby/Alarm Output	USB Port	T/C Open (remembered % output)
Wet Heater Bakeout		T/C Reversed
T/C Filtering		Open Fuse
Delta/Wye Convertible Option		Open Heater
Interface Autopilot Control		Shorted Heater/Wet
Set Point Limit		Ground Fault Detection
Set Power Limit		Plastic Leak Detection
Auto Load % Output		
Uniform Start-Up		

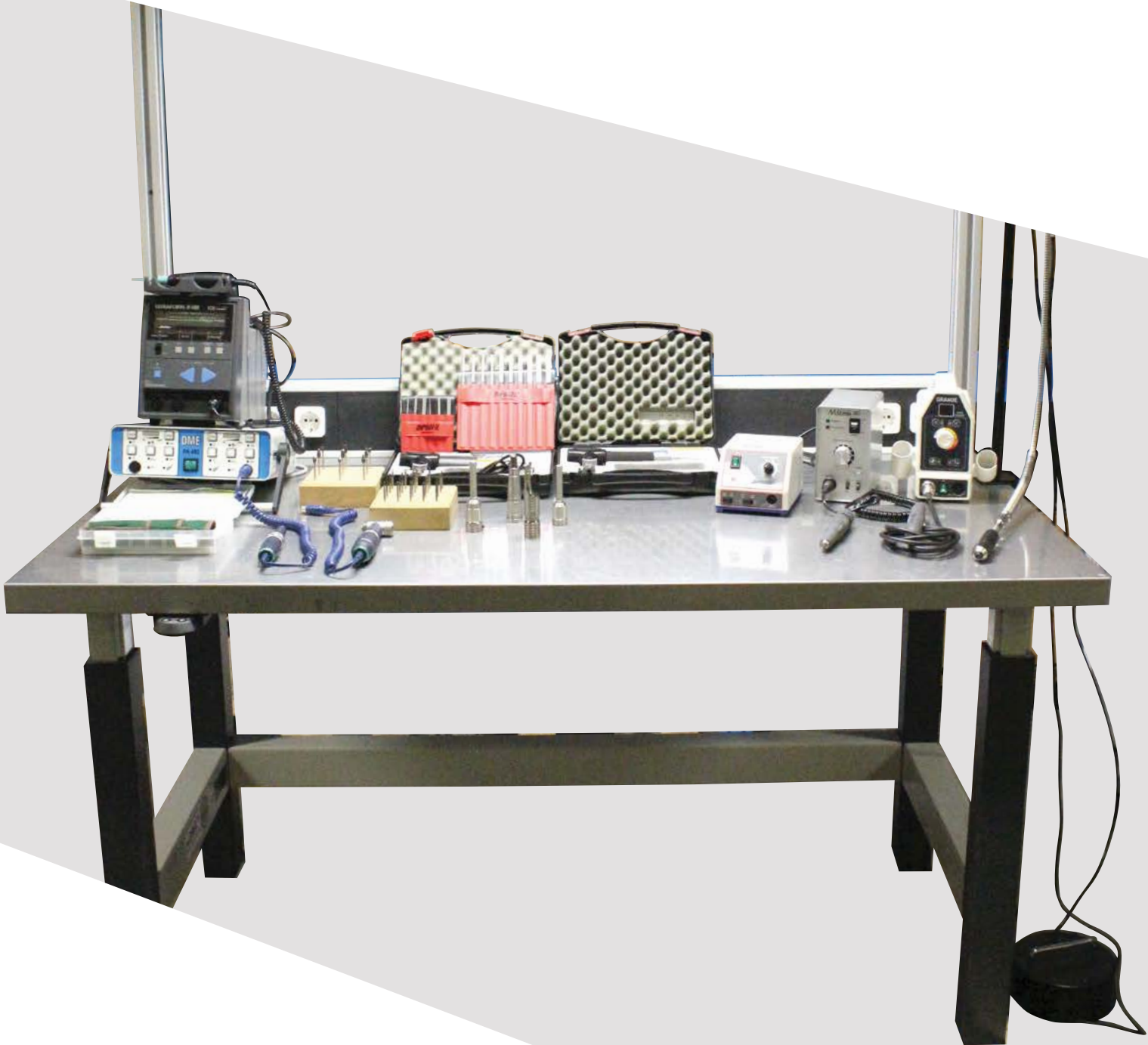
Protection Features
On-Board Load Fuses
Soft Start
Continuous Ground Fault Detection
Current Measurement
Overload Protection
Automatic Tool Diagnostics
Plastic Leak Detection (Manual)
LED Fault Indicator (Scan)

Monitoring/Reporting
2-D Historical Graph

Specifications	
User Interface	Full Color LCD Touch Screen
Display Size	5"
Cabinet Dimensions	36cm x 39cm x 20cm (14" x 15" x 8")
# of Zones (Max)	6 or 12
Control Algorithm	APS (Adaptive Process System)
Power Control	Phase Angle & Burst Firing Modes (Time Proportional, Zero-Crossing)
Temp. Resolution	1 (0°C or 0°F)
Power Response Time	8.3 ms at 60 Hz
Temperature Scale	0°C or 0°F (Software Selectable)
Thermocouple	J or K-Type (Software Selectable)
Operating Range	0 - 472°C (32 - 882°F)
Output Voltage (Max)	264 VAC
Supply Voltage	200/240V 3P Delta or 380/415V 3P Star with Neutral (480V, 3P with optional transformer)
Frequency	50 - 60 Hz Automatic Switching
Ambient Temperature Range	5 - 450°C (41 - 113°F)
Humidity Range	Up to 95% non-condensing
Ground Fault Detection	40mA per Zone
Alarm Output	Closing Contact Relay 5A, 230V (Max)
T/C Connector	HBE-24
Power Connector	HBE-24
Overload Protection	Semi-conductor fuses on both heater legs
Heater Fuses	15A @ 220V Super Fast Blow Type (FF)
Control Modes	Closed Loop (Auto), Open Loop (Manual), Standby, Boost, Slave
Ports	USB
LED Indicators	Scan
Languages	English, French, German, Spanish, Polish, Russian, Chinese, Japanese, Czech, Italian, Hungarian, Turkish, Portuguese, Korean

REF	Description
ME12EU-D	6 zone controller without PWR and TC cables
ME6EU-D	12 zone controller without PWR and TC cables







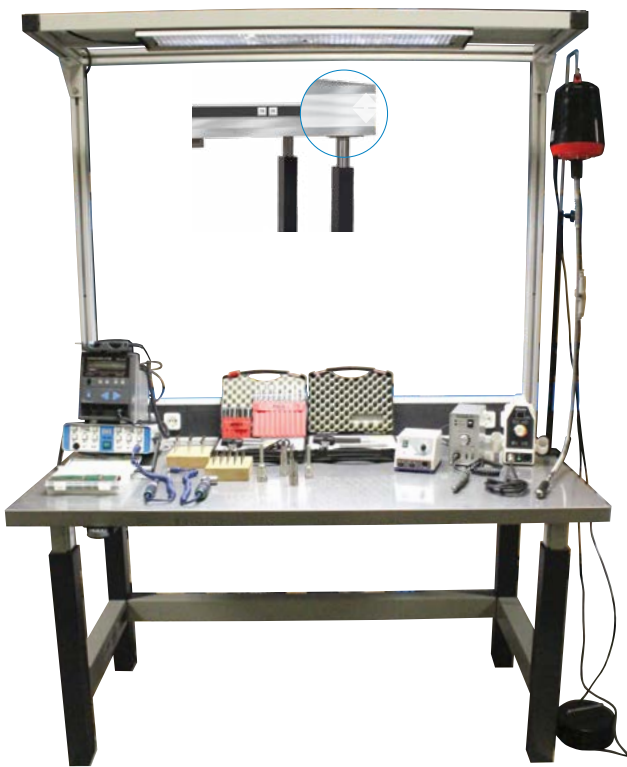
WORKBENCH



WORKBENCH

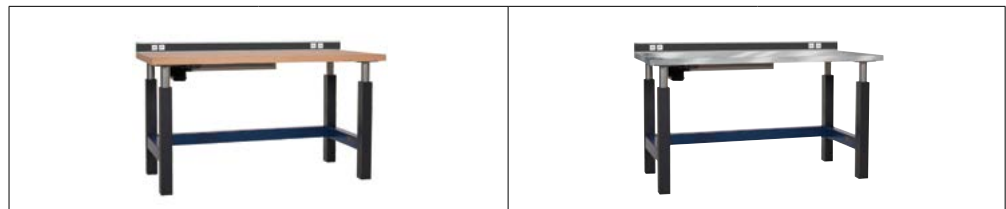
ERGONOMICAL WORK BENCH

PWT 300 - PWT 600


Features

- Continuous height adjustment from 700 to 1100 mm
- Operation by electric hydraulics
- Fixed or on wheels
- Variable workbench size and material
- Extensive accessories upon request
- Sturdy steel construction with environmentally friendly, solvent-free powder-coating
- Loading capacity: 300 kg - 600 kg max.
- Favorable cost-benefit ratio
- Electrical connection 230V / 50 Hz

REF
PWT300
PWT300S
PWT600
PWT600S



Description	PWT 300 (L**)	PWT 600 (L**)	PWT 300 S (L**)	PWT 600 S (L**)
Max load	max. 300 kg (centered)	max. 600 kg (centered)	max. 300 kg (centered)	max. 600 kg (centered)
Work surface material	wood veneered 40 mm multiplex		1 mm stainless steel sheeted 40 mm multiplex	
Input voltage	230 V / 50 Hz		230 V / 50 Hz	
Output power	360 W		360 W	
Power supply	power track with 4 earthed sockets 220 V		power track with 4 earthed sockets 220 V	
Noise	< 70 dB (A)		< 70 dB (A)	
Dimensions*	1500 x 750 mm (width x depth)	1600 x 750 mm (width x depth)	1500 x 750 mm (width x depth)	1600 x 750 mm (width x depth)
Height adjustment	from 700 mm to 1100 mm (hydraulic)		from 700 mm to 1100 mm (hydraulic)	
Weight	according to size			
Stroke rate	9 mm/s	15 mm/s	9 mm/s	15 mm/s

*Other dimensions available upon request
 ** With overhead lighting system

ROTATING AND REVERSING CLAMP DW ...



- Features:**
- Fixing method: A Screw on
 - Fixing method: B Clip on

REF	Size	Fixing method	Jaw width	Width of span	Depth of span
DW1A	1	A	46	50	35
DW1B	1	B	46	50	35
DW2A	2	A	80	100	52
DW2B	2	B	80	100	52

STEEL JAWS DWST ...

REF
DWST80

PLASTIC JAWS DWKU ...

REF
DWKU46
DWKU80

ALUMINIUM JAWS DWAL ...

REF
DWAL46
DWAL80

TOOLS

PRECISION FOLDING MAGNIFIERS

LU 1187

Features:

- biconvex, Ø 30 mm
- Magnification: 4 X + 6 X = 10 X

REF
LU1187

HEAD MAGNIFIER

LUK 2781 ...

Features:

- Side-closing screen
- Flexible front band
- Fast-closing elastic rear head band
- Height-adjustable screen which can be tilted upwards

Description	LUK 2781-4	LUK 2781-6
Magnification	1,25 x	1,4 x
Working distance	260 mm	200 mm
Weight	110 gr	110 gr

REF
LUK27814
LUK27816

VARIO MAXI STAND MAGNIFIER WITH LIGHT

LU 2771

Features:

- Aspheric PXM®-Lightweight lens
- With cera-tec hard coating, Ø 220 mm, 3,0 dpt/ 1,75 x
- Illumination: 11 W PL-bulb /900 Lm/G 23/ color 21
- Max. load distance 900 mm
- Turning range of the magnifier head: vertical ±90°, radial ± 90°
- Cable length 3 m

Includes:

- Bulb LU 2771 1
- Table clamp LU 2771 2 for tabletop thickness from 18/74 mm
- Dustprotector

REF	Description
LU2771	Vario maxi stand magnifier
LU27711	Spare bulb
LU27712	Screw mounting



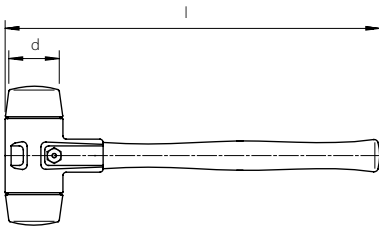
HAND TOOLS



HAMMERS

SIMPLEX HAMMERS

HA 13


Description

- Noise-dampening
- Vibration-reducing
- High resistance to breakage
- Extremely durable
- Integrated handle-protection sleeve
- 2 different inserts allow to use the same hammer on different materials
- Nylon insert is hard, wear resistant, oil and grease resistant, doesn't chip even when hitting edges,
- Soft metal insert is hard, heat resistant, can be use for very hard strikes without damaging the workpiece

Replacement:

- Tightened with just one screw
- All wear parts are easily replaceable
- See spare parts below

Application:

- Mould construction
- Assembly and repair work

REF	d	l	weight	Inerchangeable inserts
HA1310030	30	262	350g	Rubber
HA1310040	40	278	655g	Rubber
HA1310050	50	312	1130g	Rubber
HA1310060	60	340	1610g	Rubber
HA1310080	80	398	3150g	Rubber
HA1330030	30	262	350g	Nylon
HA1330040	40	278	655g	Nylon
HA1330050	50	312	1130g	Nylon
HA1330060	60	340	1610g	Nylon
HA1330080	80	398	3150g	Nylon

REF	d	l	weight	Inerchangeable inserts
HA1340030	30	262	350g	Superplastic
HA1340040	40	278	655g	Superplastic
HA1340050	50	312	1130g	Superplastic
HA1340060	60	340	1610g	Superplastic
HA1340080	80	398	3150g	Superplastic
HA1350030	30	262	405g	Soft metal silver
HA1350040	40	278	775g	Soft metal silver
HA1350050	50	312	1395g	Soft metal silver
HA1350060	60	340	2075g	Soft metal silver
HA1350080	80	398	3940g	Soft metal silver

SPARE PARTS FOR SIMPLEX HAMMERS – INSERTS

HA 13 ... E



REF	d	Material
HA1310E030	30	Rubber
HA1310E040	40	Rubber
HA1310E050	50	Rubber
HA1310E060	60	Rubber
HA1310E080	80	Rubber
HA1330E030	30	Nylon
HA1330E040	40	Nylon
HA1330E050	50	Nylon
HA1330E060	60	Nylon
HA1330E080	80	Nylon



REF	d	Material
HA1340E030	30	Superplastic
HA1340E040	40	Superplastic
HA1340E050	50	Superplastic
HA1340E060	60	Superplastic
HA1340E080	80	Superplastic
HA1350E030	30	Soft metal silver
HA1350E040	40	Soft metal silver
HA1350E050	50	Soft metal silver
HA1350E060	60	Soft metal silver
HA1350E080	80	Soft metal silver

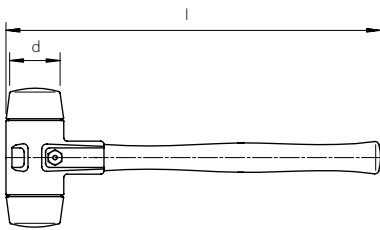
SPARE PARTS FOR SIMPLEX HAMMERS – HANDLES

HA 1300 ST



REF	for d	Material
HA1300ST030	30	Wood
HA1300ST040	40	Wood
HA1300ST050	50	Wood
HA1300ST060	60	Wood
HA1300ST080	80	Wood

SUPERCRAFT HAMMERS **HA 1550**



Description

- Interchangeable insert: Nylon
- For powerful and gentle impacts in die & mould manufacturing
- Hammers with handles up to 1000 mm
- Non-rebound

REF	d	l	weight	Inerchangeable inserts
HA1550025	25	305	300g	Nylon
HA1550030	30	330	400g	Nylon
HA1550035	35	335	550g	Nylon
HA1550040	40	360	700g	Nylon
HA1550045	45	365	850g	Nylon
HA1550050	50	370	1000g	Nylon
HA1550060	60	370	1700g	Nylon
HA1550080	80	880	4000g	Nylon
HA1550100	100	1000	7000g	Nylon

SUPERCRAFT HAMMERS - SPARE PARTS **HA 1550 E / ST**



REF	d	Material
HA1550025	25	Nylon
HA1550030	30	Nylon
HA1550035	35	Nylon
HA1550040	40	Nylon
HA1550045	45	Nylon
HA1550050	50	Nylon
HA1550060	60	Nylon
HA1550080	80	Nylon
HA1550100	100	Nylon

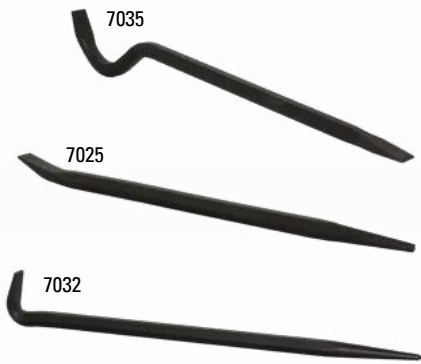


REF	For d	Material
HA1550ST025	25	Wood
HA1550ST030	30; 35	Wood
HA1550ST040	40; 45; 50	Wood
HA1550ST060	60	Wood
HA1550ST081	80	Wood
HA1550ST100	100	Wood



PRY BARS

PRY BAR 70



- Heat-treated to Rc 52–54
 - Heavy-duty forged steel
 - Rust-resistant black oxide
 - Preferred by many molders for their toughness and balance
 - Smooth finish tapers
 - In-stock at low prices
 - Same brand as sold by others... only we charge less!
 - Made in U.S.A.
- For Pry Bars sold separately reference items below
Complete Kit contains one of each tool - Model Number PBK999

REF		Length		
7025	Angle Head Bar	20"	5/8" Hex	Stock Wt. 1 lb. 6 oz.
7032	Rolling Head Bar	18"	5/8" Hex	Stock Wt. 1 lb. 9 oz.
7035	Radius Head Bar	18"	5/8" Hex	Stock Wt. 1 lb. 4 oz.

PRY BAR WZ71470



- This forged steel pry bar, with a black oxide finish, is a practical tool for use in separating punch and die holders without damage to the die.
- With its soft tempered brass shoe and bronze alloy tip, the pry bar easily separates the die without harming surfaces.
- Both shoe and tip are easily removable and replaceable.
- Overall length is 46 cm.

REF
WZ71470

SCREWDRIVER SET **SCR 5**

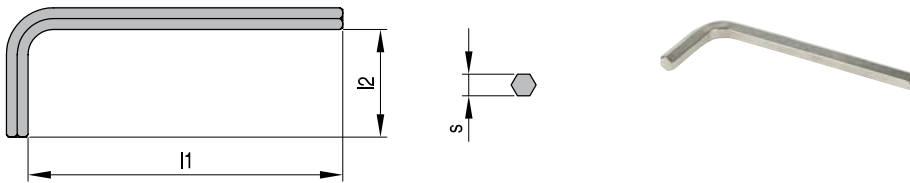


- Set of 5 screw drivers
- Custom made for the complete DME range of date stamps
- Blades made of chrome-vanadium-molybdenum-steel fully hardened and chromium plated for precision and long life
- Ergonomic handle design
- Color coded pivot cap
- Extremely precise fit of the tip

2x	1,1 x 0,20 x 60		Ø 2,6 Ø3
1x	1,6 x 0,15 x 60		Ø4
1x	2,3 x 0,20 x 60		Ø5 Ø6
1x	3,0 x 0,30 x 60		Ø8

SCREW KEYS

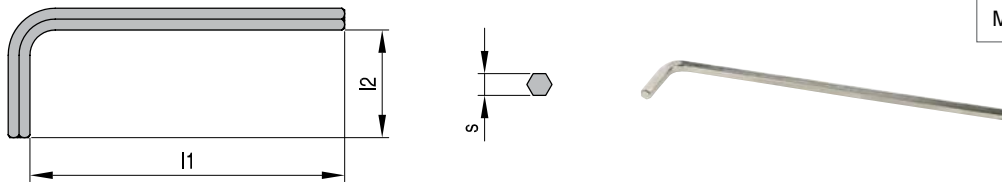
HEXAGON SOCKET SCREW KEYS-CHROME PLATED

SE620


Mat.: 50 CrV4 - DIN 911

REF x s	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		

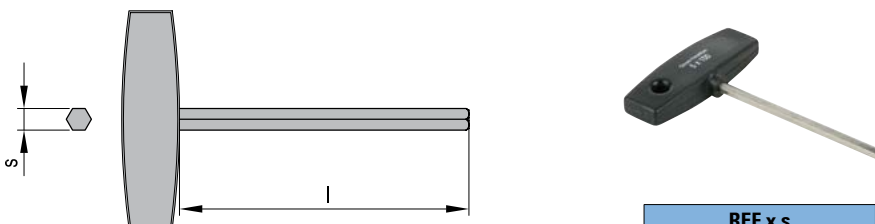
EXTRA LONG HEXAGON SOCKET SCREW KEYS-CHROME PLATED

SE630


Mat.: 50 CrV4 - DIN 911

REF x s	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

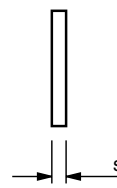
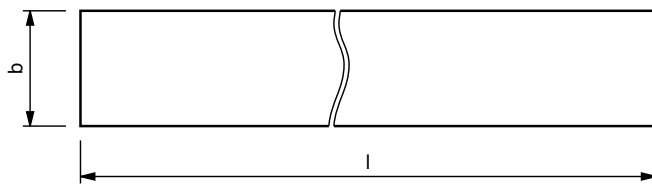
SE640


Mat.: 50 CrV4 - DIN 911

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

LB 2240

PRECISION GAUGE STEEL



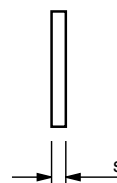
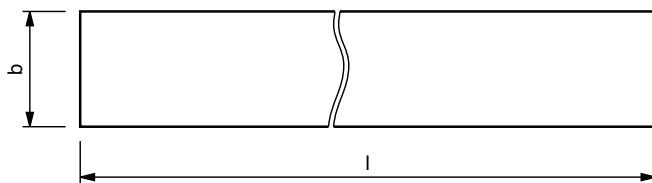
Mat.: 1.1274
 l = 1000 mm
 b = 12,7 mm
 σ zul. = Tensile strength

REF	s	Tol. s	σ zul. N/mm ²
LB22400011271	0,01	0,002	2000-2200
LB22400021271	0,02	0,002	2000-2200
LB22400031271	0,03	0,002	2000-2200
LB22400041271	0,04	0,003	2000-2200
LB22400051271	0,05	0,003	2000-2200
LB22400061271	0,06	0,003	2000-2200
LB22400071271	0,07	0,004	2000-2200
LB22400081271	0,08	0,004	2000-2200
LB22400091271	0,09	0,004	2000-2200
LB22400101271	0,10	0,004	2000-2200
LB22400121271	0,12	0,004	2000-2200
LB22400151271	0,15	0,005	2000-2200
LB22400181271	0,18	0,005	2000-2200
LB22400201271	0,20	0,006	1800-2000
LB22400251271	0,25	0,007	1800-2000
LB22400301271	0,30	0,007	1800-2000
LB22400351271	0,35	0,008	1800-2000
LB22400401271	0,40	0,009	1600-1800
LB22400451271	0,45	0,009	1600-1800
LB22400501271	0,50	0,010	1600-1800

REF	s	Tol. s	σ zul. N/mm ²
LB22400551271	0,55	0,010	1600-1800
LB22400601271	0,60	0,010	1600-1800
LB22400651271	0,65	0,012	1400-1600
LB22400701271	0,70	0,012	1400-1600
LB22400751271	0,75	0,012	1400-1600
LB22400801271	0,80	0,013	1400-1600
LB22400851271	0,85	0,013	1400-1600
LB22400901271	0,90	0,013	1400-1600
LB22400951271	0,95	0,013	1400-1600
LB22401001271	1,00	0,013	1400-1600
LB22401101271	1,10	0,017	1400-1600
LB22401201271	1,20	0,017	1400-1600
LB22401301271	1,30	0,020	1400-1600
LB22401401271	1,40	0,020	1400-1600
LB22401501271	1,50	0,020	1400-1600
LB22401601271	1,60	0,023	1400-1600
LB22401701271	1,70	0,023	1400-1600
LB22401801271	1,80	0,023	1400-1600
LB22401901271	1,90	0,023	1400-1600
LB22402001271	2,00	0,035	1400-1600

PRECISION GAUGE STEEL

LB 2250



Mat.: 1.1274
 l = 5000 mm
 b = 12,7 mm
 σ zul. = Tensile strength

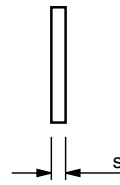
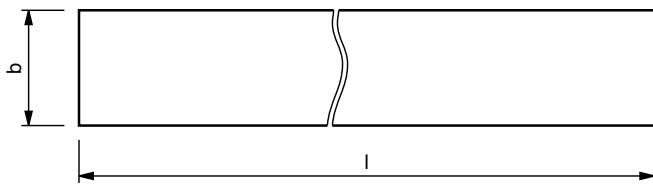
REF	s	Tol. s	σ zul. N/mm ²
LB22500011275	0,01	0,002	2000-2200
LB22500021275	0,02	0,002	2000-2200
LB22500031275	0,03	0,002	2000-2200
LB22500041275	0,04	0,003	2000-2200
LB22500051275	0,05	0,003	2000-2200
LB22500061275	0,06	0,003	2000-2200
LB22500071275	0,07	0,004	2000-2200
LB22500081275	0,08	0,004	2000-2200
LB22500091275	0,09	0,004	2000-2200
LB22500101275	0,10	0,004	2000-2200
LB22500121275	0,12	0,004	2000-2200
LB22500151275	0,15	0,005	2000-2200
LB22500181275	0,18	0,005	2000-2200
LB22500201275	0,20	0,006	1800-2000
LB22500251275	0,25	0,007	1800-2000
LB22500301275	0,30	0,007	1800-2000
LB22500351275	0,35	0,008	1800-2000
LB22500401275	0,40	0,009	1600-1800
LB22500451275	0,45	0,009	1600-1800
LB22500501275	0,50	0,010	1600-1800

REF	s	Tol. s	σ zul. N/mm ²
LB22500551275	0,55	0,010	1600-1800
LB22500601275	0,60	0,010	1600-1800
LB22500651275	0,65	0,012	1400-1600
LB22500701275	0,70	0,012	1400-1600
LB22500751275	0,75	0,012	1400-1600
LB22500801275	0,80	0,013	1400-1600
LB22500851275	0,85	0,013	1400-1600
LB22500901275	0,90	0,013	1400-1600
LB22500951275	0,95	0,013	1400-1600
LB22501001275	1,00	0,013	1400-1600
LB22501101275	1,10	0,017	1400-1600
LB22501201275	1,20	0,017	1400-1600
LB22501301275	1,30	0,020	1400-1600
LB22501401275	1,40	0,020	1400-1600
LB22501501275	1,50	0,020	1400-1600
LB22501601275	1,60	0,023	1400-1600
LB22501701275	1,70	0,023	1400-1600
LB22501801275	1,80	0,023	1400-1600
LB22501901275	1,90	0,023	1400-1600
LB22502001275	2,00	0,035	1400-1600

PRECISION GAUGE STEEL

PRECISION GAUGE STEEL

LB 2260



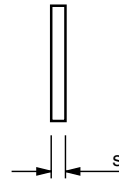
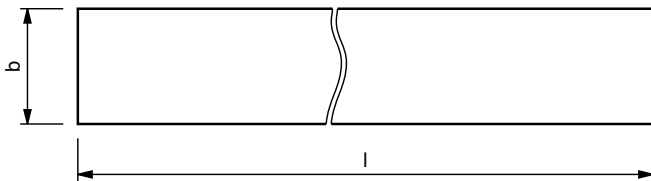
Mat.: 1.1274
 l = 5000 mm
 b = 50 mm
 σ zul. = Tensile strength

REF	s	Tol. s	σ zul. N/mm ²
LB22600035005	0,03	0,002	2000-2200
LB22600045005	0,04	0,003	2000-2200
LB22600055005	0,05	0,003	2000-2200
LB22600065005	0,06	0,003	2000-2200
LB22600075005	0,07	0,004	2000-2200
LB22600085005	0,08	0,004	2000-2200
LB22600095005	0,09	0,004	2000-2200
LB22600105005	0,10	0,004	2000-2200
LB22600125005	0,12	0,004	2000-2200
LB22600155005	0,15	0,005	2000-2200
LB22600185005	0,18	0,005	2000-2200
LB22600205005	0,20	0,006	1800-2000

REF	s	Tol. s	σ zul. N/mm ²
LB22600255005	0,25	0,007	1800-2000
LB22600305005	0,30	0,007	1800-2000
LB22600355005	0,35	0,008	1800-2000
LB22600405005	0,40	0,009	1600-1800
LB22600455005	0,45	0,009	1600-1800
LB22600505005	0,50	0,010	1600-1800
LB22600605005	0,60	0,010	1600-1800
LB22600705005	0,70	0,012	1400-1600
LB22600805005	0,80	0,013	1400-1600
LB22600905005	0,90	0,013	1400-1600
LB22601005005	1,00	0,013	1400-1600

CALIBRATED SHIMSTEEL

LB 2270

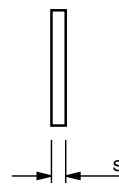
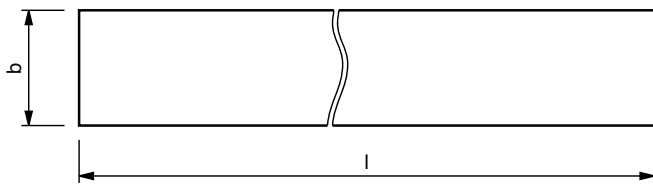


Mat.: 1.1274
 Mat. *): 1.4310
 l = 300 mm
 b = 50 mm
 σ zul. = Tensile strength

REF	s	Tol. s	σ zul. N/mm ²	
LB2270001050300	0,01*	0,002	2000-2200	10
LB2270002050300	0,02*	0,002	2000-2200	10
LB2270003050300	0,03	0,002	2000-2200	10
LB2270004050300	0,04	0,003	2000-2200	10
LB2270005050300	0,05	0,003	2000-2200	10
LB2270006050300	0,06	0,003	2000-2200	10
LB2270007050300	0,07	0,004	2000-2200	10
LB2270008050300	0,08	0,004	2000-2200	10
LB2270009050300	0,09	0,004	2000-2200	10
LB2270010050300	0,10	0,004	2000-2200	10
LB2270015050300	0,15	0,005	2000-2200	10

REF	s	Tol. s	σ zul. N/mm ²	
LB2270020050300	0,20	0,006	1800-2000	10
LB2270025050300	0,25	0,007	1800-2000	10
LB2270030050300	0,30	0,007	1800-2000	10
LB2270040050300	0,40	0,009	1600-1800	10
LB2270050050300	0,50	0,010	1600-1800	10
LB2270060050300	0,60	0,010	1600-1800	10
LB2270070050300	0,70	0,012	1400-1600	10
LB2270080050300	0,80	0,013	1400-1600	10
LB2270090050300	0,90	0,013	1400-1600	10
LB2270100050300	1,00	0,013	1400-1600	10

CALIBRATED SHIMSTEEL LB 2280

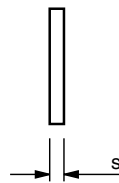
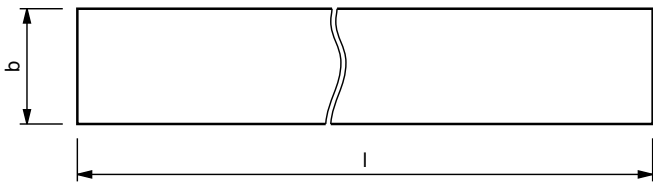


Mat.: 1.4310
 l = 500 mm
 b = 100 mm
 σ zul. = Tensile strength

REF	s	Tol. s	σ zul. N/mm ²	
LB2280002100500	0,02	0,002	2000-2200	5
LB2280005100500	0,05	0,003	1850-2100	5
LB2280010100500	0,10	0,004	1600-1800	5
LB2280015100500	0,15	0,005	1600-1800	5
LB2280020100500	0,20	0,006	1600-1800	5
LB2280025100500	0,25	0,007	1600-1800	5
LB2280030100500	0,30	0,007	1600-1800	5
LB2280035100500	0,35	0,008	1600-1800	5
LB2280040100500	0,40	0,009	1600-1800	5
LB2280045100500	0,45	0,009	1600-1800	5
LB2280050100500	0,50	0,010	1600-1800	5

REF	s	Tol. s	σ zul. N/mm ²	
LB2280055100500	0,55	0,010	1600-1800	5
LB2280060100500	0,60	0,010	1600-1800	5
LB2280065100500	0,65	0,012	1600-1800	5
LB2280070100500	0,70	0,012	1600-1800	5
LB2280075100500	0,75	0,012	1600-1800	5
LB2280080100500	0,80	0,013	1600-1800	5
LB2280085100500	0,85	0,013	1600-1800	5
LB2280090100500	0,90	0,013	1600-1800	5
LB2280095100500	0,95	0,013	1600-1800	5
LB2280100100500	1,00	0,013	1600-1800	5
LB2280150100500	1,50	0,013	1600-1800	5

ASSORTED PACKS OF CALIBRATED SHIMSTEEL LB 2290

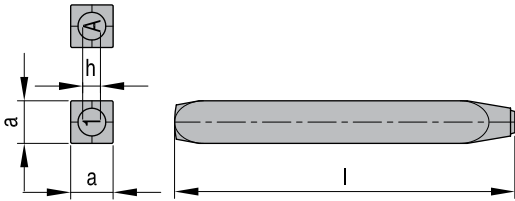


Mat.: 1.4310
 l = 500 mm
 b = 100 mm
 σ zul. = Tensile strength

REF	Typ(e)	Sizes	Sheets	Contents: 1 Sheet	Mat.
LB2290050300	50/1	50 x 300	25	0,01 - 1,00 mm	1.1274
LB2290100500	100/1	100 x 500	9	0,02 / 0,05 / 0,10 / 0,15 / 0,20 / 0,30 / 0,40 / 0,50 / 1,00 mm	1.4310

HAND STAMP SETS

HAND STAMP SET

SL 1450


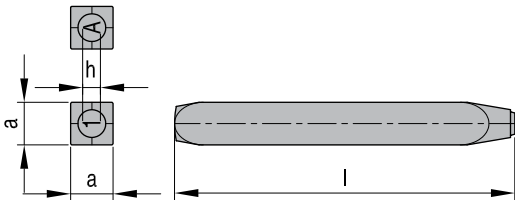
Mat.: C 105 W1 - 60 ±2 HRC

Plastic box with a set of 9 digits (legible after marking).

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

REF	h	a	i
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


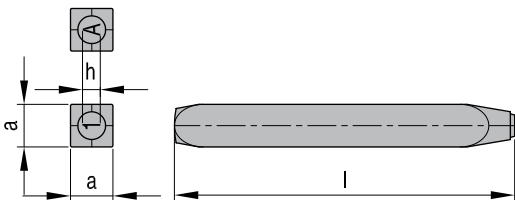
Mat.: C 105 W1 - 60 ±2 HRC

Plastic box with a set of 9 digits (mirror inverted after marking).

REF	h	a	l
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

REF	h	a	l
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


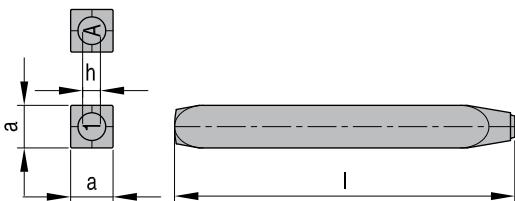
Mat.: C 105 W1 - 60 ±2 HRC

Plastic box with a set of 26 alphabetic characters (legible after marking).

REF	h	a	l
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

REF	h	a	l
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


Mat.: C 105 W1 - 60 ±2 HRC

Plastic box with a set of 26 alphabetic characters (mirror inverted after marking).

REF	h	a	l
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

REF	h	a	l
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

WAX GUN FA 891



Specification	FA 891
3,0	3,0
Volt	220 V
8,0	5,0
Power	240 W
Volume Wax	600 cm ²
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





SURFACE FINISHING EQUIPMENT





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POLISHING MACHINES



ULTRASONIC LAPP AND POLISHING MACHINE - ULTRAFORM

ULTRAFORM - ULTRASONIC LAPP AND POLISHING MACHINE

UF0103
NEW

UF0103

PHP35
UF9705

UF7405

ULTRAFORM UF0103 is an easy operational lapping and polishing machine. It becomes operational just by connecting the power switch to the power source and the hand piece cord to the controller. It satisfies the expert and skilled polishers for the professional use thanks to its features:

- Rough polishing and grinding with the maximum output power of 100W aggressively (High power version)
- Ultra-fine polishing with the Amplitude of under 1 micron gently. (NANO mode)
- Polishing mode selection by one-touch button (CLAMP button)
- The Hard mode keeps a constant vibration level against the thrust forces applied to the tool, thus leading to powerful polishing.
- The Soft mode automatically reduces vibration depending on the thrust force applied to the tool, thus preventing excessive grinding.
- Amplitude adjustable in 99 steps.
- Status check of ultrasonic vibration visibly in the built-in LCD monitor.
- DC motor rotary hand piece (PHP35) with excellent polishing and aggressive grinding power
- 2 types hand pieces available, the large-sized hand piece (UF-7405) and the light and compact-sized hand piece (UF-9705)
- Easy exchange of the hand pieces as the detachable motor cord is applied.
- Auto-Power-Off function ensures the safety

Available options:

ALL-AROUND SET UF0103AS = UF0103 machine + PHP35 DC motor Rotary handpiece + UF7405 hand piece (hard work) + UF9705 hand piece (soft work) + accessories (cables, stone, files)

NANO SET UF0101NS = UF0103 machine + UF9705 hand piece (soft work) + accessories (cables, stone, files)

Description	UF0103
Supply voltage	Single phase AC100 to 250 V 50/60 Hz
Power output	100 W max.
Amplitude adjustment	in 99 steps
Power consumption	300 VA
Frequency of vibration	17-31 kHz Automatic feedback
Amplitude (stroke)	1-30 μ m
Fuse	1,5 A (REF UF 7031)
Dimensions	180W×263D×229H mm
Weight	5,3 kg

Set includes:

- Power Pack UF0103
- DC motor Rotary handpiece PHP35
- Ultrasonic handpiece UF9705
- Standard tools for handpiece UF9705
- Power cord
- Ultrasonic handpiece UF7405 (in All-Around set)
- Standard toolbox for handpiece UF7405

REF	
Nano set	UF0103NS
All-round set	UF0103AS

ULTRASONIC POLISHING SYSTEM ULTRAFORM **UF0101AS**



UF0101AS Allround Set including handpieces UF7401 & UF9701

- A single set offers both powerful heavy polishing and delicate soft polishing.
- Ultra-fine polishing through precise amplitude control at 99 levels.
- Output of up to 100W.
- A built-in LCD monitor indicates the status of vibrations and the settings (in addition to error status).
- Various polishing modes (Hard/Soft) depending on the work.
- Even if the tool generates heat during work, the oscillator lowers the power output to continue work.
- The auto power-off function ensures power shutdown.
- Output information is saved in memory depending on the work.
- A new "NANO mode" further provides ultra-fine amplitude control.

Other sets available:
 UF0101TS including large-sized handpiece UF7401 ideal for powerful work.
 UF0101NS including handpiece UF7901 best suited for delicate work or long-hours.
 Contact DME for more info!

UF0101TS



UF0101

UF7401

UF0101NS



UF0101

UF9701

Frequency	17-31 kHz Automatic feedback
Maximum output	100W
Amplitude adjustment	99 steps
Power supply	Single phase AC100 to 250V 50/60Hz
Electricity consumption	300VA
Outer dimensions	226W x 252D x 180H (mm)
Weight	5,2 kg

Optional:
Foot switch



REF	
All Nano Set	UF0101NS
All Round set	UF0101AS
Tough set	UF0101TS



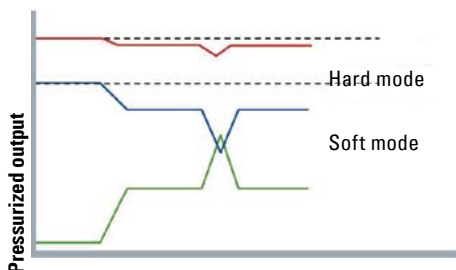
*manual mode

**menu screen

USER-FRIENDLY OPERATING SCREEN

Manual mode*
 Displays information about equipment status, frequency and output.

Menu screen**
 Saving the output value during memory mode as well as setting the filing Mode and automatic power off feature, etc., are performed on the menu screen.



FROM ROUGH GRINDING TO ULTRA-FINE POLISHING

Two types of polishing modes (Hard/Soft) are alternately available on a single set.
 The Hard mode keeps a constant vibration level against the thrust forces applied to the tool, thus leading to powerful polishing.
 The Soft mode automatically reduces vibration depending on the thrust force applied to the tool, thus preventing excessive grinding. This mode is suitable for delicate work.

ULTRASONIC LAPP AND POLISHING MACHINE

ULTRASONIC LAPP AND POLISHING MACHINE

UF 5600



The use of ultrasonic energy in combination with conventional machining tools for the finishing of very small areas of molds and tools makes it possible to achieve a high-quality surface finish and to save time compared with conventional polishing methods.

The consistent development of the Ultraform systems as regards performance, efficiency and handling is bringing decisive improvements in the machining of spark-eroded gates, slots, cavities and complicated contours.

- 50 % increase in performance compared with previous models.
- New control electronics ensure a constant work output even when there is a variation in cutting pressures.
- The amplitude/stroke length is in the range 4-40 μm for optimum finishing.
- New, expanded tool range including ceramic stones and synthetic resin-bonded diamond stones.
- Universal hand piece UF 9700 enables the employment of the complete tool programme. Standard tools with M4 connecting thread for machining of small molds and tools with M6 connecting thread for large machining depths are available to the user. Special adapters also ensure that customised tools can be used.
- Model UF 5600 also permits the use of Argofile AF-Series electromechanical hand pieces. Modern transformer electronics achieve a constant torque and increased operational reliability of the hand pieces.

Includes:

- 1 ultrasonic hand piece UF 9700
- 1 wooden case for Ultrasonic hand piece
- 1 ultrasonic hand piece PHP 35
- 1 toolbox
- assembly spanner
- ear (plugs) protection
- fuses
- 1 adaptor MS 0064
- 1 protection cap UF 7025
- 1 diamond file SE 8851, SE 8751, SE 5845, SE 5745
- 1 diamond stone SD 5831, SD 5851, MD 8862
- 1 diamond stone MD 4872, MD 4772
- 1 ceramic stone SC 4548, SC 4448, SC 4561, SC 4461, SC 1530, SC 1430
- 1 polishing wood SO 1103, SO 4163
- 1 tool clamp MX 4008, MX 4020, MX 4010, MX 4030, MX 1030, UF 7023

The model enables the use of Argofile AF-series electromechanical hand pieces.

Description	UF 5600
Supply voltage	220 V~ \pm 10%, 50 Hz
Power output	45 W max.
Output adjustment	continuously variable
Power consumption	200 W
Frequency of vibration	20,0 - 30,0 kHz
Frequency adaption	auto. comp.
Amplitude (stroke)	4 - 40 μm
Fuse	1,5 A (REF UF 7031)
Dimensions	162 x 280 x 210 mm
Weight	3,700 kg

REF
UF5600

ULTRASONIC LAPP AND POLISHING MACHINE

HAND PIECE **UF 9700**



Description	UF 9700
Cable length	2 m
Connecting thread	M6 or M4 with adaptors
Dimensions	Ø 15 x Ø 28 x 154 mm
Weight	0,130 kg

REF
UF9700

FOOT SWITCH **UF 7503**



REF
UF7503

FOOT SWITCH **UF 7504**



REF
UF7504



The completely re-designed power pack PA 480 offers improved engineering paired with modern outlook.

The well arranged foil control panel protects the unit from acidic substances. Power output depending on utilisation factor is controlled by integrated micro control conductors.

By using modern MOFSET-technology a minimum amount of power dissipation is obtained, which also results in low heating of the power pack.

The sturdy metal housing is shock-proof and dirt resistant. Appropriate hand pieces are available to suit the various applications. The Argofile units have been designed in accordance with the latest state-of-the-art and ergonomic requirements.

By all means a fatigue-free operation is ensured since the power pack is running in a silent and low vibration manner. The hand pieces are connected to the unit via flexible cables.

Description	PA 480
Supply voltage	230 V~ ± 10%, 50 Hz
Output voltage	0 - 30 V = (DC)
Power output	max. 2 x 70 W
Outputs	2, individually controlled
Fuse	2,0 A
Dimensions	259 x 240 x 81 mm
Weight	3,900 kg

REF
PA480

MAXIMA EX MICROMOTOR SYSTEM EXP230

Load indicator: Clear 8-step load indicator with overwork caution for longer service life.



Input voltage: 230V (AC100, 120 upon request)
 Weight: 2,3 kg
 Dimensions: 200 x 180 x 110 mm (W x D x H)

Micro computer control:
 Built-in micro computer automatically controls the best suited torque for each motor enabling smooth operation.

Auto cruise foot pedal:
 possible fixed rotation speed when using a foot pedal.

Self diagnostic function:
 Self checking motor and controller. Automatic cooling in case of overheating.

Operation volume control:
 Adjustable sound alarm in case of overworks.

Mode selection: Controller automatically finds motor on A or B. Connecting a foot pedal is also possible.

Digital rotation display: 2 digit display for easy rotation speed adjustment.

Error code: An error code for easy trouble shooting is displayed in case of e.g. overheating, overload, or defects...

REF
EXP230

ROTARY HANDPIECES EX...



⚠ To connect UF 5600 use conversion cable **KE50-156**

Two-piece construction and detachable head.

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX051	Motor EX05 + head JA15	55,000 rpm	3.6 N.cm	LA051
EX121	Motor EX12 + Head JA15	20,000 rpm	6.4 N.cm	LA121
EX131	Motor EX13 + Head JA15	35,000 rpm	5.4 N.cm	LA131
EX201	Motor EX20 + Head JA15	8,000 rpm	9.8 N.cm	LA201
EX211	Motor EX21 + Head JA15	15,000 rpm	8.8 N.cm	LA211
EX231	Motor EX23 + Head JA15	30,000 rpm	6.8 N.cm	LA231
EX208	Motor EX20 + Head JP11	8,000 rpm	9.8 N.cm	LA208
EX216	Motor EX21 + Head JR21	15,000 rpm	8.8 N.cm	LA216
EX217	Motor EX21 + Head JS21	15,000 rpm	8.8 N.cm	LA217

CAD reference point

HANDPIECES

ROTARY HANDPIECES

EX051


55,000rpm / High Speed
 Rated input voltage : 0-30V.DC
 Max torque : 3.6 N.cm
 Weight : 190 g
 Standard collet size : 2.35 mm, 3.0 mm
 Special collet size : 3.175 mm

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX051	Motor EX05 + head JA15	55,000 rpm	3.6 N.cm	LA051

ROTARY HANDPIECES

EX121


20,000rpm / High Torque
 Rated input voltage : 0-30V.DC
 Max torque : 6.4 N.cm
 Weight : 220 g
 Standard collet size : 2.35 mm, 3.0 mm
 Special collet size : 3.175 mm

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX121	Motor EX12 + Head JA15	20,000 rpm	6.4 N.cm	LA121

ROTARY HANDPIECES

EX131


35,000rpm / All-Arounder
 Rated input voltage : 0-30V.DC
 Max torque : 5.4 N.cm
 Weight : 220 g
 Standard collet size : 2.35 mm, 3.0 mm
 Special collet size : 3.175 mm

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX131	Motor EX13 + Head JA15	35,000 rpm	5.4 N.cm	LA131

ROTARY HANDPIECES

EX201


8,000rpm / Super Torque
 Rated input voltage : 0-30V.DC
 Max torque : 9.8 N.cm
 Weight : 276 g
 Standard collet size : 2.35 mm, 3.0 mm
 Special collet size : 3.175 mm

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX201	Motor EX20 + Head JA15	8,000 rpm	9.8 N.cm	LA201

ROTARY HANDPIECES

EX211


15,000rpm / High Torque
 Rated input voltage : 0-30V.DC
 Max torque : 8.8 N.cm
 Weight : 276 g
 Standard collet size : 2.35 mm, 3.0 mm
 Special collet size : 3.175 mm

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX211	Motor EX21 + Head JA15	15,000 rpm	8.8 N.cm	LA211

ROTARY HANDPIECES **EX231**



30,000rpm / All-Arounder
 Rated input voltage : 0-30V.DC
 Max torque : 6.8 N.cm
 Weight : 276 g
 Standard collet size : 2.35 mm, 3.0 mm
 Special collet size : 3.175 mm

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX231	Motor EX23 + Head JA15	30,000 rpm	6.8 N.cm	LA231

ROTARY HANDPIECES **EX208**



Swing stroke (0 - 1,6 mm) and stroke frequency (0 - 8.000 min-1) can be adjusted freely.
 Tool holding fixture to max. 4 mm.
 Rated input volt.: 0-30 V =
 Stroke frequency: 0 - 8.000 min-1
 Motor torque: 0,073 Nm
 Dimensions: Ø 31,6 x 166 x 53 mm
 Weight: 0,290 kg

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX208	Motor EX20 + Head JP11	8,000 rpm	9.8 N.cm	LA208

ANGLE HAND PIECE 90° **EX216**



Hand operated quick release collet mechanism for rapid tool change.
 Rated input volt.: 0-30 V =
 Rotation speed: 0 - 15.000 min-1
 Dimensions: Ø 31,6 x 166 x 53 mm
 Weight: 0,200 kg

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX216	Motor EX21 + Head JR21	15,000 rpm	8.8 N.cm	LA216

ANGLE HAND PIECE 120° **EX217**



Hand operated quick release collet mechanism for rapid tool change.
 Rated input volt.: 0-30 V =
 Rotation speed: 0 - 15.000 min-1
 Dimensions: Ø 31,6 x 166 x 53 mm
 Weight: 0,200 kg

REF	Combination	Max. Rotation	Max. Torque	Old REF
EX217	Motor EX21 + Head JS21	15,000 rpm	8.8 N.cm	LA217



HANDPIECES

DIPROFIL, MINIATURE HAND-FILING MACHINE

JA 60 / JA 65


For motor EX 20

REF
JA60
JA65

Description	JA 60	JA 65
Linear Stroke	0,5 mm	1,8 mm
Stroke frequency	0 - 7.000 min ⁻¹	0 - 7.000 min ⁻¹
Toolholder	Ø maxi. 3,5 mm	Ø maxi. 3,5 mm
Dimensions	Ø 24 mm	Ø 24 mm
Weight	0,120 kg	0,120 kg

RECIPROFILE

RE 35


RE35 reciprocating profilers are light-weight and comfortable handpieces for continuous polishing. Both models have adjustable stroke and floating head with 360 degrees orientation.

Rated input voltage : 0-30V. DC
 Available tool size : 2.0 – 6.35 mm diameter.
 Reciprocating Stroke : 0 – 6 mm
 Frequency : 420 – 4,200 strokes/min.
 Weight : 675 g

REF
RE35

RECIPROFILE

RE 55


RE55 reciprocating profilers are light-weight and comfortable handpieces for continuous polishing. Both models have adjustable stroke and floating head with 360 degrees orientation.

Rated input voltage : 0-30V. DC
 Available tool size : 2.0 – 6.35 mm diameter.
 Reciprocating Stroke : 0 - 2mm
 Frequency : 700 – 7,000 strokes/min.
 Weight : 675 g

REF
RE55

BELT SANDER

BS 33


Suitable for deburring, removing EDM and machine tool marks, and sanding flat and curved surface and narrow slots.

Rated input voltage : 0-30V.DC
 Belt Speed : 5 – 12 m/sec.
 Weight : 400 g

REF
BS33

MOTORS EX05



Motors 55,000 rpm
 Rated input voltage : 0-30V.DC
 Max torque : 3.6 N.cm
 Weight : 90 g

REF
EX05

MOTORS EX12



Motors 20,000 rpm
 Rated input voltage : 0-30V.DC
 Max torque : 6.4 N.cm
 Weight : 120 g

REF
EX12

MOTORS EX13



Motors 35,000 rpm
 Rated input voltage : 0-30V.DC
 Max torque : 5.4 N.cm
 Weight : 120 g

REF
EX13

MOTORS EX20



Motors 8,000 rpm
 Rated input voltage : 0-30V.DC
 Max torque : 9.8 N.cm
 Weight : 176 g

REF
EX20

MOTORS EX21



Motors 15,000 rpm
 Rated input voltage : 0-30V.DC
 Max torque : 8.8 N.cm
 Weight : 176 g

REF
EX21

MOTORS EX23



Motors 30,000 rpm
 Rated input voltage : 0-30V.DC
 Max torque : 6.8 N.cm
 Weight : 176 g

REF
EX23

CAD reference point

HEAD

STANDARD HEAD

JA 15

Includes:

Collet chucks 2,35 + 3,0 mm suitable for motors EX20, EX21, EX23 Suitable collet chucks SP ... of sizes 0,5 to 3 mm

REF
JA15

HIGH PERFORMANCE HEAD

JA 33

Includes:

Collet chuck 6,0 mm suitable for motors EX20, EX21, EX23 Suitable collet chucks SP ... of sizes 2.35 to 6.35 mm

REF
JA33

SPECIAL HEAD

JA 45

Includes:

Collet chuck 6,0 mm suitable for motors EX20, EX21, EX23 Suitable collet chucks SP ... of sizes 2,0 bis 3,2 mm

REF
JA45

ANGLE HEAD 90°

JR 21 90

Includes:

Collet chucks 2,35 + 3,0 mm, suitable for motor EX20 Suitable collet chucks SP ... of sizes 2.0 to 3.2 mm

REF
JR21

ANGLE HEAD 120°

JS 21 120

Includes:

Collet chucks 2,35 + 3,0 mm, suitable for motor EX20 Suitable collet chucks SP ... of sizes 2.0 to 3.2 mm

REF
JS21

SWIVEL HEAD

JP 11

Features:

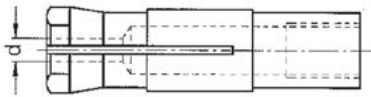
Suitable for motor EX20.

Swing stroke (0-1,6 mm) and stroke frequency (0-8.000 min-1) can be adjusted freely.

Tool height adjustable to max. 4 mm.

REF
JP11

COLLET CHUCKS **JRS 90**



REF	d	for heads
JRS90160	1,6	SAE 90 SA 90, SA 120
JRS90235	2,35	
JRS90300	3,0	

MAXIMA POWER PACK **PS 220 PP**



Features:
 powerful single powerpack system from MAXIMA starter kit
 compact size, continual variable speedcontrol
 automatic stop with alarm beep & red light
 resets when overloaded
 1 connection for LA micro motor

REF
PS220PP

FOOT CONTROL FOR PS 220 PP **TPF 77**



Foot control

REF
TPF77

FOOT SWITCH FOR PA 480 **VC 10**



Foot switch for continuously variable power control

REF
VC10

FOOT SWITCH FOR PA 480 **FS 18**



On-/ Off- Foot switch

REF
FS18

FOOT CONTROL FOR EXP-120/230 **VC 90**



Für EXP-120/230

REF
VC90

MICROMOTOR ACCESSORIES

EXTENTION CORD

KE 50155

Suitable for EXP-120/230
Length : 3.0 meters

REF

KE50155

ADAPTOR

KE 50156

For PA480 / PS220PP

REF

KE50156

EXTENSION CORD

EC 30

Not suitable for EXP-120/230

REF

EC30

MAXIMA NEO POLISHING MACHINE

MAXIMA-NEO



A more powerful model called "MAXIMA NEO" has been joined to the MAXIMA Series. With the new design, the powered-up model has further evolved and as new functions, a Digital Rotation Speed Display Function and a convenient Pause Function are standard equipment. With its excellent Dustproof Function and Rotational Accuracy, it can perform not only precision work such as dental laboratory, jewelry, and wood carving, but also various mold polishing and deburring powerfully.

Lightweight and high-precision handpieces are suitable for a wide range of applications from fine polishing to powerful grinding. The collet chuck uses a convenient one-touch opening/ closing method, and the tip tool can be attached / detached without using a special spanner. In addition, the standard foot pedal is a variable type with an upper limit that can be set.

Your benefits:

- Stepless control - steplessly controls the rotation speed of the hand piece
- Rotation direction change - One-touch operation to switch between forward and reverse rotation
- Variable foot control - Controls the rotation speed of the motor by stepping on
- Overload protection - Stops and protects the hand piece when the motor is overloaded
- Variability - The Maxima Neo controller can be placed horizontally or vertically
- Quick chuck system - allows you to attach or detach tip tools with one



Maxima Neo Controller	
REF	NSC90PP
Input Voltage	AC100V/230V 50/60Hz
Output Voltage	DC3 ~30V 0.4A
Dimensions	81 x 151 x 151 mm
Max. Output power	50W
Weight	2,15 kg

Maxima Neo Motor Handpiece	
REF	PHP35
Max. Torque output	6.5 Ncm
Rotation speed	0-35,000 rpm/min
Dimensions	Ø 26 x 150 mm
Motor cord length	1,5 m
Weight	200 g

Variable Foot Control	
REF	TPF100
Dimensions	90 x 170 x 60 mm
Cord length	1,8 m
Weight	500 g

GRANDE

GRANDE HYBRID MICROMOTOR SYSTEM

BLH 600 ST


Features:

- Super high speed 50000 rpm
- Silent Construction
- Auto Cruise system
- RPM Digital Display
- Long Time operation
- Ego diagnostic System with Alarm
- Easy Collet change - standard 3mm installed
- 2 possible connections: 1 conventional / 1 brushless

Includes:

- 1x Super high speed brushless handpiece (BLH600)
- 1x Hybrid controller (GRC2000)
- 1x Speed control foot pedal (GRF60)
- 2x Hand piece holder (GRC02)
- 1x Diamond points set (DBS30)
- 1x Collet changing jig set (BLH6070)

REF

BLH600ST

SUPER HIGH SPEED BRUSHLESS HANDPIECE

BLH 600


Features:

- Super high speed Max. 50000 rpm
- Silent Construction
- High torque 230 Watt
- Weight: 230 gr

REF

BLH600

HIGH TORQUE ADAPTOR

BLHADA


Features:

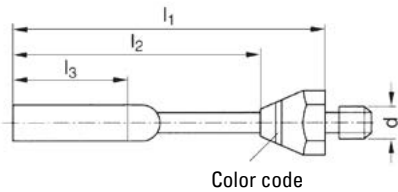
- More than double the torque of your system
- For Grande hand piece BLH600 only
- For various heads: JA15, JA33, JA11, JA45, JR21, JS21, JA60 & JA 65
- Remark: Adjust lower rpm on your system to avoid unnecessary high speed.

REF

BLHADA

ELECTRO-BONDED

UE... / ME... / SE...



REF	Grain	Color	a x b	l1	l2	l3	d	Shape
UE5851K0200	200	red	1 x 5	145	125	20	M 8	
UE5751K0320	320	black	1 x 5	145	125	20	M 8	
UE5551K0600	600	white	1 x 5	145	125	20	M 8	
UE5881K0200	200	red	1 x 8	145	125	20	M 8	
UE5781K0320	320	black	1 x 8	145	125	20	M 8	
UE5581K0600	600	white	1 x 8	145	125	20	M 8	
ME9881K0200	200	red	1 x 8	93	73	20	M 6	
ME9781K0320	320	black	1 x 8	93	73	20	M 6	
ME9581K0600	600	white	1 x 8	93	73	20	M 6	
ME9851K0200	200	red	1 x 5	93	73	20	M 6	
ME9751K0320	320	black	1 x 5	93	73	20	M 6	
ME9551K0600	600	white	1 x 5	93	73	20	M 6	
SE4841	200	red	1 x 4	37	28	15	M 4	
SE4741	320	black	1 x 4	37	28	15	M 4	
SE4541	600	white	1 x 4	37	28	15	M 4	
SE8851	200	red	1 x 5	133	124	40	M 4	
SE8751	320	black	1 x 5	133	124	40	M 4	
SE8551	600	white	1 x 5	133	124	40	M 4	
SE5845	200	red	0,5/1x4	44	-	15	M 4	
SE5745	320	black	0,5/1x4	44	-	15	M 4	
SE5545	600	white	0,5/1x4	44	-	15	M 4	
SE7841	200	red	4 x 1	34	25	15	M 4	
SE7741	320	black	4 x 1	34	25	15	M 4	
SE7541	600	white	4 x 1	34	25	15	M 4	

REF	Grain	Color	a	l1	l2	l3	d	Shape
SE3803	200	red	3	34	25	15	M 4	
SE3703	320	black	3	34	25	15	M 4	
SE3503	600	white	3	34	25	15	M 4	

REF	Grain	Color	a x b	l1	l2	l3	d	Shape
SE5532	600	white	3 x 2	34	25	15	M 4	

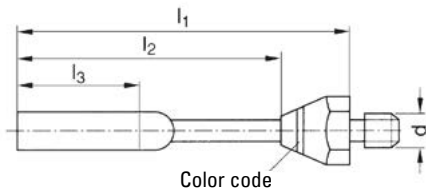
REF	Grain	Color	d 1	l1	l2	l3	d	Shape
SE6803	200	red	3	34	25	15	M 4	
SE6703	320	black	3	34	25	15	M 4	
SE6503	600	white	3	34	25	15	M 4	

CAD reference point

DIAMOND FILES

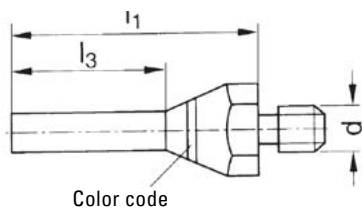
SINTERED

MD ... / SD ...



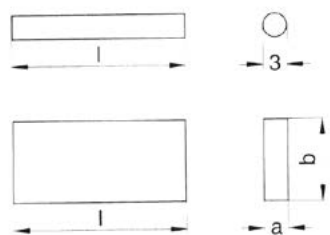
REF	Grain	Color	a x b	l1	l2	l3	d	Shape
MD8862K0200	200	rot	1,5 x 6	80	71	15	M 6	
MD8762K0320	320	schwarz	1,5 x 6	80	71	15	M 6	
MD9865K0200	200	rot	0,5/1,5x6	80	71	15	M 6	
MD9765K0320	320	schwarz	0,5/1,5x6	80	71	15	M 6	
SD5861	200	rot	1,0 x 6	62	53	18	M 4	
SD5761	320	schwarz	1,0 x 6	62	53	18	M 4	
SD5831	200	rot	1 x 3	41	32	10	M 4	
SD5731	320	schwarz	1 x 3	41	32	10	M 4	
SD5851	200	rot	1 x 5	41	32	10	M 4	
SD5751	320	schwarz	1 x 5	41	32	10	M 4	

REF	Grain	Color	d 1	l1	l2	l3	d	Shape
SD1802	200	rot	2	37	28	7	M 4	
SD1702	320	schwarz	2	37	28	7	M 4	
SD1602	500	blau	2	37	28	7	M 4	
SD1302	1000	grün	2	37	28	7	M 4	
SD1803	200	rot	3	39	30	10	M 4	
SD1703	320	schwarz	3	39	30	10	M 4	
SD1603	500	blau	3	39	30	10	M 4	
SD1303	1000	grün	3	39	30	10	M	



REF	Grain	Color	a x b	l1	l3	d	Shape
SD4831	200	rot	1 x 3	24	15	M 4	
SD4731	320	schwarz	1 x 3	24	15	M 4	
SD4631	500	blau	1 x 3	24	15	M 4	
SD4331	1000	grün	1 x 3	24	15	M 4	
SD4851	200	rot	1 x 5	24	15	M 4	
SD4751	320	schwarz	1 x 5	24	15	M 4	
SD4651	500	blau	1 x 5	24	15	M 4	
SD4351	1000	grün	1 x 5	24	15	M 4	
SD4862	200	rot	1,5 x 6	34	25	M 4	
SD4762	320	schwarz	1,5 x 6	34	25	M 4	
SD4662	500	blau	1,5 x 6	34	25	M 4	
SD4362	1000	grün	1,5 x 6	34	25	M 4	

CERAMIC STONES SC... / LC ...



Dimensions 2,0 x 2,0 x 40 mm, available in all grain sizes upon request.

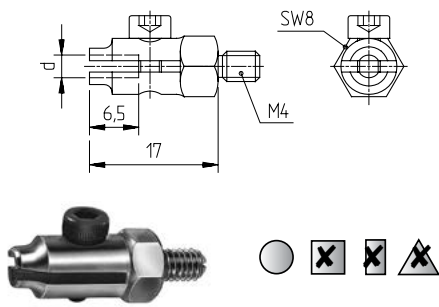
REF	Grain	Shape	Color	a x b	l	
SC49480804K0120	120	flat	green	0,8 x 4	40	5
SC48480804K0180	180	flat	gold	0,8 x 4	40	5
SC47480804K0300	300	flat	light brown	0,8 x 4	40	5
SC46480804K0400	400	flat	orange	0,8 x 4	40	5
SC45480408K0600	600	flat	brown	0,8 x 4	40	5
SC44480408K0800	800	flat	blue	0,8 x 4	40	5
SC43480408K1000	1000	flat	white	0,8 x 4	40	5
SC42480408K1200	1200	flat	red	0,8 x 4	40	5
SC49680806K0120	120	flat	green	0,8 x 6	40	5
SC48680806K0180	180	flat	gold	0,8 x 6	40	5
SC47680806K0300	300	flat	light brown	0,8 x 6	40	5
SC46680806K0400	400	flat	orange	0,8 x 6	40	5
SC45680608K0600	600	flat	brown	0,8 x 6	40	5
SC44680608K0800	800	flat	blue	0,8 x 6	40	5
SC43680608K1000	1000	flat	white	0,8 x 6	40	5
SC42680608K1200	1200	flat	red	0,8 x 6	40	5
SC49411004K0120	120	flat	green	1,0 x 4	40	5
SC48411004K0180	180	flat	gold	1,0 x 4	40	5
SC47411004K0300	300	flat	light brown	1,0 x 4	40	5
SC46411004K0400	400	flat	orange	1,0 x 4	40	5
SC45410410K0600	600	flat	brown	1,0 x 4	40	5
SC44410410K0800	800	flat	blue	1,0 x 4	40	5
SC43410410K1000	1000	flat	white	1,0 x 4	40	5
SC42410410K1200	1200	flat	red	1,0 x 4	40	5
SC49611006K0120	120	flat	green	1,0 x 6	40	5
SC48611006K0180	180	flat	gold	1,0 x 6	40	5
SC47611006K0300	300	flat	light brown	1,0 x 6	40	5
SC46611006K0400	400	flat	orange	1,0 x 6	40	5
SC45610610K0600	600	flat	brown	1,0 x 6	40	5
SC44610610K0800	800	flat	blue	1,0 x 6	40	5
SC43610610K1000	1000	flat	white	1,0 x 6	40	5
SC42610610K1200	1200	flat	red	1,0 x 6	40	5
LC49622006K0120	120	flat	green	2,0 x 6	40	5
LC48622006K0180	180	flat	gold	2,0 x 6	40	5
LC47620620K0300	300	flat	light brown	2,0 x 6	40	5
LC46620620K0400	400	flat	orange	2,0 x 6	40	5
LC45620620K0600	600	flat	brown	2,0 x 6	40	5
LC44620620K0800	800	flat	l blue	2,0 x 6	40	5
LC43620620K1000	1000	flat	white	2,0 x 6	40	5
LC42620620K1200	1200	flat	red	2,0 x 6	40	5
LC49122012K0120	120	flat	green	2,0 x 12	40	5
LC48122012K0180	180	flat	gold	2,0 x 12	40	5
LC47122012K0300	300	flat	light brown	2,0 x 12	40	5
LC46122012K0400	400	flat	orange	2,0 x 12	40	5
LC45121220K0600	600	flat	brown	2,0 x 12	40	5
LC44121220K0800	800	flat	blue	2,0 x 12	40	5
LC43121220K1000	1000	flat	white	2,0 x 12	40	5
LC42121220K1200	1200	flat	red	2,0 x 12	40	5
SC1930DIA3K0120	120	round	green	3,0	30	5
SC1830DIA3K0180	180	round	gold	3,0	30	5
SC1730DIA3K0300	300	round	light brown	3,0	30	5
SC1630DIA3K0400	400	round	orange	3,0	30	5
SC1530DIA3K0600	600	round	brown	3,0	30	5
SC1430DIA3K0800	800	round	blue	3,0	30	5
SC1330DIA3K1000	1000	round	white	3,0	30	5
SC1230DIA3K1200	1200	round	red	3,0	30	5

CAD reference point

TOOL CLAMPS

TOOL CLAMPS

SX 10 ...

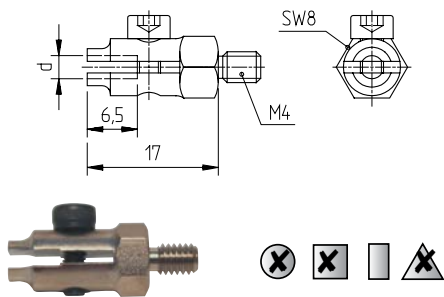


For ultrasonic handpiece UF 9000 and UF 9700 with adaptor
Material: steel

REF	d
SX1002	2
SX1003	3
SX1004	4
SX1005	5
SX1006	6

TOOL CLAMPS

SX 4012

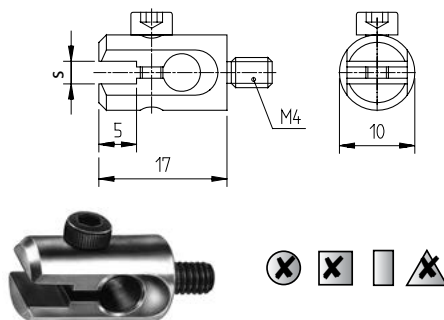


For ultrasonic handpiece UF 9000 and UF 9700 with adaptor
Material: steel

REF	s
SX4012	2

TOOL CLAMPS

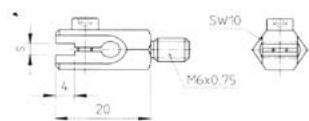
SX 40 ...



For ultrasonic handpiece UF 9000 and UF 9700 with adaptor
Material: steel

REF	s
SX4008	0.8
SX4011	1.1
SX4031	3.1
SX4033	3.1

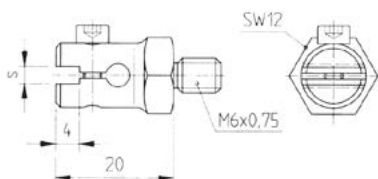
TOOL CLAMPS **MX 40 ...**



For ultrasonic handpiece UF 9700
Material: steel

REF	s
MX4008	0,8
MX4010	1,0
MX4020	2,0
MX4030	3,0
MX4033	3,3

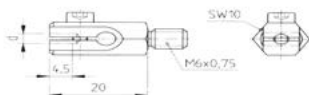
TOOL CLAMPS **MX 41 ...**



For ultrasonic handpiece UF 9700
Material: steel

REF	s
MX4110	1,0
MX4120	2,0
MX4130	3,0
MX4133	3,3
MX4140	4,0
MX4150	5,0

TOOL CLAMPS **MX 10 ...**



For ultrasonic handpiece UF 9700
Material: steel

REF	d
MX1020	2,0
MX1030	3,0
MX1033	3,3

MOTORS

SUSPENDED MOTOR PREMIUM

HM PRE 24 J


Features:

- continuous speed regulation up to 24000 rpm
- power 800 W
- high performance at low speed
- safe soft start-up
- to use with electronic speed control, also available with speed limitation control

REF

HMPRE24J

CONTROLLER

HM PRE FC 24 0...



- electronic foot control (pedal) up to 24000 min⁻¹; continuous speed regulation
- electronic foot control (round) up to 24000 min⁻¹; continuous speed regulation
- desk control up to 24000 min⁻¹; continuous speed regulation

REF

HMPREFC2401

HMPREFC2402

HMPREFC2403

FLEXIBLE SHAFT

HM FLEX J-P


Features:

- connection type "J"
- with expanding spring or duplex spring
- 6 x 1100 mm
- motor side connection: Quick-change (universal fit)

REF

HMFLEXJ-PDUP

HMFLEXJ-PEXP

"P-TYPE" : QUICK-CHANGE MOTOR CONNECTION (FITS ALL)

HM FLEX J


Features:

- connection type "J"
- with expanding spring or duplex spring
- 6 x 1100 mm
- motor side connection: Standard connection type

REF

HMFLEXJDUP

HMFLEXJEXP

"J-type": Standard motor connection

PREMIUM SERIES SET **HM PRE 24 JP SET**



- Includes:**
- Suspended motor Premium (HM PRE 24 J)
 - electronic foot control (HM PRE FC 24 02)
 - Quick-change flexible shaft (HM FLEX J-P DUP)
- handpiece not included

REF
HMPRE24JPSET

ACCESSORIES **HM ACC 0...**



- movable telescopic stand with tool deposit
- telescopic table stand
- toolholder

REF
HMACC01
HMACC02
HMACC03

HANDPIECE **BWA 35**



- Includes:**
- Collet chuck SP 1423 (Ø2,35)
 - Collet chuck SP 1430 (Ø3,0)
 - Others upon request

Description	BWA 35
Collet chuck	2,35 - 3 mm
Length	max. 240 mm
Rotation speed	max. 24.000 min ⁻¹

REF
BWA35

HAND PIECE **BWA 35i**



- straight handpiece with collet 6 mm
- cylindrical grip
- clamping range: 1 - 6.35 mm

REF
BWA35i

CAD reference point

MOTORS

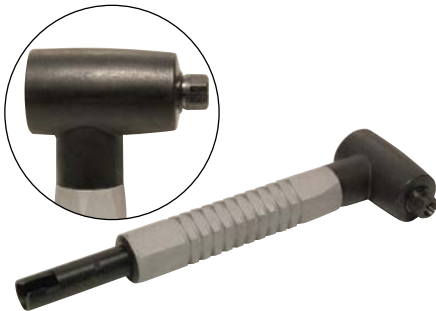
TELESCOPIC ANGLE HAND PIECE

BWA 45


Description	BWA 45
Collet chuck	2,35 - 3 mm
Length	max. 240 mm
Rotation speed	max. 24.000 min ⁻¹

REF
BWA45

ANGLE HAND PIECE 90°

BWA 50


Description	BWA 50
Collet chuck	3 - 6 mm
Length	170 mm
Rotation speed	max. 24.000 min ⁻¹

REF
BWA50

HAND PIECE

BWA 55


- small angle handpiece 135° with telescope
- left turning only
- collets 2.35 - and 3 mm
- hexagon grip
- clamping range: 1 - 3.17 mm

REF
BWA55

HAND PIECE

BWA 65


- straight handpiece with collet 3 mm
- hexagon grip
- clamping range: 1 - 6.35 mm

REF
BWA65

TURBOLAP LINEAR AND SWING PROFILERS TLL ... - TLS ...



The perfect tools with ergonomic soft grip for polishing fine detail areas and ribs and slots. The TurboLap should be used at maximum 5 bar. These tools provide excellent performance with Ceramic Super Stones and Cristones®.

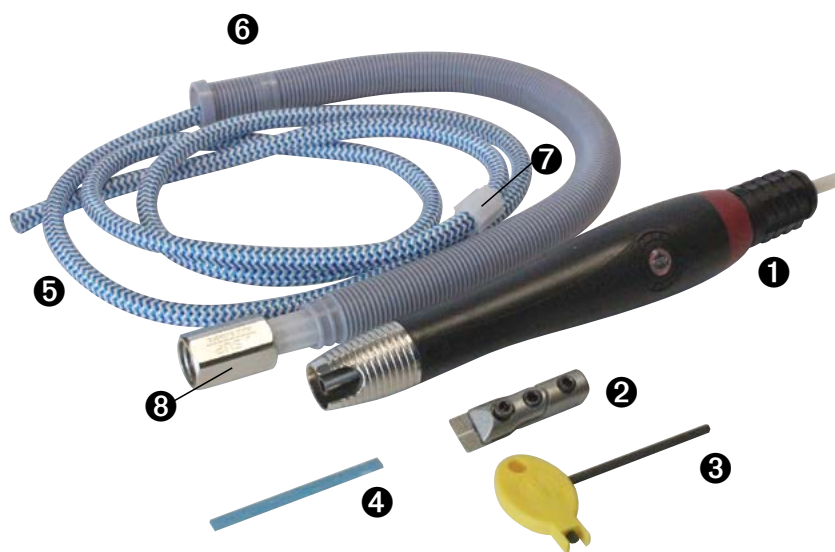
The TurboLap Linear is particularly powerful for polishing narrow areas and corners of precision parts and components. Outstanding efficiency by the high-torque air turbo mechanism. Use of a filter and fog lubrication device is recommended for a long service life.

TurboLap Linear TLL ...

TurboLap Swing TLS ...



	TLL 03	TLL 07	TLL 12	TLS 03	TLS 07	TLS 12
R.P.M.	52000	28000	19000	56000	20000	14000
Work range	45000 ~ 50000	22000 ~ 25000	15000 ~ 18000	48000 ~ 53000	16000 ~ 18000	10000 ~ 12000
Noise level	72 dB (A)	64 dB (A)	63 dB (A)	73 dB (A)	62 dB (A)	59 dB (A)
Air consumption	125 nl/min	46 nl/min	45 nl/min	125 nl/min	46 nl/min	40 nl/min
Length	218 mm	218 mm	218 mm	218 mm	218 mm	218 mm
Weight	180 g	180 g	180 g	180 g	180 g	180 g

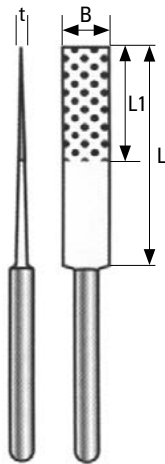


- Included:**
- 1 - 1 TurboLap
 - 2 - 1 super collet
 - 3 - 1 hexagonal wrench
 - 4 - 1 ceramic stone (1x4x50#800)
 - 5 - 1 air hose (1.5m)
 - 6 - 1 outer hose
 - 7 - 2 hose bands
 - 8 - 1 quick joint with filter

TURBOLAP AIR PROFILERS

TURBOLAP DIAMOND FILES

DF ...



REF	T	B	L1	L	Grit
DF503200	0.3	6	15	56	200
DF503400	0.3	6	15	56	400
DF503600	0.3	6	15	56	600
DF506200	0.3	6	15	56	200
DF506400	0.3	6	15	56	400
DF506600	0.3	6	15	56	600
DF703200	0.3	3	15	72	200
DF703400	0.3	3	15	72	400
DF703600	0.3	3	15	72	600
DF706200	0.3	3	15	72	200
DF706400	0.3	3	15	72	400
DF706600	0.3	3	15	72	600
DFP03	Set 12 pcs				

TURBOLAP LINEAR PROFILER

TLL 03


Features:

- Stroke 0.3 mm
- 52,000 RPM

REF

TLL03

TURBOLAP LINEAR PROFILER

TLL 07


Features:

- Stroke 0.7 mm
- 28,000 RPM

REF

TLL07

TURBOLAP LINEAR PROFILER

TLL 12


Features:

- Stroke 1.2 mm
- 19,000 RPM

REF

TLL12

TURBOLAP SWING PROFILER

TLS 03


Features:

- Stroke 0.3 mm
- 0.1 mm left to right and 0.3 mm linear
- 53,000 strokes per minute

REF

TLS03



TURBOLAP SWING PROFILER **TLS 07**



- Features:**
- Stroke 0.7 mm
 - 0.9 mm left to right and 0.7 mm linear
 - 18,000 strokes per minute

REF
TLS07

TURBOLAP SWING PROFILER **TLS 12**



- Features:**
- Stroke 1.2 mm
 - 2.5 mm left to right and 1.2 mm linear
 - 12,000 strokes per minute

REF
TLS12

AIR GRINDER **MSG-3BSN**



- Features:**
- for precision grinding and polishing
 - Straight pencil type with 3mm collet.
 - 65,000 RPM
 - weight 130 g

REF
MSG-3BSN

AIR GRINDER **MAG-121N**



- Features:**
- for precision grinding and polishing
 - 120° angle air grinder with 3mm collet.
 - 52,500 RPM
 - weight 140 g

REF
MAG-121N

TURBOLAP AIR PROFILERS

AIR GRINDER

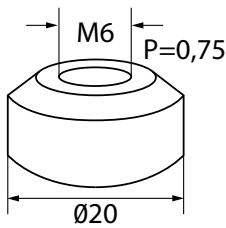
MAG-122N

Features:

- for surface grinding and polishing
- 120° angle air grinder.
- 35,000 RPM
- weight 140 g

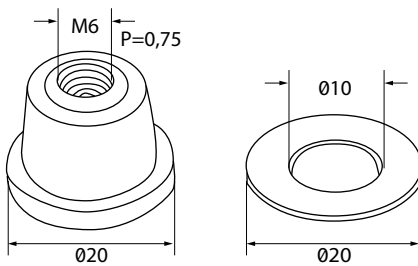
REF
MAG-122N

CUP WHEEL (24 PCS)

MAG523...


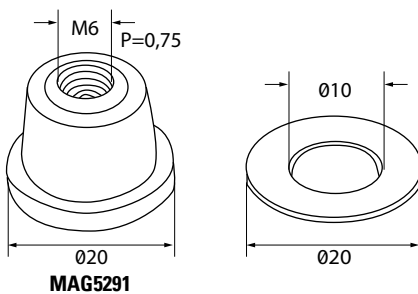
REF	Grit
MAG5231	Ø20 #60
MAG5232	Ø20 #100
MAG5233	Ø20 #150

SOFT LAP (40 PCS + 1 RUBBER DISC HOLDER)

MAG526...


REF	Grit/color
MAG5261	Ø20 #240
MAG5262	Ø20 #320
MAG5263	Ø20 #400
MAG5264	Ø20 #600
MAG5265	Ø20 #800
MAG5266	Ø20 #1000
MAG5267	Ø20 #1500

POL-PER SYSTEM & RUBBER DISC HOLDER

MAG524...


REF	Grit
MAG5241	Ø20 #60
MAG5242	Ø20 #100
MAG5243	Ø20 #150
MAG5244	Ø20 #240
MAG5245	Ø20 #400
MAG5246	Ø20 #600

REF
MAG5291

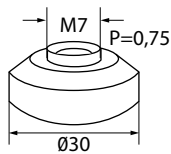
AIR GRINDER **MAG-093N**



- Features:**
- for surface grinding and polishing
 - 90° angle air grinder with 3mm collet.
 - 23,500 RPM
 - weight 180 g

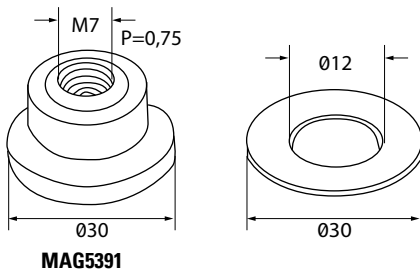
REF
MAG-093N

CUP WHEEL (24 PCS) **MAG533...**



REF	Grit
MAG5331	Ø30 #60
MAG5332	Ø30 #100
MAG5333	Ø30 #150

POL-PER SYSTEM & RUBBER DISC HOLDER **MAG534...**



REF	Grit
MAG5341	Ø30 #60

130 pcs

REF	Grit
MAG5342	Ø30 #100

140 pcs

REF	Grit
MAG5343	Ø30 #150
MAG5344	Ø30 #240
MAG5345	Ø30 #400
MAG5346	Ø30 #600

150 pcs + 1 rubber disc holder

REF
MAG5391

10 pcs

TURBOLAP AIR PROFILERS

AIR GRINDER

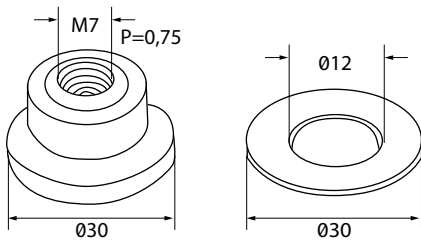
MAG-123N

Features:

- for surface grinding and polishing
- 120° angle air grinder.
- 23,500 RPM
- weight 175 g

REF
MAG-123N

SOFT LAP (25 PCS + 1 RUBBER DISC HOLDER)

MAG536...


REF	Grit
MAG5361	Ø30 #240
MAG5362	Ø30 #320
MAG5363	Ø30 #400
MAG5364	Ø30 #600
MAG5365	Ø30 #800
MAG5366	Ø30 #1000
MAG5367	Ø30 #1500



PNEUMATIC POLISHING TOOLS



PNEUMATIC STRAIGHT GRINDERS

PNEUMATIC STRAIGHT GRINDERS

LSA 81

Includes:

- Collet chuck Ø 3,0 mm

REF	Description	LSA 81
LSA81	Power	75 W
	Length	212 mm
	Idling speed	80.000 min ⁻¹
	Weight	0,160 kg
	Air connection	R 1/8"

PNEUMATIC ANGLE GRINDERS

LWC 21

Includes:

- Collet chuck Ø 6,0 mm
- Set of open end spanners
- Input and output hose

REF	Technical data	
LWC21	Power	370 W
	Length	210 mm
	Idling speed	21.000 min ⁻¹
	Weight	0,660 kg

PNEUMATIC ANGLE GRINDERS

LWA 80

Includes:

- Collet chuck Ø 3,0 mm

REF	Technical data	
LWA80	Power	75 W
	Length	182 mm
	Idling speed	80.000 min ⁻¹
	Weight	0,115 kg
	Air connection	R 1/8"

PNEUMATIC STRAIGHT GRINDERS

GT-MG 55SR

Includes:

- Collet chuck Ø 3,0 mm
- Set of open end spanners
- Input and output hose

REF	Technical data	
GTMG55SR	Length	180 mm
	Idling speed	55.000 min ⁻¹
	Weight	0,220 kg

PNEUMATIC STRAIGHT GRINDERS

GT-MG 75S

Includes:

- Collet chuck Ø 3,0 mm
- Set of open end spanners
- Input and output hose

REF	Technical data	
GTMG75S	Length	170 mm
	Idling speed	75.000 min ⁻¹
	Weight	0,190 kg

PNEUMATIC HAND FILING MACHINES **HDL 50**



- Features:**
- For light and medium duty filing operations
 - With rotary piston motor

Technical data	
Tool holder	max. 3,5 mm
Operating pressure	4 bar
Air consumption	5 - 65 l/min
Stroke length	0,5/6,0 mm
Weight	0,600 kg
Stroke ratio	1.000 - 10.000/min

REF
HDL50

PNEUMATIC HAND FILING MACHINES **HDL 100**



- Features:**
- For medium and heavy duty filing operations
 - With rotary piston motor

Technical data	
Tool holder	max. 6 mm
Operating pressure	4 - 5 bar
Air consumption	5 - 65 l/min
Stroke length	0,5/6,0 mm
Weight	0,700 kg
Stroke ratio	1.000 - 10.000/min

REF
HDL100

PNEUMATIC HAND FILING MACHINES, QUICK ACTION COUPLING **HDL**



- Features:**
- For connection to the service unit with on/off valve

REF
HDL

PNEUMATIC MINIATURE FILING MACHINE **HDL 1**

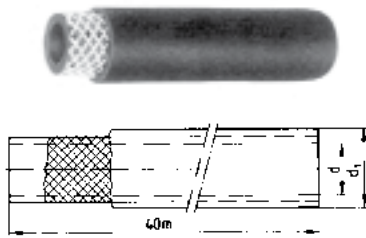


Description	HDL 100
Tool holder	max. 3.6 mm
Operating pressure	4 - 5 bar
Air consumption	max 100 l/min
Stroke length	0.25 mm
Weight	0,190 kg
Stroke ratio	20.000/min

REF
HDL1

PNEUMATIC ACCESSORIES

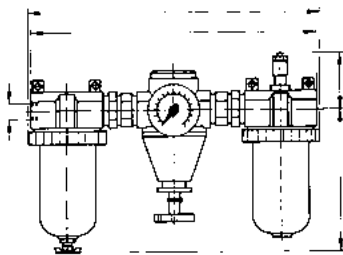
COMPRESSED-AIR HOSES

LS 1060

Features:

- Material: Rubber with fabric reinforcement

REF	d - d1	Air pressure
LS1060	6 - 13	5
LS1060	9 - 16	8
LS1060	13 - 23	15

PNEUMATIC MAINTENANCE EQUIPMENT

W 10

Features:

- P_{max} : 16 bar
- T.: -100 C -> 50°C
- W 10 R 3/8" incl. R 1/4" reducing nipple

REF	d	l	l ₁	h ₁	h ₂
W10R38	R 3/8"	195	194	135	48
W10R12	R 1/2"	275	268	168	57

LUBRICATION

MFB - MFA-K


The Dipro-fog (MFB) package consists of air filter, regulator, manometer, and fog lubrication device, all in one, with tubing and Dipro-fog oil (MFA-K).

Technical data

- Max primary pressure: 16 bar
- Max capacity at 7 bar: 1200 l/min
- Hose connection: 7 mm
- Secondary pressure: 0,5 - 10 bar

REF	Description
MFB	Dipro-fog
MFAK	Lubrication oil (0.5 l)



DIPROFIL FILES & TOOLS



DI-PRO

DI-PRO POLISHING/FILING MACHINES

Info



The Di-Pro™ represents a new standard of high-end polishing/filing machines with an increased focus on the operator's well-being. The low levels of vibration greatly reduce the risk of Hand Arm Vibration Syndrome (HAVS) – without compromising performance.

The dangers of Hand-Arm Vibrations (HAV) have in recent years been focused as one of the main occupational hazards all over the vibrating tools-using industry. With this in mind Diprofil has developed a high quality low-vibrating machine with reduced vibration levels and the same renowned quality standard as the Classic Diprofil Machine.

To achieve as low vibration levels as possible, the Di-Pro™ has been optimized for tools within a certain weight-span. This is based on Diprofil's long experience in tools normally used with this type of machine and keeping within this weight-span gives optimal efficiency in relation to the vibration levels.

For the best efficiency to vibration-ratio, the following tools are recommended:

- Diprofil diamond files type DLA, DLE, DLF, DLM and DBE
- Selected Diprofil lapping tools
- Selected Diprofil polishing tools
- Di-Pro stoning- & polishing tools

The Di-Pro™ is available with the following drive sources:

- Flexible shaft connection (slip-joint / ball-joint)
- Integrated micro-motor
- Integrated air-motor

FLEXIBLE-SHAFT DRIVEN MACHINE WITH SLIP-JOINT CONNECTION

FXB - FXK



Drive: The FXB and FXK models should be driven by an electrical hanging-motor with speed control and a flexible-shaft with slip-joint connection (European standard) e.g. Diprofil type DSE-47. Corresponding motors of other brands may also be used.

Speed (maximum): 7.000 rpm

Speed (recommended): 5.000 – 7.000 rpm (depending on the weight of the used tool).

Stroke length: 0 – 6 mm (recommended 0,5 – 4 mm NOTE! At stroke lengths exceeding 4 mm a maximum speed of 5.000 rpm is recommended.

Weight: FXB: 740 g, FXK: 780 g

Noise level: not exceeding 75 dB A at 7.000 rpm

Vibration levels: Not exceeding 2,5 m/s² when the machine is operated according to the operation guide.

For more information about vibration levels when using certain tools at different speeds and stroke lengths, please see the operation guide. Frequency weighed hand/arm vibration principally in accordance with ISO 28927-8.

REF	Tool holder
FXB	Ø 3,5 mm
FXK	Ø 6,4 mm

AIR DRIVEN MACHINE **FXD - FXL**



Drive: The FXD and FXL models have a built in air-motor and should be driven by compressed and oil mist lubricated air. **PLEASE NOTE!** The built-in air-motor may be damaged, if operated with un-lubricated air. Connection: The Diprofil quick-coupling HSL-M and fog lubrication unit MFB should be used for connection to your compressed air system.

PLEASE NOTE! Protect the air inlet from dust and dirt, when not in operation.

Speed (maximum): 7.000 rpm

Speed (recommended): 5.000 – 7.000 rpm (depending on the weight of the used tool).

Stroke length: 0 – 6 mm (recommended 0,5 – 4 mm) **NOTE!** At stroke lengths exceeding 4 mm a maximum speed of 5.000 rpm is recommended.

Weight: FXD: 880 g, FXL: 920 g

Oil consumption: minimum 30 mm³/min. at maximum speed (about 2 drops/min.)

Air pressure: 4 bar (57psi)

Air consumption: Approx. 60 l/min at 7.000 rpm

Noise level: not exceeding 75 dB A at 7.000 rpm

Vibration levels: Not exceeding 2,5 m/s² when the machine is operated according to the operation guide.

For more information about vibration levels when using certain tools at different speeds and stroke lengths, please see the operation guide.

REF	Tool holder
FXD	Ø 3,5 mm
FXL	Ø 6,4 mm

MACHINE WITH BUILT-IN MICRO-MOTOR **FXP - FXM**



Drive: The FXP and FXM models have a built-in micro-motor, which is connected to, and controlled by, the DIPROFIL DPU-3, TPU-20 or corresponding power units.

Speed (maximum): 7.000 rpm

Speed (recommended): 5.000 – 7.000 rpm (depending on the weight of the used tool).

Stroke length: 0 – 6 mm (recommended 0,5 – 4 mm) **NOTE!** At stroke lengths exceeding 4 mm a maximum speed of 5.000 rpm is recommended.

Weight: FXP: 960 g, FXM: 980 g

Noise level: not exceeding 75 dB A at 7.000 rpm

Vibration levels: Not exceeding 2,5 m/s² when the machine is operated according to the operation guide.

For more information about vibration levels when using certain tools at different speeds and stroke lengths, please see the operation guide. Frequency weighed hand/arm vibration principally in accordance with ISO

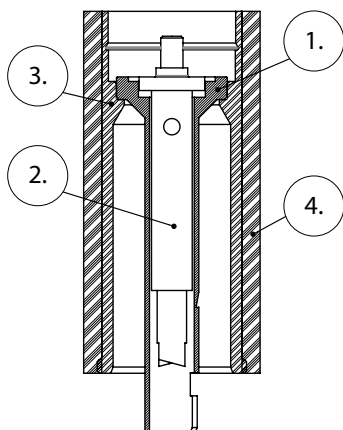
REF	Tool holder
FXP	Ø 3,5 mm
FXM	Ø 6,4 mm

Diprofil connector

DI-PRO SPARE PARTS

SPARE PARTS

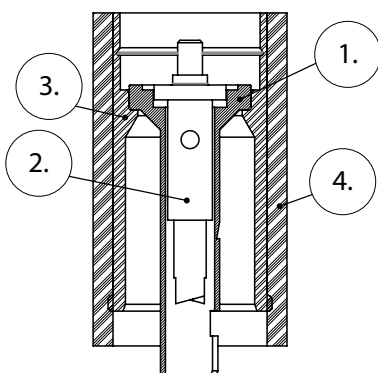
FXB - FXK



Slip-joint Connection Diprofil Di-Pro Machines: No. 400 or higher. Item No.: FXB and FXK.

Pos.	REF	Description
1.	FXA-21.	Connecting sleeve
2.	FXA-22.	Fastening drive shaft
3.	FXA-23.	Handle sleeve
4.	FXA-24.	Handle sleeve cover

(All Parts 20mm longer, than on older machines)



Slip-joint Connection Diprofil Di-Pro Machines: 1 Older, No.001 to 399. Item No.: FXB and FXK.

Pos.	REF	Description
1.	FMK-2	Connecting sleeve
2.	FMK-3	Fastening drive shaft
3.	FMK-1	Handle sleeve
4.	FXA-15	Handle sleeve cover

ORIGINAL RECIPROCATING POLISHING/FILING MACHINE

Info



The Original Diprofil Reciprocating Filing Machines are designed for efficient polishing and finishing operations.

The Diprofil Machines, with a wide range of tools and accessories, have been developed by careful studies of fine mechanical handwork and finishing operations. They facilitate filing, lapping, honing, polishing etc. and have become an important concept in the daily work of moldmaking, die-sinking, toolmaking and other fine mechanical precision work.

All Diprofil Machines are delivered in a handy tool-box with the necessary accessories.

AIR DRIVE

FPD/R - FPL/R



The air-driven Original Diprofil Filing Machine, has a specially developed 18-cylinder radial piston-type air motor with integrated speed regulator. The machine is available with a Ø 3,5 mm tool holder (FPD/R) or a Ø 6,4 mm tool holder (FPL/R).

The airmotors are manufactured with a very high level of accuracy and require lubricated and filtered air (5µ) to obtain a long and trouble-free lifetime.

For better comfort, each model is fitted with an ergonomic rubber sleeve.

Stroke length: 0-6 mm (recommended 0,5-3mm)

Speed: max 8.000 rpm (recommended: 5.000 - 7.000 rpm)

Weight: 750 - 780 g

Oil consumption: minimum 30 mm³/min. at maximum speed (about 2 drops/min.)

Air pressure: FPD/R: 4 bar (57psi), FPL/R: 4 bar (57psi)

Air consumption: FPD/R: Approx. 65 l/min at 8.000 rpm, FPL/R: Approx. 60 l/min at 7.000 rpm

Noise: < 70 dB(A) at 7.000 rpm

Vibration: with standard tool holder (Ø 3,5 mm) 3-10 m/s², with heavy duty tool holder (Ø 6,4 mm) 4-12 m/s².

Frequency weighed hand/arm vibration, principally in accordance with ISO 28927-8. For further details, see diagram and other information in the cor-

REF	old DME REF	Tool holder
FPD/R	HDL 50	Ø 3,5 mm
FPL/R	HDL 100	Ø 6,4 mm

FLEXIBLE-SHAFT DRIVE - SLIP JOINT CONNECTION

FPB/R - FPK/R



The Original Diprofil Filing Machine for flexible-shaftdrive is available for connection to Slip Joint.

The machines can be supplied with two different tool holders, standard Ø 3,5 mm (FPB/R) or heavy duty Ø 6,4 mm (FPK/R). For better comfort, each model is fitted with an ergonomic rubber sleeve.

Stroke length: 0-6 mm (recommended 0,5-3mm)

Speed: max 8.000 rpm (recommended: 5.000 - 7.000 rpm)

Weight: 585 - 615 g

Noise: < 70 dB(A) at 7.000 rpm

Vibration: with standard tool holder (Ø 3,5 mm) 3-10 m/s², with heavy duty tool holder (Ø 6,4 mm) 4-12 m/s².

Frequency weighed hand/arm vibration, principally in accordance with ISO 28927-8. For further details, see diagram and other information in the corresponding Operation Guide.

REF	old DME REF	Tool holder
FPB/R	HD 50	Ø 3,5 mm
FPK/R	HD 100	Ø 6,4 mm



CLASSIC DIPROFIL

MICRO MOTOR DRIVE - INTEGRATED MICRO MOTOR

FPP/R - FPM/R



The Original Diprofil Filing Machine for Micro motor drive can be supplied with two different tool-holders, standard \varnothing 3,5 mm (FPP/R) or heavy duty \varnothing 6,4 mm (FPM/R).

These have a built-in micro-motor, which is connected to, and controlled by, the DIPROFIL DPU-3, TPU-20 or corresponding DME/EOC power units (e.g. Grande,...). For better comfort, each model is fitted with an ergonomic rubber sleeve. The machine is also available with Eneska 3-1 connector (FPM/ERJ, FPP/ERJ).

Technical data

Stroke length: 0-6 mm (recommended 0,5-3mm)

Speed: max 8.000 rpm (7.000 rpm at 32V)

recommended: 5.000 - 7.000 rpm

Weight: 800 - 830 g

Noise: < 70 dB(A) at 7.000 rpm

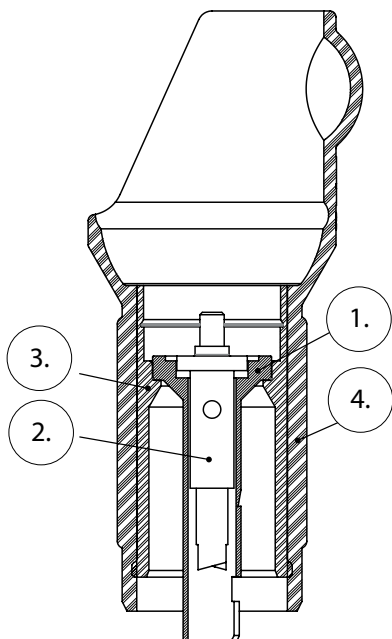
Vibration: with standard tool holder (\varnothing 3,5 mm) 3-10 m/s² with heavy duty tool holder (\varnothing 6,4 mm) 4-12 m/s².

Frequency weighed hand/arm vibration, principally in accordance with ISO 28927-8. For further details, see diagram and other information in the corresponding Operation Guide.

REF	Tool holder
FPP/R	\varnothing 3,5 mm
FPM/R	\varnothing 6,4 mm

SPARE PARTS

FPB/R - FPK/R



Slip-joint Connection.

Diprofil Classic Machines, Item No.: **FPB** and **FPK**

Pos.	REF	Description
1.	FMK-2	Connecting sleeve.
2.	FMK-3	Spindle drive mounting.
3.	FMK-1	Handle sleeve.
4.	FMM-9	Rubber cover for

DIPROFIL PROTECTIVE FINGER SLEEVES Info



The old (wrong) way...



The new (right) way!

To further emphasize our focus on the importance of reducing potentially harmful vibrations we are now introducing the new Diprofil Protective Finger Sleeve.

It's a well known fact that it's actually more common for operators to sustain vibration related injuries in the hand guiding the tool rather than in the hand holding the actual machine. With this in mind we have developed the Diprofil protective finger sleeve. The finger sleeve will improve guidance of the tool as there is no longer any need for putting your fingers on moving tools and/or machine parts.

The finger sleeve is compatible with both the Classic and the low-vibrating Di-Pro polishing-/filing machines and comes with an extension rod for longer tools in two different versions depending on the size of the original tool-holder (Ø 3,5 or 6,4 mm).

For more information on each specific item please see the technical information above.

The two different models available for either 3,5 or 6,4 mm tool-holders are the following:

PFS-3,5 - Compatible with both the Classic and the low-vibrating Di-Pro, polishing-/filing machines fitted with 3,5 mm tool-holders.

PFS-6,4 - Compatible with both the Classic and the low-vibrating Di-Pro, polishing-/filing machines fitted with 6,4 mm tool-holders.

Both versions comes in a handy box with the necessary tools and an instruction on how to attach it to your machine.

PROTECTIVE FINGER SLEEVE FOR THE Ø 3,5 MM TOOL-HOLDER PFS-3,5



Outer Ø: 23 mm
Length (without extension rod): 34 mm
Length (including extension rod): 91 mm
Maximum tool shank Ø: 3,5 mm
Weight (without extension rod): 33 g
Weight (including extension rod): 50 g

REF
PFS3-5

PROTECTIVE FINGER SLEEVE FOR THE Ø 6,4 MM TOOL-HOLDER PFS-6,4



Outer Ø: 26 mm
Length (without extension rod): 48 mm
Length (including extension rod): 105 mm
Maximum tool shank Ø: 6,4 mm
Weight (without extension rod): 49 g
Weight (including extension rod): 66 g

REF
PFS6-4

DIPROMINI

DIPROFIL MINI POLISHING/FILING MACHINES

Info



A complete system for working on difficult surfaces. Low weight and a thorough ergonomic design results in a more effective finishing and polishing work, especially in narrow and confined spaces.

The Diprofil Mini Filing Machine is available with 3 different stroke lengths. For lowest possible vibration levels we recommend using light weight tools and tool-holders.

Using the Diprofil Mini Filing Machine gives you total control even when working in the most narrow spaces on a delicate workpiece.

All Dipromini machines are delivered in a handy tool-box with the necessary accessories.

FLEXIBLE-SHAFT DRIVE - SLIP JOINT CONNECTION

FMR/S...



The Diprofil Mini Polishing/Filing machine for flexible-shaft drive is available for connection to Slip Joint. There are three basic models with 0,5 mm (FMR/S5), 1,0 mm (FMR/S10) or 1,5 mm (FMR/S15) stroke length.

Technical data

Tool holder: max Ø 3,6 mm

Stroke length: 0,5, 1,0 or 1,5 mm

Speed: max 12.000 rpm recommended: 5.000 - 11.000 rpm

Dimension: Ø 24 mm

Weight: approx. 120 g

Noise: < 70 dB(A) at 9.000 rpm

Vibrations: stroke 0,5 mm: <2,5 m/s², stroke 1,0 mm: 1,5 - 3 m/s², stroke 1,5 mm: 1,5 - 4 m/s²

Frequency weighed hand/arm vibration, principally in accordance with ISO 28927-8.

For further details, see diagram and other information in the corresponding Operation Guide.

REF	Old DME REF	Stroke length
FMR/S5	HDW 1	0,5 mm
FMR/S10		1,0 mm
FMR/S15	HDW 2	1,5 mm

MICRO MOTOR CONNECTION - GESSWEIN, ARGOFIL & UHANDY

FMR/G...



The Dipromini Filing Machine for Gesswein, Argofile and Uhandy connection can be supplied with three different stroke lengths: 0,5 mm (FMR/G5), 1,0 mm (FMR/G10) or 1,5 mm (FMR/G15).

Technical data

Tool holder: max Ø 3,6 mm

Stroke length: 0,5, 1,0 or 1,5 mm

Speed: max 12.000 rpm recommended: 5.000 - 11.000 rpm

Dimension: Ø 24 mm

Weight: approx. 120 g

Noise: < 70 dB(A) at 9.000 rpm

Vibrations: stroke 0,5 mm: <2,5 m/s², stroke 1,0 mm: 1,5 - 3 m/s², stroke 1,5 mm: 1,5 - 4 m/s²

Frequency weighed hand/arm vibration, principally in accordance with ISO 28927-8.

For further details, see diagram and other information in the corresponding Operation Guide.

REF	Old DME REF	Stroke length
FMR/G5	JA 60	0,5 mm
FMR/G10		1,0 mm
FMR/G15	JA 65	1,5 mm



FLEXIBLE-SHAFT DRIVE - SLIP JOINT CONNECTION **FMR/D...**



Dipromini polishing/filing Machine with connection for Diprofil micro motor type HPM-B1 which should be connected to, and controlled by, the DIPROFIL DPU-3, TPU-20 or corresponding power units. Available with three different stroke lengths: 0,5 mm (FMR/D5), 1,0 mm (FMR/D10) or 1,5 mm (FMR/D15).

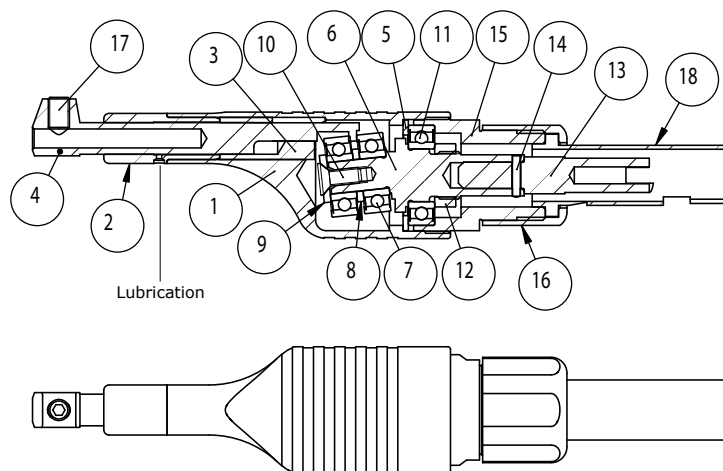
Technical data
Tool holder: max Ø 3,6 mm
Stroke length: 0,5, 1,0 or 1,5 mm
Speed: max 12.000 rpm recommended: 5.000 - 11.000 rpm
Dimension: Ø 24 mm
Weight: approx. 120 g
Noise: < 70 dB(A) at 9.000 rpm
Vibrations: stroke 0,5 mm: <2,5 m/s², stroke 1,0 mm: 1,5 - 3 m/s², stroke 1,5 mm: 1,5 - 4 m/s²

Frequency weighed hand/arm vibration, principally in accordance with ISO 28927-8.

For further details, see diagram and other information in the corresponding Operation Guide.

REF	Stroke length
FMR/D5	0,5 mm
FMR/D10	1,0 mm
FMR/D15	1,5 mm

SPARE PARTS **FMR/S...**



Pos.	Pcs.	REF	Description
1	1	DIPFMR1	Housing
2	1	DIPFMR73	Guide steering (front-piece)
3	1	DIPFMR74	Guide steering (back-piece) FMR-2/P
4	1	DIPFMR3	Tool-holder
5	1	DIPFMR9	Washer
6	1	DIPFMR45	Main spindle 45*
	1	DIPFMR46	Main spindle 46*
	1	DIPFMR50	Main spindle 50*
7	2	DIP44024	Ball bearing
8	1	DIPFMR8	Spacer

Pos.	Pcs.	REF	Description
9	1	DIPFMR7	Bearing washer
10	1	DIP42039	Screw
11	1	DIP44022	Ball bearing
12	1	DIPFMR54	Nut for main spindle
13	1	DIPFMR1	Spindel drive mounting
14	1	DIP43016	Pin
15	1	DIPFMR5	Back piece
16	1	DIPFMR1	Spindel end cover
17	1	DIP42038	Locking Screw
18	1	DIPFMR1	Conncting Sleeve

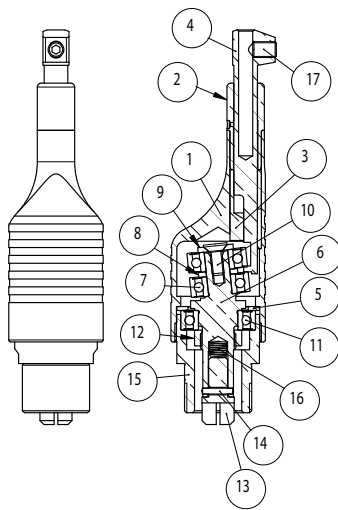
*DIPFMR45 for Mini polishing/filing machine FMR/S5 (stroke length 0,5 mm).
 *DIPFMR46 for Mini polishing/filing machine FMR/S15 (stroke length 1,0 mm).
 *DIPFMR50 for Mini polishing/filing machine FMR/S10 (stroke length 1,5 mm).

CAD reference point

DIPROMINI

SPARE PARTS

FMR/D...



Pos.	Pcs.	REF	Description.
1	1	DIPFMR1	Housing
2	1	DIPFMR73	Guide steering (front-piece)
3	1	DIPFMR74	Guide steering (back-piece)
4	1	DIPFMR3	Tool-holder
5	1	DIPFMR9	Washer
6	1	DIPFMR45*	Main spindle 45
6	1	DIPFMR46*	Main spindle 46
6	1	DIPFMR50*	Main spindle 50
7	2	DIP44024	Ball bearing
8	1	DIPFMR8	Spacer
9	1	DIPFMR7	Bearing washer
10	1	DIP42039	Screw
11	1	DIP44022	Ball bearing
12	1	DIPFMR54	Nut for main spindle
13	1	DIPFMR71	Spindle drive mounting
14	1	DIP43016	Pin
15	1	DIPFMR5	Back piece
16	1	DIP41009	Spring
17	1	DIP42038	Locking Screw

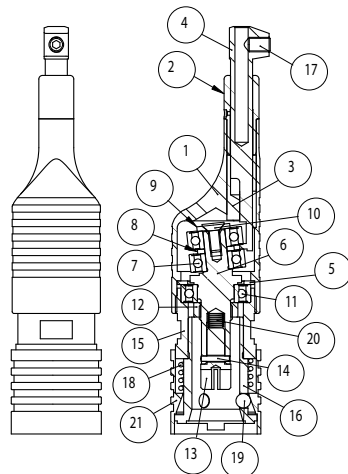
*DIPFMR45 for Mini polishing/filing machine FMR/S5 (stroke length 0,5 mm).

*DIPFMR46 for Mini polishing/filing machine FMR/S15 (stroke length 1,0 mm).

*DIPFMR50 for Mini polishing/filing machine FMR/S10 (stroke length 1,5 mm).

SPARE PARTS

FMR/G...



Pos.	Pcs.	REF	Description.
1	1	DIPFMR1	Housing
2	1	DIPFMR73	Guide steering (front-piece)
3	1	DIPFMR74	Guide steering (back-piece)
4	1	DIPFMR3	Tool-holder
5	1	DIPFMR9	Washer
6	1	DIPFMR45*	Main spindle 45
6	1	DIPFMR46*	Main spindle 46
6	1	DIPFMR50*	Main spindle 50
7	2	DIP44024	Ball bearing
8	1	DIPFMR8	Spacer
9	1	DIPFMR7	Bearing washer
10	1	DIP42039	Screw
11	1	DIP44022	Ball bearing
12	1	DIPFMR54	Nut for main spindle
13	1	DIPFMR18	Spindle drive mounting
14	1	DIP43016	Pin
15	1	DIPFMR60	Back piece
16	1	DIPFMR62	Inner Sleeve
17	1	DIP42038	Locking Screw
18	1	DIPFMR63	Spring
19	3	DIP44025	Steel Ball
20	1	DIP41009	Spring
21	1	DIPFMR61	Outer Sleeve

*DIPFMR45 for Mini polishing/filing machine FMR/S5 (stroke length 0,5 mm).

*DIPFMR46 for Mini polishing/filing machine FMR/S15 (stroke length 1,0 mm).

*DIPFMR50 for Mini polishing/filing machine FMR/S10 (stroke length 1,5 mm).

TRANSVERSE MINI POLISHING/FILING MACHINE **Info**

This machine has a transverse movement for working on difficult surfaces, and is especially suitable on narrow shoulders. Variable stroke between 0-4 mm, that is easy to change by use of a hexagon key. The small and handy dimension improves control and effectiveness for polishing and finishing work. For the lowest possible vibration levels we recommend using light weight tools and tool-holders such as the THFS-1 and THPS-3.

All Diprofil Machines are delivered in a handy tool-box with the necessary accessories.

FLEXIBLE-SHAFT DRIVE - SLIP JOINT CONNECTION **FMV/S**



The Diprofil Transverse Mini Polishing/Filing machine for flexible-shaft drive is available for connection to Slip-joint (FMV/S).

Technical data
Tool holder: max Ø 3,6 mm
Stroke length: Variable stroke 0-4 mm (60 mm from the machine housing)
Speed: max 12.000 rpm (at max 2 mm stroke length) recommended 5.000-11.000 rpm
Dimension: Ø 24 mm
Weight: 235 g
Noise: < 78 dB(A) at 12.000 rpm
Vibrations: 1,5 - 3,5 m/s²

Frequency weighed hand/arm vibration, principally in accordance with ISO 28927-8.
 For further details, see diagram and other information in the corresponding Operation Guide.

REF
FMV/S

MICRO MOTOR CONNECTION - GESSWEIN, ARGOFIL & UHANDY **FMV/G**



The Diprofil Transverse Mini Polishing/Filing machine is available for Gesswein, Argofil and Uhandy connection (FMV/G).

Technical data
Tool holder: max Ø 3,6 mm
Stroke length: variable stroke 0-4 mm (60 mm from the machine housing)
Speed: max 12.000 rpm (at max 2 mm stroke length) recommended 5.000-11.000 rpm
Dimension: Ø 24 mm
Weight: 210 g
Noise: < 78 dB(A) at 12.000 rpm
Vibrations: 1,5 - 3,5 m/s²

Frequency weighed hand/arm vibration, principally in accordance with ISO 28927-8.
 For further details, see diagram and other information in the corresponding Operation Guide.

REF
FMV/G

DIPROMINI TRANSVERSE

MICRO MOTOR CONNECTION - DIPROFIL MOTOR TYPE HPM-B1

FMV/D


Dipromini Transverse polishing/filing machine with connection for Diprofil micro motor type HPM-B1 (FMV/D) which should be connected to, and controlled by, the DIPROFIL DPU-3, TPU-20 or corresponding power units.

Technical data

Tool holder: max Ø 3,6 mm

Stroke length: variable stroke 0-4 mm (measured 60 mm from the machine housing)

Speed: max 12.000 rpm (at max 2 mm stroke length) recommended 5.000-11.000 rpm

Dimension: Ø 24 mm

Weight: 195 g

Noise: < 78 dB(A) at 12.000 rpm

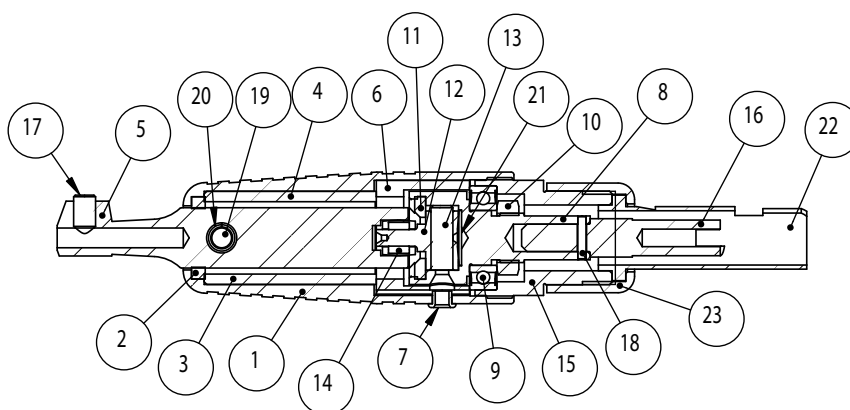
Vibrations: 1,5 - 3,5 m/s²

Frequency weighed hand/arm vibration, principally in accordance with ISO 28927-8.

For further details, see diagram and other information in the corresponding Operation Guide.

REF
FMV/D

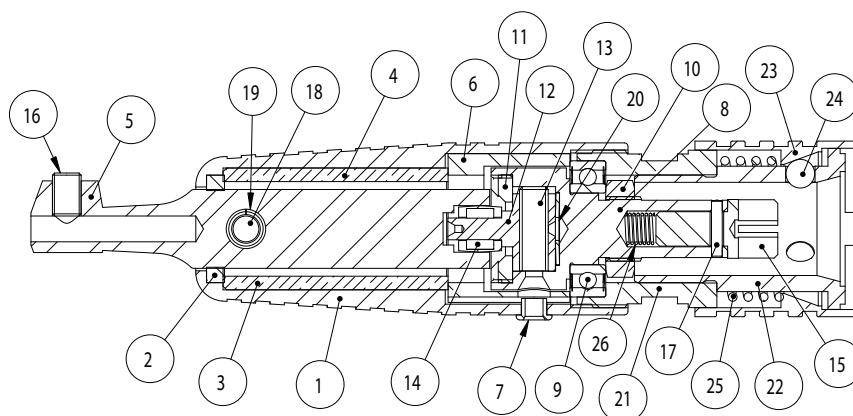
FLEXIBLE-SHAFT DRIVE - SLIP JOINT CONNECTION

FMV/S


Pos.	Pcs.	REF	Description
1	1	DIPFMV1	Housing
2	1	DIPFMT8	Lubricating Felt
3	1	DIPFMT5	Upper guide steering
4	1	DIPFMT6	Lower guide steering
5	1	DIPFMT1	Tool Holder
6	1	DIPFMV5	Spacer
7	1	DIPFMV7	Bushing
8	1	DIPFMV2	Main spindle
9	1	DIP44022	Ball bearing
10	1	DIPFMR5	4 Nut for main spindle
11	1	DIPFMV4	Eye nut
12	1	DIPFMV3	Crank pin

Pos.	Pcs.	REF	Description
13	1	DIPFMV6	Adjusting screw
14	1	DIPFMT7	Crank bearing
15	1	DIPFMR5	Back piece
16	1	DIPFMR1	2 Spindle drive mounting
17	1	DIP42038	Locking screw
18	1	DIP43016	Pin
19	1	DIP43021	Pin
20	1	DIP44028	Bushing
21	1	DIP41013	Cup spring
22	1	DIPFMR13	Connecting sleeve
23	1	DIPFMR14	Spindle end cover

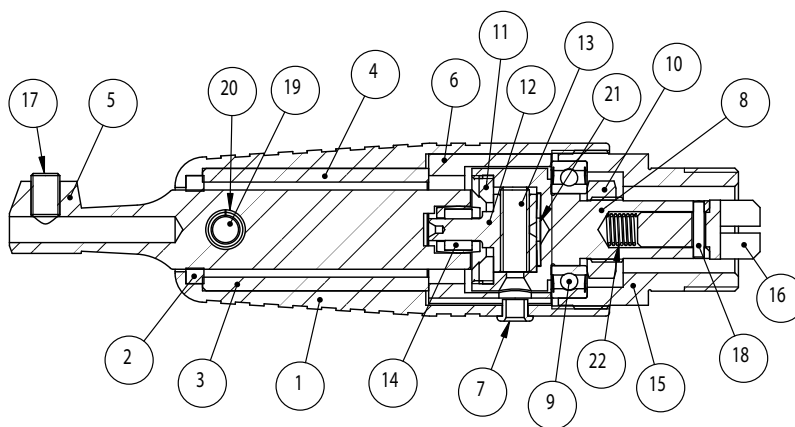
MICRO MOTOR CONNECTION - GESSWEIN, ARGOFIL & UHANDY FMV/G



Pos.	Pcs.	REF	Description
1	1	DIPFMV1	Housing
2	1	DIPFMT8	Lubricating Felt
3	1	DIPFMT5	Upper guide steering
4	1	DIPFMT6	Lower guide steering
5	1	DIPFMT1	Tool Holder
6	1	DIPFMV5	Spacer
7	1	DIPFMV7	Bushing
8	1	DIPFMV2	Main spindle
9	1	DIP44022	Ball bearing
10	1	DIPFMR54	Nut for main spindle
11	1	DIPFMV4	Eye nut
12	1	DIPFMV3	Crank pin
13	1	DIPFMV6	Adjusting screw

Pos.	Pcs.	REF	Description
14	1	DIPFMT7	Crank bearing
15	1	DIPFMR18	Spindle drive mounting
16	1	DIP42038	Locking screw
17	1	DIP43016	Pin
18	1	DIP43021	Pin
19	1	DIP44028	Bushing
20	1	DIP41013	Cup spring
21	1	DIPFMR60	Back piece
22	1	DIPFMR62	Inner sleeve
23	1	DIPFMR61	Outer sleeve
24	3	DIP44025	Steel ball
25	1	DIPFMR63	Spring
26	1	DIP41009	Spring

MICRO MOTOR CONNECTION - DIPROFIL MOTOR TYPE HPM-B1 FMV/D



Pos.	Pcs.	REF	Description
1	1	DIPFMV1	Housing
2	1	DIPFMT8	Lubricating Felt
3	1	DIPFMT5	Upper guide steering
4	1	DIPFMT6	Lower guide steering
5	1	DIPFMT1	Tool Holder
6	1	DIPFMV5	Spacer
7	1	DIPFMV7	Bushing
8	1	DIPFMV2	Main spindle
9	1	DIP44022	Ball bearing
10	1	DIPFMR54	Nut for main spindle
11	1	DIPFMV4	Eye nut

Pos.	Pcs.	REF	Description
12	1	DIPFMV3	Crank pin
13	1	DIPFMV6	Adjusting screw
14	1	DIPFMT7	Crank bearing
15	1	DIPFMR5	Back piece
16	1	DIPFMR38	Spindle drive mounting
17	1	DIP42038	Locking screw
18	1	DIP43016	Pin
19	1	DIP43021	Pin
20	1	DIP44028	Bushing
21	1	DIP41013	Cup spring
22	1	DIP41009	Spring

CAD reference point

ROTARY HANDPIECE

FOR EFFICIENT POLISHING AND FINISHING OPERATIONS

Info


Rotary handpieces for efficient grinding, polishing and finishing operations with tools such as diamond and CBN pins, felt bobs and wood bobs. All rotary hand pieces comes with the necessary tools and accessories.

BRUSHLESS ROTARY HAND-PIECE

C-HPM-BL1


Micro-motor driven rotary hand-piece with brushless motor for use together with twin power unit TPU-20. Features a quick change design for both the collet and the tool and is supplied with 3,0 mm collet. Optional 2,35 mm collet available.

Technical data

Speed: max. 40.000 rpm
Consumed power: max. 230 W
Torque: 8,5N cm
Weight: 350 g
Dimensions: L159 x Ø27 mm
Noise: < 70 db(A) at 40.000 rpm
Vibrations: < 2,5 m/s²

REF

CHPMBL1

BRUSHLESS ROTARY HAND-PIECE

C-HPM-BL2


Micro-motor driven high speed rotary hand-piece with brushless motor for use together with twin power unit TPU-20. Features a quick change design for both the collet and the tool and is supplied with 3,0 mm collet. Optional 2,35 mm collet available.

Technical data

Speed: max. 50.000 rpm
Consumed power: max. 230 W
Torque: 7,6N cm
Weight: 350 g
Dimensions: L159 x Ø27 mm
Noise: < 70 db(A) at 50.000 rpm
Vibrations: < 2,5 m/s²

REF

CHPMBL2

ROTARY HAND-PIECE

C-HPM-B1


Micro-motor driven high speed rotary hand-piece with carbon brush motor for use together with power unit DPU-3 or twin power unit TPU-20. Features a quick change design for both the collet and the tool and is supplied with 3,0 mm collet. Optional 2,35 mm collet available.

Technical data

Speed: max. 38.000 rpm
Consumed power: 100 W
Torque: 4,0N cm
Weight: 285 g
Dimensions: L159 x Ø29,5 mm
Noise: < 70 db(A) at 38.000 rpm
Vibrations: < 2,5 m/s²

REF

CHPMB1


MICRO-MOTOR HPM-B1



DC micro-motor adapted for Diprofil mini polishing/filing machines type FMR/D, FMV/D and rotary hand-piece type C-HPM-B1. For use together with power unit DPU-3 or twin power unit TPU-20.

Technical data
Speed: max. 38.000 rpm
Consumed power: 100 W
Torque: 4,0N cm
Weight: 190 g
Dimensions: L100 x Ø29,5 mm
Noise: < 70 db(A) at 38.000 rpm
Vibrations: < 2,5 m/s²

REF
HPMB1

DIPROFIL POWER UNIT DPU-3



This compact and ergonomic Power Unit is designed for use together with dedicated rotary hand-pieces and micro-motor driven reciprocating Diprofil polishing/filing machines with carbon brush motors. It has high torque and electrical feedback circuitry. Other features include continuously variable speed, forward / reverse switch and automatic overload protection. Supplied with foot control type DPU-3-FC for optional speed adjustment.

Technical data
Input: AC 110/220 V at 50/60 Hz
Output: DC 0 – 32 V, 1,2 A
Power: max. 100 W
Weight Power unit: 1,7 kg
Dimensions Power unit: W115 x D147 x H96 mm
Weight Foot control: 585 g

REF
DPU3

DRIVE SOURCE

DIPROFIL TWIN POWER UNIT

TPU-20



Twin power unit featuring dual control system for both brushless and carbon brush micro-motors (not simultaneously). Variable speed control by hand dial or the included foot control type TPU-20-FC. Supplied with hand-piece cradle and a convenient magnetic tool holder.

- Digital display showing the speed in rpm
- Maximum torque set mode
- Maximum speed set mode
- Built in handle for best portability
- Error code display function
- Foot control with auto-cruise speed function
- Self diagnosis system

Technical data

Input: AC 200 ~ 240 V at 50/60 Hz

Output: DC 0 – 32 V, 1,6 A, BLDC 0 – 32 V, 1,6 A

Power DC: max. 185 W

Power BLDC: max. 245 W

Weight Power unit: 2,9 kg

Dimensions Power unit: W137 x D232 x H180 mm

Weight Foot control: 575 g

REF

TPU20220V

ADAPTER

D/G



Adapter for connecting Urawa, Argofile and Gesswein front-pieces to the Diprofil micro-motors type HPM-BL1 and HPM-B1 (when using DC motor type HPM-B1 a specific shaft with item no. D/G-7 is also required).

REF

D/G

LUBRICATION

MFB - MFA-K



The Dipro-fog (MFB) package consists of air filter, regulator, manometer, and fog lubrication device, all in one, with tubing and Dipro-fog oil (MFA-K).

Technical data

Max primary pressure: 16 bar

Max capacity at 7 bar: 1200 l/min

Hose connection: 7 mm

Secondary pressure: 0,5 - 10 bar

REF	Description
MFB	Dipro-fog
MFAK	Lubrication oil (0.5 l)

QUICK COUPLING

HSL - M



Each air-driven machine requires a quick coupling (HSL-M) as well as a fog lubricating device type Dipro-fog MFB to ensure efficient lubrication at all times.

A 3-way hose connection and air hose is also available.

REF	Old DME REF
HSLM	HDL



PRECISION DIAMOND FILES **Info**



Diprofil Diamond Files are made from carefully selected diamonds, precisely bonded to obtain the best physical properties for added strength and resistance to wear. Diamond files are excellent for use on carbide, hardened steel, glass, ceramics and other similar materials.

Other shapes, dimensions and grit sizes available upon request.

GRITS SIZE CHART					
Surface finishing	STANDARDS		Surface finishing	STANDARDS	
	FEPA Diamond	ASTM-E-11 Dimaond		FEPA Diamond	ASTM-E-11 Dimaond
Rough Grinding	D251	60/70	Fine	D64	270/325
	D213	70/80		D54	325/400
	D181	80/100		D46	500
Medium grinding	D151	120/140	Ultra-fine	D30-40	600
	D126	140/170		D22-36	800
	D107	170/200		D15-25	1000
	D91	200/230		D10-20	1200
Fine	D76	230/270		D8-16	15000

DIPROFIL®, DIAMOND MACHINE FILES **DLK ...**

- Features:**
- Grainsize according to FEPA
 - Diamond D151 (coarse)

REF D151	Dimensions	Shape
DLK11D151	10 x 2,5 mm	

STANDARD MACHINE FILES **DLA...**



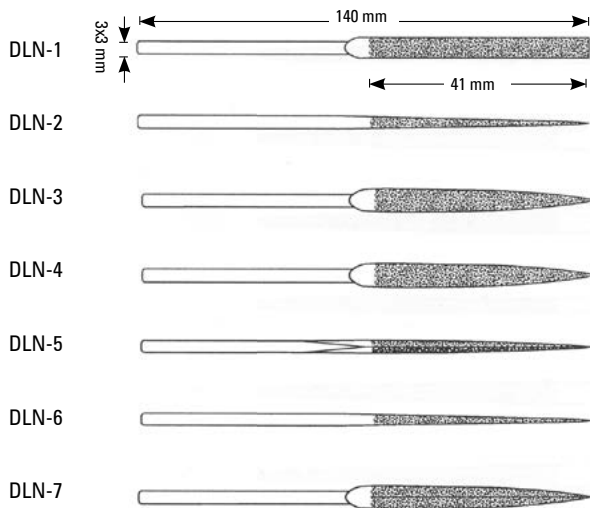
Shape	Size (mm)	REF		
		Grit D64	Grit D151	Grit D181
[Rectangular]	2x1	DLA2X1SD064	DLA2X1SD151	DLA2X1SD181
	3x1	DLA3X1SD064	DLA3X1SD151	DLA3X1SD181
	4x1	DLA4X1SD064	DLA4X1SD151	DLA4X1SD181
	4x2	DLA4X2SD064	DLA4X2SD151	DLA4X2SD181
	5x2	DLA5X2SD064	DLA5X2SD151	DLA5X2SD181
[Circular]	Ø 1	DLA1D064	DLA1D151	DLA1D181
	Ø 2	DLA2D064	DLA2D151	DLA2D181
	Ø 3	DLA3D064	DLA3D151	DLA3D181
	Ø 4	DLA4D064	DLA4D151	DLA4D181
[Oval]	R = 2,5x5	DLAR2-5R5D064	DLAR2-5R5D151	DLAR2-5R5D181
[Rectangular]	2x1	DLA2X1D064	DLA2X1D151	DLA2X1D181
	3x1	DLA3X1D064	DLA3X1D151	DLA3X1D181
	4x1	DLA4X1D064	DLA4X1D151	DLA4X1D181
	5x2	DLA5X2D064	DLA5X2D151	DLA5X2D181
[Rectangular]	0,50x4		DLA0-5X4D151	
	1,00x4		DLA1X4D151	
[Triangular]	2x2x2	DLAT2D064	DLAT2D151	DLAT2D181
	3x3x3	DLAT3D064	DLAT3D151	DLAT3D181
	4x4x4	DLAT4D064	DLAT4D151	DLAT4D181

CAD reference point

DIAMOND FILES

STANDARD HAND FILES

DLN...



Form	Size (mm)	REF	
		Grain D64	Grain D151
	4x1,3	DLN1D064	DLN1D151
	Ø 1,6	DLN2D064	DLN2D151
	4x1,8	DLN3D064	DLN3D151
	4x1,6	DLN4D064	DLN4D151
	3x3x3	DLN5D064	DLN5D151
	1,9x1,9	DLN6D064	DLN6D151
	4,1x1,5	DLN7D064	DLN7D151

DIAMOND PLATED RULERS

KSD



Total length 250 mm, width 25mm, thickness 1,0 mm. Length of plated area 135 mm. Diamond plated all around.

REF	
Grit D64	Grit D151
KSD2035D064	KSD2035D151

 DIPROFIL[®], DIAMOND HAND FILES

DLN 100 ...

Features:

- Set of 7 diamond hand files, one of each DLN 1 to DLN 7

REF	Grain
DLN100D064	D 64
DLN100D151	D 151

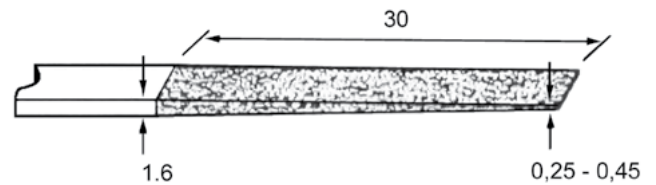
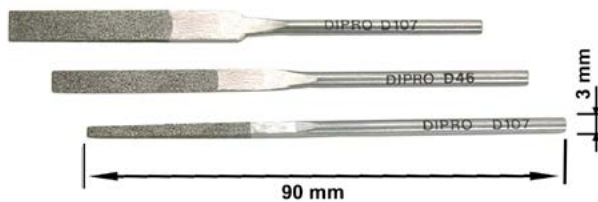
DIPRO® PRECISION DIAMOND FILES **Info**



Dipro Diamond Files are made from carefully selected diamonds, precisely bonded to obtain the best physical properties for added strength and resistance to wear. Diamond files are excellent for use on carbide, hardened steel, glass, ceramics and other similar materials.

Other shapes, dimensions and grit sizes available on request.

CONICAL MACHINE FILES **DLM...**



Standard Files		REF			
Shape	Size (mm)	Grit D30	Grit D46	Grit D76	Grit D107
	2,5x1,6	DLM1D30	DLM1D46	DLM1D76	DLM1D107
	4x1,6	DLM2D30	DLM2D46	DLM2D76	DLM2D107
	6x1,6	DLM3D30	DLM3D46	DLM3D76	DLM3D107
	8x1,6	DLM4D30	DLM4D46	DLM4D76	DLM4D107

CONICAL MACHINE FILES SET **DLM-Set**



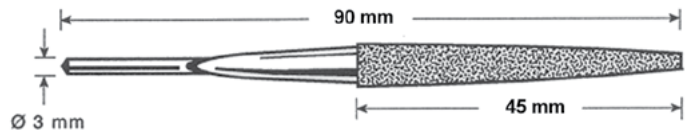
Sets consisting of 6 different DLM-files, DLM-1 through DLM-3 in the following grit sizes:

Grit sizes	REF
D46 + D107	DLM/1
D30 + D46	DLMSETF
D76 + D107	DLMSETM

DIAMOND FILES

MACHINE FILES

DBE...



Standard Files		REF		
Shape	Size (mm)	Grit D46	Grit D76	Grit D107
	4 x 2	DBE1D046	DBE1D076	DBE1D107
	∅3	DBE2D046	DBE2D076	DBE2D107
	5x2	DBE3D046	DBE3D076	DBE3D107
	5x2	DBE4D046	DBE4D076	DBE4D107
	3,5x3,5x3,5	DBE5D046	DBE5D076	DBE5D107
	2,5x2,5	DBE6D046	DBE6D076	DBE6D107

MACHINE FILES SET

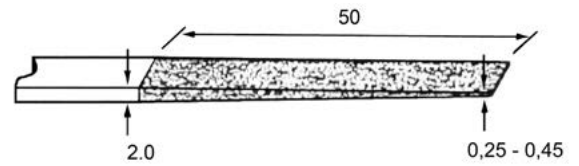
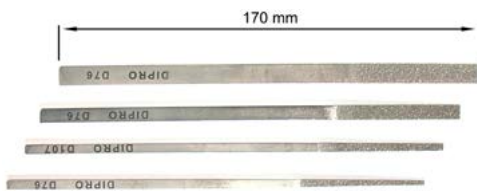
DBE-Set



Set consisting of the 6 different DBE-files in respective grit sizes.

REF
DBESETD046
DBESETD076
DBESETD107

CONICAL HAND FILES **DLS...**



Standard Files		REF			
Shape	Size (mm)	Grit D30	Grit D46	Grit D76	Grit D107
	4 / 2	DLS1D30	DLS1D46	DLS1D76	DLS1D107
	4 / 3	DLS2D30	DLS2D46	DLS2D76	DLS2D107
	6 / 6	DLS3D30	DLS3D46	DLS3D76	DLS3D107
	8 / 8	DLS4D30	DLS4D46	DLS4D76	DLS4D107

CONICAL HAND FILES SET **DLS-Set**



Sets consisting of 10 different DLS-handfiles.

Types	REF
DLS 2,3,4 in D46; DLS 1,2,3,4 in D76; DLS 2,3,4 in D107	DLS/1
DLS 1,2,3,4 in D30; DLS 1,2,3,4 in D46; DLS 1,2 in D76	DLSSETF

DIAMOND FILES

HAND FILES

DBH...



Total file length approx 140 mm. Shank diameter 3 mm.

Shape	Size (mm)	REF		
		Grit D46	Grit D76	Grit D126
	6x1,5	DBH1D046	DBH1D076	DBH1D126
	ø3	DBH2D046	DBH2D076	DBH2D126
	5x2	DBH3D046	DBH3D076	DBH3D126
	5x2	DBH4D046	DBH4D076	DBH4D126
	3,5x3,5x3,5	DBH5D046	DBH5D076	DBH5D126
	2,5x2,5	DBH6D046	DBH6D076	DBH6D126
	6x2	DBH7D046	DBH7D076	DBH7D126
	5,4x1,5	DBH8D046	DBH8D076	DBH8D126
	1,7x6	DBH9D046	DBH9D076	DBH9D126
	6x1,5	DBH10D046	DBH10D076	DBH10D126

HAND FILES SET

DBH-Set



Set consisting of the above 10 different DBH-handfiles in respective grit size.

REF
DBHSETD046
DBHSETD076
DBHSETD126

CONICAL HAND FILES **DLL...**



Total file length approx 140 mm. Shank diameter 3 mm.

Shape	Size (mm)	REF			
		Grit D30	Grit D46	Grit D76	Grit D107
	1,7x2	DLL1D30	DLL1D46	DLL1D76	DLL1D107
	1,7x4	DLL2D30	DLL2D46	DLL2D76	DLL2D107
	1,7x6	DLL3D30	DLL3D46	DLL3D76	DLL3D107
	ø3	DLL4D30			

CONICAL HAND FILES SET **DLL-Set**



Set consisting of 10 different DLL-handfiles.

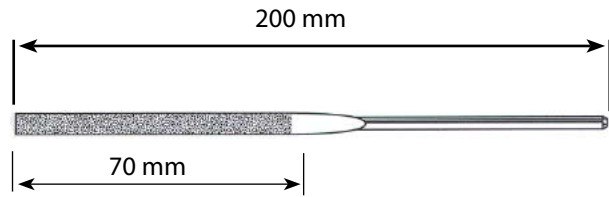
Types	REF
DLL 1,2,3,4 in D30; DLL 1,2,3 in D46; DLL 1,2,3 in D76	DLLSET
DLL-4-D30; DLL 1,2,3 in D46; DLL 1,2,3 in D76; DLL 1,2,3 in D107	DLLSETM

DIAMOND FILES

HAND FILES

DLQ...


Shank diameter 4 mm.



Standard Files		REF	
Shape	Size (mm)	Grit D46	Grit D126
	8,5x1,6	DLQ1D46	DLQ1D126
	ø4	DLQ2D46	DLQ2D126
	7x2,5	DLQ3D46	DLQ3D126
	3,5x3,5	DLQ4D46	DLQ4D126
	4,5 x4,5x4,5	DLQ5D46	DLQ5D126

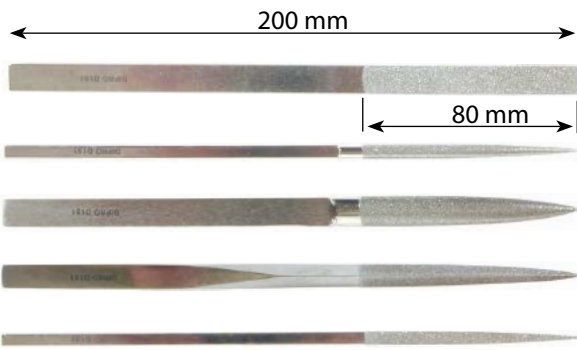
HAND FILES SET

DLQ-Set


Set consisting of the above 5 different DLQ-handfiles

REF
DLQSETD126
DLQSETD46

HAND FILES **DLX...**



Standard Files		REF
Shape	Size (mm)	Grit D151
	11 x 3,5	DLX1D151
	ø5	DLX2D151
	10,5x4,4	DLX3D151
	7,7x7,7x7,7	DLX4D151
	6,3x6,3	DLX5D151

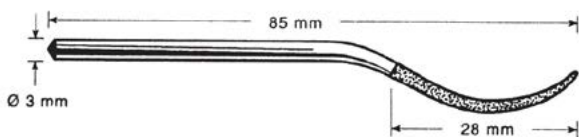
HAND FILES SET **DLX-Set**



Set consisting of the above 5 different DLX-handfiles

REF
DLXSETD151

DIPROFIL® , DIAMOND MACHINE FILES **DLF ...**



Features:

- Grainsize according to FEPA
- Diamond D151 (coarse)
- Diamond D181 (very coarse)

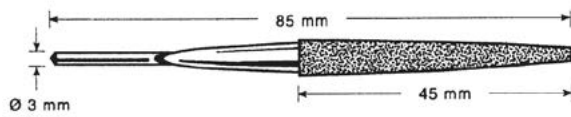
REF	REF	Dimensions	Shape
D151	D181		
DLF1D151	DLF1D181	4,5 x 2,5 mm	
DLF2D151	DLF2D181	ø 3 mm	
DLF4D151	DLF4D181	5 x 2,5 mm	
DLF6D151	DLF6D181	3 x 3 mm	

CAD reference point

DIAMOND FILES

 DIPROFIL[®], DIAMOND MACHINE FILES

DLE ...


Features:

- Grainsize according to FEPA
- Diamond D151 (coarse)
- Diamond D181 (very coarse)

REF D151	REF D181	Dimensions	Shape
DLE11D151	DLE11D181	5 x 1 mm	
DLE2D151	DLE2D181	Ø 3 mm	
DLE3D151		5 x 2 mm	
DLE4D151		5 x 2 mm	
DLE5D151	DLE5D181	3,5 x 3,5 x 3,5 mm	
DLE6D151	DLE6D181	2,5 x 2,5 mm	
DLE1D151	DLE1D181	5 x 1 mm	
DLE3D151		5 x 2 mm	

 DIPROFIL[®], DIAMOND HAND FILES

DLG ...

Features:

- Grain size according to FEPA
- Diamond D 151 (coarse)
- Total length 140 mm
- Coating length 41 mm
- Shaft 2,2 x 2,2 mm

REF - D151	Dimensions	Shape
DLG1D151	10 X 3 mm	
DLG2D151	Ø 6,5 mm	
DLG3D151	12 X 4 mm	
DLG4D151	9,5 x 9,5 x 9,5 mm	
DLG5D151	5,5 x 5,5 x 5,5 mm	

 DIPROFIL[®], DIAMOND HAND FILES

DLG 100 ...

Set of 5 diamond hand files, one of each DLG 1 to DLG 5

REF	Grain
DLG100D151	D 151

DIAMOND & CBN ROTARY TOOLS



Diprofil Rotary Diamond and CBN Tools are made from carefully selected quality diamonds and Cubic Boron Nitride, precisely bonded to obtain the best physical properties for added strength and resistance to wear. Electroplated Diamond pins and wheels are excellent for general grinding applications in hard materials such as carbide, hardened steel and ceramics. They are normally used without cooling agent but in stationary applications, and when grinding in thin glass cooling is often required. Maximum temperature for Diamonds is 800 °C. Electroplated cylindrical CBN pins are excellent for general grinding applications in hardened steel. They are normally used without cooling agent but in stationary applications cooling is often required. Maximum temperature for CBN is 1200 °C.

Recommended speeds

Recommend speed for dry cutting:

Diamond: 10 – 20 m/s

CBN: 15 – 30 m/s

Recommend speed for wet cutting:

Diamond: 15 – 30 m/s

CBN: 20 – 45 m/s

Cooling: Cooling normally enhances the lifetime of the tools. In addition it also generates a better surface. The risk for damage on thin or sharp edges of the grinding tool is reduced when using coolant.

Cooling is performed with an emulsion or grinding oil. For diamond tools an Emulsion is specially recommended and for CBN tools a mineral oil is preferable.

RECOMMENDED SPEEDS IN RPM

Tool Ø (mm)	Peripheral speed (m/s)							
	10	20	25	30	35	40	45	50
2	95541	191083	238854	286624	334395	382166	429936	477707
3	63694	127389	159236	191083	222930	254777	286624	318471
4	47771	95541	119427	143312	167197	191083	214968	238854
5	38217	76433	95541	114650	133758	152866	171975	191083
6	31847	63694	79618	95541	111465	127389	143312	159236
7	27298	54595	68244	81893	95541	109190	122839	136488
8	23885	47771	59713	71656	83599	95541	107484	119427
9	21231	42463	53079	63694	74310	84926	95541	106157
10	19108	38217	47771	57325	66879	76433	85987	95541
12	15924	31847	39809	47771	55732	63694	71656	79618
14	13649	27298	34122	40946	47771	54595	61419	68244
16	11943	23885	29857	35828	41799	47771	53742	59713
18	10616	21231	26539	31847	37155	42463	47771	53079
20	9554	19108	23885	28662	33439	38217	42994	47771
22	8686	17371	21714	26057	30400	34742	39085	43428
24	7962	15924	19904	23885	27866	31847	35828	39809
26	7349	14699	18373	22048	25723	29397	33072	36747
28	6824	13649	17061	20473	23885	27298	30710	34122
30	6369	12739	15924	19108	22293	25478	28662	31847
35	5460	10919	13649	16379	19108	21838	24568	27298



DIAMOND & CBN ROTARY TOOLS

DIAMOND AND CBN ROTARY TOOLS

D ...

	Shape	Dimensions	Grit Size	REF	Shank diameter
	Cylinder	D 1,4, T 7, L 46	D 107	DT86HP	Ø 2,35 mm
		D 1,9, T 5, L 46	D 151	DB305HP	
		D 2,5, T 7, L 46	D 151	DT100HP	
		D 2,6, T 3, L 46	D 151	DT107HP	
	Ball	D 0,8, L 46	D 107	DB12/0HP	
		D 1,3, L 46	D 107	DB102HP	
		D 1,7, L 46	D 151	DB104HP	
		D 1,9, L 46	D 151	DB105HP	
		D 2,5, L 46	D 151	DB108HP	
		D 3,0, L 41,3	D 151	DT101HP	
		D 4,1, L 42,7	D 151	DT119HP	
	Flame	D 1,3, T 4, R 18, L 46	D 151	DB902AHP	
		D 1,6, T 7,5, R 45, L 46	D 151	DT95BHP	
		D 2,4, T 7,5, R 30, L 46	D 151	DT117HP	
		D 2,4, T 10, R 30, L 46	D 151	DT510HP	
	Cone	D 5,1, a 27°, T 9,5, L 48,4	D 151	DT93HP	
		D 7,3, a 60°, T 6, L 45,6	D 151	DT236HP	
	Cone round	D 1,3, d 0,7, a 4°, T 9, L 46	D 151	DB702HP	
		D 1,6, d 0,8, a 5°, T 9, L 46	D 151	DB704HP	
		D 1,9, d 1,1, a 5°, T 9, L 46	D 151	DB706HP	
	Wheel	D 6,3, T 0,5, L 40	D 151	DT129PHP	
	Wheel	D 9,3, a 16°, T 1,3, L 40,2	D 151	DT109HP	

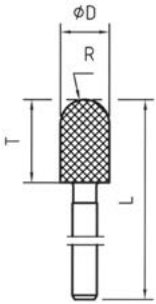
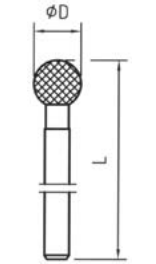
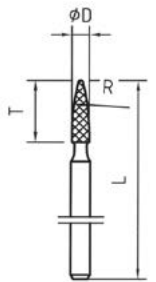
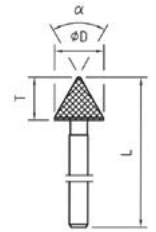
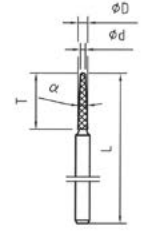
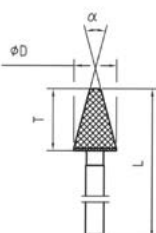
DIAMOND AND CBN ROTARY TOOLS D ...

	Shape	Dimensions	Grit Size	REF	Shank diameter
	Grinding wheel	D 8,7, d 7,0, T 1,3, L 40	D 151	DT56PHP	Ø 2,35 mm
		D 9,0, d 7,0, T 0,6, L 40	D 151	DT128PHP	
		D 12,9, d 9,5, T 1,4, L 45,4	D 151	DT55PHP	
	Grinding wheel	D 20, d 12,75, T 1,0, L 48	D 151	DT132PHP	
	Cutting wheel	D 15,0, d 13,0, T 0,6, L 48	D 151	DT124PHP	
		D 18,0, d 16,0, T 0,6, L 48	D 151	DT125PHP	
		D 20,0, d 18,0, T 0,6, L 48	D 151	DT126PHP	
		D 22,0, d 20,0, T 0,6, L 48	D 151	DT127PHP	
	Cylinder	D 0,8, T 4,0, B 7, L 46	D 107	D0308LH3	
		D 1,0, T 4,0, B 8, L 46	D 107	D0310LH3	
		D 1,5, T 4,0, B 10, L 46	D 107	D0315LH3	
		D 2,0, T 5,0, B 14, L 46	D 151	D0320LH3	
		D 2,0, T 5,0, B 14, L 46	D 64	D0320LH3D064	
		D 2,5, T 5,0, B 19, L 46	D 151	D0325LH3	
		D 2,5, T 7,0, B 19, L 46	D 151	D1325H3	
		D 3,0, T 5,0, B 19, L 46	D 151	D0330LH3	
		D 3,0, T 5,0, B 19, L 46	D 64	D0330LH3D064	
	Cylinder	D 3,5, T 5,0, L 44	D 151	D0335LH3	
		D 4,0, T 5,0, L 44	D 151	D0340LH3	
		D 4,5, T 5,0, L 44	D 151	D0345LH3	
		D 5,0, T 6,0, L 45	D 151	D0350LH3	
		D 5,5, T 6,0, L 45	D 151	D0352LH3	
		D 6,0, T 6,0, L 45	D 151	D0354LH3	
		D 6,0, T 10, L 49	D 151	D1354H3	
	Cylinder rounded	D 7,0, d 4,5, T 10, R 10, L 49	D 151	D6258H3	

DIAMOND & CBN ROTARY TOOLS

DIAMOND AND CBN ROTARY TOOLS

D ...

	Shape	Dimensions	Grit Size	REF	Shank diameter
	Cylinder rounded end	D 6,0 T 10, R 3, L 49	D 151	D6054H3	Ø 3,0 mm
	Ball	D 1,7, L 46	D 151	D0116H3	
		D 1,7, L 46	D 64	D0116H3D064	
		D 2,1, L 46	D 151	D0120H3	
		D 2,5, L 46	D 151	D0124H3	
		D 3,0, L 46	D 151	D0130H3	
		D 3,0, L 46	D 64	D0130H3D064	
		D 4,1, L 46	D 151	D0140H3	
		D 5,0, L 46	D 151	D0150H3	
	D 6,0, L 46	D 151	D0154H3		
	Flame	D 1,6 T 7,5, R 45, L 46	D 151	D0916H3	
		D 1,6 T 10, R 45, L 46	D 151	D0916LH3	
		D 1,6 T 10, R 45, L 46	D 64	D0916LH3D064	
		D 2,4 T 7,5, R 30, L 46	D 151	D0924H3	
		D 2,4 T 10, R 30, L 46	D 151	D0924LH3	
		D 2,4 T 10, R 30, L 46	D 64	D0924LH3D064	
	Cone	D 3,1, a 30°, T 5,0, L 46	D 151	D5830H3	
		D 3,1, a 30°, T 5,0, L 46	D 64	D5830H3D064	
		D 8,0, a 90°, T 3,9, L 43,2	D 151	D5562H3	
		D 8,0, a 60°, T 6,6, L 45,9	D 151	D5662H3	
	Cone rounded end	D 1,3, d 0,7, a 4°, T 9, L 46	D 151	D0712H3	
		D 1,6, d 0,8, a 5°, T 9, L 46	D 151	D0716H3	
		D 1,9, d 1,1, a 5°, T 9, L 46	D 151	D0720H3	
		D 1,9, d 1,1, a 5°, T 9, L 46	D 64	D0720H3D064	
	Cone flat end	D 1,6, d 0,9, a 4°, T 10, L 46	D 151	D0516LH3	
		D 2,1, d 1,4, a 4°, T 10, L 46	D 151	D0521LH3	
		D 2,1, d 1,4, a 4°, T 10, L 46	D 64	D0521LH3D064	
		D 2,6, d 1,75, a 4°, T 3, L 46	D 151	D0526H3	
		D 7,0, d 2,0, a 30°, T 10, L 49	D 151	D5858H3	
		D 8,0, d 1,4, a 45°, T 8,5, L 47,5	D 151	D5756H3	

DIAMOND AND CBN ROTARY TOOLS **D ...**

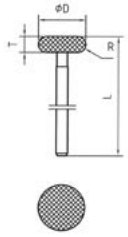
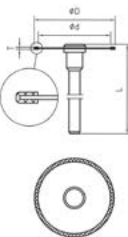
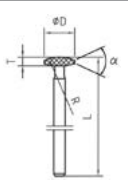
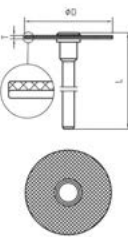
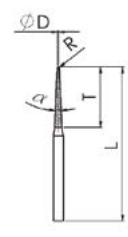
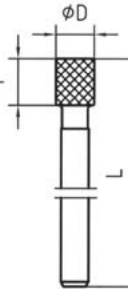
	Shape	Dimensions	Grit Size	REF	Shank diameter
	Cone rounded	D 6,0, T 10, R 17, L 49	D 151	D0954H3	Ø 3,0 mm
	Cone inverted	D 2,4, d 1,5, a 20°, T 3, L 46	D 151	D0224H3	
		D 2,4, d 1,5, a 20°, T 3, L 46	D 64	D0224H3D064	
		D 6,5, d 3,5, a 15°, T 10, L 49	D 151	D5456H3	
		D 8,0, d 3,0, a 90°, T 2,15, L 42	D 151	D5062H3	
	Cone inverted, rounded end	D 6,0, d 3,5, a 20°, T 10, R 3, L 49	D 151	D6154H3	
	Wheel	D 7,3, T 0,8, L 40	D 151	D1525H3	
	Wheel	D 9,0, d 7, T 0,6, L 40	D 151	D1018H3	
	Wheel	D 20, d 12,75, T 1,0, L 48	D 151	D1539H3	
	Grinding	D 17,2, d 14,6, T 2,4, L 48	D 151	D1127H3	

CAD reference point



DIAMOND & CBN ROTARY TOOLS

DIAMOND AND CBN ROTARY TOOLS

D ...

	Shape	Dimensions	Grit Size	REF	Shank diameter
	Grinding	D 5,8, T 2,3, R 1, L 41	D 151	D1422H3	Ø 3,0 mm
		D 9,8, T 3,4, R 1,5, L 42,2	D 151	D1430H3	
	Cutting wheel	D 15,0, d 13,0, T 0,6, L 48	D 151	D1021H3	
		D 18,0, d 16,0, T 0,6, L 48	D 151	D1024H3	
		D 22,0, d 20,0, T 0,6, L 48	D 151	D1031H3	
		D 36,0, d 34,0, T 1,0, L 48	D 151	D1042H3	
	Grinding wheel	D 4,1, a 60°, T 1,5, L 40,2	D 151	D1916H3	
		D 9,3, a 7,5°, T 1,3, L 41	D 151	D1629H3	
	Grinding wheel	D 22,0, d 7,0, T 0,35, L 48	D 151	D1231H3	
	Cone	D 0,6, R 0,3, a 5°, T 18, L 46	D 151	S067	
	Cylinder	D 6, T 8, L 60	D 151	D0354LH6	Ø 6,0 mm
		D 7, T 8, L 60	D 151	D0358LH6	
		D 8, T 8, L 60	D 151	D0362LH6	
		D 10, T 10, L 60	D 151	D0370LH6	
		D 12, T 10, L 60	D 151	D0374LH6	
		D 15, T 10, L 60	D 151	D0380LH6	

DIAMOND GRINDING PIN SETS - SHANK DIAMETER Ø 3,0 MM **SET ...**

	Description	Grit Size	REF
	Set consisting of 1 each of the following Diamond points and pins in Grit size FEPA D 151. D-0116-H3 D-0130-H3 D-0320L-H3 D-0330L-H3 D-0720-H3 D-0521L-H3 D-5830-H3 D-0916L-H3 D-0924L-H3 D-0224-H3	D 151	SET10A3
	Set consisting of 1 each of the following Diamond points and pins in Grit size FEPA D 64. D-0116-H3-D64 D-0130-H3-D64 D-0320L-H3-D64 D-0330L-H3-D64 D-0720-H3-D64 D-0521L-H3-D64 D-5830-H3-D64 D-0916L-H3-D64 D-0924L-H3-D64 D-0224-H3-D64	D 64	SET10B3
	Set consisting of 1 each of the following Diamond points and pins in Grit size FEPA D 107 and D 151. D-0308L-H3 (D 107) D-0310L-H3 (D 107) D-0315L-H3 (D 107) D-0320L-H3 D-0325L-H3 D-0330L-H3 D-0116-H3 D-0120-H3 D-0124-H3 D-0130-H3	D 107 / D 151	SET20A3

PRECISION CBN TOOLS

ORIGINAL DIPROFIL PRECISION CBN TOOLS

Info



Diprofil CBN Rotary Tools are made from carefully selected CBN (Cubic Boron Nitride), precisely bonded to obtain the best physical properties for added strength and resistance to wear. CBN tools are excellent for use on Tool Steels, Stainless Steels and Cast Iron.

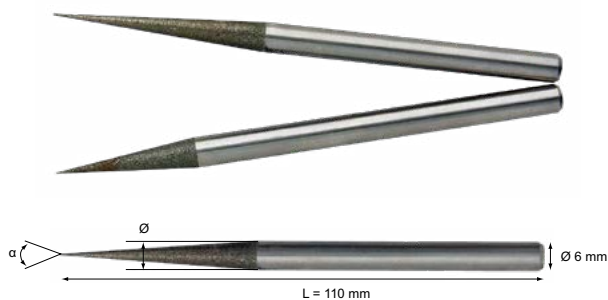
Other shapes, dimensions and grit sizes available upon request.

ORIGINAL DIPROFIL PRECISION CBN TOOLS

B ...

	Shape	Dimensions	Grit Size	REF	Shank diameter
	Cylinder	D 0,8, T 4,0, B 7, L 46	B 107	B0308LH3	Ø 3,0 mm
		D 1,0, T 4,0, B 8, L 46	B 107	B0310LH3	
		D 1,5, T 4,0, B 10, L 46	B 107	B0315LH3	
		D 2,0, T 5,0, B 14, L 46	B 151	B0320LH3	
		D 2,5, T 5,0, B 19, L 46	B 151	B0325LH3	
		D 3,0, T 5,0, B 19, L 46	B 151	B0330LH3	
	Cylinder	D 3,5, T 5,0, L 44	B 151	B0335LH3	
		D 4,0, T 5,0, L 44	B 151	B0340LH3	
		D 4,5, T 5,0, L 44	B 151	B0345LH3	
		D 5,0, T 6,0, L 45	B 151	B0350LH3	
		D 5,5, T 6,0, L 45	B 151	B0352LH3	
		D 6,0, T 6,0, L 45	B 151	B0354LH3	
	Cylinder	D 6, T 8, L 60	B 151	B0354LH6	Ø 6,0 mm
		D 7, T 8, L 60	B 151	B0358LH6	
		D 8, T 8, L 60	B 151	B0362LH6	
		D 10, T 10, L 60	B 151	B0370LH6	
		D 12, T 10, L 60	B 151	B0374LH6	
		D 15, T 10, L 60	B 151	B0380LH6	

PRECISION DIAMOND TAPER PINS **DTP...**



Ideal for grinding and polishing of carbide drawing dies for the wire and tube industries. All tools have Ø 6 mm shank.

Angle = α	Diameter = Ø	Grit Size	REF
8°	6 mm	D 76	DTP86D76
8°	6 mm	D 91	DTP86D91
8°	10 mm	D 76	DTP810D76
8°	10 mm	D 91	DTP810D91
12°	6 mm	D 76	DTP126D76
12°	6 mm	D 91	DTP126D91
12°	10 mm	D 76	DTP1210D76
12°	10 mm	D 91	DTP1210D91

All types are also available as blanks for polishing and final finishing with Diamond Compound.

Angle = α	Diameter = Ø	Grit Size	REF
8°	6 mm	n/a	DTP86
8°	10 mm	n/a	DTP810
12°	6 mm	n/a	DTP126
12°	10 mm	n/a	DTP1210

DIAMOND CUTTING DISCS **ASEA...**



Other dimensions and grit sizes available upon request

Dimensions (Ø x Width x Bore Ø)	Grit Size	REF
20 x 0,4 x 2,5	D107	ASEA20/040
20 x 0,6 x 2,5	D151	ASEA20/060
20 x 0,8 x 2,5	D151	ASEA20/080
20 x 1,0 x 2,5	D151	ASEA20/100
22 x 0,6 x 2,5	D151	ASEA22/060
25 x 0,8 x 2,5	D151	ASEA25/080
30 x 0,8 x 6	D151	ASEA30/080
36 x 1,0 x 2,5	D151	ASEA36/100

MANDRELS FOR DIAMOND CUTTING DISCS **MLD/P - MLE/P**

Hardened stainless mandrel shanks



Type	REF
Shank Ø 2,35 mm, Flange Ø 5 mm, Screw M2,5	MLD/P
Shank Ø 3,0 mm, Flange Ø 6 mm, Screw M2,5	MLE/P

CAD reference point

POLISHING, LAPPING & HONING TOOLS

POLISHING, LAPPING & HONING TOOLS



Diprofil offer a wide range of Honing and Lapping Tools for all kinds of polishing and super finishing applications. All Lapping Tools are excellent as carriers for the Diprofil Diamond Compound.

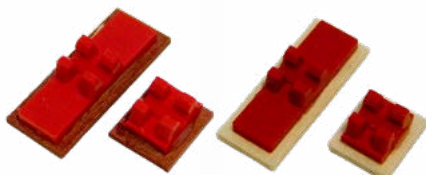
WOOD BOBS 0 3 MM

WB-...

0 3,0 x 30 mm	Dimension 0 x T (mm)	Hard Wood	Soft Wood
	0 20,0 x 30,0	WB2030H	WB2030S
	0 15,0 x 25,0	WB1525H	WB1525S
	0 10,0 x 20,0	WB1020H	WB1020S
	0 6,0 x 15,0	WB0615H	WB0615S
	0 10,0	WB0010H	WB0010S
	0 10,0 x 30,0	WB1030H	WB1030S

POLISHING TOOLS ON PLASTIC SHOES

MS... - VF... - FF...



Excellent for delicate polishing applications together with Polishing-/Filing machines and the Toggle rod type TR-3140.

Type	Dimension (mm)	Quantity	REF
Brass	15x13x1,5	1 pc	MS15X13
Brass	33x13x1,5	1 pc	MS33X13
Fibre	15x13x1,5	1 pc	VF15X13
Fibre	33x13x1,5	1 pc	VF33X13
Felt	15x13x2	1 pc	VF15X13
Felt	33x13x2	1 pc	FF33X13

DI-PRO POLISHING-KIT **FX-PK**



The low weight of the tools makes them especially suitable for use with the low-vibrating Di-Pro Polishing-/Filing machines. Using the tools included in this kit ensures that potentially harmful vibrations are kept at a minimum level. Also reduces the need for adding and removing counterweight inserts as all the included tools are within the same weight span.

Kit includes the following items:

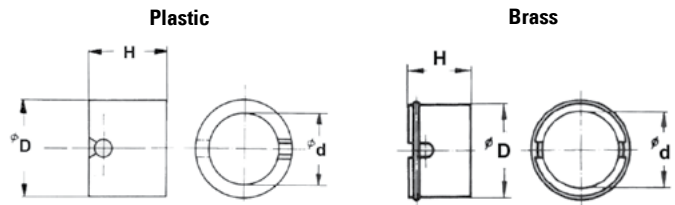
- 1 Toggle rod TR-3140
- 2 pcs of MS-15x13
- 1 pc of MS-33x13
- 2 pcs of FF-15x13
- 1 pc of FF-33x13
- 2 pcs of VF-15x13
- 1 pc of VF-33x13
- 1 pc of PS-129
- 1 pc of PS-309

REF
FXPK

POLISHING, LAPPING & HONING TOOLS **LRP... - LRB...**

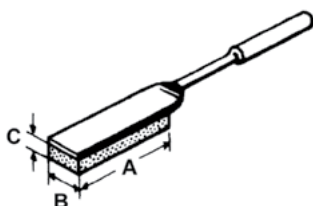


Rotating tools for use together with Diamond Compound in various lapping and polishing applications.



Material	Type	Ø D (mm)	Ø d (mm)	Height (mm)	Quantity	REF
Plastic	8	9	6	6	10 pcs	LRP8
Plastic	12	13	10	8	20 pcs	LRP12
Plastic	20	21	17	14	10 pcs	LRP20
Brass	8	8	6	6	10 pcs	LRB8
Brass	12	12	10	8	20 pcs	LRB12
Brass	20	20	17	14	10 pcs	LRB20

HONING TOOLS **LLC...**



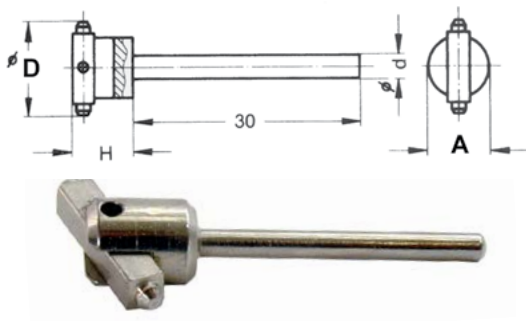
Rectangular honing tool on shank diameter 3,0 mm

Type	Dimensions (AxBxC)	REF
India Grit 280 Hard	18 x 7 x 2 mm	LLC2A3

POLISHING, LAPPING & HONING TOOLS

MANDRELS

M...

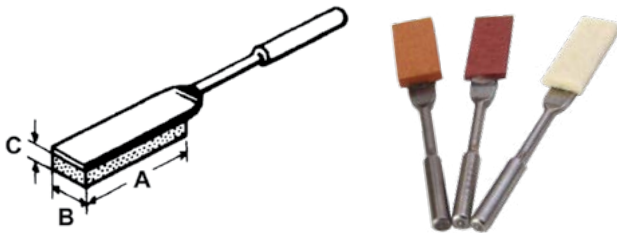


Mandrels for use together with Lapping rings. Snaps on and keeps rings flat against the work surface.

For use with:	Ø D (mm)	Shank Ø d (mm)	H (mm)	A (mm)	REF
Type 8 rings	8	3,0	6	5	M8/3
Type 12 rings	12	3,0	7,5	8	M12/3
Type 20 rings	20	3,0	7,5	8	M20/3
Type 20 rings	20	6,0	11	9	M20/6

LAPPING TOOLS

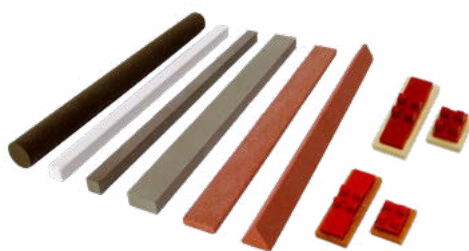
LLB...



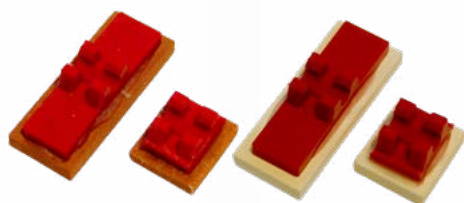
Rectangular lapping tools on shank diameter 3,0 mm

Type	Dimensions (AxBxC)	REF
Cast Iron	18 x 7 x 1 mm	LLB1A
Copper	18 x 7 x 1 mm	LLB2A
Fibre	18 x 7 x 1,5 mm	LLB4A
Balsa Wood	18 x 7 x 1,5 mm	LLB5A
Felt	18 x 7 x 3 mm	LLB7A

POLISHING STONES



POLISHING STONES ON PLASTIC SHOES EDM... - MOL...



Excellent for delicate stoning applications together with Polishing-/Filing machines and the Toggle rod type TR-3140.

Type	Dimension (mm)	Grit size	Quantity	REF
EDM	15x13x3	G120	1 pc	EDM15120
EDM	33x13x3	G120	1 pc	EDM33120
EDM	15x13x3	G180	1 pc	EDM15180
EDM	33x13x3	G180	1 pc	EDM33180
EDM	15x13x3	G320	1 pc	EDM15320
EDM	33x13x3	G320	1 pc	EDM33320
MOL	15x13x3	G400	1 pc	MOL15400
MOL	33x13x3	G400	1 pc	MOL33400
MOL	15x13x3	G600	1 pc	MOL15600
MOL	33x13x3	G600	1 pc	MOL33600

TOGGLE ROD TR-3140



Toggle rod for plastic shoes. Can easily be bent to an angle if required.
Shank: Ø 3,5 mm
Length: 140 mm

REF
TR3140

DI-PRO STONING-KIT FX-SK



The low weight of the tools makes them especially suitable for use with the low-vibrating Di-Pro Polishing-/Filing machines. Using the tools included in this kit ensures that potentially harmful vibrations are kept at a minimum level. Also reduces the need for adding and removing counterweight inserts as all the included tools are within the same weight span.

- The kit includes the following items:**
- 1 Toggle rod TR-3140
 - 2 pcs of EDM-15-120
 - 1 pc of EDM-33-120
 - 2 pcs of EDM-15-180
 - 1 pc of EDM-33-180
 - 2 pcs of EDM-15-320
 - 1 pc of EDM-33-320
 - 2 pcs of MOL-15-400
 - 1 pc of MOL-33-400
 - 2 pcs of MOL-15-600
 - 1 pcs of MOL-33-600

REF
FXSK

CAD reference point

TOOL HOLDERS

POLISHING STONES HOLDER

THBEA


Tool holder with pencil grip for polishing stones or lapping ribs with maximum cross section area of 6x6 mm or Ø 6.0 mm.

REF
THBEA

POLISHING STONES HOLDER

THBEB


Tool holder with pencil grip for polishing stones or lapping ribs with maximum cross section area of 4x4 mm.

REF
THBEB

POLISHING STONES HOLDER

THBEC


Tool holder for stones with section of 13x6.
The closing with a screw grants a safe holding of the stone. Made of plastic.

REF
THBEC

SUPER STONE HOLDER **THFS-1**



Tool-holder made of hardened steel for use together with ceramic fibre stones (Super stones) and lapping-/polishing tools with a thickness of 1 mm.

Shank Ø: 3,0 mm
 Shank length: 18 mm
 Total length: 31,5 mm
 Width: 8 mm
 Weight: 4,3 g

REF
THFS1

UNIVERSAL TOOL HOLDER **THPS-3**



Tool-holder made of hardened steel for use together with polishing stones and lapping-/polishing tools with a thickness of 3 mm.

Shank Ø: 3,0 mm
 Shank length: 18 mm
 Total length: 31,5 mm
 Width: 8 mm
 Weight: 3,9 g

REF
THPS3

UNIVERSAL TOOL HOLDER **FMR/VH**



Tool holder for Super Stones, Super Grinders and Polishing Stones to be used together with the Diprofil Polishing/Filing Machines. Stainless hardened shank Ø 3,0 mm. Shank length approx. 35 mm. Maximum tool thickness 6 mm.

REF
FMR/VH

TOOL HOLDER **QEA/3**



Tool holder for use in the Diprofil Polishing/Filing Machines together with Polishing Stones and Lapping Ribs with maximum cross section area 13x13 mm or Ø 13 mm. Shank Ø 3,0 mm.

REF
QEA/3

TOOL HOLDERS

TOOL HOLDER

QEA/6


Tool holder for use in the Diprofil Polishing/Filing Machines together with Polishing Stones and Lapping Ribs with maximum cross section area 13x13 mm or Ø 13 mm. Shank Ø 6,0 mm.

REF
QEA/6

TOOL HOLDER

VEA


REF
VEA

PLASTIC SHOES / TOOL HOLDERS

PS...


Plain plastic shoes for making your own special tools adapted to the specific application.

Dimension (mm)	Quantity	REF
12x9x2	10 pcs	PS129
30x9x2	10 pcs	PS309

TOGGLE ROD

TR-3140


Toggle rod for plastic shoes. Can easily be bent to an angle if required.

Shank: Ø 3,5 mm
Length: 140 mm

REF
TR3140

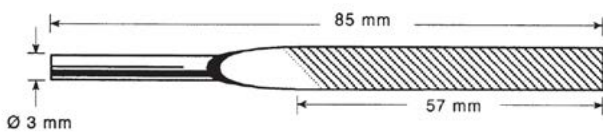
PRECISION STEEL FILES



Diprofil precision steel files for use in soft and semi-hard steel as well as other materials of low to medium hardness.

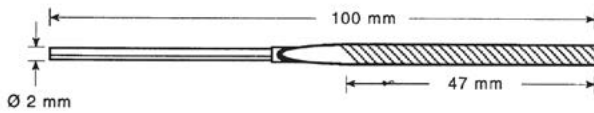
STEEL FILES

STL...



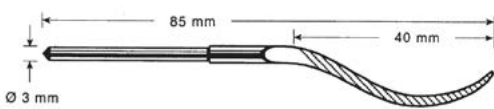
Shape	Size (mm)	REF	
		Medium Cut -00	Fine Cut -1
	5x1,5	STL-1-00/P	STL-1-1/P
	Ø3	STL-2-00/P	STL-2-1/P
	5x2	STL-3-00/P	STL-3-1/P
	5x2	STL-4-00/P	STL-4-1/P
	3,5x3,5x3,5	STL-5-00/P	STL-5-1/P
	2,5x2,5	STL-6-00/P	STL-6-1/P

* 5 Stück

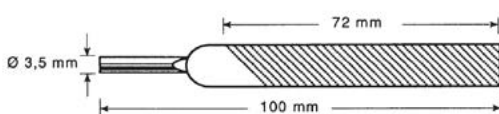


Shape	Size (mm)	REF	
		Medium Cut -00	Fine Cut -1
	3,3x1	STL-21-00/P	STL-21-1/P
	Ø2	STL-22-00/P	STL-22-1/P
	3,2x1,1	STL-23-00/P	STL-23-1/P
	3x1,3	STL-24-00/P	STL-24-1/P
	2,2x2,2x2,2	STL-25-00/P	STL-25-1/P
	1,7x1,7	STL-26-00/P	STL-26-1/P

* 5 Stück



Shape	Size (mm)	REF	
		Medium Cut -00	Fine Cut -1
	4x2	STL-11-00/P	STL-11-1/P
	Ø3	STL-12-00/P	STL-12-1/P
	4,7x2,5	STL-14-00/P	STL-14-1/P
	3x3	STL-16-00/P	STL-16-1/P



Shape	Size (mm)	REF	
		Medium Cut -00	Fine Cut -1
	10x2,5	STL-101-00/P	STL-101-1/P

SETS

SETS		Info	
	REF	Includes	Description
	FXP-SET-L	FXP	See page 117
		CHPMBL2	See page 124
		TPU20220V	See page 130
	FXP-SET-M	FXP	See page 117
		TPU20220V	See page 130
	FXP-SET-S	FXP	See page 117
		DPU3	See page 125
	FXM-SET-L	FXM	See page 117
		CHPMBL2	See page 124
		TPU20220V	See page 130
	FXM-SET-M	FXM	See page 117
		TPU20220V	See page 130
	FXM-SET-S	FXM	See page 117
		DPU3	See page 125
	FMV-SET-S	FMV/D	See page 126
		HPMB1	See page 125
		DPU3	See page 125
	FMR-SET-5S	FMR/D5	See page 119
		HPMB1	See page 125
		DPU3	See page 125
	FMR-SET-10S	FMR/D10	See page 119
		HPMB1	See page 125
		DPU3	See page 125
	FMR-SET-15S	FMR/D15	See page 119
		HPMB1	See page 125
		DPU3	See page 125
	DPU-SET-S	DPU3	See page 125
		CHPMB1	See page 125



PRECISION FILES



SWISS NEEDLE-POINT FILES

SWISS NEEDLE-POINT FILES

N ...



cut 1 = coarse - cut 2 = middle - cut 3 = fine

 Total length: 160 mm
 Shank-Ø: 3 mm
 Material: Steel

	REF	Cut	Cut arrangement
	N01160	1	
	N02160	2	
	N03160	3	
	N02160	1	
	N022160	2	
	N023160	3	
	N03160	1	
	N032160	2	
	N033160	3	
	N05160	1	
	N052160	2	
	N053160	3	
	N07160	1	
	N072160	2	
	N073160	3	
	N08160	1	
	N082160	2	
	N083160	3	
	N10160	1	
	N102160	2	
	N103160	3	
	N11160	1	
	N112160	2	
	N113160	3	

VALLORBE®, RIFFLER FILES

R ...



cut 1 = coarse - cut 2 = middle - cut 3 = fine

 Total length: 150 mm
 Material: Steel

	REF	Cut	Cut arrangement
	R002150	2	
	R004150	4	
	R012150	2	
	R014150	4	
	R022150	2	
	R024150	4	
	R102150	2	
	R104150	4	
	R112150	2	
	R114150	4	
	R122150	2	
	R124150	4	
	R132150	2	
	R134150	4	
	R142150	2	
	R144150	4	
	R152150	2	
	R154150	4	
	R162150	2	
	R164150	4	

CAD reference point

VALLORBE®, RIFFLER FILES **R ...**

	REF	Cut	Cut arrangement
	R172150	2	
	R174150	4	
	R182150	2	
	R184150	4	
	R202150	2	
	R204150	4	
	R302150	2	
	R304150	4	
	R312150	2	
	R314150	4	
	R 40	2	
	R 40	4	
	R 41	2	
	R 41	4	
	R 42	2	
	R 42	4	
	R 43	2	
	R 43	4	
	R 51	2	
	R 51	4	
	R 52	2	
	R 52	4	
	R 55	2	
	R 55	4	
	R 61	2	
	R 61	4	
	R 62	2	
	R 62	4	
	R 63	2	
	R 63	4	
	R 65	2	
	R 65	4	
	R 70	2	
	R 70	4	
	R 71	2	
	R 71	4	
	R 72	2	
	R 72	4	
	R 73	2	
	R 73	4	
	R742150	2	
	R744150	4	
	R802150	2	
	R804150	4	
	R812150	2	
	R814150	4	
	R822150	2	
	R824150	4	
	R832150	2	
	R834150	4	

CAD reference point

VALLORBE®, RIFFLER FILES

VALLORBE®, RIFFLER FILES

R ...

	REF	Cut	Cut arrangement
	R842150	2	
	R844150	4	
	R852150	2	
	R854150	4	
	R862150	2	
	R864150	4	
	R872150	2	
	R874150	4	
	R882150	2	
	R884150	4	
	R962150	2	
	R964150	4	

FILES FOR HAND OPERATED FILING MACHINES

MF 310 ...

Total length: 80 mm
 Coating length: 55 mm
 Shank Ø: 3 mm
 Material: Steel

	REF		Coating
	MF3101125	5	
	MF3102205	5	
	MF310330	5	
	MF310430	5	
	MF310526	5	

DIAMOND NEEDLE-POINT FILES, ELECTRO-BONDED F 2111 - F 2116



Includes:
 F2111: Set of 5 diamond hand files, one of each F 2112 - F 2132 - F 2142 - F 2152 - F 2162
 F2116: Set of 6 diamond hand files, one of each F 2112 - F 2122 - F 2132 - F 2142 - F 2152 - F 2162

REF	Grain
F2111D091	D 91
F2111D126	D 126
F2111D181	D 181

DIAMOND NEEDLE-POINT FILES, ELECTRO-BONDED F 21 ...

Features:
 Total length: 140 mm
 Shank- Ø: 3 mm
 Coating length: 70 mm

	REF	Grain	Coating
	F2112D091	D 091	
	F2112D126	D 126	
	F2112D181	D 181	
	F2122D091	D 091	
	F2122D126	D 126	
	F2122D181	D 181	
	F2132D091	D 091	
	F2132D126	D 126	
	F2132D181	D 181	
	F2142D091	D 091	
	F2142D126	D 126	
	F2142D181	D 181	
	F2152D091	D 091	
	F2152D126	D 126	
	F2152D181	D 181	
	F2162D091	D 091	
	F2162D126	D 126	
	F2162D181	D 181	
	F2172D091	D 091	
	F2172D126	D 126	
	F2172D181	D 181	
	F2182D091	D 091	
	F2182D126	D 126	
	F2182D181	D 181	
	F2192D091	D 091	
	F2192D126	D 126	
	F2192D181	D 181	
	F2102D091	D 091	
	F2102D126	D 126	
	F2102D181	D 181	

DIAMOND FILES WITH GRIP, ELECTRO-BONDED, SET F 126



Includes:
 Set of 5 diamond files with grip.
 F 120, F 121, F 122, F 123, F 124

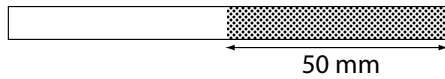
REF	Grain
F126D091	D091
F126D126	D126

CAD reference point

FILES & TOOLS

MICRO-DIAMOND FILES, CONICAL

ZF 9 ...



Total length: 100 mm

	REF	Grain	Coating
	ZF90D054	D054	
	ZF90D064	D064	
	ZF90D076	D076	
	ZF90D091	D091	
	ZF90D107	D107	
	ZF90D126	D126	
	ZF91D054	D054	
	ZF91D064	D064	
	ZF91D076	D076	
	ZF91D091	D091	
	ZF91D107	D107	
	ZF91D126	D126	
	ZF92D054	D054	
	ZF92D064	D064	
	ZF92D076	D076	
	ZF92D091	D091	
	ZF92D107	D107	
	ZF92D126	D126	
	ZF93D054	D054	
	ZF93D064	D064	
	ZF93D076	D076	
	ZF93D091	D091	
	ZF93D107	D107	
	ZF93D126	D126	
	ZF94D054	D054	
	ZF94D064	D064	
	ZF94D076	D076	
	ZF94D091	D091	
	ZF94D107	D107	
	ZF94D126	D126	
	ZF995D054	D054	Set of micro-diamond files = 5 p.
	ZF995D064	D064	
	ZF995D076	D076	
	ZF995D091	D091	
	ZF995D107	D107	
	ZF995D126	D126	

DIAMOND FILES, CONICAL, ELECTRO-BONDED, SET

KD 1600


Includes:

Set of 10 conical diamond files.

- 2x KD 1602 D 126
- 2x KD 1602 D 64
- 2x KD 1603 D 64
- 1x KD 1601 D 64
- 1x KD 1602 D 54
- 1x KD 1604 D 64
- 1x KD 1604 D 54

REF
KD1600

DIAMOND FILES, CONICAL, ELECTRO-BONDED **KD 160 ...**

Total length: 170 mm
 Thickness: 0,5-2,0 mm conical
 Coating length: 110 mm

	REF	Grain	a / a ₁
	KD1601D054	D054	3 / 2
	KD1601D064	D064	
	KD1601D126	D126	
	KD1602D054	D054	4 / 3
	KD1602D064	D064	
	KD1602D126	D126	
	KD1602D181	D181	6 / 6
	KD1603D054	D054	
	KD1603D064	D064	
	KD1603D126	D126	8 / 8
	KD1603D181	D181	
	KD1604D054	D054	
	KD1604D064	D064	8 / 8
	KD1604D126	D126	
	KD1604D181	D181	

DIAMOND FILES WITH GRIP, ELECTRO-BONDED **F 12 ...**

Total length: 215 mm
 Coating length: 100 mm

	REF	Grain	Coating
	F120D091	D091	
	F120D126	D126	
	F120D181	D181	
	F121D091	D091	
	F121D126	D126	
	F121D181	D181	
	F122D091	D091	
	F122D126	D126	
	F122D181	D181	
	F123D091	D091	
	F123D126	D126	
	F123D181	D181	
	F124D091	D091	
	F124D126	D126	
	F124D181	D181	

FILES & TOOLS

DIAMOND RIFFLER FILES, ELECTRO-BONDED

DR ...



- Total length: 150 mm
- Coating length on both sides: 25 mm

	REF	Grain	Coating
	DR15D091	D091	
	DR15D126	D126	
	DR15D181	D181	
	DR16D091	D091	
	DR16D126	D126	
	DR16D181	D181	
	DR18D091	D091	
	DR18D126	D126	
	DR18D181	D181	
	DR20D091	D091	
	DR20D126	D126	
	DR20D181	D181	
	DR22D091	D091	
	DR22D126	D126	
	DR22D181	D181	
	DR24D091	D091	
	DR24D126	D126	
	DR24D181	D181	

ESCAPEMENT DIAMOND FILES, ELECTRO-BONDED

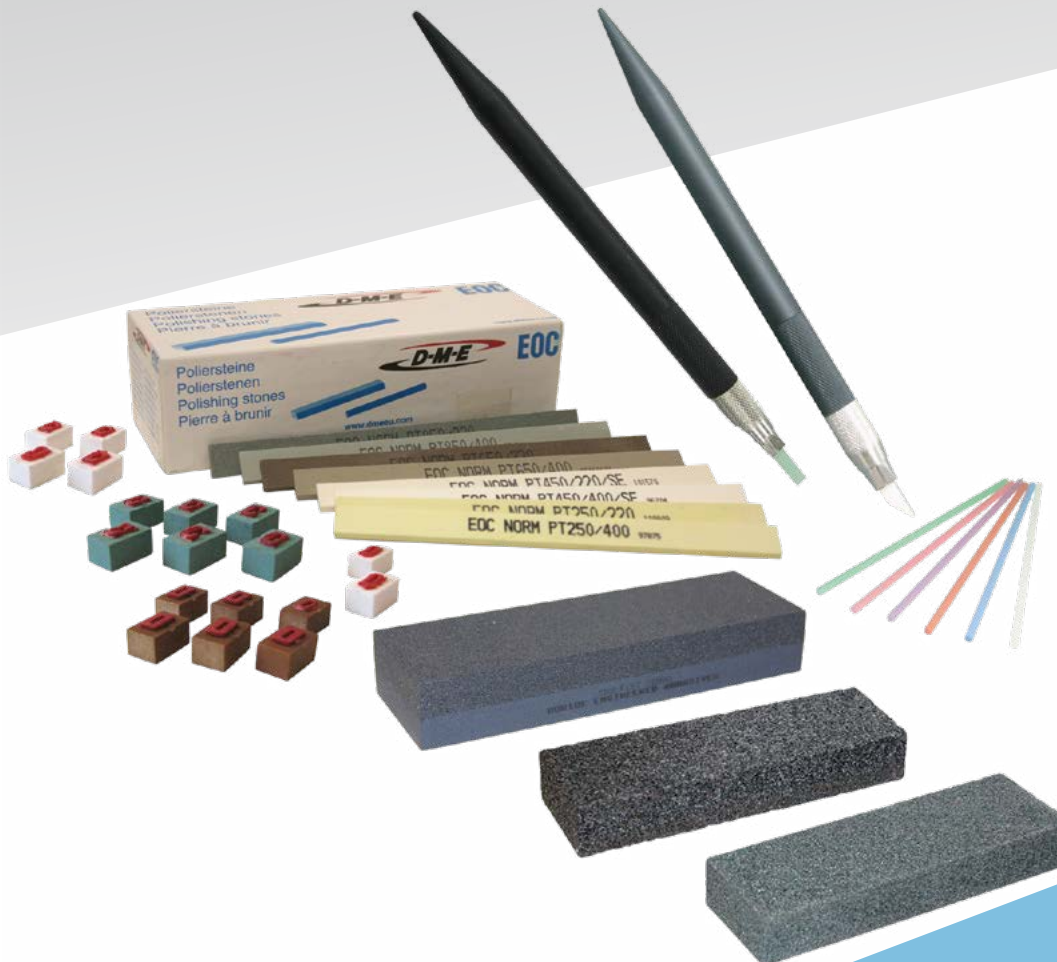
H ...

- Total length: 140 mm
- Coating length: 41 mm

	REF	Grain	Coating
	H609D091	D091	
	H609D126	D126	
	H610D091	D091	
	H610D126	D126	
	H611D091	D091	
	H611D126	D126	
	H614D091	D091	
	H614D126	D126	
	H617D091	D091	
	H617D126	D126	
	H619D091	D091	
	H619D126	D126	
	H621D091	D091	
	H621D126	D126	



STONES



POLISHING STONES

POLISHING STONES

Info

		PT 250	PT 450	PT 470	PT 550	PT 600	PT 650	PT 700	PT 750	PT 850	PT 880	PT 900
Material	Tool steel	•	•	•	•	•	•	•		•	•	•
	Aluminium		•	•			•					•
	Non-ferro						•					•
	High grade tool steel			•			•					•
	Spark eroding structure	•			•	•	•	•	•	•	•	
Application	0 = Finish machining	2-5	1-3	1-5	2-5	2-5	0-5	3-5	0-5	0-5	0-5	0
	5 = Pre-machining											
	High gloss finish				•							
Wear	0 = Slow	3	3	4	2	3	4	3	1	4	3	5
	5 = Fast											
Stock Removal	0 = Slow	4	4	4	4	4	5	4	4	5	4	1
	5 = Fast											
Bonding hardness	0 = Soft	3	3	3	4	3	2	3	5	2	3	0
	5 = Hard											
Method	Hand operation	•	•	•	•	•	•	•	•	•	•	•
	Filing hand piece	•	•	•	•	•	•	•	•	•	•	
	Ultra sonic				•	•						
Application	Dry	•	•	•	•	•	•	•	•	•	•	
	Wet	•	•	•	•	•	•	•	•	•	•	•
Treated	Resin bonded								•			
	Oil							•				
	Special			•	•	•						
	Sulphur	•										

To avoid build-ups and resulting cracks it is recommended to always use a suitable cutting fluid or cutting oil (BL 10/WK 35) when applying polishing stones with grain size (320), 400, 600 or 900. In this way a blunting of the bond will be avoided and a constant resharping of the cutting grains is guaranteed.

POLISHING STONES **PT 250 ...**



Features:

- Total length = 150 mm
- Abrasive material: Aluminium Oxide
- Color: yellow
- A special very hard, sulphured stone for the machining of eroded surfaces.
- We recommend to apply cutting fluid or cutting oil when using fine grain stones, coarse grain stones can be used in a dry state.

Order example for first item (REF + Grain): PT250031320

REF	Grain						Dimensions (mm)	
	120	150	180	320	400	600		
PT2500313	•	•	•	•	•	•	3 x 13	12
PT2500606	•	•	•	•	•	•	6 x 6	
PT2500613	•	•	•	•	•	•	6 x 13	
PT2501010	•	•	•	•	•	•	10 x 10	
PT2501313	•	•	•	•	•	•	13 x 13	
PT2501520	•	•	•	•	•	•	15 x 20	6
PT2502025	•	•	•	•	•	•	20 x 25	4

POLISHING STONES **PT 450 ...**



Features:

- Total length = 150 mm
- Abrasive material: Aluminium Oxide
- Color: white
- Medium-hard stone for general polishing tasks on sectional steels.
- Machining of all grades of steel by hand and by filing machine.
- For coarse grain size, use in dry state.
- For fine grain size, use cutting fluid or diluent.
- Special stone for sectional or die steels.

Order example for first item (REF + Grain): PT4500306220

REF	Grain				Dimensions (mm)	
	220	320	400	600		
PT4500306	•	•	•	•	3 x 6	12
PT4500313	•	•	•	•	3 x 13	
PT4500606	•	•	•	•	6 x 6	
PT4500613	•	•	•	•	6 x 13	
PT4501313	•	•	•	•	13 x 13	
PT4501325	•	•	•	•	13 x 25	6

POLISHING STONES **PT 470 ...**



Features:

- Total length = 150 mm
- Abrasive material: Aluminium Oxide
- Color: white
- Medium hard, especially treated stone for the processing of Aluminium.
- Fast removal of material is achieved due to high cutting efficiency.
- It leaves no scratches or damage on the surface.
- The use of lapping- and polishing oil is recommended

Order example for first item (REF + Grain): PT4700306150

REF	Grain					Dimensions (mm)	
	150	220	320	400	600		
PT4700306	•	•	•	•	•	3 x 6	12
PT4700313	•	•	•	•	•	3 x 13	
PT4700606	•	•	•	•	•	6 x 6	
PT4700613	•	•	•	•	•	6 x 13	

POLISHING STONES

POLISHING STONES

PT 550 ...


Features:

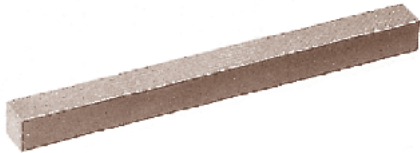
- Total length = 150 mm
- Abrasive material: Aluminium Oxide
- Color: dark brown
- Profile-stable special stone for the removal of the surface left by EDM.
- The high cutting capacity ensures fast removal of material.
- Suitable for machining by hand, with a filing machine and in particular with ultrasonic polishing machines.
- The use of an oil-free lubricant is recommended.

Order example for first item (REF + Grain): PT5500303220

REF	Grain									Dimensions (mm)	
	100	120	150	180	220	280	320	400	600		
PT5500303					•		•	•	•	3 x 3	12
PT5500306	•	•	•	•	•	•	•	•	•	3 x 6	
PT5500313					•		•	•	•	3 x 13	
PT5500606					•	•	•	•	•	6 x 6	
PT5500613	•	•	•	•	•	•	•	•	•	6 x 13	
PT5501010				•	•		•			10 x 10	

POLISHING STONES

PT 600 ...

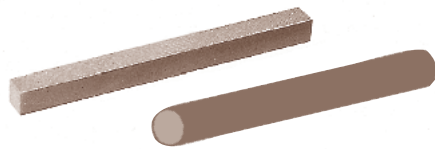

Features:

- Total length = 150 mm
- Abrasive material: Aluminium Oxide
- Color: dark brown
- A semi-hard adaptable stone for the removal of EDM surface.
- Because of its softer bonding it is in particular suitable for polishing by hand.
- The use of an oil-alcohol lubricant is recommended.

Order example for first item (REF + Grain): PT6000306100

REF	Grain									Dimensions (mm)	
	100	120	150	180	220	280	320	400	600		
PT6000306	•	•	•	•	•	•	•	•	•	3 x 6	12
PT6000313		•		•	•	•	•	•	•	3 x 13	
PT6000606				•	•		•	•	•	6 x 6	
PT6000613		•	•	•	•		•	•	•	6 x 13	

POLISHING STONES **PT 650 ...**



- Features:**
- Total length = 150 mm
 - Abrasive material: Aluminium Oxide
 - Color: brown
 - A semi-hard to soft stone, for hand polishing.
 - For hand filing devices.
 - Produces a soft finish and wears off in a very even way.
 - Especially suitable for contoured surfaces due to ideal adaptability, for non-ferrous metals and chromium-nickel steels.

Order example for first item (REF + Grain): PT6500306100

REF	Grain									Dimensions (mm)	
	100	150	180	220	280	320	400	600	900		
PT6500306	•	•	•	•	•	•	•	•	•	6 x 6	12
PT6500313		•	•	•	•	•	•	•	•	3 x 13	
PT6500606		•		•		•		•	•	6 x 6	
PT6500613	•	•	•	•	•	•	•	•	•	6 x 13	
PT6500620		•		•		•		•	•	6 x 20	
PT6501010	•	•		•	•	•	•	•	•	10 x 10	
PT6501325			•	•	•	•	•	•	•	13 x 25	6
PT65006				•		•	•	•		Ø 6 R	
PT65010		•				•	•			Ø 10 R	

POLISHING STONES **PT 700 ...**

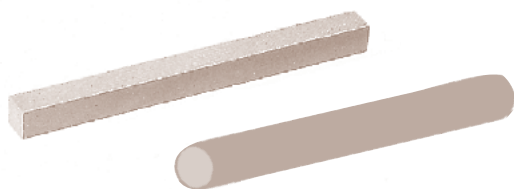


- Features:**
- Total length = 150 mm
 - Abrasive material: Aluminium Oxide
 - Color: cream-coloured/ivory white
 - A hard porous stone for all polishing tasks.
 - Treatment with a special oil prevents loading.
 - The use of an oil-alcohol lubricant is recommended.

Order example for first item (REF + Grain): PT7000306120

REF + Grain	Grain						Dimensions (mm)	
	120	150	220	320	400	600		
PT7000306	•	•	•	•	•	•	3 x 6	12
PT7000313	•	•	•	•	•	•	3 x 13	
PT7000606	•	•	•	•	•	•	6 x 6	
PT7000613	•	•	•	•	•	•	6 x 13	
PT7001010	•	•	•	•	•	•	10 x 10	
PT7001325	•	•	•	•	•	•	13 x 25	
PT7000615		•	•	•	•	•	R Ø 6	6

POLISHING STONES **PT 750 ...**



- Features:**
- Total length = 150 mm
 - Abrasive material: Aluminium Oxide, resin bonded
 - Color: light brown
 - A hard, resin-bonded stone with high strength against fracture, high shape consistency and cutting efficiency.
 - Resin bonding causes a buffer effect between the grains.
 - A better finish, considering the respective grain size in connection with the hard bonding.
 - Hand operation and in hand filing devices, For removal of EDM-layers.

Order example for first item (REF + Grain): PT7500306120

REF + Grain	Grain							Dimensions (mm)	
	120	180	220	280	320	400	600		
PT7500306	•	•	•	•	•	•	•	3 x 6	12
PT7500606		•	•	•	•	•	•	6 x 6	
PT7500613		•	•	•	•	•	•	6 x 13	
PT75006					•			R Ø 6	6

CAD reference point

POLISHING STONES

POLISHING STONES

PT 850 ...


Features:
Total length: 150 mm

Abrasive material: Silicon carbide

Color: green

- A soft-bonded, porous stone with high cutting efficiency and soft finish.
- Hand operation or application in hand filing devices.
- For machining of contoured surfaces, the stone adapts very quickly because of its soft bonding.

 Order example for first item (REF + Grain): **PT8500306120**

REF + Grain	Grain						Dimensions (mm)	
	120	150	220	320	400	600		
PT8500306	•		•				3 x 6	12
PT8500313	•	•	•	•	•	•	3 x 13	
PT8500606	•	•	•	•	•	•	6 x 6	
PT8500613	•	•	•	•	•	•	6 x 13	
PT8501010		•	•	•	•	•	10 x 10	
PT8501313		•	•	•	•		13 x 13	
PT8501325		•	•	•	•	•	13 x 25	

POLISHING STONES

PT 880 ...


Features:
Total length: 150 mm

Abrasive material: Silicon carbide

Color: green

- Slightly harder bonding material than PT 850.
- Special stone for the removal of the residue left by ESM on cut and sectional steels.
- Particularily suitable for the treatment of hardened steels, punches, dies, steel castings and hot-working steels of HRC 47-63 and harder.
- The use of an oil-alcohol lubricant is recommended.

 Order example for first item (REF + Grain): **PT8800404150**

REF + Grain	Grain						Dimensions (mm)	
	120	150	220	320	400	600		
PT8800404			•	•	•	•	4 x 4	12
PT8800306	•	•	•	•	•	•	3 x 6	
PT8800313	•	•	•	•	•	•	3 x 13	
PT8800606	•	•	•	•	•	•	6 x 6	
PT8800613	•	•	•	•	•	•	6 x 13	
PT8801010			•	•	•	•	10 x 10	
PT8801313		•	•	•	•	•	13 x 13	
PT8801325			•	•	•	•	13 x 25	

POLISHING STONES PT 900 ...



Features:
Total length: 150 mm
Abrasive material: Levigated Alumina
Color: white

- It is a very soft-bonded stone, which does not get blunt.
- A very uniform, soft polished section will be achieved.
- Further polishing with diamond paste of grain size 6 or 3 μm will result in high gloss finish.
- Advantageously used at the beginning of minor polishing repairs, operated by hand and using a suitable cutting oil.

REF	Grain	
PT9000306900	900	12
PT9000313900		
PT9000606900		
PT9000613900		

SAMPLE KIT PT



Set of 8 different types
Dimension : 6x13x 150 mm

Includes:

- PT250 Grain 400
- PT250 Grain 220
- PT450 Grain 220 SE
- PT450 Grain 400 SE
- PT650 Grain 220
- PT650 Grain 400
- PT850 Grain 220
- PT850 Grain 400

REF
PT

GRINDING STONES AZ ...



Features:
 Oil treated industrial sharpening stones, used for deburring, sharpening and honing.
 Available in coarse (120 grit), medium (220 grit), and fine (320 grit).

Abrasive material: Aluminium Oxide

REF	Grain	Total length		Shape
AZ015	120	150	1	
AZ040	220			
AZ065	320			
AZ255	120	100	12	
AZ290	220			
AZ325	320			
AZ465	120	100	12	
AZ500	220			
AZ535	320			

REF	Grain	Total length		Shape
AZ669	120	100	12	
AZ683	220			
AZ697	320			
AZ747	120	100	12	
AZ754	220			
AZ761	320			
AZ770	120	100	12	
AZ775	220			
AZ780	320			

CAD reference point

CERAMIC STONES

NEW SUPER STONES

Info


Application

Ceramic stones are used for surface finishing of molds. They are also excellently applicable for grinding and polishing of alloyed and non-alloyed tool steels, cast iron, various alloy metals, copper, aluminium, silicon, magnetic materials, stones, plastics, etc.

Shape

Ceramic grinding stones are of either round or rectangular cross-section.
Lengths: 40 mm, 100 mm, 150 mm

Material

Ceramic stones are made of a new composite material comprised of long fine ceramic fibres and thermo-setting resin. The abrasive ceramic fibres always come out frontally.

Advantages

- excellent grinding performance
- long life
- highly stable properties
- nearly unbreakable (flexible)
- uniform surface finishing work
- easily profileable

Handling

The surface finishing work is done either manually, or with high-frequency grinding and filing handpieces, or with ultrasonic lap and polishing machines. In the field of high-frequency hand operated machines we recommend our power pack PA 480, PA 240 combined with LA 051 for round ceramic stones or connected to filing handpieces RE 35, RE 55.

Due to their high rigidity shorter dimension of ceramic stones are excellently suited for the ultrasonic surface finishing work. In this application machines like UF 2600 or UF 5600 are connected with handpiece UF 9700.

Using this equipment we recommend using ceramic stones at an angle of about 45° between workpiece surface and handpiece. The stones are fixed with adaptors in the handpiece.

Due to their highly stable properties and extremely long life ceramic stones are also used as carriers for diamond pastes when fine and ultra-fine polishing work is necessary for thin break-throughs, cavities and slits. In this case ceramic grinding stones are used parallel to the workpiece surface.

Flat type

Dimensions T x W x L (mm)	Violet #80
0.5x 1x150	NSV0501L
0.5x 2x150	NSV052L
0.5x 4x150	NSV054L
0.5x 6x150	NSV056L
0.5x10x150	NSV051L
0.8x 1x150	NSV0801L
0.8x 2x150	NSV082L
0.8x 4x150	NSV084L

Dimensions T x W x L (mm)	Violet #80
0.8x 6x150	NSV086L
0.8x10x150	NSV081L
1.0x 1x150	NSV101L
1.0x 2x150	NSV102L
1.0x 4x150	NSV104L
1.0x 6x150	NSV106L
1.0x10x150	NSV110L
1.5x 1x150	NSV151L

Dimensions T x W x L (mm)	Violet #80
1.5x 2x150	NSV152L
1.5x 4x150	NSV154L
1.5x 6x150	NSV156L
1.5x10x150	NSV150L
2.0x 2x150	NSV202L
2.0x 4x150	NSV204L
2.0x 6x150	NSV206L
2.0x10x150	NSV210L

Dimensions T x W x L (mm)	Violet #80
3.0x 1x150	NSV301L
3.0x 2x150	NSV302L
3.0x 4x150	NSV304L
3.0x 6x150	NSV306L
3.0x10x150	NSV310L

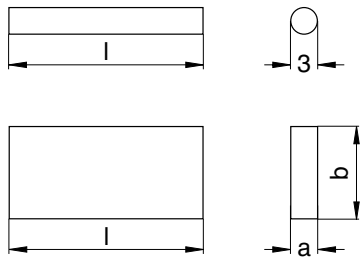
Round type

Dimensions ØD x L (mm)	Violet #80
Ø 2.35 x 50	NSVD23A
Ø 2.35 x 100	NSVD23B
Ø 2.35 x 150	NSVD23L

Dimensions ØD x L (mm)	Violet #80
Ø 3.0 x 50	NSVD3A
Ø 3.0 x 100	NSVD3B
Ø 3.0 x 150	NSVD3L

Dimensions ØD x L (mm)	Violet #80
Ø 3.175 x 50	NSVDIA
Ø 3.175 x 100	NSVDIB
Ø 3.175 x 150	NSVDIL

NEW SUPER STONES **NS ...**



REF	Grain	Shape	Color	a x b	l
NSE0501L	120	□	Light Green	0,5 x 1	150
NSG0501L	180	□	Yellow	0,5 x 1	150
NSL0501L	300	□	Brown	0,5 x 1	150
NSO0501L	400	□	Orange	0,5 x 1	150
NSP0501L	600	□	Grey	0,5 x 1	150
NSB0501L	800	□	Light Blue	0,5 x 1	150
NSW0501L	1000	□	White	0,5 x 1	150
NSR0501L	1200	□	Pink	0,5 x 1	150
NSE052L	120	□	Light Green	0,5 x 2	150
NSG052L	180	□	Yellow	0,5 x 2	150
NSL052L	300	□	Brown	0,5 x 2	150
NSO052L	400	□	Orange	0,5 x 2	150
NSP052L	600	□	Grey	0,5 x 2	150
NSB052L	800	□	Light Blue	0,5 x 2	150
NSW052L	1000	□	White	0,5 x 2	150
NSR052L	1200	□	Pink	0,5 x 2	150
NSE054L	120	□	Light Green	0,5 x 4	150
NSG054L	180	□	Yellow	0,5 x 4	150
NSL054L	300	□	Brown	0,5 x 4	150
NSO054L	400	□	Orange	0,5 x 4	150
NSP054L	600	□	Grey	0,5 x 4	150
NSB054L	800	□	Light Blue	0,5 x 4	150
NSW054L	1000	□	White	0,5 x 4	150
NSR054L	1200	□	Pink	0,5 x 4	150
NSE056L	120	□	Light Green	0,5 x 6	150
NSG056L	180	□	Yellow	0,5 x 6	150
NSL056L	300	□	Brown	0,5 x 6	150
NSO056L	400	□	Orange	0,5 x 6	150
NSP056L	600	□	Grey	0,5 x 6	150
NSB056L	800	□	Light Blue	0,5 x 6	150
NSW056L	1000	□	White	0,5 x 6	150
NSR056L	1200	□	Pink	0,5 x 6	150
NSE051L	120	□	Light Green	0,5 x 10	150
NSG051L	180	□	Yellow	0,5 x 10	150
NSL051L	300	□	Brown	0,5 x 10	150
NSO051L	400	□	Orange	0,5 x 10	150
NSP051L	600	□	Grey	0,5 x 10	150
NSB051L	800	□	Light Blue	0,5 x 10	150
NSW051L	1000	□	White	0,5 x 10	150
NSO51L	1200	□	Pink	0,5 x 10	150
NSE801L	120	□	Light Green	0,8 x 1	150
NSG801L	180	□	Yellow	0,8 x 1	150
NSL801L	300	□	Brown	0,8 x 1	150
NSO801L	400	□	Orange	0,8 x 1	150
NSP801L	600	□	Grey	0,8 x 1	150
NSB801L	800	□	Light Blue	0,8 x 1	150
NSW801L	1000	□	White	0,8 x 1	150
NSR801L	1200	□	Pink	0,8 x 1	150
NSE082L	120	□	Light Green	0,8 x 2	150

CAD reference point

CERAMIC STONES

NEW SUPER STONES

REF	Grain	Shape	Color	a x b	l
NSG082L	180			0,8 x 2	150
NSL082L	300			0,8 x 2	150
NSO082L	400			0,8 x 2	150
NSP082L	600			0,8 x 2	150
NSB082L	800			0,8 x 2	150
NSW082L	1000			0,8 x 2	150
NSR082L	1200			0,8 x 2	150
NSE084L	120			0,8 x 4	150
NSG084L	180			0,8 x 4	150
NSL084L	300			0,8 x 4	150
NSO084L	400			0,8 x 4	150
NSP084L	600			0,8 x 4	150
NSB084L	800			0,8 x 4	150
NSW084L	1000			0,8 x 4	150
NSR084L	1200			0,8 x 4	150
NSE086L	120			0,8 x 6	150
NSG086L	180			0,8 x 6	150
NSL086L	300			0,8 x 6	150
NSO086L	400			0,8 x 6	150
NSP086L	600			0,8 x 6	150
NSB086L	800			0,8 x 6	150
NSW086L	1000			0,8 x 6	150
NSR086L	1200			0,8 x 6	150
NSE081L	120			0,8 x 10	150
NSG81L	180			0,8 x 10	150
NSL81L	300			0,8 x 10	150
NSO81L	400			0,8 x 10	150
NSP81L	600			0,8 x 10	150
NSB81L	800			0,8 x 10	150
NSW81L	1000			0,8 x 10	150
NSR81L	1200			0,8 x 10	150
NSE101L	120			1,0 x 1	150
NSG101L	180			1,0 x 1	150
NSL101L	300			1,0 x 1	150
NSO101L	400			1,0 x 1	150
NSP101L	600			1,0 x 1	150
NSB101L	800			1,0 x 1	150
NSW101L	1000			1,0 x 1	150
NSR101L	1200			1,0 x 1	150
NSE102L	120			1,0 x 2	150
NSG102L	180			1,0 x 2	150
NSL102L	300			1,0 x 2	150
NSO102L	400			1,0 x 2	150
NSP102L	600			1,0 x 2	150
NSB102L	800			1,0 x 2	150
NSW102L	1000			1,0 x 2	150
NSR102L	1200			1,0 x 2	150
NSE104L	120			1,0 x 4	150
NSG104L	180			1,0 x 4	150
NSL104L	300			1,0 x 4	150
NSO104L	400			1,0 x 4	150
NSP104L	600			1,0 x 4	150
NSB104L	800			1,0 x 4	150
NSW104L	1000			1,0 x 4	150
NSR104L	1200			1,0 x 4	150
NSE106L	120			1,0 x 6	150
NSG106L	180			1,0 x 6	150
NSL106L	300			1,0 x 6	150
NSO106L	400			1,0 x 6	150

NEW SUPER STONES

REF	Grain	Shape	Color	a x b	l
NSP106L	600	□	Grey	1,0 x 6	150
NSB106L	800	□	Light Blue	1,0 x 6	150
NSW106L	1000	□	White	1,0 x 6	150
NSR106L	1200	□	Pink	1,0 x 6	150
NSE110L	120	□	Light Green	1,0 x 10	150
NSG110L	180	□	Yellow	1,0 x 10	150
NSL110L	300	□	Brown	1,0 x 10	150
NSO110L	400	□	Orange	1,0 x 10	150
NSP110L	600	□	Grey	1,0 x 10	150
NSB110L	800	□	Light Blue	1,0 x 10	150
NSW110L	1000	□	White	1,0 x 10	150
NSR110L	1200	□	Pink	1,0 x 10	150
NSE151L	120	□	Light Green	1,5 x 1	150
NSG151L	180	□	Yellow	1,5 x 1	150
NSL151L	300	□	Brown	1,5 x 1	150
NSO151L	400	□	Orange	1,5 x 1	150
NSP151L	600	□	Grey	1,5 x 1	150
NSB151L	800	□	Light Blue	1,5 x 1	150
NSW151L	1000	□	White	1,5 x 1	150
NSR151L	1200	□	Pink	1,5 x 1	150
NSE152L	120	□	Light Green	1,5 x 2	150
NSG152L	180	□	Yellow	1,5 x 2	150
NSL152L	300	□	Brown	1,5 x 2	150
NSO152L	400	□	Orange	1,5 x 2	150
NSP152L	600	□	Grey	1,5 x 2	150
NSB152L	800	□	Light Blue	1,5 x 2	150
NSW152L	1000	□	White	1,5 x 2	150
NSR152L	1200	□	Pink	1,5 x 2	150
NSE154L	120	□	Light Green	1,5 x 4	150
NSG154L	180	□	Yellow	1,5 x 4	150
NSL154L	300	□	Brown	1,5 x 4	150
NSO154L	400	□	Orange	1,5 x 4	150
NSP154L	600	□	Grey	1,5 x 4	150
NSB154L	800	□	Light Blue	1,5 x 4	150
NSW154L	1000	□	White	1,5 x 4	150
NSR154L	1200	□	Pink	1,5 x 4	150
NSE156L	120	□	Light Green	1,5 x 6	150
NSG156L	180	□	Yellow	1,5 x 6	150
NSL156L	300	□	Brown	1,5 x 6	150
NSO156L	400	□	Orange	1,5 x 6	150
NSP156L	600	□	Grey	1,5 x 6	150
NSB156L	800	□	Light Blue	1,5 x 6	150
NSW156L	1000	□	White	1,5 x 6	150
NSR156L	1200	□	Pink	1,5 x 6	150
NSE150L	120	□	Light Green	1,5 x 10	150
NSG150L	180	□	Yellow	1,5 x 10	150
NSL150L	300	□	Brown	1,5 x 10	150
NSO150L	400	□	Orange	1,5 x 10	150
NSP150L	600	□	Grey	1,5 x 10	150
NSB150L	800	□	Light Blue	1,5 x 10	150
NSW150L	1000	□	White	1,5 x 10	150
NSR150L	1200	□	Pink	1,5 x 10	150
NSE202L	120	□	Light Green	2,0 x 2	150
NSG202L	180	□	Yellow	2,0 x 2	150
NSL202L	300	□	Brown	2,0 x 2	150
NSO202L	400	□	Orange	2,0 x 2	150
NSP202L	600	□	Grey	2,0 x 2	150
NSB202L	800	□	Light Blue	2,0 x 2	150
NSW202L	1000	□	White	2,0 x 2	150

CAD reference point

CERAMIC STONES

NEW SUPER STONES

REF	Grain	Shape	Color	a x b	l
NSR202L	1200	□	Red	2,0 x 2	150
NSE204L	120	□	Green	2,0 x 4	150
NSG204L	180	□	Yellow	2,0 x 4	150
NSL204L	300	□	Brown	2,0 x 4	150
NSO204L	400	□	Orange	2,0 x 4	150
NSP204L	600	□	Grey	2,0 x 4	150
NSB204L	800	□	Blue	2,0 x 4	150
NSW204L	1000	□	White	2,0 x 4	150
NSR204L	1200	□	Red	2,0 x 4	150
NSE206L	120	□	Green	2,0 x 6	150
SG206L	180	□	Yellow	2,0 x 6	150
NSL206L	300	□	Brown	2,0 x 6	150
NSO206L	400	□	Orange	2,0 x 6	150
NSP206L	600	□	Grey	2,0 x 6	150
NSB206L	800	□	Blue	2,0 x 6	150
NSW206L	1000	□	White	2,0 x 6	150
NSR206L	1200	□	Red	2,0 x 6	150
NSE210L	120	□	Green	2,0 x 10	150
NSG210L	180	□	Yellow	2,0 x 10	150
NSL210L	300	□	Brown	2,0 x 10	150
NSO210L	400	□	Orange	2,0 x 10	150
NSP210L	600	□	Grey	2,0 x 10	150
NSB210L	800	□	Blue	2,0 x 10	150
NSW210L	1000	□	White	2,0 x 10	150
NSR210L	1200	□	Red	2,0 x 10	150
NSE301L	120	□	Green	3,0 x 1	150
NSG301L	180	□	Yellow	3,0 x 1	150
NSL301L	300	□	Brown	3,0 x 1	150
NSO301L	400	□	Orange	3,0 x 1	150
NSP301L	600	□	Grey	3,0 x 1	150
NSB301L	800	□	Blue	3,0 x 1	150
NSW301L	1000	□	White	3,0 x 1	150
NSR301L	1200	□	Red	3,0 x 1	150
NSE302L	120	□	Green	3,0 x 2	150
NSG302L	180	□	Yellow	3,0 x 2	150
NSL302L	300	□	Brown	3,0 x 2	150
NSO302L	400	□	Orange	3,0 x 2	150
NSP302L	600	□	Grey	3,0 x 2	150
NSB302L	800	□	Blue	3,0 x 2	150
NSW302L	1000	□	White	3,0 x 2	150
NSR302L	1200	□	Red	3,0 x 2	150
NSE304L	120	□	Green	3,0 x 4	150
NSG304L	180	□	Yellow	3,0 x 4	150
NSL304L	300	□	Brown	3,0 x 4	150
NSO304L	400	□	Orange	3,0 x 4	150
NSP304L	600	□	Grey	3,0 x 4	150
NSB304L	800	□	Blue	3,0 x 4	150
NSW304L	1000	□	White	3,0 x 4	150
NSR304L	1200	□	Red	3,0 x 4	150
NSE306L	120	□	Green	3,0 x 6	150
NSG306L	180	□	Yellow	3,0 x 6	150
NSL306L	300	□	Brown	3,0 x 6	150
NSO306L	400	□	Orange	3,0 x 6	150
NSP306L	600	□	Grey	3,0 x 6	150
NSB306L	800	□	Blue	3,0 x 6	150
NSW306L	1000	□	White	3,0 x 6	150
NSR306L	1200	□	Red	3,0 x 6	150
NSE310L	120	□	Green	3,0 x 10	150
NSG310L	180	□	Yellow	3,0 x 10	150

NEW SUPER STONES

REF	Grain	Shape	Color	a x b	l
NSL310L	300	□		3,0 x 10	150
NSO310L	400	□		3,0 x 10	150
NSP310L	600	□		3,0 x 10	150
NSB310L	800	□		3,0 x 10	150
NSW310L	1000	□		3,0 x 10	150
NSR310L	1200	□		3,0 x 10	150
NSED23A	120	○		2,35	50
NSGD23A	180	○		2,35	50
NSLD23A	300	○		2,35	50
NSOD23A	400	○		2,35	50
NSPD23A	600	○		2,35	50
NSBD23A	800	○		2,35	50
NSWD23A	1000	○		2,35	50
NSRD23A	1200	○		2,35	50
NSE D23B	120	○		2,35	100
NSGD23B	180	○		2,35	100
NSLD23B	300	○		2,35	100
NSOD23B	400	○		2,35	100
NSPD23B	600	○		2,35	100
NSBD23B	800	○		2,35	100
NSWD23B	1000	○		2,35	100
NSRD23B	1200	○		2,35	100
NSED23L	120	○		2,35	150
NSGD23L	180	○		2,35	150
NSLD23L	300	○		2,35	150
NSOD23L	400	○		2,35	150
NSPD23L	600	○		2,35	150
NSBD23L	800	○		2,35	150
NSWD23L	1000	○		2,35	150
NSRD23L	1200	○		2,35	150
NSED3A	120	○		3,0	50
NSGD3A	180	○		3,0	50
NSLD3A	300	○		3,0	50
NSOD3A	400	○		3,0	50
NSPD3A	600	○		3,0	50
NSBD3A	800	○		3,0	50
NSWD3A	1000	○		3,0	50
NSRD3A	1200	○		3,0	50
NSED3B	120	○		3,0	100
NSGD3B	180	○		3,0	100
NSLD3B	300	○		3,0	100
NSOD3B	400	○		3,0	100
NSPD3B	600	○		3,0	100
NSBD3B	800	○		3,0	100
NSWD3B	1000	○		3,0	100
NSRD3B	1200	○		3,0	100
NSED3L	120	○		3,0	150
NSGD3L	180	○		3,0	150
NSL D3L	300	○		3,0	150
NSO D3L	400	○		3,0	150
NSP D3L	600	○		3,0	150
NSB D3L	800	○		3,0	150
NSW D3L	1000	○		3,0	150
NSR D3L	1200	○		3,0	150
NSED1A	120	○		3,175	50
NSGD1A	180	○		3,175	50
NSLD1A	300	○		3,175	50
NSOD1A	400	○		3,175	50
NSPD1A	600	○		3,175	50

CAD reference point

CERAMIC STONES

NEW SUPER STONES

REF	Grain	Shape	Color	a x b	l
NSBD1A	800	○		3,175	50
NSWD1A	1000	○		3,175	50
NSRD1A	1200	○		3,175	50
NSED1B	120	○		3,175	100
NSGD1B	180	○		3,175	100
NSLD1B	300	○		3,175	100
NSOD1B	400	○		3,175	100
NSPD1B	600	○		3,175	100
NSBD1B	800	○		3,175	100
NSWD1B	1000	○		3,175	100
NSRD1B	1200	○		3,175	100
NSED1L	120	○		3,175	150
NSGD1L	180	○		3,175	150
NSLD1L	300	○		3,175	150
NSOD1L	400	○		3,175	150
NSPD1L	600	○		3,175	150
NSBD1L	800	○		3,175	150
NSWD1L	1000	○		3,175	150
NSRD1L	1200	○		3,175	150

SUPER DIAMOND STONES **Info**

Application

Super diamond stones SDS are used for surface finishing of moulds. They are also excellently applicable for grinding and polishing of alloyed and non-alloyed tool steels, cast iron, various alloy metals, copper, aluminium, silicon, magnetic materials, stones, plastics, etc.

Shape

SDS stones are of either round or rectangular cross-section.
Lengths: 50 mm, 100 mm

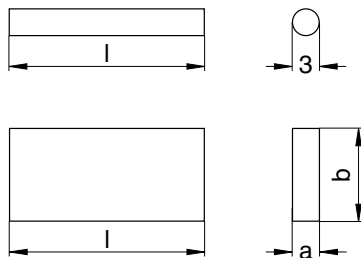
Material

SDS stones are made of a new composite material comprised of long fine ceramic fibres. Diamond grains in different layers are bonded in epoxy resin.

Advantages

- excellent grinding performance
- long life
- highly stable properties
- nearly unbreakable (flexible)
- uniform surface finishing work
- easily profileable

SUPER DIAMOND STONES **SDS ...**



REF	Grain	Shape	a x b	l
SDS142	200	l flat	1,0 x 4	100
SDS144	400	l flat	1,0 x 4	100
SDS146	600	l flat	1,0 x 4	100
SDS162	200	l flat	1,0 x 6	100
SDS164	400	l flat	1,0 x 6	100
SDS166	600	l flat	1,0 x 6	100
SDS112	200	l flat	1,0 x 10	100
SDS114	400	l flat	1,0 x 10	100
SDS116	600	l flat	1,0 x 10	100

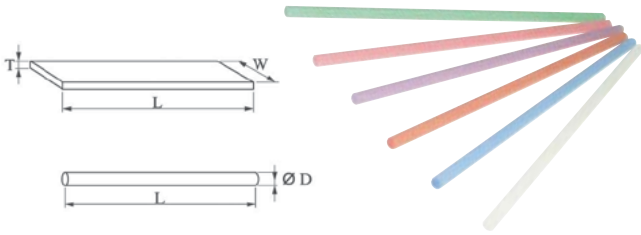
REF	Grain	Shape	Ø	l
SDS32A	200	round	3,0	50
SDS34A	400	round	3,0	50
SDS36A	600	round	3,0	50
SDS32B	200	round	3,0	100
SDS34B	400	round	3,0	100
SDS36B	600	round	3,0	100

CAD reference point

SUPER DIAMOND STONES

CRYSTAL FIBER STONE CRISTONE®

JR...



Made with the highest quality, chemically produced crystal fibers. The crystalline structure of the crystal fibers offers high polishing efficiency and incredible bending strength. These are the perfect stones for detail polishing.

Prices upon request.

Size TxWxL (ØDxL)	#150 ● 40µ	#200 ● 36µ	#400 ● 30µ	#600 ● 20µ	#800 ● 15µ	#1000 ● 10µ	Tool holder
1x2x100	JR150-0102100	JR200-0102100	JR400-0102100	JR600-0102100	JR800-0102100	JR1000-0102100	SSH2
1x4x100	JR150-0104100	JR200-0104100	JR400-0104100	JR600-0104100	JR800-0104100	JR1000-0104100	SSH4
1x6x100	JR150-0106100	JR200-0106100	JR400-0106100	JR600-0106100	JR800-0106100	JR1000-0106100	SSH6
1x10x100	JR150-0110100	JR200-0110100	JR400-0110100	JR600-0110100	JR800-0110100	JR1000-0110100	SSH10
1x13x100	JR150-0113100	JR200-0113100	JR400-0113100	JR600-0113100	JR800-0113100	JR1000-0113100	
Ø3x50	JR150-030050	JR200-030050	JR400-030050	JR600-030050	JR800-030050	JR1000-030050	
Ø3x100	JR150-0300100	JR200-0300100	JR400-0300100	JR600-0300100	JR800-0300100	JR1000-0300100	
Ø2.35x50	JR150-023550	JR200-023550	JR400-023550	JR600-023550	JR800-023550	JR1000-023550	
Ø2.35x100	JR150-0235100	JR200-0235100	JR400-0235100	JR600-0235100	JR800-0235100	JR1000-0235100	
0.3x0.3x100	JR150-0303100	JR200-0303100	JR400-0303100	JR600-0303100	JR800-0303100	JR1000-0303100	SNH05
0.5x0.5x100	JR150-0505100	JR200-0505100	JR400-0505100	JR600-0505100	JR800-0505100	JR1000-0505100	SNH07
0.7x0.7x100	JR150-0707100	JR200-0707100	JR400-0707100	JR600-0707100	JR800-0707100	JR1000-0707100	SNH09
0.9x0.9x100	JR150-0909100	JR200-0909100	JR400-0909100	JR600-0909100	JR800-0909100	JR1000-0909100	SNH13



ABRASIVE & HIGH GLOSS POLISHING



ABRASIVES

COMPARISON TABLE

Info

Grain size	µm
100	200 - 250
150	150 - 200
200	100 - 150
300	40 - 60
400	30 - 40
600	20 - 30

Grain size	µm
1000	8 - 10
2000	3 - 8
3000	2 - 6
4000	2 - 4
6000	0 - 3
8000	0 - 1

ABRASIVE BELT ROLLS

RO 601... - RO 605... - RO 801...


Features:

- Abrasive material: Corundum
- Grain support: RO 601 and RO 605 flexible linen fabric. Ro 801 paper
- Length: 50 m per roll

REF	Grain	Width
RO801K800	800	25
RO801K1000	1000	25
RO801K1200	1200	25
RO801K1500	1500	25

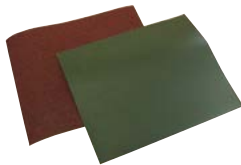
REF	Grain	Width
RO601K040	40	25
RO601K050	50	25
RO601K060	60	25
RO601K080	80	25
RO601K100	100	25
RO601K120	120	25
RO601K150	150	25
RO601K180	180	25
RO601K220	220	25
RO601K240	240	25

REF	Grain	Width
RO601K280	280	25
RO601K320	320	25
RO601K400	400	25
RO601K500	500	25
RO601K600	600	25
RO605K040	40	50
RO605K050	50	50
RO605K060	60	50
RO605K080	80	50
RO605K100	100	50

REF	Grain	Width
RO605K120	120	50
RO605K150	150	50
RO605K180	180	50
RO605K220	220	50
RO605K240	240	50
RO605K280	280	50
RO605K320	320	50
RO605K400	400	50
RO605K500	500	50
RO605K600	600	50

ABRASIVE CLOTH, ABRASIVE PAPER

BO 602.... - BO 802...


Features:

- Width x Length: 230 x 280 mm
- Abrasive material: Corundum
- Grain support: BO 602 flexible linen fabric. Bo 802 paper

REF	Grain	
BO602K040	40	50
BO602K050	50	50
BO602K060	60	50
BO602K080	80	50
BO602K100	100	50
BO602K120	120	50
BO602K150	150	50
BO602K180	180	50
BO602K220	220	50
BO602K240	240	50

REF	Grain	
BO602K280	280	50
BO602K320	320	50
BO602K400	400	50
BO602K500	500	50
BO602K600	600	50
BO802K800	800	50
BO802K1000	1000	50
BO802K1200	1200	50
BO802K1500	1500	50

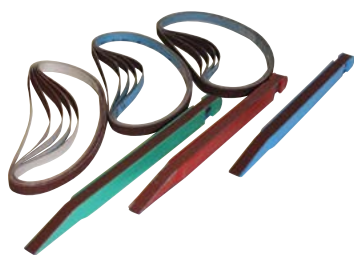
ABRASIVE BELT AND HOLDER **BS 21**



- Includes:**
- Kit, composed of 21 items
 - width = 6,5 mm
 - 3 holders furnished with abrasive belts with grain of 120, 240 and 320 each
 - 15 additional abrasive belts with grain of 120, 240, 320, always 5 of each.

REF
BS21

ABRASIVE BELT AND HOLDER **BS 36**



- Includes:**
- Kit, composed of 36 items
 - width = 6,5 mm
 - 3 holders + abrasive belts, grain 120, 240 and 320 each
 - 30 additional abrasive belts, grain 120, 240, 320, always 10 of each.

REF
BS36

ABRASIVE BELT AND HOLDER **BS 60**



- Includes:**
- Kit, composed of 60 items
 - width = 6,5 mm
 - 5 holders + abrasive belts, grain 120, 240, 320, 400, 600 each
 - 50 additional abrasive belts, grain 120, 240, 320, 400, 600, always 10 of each.

REF
BS60

BELT HOLDER **BS 806**



REF	for width	
BS806065	6,5 mm	5

ABRASIVE BELTS **BS 7 ...**



REF	for width	grain	
BS701065120	6,5	120	10
BS702065240	6,5	240	10
BS703065320	6,5	320	10
BS704065400	6,5	400	10
BS705065600	6,5	600	10

ABRASIVE BELTS **B 0 ...**



Material: Standard corundum
For belt sander handpiece BS 33

Order example for first item (REF + Grain): B04K080

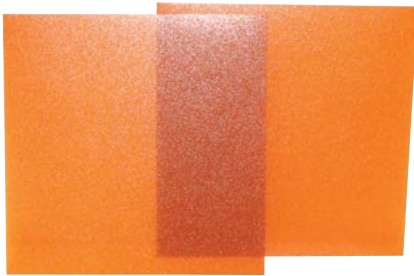
REF	Grain						Dimensions	
	80	120	240	320	500	800		
B04K0	•	•	•	•	•		4 x 300	20
B06K0	•	•	•	•	•		6 x 300	20
B08K0	•	•	•	•	•	•	8 x 300	20

CAD reference point

ABRASIVES

DIAMOND FOIL ON FLEXIBLE PLASTIC FILM

DF 30 ...


Features:

- Carrier: polyamide
- Type: A = standard, B = self-adhesive


REF	Grain	Type	Foil color	a x b	Thickness
DF30K0150A	150	A	Orange	100 x 100	0,1
DF30K0150B	150	B	Orange	100 x 100	0,1
DF30K0220A	220	A	Light Green	100 x 100	0,1
DF30K0220B	220	B	Light Green	100 x 100	0,1
DF30K0280A	280	A	Brown	100 x 100	0,1
DF30K0280B	280	B	Brown	100 x 100	0,1
DF30K0400A	400	A	Dark Brown	100 x 100	0,1
DF30K0400B	400	B	Dark Brown	100 x 100	0,1
DF30K0800A	800	A	Red	100 x 100	0,1
DF30K0800B	800	B	Red	100 x 100	0,1
DF30K1500A	1500	A	Red	100 x 100	0,1
DF30K1500B	1500	B	Red	100 x 100	0,1
DF30K3000A	3000	A	Dark Green	100 x 100	0,1
DF30K3000B	3000	B	Dark Green	100 x 100	0,1
DF30K5000A	5000	A	Light Green	100 x 100	0,1
DF30K5000B	5000	B	Light Green	100 x 100	0,1
DF30K10000A	10 000	A	Yellow	100 x 100	0,1
DF30K10000B	10 000	B	Yellow	100 x 100	0,1

DIAMOND PASTE

DP 20



Natural-diamond, heavy concentration, oil-alcohol soluble base.


REF	Grain size μm	Color of paste	
DP20025MY5GR	0,25	Dark Grey	5 gr
DP2001MY5GR	1	Blue	5 gr
DP2003MY5GR	3	Light Green	5 gr
DP2006MY5GR	6	Yellow	5 gr
DP2009MY5GR	9	Red	5 gr
DP2012MY5GR	12	Brown	5 gr
DP2015MY5GR	15	Dark Brown	5 gr
DP2023MY5GR	23	Dark Brown	5 gr
DP2030MY5GR	30	Purple	5 gr
DP2050MY5GR	50	Purple	5 gr
DP2070MY5GR	70	Purple	5 gr
DP20100MY5GR	100	Purple	5 gr

DIAMOND PASTE

DP 30



Synthetic-diamond, heavy concentration, oil-alcohol soluble base.

REF	Grain size μm	Color of paste	
DP30M003MY5GR	3	Light Green	5 gr
DP30M006MY5GR	6	Yellow	5 gr
DP30M009MY5GR	9	Red	5 gr
DP30M012MY5GR	12	Brown	5 gr
DP30M015MY5GR	15	Dark Brown	5 gr
DP30M023MY5GR	23	Dark Brown	5 gr
DP30M030MY5GR	30	Purple	5 gr
DP30M050MY5GR	50	Purple	5 gr

DIAMOND SPRAY **DP 25**



REF	Grain size μm	Color of paste	
DP25025MY150GR	0,25		150 gr
DP2501MY150GR	1		150 gr
DP2503MY150GR	3		150 gr
DP2506MY150GR	6		150 gr
DP2509MY150GR	9		150 gr
DP2512MY150GR	12		150 gr
DP2515MY150GR	15		150 gr
DP2523MY150GR	23		150 gr
DP2530MY150GR	30		150 gr

DILUENT **F 25 / F 125**



For the dilution of oil-alcohol soluble diamond pastes, and for cooling and increasing the free cutting of diamond and polishing stones in connection with ultrasonic work.

REF	
F25	0,1 l
F125	1,0 l

LAPPING AND POLISHING BARS **LP ...**



Support for diamond pastes

REF	Grain μm	Dimensions	l	Material	
LP1005	6 - 15	\emptyset 5	150	plexiglass	10
LP1010	6 - 15	\emptyset 10	150	plexiglass	10
LP100407	6 - 15	4 x 7	150	plexiglass	10
LP100420	6 - 15	4 x 20	150	plexiglass	10
LP1206	6 - 30	\emptyset 6	150	laminated wood	10
LP1210	6 - 30	\emptyset 10	150	laminated wood	10
LP120606	6 - 30	6 x 6	150	laminated wood	10
LP1405	6 - 9	\emptyset 5	150	hardwood	10
LP1410	6 - 9	\emptyset 10	150	hardwood	10
LP140407	6 - 9	4 x 7	150	hardwood	10
LP140415	6 - 9	4 x 15	150	hardwood	10
LP140420	6 - 9	4 x 20	150	hardwood	10
LP1503	3 - 9	\emptyset 3	150	medium wood	10
LP1605	3	\emptyset 5	150	soft wood	10
LP1610	3	\emptyset 10	150	soft wood	10
LP160407	3	4 x 7	150	soft wood	10
LP160415	3	4 x 15	150	soft wood	10
LP160420	3	4 x 20	150	soft wood	10

MOULD FINISH COMPARISON KIT

MOULD FINISH COMPARISON KIT

MFK 1200

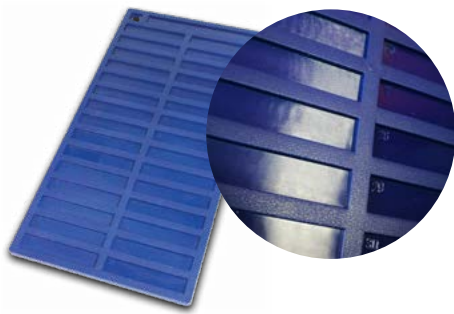

Expanded version - 12 samples finished to SPI standards

- 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.

REF
MFK1200

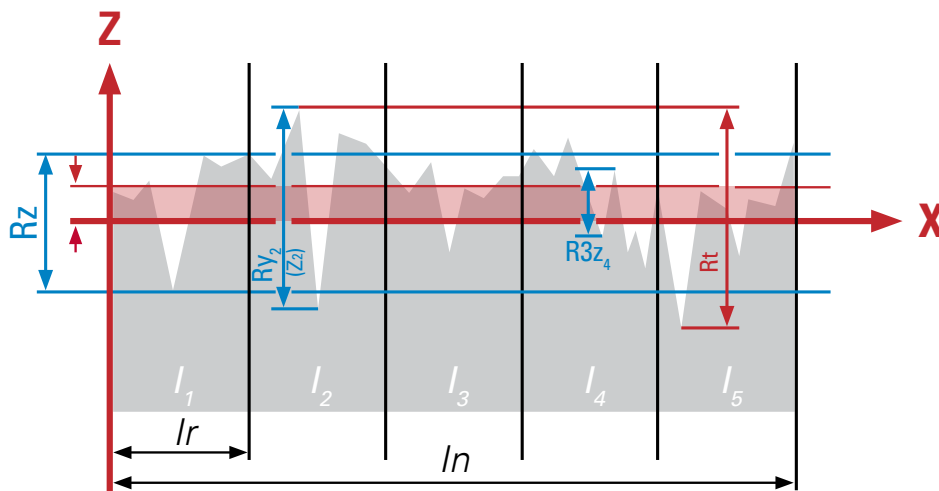
Finish Type	Description	Roughness average Micro-inches	Roughness average Micron	Comments
A1	Grade 3 diamond buff	0-1	0-0,025	<ul style="list-style-type: none"> • For mirror or optical finishes • Most time consuming • Steel grade important to results • (Steel DME 6 and 7 recommended)
A2	Grade 6 diamond 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	<ul style="list-style-type: none"> • Removes all tool and machining marks • Provides good mould release • Light reflecting finish on molded 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	<ul style="list-style-type: none"> • Removes all tool and machining marks • Provides good mold release • 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	<ul style="list-style-type: none"> • For decorative finishes • Often used for diecast and thermo-set 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	

POLISHING SAMPLE PLATE



Surface characteristics for determining the roughness of a profile (starting from a measuring section l_n , consisting of five individual segments l_r)

- Ra: Average roughness
- R3z: Third Maximum Peak-to-Valley Height
- Rt: Total height of the profile
- Ry: Smaximum Height
- Rz: Averaged roughness of the profile



Grade	Quality	Roughness		Gloss degree	DME
Abrasive finish					
1	Grain 80 Abrasive finishing	Ra	1,27	17,20%	DME : RO 601 / RO 605 / RO 801 / PS600
		R3z	5,4		
		Rt	12,3		
		Ry	10,1		
		Rz	8,6		
2	Grain 120 Abrasive finishing	Ra	0,7	21,20%	
		R3z	3,2		
		Rt	7,1		
		Ry	7		
		Rz	5,7		
3	Grain 80 Abrasive finishing	Ra	0,43	19,50%	
		R3z	2,4		
		Rt	4,4		
		Ry	3,7		
		Rz	3,1		
4	Grain 220 Abrasive finishing	Ra	0,46	19,50%	
		R3z	2,1		
		Rt	4,3		
		Ry	3,8		
		Rz	3,1		
5	Grain 320 Abrasive finishing	Ra	0,27	24,50%	
		R3z	1,5		
		Rt	2,5		
		Ry	2,3		
		Rz	2,1		
6	Grain 400 Abrasive finishing	Ra	0,23	23,10%	
		R3z	1,4		
		Rt	2,2		
		Ry	2,1		
		Rz	1,9		

Grade	Quality	Roughness		Gloss degree	DME
Abrasive finish					
7	Grain 500 Abrasive finishing	Ra	0,17	26,20%	DME : RO 601 / RO 605 / RO 801 / PS600
		R3z	0,9		
		Rt	1,7		
		Ry	1,6		
		Rz	1,4		
8	Grain 600 Abrasive finishing	Ra	0,13	30,00%	
		R3z	0,6		
		Rt	1,4		
		Ry	1,2		
		Rz	0,9		
9	Grain 800 Abrasive finishing	Ra	0,13	36,80%	
		R3z	0,5		
		Rt	1		
		Ry	0,9		
		Rz	0,7		
10	Grain 1000 Abrasive finishing	Ra	0,12	52,70%	
		R3z	peak		
		Rt	0,9		
		Ry	0,8		
		Rz	0,6		
Oilstone finish					
11	Grain 100 stone	Ra	0,65	12,50%	DME : PT650
		R3z	3,2		
		Rt	6		
		Ry	5,6		
		Rz	4,8		

CAD reference point

POLISHING SAMPLE PLATTE

POLISHING SAMPLE PLATTE

PSP001

Grade	Quality	Roughness		Gloss degree	DME
Abrasive finish					
12	Grain 220 stone	Ra	0,71	12,90%	DME : PT650
		R3z	3,7		
		Rt	6		
		Ry	5,9		
		Rz	5,4		
13	Grain 320 stone	Ra	0,51	19,10%	
		R3z	2,9		
		Rt	5,3		
		Ry	5,3		
		Rz	4,3		
14	Grain 400 stone	Ra	0,32	16,20%	
		R3z	1,7		
		Rt	3		
		Ry	2,5		
		Rz	2,3		
15	Grain 600 stone	Ra	0,2	18,20%	
		R3z	1,2		
		Rt	1,9		
		Ry	1,8		
		Rz	1,6		
16	Grain 400 stone	Ra	0,14	38,40%	
		R3z	0,5		
		Rt	1,4		
		Ry	1		
		Rz	0,9		
17	Grain 1000 stone	Ra	0,2	44,30%	
		R3z	peak		
		Rt	1,3		
		Ry	0,8		
		Rz	0,7		
Polishing grades up to mirror finish					
20	Brush, very hard 25 μ	Ra	0,25	53,40%	Brush Messing + Diamantpaste DP20
		R3z	0,8		
		Rt	1,6		
		Ry	1,6		
		Rz	1,6		
21	Brush, hard 15 μ	Ra	0,22	40,30%	DME OTM Orbi-Tip Ms. + DP20 Filz FPK304 + DP 20
		R3z	0,7		
		Rt	1,6		
		Ry	1,3		
		Rz	1,1		
22	Brush, hard 6 μ	Ra	0,12	41,60 &	
		R3z	0,3		
		Rt	0,8		
		Ry	0,8		
		Rz	0,6		
23	Brush, soft 3 μ	Ra	0,14	56,00%	
		R3z	0,3		
		Rt	0,9		
		Ry	0,6		
		Rz	0,5		

Grade	Quality	Roughness		Gloss degree	DME
Abrasive finish					
24	Polishing rings 25 μ	Ra	0,08	52,80%	DME OTM Orbi-Tip Ms. + DP20 Filz FPK304 + DP 20
		R3z	0,03		
		Rt	0,6		
		Ry	0,6		
		Rz	0,5		
25	Polishing rings 15 μ	Ra	0,1	48,80%	
		R3z	peak		
		Rt	0,7		
		Ry	0,6		
		Rz	0,3		
26	Polishing rings 6 μ	Ra	0,05	45,50%	
		R3z	peak		
		Rt	0,6		
		Ry	0,5		
		Rz	0,3		
27	Gloss 45 μ	Ra	0,05	63,80%	
		R3z	0,3		
		Rt	0,3		
		Ry	0,3		
		Rz	0,3		
28	Gloss 15 μ	Ra	0,05	63,40%	
		R3z	0,3		
		Rt	0,3		
		Ry	0,3		
		Rz	0,3		
29	Mirror finish 6 μ	Ra	0,06	61,20%	
		R3z	peak		
		Rt	0,4		
		Ry	0,3		
		Rz	0,3		
30	Mirror finish 3 μ	Ra	0,05	66,60%	
		R3z	peak		
		Rt	0,3		
		Ry	0,3		
		Rz	0,3		



ABRASIVE POLISHING STICKS, GRINDING WHEELS



MOUNTED POINTS

MOUNTED POINTS (ORANGE)

SCHL 1400 ...


Features:

- Material: EKWbr
- Vmax 55.000 min⁻¹
- Non-tempered steels, structural steels, forged steel, low alloy steels

REF	Head Ø	Head length	Shank Ø	Shank l		Shape
SCHL14000205	2	5	3	30	20	
SCHL14000306	3	6	3	30	20	
SCHL14000408	4	8	3	30	20	
SCHL14000510	5	10	3	30	20	
SCHL14000610	6	10	3	30	20	
SCHL14000810	8	10	3	30	20	
SCHL14001010	10	10	3	30	20	
SCHL14001013	10	13	3	30	20	
SCHL14001313	13	13	3	30	20	
SCHL14001616	16	16	3	30	20	
SCHL14001604	16	4	3	30	20	
SCHL14002006	20	6	3	30	20	
SCHL140006	Ø 6	-	3	30	20	
SCHL140008	Ø 8	-	3	30	20	
SCHL140010	Ø 10	-	3	30	20	
SCHL140013	Ø 13	-	3	30	20	

MOUNTED POINTS (PINK)

SCHL 1410 ...


Features:

- Material: EKR
- Vmax 55.000 min⁻¹
- Tempered steels, alloy steels, cast iron, malleable cast iron, casting steel

REF	Head Ø	Head length	Shank Ø	Shank l		Shape
SCHL14100205	2	5	3	30	20	
SCHL14100306	3	6	3	30	20	
SCHL14100408	4	8	3	30	20	
SCHL14100510	5	10	3	30	20	
SCHL14100610	6	10	3	30	20	
SCHL14100810	8	10	3	30	20	
SCHL14101010	10	10	3	30	20	
SCHL14101303	10	13	3	30	20	
SCHL14101313	13	13	3	30	20	
SCHL14101616	16	16	3	30	20	
SCHL14101303	13	3	3	30	20	
SCHL14101604	16	4	3	30	20	
SCHL14102006	20	6	3	30	20	
SCHL141006	Ø 6	-	3	30	20	
SCHL141008	Ø 8	-	3	30	20	
SCHL141010	Ø 10	-	3	30	20	
SCHL141013	Ø 13	-	3	30	20	

MOUNTED POINTS (DARK RED) SCHL 1430 ...



- Features:**
- Material: EKD, resin impregnation
 - Vmax 55.000 min⁻¹
 - Heat treated, high alloy and heat resisting steels

REF	Head Ø	Head length	Shank Ø	Shank l		Shape
SCHL14300205	2	5	3	30	20	
SCHL14300306	3	6	3	30	20	
SCHL14300408	4	8	3	30	20	
SCHL14300510	5	10	3	30	20	
SCHL14300610	6	10	3	30	20	
SCHL14300810	8	10	3	30	20	
SCHL14301010	10	10	3	30	20	
SCHL14301013	10	13	3	30	20	

MOUNTED POINTS (GREEN) SCHL 1440 ...



- Features:**
- Material: SIC
 - Vmax 55.000 min⁻¹
 - Solid carbide, high alloy steels, glass, ceramics, chilled casting

REF	Head Ø	Head length	Shank Ø	Shank l		Shape
SCHL14400306	3	6	3	30	20	
SCHL14400408	4	8	3	30	20	
SCHL14400510	5	10	3	30	20	
SCHL14400610	6	10	3	30	20	
SCHL14400810	8	10	3	30	20	
SCHL14401010	10	10	3	30	20	

DIPROFIL DIAMOND GRINDING POINTS, ELECTRO BOND D ... H3

REF	Head Ø D	Head length T	Shank Ø	Total length L	Grain		Shape
D0308LH3	0,8	4,0	3	46 B = 7	D 107	1	
D0310LH3	1,0	4,0		46 B = 8	D 107		
D0315LH3	1,5	4,0		46 B = 10	D 107		
D0320LH3	2,0	5,0		46 B = 14	D 151		
D0320LH3D064	2,0	5,0		46 B = 14	D 64		
D0325LH3	2,5	5,0		46 B = 19	D 151		
D1325H3	2,5	7,0		46 B = 19	D 151		
D0330LH3	3,0	5,0		46 B = 19	D 151		
D0330LH3D064	3,0	5,0		46 B = 19	D 64		
D0335LH3	3,5	5,0		3	44		
D0340LH3	4,0	5,0	44				
D0345LH3	4,5	5,0	44				
D0350LH3	5,0	6,0	45				
D0352H3	5,5	6,0	45				
D0354H3	6,0	6,0	45				
D1354H3	6,0	10,0	49				

CAD reference point



DIAMOND GRINDING POINTS

DIPROFIL DIAMOND GRINDING POINTS, ELECTRO BOND

D ... H3

REF	Head Ø D	Head length T	Shank Ø	Total length L	Grain		Shape
D6258H3	7,0 d = 4,5 R = 10	10,0	3	49	D 151	1	
D6054H3	6,0 R = 3	10,0	3	49	D 151	1	
D0116H3	1,7	-	3	46	D 151	1	
D0116H3D064	1,7				D 64		
D0120H3	2,1				D 151		
D0124H3	2,5				D 151		
D0130H3	3,0				D 151		
D0130H3D064	3,0				D 64		
D0140H3	4,1				D 151		
D0150H3	5,0				D 151		
D0154H3	6,0				D 151		
D0916	1,6 R = 45				7,5		
D0916L	1,6 R = 45	10,0	D 151				
D0916L	1,6 R = 45	10,0	D 64				
D0924	2,4 R = 30	7,5	D 151				
D0924L	2,4 R = 30	10,0	D 151				
D0924L	2,4 R = 30	10,0	D 64				
D5830	3,1 a = 30°	5,0	3	46	D 151	1	
D5830	3,1 a = 30°	5,0		46	D 64		
D5562	8,0 a = 90°	3,9		43,2	D 151		
D5662	8,0 a = 60°	6,6		45,9	D 151		
D0712	1,3 d = 0,7 a = 4°	9,0	3	46	D 151	1	
D0716	1,6 d = 0,8 a = 5°				D 151		
D0720	1,9 d = 1,1 a = 5°				D 151		
D0720	1,9 d = 1,1 a = 5°				D 64		
D0516L	1,6 d = 0,9 a = 4°	10,0	3	46	D 151	1	
D0521L	2,1 d = 1,4 a = 4°	10,0		46	D 151		
D0521L	2,1 d = 1,4 a = 4°	10,0		46	D 64		
D0526	2,6 d = 1,75 a = 4°	3,0		46	D 151		
D5858	7,0 d = 2,0 a = 30°	10,0		49	D 151		
D5756	8,0 d = 1,4 a = 45°	8,5		47,5	D 151		

DIPROFIL DIAMOND GRINDING POINTS, ELECTRO BOND **D ... H3**

REF	Head Ø D	Head length T	Shank Ø	Total length L	Grain		Shape
D0954H3	6,0 R = 17	10,0	3	49	D 151	1	
D0224H3	2,4 d = 1,5 a = 20°	3,0	3	46	D 151	1	
D0224H3D064	2,4 d = 1,5 a = 20°	3,0		46	D 64		
D5456H3	6,5 d = 3,5 a = 15°	10,0		49	D 151		
D5062H3	8,0 d = 3,0 a = 90°	2,15		42	D 151		
D6154H3	6,0 d = 3,5 a = 20° R = 3	10,0	3	49	D 151	1	
D1525H3	7,3	0,8	3	40	D 151	1	

DIAMOND GRINDING POINTS

BORAZON GRINDING POINTS

BS 150 ...


Features:

- Shank quenched and subsequently drawn and ground.
- Truth of running: 4 µm
- Vmax: 55.000 min⁻¹

Order example for first item (REF + Grain): BS15000855B064

REF	Grain		Total length	Head Ø	Head length	Shank Ø	
	064	151					
BS15000855B	•		55	0,8	4	3	1
BS15001055B	•		55	1,0	4	3	1
BS15001355B	•		55	1,3	4	3	1
BS15001555B	•	•	55	1,5	4	3	1
BS15001855B	•		55	1,8	4	3	1
BS15002055B	•	•	55	2,0	4	3	1
BS15002555B	•	•	55	2,5	4	3	1
BS15003555B	•	•	55	3,0	5	3	1
BS15003090B	•	•	90	3,0	4	6	1
BS15003555B	•	•	55	3,5	5	3	1
BS15004055B	•	•	55	4,0	5	3	1
BS15004090B	•	•	90	4,0	5	6	1
BS15005055B	•	•	55	4,0	5	3	1
BS15005090B	•	•	90	5,0	5	6	1
BS15006075B	•	•	75	6,0	7	6	1
BS15006090B	•	•	90	6,0	7	6	1
BS15008075B	•	•	75	8,0	8	6	1
BS15010090B	•	•	90	10,0	10	6	1
BS15012090B	•	•	90	12,0	10	10	1
BS15015090B	•	•	90	15,0	10	10	1

DIAMOND GRINDING POINTS

DS 150 ...

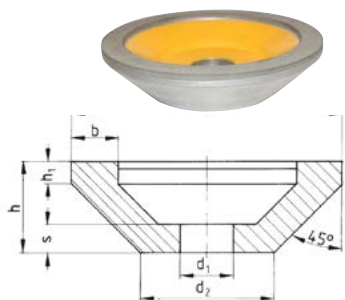

Features:

- Shank quenched and subsequently drawn and ground.
- Truth of running: 4 µm
- Vmax: 40.000 min⁻¹

Order example for first item (REF + Grain): DS15000855D091

REF	Grain		Total length	Head Ø	Head length	Shank Ø	
	091	151					
DS15000855D	•		55	0,8	4	3	1
DS15001055D	•		55	1,0	4	3	1
DS15001355D	•		55	1,3	4	3	1
DS15001555D	•	•	55	1,5	4	3	1
DS15001855D	•	•	55	1,8	4	3	1
DS15002055D	•	•	55	2,0	4	3	1
DS15002555D	•	•	55	2,5	4	3	1
DS15003055D	•	•	55	3,0	5	3	1
DS15003090D	•	•	90	3,0	4	6	1
DS15003555D	•	•	55	3,5	5	3	1
DS15004055D	•	•	55	4,0	5	3	1
DS15004090D	•	•	90	4,0	5	6	1
DS15005090D	•	•	90	5,0	5	6	1
DS15006075D	•	•	75	6,0	7	6	1
DS15006090D	•	•	90	6,0	7	6	1
DS15008075D	•	•	75	8,0	8	6	1
DS15010090D	•	•	90	10,0	10	6	1
DS15012090D	•	•	90	12,0	10	10	1
DS15015090D	•	•	90	15,0	10	10	1

DIAMOND GRINDING WHEELS, FORM A **DT 12**

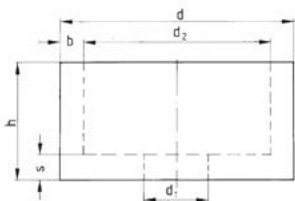
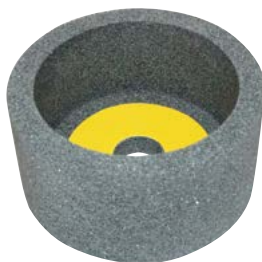


- Features:**
- Electro-bond = 1
Vmax: 7.000 min⁻¹ (wet and dry grinding)
 - Resin-bond = 2
Vmax: 7.000 min⁻¹ (wet grinding)
Vmax: 7.000 min⁻¹ (dry grinding)
 - Metal-bond = 3
Vmax: 7.000 min⁻¹ (wet and dry grinding)

Order example for first item (REF + Grain): DT121D091

REF	Grain		Bond	d	d1	d2	h	h1	b	s	
	091	126									
DT121D	•	•	1	100	20	56	23	-	10	10	1
DT122D	•	•	2	100	20	56	23	2	10	10	1
DT123D	•	•	3	100	20	56	23	1	10	10	1

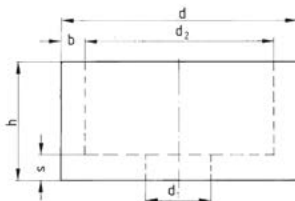
SICGR GRINDING WHEELS, FORM D **DT 13**



- Features:**
- Specially to grind solid carbide
Vmax: 30.000 min⁻¹
 - Composition: 39C 60 KVS

REF	d	d1	d2	h	h1	b	s	
DT13	100	20	-	50	-	10	~10	1

EKW GRINDING WHEELS, FORM D **DT 14**



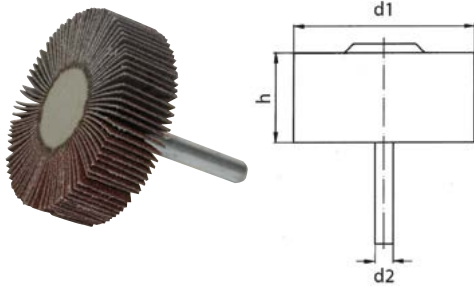
- Features:**
- With edge hardening
Vmax: 30.000 min⁻¹
 - Composition: 30A 80K 8 V74

REF	d	d1	d2	h	h1	b	s	
DT14	100	20	-	50	-	~10	~12.5	1

GRINDING WHEELS

FLAT GRINDERS

FS ...


Features:

- Material: Abrasive cloth
Vmax: 35.000 min⁻¹
- For the machining of: forged steel, grey/malleable cast iron, carbon steel, deep-drawing steel, strip steel, castings, non-ferrous metals

Order example for first item (REF + Grain): FS1010K080

REF	Grain				d1	d2	h	n max (min-1)	
	080	120	180	240					
FS1010K	•	•	•	•	10	3	10	35.000	1
FS1510K	•		•	•	15	3	10	35.000	1
FS1515K	•	•	•	•	15	3	15	35.000	1
FS1520K	•	•	•	•	15	3	20	35.000	1
FS1525K	•	•	•	•	15	3	25	35.000	1
FS1530K	•	•		•	15	3	30	35.000	1
FS2003K	•	•	•	•	20	3	3	35.000	1
FS2005K	•	•	•	•	20	3	5	35.000	1
FS2010K	•	•	•	•	20	3	10	30.000	1
FS2015K	•	•	•	•	20	3	15	30.000	1
FS2020K	•	•		•	20	3	20	30.000	1
FS2025K	•	•	•	•	20	3	25	30.000	1
FS2030K	•	•	•	•	20	3	30	30.000	1
FS2503K	•	•	•	•	25	3	3	26.000	1
FS2505K	•	•	•	•	25	3	5	26.000	1
FS2510K	•	•	•	•	25	3	10	26.000	1
FS2515K	•	•	•	•	25	3	15	26.000	1
FS2520K	•	•	•	•	25	3	20	26.000	1
FS2525K	•	•	•	•	25	3	25	26.000	1
FS2530K	•	•	•	•	25	3	30	26.000	1
FS3005K			•	•	30	3	5	12.000	1
FS3010K			•	•	30	3	10	12.000	1
FS4010K			•		40	3	10	9.000	1
FS4015K			•		40	6	15	20.000	1
FS5010K	•	•	•	•	50	6	10	7.000	1
FS5015K	•	•	•	•	50	6	15	7.000	1
FS6015K	•	•	•	•	60	6	15	6.000	1
FS6020K	•	•	•	•	60	6	20	6.000	1
FS6030K	•	•	•	•	60	6	30	6.000	1
FS6040K	•	•	•	•	60	6	40	6.000	1
FS6050K	•	•	•	•	60	6	50	6.000	1

POLISHING/GRINDING PINS (RED) **PK 1345 ...**



Features:

- Soft rubber bond - soft grinding, high surface finish quality, low chip production
- Vmax: 15.000 min⁻¹

REF	Head Ø	Head length	Shank Ø	Total length	Grain		Shape
PK13450408	4	8	3	38	120	20	
PK13450510	5	10	3	40	120	20	
PK13450610	6	10	3	40	120	20	
PK13450810	8	10	3	40	120	20	
PK13451010	10	10	3	40	120	20	
PK13451313	13	13	3	43	120	20	
PK13451316	13	16	3	46	120	20	
PK13451616	16	16	3	46	120	20	
PK13450816	8	16	6	56	120	20	
PK13451020	10	20	6	60	120	20	
PK13451320	13	20	6	60	120	20	
PK13451620	16	20	6	60	120	20	
PK13451632	16	32	6	72	120	20	
PK13452020	20	20	6	60	120	20	
PK13452032	20	32	6	72	120	20	
PK13453232	32	32	6	72	120	20	
PK13453210	32	10	6	50	120	20	
PK13454010	40	10	6	50	120	20	
PK13453216	32	16	6	56	120	20	
PK13453220	32	20	6	60	120	20	
PK13454020	40	20	6	60	120	20	
PK13451320	13	20	6	60	120	20	
PK134508KU	Ø 8	-	3	38	120	20	
PK134510KU	Ø 10	-	3	40	120	20	
PK134516KU	Ø 16	-	6	55	120	20	
PK13451632	16	32	6	72	120	20	
PK13451020	10	20	6	60	120	20	

GRINDING PINS

POLISHING/GRINDING PINS (BROWN)

PK 1350 ...


Features:

- Soft rubber bond - soft grinding, high surface finish quality, low chip production
- Vmax: 15.000 min⁻¹

REF	Head Ø	Head length	Shank Ø	Total length	Grain		Shape
PK13500408	4	8	3	38	220	20	
PK13500510	5	10	3	40	220	20	
PK13500610	6	10	3	40	220	20	
PK13500810	8	10	3	40	220	20	
PK13500816	10	10	3	40	220	20	
PK13501313	13	13	3	43	220	20	
PK13501616	16	16	3	46	220	20	
PK13500816	8	16	6	56	220	20	
PK13501020	10	20	6	60	220	20	
PK13501320	13	20	6	60	220	20	
PK13501620	16	20	6	60	220	20	
PK13501632	16	32	6	72	220	20	
PK13502020	20	20	6	60	220	20	
PK13502032	20	32	6	72	220	20	
PK13503210	32	10	6	50	220	20	
PK13502032	20	32	6	60	220	20	
PK135016	Ø 16	-	6	55	220	20	

POLISHING/GRINDING PINS (GREEN)

PK 1360 ...


Features:

- Soft rubber bond - soft grinding, high surface finish quality, low chip production
- Vmax 15.000 min⁻¹

REF	Head Ø	Head length	Shank Ø	Total length	Grain		Shape
PK13600408	4	8	3	38	280	20	
PK13600510	5	10	3	40	280	20	
PK13600610	6	10	3	40	280	20	
PK13600810	8	10	3	40	280	20	
PK13601010	10	10	3	40	280	20	
PK13601313	13	13	3	43	280	20	
PK13601616	16	16	3	46	280	20	
PK13600816	8	16	6	56	280	20	
PK13601020	10	20	6	60	280	20	
PK13601320	13	20	6	60	280	20	
PK13601620	16	20	6	60	280	20	
PK13602020	20	20	6	60	280	20	
PK13602032	20	32	6	72	280	20	
PK13603232	32	32	6	72	280	20	
PK13603210	32	10	6	50	280	20	
PK13604010	40	10	6	50	280	20	
PK13603216	32	16	6	56	280	20	
PK13603220	32	20	6	60	280	20	
PK13604020	40	20	6	60	280	20	



POLISHING/GRINDING PINS (BROWN) **PK 1370 ... - PK 1375 ...**



Features:

- Hard rubber bond - grinding of cast iron, hardened, non-hardened, alloy, and non-alloy steels.
- Vmax 15.000 min⁻¹

REF	Head Ø	Head length	Shank Ø	Total length	Grain		Shape
PK13700408	4	8	3	38	100	20	
PK13700510	5	10	3	40	100	20	
PK13700610	6	10	3	40	100	20	
PK13700810	8	10	3	40	100	20	
PK13700816	8	16	6	56	100	20	
PK13701010	10	10	3	40	100	20	
PK13701013	10	13	3	43	100	20	
PK13701016	10	16	3	46	100	20	
PK13701020	10	20	6	60	100	20	
PK13701313	13	13	3	43	100	20	
PK13701316	13	16	3	46	100	20	
PK13701320	13	20	6	60	100	20	
PK13701616	16	16	3	46	100	20	
PK13701620	16	20	6	60	100	20	
PK13701632	16	32	6	72	100	20	
PK13702020	20	20	6	60	100	20	
PK13702032	20	32	6	60	100	20	
PK13701303	13	3	3	33	100	20	
PK13701604	16	4	3	34	100	20	
PK13702006	20	6	6	72	100	20	
PK13703210	32	10	3	36	100	20	
PK13701632	16	32	6	72	100	20	
PK137008	Ø 8	-	3	38	100	20	
PK137016	Ø 16	-	6	55	100	20	
PK13702032	20	32	6	72	100	20	
PK1375	Set: Assortment includes all 13 single elements of the PK 1370 standard with shank Ø = 3 mm.						

GRINDING PINS

POLISHING/GRINDING PINS (LIGHT GREY)

PK 1380 ...


Features:

- Grinding of Al, Al-alloys, non ferrous metals, low- and high-alloy steels.

REF	Head Ø	Head length	Shank Ø	Total length	Grain		Shape
PK13800810	8	10	3	40	80	20	
PK13801010	10	10	3	40	80	20	
PK13801316	13	16	3	46	80	20	
PK13800816	8	16	6	56	80	20	
PK13801020	10	20	6	60	80	20	
PK13801320	13	20	6	60	80	20	
PK13801620	16	20	6	60	80	20	
PK13801632	16	32	6	72	80	20	
PK13802020	20	20	6	60	80	20	
PK13803232	32	32	6	72	80	20	
PK13802032	20	32	6	72	80	20	
PK138008	Ø 8	-	3	38	80	20	

RUBBER CARRIER

GF ... - GR ... - GS ... - GK ...

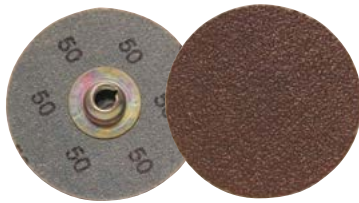
REF	Head Ø	Head length	Shank Ø	Shank length	n max min ¹		Shape
GF35	5	10	3	25	45.000	10	
GF37	7	12	3	25	32.000	10	
GF40	10	15	3	25	22.000	10	
GR35	5	10	3	25	45.000	10	
GR37	7	12	3	25	32.000	10	
GR40	10	15	3	25	22.000	10	
GS35	5	11	3	25	45.000	10	
GS37	7	13	3	25	32.000	10	
GS40	10	15	3	25	22.000	10	
GK15	5	15	6	40	45.000	10	
GK25	11	25	6	40	24.000	10	

ABRASIVE CAPS **SF ... - SR ... - SS ... - SK ...**

Order example for first item (REF + Mesh): SF35K080

REF	Mesh			Cap-Ø	Cap length	For		Shape
	080	150	320					
SF35K	•	•	•	5	10	GF ...	100	
SF37K	•	•	•	7	12	GF ...	100	
SF40K		•	•	10	15	GF ...	100	
SR35K	•	•	•	5	10	GR ...	100	
SR37K	•	•	•	7	12	GR ...	100	
SR40K	•	•	•	10	15	GR ...	100	
SS35K	•	•	•	5	11	GS ...	100	
SS37K	•	•	•	7	13	GS ...	100	
SS40K		•	•	10	15	GS ...	100	
SK15K	•	•		5	15	GK ...	100	
SK25K	•	•		11	25	GK ...	100	

ABRASIVE DISCS INTERNAL THREADED **SB ...**



- Features:**
- Material: Standard corundum
 - For all tool steels

Order example for first item (REF + Grain): SB120K050

REF	Grain						Disc-Ø	
	050	080	120	180	240	320		
SB120K	•	•	•	•		•	20	100
SB125K	•	•	•	•	•	•	25	100
SB140K	•	•	•	•	•	•	40	100
SB150K	•	•	•	•		•	50	100
SB175K	•	•	•	•	•	•	75	100

RUBBER CARRIERS FOR SELF-FIXING ABRASIVE DISCS **GPS ...**

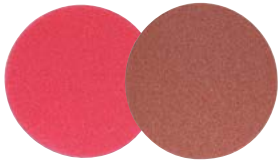


REF	Carrier-Ø	Shank-Ø	n max min ⁻¹	
GPS18	18	3	20.000	5
GPS30	30	3	12.500	5
GPS45	45	6	10.000	5
GPS60	60	6	8.000	5
GPS75	75	6	6.000	5

ABRASIVE CAPS, BELTS, DISCS & CARRIERS

ABRASIVE DISCS, SELF-ADHESIVE

PS ...



- Material: Standard corundum
- For all tool steels

Order example for first item (REF + Grain): PS18K060

REF	Grain							Disc-Ø	
	060	080	120	150	180	240	320		
PS18K	•	•	•	•	•	•	•	21	100
PS30K	•	•	•	•	•	•		33	100
PS45K	•	•	•	•	•	•	•	48	100
PS60K	•	•	•	•		•	•	63	100
PS75K	•	•	•	•	•	•	•	78	100

RUBBER CARRIERS FOR SELF-ADHESIVE ABRASIVE DISCS

GPK ...



REF	Carrier-Ø	Shank-Ø	n max min ⁻¹	
GPK18	18	3	20.000	5
GPK30	30	3	12.500	5
GPK45	45	6	10.000	5
GPK60	60	6	8.000	5
GPK75	75	6	6.000	5

ABRASIVE DISCS, SELF-ADHESIVE

PK ...



- Material: Standard corundum
- For all tool steels

Order example for first item (REF + Grain): PK18K060

REF	Grain						Disc-Ø	
	060	080	120	150	180	240		
PK18K	•	•	•	•	•	•	21	100
PK30K	•	•	•	•	•	•	33	100
PK45K	•	•	•	•	•	•	48	100
PK60K	•	•	•	•			63	100
PK75K		•	•	•			78	100



POLISHING BRUSHES & FELT POLISHING BOBS



POLISHING BRUSHES

POLISHING BRUSHES

MB 0 ...


Features:

- Material: Brass wire
- nmax: 10.000 min⁻¹

REF	Wire thickness	Head-Ø	Shank Ø	Wire l		Shape
MB01	0,08	6	2,35	8	10	
MB02	0,15	8	2,35	8	10	
MB04	0,08	15	2,35	8	10	
MB05	0,15	15	2,35	8	10	
MB06	0,08	17	2,35	8	10	
MB07	0,15	17	2,35	8	10	

FELT POLISHING BOBS

FPK 3 ...



Mat.: H 3 hard, H 3s super hard
nmax: 15.000 min⁻¹

REF	Mat.	Head Ø	Head length	Shank Ø		Shape
FPK301H312524	H3	12,5	24	3	20	
FPK301H3S12524	H3S					
FPK302H306515	H3	6,5	15	3	20	
FPK302H3S06515	H3S					
FPK304H313012	H3	13/8	12	3	20	
FPK304H3S13012	H3S					
FPK305H311015	H3	11/6,5	15	3	20	
FPK305H3S11015	H3S					
FPK306H322004	H3	22	4	3	20	
FPK306H3S22004	H3S					

REF	Mat.	Head Ø	Head length	Shank Ø		Shape
FPK307H306010	H3	6	10	3	20	
FPK307H3S06010	H3S					
FPK308H308010	H3	8	10	3	20	
FPK308H3S08010	H3S					
FPK309H310012	H3	10	12	3	20	
FPK309H3S10012	H3S					
FPK310H312015	H3	12	15	3	20	
FPK310H3S12015	H3S					

FELT POLISHING BOBS

FPK 6 ...



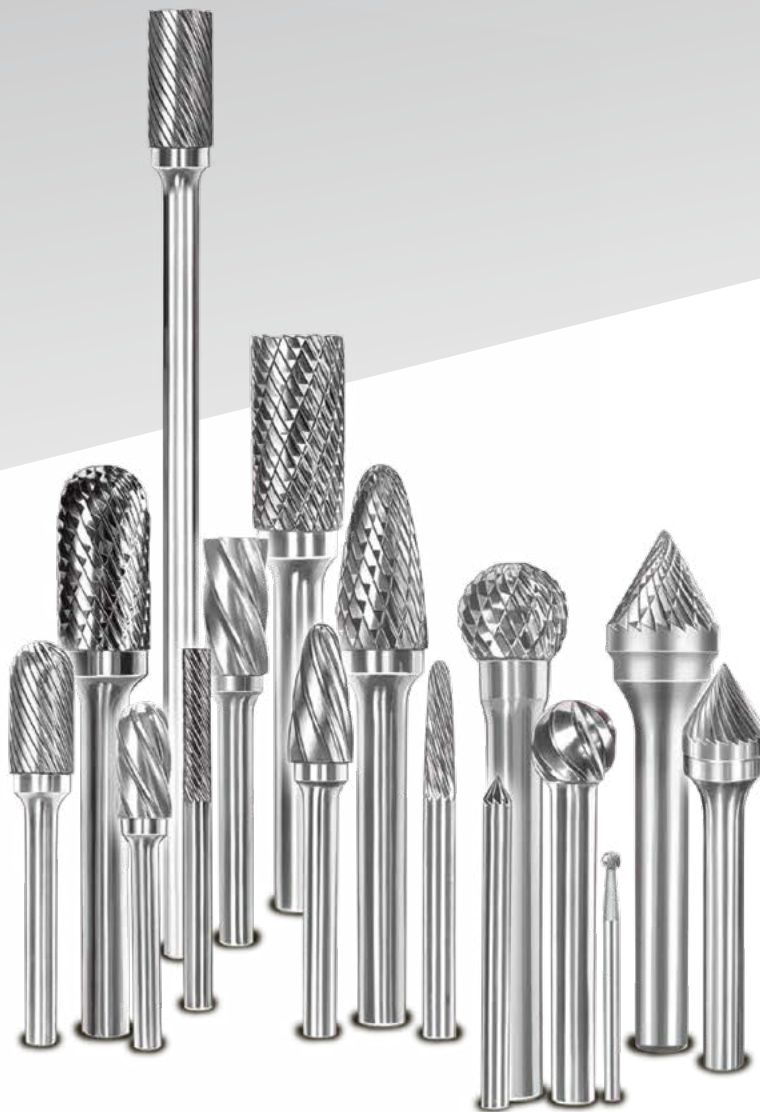
Mat.: H 3 hard, H 3s super hard
nmax: 15.000 min⁻¹

REF	Mat.	Head Ø	Head length	Shank Ø		Shape
FPK611H310015	H3	10	15	6	10	
FPK611H3S10015	H3S					
FPK612H312020	H3	12	20	6	10	
FPK612H3S12020	H3S					
FPK613H320025	H3	20	25	6	10	
FPK613H3S20025	H3S					
FPK614H3S12020	H3	12	20	6	10	
FPK614H3S12020	H3S					

REF	Mat.	Head Ø	Head length	Shank Ø		Shape
FPK618H310015	H3	10	15	6	10	
FPK618H3S10015	H3S					
FPK619H312020	H3	12	20	6	10	
FPK619H3S12020	H3S					
FPK620H320025	H3	20	25	6	10	
FPK620H3S20025	H3S					

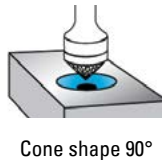
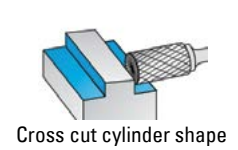
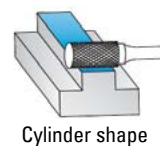
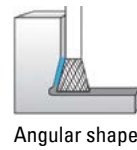
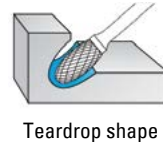
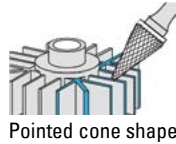
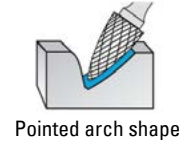
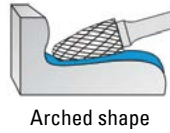
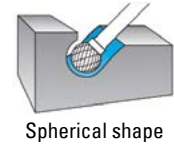
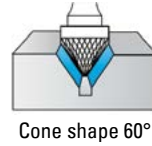
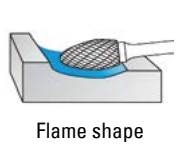


ROTOR CUTTERS



ROTOR CUTTERS

ROTOR CUTTERS SHAPES



ROTOR CUTTERS



Cross cut:

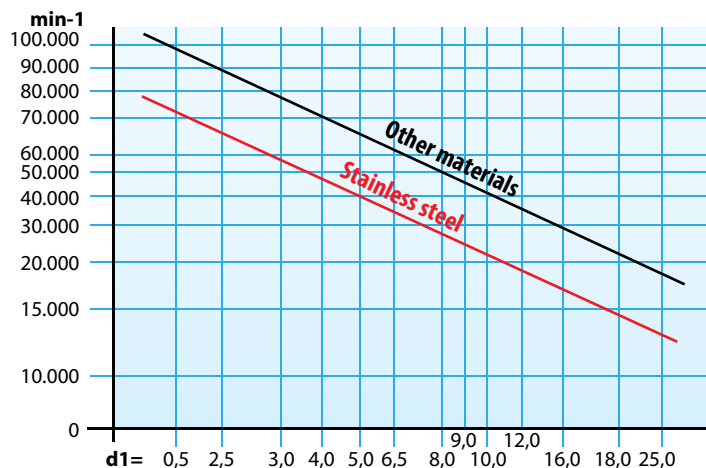
very efficient stock removal on all ferrous metals including tempered and stainless steel, creates small chips, reduces vibration and gives excellent operator control.



Standard cut:

very efficient stock removal for a flawless finish.

SPEED RECOMMENDATION



ROTOR CUTTERS **FH ... / FH ... X**



Features:

- Material: Solid carbide grade K 10
- Vmax 30.000 min⁻¹
- Shank: steel
- Cross cut: add "X" to REF e.g. FH04X

REF	Head Ø	Head length	Total length	Shank Ø	Shape
FH001	3	12	50	6	
FH002	4	16	50	6	
FH003	5	16	50	6	
FH004	6	16	50	6	
FH005	8	19	60	6	
FH006	9,5	19	60	6	
FH007	12,5	25	60	6	
FH008	16	25	62	6	
FH009	19	25	65	6	
FH010	25	25	65	6	
FH011	3	12	50	6	
FH012	4	16	50	6	
FH013	5	16	50	6	
FH014	6	16	50	6	
FH015	8	19	56	6	
FH016	9,5	19	56	6	
FH017	12,5	25	62	6	
FH018	16	25	62	6	
FH019	19	25	65	6	
FH020	25	25	65	6	
FH021	3	-	50	6	
FH022	5	-	50	6	
FH023	6	-	50	6	
FH024	8	-	50	6	
FH025	9,5	-	50	6	
FH026	12,5	-	50	6	
FH027	16	-	55	6	
FH028	19	-	69	6	
FH029	25	-	65	6	
FH030	6	16	50	6	
FH031	8	16	50	6	
FH032	9,5	19	60	6	
FH033	12,5	19	60	6	
FH034	12,5	25	62	6	
FH035	16	25	70	6	
FH036	19	25	70	6	
FH038	6	10	50	6	
FH039	9,5	16	60	6	
FH040	12,5	22	60	6	
FH041	16	25	70	6	
FH042	19	25	75	6	
FH043	6	12 α = 22°	50	6	
FH044	6	19 α = 14°	50	6	
FH045	6	25 α = 10°	60	6	
FH046	9,5	16 α = 28°	60	6	
FH047	12,5	22 α = 28°	65	6	
FH048	16	25 α = 31°	65	6	
FH049	6	16 α = 14°	50	6	
FH050	8	22 α = 14°	50	6	
FH051	9,5	27 α = 14°	55	6	
FH052	12,5	28 α = 14°	70	6	
FH053	16	30 α = 14°	70	6	
FH054	19	38 α = 14°	80	6	

CAD reference point

ROTOR CUTTERS

ROTOR CUTTERS

FH ... / FH ... X

REF	Head Ø	Head length	Total length	Shank Ø	Shape
FH055	3	12	37	6	
FH056	6	16	50	6	
FH057	9,5	19	60	6	
FH058	12,5	19	60	6	
FH059	12,5	25	65	6	
FH060	16	25	70	6	
FH061	19	25	75	6	
FH062	8	19	60	6	
FH063	12,5	32	70	6	
FH064	16	36	75	6	
FH065	19	41	80	6	
FH066	6	4 α = 60°	37	6	
FH067	9,5	8 α = 60°	60	6	
FH068	12,5	11 α = 60°	60	6	
FH069	16	14 α = 60°	60	6	
FH070	19	17 α = 60°	65	6	
FH071	25	24 α = 60°	65	6	
FH072	6	3	37	6	
FH073	9,5	4	37	6	
FH074	12,5	6	50	6	
FH075	16	8	60	6	
FH076	19	9,5	60	6	
FH077	25	12	65	6	
FH078	6	8 α = 10°	50	6	
FH079	9,5	9 α = 13°	50	6	
FH080	12,5	12 α = 28°	55	6	
FH081	16	16 α = 18°	55	6	
FH082	19	19 α = 30°	55	6	

SMALL ROTOR CUTTERS, CARBIDE

FH 10 ... - FH 100


Features:

- Material: carbide grade K 10
- Vmax 40.000 min⁻¹
- Cross cut: add "X" to REF e.g. FH102X

REF	Head Ø	Head length	Shank length	Shank Ø	Shape
FH101	6	12	38	3	
FH102	6	4,7	38	3	
FH103	6	12	38	3	
FH104	6	5	38	3	
FH105	6	9,5	38	3	
FH106	6	12	38	3	
FH107	6	12	38	3	
FH108	6	12 α = 22°	38	3	
FH109	6	6 α = 10°	38	3	
FH100	Set: FH101, FH102, FH103, FH104, FH105, FH106, FH107, FH108, FH109				

MINIATURE ROTOR CUTTERS, SOLID CARBIDE **FH 1 ... - FH 120**



- Features:**
- Material: Solid carbide grade K 10
 - Vmax 40.000 min⁻¹
 - Cross cut: add "X" to REF e.g. FH121X

REF	Head Ø	Head length	Total length	Shank Ø	Shape
FH119	0,5	6	38	3	
FH120	1,0	6	38	3	
FH121	1,5	6	38	3	
FH122	2,5	11	38	3	
FH123	3	14	38	3	
FH124	2,5	11	38	3	
FH125	3	14	38	3	
FH126	3	5,5	38	3	
FH127	3	6 α = 10°	38	3	
FH128	3	12	38	3	
FH130	3	9,5	38	3	
FH131	3	6	38	3	
FH132	3	2,5 α = 60°	38	3	
FH133	3	1,5 α = 90°	38	30	
FH134	3	9,5 α = 8°	38	3	
FH135	3	12 α = 8°	38	3	
FH136	3	6	38	3	
FH137	3	11 α = 14°	38	3	
FH138	3	16 α = 7°	38	3	
FH139	3	4 α = 10°	38	3	
FH140	2,5	2,5	38	3	
FH141	3	3	38	3	
FH120SET	Set: FH121 -> FH141 one of each				

CAD reference point

MINIATURE ROTOR CUTTERS

LONG MINIATURE ROTOR CUTTERS, SOLID CARBIDE

FH 15 ...


Features:

- Material: Solid carbide grade K 10
- Vmax 40.000 min⁻¹
- Cross cut: add "X" to REF e.g. FH152X

REF	Head Ø	Head length	Total length	Shank Ø	Shape
FH150	3	14	75	3	
FH151	3	14	75	3	
FH152	3	3	75	3	
FH153	3	5,5	75	3	
FH154	3	12,7	75	3	
FH155	3	12,7	75	3	
FH156	3	6,3	75	3	
FH157	3	12,7	75	3	
FH158	3	11	75	3	



LIFTING
EQUIPMENT





Lifting points

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LIFTING POINTS

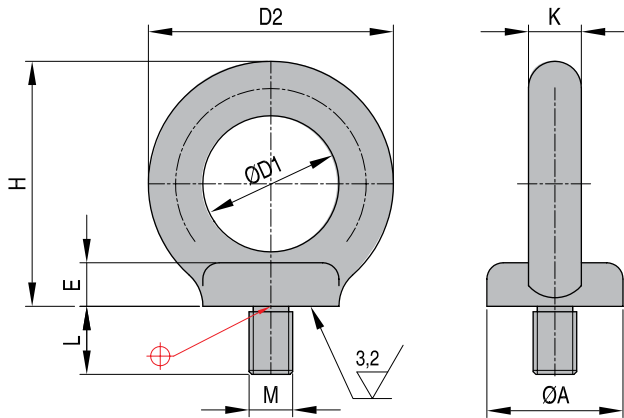


EYEBOLTS

EYEBOLTS

RM

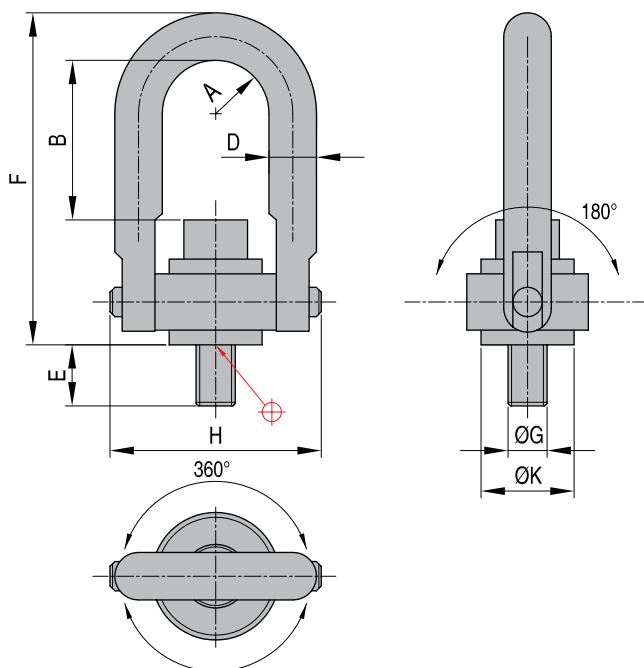
1.7131 60 HRC



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

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 strength 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



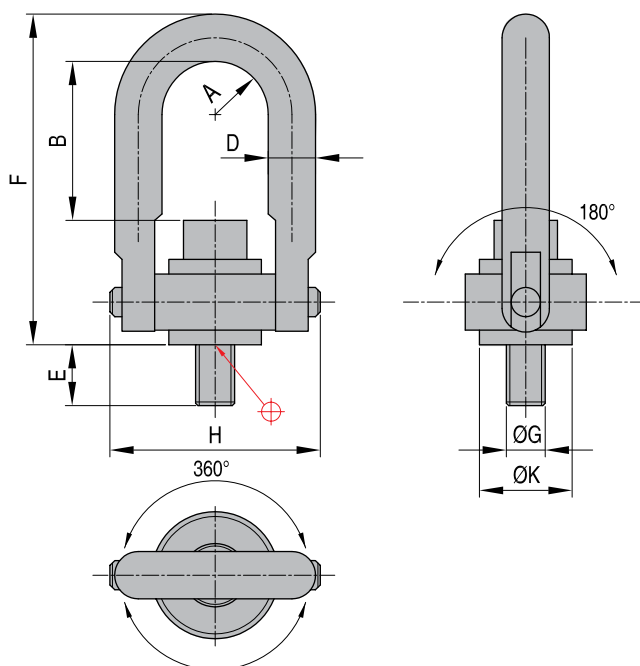
REF	G	A	B	D	E	F	H	K	TL (Kgm)	P (Kg)	W (Kg)	Spare parts
SHM0001	M8x1,25	10,9	32,0	9,7	12,5	67,8	46,7	19,0	1,0	400	0,17	SHMR0001
SHM0002	M10x1,50	10,9	30,0	9,7	17,5	67,8	46,7	19,0	1,7	450	0,17	SHMR0002
SHM0003	M12x1,75	22,4	60,5	19,0	19,0	121,4	89,4	38,1	3,8	1050	1,08	SHMR0003
SHM0004	M16x2,00	22,4	56,5	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.

HOIST RINGS

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 strength 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: $\pm 0,8$ 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

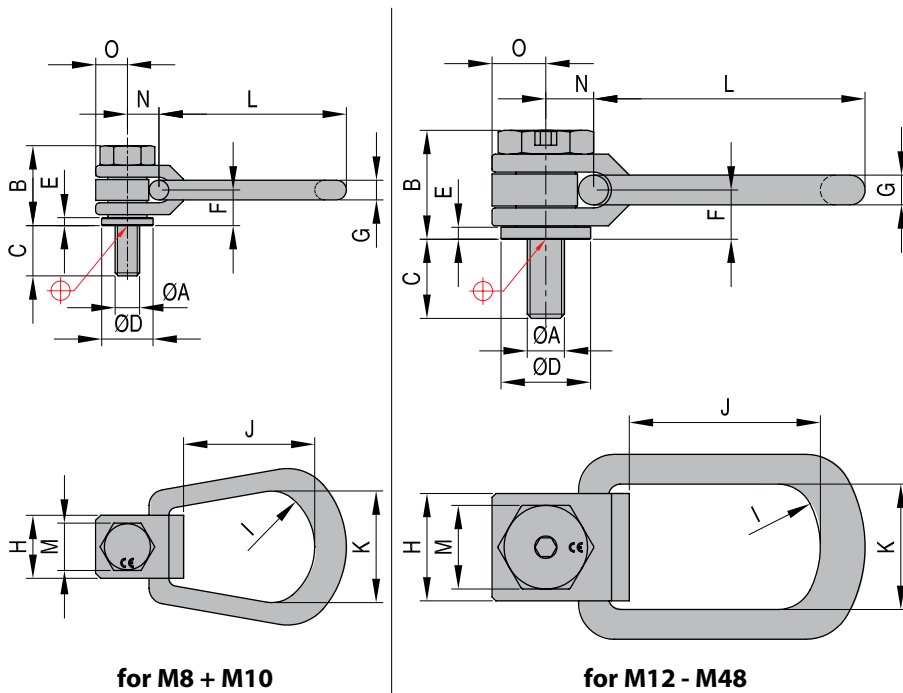


REF	A	B	D	E	F	G	H	K	TL (Kgm)	P (Kg)	W (Kg)
SHR0001	0,43	1 1/4"	0,38	9/16	2,67	5/16"-18	1,84	0,75	1	360	0,15
SHR0002	0,43	1 1/4"	0,38	9/16	2,67	3/8"-16	1,84	0,75	1,6	450	0,15
SHR0003	0,88	2 3/8"	0,75	3/4	4,78	1/2"-13	3,52	1,5	3,8	1130	1,05
SHR0004	0,88	2 1/4"	0,75	1	4,78	5/8"-11	3,52	1,5	8,3	1810	1,10
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

SIDE PULL HOIST RINGS - CE

SHSP



For lifting moulds, 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

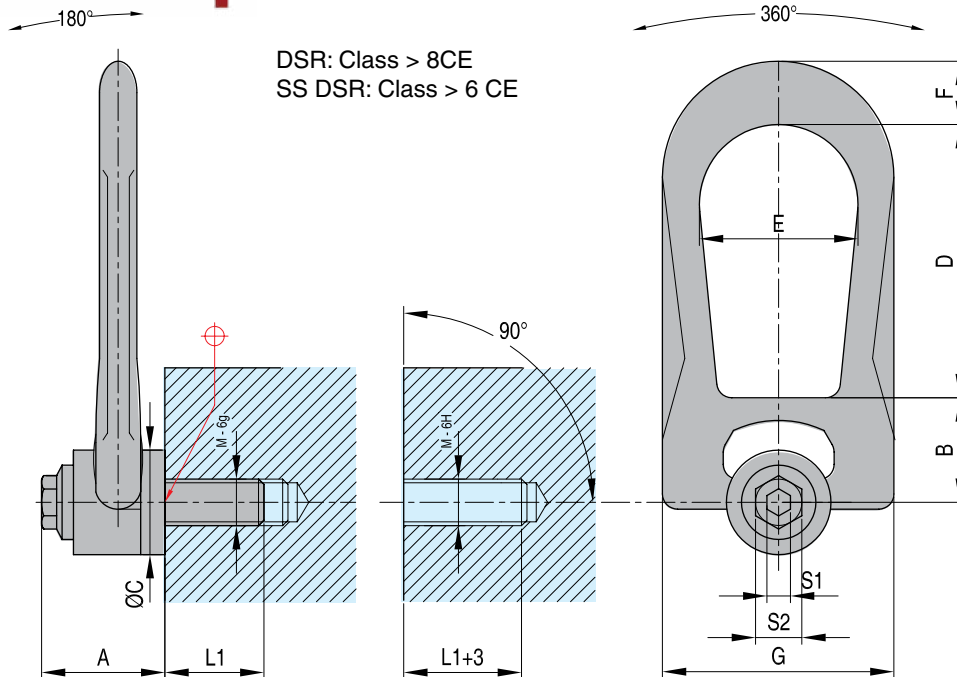


REF	P (Kg)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	TL
SHSP-0001	325	M8x1,25	33	16	21	3	14	8	25	25	25	44	76	19	13	13	5
SHSP-0002	500	M10x1,5	33	20	21	3	14	8	25	25	25	44	76	19	13	13	10
SHSP-0003	725	M12x1,75	48	24	35	4	21	13	44	38	86	51	120	32	19	22	20
SHSP-0004	1400	M16x2	48	32	48	4	21	13	44	38	86	51	120	32	19	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

DOUBLE AND TRIPPLE SWIVEL POINTS

DOUBLE SWIVEL RING

DSR - UP



DSR: Class > 8CE
SS DSR: Class > 6 CE

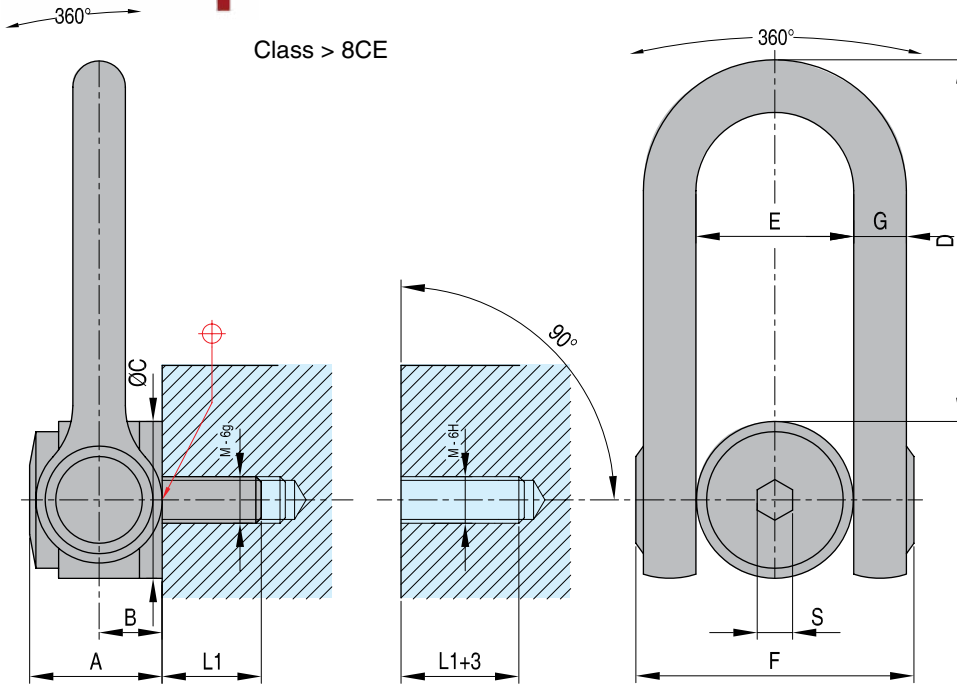
Swivels under the load
Designed for loads in rotation with Axial Shackle
Two ways of tightening; open-ended spanner or allen key
Axial shackle position
Standard in Metric and Inch
Stainless steel, adaptor, centering feature and special thread options available as special order



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

DOUBLE SWIVEL SHACKLE

DSS-UP



Class > 8CE

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

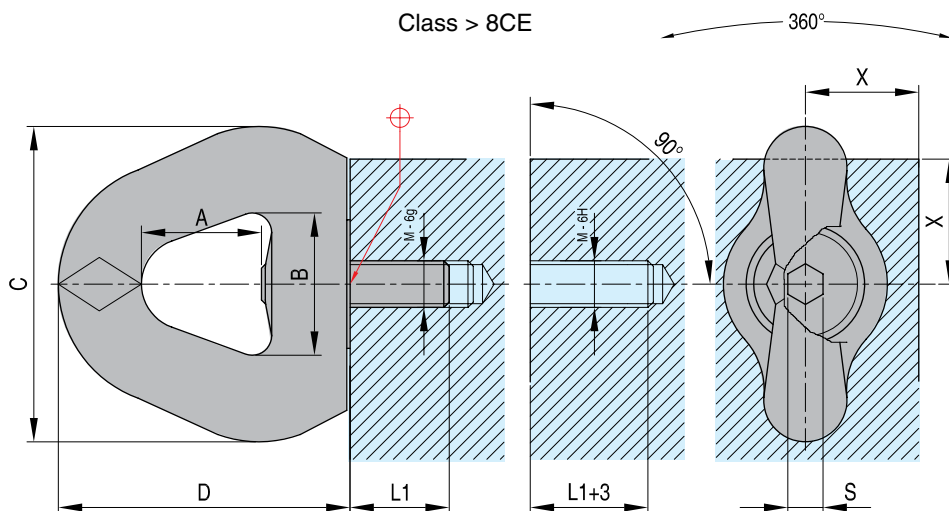


DOUBLE AND TRIPPLE SWIVEL POINTS

SWIVEL EYE BOLT

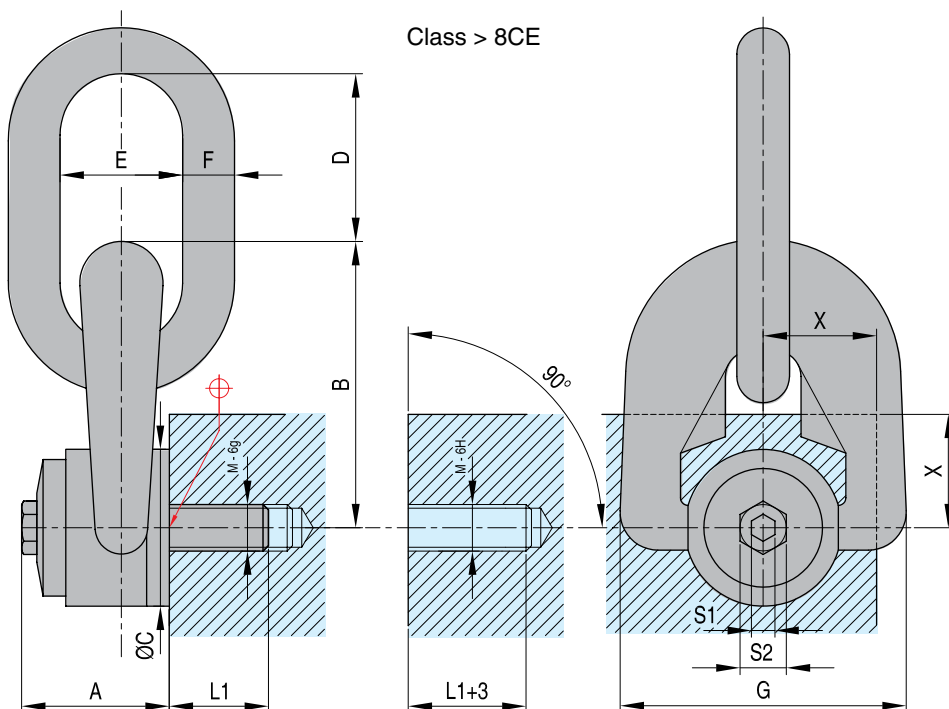
SEB-UP

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 (mm)	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

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

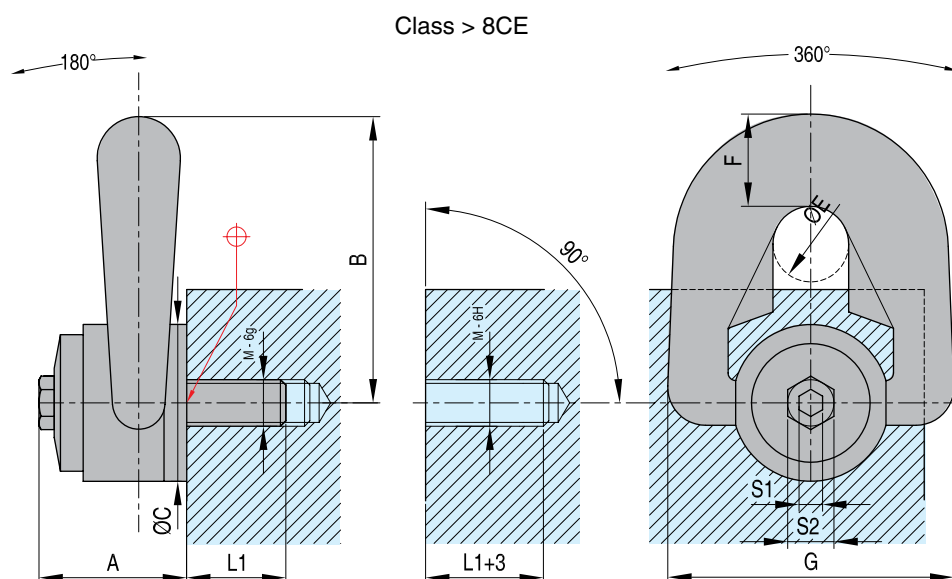
P = max load in Newton
 SF = safety factor
 KT = chain classification number
 TL = recommended tightening torque in NewtonMetre



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

DOUBLE AND TRIPPLE SWIVEL POINTS

DOUBLE SWIVEL LIFTING BOLT

DSP


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

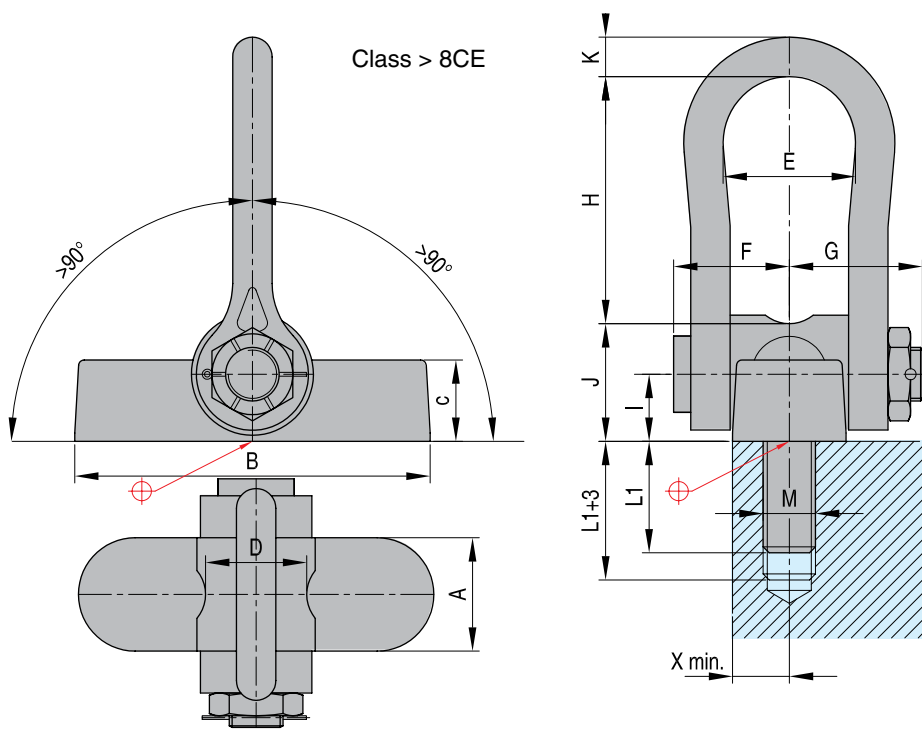
SF = safety factor
 KT = chain classification number
 TL = recommended tightening torque in NewtonMetre



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



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

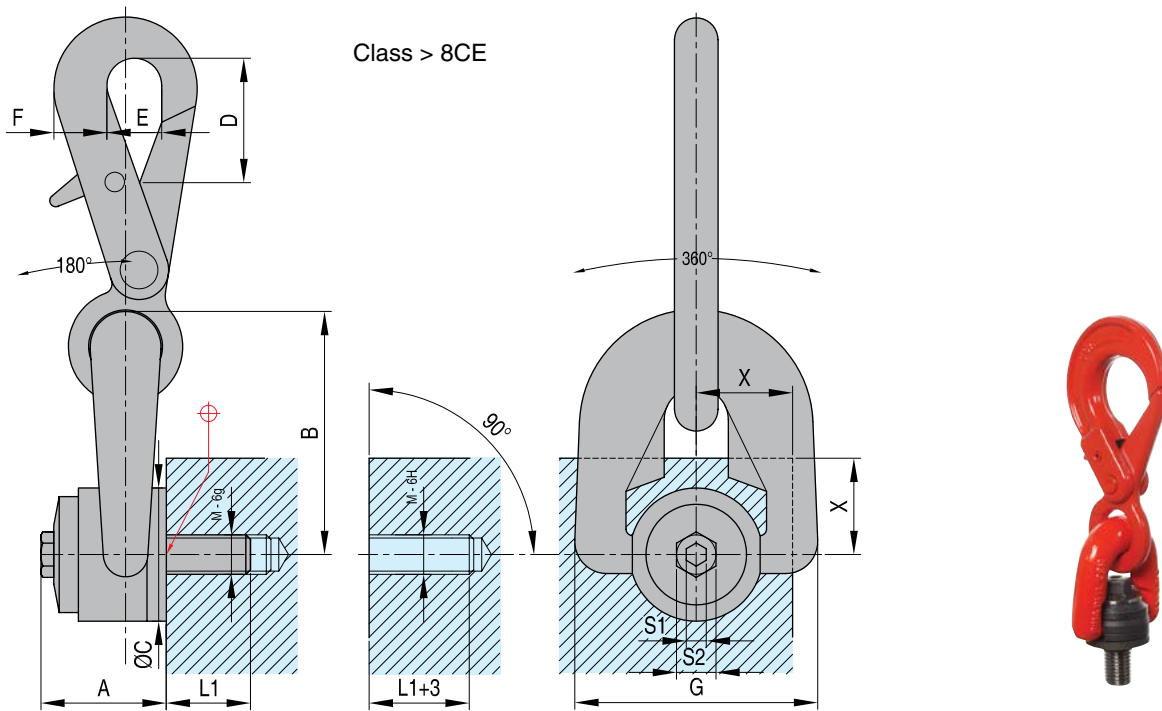
Drilling and screw specifications
 DIN912-12.9

REF	Drilling			PTU/UTD	Screw					
	ØL	M	N		Useful min. thread depth	QTY	Thread	Length	Head	
				Ø					Height	
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 HOOKS

DOUBLE SWIVEL HOOK

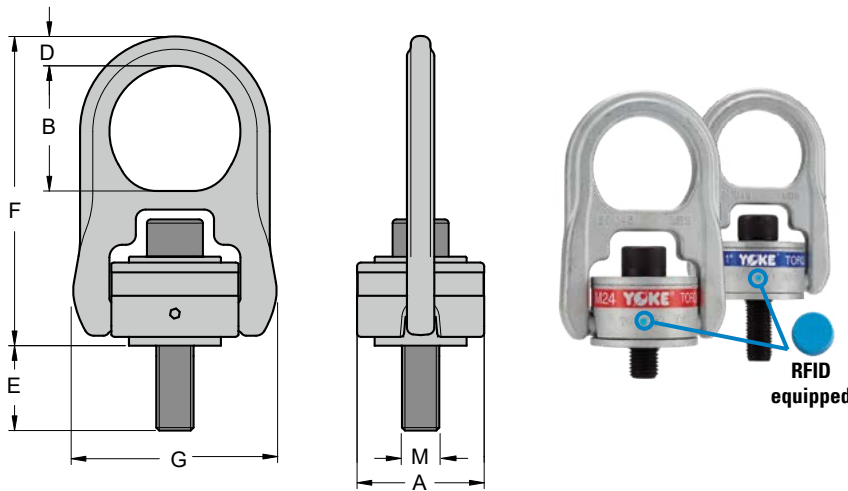
DSH


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

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

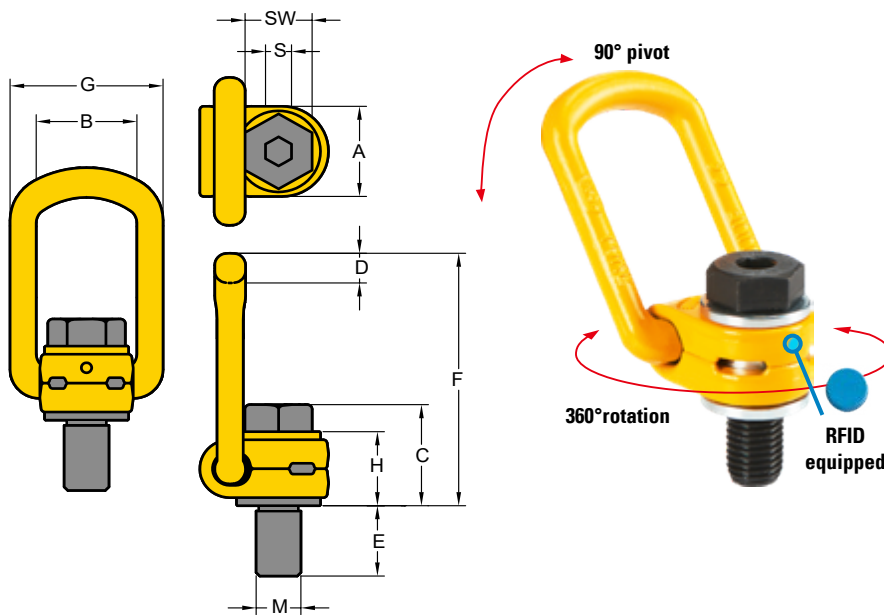
Metric Thread REF	WORKING LOAD LIMIT (tonnes)		M thread	a	b	D	E	f	g	TORQUE IN Nn	N.W kg
	5:1	4:1									
	MM										
8203004	0.40	0.50	M8x1.25	40	41	9	17	102	65	10	0.4
8203005	0.45	0.55	M10x1.5	40	41	9	11	102	65	16	0.5
8203005L	0.45	0.55	M10x1.5	40	41	9	26	102	65	16	0.5
8203010	1.05	1.30	M12x1.75	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 POINTS WITH RFID

LIFTING POINT

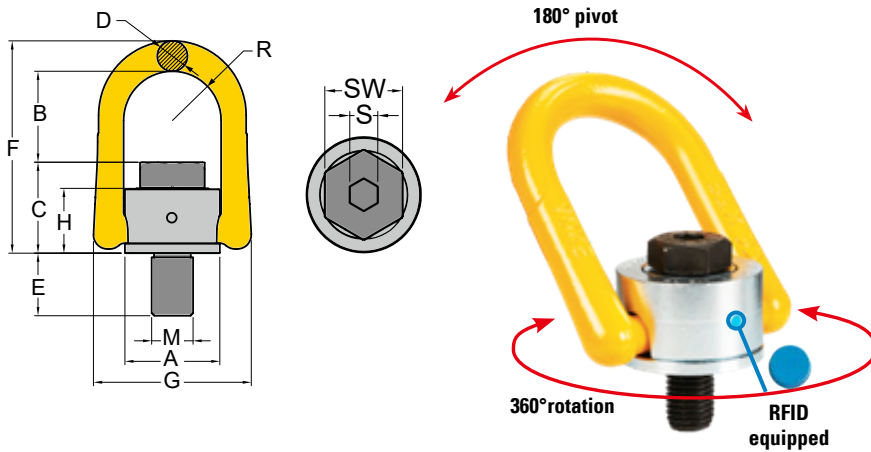
8211 / 8212


- Rotates through 360° and pivots 90°
- Manufactured from alloy steel, quenched and tempered
- Tested in accordance with EN1677-1
- Certified by DGUV GS-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	A	B	C	D	E	F	G	H	S	SW	TORQUE IN Nn	N.W kg	
		THREAD													
			MM												
			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	A	B	C	D	E	F	G	H	S	SW	TORQUE IN Nn	N.W lbs	
		THREAD													
			INCH												
			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	

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	A	B	C	D	E	F	G	H	S	SW	TORQUE IN Nn	N.W kg
		THREAD												
		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	A	B	C	D	E	F	G	H	R	S	SW	TORQUE IN Nn	N.W lbs
		THREAD													
		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

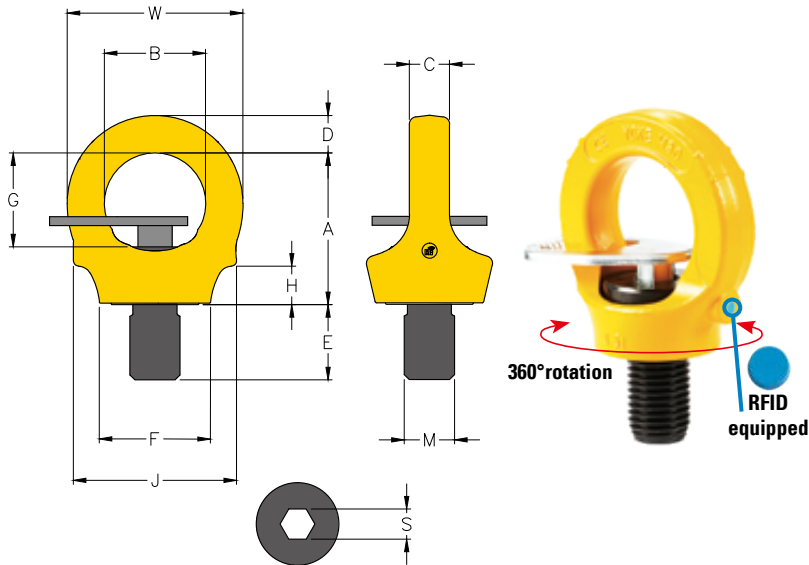
CAD reference point



LIFTING POINTS WITH RFID

KEY EYE POINT

8291K / 8292K

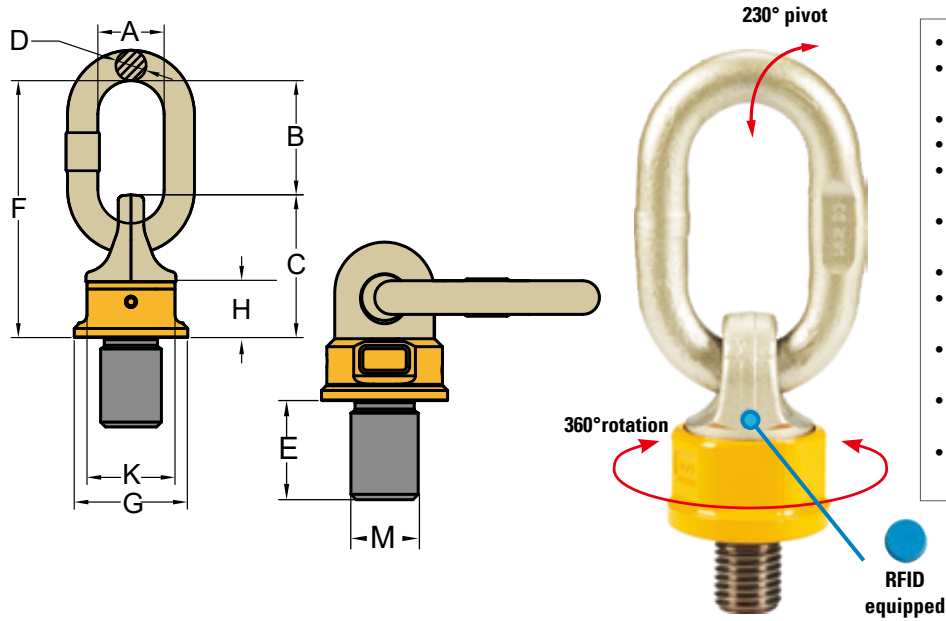


- Rotates through 360° and pivots 90°
- Manufactured from alloy steel, quenched and tempered
- Tested in accordance with EN1677-1
- Certified by DGUV GS-OA 15-04
- Load rated parts are 100% magnaflux cracked detected
- Individual forged parts and cap screw are traceable to Test Certification
- Bolt threads 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	A	B	C	D	E	F	G	H	J	S	W	TORQUE IN Nn	N.W kg
		THREAD													
		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	A	B	C	D	E	F	G	H	J	S	W	TORQUE IN Nn	N.W lbs
		THREAD													
		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

SUPER POINT **8251 / 8252**



- 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	G	C	K	H	E	F	D	B	A	TORQUE IN Nn	N.W kg
		THREAD											
		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

LIFTING POINTS WITH RFID

SUPER POINT

8251 / 8252

Metric REF	WORKING LOAD LIMIT (tonnes)	M	G	C	K	H	E	F	D	B	A	TORQUE IN Nn	N.W kg
		THREAD											
		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	WORKING LOAD LIMIT (tonnes)	M	G	C	K	H	E	F	D	B	A	TORQUE IN Nn	N.W lbs
		THREAD											
		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

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	



HOIST RINGS

LIFT SUGGESTIONS

		1	2	1	2	2	2	2	3-4	3-4	3-4			
		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	
LIFTING POINT	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		
	ANCHOR POINT	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			

LIFT SUGGESTIONS

		1	2	1	2	2	2	2	3-4	3-4	3-4	
		0°	0°	90°	90°	0-45°	45°-60°	unsymm	0-45°	45°-60°	unsymm	
REF	Thread	WLL (t)										
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	
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

SUPER POINT

UNC Thread (8251)

UNC Thread (8252)

CAD reference point



HOIST RINGS

LIFT SUGGESTIONS

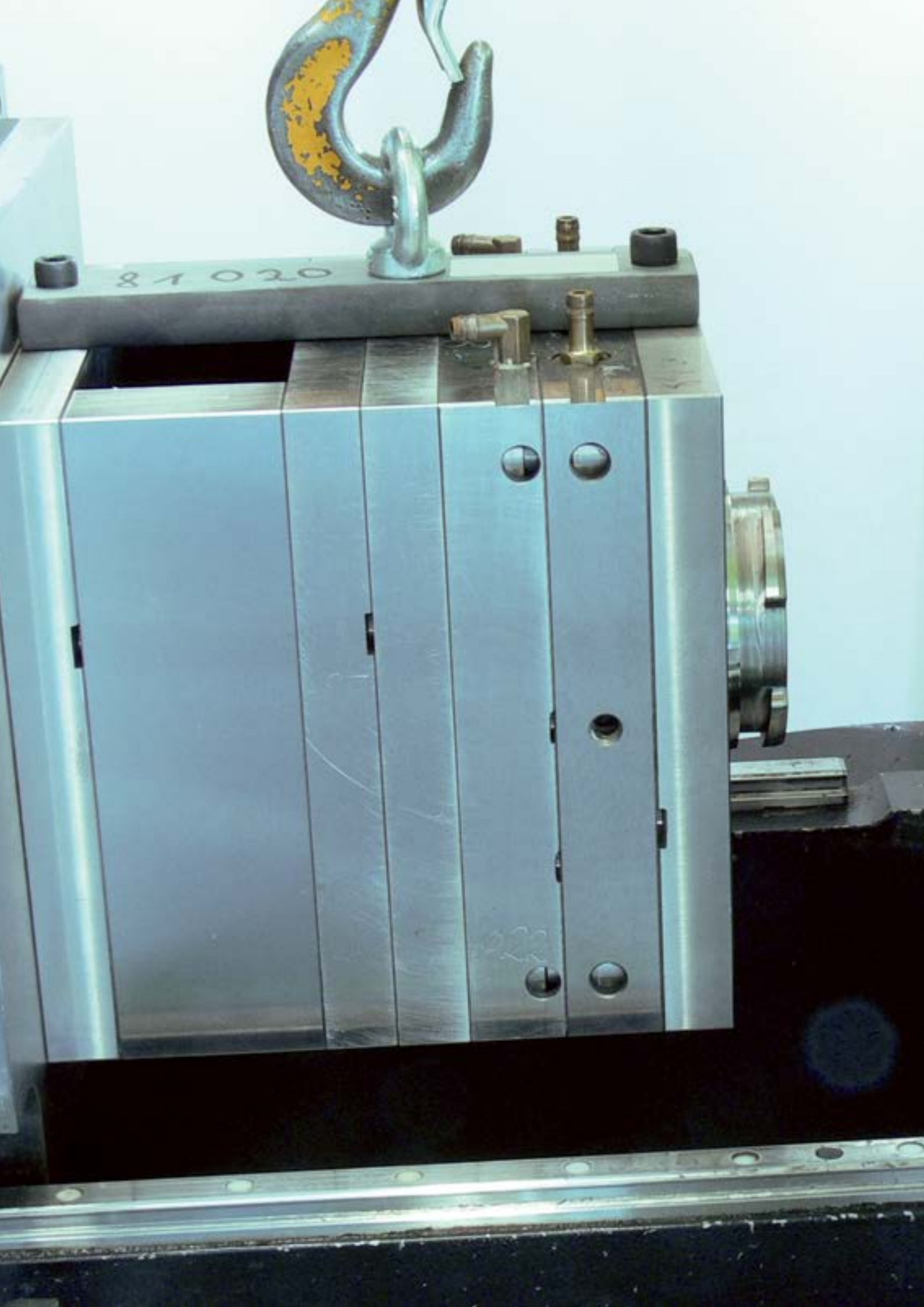
KEY POINT

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



CLAMPING
EQUIPMENT





Mould clamps

Mould clamps 244

Quick clamping system

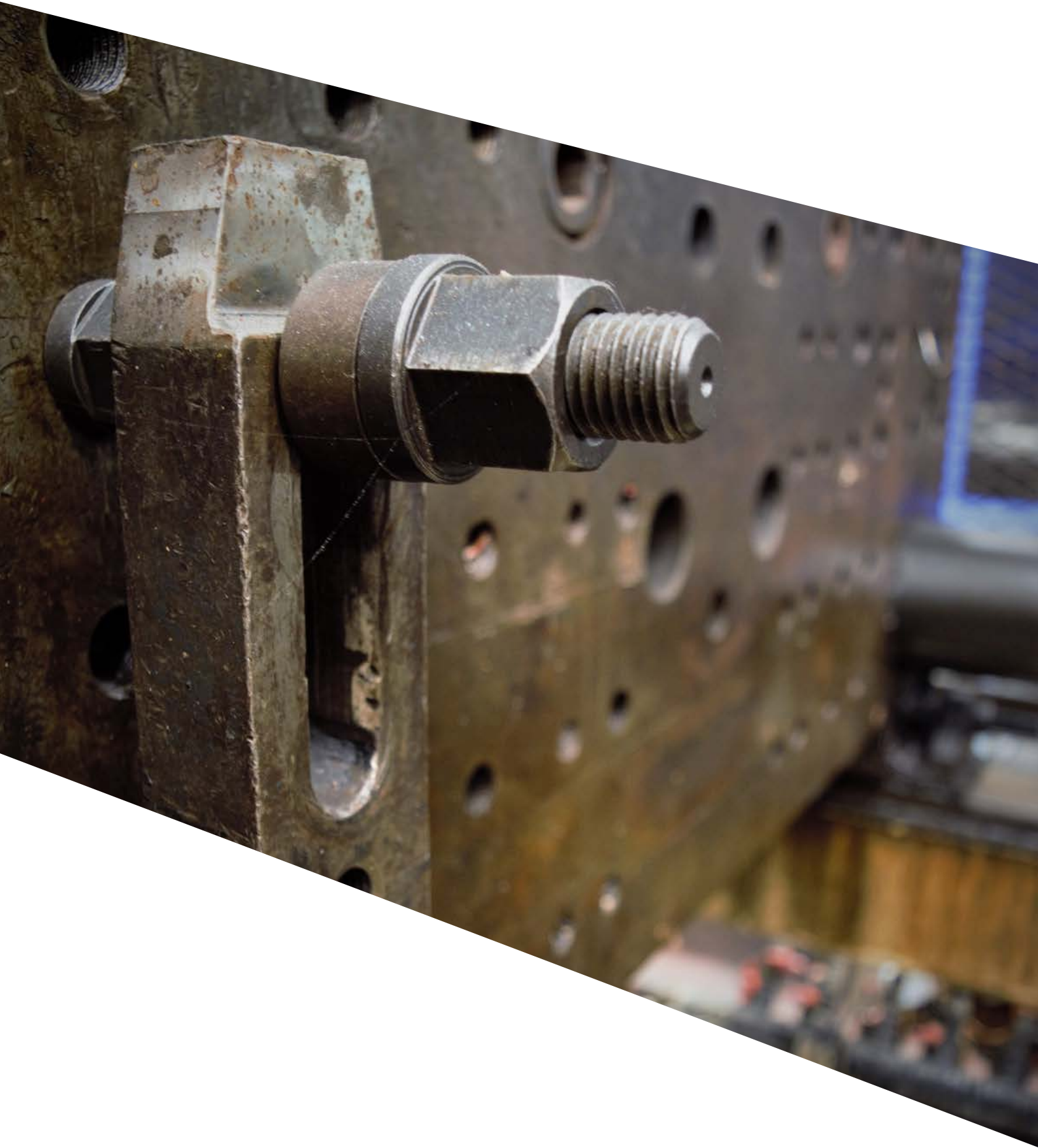
Bakra clamping system 248

Ejectors & couplings

Ejector couplings 254

Knockout couplers 256







MOULD CLAMPS



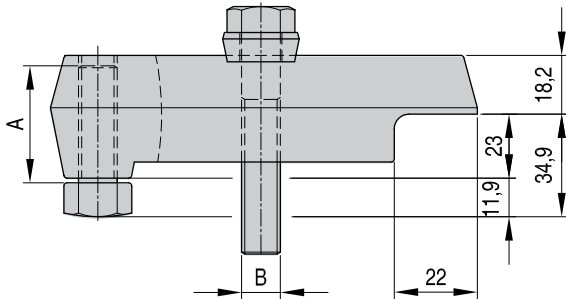
MOULD CLAMPS

MOULD CLAMPS

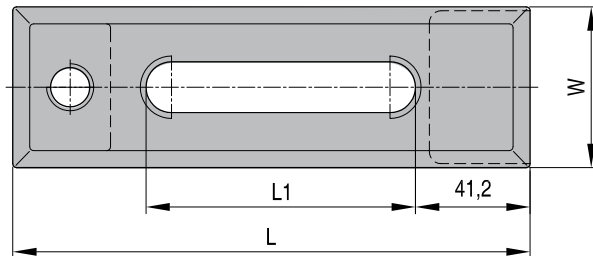
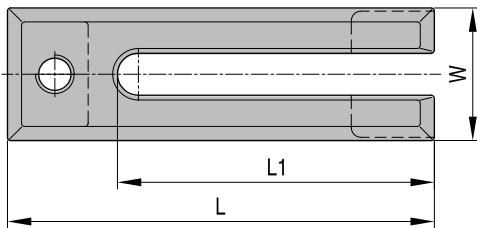
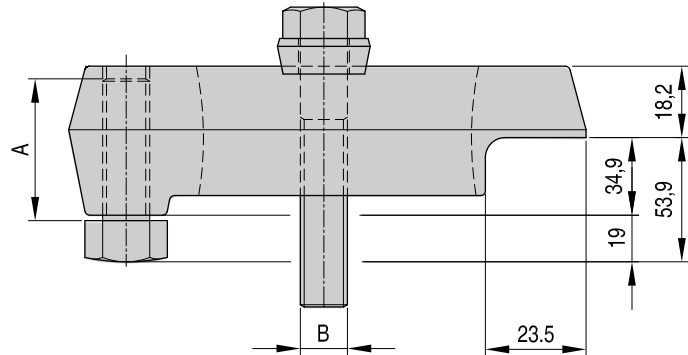
MCA

Mat.: Ck 22/CuSn

MCA 4-4 --> MCA 6-7



MCA 8-95



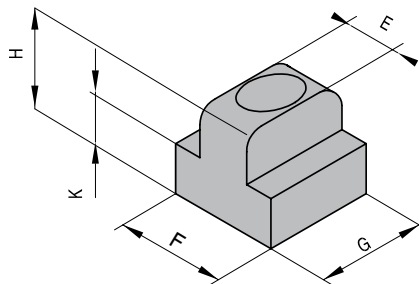
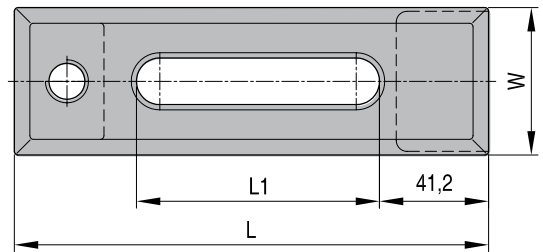
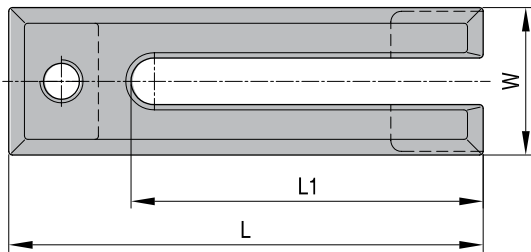
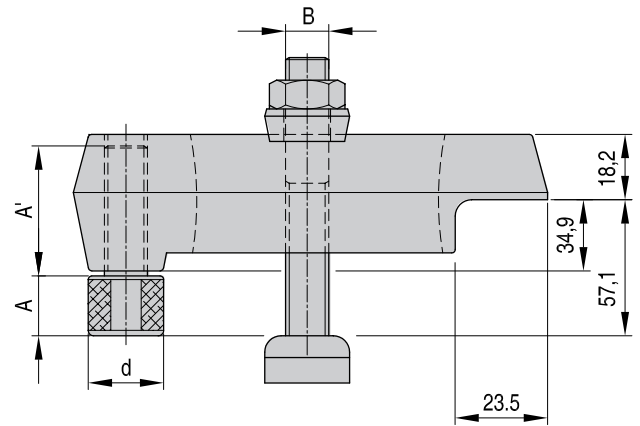
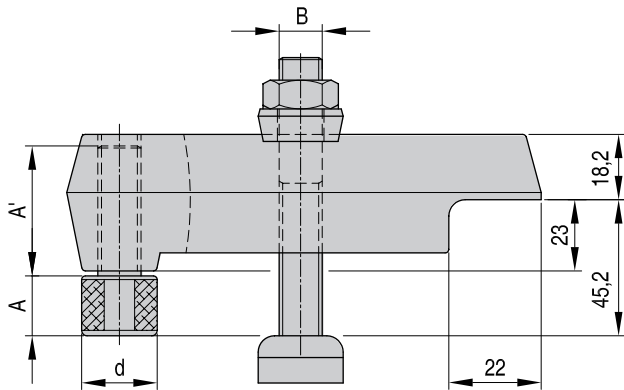
REF	B (DIN 933)	A	L	L1	W
MCA44	HEX M12x80(DIN933)	38	106	72	41
MCA55	HEX M16x100(DIN933)	38	132	86	48
MCA57	HEX M16x100(DIN933)	38	178	127	48
MCA65	HEX M16x100(DIN933)	38	132	86	50
MCA67	HEX M16x100(DIN933)	38	178	125	50
MCA77	HEX M20x110(DIN933)	38	178	125	50
MCA895	HEX M24x120(DIN933)	50	241	135	67

MOULD CLAMPS FOR DIECASTING **DMCA**

Mat.: Ck 22/CuSn

DMCA 5-5 --> DMCA 6-7

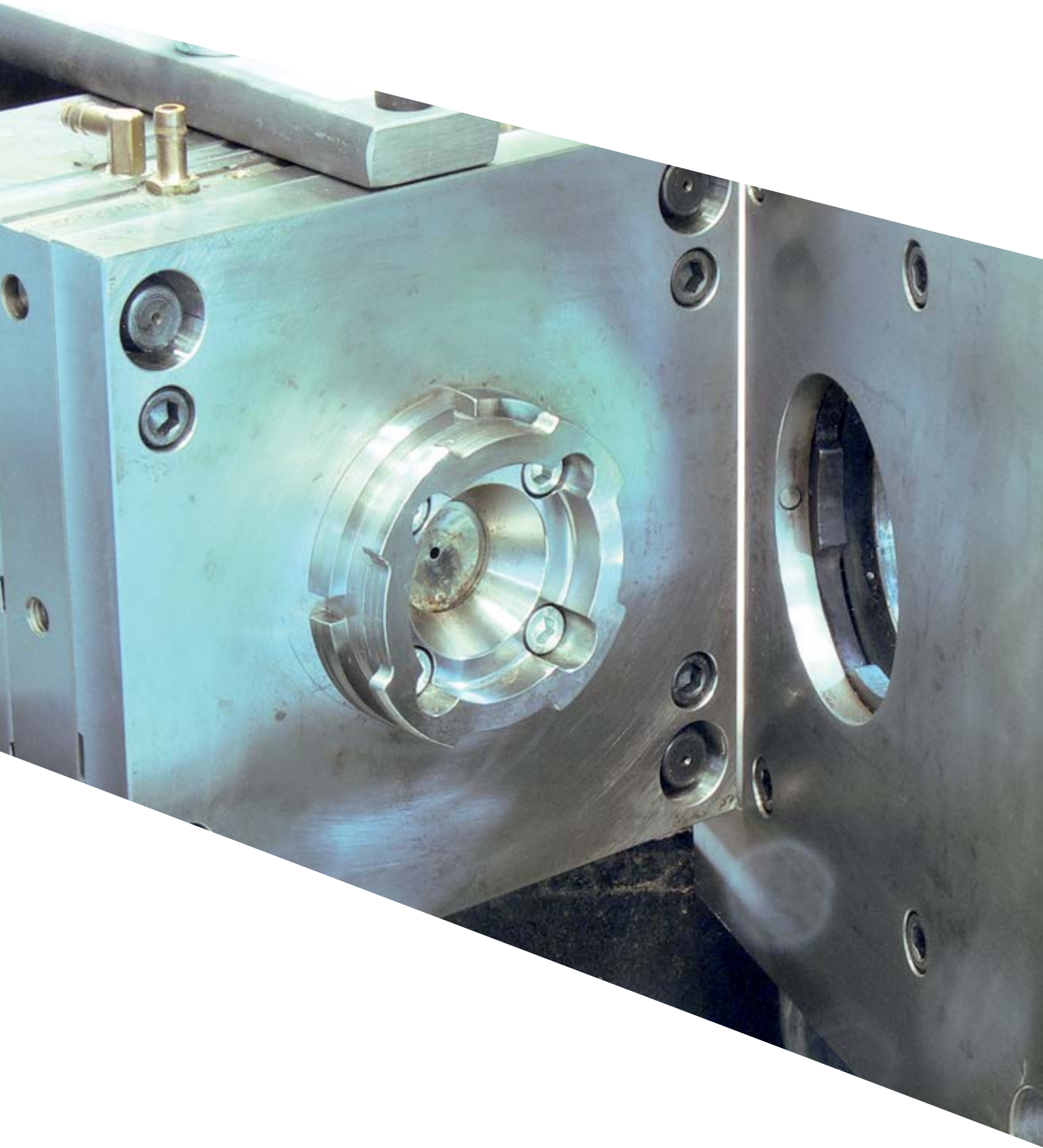
DMCA 8-95



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
DMCA895	22,2	50	1" x 6	51	241	135	67	25,4	42,9	49,8	26,9	17,5

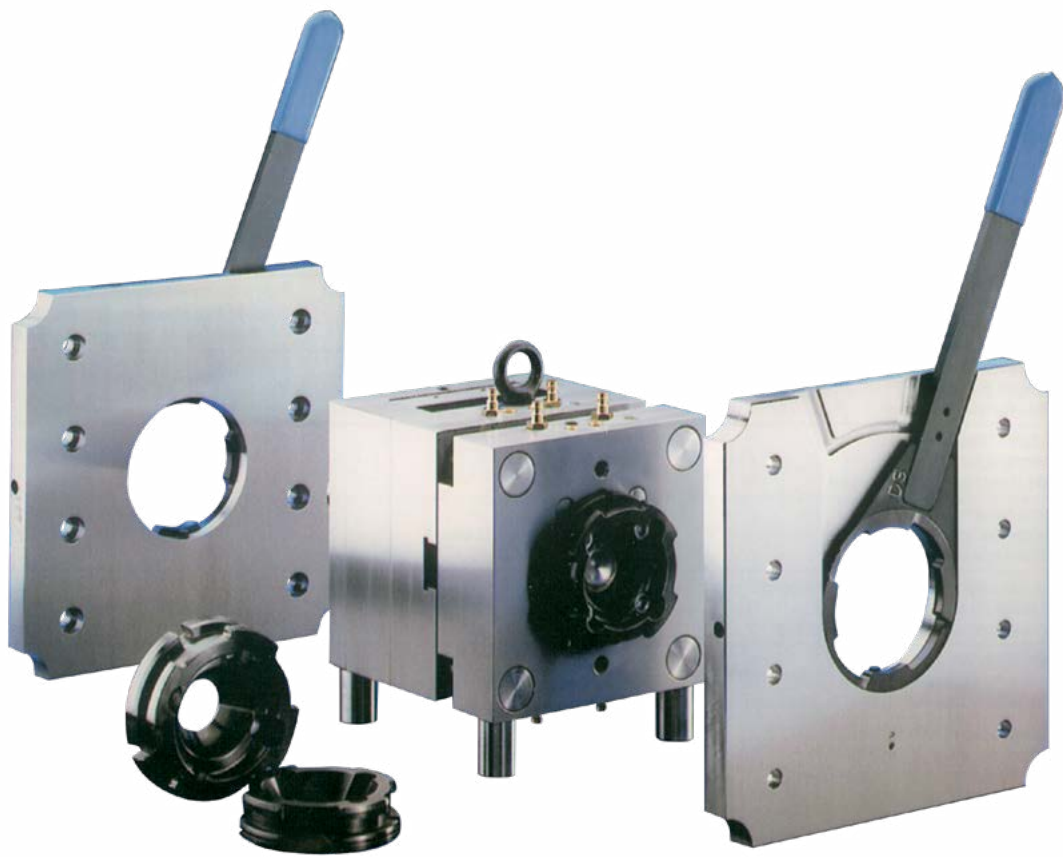
CAD reference point





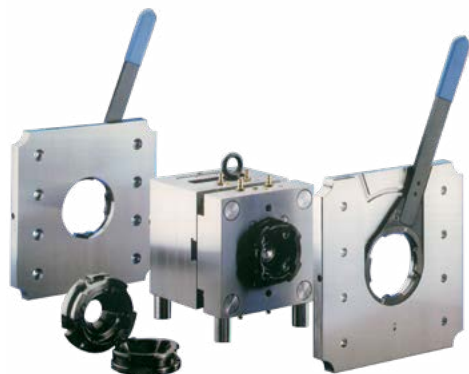


QUICK CLAMPING SYSTEM

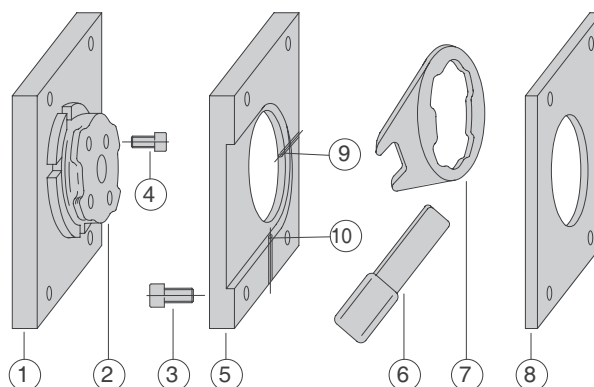
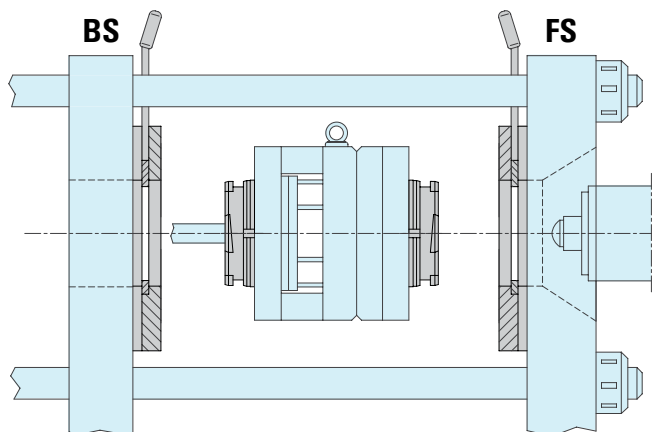


BAKRA CLAMPING SYSTEM

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 | 6 Wrench |
| 2 Locating Ring | 7 Locking Ring |
| 3 SHC-screw | 8 Thermal Insulating Sheet |
| 4 SHC-screw | 9 Retention Pin |
| 5 Adapter Plate | 10 Spring Loaded Set screw |

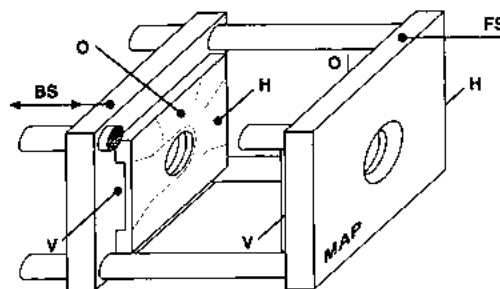
Cost-efficiency comparison for mould-change on a 1000 kN injection moulding machine.

	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 sheets upon request. Screws are included.



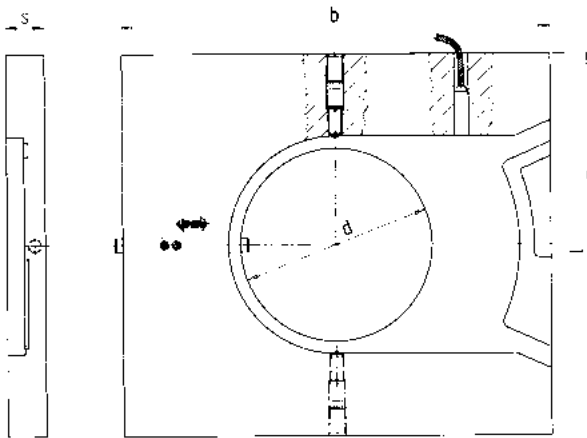
BS = moveable half
 FS = fixed half
 H = rear *

O = top*
 V = front*

* Please specify side of locking system



ADAPTER PLATES **AD**

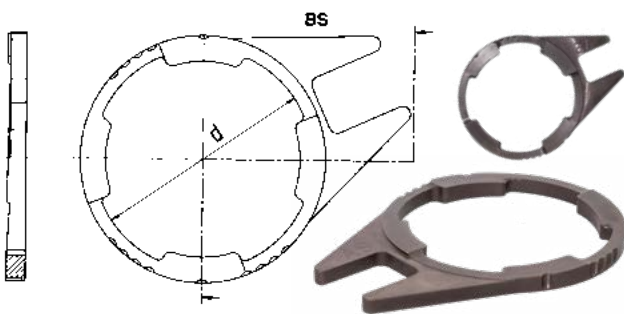


Mould safety device is available as option.

Mat.: 1.2312
BS and FS are mirror-inverted

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
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**



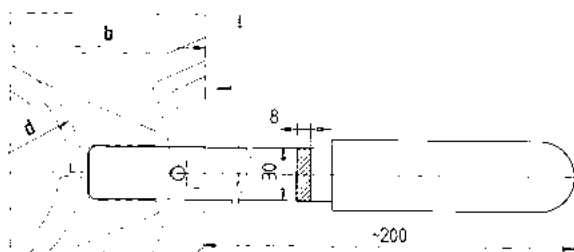
Mat.: 1.2312 ~ 1030 N/mm²
BS and FS are mirror-inverted

REF	d	Type
SP110BS	110	BS*
SP110FS	110	FS*
SP125BS	125	BS*
SP125FS	125	FS*

*BS = moveable half
*FS = fixed half

WRENCH **SPS110**

CAD reference point



Mat.: St 50
When ordering please specify: Flange dia., size of adapter plate, wrench opening, Type of moulding machine.

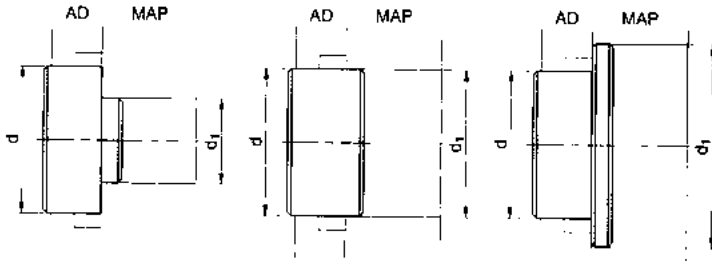


BAKRA CLAMPING SYSTEM

CENTERING DEVICE

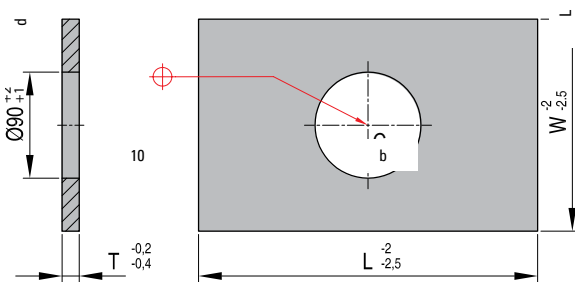
ZV

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

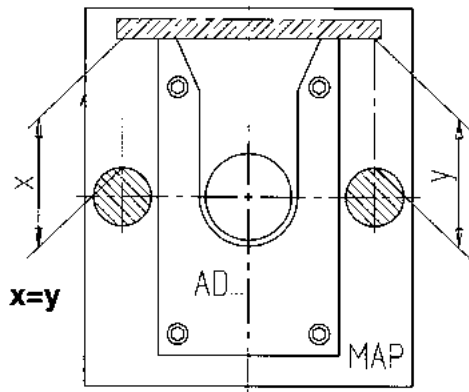
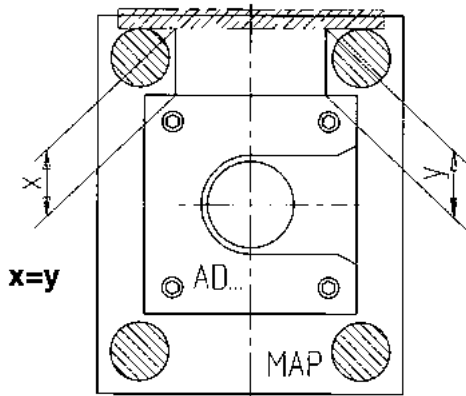
ZF 110		ZF 125	
Moveable half (BS)	Fixed half (FS)	Moveable half (BS)	Fixed half (FS)
<p>ZF110BS3</p> <p>4 x Ø 10</p>	<p>ZF110FS3</p> <p>4 x Ø 10</p>	<p>ZF125BS1</p> <p>4 x Ø 12</p>	<p>ZF125FS1</p> <p>4 x Ø 12</p>
<p>ZF110BS4</p> <p>4 x Ø 10</p>	<p>ZF110FS4</p>	<p>ZF125BS2</p>	<p>ZF125FS2</p>
<p>ZF110BS5</p>	<p>ZF110FS6</p> <p>6 x Ø 8</p>	<p>ZF125BS3</p> <p>4 x Ø 12</p>	<p>ZF125FS3</p> <p>4 x Ø 12</p>
<p>ZF110BS7</p> <p>6 x Ø 8</p>	<p>ZF110FS8</p> <p>4 x Ø 10</p>	<p>ZF125BS4</p>	<p>ZF125FS4</p>
<p>ZF110BS8</p> <p>6 x Ø 8</p>	<p>ZF110FS9</p> <p>4 x Ø 10</p>	<p>ZF125BS5</p> <p>6 x Ø 10</p>	<p>ZF125FS5</p> <p>6 x Ø 10</p>
<p>ZF110BS10</p> <p>6 x Ø 8 / 4 x Ø 10,5</p>	<p>ZF110FS10</p> <p>6 x Ø 8 / 4 x Ø 11</p>	<p>ZF125BS7</p> <p>8 x M10 x 20</p>	<p>ZF125FS7</p> <p>6 x M10 x 20</p>
<p>ZF110BS16</p> <p>4 x Ø 10</p>	<p>ZF110FS11</p> <p>6 x Ø 8</p>	<p style="text-align: right;">ZF125BS1</p>	
	<p>ZF110FS16</p>		

CAD reference point

BAKRA CLAMPING SYSTEM

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.

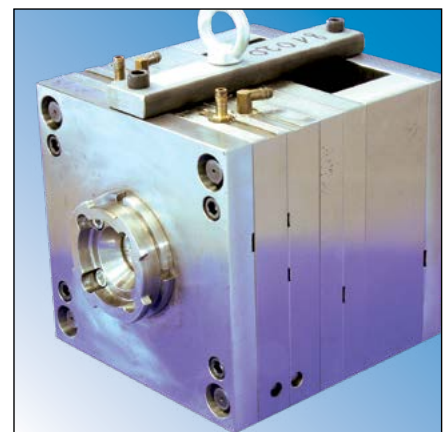
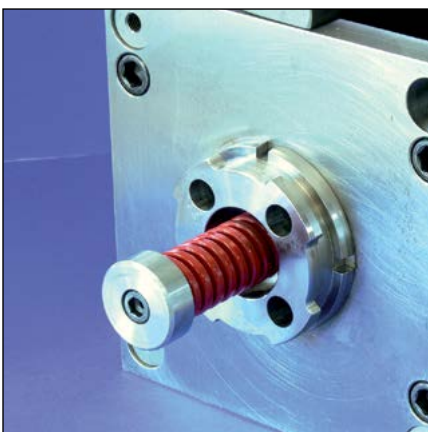
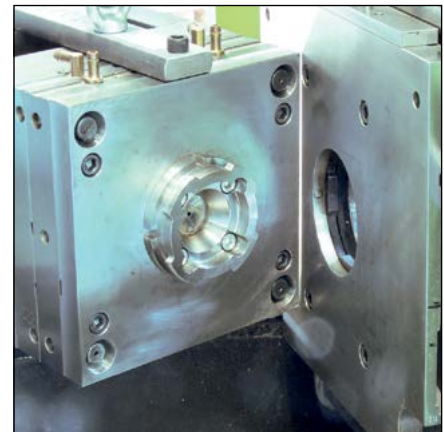
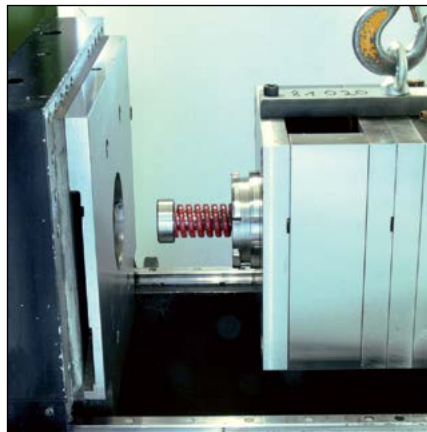
Position these subgroups according to the markings FS or BS onto the machine plates and mount them with SHC-screws. Don't screw in completely so that adjustment is still possible.

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.



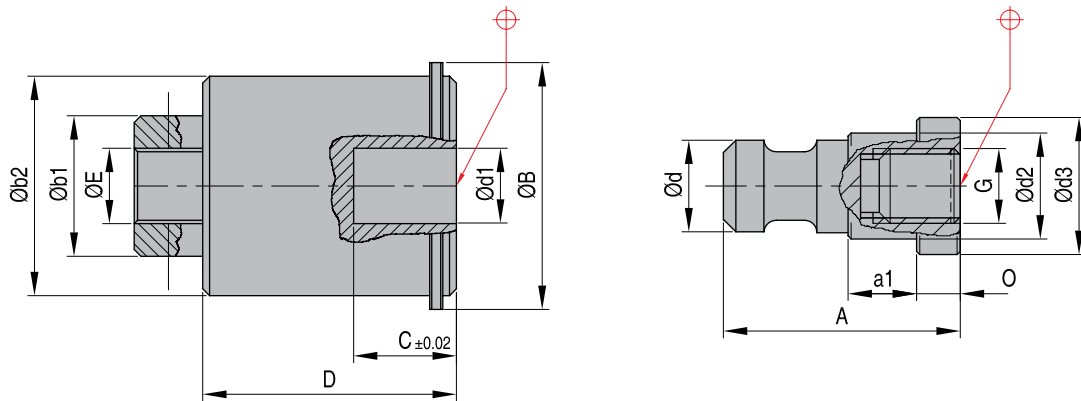


EJECTORS & COUPLINGS



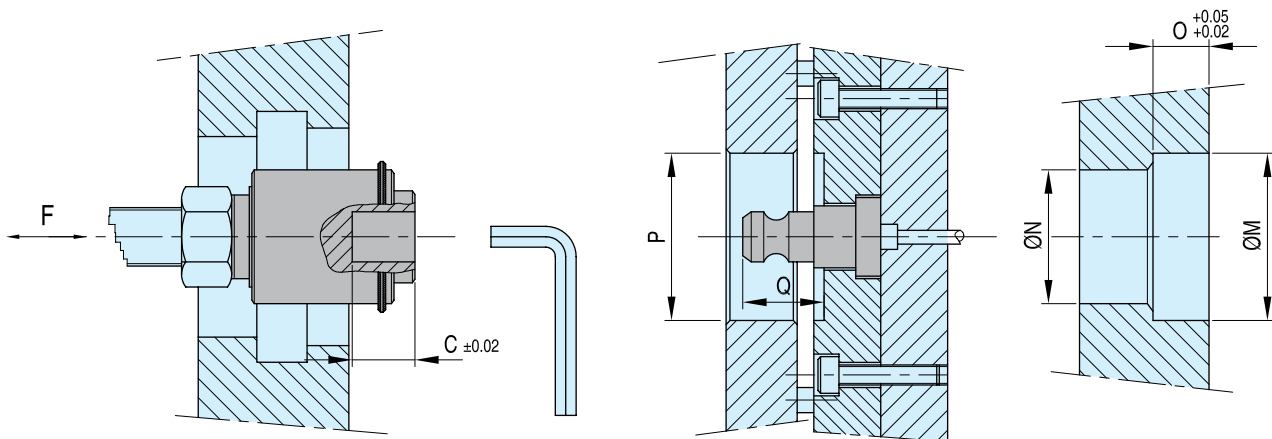
EJECTOR COUPLINGS

QUICK ACTION EJECTOR RETURN COUPLINGS FOR PRESSES WITH HYDRAULIC EJECTION

AR


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

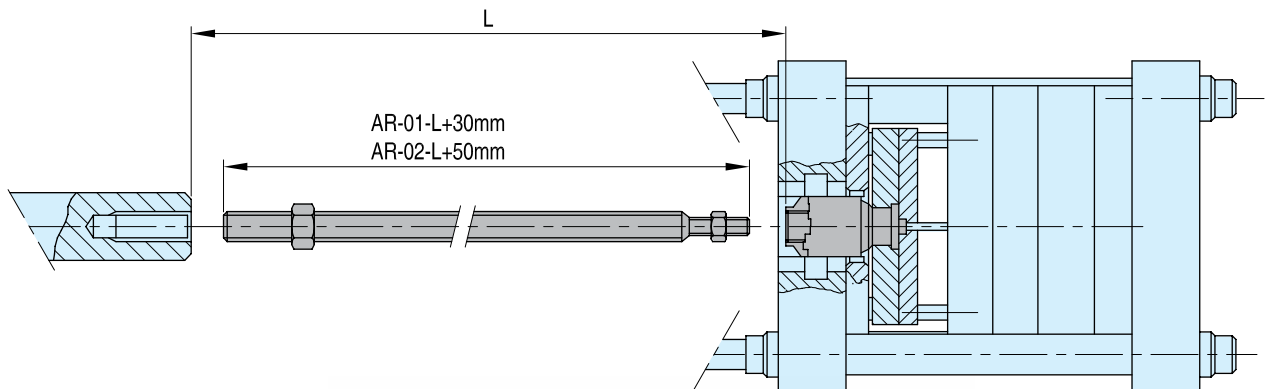
AR


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.

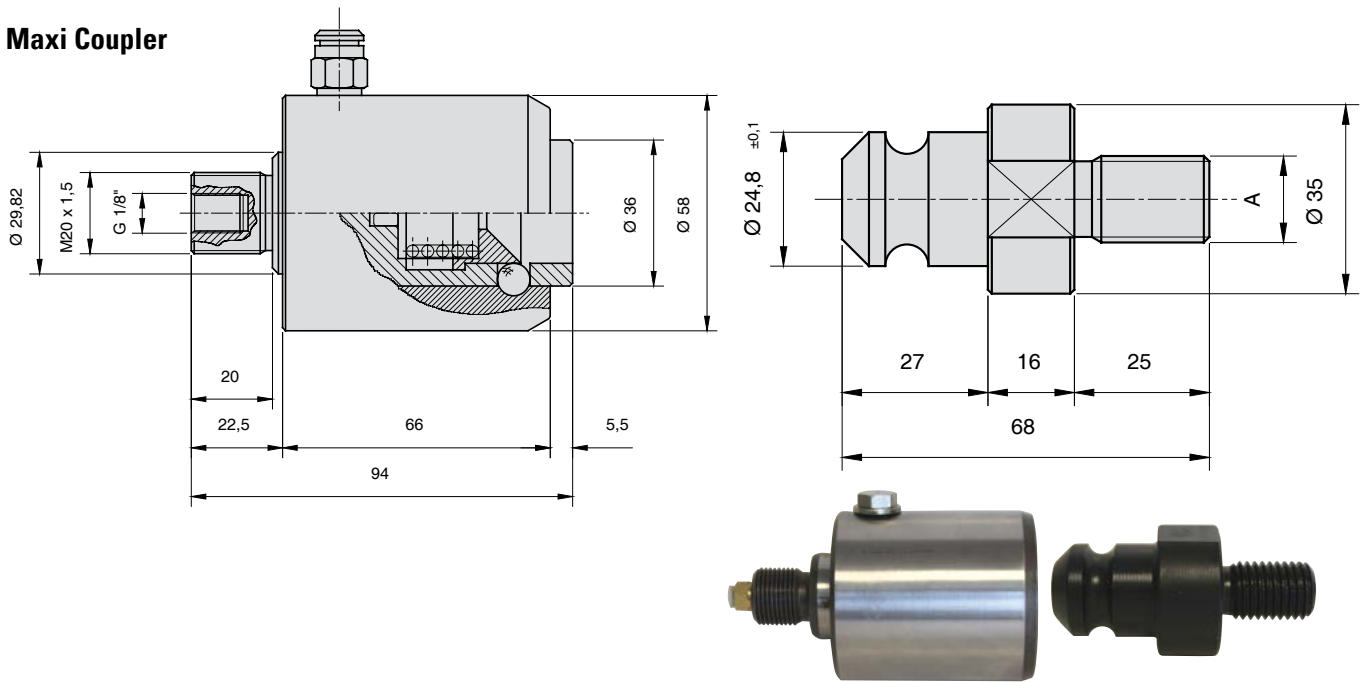
Do not use with quick mould change systems.

CAD reference point

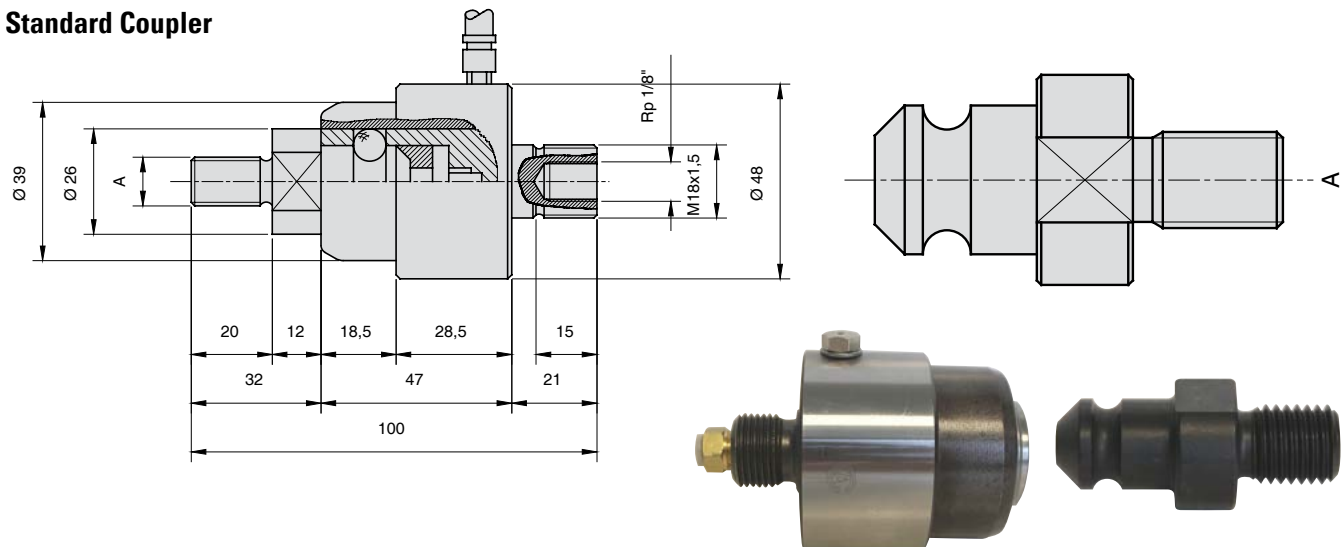


KNOCKOUT COUPLERS

 AIR OPERATED QUICK KNOCKOUT COUPLER
 FOR MACHINES WITH HYDRAULIC EJECTION

QKAC - QKBMA - QKB
Maxi Coupler

Maxi Coupler

REF	Pulling Force	REF	A
QKACX20MAX	3400 kg (max)	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

Maxi Barbs
Standard Coupler

Standard Coupler

REF	Pulling Force	REF	A
QKACX18	2700 kg (max)	QKBM10	M10x1,75
		QKBM12	M12x1,75
		QKBM14	M14x2
		QKBM16	M16x2

Standard Barbs



CONSUMABLES





Sprays & chemicals

Release agents.....	262
Mould cleaners	264
Anti-corrosion agents	265
Lubricants	266
Casting compounds.....	267
Purifying agents.....	268
Others.....	271





C 120 grease solvent is particularly suitable for cleaning metal parts before painting, gluing, varnishing or other working steps. It is not suitable for the treatment of varnished surfaces, rubber, and insulated parts.

C 120 grease solvent is particularly suitable for cleaning metal parts before painting, gluing, varnishing or other working steps. It is not suitable for the treatment of varnished surfaces, rubber, and insulated parts.

Consisting of several powerful solvent components which is benign to the user. In case of any contact with the eye wash with copious amounts of water and consult a medical professional. Prolonged contact may result in dryness of the skin. Vapours may cause dizziness and drowsiness. Do not inhale vapours. Recommended for use in well-ventilated areas. Do not apply to open flames. Do not use in confined spaces. Do not use in the vicinity of hot surfaces. Do not use in the vicinity of electrical equipment. Do not use in the vicinity of flammable liquids. Do not use in the vicinity of flammable gases. Do not use in the vicinity of flammable dusts. Do not use in the vicinity of flammable solids. Do not use in the vicinity of flammable liquids. Do not use in the vicinity of flammable gases. Do not use in the vicinity of flammable dusts. Do not use in the vicinity of flammable solids.



SPRAYS & CHEMICALS



RELEASE AGENTS

SILICONE FREE MOULD RELEASE AGENT

ECO-22


- 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

REF	ml
EC022	12 x 400

SILICONE MOULD RELEASE AGENT

ECO-33


- 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)

REF	ml
EC033	12 x 400

SILICONE-FREE MOULDRELEASE AGENT C 150



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!

REF	ml
C150E	400

SILICONE RELEASE AGENT C 155



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.

REF	ml
C155E	400

SILICONE-FREE RELEASE AGENT FOR POLYCARBONATES C 158



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.

REF	ml
C158E	300

MOULD CLEANERS

MOULD CLEANER

C 126


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.

REF	ml
C126EN	500

GREASE SOLVENT **C 120**



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 pouring 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.

REF	ml
C120E	500

RUST-SOLVING OIL **C 110**



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.

REF	ml
C110EN	400

ANTI-CORROSION AGENT (CRYSTAL CLEAR) **C 100**



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.

REF	ml
C100E	400

TRANSPARENT ANTICORROSION AGENT **C 106**



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.

REF	ml
C106EN	500

CAD reference point

LUBRICANTS

SYNTHETIC LUBRICANT (SPRAY) / LUBRICATION PASTE

C 138 / C 139


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

REF	ml
C138EN	500
C139E	150

SPECIAL HIGH-EFFICIENCY OIL WITH MOS2

C 160


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 equipment.
The addition of molybdenum reduces friction.

REF	ml
C160E	400

MULTI-PURPOSE LUBRICANT (SPRAY) / LUBRICATION PASTE

C 167 / C 168


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.

REF	ml
C167EN	500
C168E	150

MOULDRELEASING AND LUBRICATING AGENT WITHTEFLON

RZ 30


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.

REF	ml
RZ30	400

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/cm ³
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 Shrinkage	0.05 mm/m	
Abrasive resistance	Taber	22 mm ³ /100U
Storage (months)	12	

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 shrinkage

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 mouldreleasing 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 bushes 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

PLASTIC STEEL 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

PURIFYING AGENTS

FRESH START PURGING SOLUTIONS™



Fresh Start Purging Solutions™ are a patented, revolutionary, all-purpose purging compounds which are intended to cover the needs of the plastic processing industry. The MC2-HH™ & GP-HH Hybrid solutions are only two in a series of innovative and ground breaking purges designed for the removal of unwanted pigments, polymers and contaminants without leaving residue.

Both formulas have been engineered to pass through hot runner systems with a min 0,254 mm or 254µm (microns) to completely clean the entire flow path. No need for soak time or to increase the heat over your normal processing temperatures.

MC2-HH™ and **GP-HH Hybrid** formulas encompass many capabilities all in one formula vs other compounds that are engineered for only one issue or process type:

1. High Heat
2. Hot Runner Cleaning
3. Clear Applications
4. Process Type

Why buy all these grades, manage inventory, and hope the correct grade is used for each application. Streamline your processes and consolidate into one purge that will satisfy all your needs.

	Grades	GP-HH Hybrid	MC2-HH™
Injection Molding	Hot Runner Systems	•	•
	Cold Runner / Conventional	•	•
Other Processes	Blow Molding	•	•
	Compounding	•	•
Extrusion	Blown Film	•	•
	Cast Film	•	•
	Sheet	•	•
	Profile	•	•
Processing Temperatures	Low (°F)	350	350
	High (°F)	625	625
	Low (°C)	177	177
	High (°C)	329	329

WEEKENDER FEATURE

MC2-HH™ allows the purge to sit in the barrel over a shut-down period without degrading and seals the screw and barrel from moisture. This feature allows for easy start-ups by simply adding your process resin to the hopper and start running production parts.

FRESH START MECHANICAL PURGING COMPOUND

MC2-HH

MC2-HH™ is a proprietary solution for mechanical purge applications where hybrid / chemical purges are not preferred.

- Engineered thermoplastic purging solutions, formulated for the effective removal of resins, pigments and contaminants
- Designed for quick color changes
- Specifically formulated for cleaning manifolds, hot runners and other channels with tight clearance
- Safe, non-abrasive, non-hazardous purging solution developed around Generally Recognized As Safe (GRAS) ingredients under FDA 21 CFR
- Formulated for ease of use with no purging solution residue

REF	Description
MC2A55	MC2-A PE BASED 55LBS - MECHANICAL
MC2A1320	MC2-A PE BASED 1320LBS - MECHANICAL

The flexibility of Fresh Start Purging Compounds allows users to replace a number of formulas/grades typically used for a specific application. This feature could reduce inventory, purchasing costs, and accidental missuse.

Unlike other purging compounds, Fresh Start Purging Compounds require zero soak time for the chemical reactions to take place. Other purging formula brands require the temp to be raised to get the best performance out of the purge. Fresh Start MC2-HH™ and GP-HH Hybrid do not require or suggest raising the barrel temps.

FRESH START HYBRID PURGING COMPOUNDS **GP-HH**

GP-HH Hybrid is a patent pending mechanical/chemical purging solution designed for the superior removal of the most difficult engineering resins from plastics processing equipment.

- Engineered thermoplastic purging solutions, formulated for the effective removal of even the most difficult resins, pigments and contaminants
- Designed for ease of use with no purging solution residue
- Ideal for quick color changeovers, particular liquid pigment dispersions and dyes
- Safe, non-abrasive, non-hazardous purging solution developed around Generally Recognized As Safe (GRAS) ingredients under FDA 21 CFR
- Not recommended for POM resins

REF	Description
GPA55	GP-A PE BASED 55LBS - HYBRID CHEMICAL/MECHANICAL
GPA1320	GP-A PE BASED 1320LBS - HYBRID CHEMICAL/MECHANICAL

APPLICATIONS & SPECIFICATIONS



Applications:	Injection- cold and hot runners, blow moulding Extrusion- profile, sheet, cast film, compounding, blow film
Temperature Range:	177° C - 329°C
Types of Resins:	All types
Minimum Clearance:	0,254mm or 254µm (microns)
Amount of Purge	Generally requiring 1 to 3 times the barrel capacity depending on the machine condition
Shelf-life	For best results use within 12 months. The purging compounds have been adjusted to address the challenge of exposure to moisture. (Keep bag sealed for maximum shelf life.)

Machine Clamping Force	Suggested Purge Quantity Guideline	
	Initial Purge	Regular Use
100 ton machine	2,268 kg	0,68 kg
200 ton machine	3,402 kg	1,134 kg
300 ton machine	4,536 kg	1,814 kg
400 ton machine	6,804 kg	2,495 kg
500 ton machine	8,165 kg	2,948 kg
600 ton machine	9,072 kg	3,629 kg
700 ton machine	11,34 kg	4,309 kg
800 ton machine	12,701 kg	4,763 kg
900 ton machine	14,515 kg	5,443 kg
1000 ton machine	15,876 kg	6,123 kg
1500 ton machine	18,144 kg	9,072 kg
2000 ton machine	20,412 kg	11,793 kg
2500 ton machine	22,68 kg	14,969 kg
3000 ton machine	29,484 kg	18,144 kg

Process		Grades	
		GP-HH Hybrid	MC2-HH™
Injection Molding	Hot Runner Systems	•	•
	Cold Runner/Conventional	•	•
Other Processes	Blow Molding	•	•
	Compounding	•	•
Extrusion	Blown Film	•	•
	Cast Film	•	•
	Sheet	•	•
	Profile	•	•
Processing Temperature	Low (°C)	177	177
	High (°C)	329	329

Suggested Purge Quantity is a guideline for purging the barrel and screw only. Purging through the manifold/mold may require an additional 30 – 50% of the suggested amounts



PURIFYING AGENTS

PURIFYING AGENT

Kapusol


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.

REF	ml
Kapusol	550
Kapusol-L	800

CONDUCTIVE GREASE - SPRAY **DME 63**



T = -180°C to +1200°C
 Protects parts effectively against corrosion and oxydation, prevents welding and fretting corrosion and reduces friction. Non toxic, non leaded, resistant to alkaline solutions and acids.

REF	ml
DME63	400

CONDUCTIVE GREASE - PASTE **MS 110**



T = -180°C to +1200°C
 Protects parts effectively against corrosion and oxydation, prevents welding and fretting corrosion and reduces friction. Non toxic, non leaded, resistant to alkaline solutions and acids.

REF	g
MS110	450

CONDUCTIVE GREASE - INJECTION DISPENSER **MS 120**



T = -180°C to +1200°C
 Protects parts effectively against corrosion and oxydation, prevents welding and fretting corrosion and reduces friction. Non toxic, non leaded, resistant to alkaline solutions and acids.

REF	g
MS120	10

OTHERS

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

MARKING COLOR (BLUE)

C130E


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.

REF	ml
C130E	300

TIGHTNESS TEST SPRAY FOR FLUIDS

C220E


C 220 is a liquid, non-toxic, not inflammable, non-corrosive, biodegradable agent. It is used for tightness tests of pipes and facilities filled with inflammable gas (also for pipes with compressed air, oil, fuel and vapour).

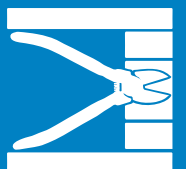
Instruction for use: Spray the surfaces to be tested. Haircracks and pores are now indicated by the developing of long time adhering bubbles or foam.

Caution: When testing oxygen facilities do not spray C 220 in the interior due to risk of inflammation.

REF	ml
C220	400



CUTTERS & PLIERS





Cutters & pliers

Hand cutters	278
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Pneumatic cutters accessories.....	294
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CUTTERS & PLIERS



HAND CUTTERS

PREMIUM GATE CUTTERS

FF - S - G - GR


Features:

High carbon steel holds its edge and out lasts the competition by 1.5-2 times. Electronically hardened and precision ground to 30° results in an ultrasharp, low profile cutting edge than the competition's 60° allowing the blade to cut through plastic without pinching or crushing.

7 blade shapes

10 gate cutter lengths

Ergonomic cutter that reduces stress in the wrist when performing repetitive tasks (right and left handed versions available)

REF	Cutter Type	Handle Length	Blade Length	Blade Opening		Blade Stop	Left Hand	Ergonomic Handle	Weight Grams	Repl. Springs
				Tip	Base					
Flat Face										
FF4	Premium	117,5	17,5	15,9	4,8				71	PSPG2
FF5	Premium	127	19,1	15,9	4,8				93	PSPG2
GR5	Premium	146,1	22,3	19,1	6,4				114	PSPG2
FF6P	Premium	152,4	19,1	19,1	6,4	✓			132	PSPG3
FF6	Premium	155,6	20,7	19,1	4,8				128	PSPG2
FF6EL	Premium	190,5	27	25,4	6,4		✓	✓	128	PSPG2
FF6ER	Premium	190,5	27	25,4	6,4			✓	128	PSPG2
FF7P	Premium	190,5	25,4	25,4	6,4	✓			213	PSPG3
FF7	Premium	190,5	25,4	25,4	6,4				213	PSPG3
FF7EL	Premium	190,5	27	25,4	6,4		✓	✓	213	PSPG2
FF7ER	Premium	190,5	27	25,4	6,4			✓	213	PSPG2
FF8	Premium	203,2	31,8	28,6	9,6				319	PSPG3
Nipper Type										
S4	Premium	117,5	17,5	17,5	4,8				71	PSPG2
S5	Premium	127	19,1	15,9	3,2				93	PSPG4
S5A	Premium	127	14,3	6,4	1,6				93	PSPG2
S6P	Premium	152,4	19,1	19,1	6,4	✓			142	PSPG3
S6	Premium	155,6	22,3	19,1	4,8				142	PSPG2
S6EL	Premium	155,6	22,3	19,1	6,4		✓	✓	142	PSPG2
S6ER	Premium	155,6	22,3	19,1	6,4			✓	142	PSPG2
S7	Premium	190,5	25,4	25,4	6,4				213	PSPG3
S7EL	Premium	190,5	27	25,4	6,4		✓	✓	213	PSPG2
S7ER	Premium	190,5	27	25,4	6,4			✓	213	PSPG2
S8	Premium	203,2	31,8	28,6	9,6				319	PSPG3
Angle Head										
GA5	Premium	149,3	25,4	19,1	6,4				128	PSPG2
GA7	Premium	165,1	25,4	19,1	6,4				156	PSPG3
GA6	Premium	139,7	19,1	9,6	9,6				213	NA
GA6A	Premium	146,1	19,1	12,7	12,7				156	NA

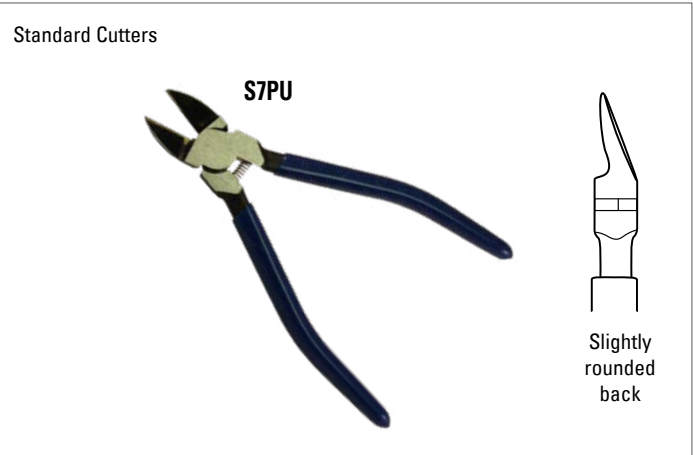
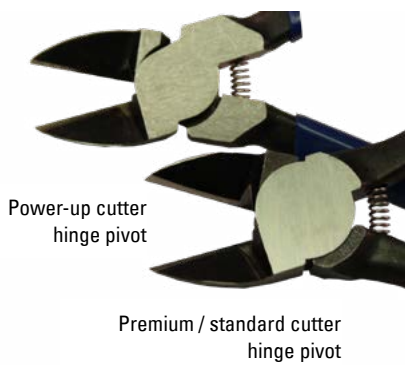
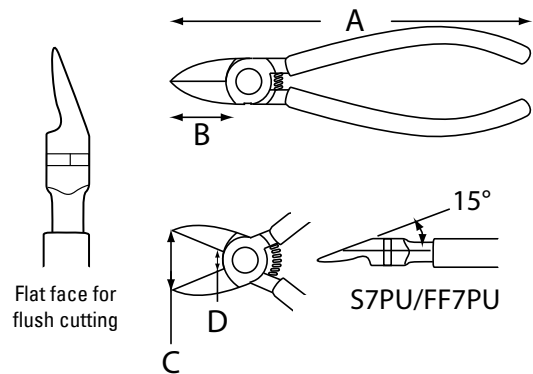
POWER-UP GATE CUTTERS **FF7 - S7**



FF7PU

Comfortable cutting all day

Power-up cutters are designed specifically for cutting heavy duty large sprues with reduced hand pressure. The unique design and forging positions the hinge pivot point off-center to create a cam action which increases blade cutting pressure. Simple mechanical leverage principles reduce the required hand force by up to 50% compared to conventional cutters. The new design of these cutters are ideal for repeat cutting of large, heavy sprues and particularly tough applications such as glass-filled resins.



REF	A	B	C	D
FF7PU	177,8	25,4	20,6	6,4
S7PU	177,8	25,4	20,6	6,4

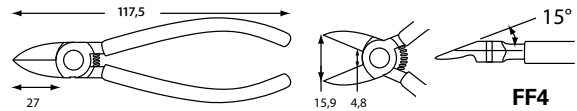
HAND CUTTERS

4" FLAT FACED CUTTER

FF


- Precision-ground and hardened, ultra-sharp cutting blades
- Precision blades cut with a 'snap'
- Small size cutter - ideal for lightweight jobs and frequent use
- Stainless steel spring for long life
- Low profile, flat face for flush cutting

REF	
FF4	
PSPG2	Spare springs

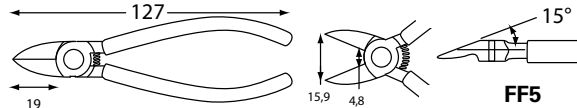


5" FLAT FACED CUTTER

FF


- Special Plastic Cutting Pliers
- Flat Back for flush cutting - top quality
- Precision blades cut with a 'snap'
- Made from our own dies
- Stainless steel spring for long life
- Low profile, flat face for flush cutting

REF	
FF5	
PSPG2	Spare springs

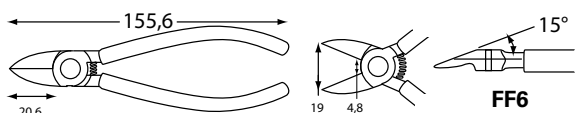


6" FLAT FACED CUTTER

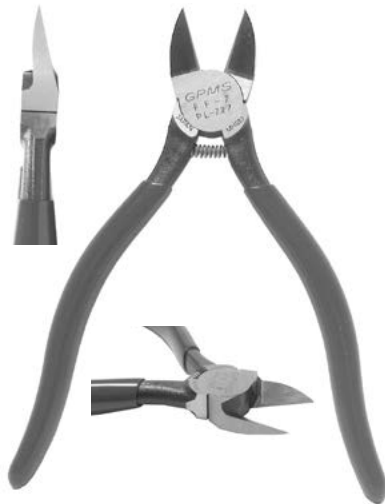
FF


- Special Plastic Cutting Pliers
- Precision blades cut with a 'snap'
- Precision-ground and hardened, ultra-sharp cutting blades
- Stainless steel spring for long life
- Flat Back for flush cutting - top quality
- Made from our own dies
- Stainless steel spring for long life
- Low profile, flat face for flush cutting

REF	
FF6	
PSPG2	Spare springs

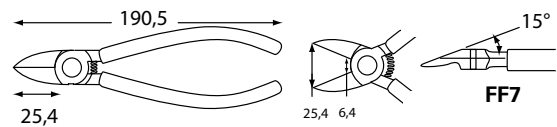


7" FLAT FACED CUTTER **FF**



- Precision-ground and hardened, ultra-sharp cutting blades
- Precision blades cut with a 'snap'
- Flat Back for flush cutting
- Stainless steel spring for long life
- Low profile, flat face for flush cutting
- Made from our own dies

REF	
FF7	
PSPG3	Spare springs

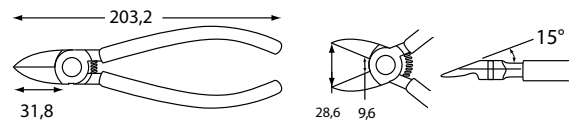


8" FLAT FACED CUTTER **FF**

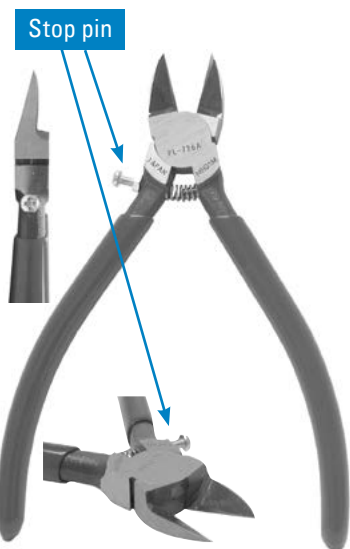


- Special Plastic Cutting Pliers
- Flat Back for flush cutting
- Precision blades cut with a 'snap'
- Precision-ground and hardened, ultra-sharp cutting blades
- Made from our own dies

REF	
FF8	
PSPG3	Spare springs

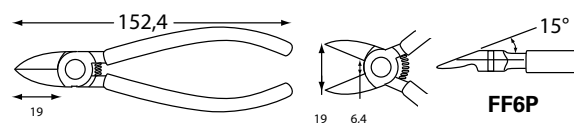


6" FLAT-FACED ADJUSTABLE STOP **FF**



- Low profile, flat face for flush cutting
- Heavy-duty, large-profile blades
- With adjustable stop pin screw. Ideal for use with brittle plastics
- Prevents blades from touching; increases life

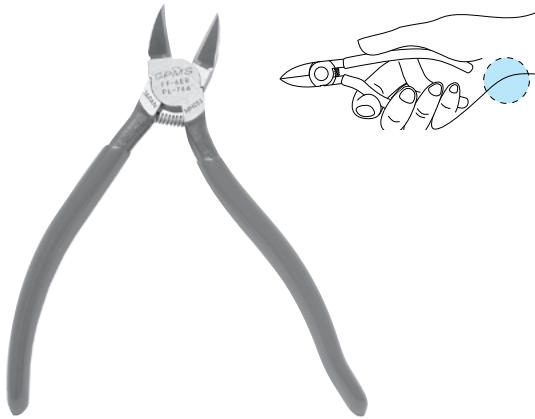
REF	
FF6P	
PSPG3	Spare springs



CAD reference point

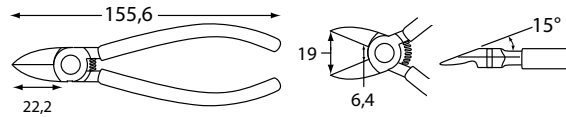
HAND CUTTERS

6" FLAT FACED ERGONOMIC CUTTERS

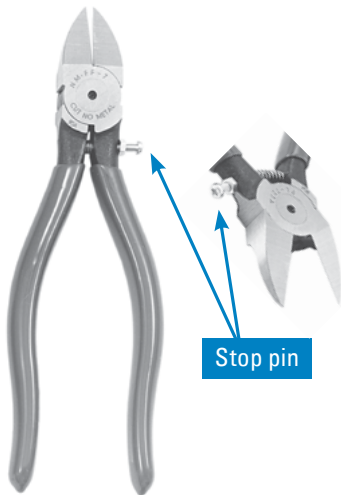
FF


Ergonomic cutters – Help prevent carpal tunnel syndrome
Flat Back for flush cutting

REF	
FF6EL	Left hand
FF6ER	Right hand
PSPG2	Spare springs

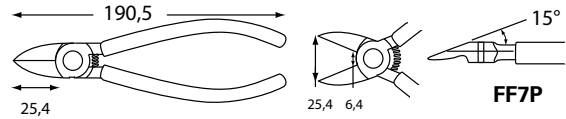


7" FLAT-FACED ADJUSTABLE STOP

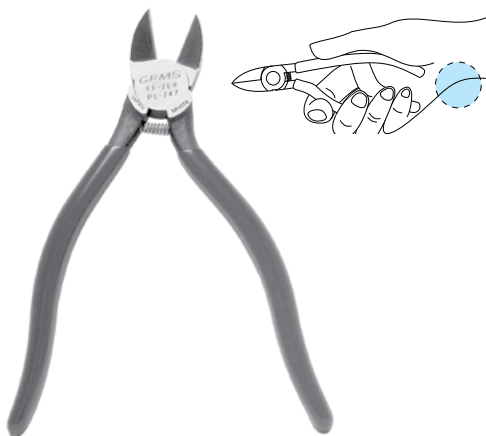
FF


- Low profile, flat face for flush cutting
- Heavy-duty, large-profile blades
- With adjustable stop pin screw. Ideal for use with brittle plastics
- Prevents blades from touching; increases life

REF	
FF7P	
PSPG3	Spare springs

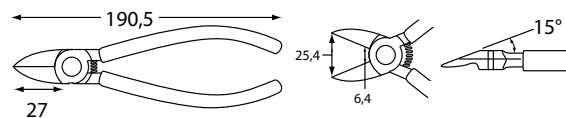


7" FLAT FACED ERGONOMIC CUTTERS

FF


- Ergonomic cutters – Ideal for repetitive jobs
- Flat Back for flush cutting

REF	
FF7EL	Left hand
FF7ER	Right hand
PSPG2	Spare springs



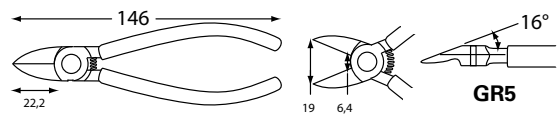
6" FLAT FACED CUTTER

GR



- Specially Designed for the Plastics Industry
- New Hardened Spring
- Precision blades cut with a 'snap'
- Electronically hardened cutting edge
- Low profile, flat face for flush cutting
- Bonded plastic grip
- Lightweight (4 oz.) + perfect balance = less operator fatigue
- made from our own dies and produced in large quantities
- ideal for small to medium parts where much repetitious cutting is involved

REF	
GR5	
PSPG2	Spare springs



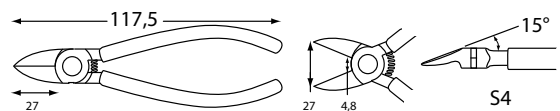
4" NIPPERTYPE CUTTERS

S



- Small but with strong head - for limited access, tough cutting jobs
- Precision-ground and hardened, ultra-sharp cutting blades
- Stainless steel spring for long life
- Precision blades cut with a 'snap'
- Slightly rounded back

REF	
S4	
PSPG2	Spare springs



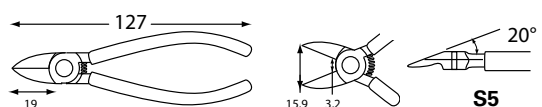
5" NIPPERTYPE CUTTERS

S



- Thin Points - slightly rounded back - flush cutting
- Precision blades cut with a 'snap'
- Ideal Nipper for small hands
- Made from our own dies
- Stainless steel spring for long life
- Low profile

REF	
S5	
PSPG2	Spare springs



CAD reference point

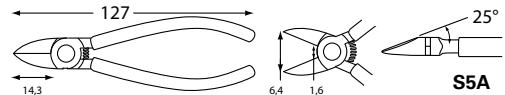
HAND CUTTERS

5" NIPPERTYPE CUTTERS

S


- Small but with strong head - for limited access, tough cutting jobs
- Precision-ground and hardened, ultra-sharp cutting blades
- Stainless steel spring for long life
- Precision blades cut with a 'snap'
- Slightly rounded back

REF	
S5A	
PSPG4	Spare springs

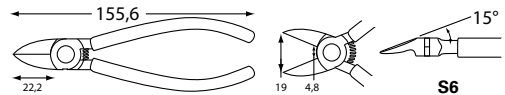


6" NIPPERTYPE CUTTERS

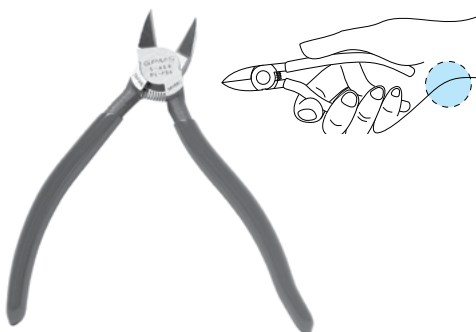
S


- Thin Points - slightly rounded back - flush cutting
- Precision-ground and hardened, ultra-sharp cutting blades
- Ideal Nipper for small hands
- Made from our own dies
- Stainless steel spring for long life
- Low profile

REF	
S6	
PSPG2	Spare springs

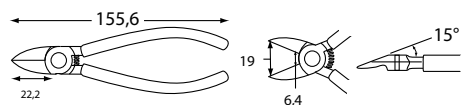


6" NIPPERTYPE ERGONOMIC CUTTERS

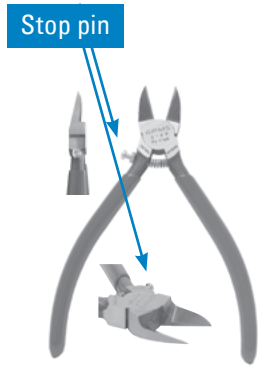
S


- Special curved handle shape reduces stress on wrist - ideal for repetitive tasks
- Precision blades cut with a 'snap'
- Slightly rounded back

REF	
S6EL	Left hand
S6ER	Right hand
PSPG2	Spare springs

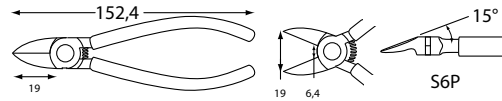


6" WITH ADJUSTABLE STOP S

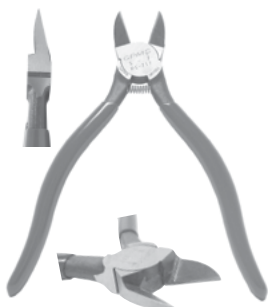


- With adjustable stop pin screw; ideal for use with brittle plastics; prevents blades from touching; increases life
- Slightly rounded back

REF	
S6P	
PSPG3	Spare springs

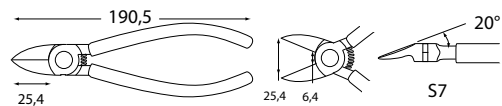


7" NIPPERTYPE CUTTERS S

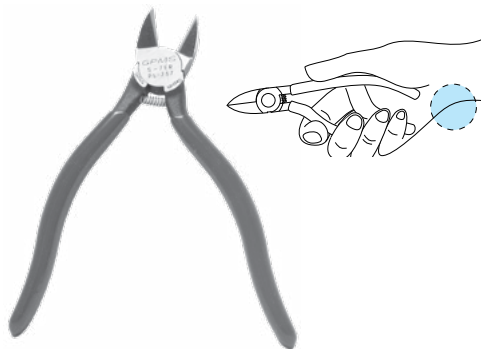


- Ideal Nipper for heavy sprues
- Precision blades cut with a 'snap'
- Low profile, slightly rounded back
- Stainless steel spring for long life

REF	
S7	
PSPG3	Spare springs

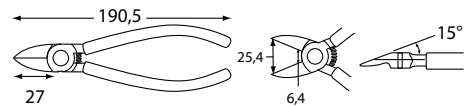


7" NIPPERTYPE ERGONOMIC CUTTERS S



- Special curved handle shape reduces stress on wrist - ideal for repetitive tasks
- Precision blades cut with a 'snap'
- Slightly rounded back

REF	
S7EL	Left hand
S7ER	Right hand
PSPG2	Spare springs

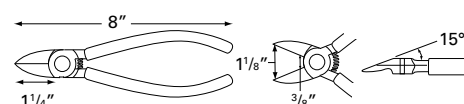


8" NIPPERTYPE CUTTERS S



- Special Plastic Cutting Pliers
- Thin Points - slightly rounded back - flush cutting
- Precision blades cut with a 'snap'
- Precision-ground and hardened, ultra-sharp cutting blades
- Slightly rounded back

REF	
S8	
PSPG3	Spare springs



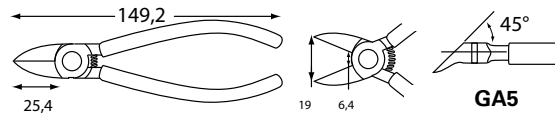
HAND CUTTERS

45° ANGLE CUTTERS

GA


- Angled Cutters - Ideal for recessed sprues
- Made from our own dies
- Low profile
- Stainless steel spring for long life

REF	
GA5	
PSPG2	Spare springs

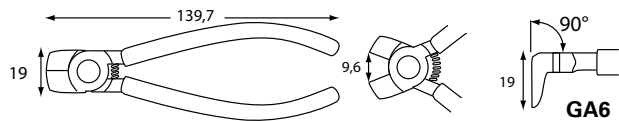


90° ANGLE CUTTER

GA


- Angled Cutters - Ideal for recessed sprues
- High-quality precision 90° cutter with standard lap hinge

REF	
GA6	

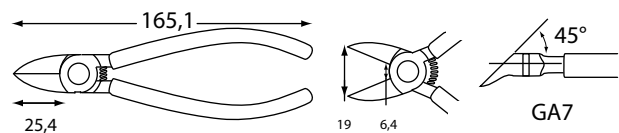


45° ANGLE CUTTERS

GA


- Angled Cutters - Ideal for recessed sprues
- Made from our own dies
- Low profile
- Stainless steel spring for long life

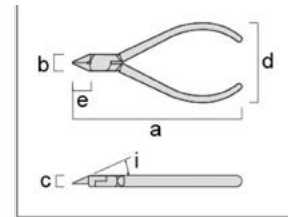
REF	
GA7	
PSPG2	Spare springs



DME PRO SERIES FFB



Mini Size Nippers for small sprue and gate cutting where less force is required. The unique hinge design and off set handles provide a cam action resulting in increased blade cutting pressure with less effort than traditional cutters. The new hinge design, highly polished blades and coil spring pack a 1,2,3 punch allowing for hours of cutting with less fatigue.

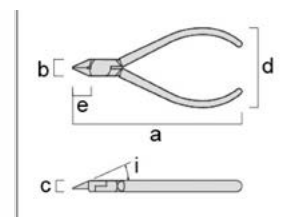


REF	Sprue Ø	A OAL	B Head Width	C Height	D Handle Width	E Blade length	F Angle of Blade	Spring	Cutting Blades	Blade Shape
FF4B	3	110	11	7.5	53	12,7	25	Yes	Double	Flat

DME PRO SERIES TBSB



Thin Blade Cutters are ideal due to their slicing action through the gate as apposed to a crush and cut which leaves an unattractive edge and requires more hand force. Try a thin blade cutter to see and feel the difference.



REF	Sprue Ø	A OAL	B Head Width	C Height	D Handle Width	E Blade length	F Angle of Blade	Spring	Cutting Blades	Blade Shape
TBS5B	3	126	13,5	7	52	13	25	Yes	Double	Round
TBS6PB	2	156	15,5	9	50	17,5	15	Yes	Double	Round

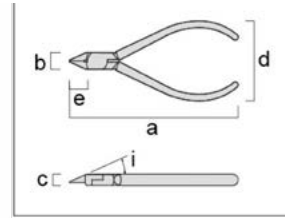
HAND CUTTERS

DME PRO SERIES

FF5B - S5B



The Single Blade Cutters are designed for cutting the hard plastic gates of engineered resins (POM, PA, PC, etc.). A single blade enables the user to "slice off" plastic without leaving flash on the cut section for a nice clean edge. The cutters also incorporate a coil spring for easy continuous cutting. Available in Round and Flat Face blades to fit your application.



REF	Sprue Ø mm	A OAL mm	B Head Width	C Height	D Handle Width	E Blade length	F Angle of Blade	Spring	Cutting Blades	Blade Shape
FF5SB	3	131	15,5	9	50	16	15	yes	Single	Flat
FF6SB	5	154	17,5	10	50	20	15	yes	Single	Flat
S5SB	3	131	15,5	9	50	16	15	yes	Single	Round
S6SB	5	154	17,5	10	50	20	15	yes	Single	Round



Double-edged type



Single-edged type

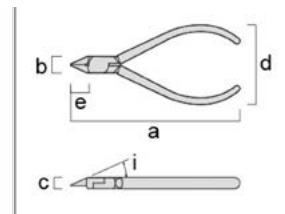


Blades are dressed thinner to provide a sharper edge than standard nippers. This produces less friction during the cut.

DME PRO SERIES FFPB



Heavy Duty Cutters are designed specifically for cutting heavy duty large sprues with reduced hand pressure. The unique hinge design and forging positions the pivot point off-center to create a cam action which increases blade cutting pressure. Most suitable for large and glass filled gate cutting associated with injection molded plastic, plastic burrs and plastic model making. Available in 183 and 200 mm overall lengths.

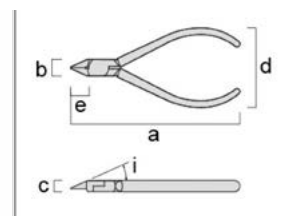


REF	Sprue Ø mm	A OAL mm	B Head Width	C Height	D Handle Width	E Blade length	F Angle of Blade	Spring	Cutting Blades	Blade Shape
FF7PB	6	183	22	10,5	49	23	15	no	Double	Flat
FF8PB	8	200	25	13	52	25	17	no	Double	Flat

DME PRO SERIES FFB - SB - SPB



Force Enhancement Cutters are newly designed cutters ideal for repeat cutting of large, heavy sprues and particularly tough applications such as glass-filled resins. The forged high carbon steel blades are ground and polished to achieve very keen edge, resulting in a beautiful cut cross section. Coil springs are incorporated to continuous cutting. Sanitary antibacterial grip handles are applied to prolong use.



REF	Sprue Ø	A OAL	B Head Width	C Height	D Handle Width	E lade length	F Angle of Blade	Spring	Cutting Blades	Blade Shape
FF5B	3	131	15,5	9	50	16	15	yes	Double	Flat
FF6B	5	154	17,5	10	50	17,5	16	yes	Double	Flat
S5B	3	131	15,5	9	50	16	15	yes	Double	Round
S6B	5	154	17,5	10	50	17,5	16	yes	Double	Round
S5PB	3	131	14	8,5	50	15,8	18	Yes	Double	Round



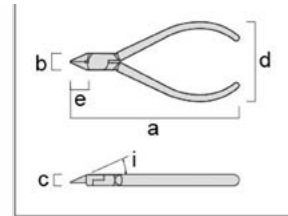
HAND CUTTERS

DME PRO SERIES

GAB



End and Angle Cutting Nippers for easy cutting of gates no matter the application DME has the cutter for you. End Plastic Cutting Nippers for vertical entry suitable for cutting gates and burrs in recessed areas. Coil springs are incorporated enabling continuous cutting. Sanitary antibacterial grip handles are applied to prolong use.

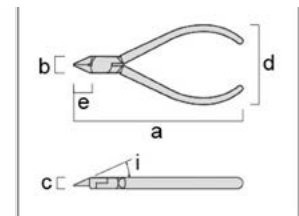


REF	Sprue Ø	A OAL	B Head Width	C Height	D Handle Width	E Blade length	F Angle of Blade	Spring	Cutting Blades	Blade Shape
GA5B	3	120	13,6	6	46	20	N/A	yes	Double	Flat
GA6B	3	142	13,6	11	46	27	N/A	yes	Double	Flat

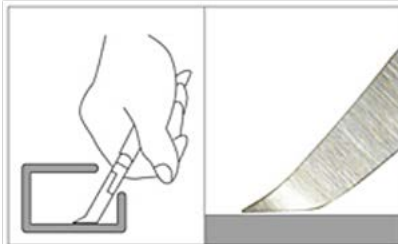
DME PRO SERIES

GASB

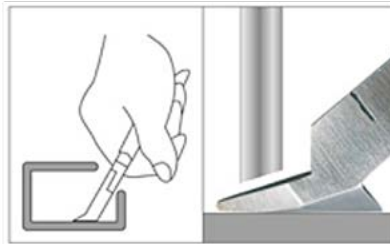
Angled Plastic Cutting Nippers for vertical entry. Most suitable to finish cut tunnel gate and pin gate areas. Both cutters have rounded blades with sanitary antibacterial grip handles applied to prolong use.



GAS6B Angle Plastic Cutting Nipper (25 Degree)



GAS5B Angle Plastic Cutting Nipper (34 Degree)



REF	Sprue Ø	A OAL	B Head Width	C Height	D Handle Width	E Blade length	F Angle of Blade	Spring	Cutting Blades	Blade Shape
GAS5B	3	125	13,6	7,5	46	8	34	yes	Double	Round
GAS6B	5	157	15	11	52	24,4	25	no	Double	Round

DME STANDARD & SPECIALIZED GATE CUTTERS **FFA - SA - GAA - GCX ...**

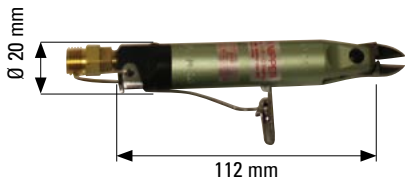


Need a high quality cutter on a budget? DME's standard cutters provide high quality results at an economic price point. Offered in a wide range of lengths and blade styles the standard cutter is forged from high quality steel and ground to a sharp cross cut edge for long lasting usage. Have a hard to reach recessed gate? Try one of our specialized cutters designed to make the job easy.

REF	Cutter Type	Handle Length	Blade Length	Blade Opening		Weight Grams	Repl. Springs
				Tip	Base		
Flat Face							
FF5A	Standard	127	19,1	15,9	4,8	93	NA
FF6A	Standard	158,8	20,7	22,3	6,4	128	NA
FF7A	Standard	190,5	25,4	25,4	6,4	213	NA
Nipper Type							
S5A	Standard	127	14,3	6,4	1,6	93	PSPG2
S6A	Standard	152,4	20,7	22,3	8	142	NA
S7A	Standard	190,5	25,4	25,4	6,4	213	NA
Convex/Concave							
GCX6	Specialized	149,3	22,3	8	6,4	162	NA
GCC5	Specialized	162	25,4	12,7	9,6	153	NA
End Cutters							
24EF	Specialized	114,3	6,4	4,8	NA	64	NA
25EF	Specialized	146,1	9,6	11,2	NA	110	NA
Force Multiplying							
WA1000	Specialized	162	17,5	9,6	3,2	156	NA
Mini Nippers							
NM008	Specialized	127	12,7	12,7	6,4	57	PSPG6
NM009	Specialized	127	12,7	9,6	6,4	57	NA
CN5-51	Specialized	114,3	15,9	8	4,8	156	NA

PNEUMATIC CUTTERS

PNEUMATIC CUTTERS - HAND HELD OR BRACKET MOUNTED

MR3


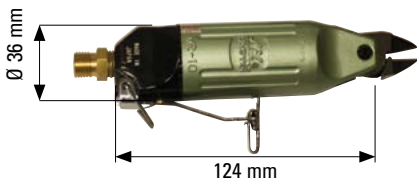
Blade not included

- 265 N cutting power (blade sold separately)
- 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 separately)
- 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 separately)
- 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

PNEUMATIC CUTTERS - HAND HELD OR BRACKET MOUNTED

MP35A


Blade not included

- Heavy duty
- 4410 N cutting power (blade sold separately)
- 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

= Standard

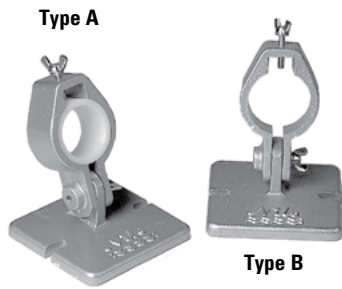
HOW TO ORDER **Info**

Ordering example: **MP35A + F9P**
 REF cutter REF blade

PNEUMATIC CUTTERS ACCESSORIES

MOUNTING BRACKETS

MB...

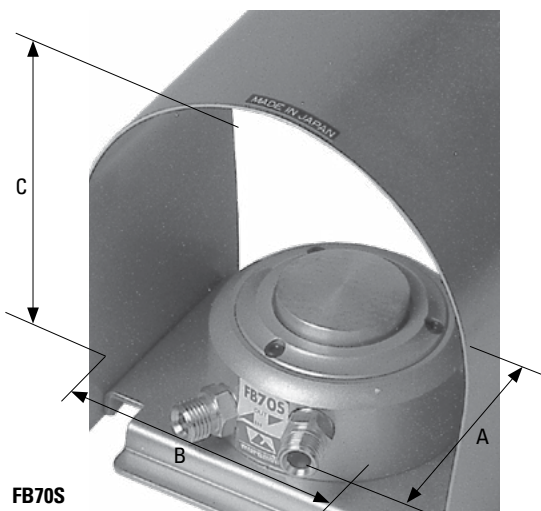


Type A: Mounting Bracket for MR-3 to MR-10 (dia. range = < 46 mm)
 Type B: Mounting Bracket for MR30A to MP35A (dia. range = 48 - 56 mm)
 All brackets: Base= 140 x 120 mm
 Height: 118 mm

REF
MBA
MBB

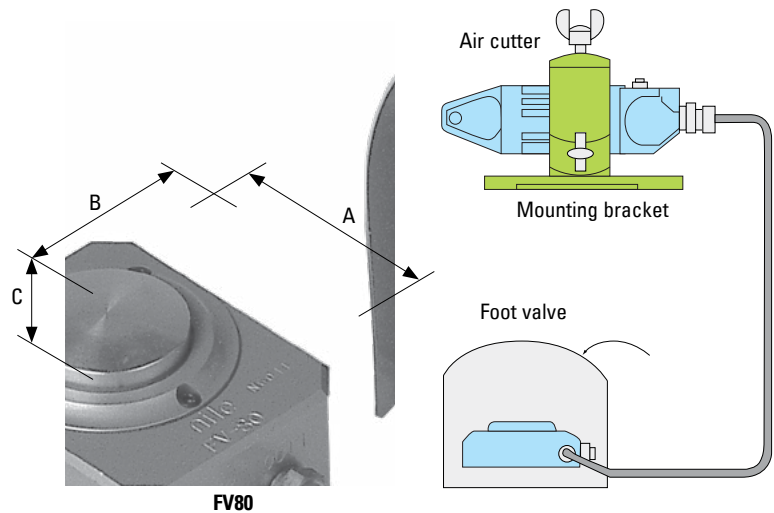
FOOT VALVES

FB70S - FV80

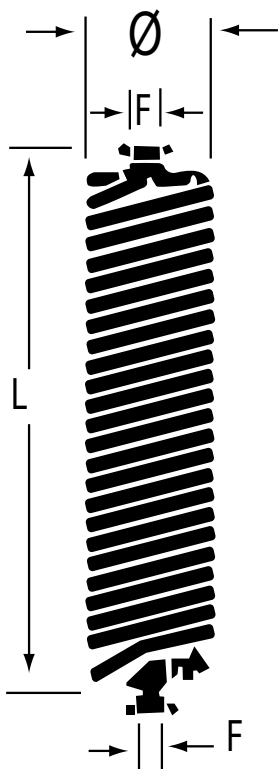


For use with all pneumatic cutters with one air inlet NPT fittings.

REF	Weight (g)	A (mm)	B (mm)	C (mm)
FB70S	970	110	122	145
FV80	600	83	69	48



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.

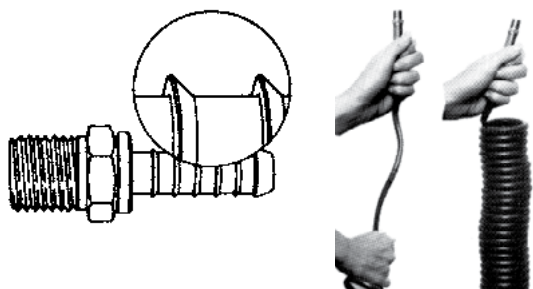
Construction:
 Hose in special light protected blue color Polyamid 12.
 Model HEC 50 is fitted with the SL type safety chain.

	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 HEC2002

REF 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

KNIVES

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


Safe deburring of hard plastics, non ferrous metals and mouldsteels.
Ceramic blade

REF
WF620

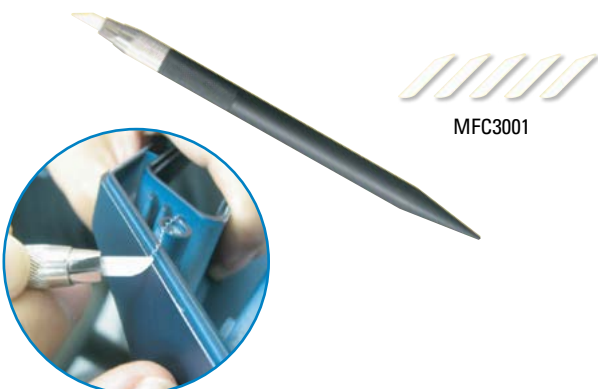
DEBURRING TOOL

WF 1540


Safe deburring of hard plastics, non ferrous metals and mouldsteels.
Ceramic blade

REF
WF1540

MICRO FINISH PRECISION DEBURRING TOOL

MF 400

Features:

- Ideal for curved and complicated shapes
- Safe, ceramic knife without sharp edges
- Includes 2 blades and protective cap

Also available:
Spare ceramic blades set of 5 (MFC3001)

REF
MF400



INJECTION MOULDING MACHINE ACCESSORIES





Removable nozzle tips

Removable nozzle tips	302
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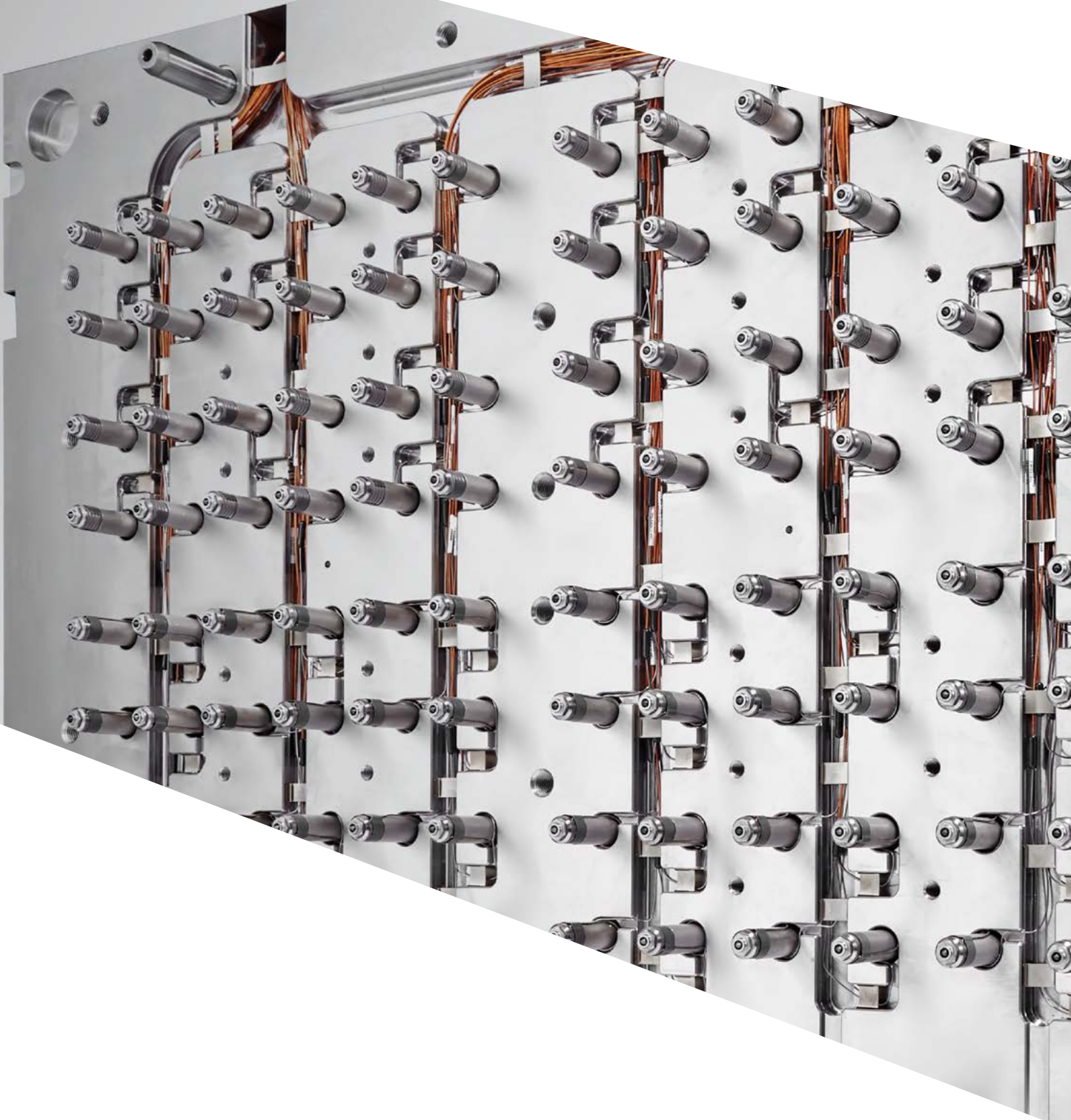
Heater bands

Nozzle heaters.....	306
MICA heater bands	307
Ceramic heater bands.....	308
Nozzle bands.....	309
Strap clamp bands.....	310

Hopper loader

Machine mounted loader	314
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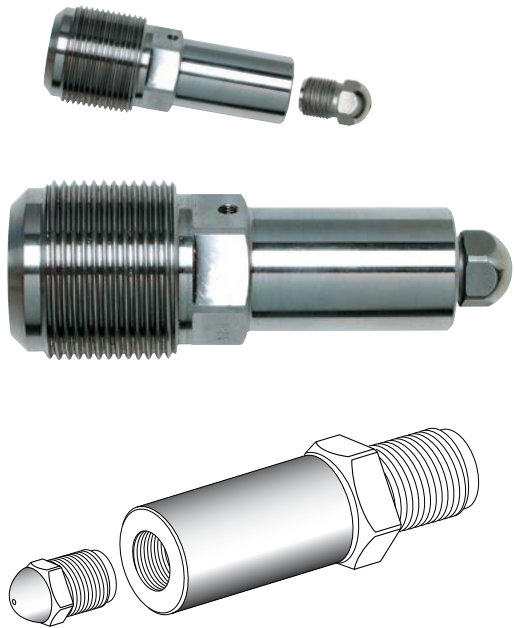
REMOVABLE NOZZLE TIPS



REMOVABLE NOZZLE TIPS

REMOVABLE TIP NOZZLE TIPS

GP - NRT - ABS



Standard nozzles are manufactured to fit your machine and accept regular 7/8"-14 thread replacement nozzle tips.

Mat.: Hardened Chromium-Vanadium Tungsten Tool Steel
Hardness: 48 / 52 RC



7/8" - 14 thread

ORDERING EXAMPLE

Select:

1. Tip Type	2. Length	3. Radius	4. Orifice	
GP - General Purpose NRT - Nylon Reverse Taper ABS - ABS Taper	1 - 38mm 2 - 70mm 3 - 95mm 4 - 125mm	0 - Flat 5 - 12.5mm 6 - 15mm 7 - 19mm 8 - 35mm	I - 1.5mm J - 2.5mm K - 3mm L - 4mm	M - 5mm N - 6mm O - 8mm P - 9.5mm

e.g.: **GP15K** (GP / 1 / 5 / K)

In the above example, the part number for a General Purpose tip, 38mm long, with 12.5mm radius and 3mm orifice is GP15K. 1.5mm and 2.5mm orifice not available in NRT or ABS style tips.

TIPTYPE

Available in 3 internal styles, for use with

			L	OAL	Heater	REF
<p>GP</p> <p>General purpose applications, a good, all-round flow path with smooth internal flow characteristics and minimal restriction to ensure minimum back-pressure.</p>			19	38	-	GP1
			50	70	25x25	GP2
			75	95	25x50	GP3
			108	127	25x75	GP4
<p>NRT</p> <p>Nylon Reverse taper, provides antidrool reverse taper in tip to 'freeze' slug (due to expansion) at tip, enabling drool to be minimized. For use with polyamides and other expansive materials.</p>			19	38	-	NRT1
			50	70	25x25	NRT2
			75	95	25x50	NRT3
			108	127	25x75	NRT4
<p>ABS</p> <p>ABS full taper, provides very smooth full taper design, both in the nozzle body, and continued through the tip. Minimises back pressure and ensures optimum performance, even with the most viscous materials. For use with ABS and other viscous hard-flow materials</p>			19	38	-	ABS1

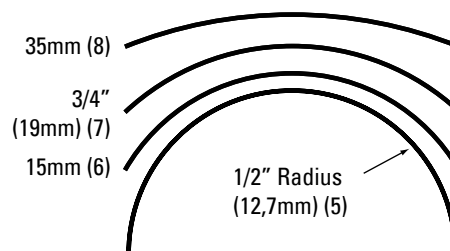
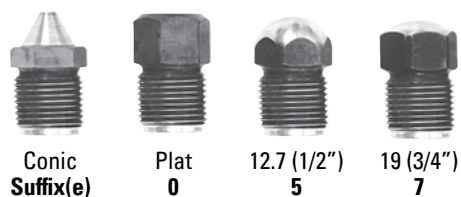
CAD reference point

TIP LENGTH



Regular replacement Nozzle Tips with 7/8" - 14 thread

TIP RADIUS

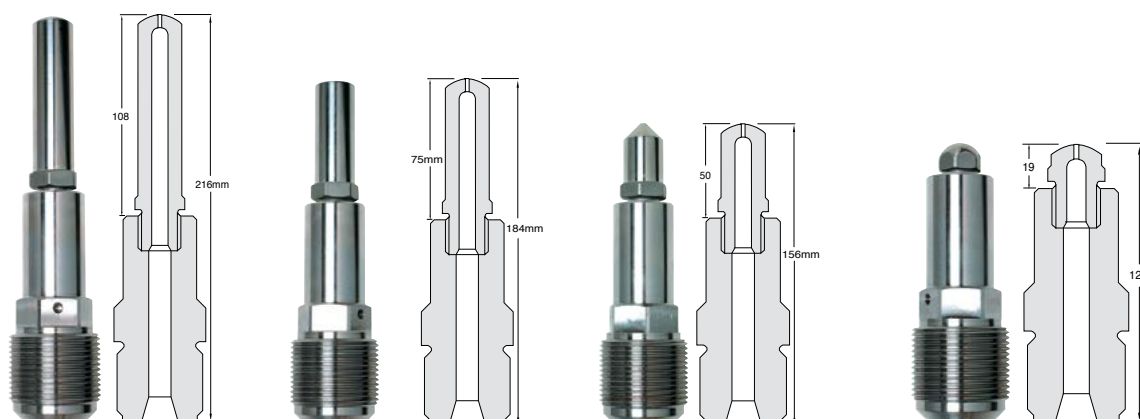


TIP ORIFICE

Orifice	1.5	2.5	3	4	5	6	8	9.5
REF suffix	I	J	K	L	M	N	O	P

Note: 1.5 & 2.5mm orifice only available in GP tip. Not available in NT or ABS

OVERALL DIMENSIONS



NOZZLE BODIES



Nozzle Bodies for removable tips

- Nozzle body with thread to suit your machine. 1 1/2" body diameter accepts standard heater bands and 7/8"-14 female thread at front to accept removable nozzle tips.
- Pre heat-treated steel machined to suit the thread of your machine and accept standard low-cost replacement tips. Any size or specification made to your requirements

CAD reference point

TO FIND YOUR NOZZLE TIP FOR YOUR MACHINE, PLEASE CONTACT OUR SPECIAL PROJECTS TEAM: DMEEU_SPECIALPROJECTS@DME.NET





HEATER BANDS



NOZZLE HEATERS

NOZZLE HEATERS

GM.10, GM.11, GM.12



GM.10
Brass
Mica insulated



GM.12
Stainless Steel
Mica insulated
larger dimension



GM.11
Stainless Steel
Mica Insulated

Plastic resistant, long life expectancy.

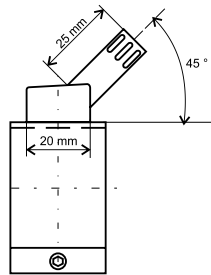
Technical data

- Max. Watt density: up to 4,5 W/cmm² (brass) GM.10 up to 6,5 W/cmm² (inox) GM.11
- Working temperature up to 300 °C (brass), 400 °C (inox)
- Voltage: 230V
- Sheath mat.: Brass or stainless steel
- Insulating material: MICA
- Heating conductor: Nickle-Chrome 80/20
- Temperature resistant nickel wires with glass-silk insulation and a steel mesh cover (400°C)
- Integrated thermocouple type Jor K (option)

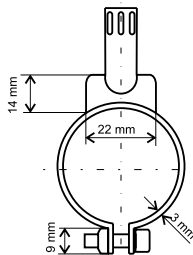


1. Rigid connection
2. Metal braided sleeve
3. Heat resistant rubber protection
4. Nickel wire with colour code / 60 mm
5. Crimped cable ends – optional
6. Prefabricated standard cable lengths: 300 mm, 500 mm, 1000 mm, 1500 mm, 2000 mm

REF
Upon request



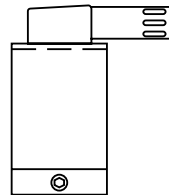
Tip A 45° standard delivery



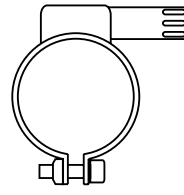
Type C Radial 90°



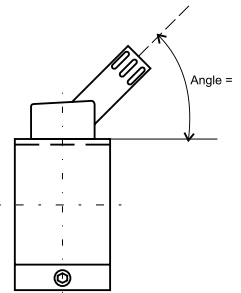
Type B Axial 0°



Type D Tangencial 0°



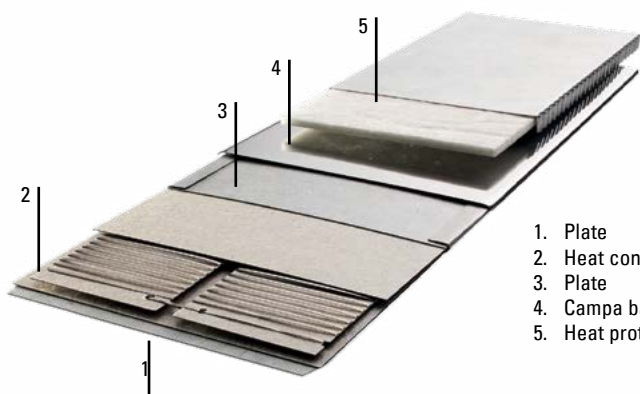
Type, custom design
Specify: angle and direction



MICA INSULATED HEATER BANDS GM.50



- Excellent thermal conductivity as heat transferer
 - Long lifespan when correctly fitted
 - Heating uniformity
 - Easy installation
 - Excellent dielectric strength
- Technical data**
- Max. Watt density 4 W/cmm2
 - Working temperature up to 350 °C
 - Voltages 230V, 400V or other
 - Sheath Stainless Steel AISI430
 - Insulation material MICA
 - Heating conductor Nickle-Chrome 80/20
 - Temperature resistant pure nickel wires with glass-silk insulation and a steel mesh cover (400°C)



1. Plate
2. Heat conductor with insulation
3. Plate
4. Campa band
5. Heat protection jacket - insulation

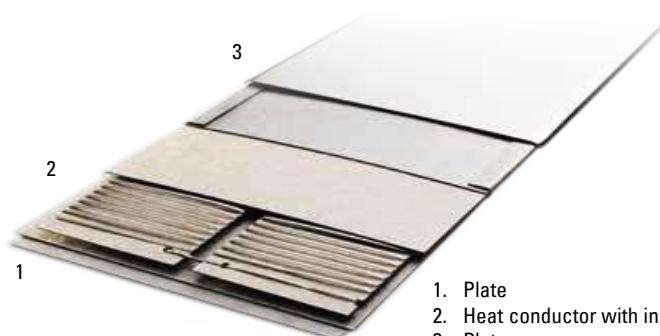
REF
Upon request

MICA FLAT HEATERS GM.55



- Long lifespan when correctly fitted
 - Heating uniformity
 - Easy installation
 - Excellent dielectric strength
- Technical data**
- Max. Watt density 4 W/cmm2
 - Working temperature up to 350 °C, for higher temp we use CERAMIC insulation
 - Voltages 230V, 400V or other
 - Sheath Stainless Steel AISI430
 - Insulation material MICA
 - Heating conductor Nickle-Chrome 80/20
 - Temperature resistant pure nickel wires with glass-silk insulation and a steel mesh cover (400°C)

REF
Upon request



1. Plate
2. Heat conductor with insulation
3. Plate

CAD reference point

CERAMIC HEATER BANDS

CERAMIC INSULATED HEATER BANDS

GM.60



- Excellent thermal conductivity as heat transfer
- High working temperature
- Very long life of the heater if its mounted corectly
- Heating uniformity
- Easy instalation
- Exellent dielectric strenght

Technical data

- Max. Watt density 8 W/cmm2
- Working temperature up to 550 °C
- Voltages 230V, 400V or other
- Sheath Aluminized steel
- Insulation material Ceramic fibers
- Heating conductor Nickle-Chrome 80/20
- Temperature resistant pure nickel wires with glass-silk insulation and a steel mesh cover (400°C)
- Diameters from 60 mm , for heaters with diameter larger then 400 mm we recommed to use 2 segments
- Widths from min. 23 mm to max. 800 mm

REF
Upon request

1. Ceramic fiber insulation
2. Resistive winding
3. External aluminized steel
4. Ceramic elements

INSULATION COVERINGS HEATSAVE

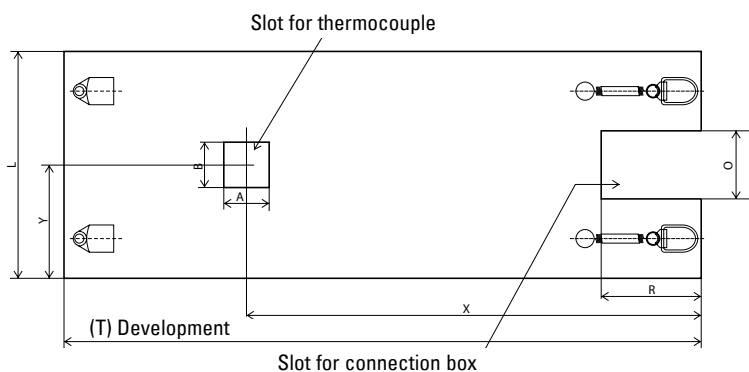
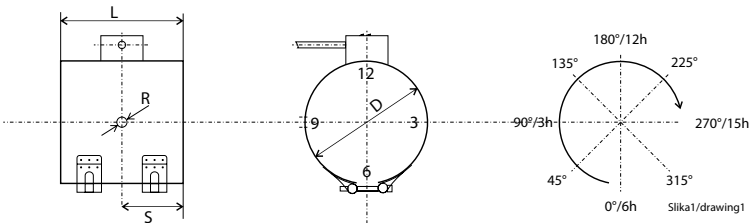
GM.56



Advantages

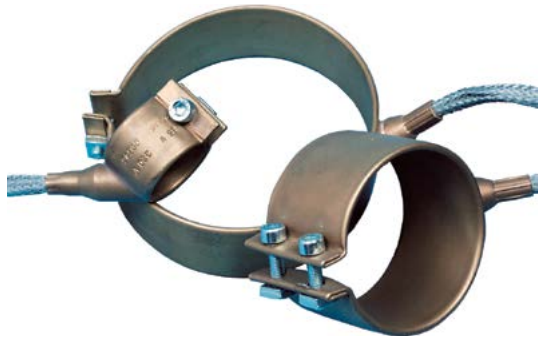
- HEATSAVE insulating covers reduce 20-40% energy consumption of the machine heaters
- Extended life of the heaters because of less on and off cycles
- Increased protection by reduction of the surface contact temperature by 60-75%
- It can always be retro-fitted rapid assembly and disassembly
- Amortisation time of HEATSAVE is less then 1 year
- Non-inflammable
- Reduction of the „start-up“ time
- Impovement of room temperature, becauseheaters radiate much less heat (Very important in summer months)
- Even temperature profile of the machine-cylinder
- Widths from min. 23 mm to max. 800 mm

REF
Upon request



NOZZLE BANDS - SEALED BRASS

R



- Mica insulated sealed brass bands
- High wattage/cm²
- Twin low profile clamp bolts
- Stainless braided leads
- Super smooth to reduce cold spots
- Manually adjustable exit leads
- As used by many major OEMs

REF	Ø mm	Width mm	Watts	Lead
R252585C	25	25	85W	1m
R2550225C	25	50	225W	1m
R2825100C	28	25	100W	1m
R3025105C	30	25	105W	1m
R3030125C	30	30	125W	1m
R3035145C	30	35	145W	1m
R3040165C	30	40	165W	1m
R3050235C	30	50	235W	1m
R3225120C	32	25	120W	1m
R3238195C	32	38	195W	1m
R3250250C	32	50	250W	1m
R352095C	35	20	110W	1m
R3525120C	35	25	120W	1m
R3530145C	35	30	145W	1m
R3535170C	35	35	170W	1m
R3540210C	35	40	195W	1m
R3550265C	35	50	265W	1m
R3825140C	38	25	140W	1m
R3830185C	38	30	165W	1m
R3840175C	38	40	175W	1m
R3850300C	38	50	300W	1m
R4025140C	40	25	140W	1m
R4030165C	40	30	165W	1m
R4035195C	40	35	195W	1m
R4040225C	40	40	225W	1m
R4045305C	40	45	250W	1m
R4050345C	40	50	345W	1m
R4060415C	40	60	305W	1m
R4520125B	45	20	125W	0,5m
R4520125C	45	20	125W	1m
R4525155C	45	25	155W	1m
R4530190C	45	30	190W	1m
R4540250C	45	40	250W	1m
R4550315C	45	50	345W	1m
R4820135B	48	20	135W	0,5m

REF	Ø mm	Width mm	Watts	Lead
R4825180C	48	25	180W	1m
R5025175C	50	25	175W	1m
R5030210C	50	30	210W	1m
R5035245C	50	35	245W	1m
R5040280C	50	40	280W	1m
R5050350C	50	50	350W	1m
R5520155C	55	20	155W	1m
R5525200C	55	25	190W	1m
R5530245C	55	30	230W	1m
R5550385C	55	50	385W	1m
R6025210C	60	25	210W	1m
R6030250C	60	30	250W	1m
R6035295C	60	35	295W	1m
R6040335C	60	40	335W	1m
R6045425C	60	45	380W	1m
R6050475C	60	50	420W	1m
R6225230B	62	25	230W	0,5m
R6520275B	65	20	275W	0,5m
R6520275C	65	20	275W	1m
R6525240C	65	25	225W	1m
R6540400C	65	40	365W	1m
R6545455B	65	45	455W	0,5m
R6838425B	68	38	425W	0,5m
R6850540C	68	50	540W	1m
R7040395C	70	40	395W	1m
R7050560C	70	50	490W	1m
R7530340C	75	30	340W	1m
R7550590C	75	50	525W	1m
R8045570C	80	45	570W	1m
R8050630C	80	50	565W	1m
R9030415C	90	30	380W	1m
R9050630C	90	50	630W	1m
R9550670C	95	50	670W	1m
R10030460C	100	30	460W	1m

Standard Leads are 1 metre Stainless Steel armour braid with earth wire. Bands with part no. suffix B have 500mm leads.



STRAP CLAMP BANDS

STRAP CLAMP BANDS

BN



- Smooth I.D. reduces hot spots and premature burn-out
- High Watt Density
- Premium quality Mica insulation
- Long life

REF	Ø mm	Width mm	Watts
BN1010	25	25	100
BN1015	25	38	150
BN1020	25	50	200
BN1030	25	75	300
BN1110	30	25	120
BN1111	30	30	130
BN1113	30	35	150
BN1116	30	40	175
BN1210	32	25	125
BN1215	32	38	200
BN1220	32	50	250
BN1310	35	25	150
BN1315	35	38	200
BN1320	35	50	300
BN1327	35	70	300
BN1507	38	20	120
BN1510	38	25	150
BN1515	38	38	250
BN1520	38	50	300
BN1525	38	65	350
BN1530	38	75	450
BN1540	38	100	600
BN1550	38	125	750
BN1610	40	25	160
BN1615	40	38	250

REF	Ø mm	Width mm	Watts
BN1620	40	50	325
BN1630	40	75	460
BN1710	45	25	175
BN1710B*	45	25	175
BN1715	45	38	250
BN1720	45	50	350
BN1730	45	75	500
BN2010	50	25	200
BN2015	50	38	300
BN2020	50	50	450
BN2025	50	64	500
BN2030	50	75	600
BN2040	50	100	800
BN2120	54	50	400
BN2215	57	38	350
BN2220	57	50	475
BN2310	60	25	250
BN2315	60	38	400
BN2520	64	50	500
BN2530	64	75	750
BN2715	70	38	400
BN3015	75	38	450
BN3020	75	50	600
BN3030	75	75	750
BN3515	90	38	500

Standard Leads are 1 metre Stainless Steel armour braid. Bands available to 90mm dia, 75mm width.

STRAP CLAMP BANDS

NB



- 1000mm fibreglass or stainless armour leads
- positive clamps action prevents cold spots
- High quality, high w/cm2
- All sizes listed are stocked
- 110 volt option available

REF	Ø mm	Width mm	Watt(s)	Lead
NB0815A	22	38	100W	1 m fibreglass
NB0815C	22	38	100W	1 m stainless armour
NB1010A	25	25	100W	1 m fibreglass
NB1010C	25	25	100W	1 m stainless armour
NB1015A	25	38	100W	1 m fibreglass
NB1015C	25	38	100W	1 m stainless armour
NB1020A	25	50	200W	1 m fibreglass
NB1020C	25	50	200W	1 m stainless armour
NB1025A	25	64	250W	1 m fibreglass
NB1025C	25	64	250W	1 m stainless armour
NB1030A	25	76	400W	1 m fibreglass
NB1040A	25	100	400W	1 m fibreglass
NB1050A	25	127	500W	1 m fibreglass
NB1215A	32	38	200W	1 m fibreglass
NB1215C	32	38	200W	1 m stainless armour
NB1220A	32	50	250W	1 m fibreglass
NB1220C	32	50	250W	1 m stainless armour
NB1230A	32	76	400W	1 m fibreglass
NB1230C	32	76	400W	1 m stainless armour
NB1310A	35	25	150W	1 m fibreglass
NB1310C	35	25	150W	1 m stainless armour
NB1315A	35	38	200W	1 m fibreglass
NB1315C	35	38	200W	1 m stainless armour
NB1320A	35	50	300W	1 m fibreglass
NB1506A	38	16	100W	1 m fibreglass
NB1506C	38	16	100W	1 m stainless armour
NB1510A	38	25	150W	1 m fibreglass
NB1510C	38	25	150W	1 m stainless armour
NB1515A	38	38	250W	1 m fibreglass
NB1515C	38	38	250W	1 m stainless armour
NB1520A	38	50	300W	1 m fibreglass
NB1520C	38	50	300W	1 m stainless armour
NB1525A	38	64	350W	1 m fibreglass
NB1525C	38	64	350W	1 m stainless armour
NB1530A	38	75	450W	1 m fibreglass
NB1530C	38	75	450W	1 m stainless armour
NB1540A	38	100	600W	1 m fibreglass
NB1540C	38	100	600W	1 m stainless armour
NB1550A	38	127	750W	1 m fibreglass
NB1560A	38	152	850W	1 m fibreglass
NB1610A	40	25	160W	1 m fibreglass
NB1610C	40	25	160W	1 m stainless armour
NB1615C	40	38	250W	1 m stainless armour
NB1620C	40	50	320W	1 m stainless armour

STRAP CLAMP BANDS

STRAP CLAMP BANDS **NB**

REF	Ø mm	Width mm	Watt(s)	Lead
NB1710A	45	25	175W	1 m fibreglass
NB1710C	45	25	175W	1 m stainless armour
NB1715C	45	38	250W	1 m stainless armour
NB1720A	45	50	350W	1 m fibreglass
NB1720C	45	50	350W	1 m stainless armour
NB1730A	45	76	475W	1 m fibreglass
NB1740C	45	102	700W	1 m stainless armour
NB1750A	45	127	900W	1 m fibreglass
NB1760A	45	152	1000W	1 m fibreglass
NB1760C	45	152	1000W	1 m stainless armour
NB2010A	50	25	200W	1 m fibreglass
NB2010C	50	25	200W	1 m stainless armour
NB2015A	50	38	300W	1 m fibreglass
NB2015C	50	38	300W	1 m stainless armour
NB2020A	50	50	400W	1 m fibreglass
NB2025A	50	64	500W	1 m fibreglass
NB2025C	50	64	500W	1 m stainless armour
NB2030A	50	75	600W	1 m fibreglass
NB2030C	50	75	600W	1 m stainless armour
NB2040A	50	102	800W	1 m fibreglass
NB2040C	50	102	800W	1 m stainless armour
NB2050C	50	127	1000W	1 m stainless armour
NB2060A	50	152	1200W	1 m fibreglass
NB2060C	50	152	1200W	1 m stainless armour
NB2110C	54	25	200W	1 m stainless armour
NB2120A	54	50	400W	1 m fibreglass
NB2130A	54	75	600W	1 m fibreglass
NB2210C	56	25	225W	1 m stainless armour
NB2215A	56	38	350W	1 m fibreglass
NB2220A	56	50	450W	1 m fibreglass
NB2220C	56	50	450W	1 m stainless armour
NB2225A	56	64	600W	1 m fibreglass
NB2230A	56	75	700W	1 m fibreglass
NB2230C	56	75	700W	1 m stainless armour
NB2310C	60	25	250W	1 m stainless armour
NB2510A	64	25	250W	1 m fibreglass
NB2520A	64	50	500W	1 m fibreglass
NB2520C	64	50	500W	1 m stainless armour
NB2530A	64	75	750W	1 m fibreglass
NB2530C	64	75	750W	1 m stainless armour
NB2715A	70	38	400W	1 m fibreglass
NB3010A	76	25	300W	1 m fibreglass
NB3015A	76	38	450W	1 m fibreglass
NB3015C	76	38	450W	1 m stainless armour
NB3030A	76	75	900W	1 m fibreglass
NB3510C	89	25	400W	1 m stainless armour
NB3515A	89	38	500W	1 m fibreglass
NB3515C	89	38	500W	1 m stainless armour



HOPPER LOADER



MACHINE MOUNTED LOADER

MACHINE MOUNTED LOADER

TAL300C



Full featured electronic touch-pad control.

Conveying Capacity 400kg/hr.

The BCE4 series of hopper loaders are designed to be cost-effective, high quality units which help eliminate contamination and manual handling and are particularly suited to the transportation of free-flowing virgin granules.

The integral single-phase suction motor creates a flow of air which carries granules through the material line for the (operator) selected time. The granules are then discharged directly into the processing machine hopper and the cycle is repeated until both the machine hopper and hopper loader bowl are full.

All units have microprocessor control allowing digital setting and display of loading time, loading function and mode selection. Furthermore, operational fault diagnosis is provided as standard.

Cleaning of the filter can be carried out away from the machine by removing the complete suction head.

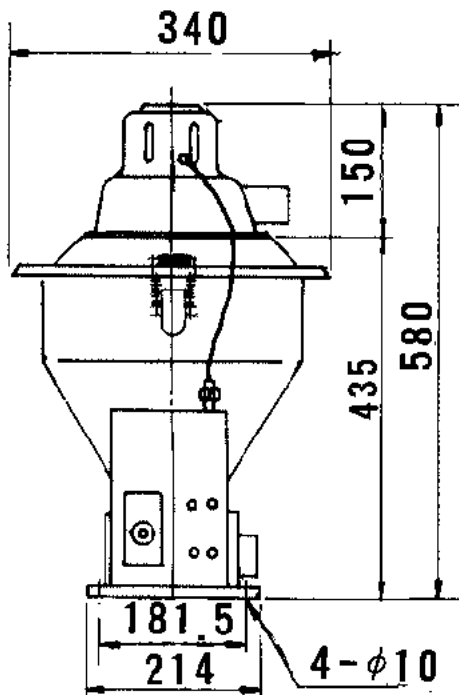
Features include:

- Robust stainless steel bowl.
- Integral filter.
- Adjustable loading time.
- Flow-path indicator lamps.
- Audible low level alarm.
- Stainless steel suction probe.

Specifications

Conveying Capacity: 400kg/hr
Conveying Height: 4m
Conveying Length: 7.5m
Motor Rating: 800w
Weight: 16kg
Power: 240V, 1ph.

Part No	Capacity
TAL340C	400kg/hr



Includes Loader hose and Stainless steel wand.

Stainless steel and cast aluminium construction.



	GB5000	89		WZ9100	102		FW45	114
	GBBC 1000	90		WZ9110	103		SSI	115
	FW1213	91		WZ9120	103		XSI	116
	FW13	92		WZ9130	104		GPSL	117
	FW14	92		WZ9140	104		BGS	118
	K7580	93		R25W	105		BGT	119
	SP	93		R26W	105		BGGL	120
	APD	94		R27W	106		WZ7005	122
	APH	95		R28W	106		DP	122
	IPWC	96		R29W	107		M	123
	IPNH	96		R30W	107		IS610	123
	R08	97		FW40 N	110		R18	124
	FB120	97		FW41	110		R54	124
	FB140	98		FW42	110		SP	
	FW28 - R16	98		AGS	111			
	FW29	99						
	R091	100						
	AWS	101						

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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 seller's 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.

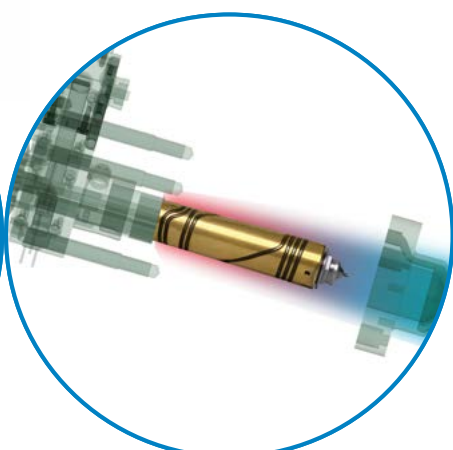
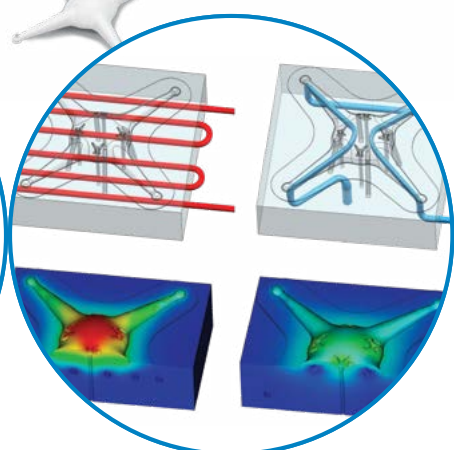
16. APPLICABLE LAW – COMPETENT COURTS

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.





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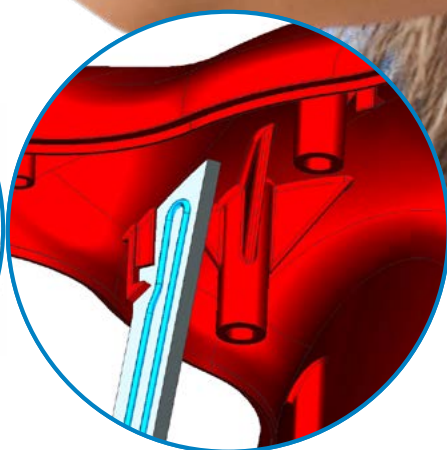
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