Brilliant solutions for perfect surfaces
Everything at a glance



Driving motors and handpieces

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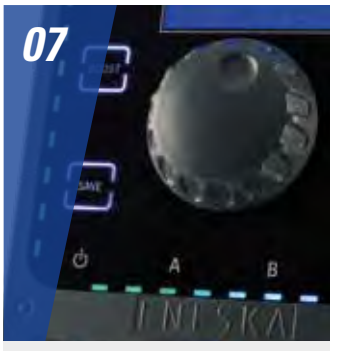
Products that no workshop should be without!
page 450 onwards

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Have you already heard about our repair welding and polishing and lapping brochure?
Ask for more information now!

Driving motors and handpieces
Overview



Ultrasonic system
ENESKAsonic



Mobile polishing system
ENESKAmobile



Grinding, milling,
polishing system ENESKAmicro



ENESKAmicro
COMPACT series



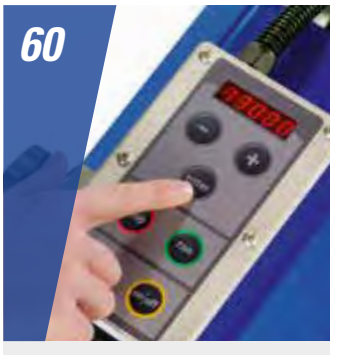
Micromotors



Handpieces



jokeFlex Premium Plus



jokeFlex Power



High-speed handpiece
ENESKA P 320-2



Grinder
jokeTURBO



Compressed-air grinder
ENESKAair



Compressed-air hand-filing
machines DIPROFIL®



Polishing machines
OPTI polish



Polishing lathe



ENESKApostpro
Postprocessing system



Tungsten carbide coating system
tucadur® 2020

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Ultrasonic minicutter
ENESKAsonic

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Hollow handle
Rapid Change
ENESKAmicro handpieces and collets
ENESKAmicro belt grinder
ENESKA-old Systems

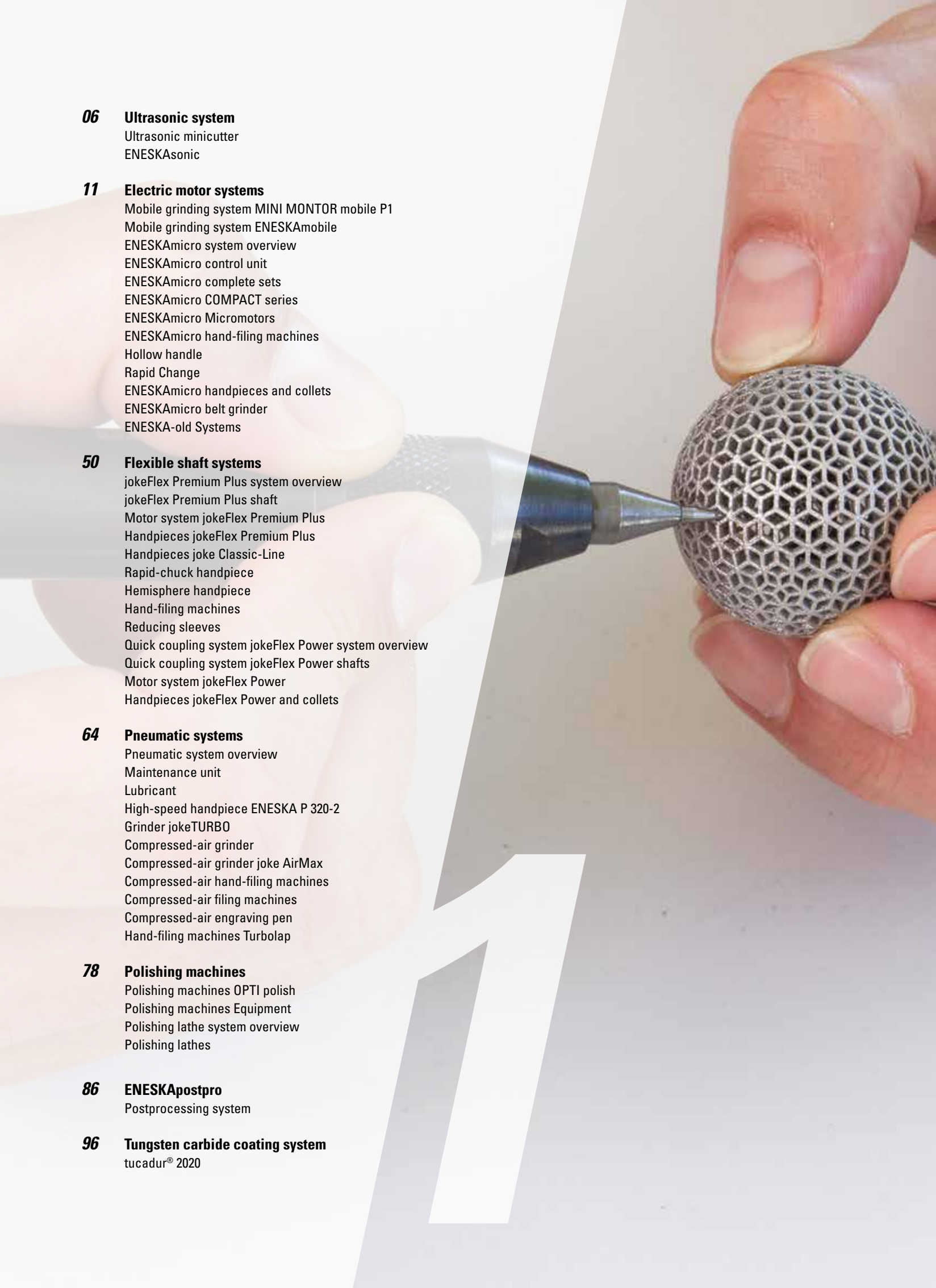
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tucadur® 2020



Ultrasonic minicutter ZO-91
economical alternative for plastic

		Order No.	Price from 1 piece
Ultrasonic minicutter ZO-91			
	Consisting of: 1 x control unit 1 x handpiece with cable 1 x blade receptacle ZH04 3 x spare screws HB03 for blade receptacle 1 x allen key RR02 40 x blades HA04	**0 006 260**	

Accessories / spare parts

		Packing quantity	Order No.	Price from 1 pack	1 piece	1 set
Spare blades HA04						
		40 pieces	**0 006 270**			
Blade receptacle ZH04						
			0 006 271			
Blade receptacle set ZH04S						
	Set contents: 1x blade receptacle ZH04 1x spare screw HB03 1x allen key RR02		**0 006 272**			
Spare screw HB03						
	Suitable for ultrasonic cutter blade holder ZH04		**0 006 273**			

ENESKAsonic

The most innovative advancement
in the field of ultrasonics



Ultrasonic lapping and polishing system
ENESKAsonic

The most innovative advancement in the field of ultrasonics
ENESKAsonic – high-efficiency, leading-edge, latest generation for finest stock removal

As with the ENESKAmicro, the ENESKAsonic ultrasonic system is characterised by consistent advancements in every respect. An outstanding feature is the sophisticated design combined with convenient high-tech equipment.

Highlights:
- Intuitive touch operation combined with a rotary controller on high-quality glass
- Modern LED-assisted multifunctional display
- Boost function for applications requiring greater power
- Idle timer detects unused handpieces and protects against wear
- USB charging connection enables for example optional addition of a workplace light without a further power source

The ENESKAsonic is used for polishing and lapping in the frequency range of between 20 and 30 kHz. The Auto Tune function determines the optimum frequency. The infinitely adjustable power control is suitable for fine, delicate work on narrow webs and edges as well as in boost mode for power-intensive, extra abrasive work with sintered diamond files. The LED-assisted display shows the widest range of operating parameters and settings. The 140 g lightweight handpiece with an M6 fine thread is comfortable to hold and enables fatigue-free work.
It was especially important to our development department that this addition to our family should also be "100% Made in Germany" and be reverse-compatible with ENESKA 2-1 handpieces. Guaranteeing this demand for particularly high quality is a major concern for us and protects your years of investment.
Combine the ENESKAsonic with an ENESKAmicro and you will receive an unbeatable tandem fully specialised in their respective fields.

		Order No.	Price from 1 piece
Control unit ENESKAsonic			
	Technical Data: Output: Dimensions (w x h x d): Weight: Supply voltage:	**0 012 001**	
	 max. 80 W 135 x 235 x 200 mm 2.7 kg 115/230 V, 50/60 Hz, 150 VA		

matching set

		Order No.	Price from 1 piece
Ultrasonic lapping and polishing system set ENESKAsonic			
	The set contains the following components: 1 x control unit ENESKAsonic (Order No. 0 012 001) 1 x rapid-chuck handpiece JUS-50-ES (Order No. 0 012 008) 1 x standard handpiece support, black (Order No. 0 011 110) 1 x screen protector made of tempered glass (Order No. 0 011 098-G) 1 x power cord set for Germany, Switzerland, England and Europe (Order No. 0 007 435-1) 2 x 4 A fuse (Order No. 1 711 407-1) for 110 V use 1 x T10 TORX screwdriver (Order No. 0 006 304-T) 2 x chuck key (Order No. 0 006 347) 1 x tool holder – Ø 3 mm bore (Order No. 0 006 306-E) 1 x tool holder – 1 mm slot width (Order No. 0 006 310-E)	**0 012 000-1**	

Ultrasonic lapping and polishing system
ENESKAsonic

Accessories / spare parts

		Packing quantity	Order No.	Price from 1 set	1 pack	1 piece
ENESKAsonic ultrasonic-system, plastic case, incl. foam insert and plastic box						
	Easy, bundled transport due to carrying handle. Permanent order due to precisely fitting recesses for each: • 1 x handpiece • 1 x control unit • 1 x foot pedal • 5 x tool holder • 1 x plastic box, 46 x 46 x 70 mm (included in delivery) External dimensions (w x h x d): 210 x 396 x 296 mm		**0 012 004**			
ENESKAmicro footpedal						
	for comfortable control by foot (start/stop, speed adjustment), cable length 2 m		**0 011 002**			
ENESKAmicro handpiece support standard, black						
	for secure handpiece storage		**0 011 110**			
ENESKAsonic connection cable						
	suitable for handpiece JUS-45 PB-ES		**0 012 006**			
	suitable for handpiece JUS-50-ES		**0 012 006-0**			
ENESKAsonic set blade receptacle with graphic blades						
			**0 006 350**			
Blade receptacle ENESKAsonic						
			**0 006 351**			
Graphic blades ENESKAsonic						
		10 pieces	**0 006 354**			



Ultrasonic lapping and polishing system
ENESKAsonic • handpieces

			Order No.	Price from 1 piece
Rapid-chuck handpiece JUS-50-ES				
	Receptacle: Frequency: Dimensions: Weight: Cable length: Output:	M6/fine 22.5 kHz (40 µm) Ø 29.7 x 135 mm 140 g (without cable) 2 m 50 W	**0 012 008**	

Accessories / spare parts

	Tool support	Profile	Thread	Order No.	Price from 1 piece
Tool holder for receiving round tools					
	d = Ø 2 mm	round	M6/fine	**0 006 305**	
	d = Ø 3 mm	squared	M6/fine	**0 006 306-E**	
Tool holder for receiving flat tools					
	t = 0.5 mm	squared	M6/fine	**0 006 308**	
	t = 0.8 mm	squared	M6/fine	**0 006 309**	
	t = 1 mm	round	M6/fine	**0 006 310**	
	t = 1 mm	squared	M6/fine	**0 006 310-E**	
	t = 2 mm	squared	M6/fine	**0 006 311**	
	t = 3 mm	squared	M6/fine	**0 006 312**	
Adapters for receiving ultrasonic tools					
	Thread M4		M6/fine	**0 006 900**	
Torx screwdriver					
				**0 006 304-T**	
LED workplace light					
	• Flexible light holder tube • 3-stage adjustable • with clamp mounting, max. 45 mm clamping range Technical data: Equipment: 3-watt LED / 350 lm Colour temperature: 5,000 K Connection: USB, 5V 1A / 5V 2A input			**0 200 524**	



Mobile polishing system
MINI MONTOR mobile 1 P

MINI MONTOR mobile 1 P
The mobile system for grinding, milling and polishing. Maximum mobility in processing large workpieces, for this compact system can now be taken with you almost anywhere. The Ni-Mh storage battery is not only environment friendly; it is durable too: 90 minutes working time at a stretch. If ever the juice dries up, you can also continue work with the mains cable (the storage battery is recharged in the meantime!).

The handpiece (with an integrated motor) can be rotated clockwise and anticlockwise, is infinitely adjustable in speed and is electrically protected against overload. The handpiece can be set in motion both by hand and using a foot switch. The speed can also be regulated in both ways.

The set consisting of control unit, handpiece and all accessories is supplied in a compact hard-shell aluminium case.

	Order No.	Price from 1 piece
Mobile control unit MPC20-W		
	**0 006 713**	

For infinite speed control of the handpiece MPH 33.
Including integrated storage battery (Ni-Mh) for mobile use.

Dimensions (W x H x D):	72 x 42 x 171 mm
Weight:	300 g
Storage battery type:	Ni-Mh
Charging time:	60 min.
Working time:	90 min.

matching set

	Order No.	Price from 1 piece
Set MINI MONTOR mobile 1 P		
	**0 006 700**	

This set consists of:
1 x control unit MPC20-W (Order No. 0 006 713)
1 x handpiece with integrated micromotor (Order No. 0 006 711)
(incl. 1 x collet Ø 3 mm Order No. 0 006 704)
1 x charging device ACP01 (Order No. 0 006 714)
1 x foot controller TPF30 (Order No. 0 006 701)
1 x handpiece rack TRC02 (Order No. 0 006 702)
1 x hard-shell aluminium case (Order No. 0 006 703)

	Order No.	Price from 1 piece
Handpiece MPH 33		
	**0 006 711**	

Speed:	max. 30,000 rpm
Output:	20 W
Dimensions:	Ø 25 x 143 mm
Weight:	180 g (incl. cable)
Collet:	Ø 3 mm (in scope of delivery)

Mobile polishing system
ENESKAmobile
NEW!

ENESKAmobile
The handy, battery operated ENESKAmobile polishing system is the ideal tool for setters and toolmakers – anywhere that grinding, polishing, milling or deburring is required. Robust and shock-resistant, it can be used flexibly in any place, and away from the work bench.

This mobile device is extremely versatile as it can be used with all motors, handpieces and filing machines compatible with the ENESKAmicro. It is also powerful and long-lasting. The batteries can be charged separately, which allows non-stop working. With up to 3 hours battery life under full load and a maximum torque of 6.5 N cm at 40,000 rpm, it can be used in a significantly wider range of applications than conventional devices of this type.

The speed is continuously adjustable from 2,000 to 40,000 rpm. Left and right rotation are also a matter of course with this single-handed device.

Highlights:
- Extremely versatile, as it can be connected to all ENESKAmicro motors (BLDC), handpieces and filing machines
- Ergonomic handling given by start/stop function directly on the motor, straightforward control unit and pocket-size casing
- High-quality Li-Ion batteries
- No inconvenient time lost waiting for the batteries to charge, because they are exchangeable and can be recharged separately
- Brushless DC motor (BLDC)
- Runs clockwise/anticlockwise
- Monitoring of battery level and temperature
- Digital control with protective disconnection
- High torque with max. of 6.5 N cm on the motor shaft

	Order No.	Price from 1 piece
ENESKAmobile cordless grinder system, control unit		
	**0 012 301**	

Technical data

Speed:	2,000 – 40,000 rpm (steplessly adjustable)
Battery:	14.8 V Li-Ion
Exchangeable battery:	yes
Battery capacity:	3,000 mAh
Output power:	44,4 Wh
Operating time:	up to 3 hours
Load time:	2.5 hours for 80 % + 0.5 hours for 100 %
Dimensions (w x h x d):	176 x 103 x 49 mm
Weight (without battery):	200 g
Weight (with battery):	480 g

Accessories / spare parts

	Order No.	Price from 1 piece
ENESKAmobile cordless grinder system, charger		
	**0 012 302**	

- ENESKAmobile charger including power supply (only power supply unit Order No. 2 112 203)
- LED charge level indicator
- Clip-In function for joke battery pack
- Dimensions (w x h x d): 176 x 103 x 42 mm
- Weight: 200 g

ENESKAmobile cordless grinder system, replacement battery-pack		
	**0 012 303**	

- Li-Ion 14.8 V
- 3,000 mAh
- 44.4 Wh
- LG 41SP
- Clip-In function for joke ENESKAmobile charger
- CE approved
- Dimensions (w x h x d): 100 x 103 x 36 mm
- Weight: 280 g

ENESKAmobile cordless grinder system, plastic case with foam pad		
	**0 012 304**	

Plastic case with foam insert for:
- ENESKAmobile control unit including battery
- ENESKAmobile charger with power supply
- 2 additional battery slots
- One-piece handpiece or micromotor with mounted handpiece with cable rewind
- Position slots for handpiece tools

Mobile polishing system
ENESKAmobile
NEW!

matching set

	Order No.	Price from 1 piece
ENESKAmobile cordless grinder system Set LITE		
 The set contains the following components: • ENESKAmobile control unit (Order No. 0 012 301) • ENESKAmobile charger including power supply (Order No. 0 012 302) • ENESKAmobile battery-pack (Order No. 0 012 303) • Plastic case (Order No. 0 012 304)	**0 012 315**	
ENESKAmobile cordless grinder system Set COMPACT		
 The set contains the following components: • ENESKAmobile control unit (Order No. 0 012 301) • ENESKAmobile charger including power supply (Order No. 0 012 302) • ENESKAmobile battery-pack (Order No. 0 012 303) • ENESKAmicro COMPACT HT60 SMALL, Motor incl. Rapid-Chuck-Handpiece Power, fan-variation (Order No. 0 011 469) • Plastic case (Order No. 0 012 304)	**0 012 350**	
ENESKAmobile cordless grinder system Set FLEX		
 The set contains the following components: • ENESKAmobile control unit (Order No. 0 012 301) • ENESKAmobile charger including power supply (Order No. 0 012 302) • ENESKAmobile battery-pack (Order No. 0 012 303) • Micromotor JBM 50 HT with cable (Order No. 0 008 806-E) • Plastic case (Order No. 0 012 304)	**0 012 340**	

The ENESKAmobile battery system Set Flex offers the following possibilities for the use of handpieces:



Handpiece JEHG 400
Order No. 0 009 811



Rapid-chuck handpiece JEHR 500
Order No. 0 008 810



Mini hand-filing machines DIPROFIL®
FMR/E 5
Order No. 0 001 207
FMR/E 10
Order No. 0 001 215
FMR/E 15
Order No. 0 001 209



Angle handpiece JEKC 300
Order No. 0 009 813



Angle handpiece WE4-45
Order No. 0 011 335



Mini hand-filing machine JN 48
Order No. 0 001 403



Hand-filing machine JFMM 4
Order No. 0 005 300



Angle handpiece JERA 270
Order No. 0 009 812



Angle handpiece WE4-90
Order No. 0 011 330



Belt grinder JBS 400
Order No. 0 008 850

ENESKAmicro

- significantly more power
- based on IP 54
- enhanced handpieces
- extremely high true running accuracy
- higher final speed
- highest clamping force in the world
- handpieces & motors universally compatible regardless of manufacturerl
- PLC suitable
- idletimer
- operator menu in eight different languages
- USB slot



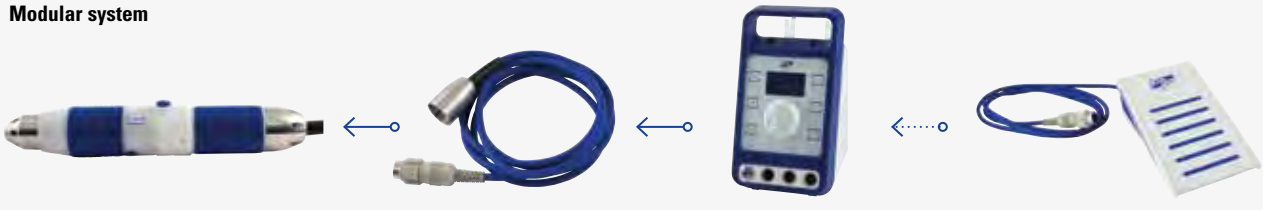
100%
Made in GERMANY

Handpieces for added requirements

New **ENESKAmicro** handpieces with integrated fan in combination with inlets and outlet.

The optimized cooling makes the handpieces and motors **ideal for longer periods of use**.

Modular system



Motors & handpieces — Cables — Control unit — Equipment

ENESKAmicro
System overview

Handpieces and motors have different connections. All items on this page require one of these variants.

For any questions, please contact us!

START



Foot controller
Order no. 0 011 002



Control unit 450 ENESKAmicro
Order no. 0 011 001



Control unit 600 ENESKAmicro
Order no. 0 011 201

Collets type CHG



ENESKAmicro HT60-D6 CNC
Order no. 0 011 470 without fan



ENESKAmicro COMPACT HT60-D6 / motor incl. chuck with collet Ø 6 mm and motor cable 1.8 m
Order no. 0 011 429 with fan **NEW!**



ENESKAmicro COMPACT HT60 SMALL
Order no. 0 011 469 with fan



ENESKAmicro COMPACT HT60 / rapid chuck Power, with collet Ø 3 mm and motor cable 1.8 m
Order no. 0 011 409 with fan **NEW!**

Collets type EMA



ENESKAmicro COMPACT HT60-XL / motor incl. rapid chuck Power, XL axle with collet Ø 3 mm and motor cable 1.8 m
Order no. 0 011 419 with fan **NEW!**



Extension cable 2 m
Order no. 0 011 401



Motor cable S 1.8 m
Order no. 0 011 302



Motor cable S 3 m
Order no. 0 011 303



ENESKAmicro democase incl. foam insert
Order no. 0 011 910

Collets & accessoires	Motors & handpieces	Cables	Control unit

ENESKAmicro with (-) connection
System overview



Rapid-chuck handpiece
JIR 310
Order no. 0 007 515
Collet type CHH



Rapid-chuck handpiece
JIH 300
Order no. 0 009 150
Collet type CHH



Handpiece
JBMH 300 N
Order no. 0 009 350
Collet type CHM



Miniature angle handpiece
JMFC 300 M
Order no. 0 009 511
Collet type K-253



Miniature angle handpiece
JMFC 300 S
Order no. 0 009 512
Collet type K-252



Angle handpiece
JKC 345
Order no. 0 009 200
Collet type CHC



Angle handpiece
JIC 390
Order no. 0 009 250
Collet type CHC



Handpiece
JHG 210
Order no. 0 007 650
Collet type CHG



Mini hand-filing machines
DIPROFIL®
FMR/N 5
Order no. 0 001 203
FMR/N 10
Order no. 0 001 214
FMR/N 15
Order no. 0 001 218



Mini hand-filing machine
JN 38
Order no. 0 001 401



Belt grinder
JBS 100
Order no. 0 009 950



Hand-filing machine
DIPROFIL®
Di-Pro FXM-N, Mark II
Order no. 0 001 521-N



Hand-filing machine
DIPROFIL®
FPM/ERJ, Mark II
Order no. 0 005 201-N



Hand-filing machine
FMD/3-2/EM
Order no. 0 011 550



Hand-filing machine
DIPROFIL®
FPT/NR, Mark II
Order no. 0 005 203-N

Legend
modular components
options
joke expert info

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ENESKAmicro with (-) connection
System overview

Handpieces and motors have different connections. All items on this page require this variant.

For any questions, please contact us!

START



Foot controller
Order no. 0 011 002



Handpiece support HT, white
Order no. 0 011 109

Handpiece support standard, black
Order no. 0 011 110



Control unit 450 ENESKAmicro
Order no. 0 011 001



Control unit 600 ENESKAmicro
Order no. 0 011 201

Adapter for connecting the ENESKA 3-1 motorcables to ENESKAmicro 600 control unit.



Adapter ENESKA 3-1 motor cable
Order no. 0 006 203-1

Reducing gear for a better torque. It lowers the speed by a quarter.



Reducing gear JRG 01 4:1
Order no. 0 009 500



Extension element JCN 01 50 mm
Order no. 0 009 505



ENESKAmicro democase incl. foam insert
Order no. 0 011 910



Micromotor JENK-410S
Order no. 0 007 505



Micromotor JENK-250T
Order no. 0 007 525



Extension cable 2 m
Order no. 0 011 401



Motor cable JENK-410S/EM 1.6 m
Order no. 0 011 502



Motor cable JENK-250T/EM 1.6 m
Order no. 0 011 501



Motor cable SDE-BH60/EM, 1.4 m
Order no. 0 011 505

Also competitor motor „Marathon“ can be connected.

Equipment	Motors	Cables	Control unit

ENESKAmicro with (+) connection
System overview



Rapid-chuck handpiece
JEHR 500
Order no. 0 008 810
Collet type CHH



Handpiece
JEHG 400
Order no. 0 009 811
Collet type CHG



Angle handpiece
JERA 270
Order no. 0 009 812
Collet type CHS



Angle handpiece
JEKC 300
Order no. 0 009 813
Collet type CHC



Angle handpiece
WE4-90
Order no. 0 011 330
Collet type CHC



Angle handpiece
WE4-45
Order no. 0 011 335
Collet type CHC



Angle handpiece
JERA 270 S
Order no. 0 008 813
Collet type GH



Rapid-Change coupling
Order no. 0 008 815



Mini hand-filing machines
DIPROFIL®
FMR/E 5
Order no. 0 001 207
FMR/E 10
Order no. 0 001 215
FMR/E 15
Order no. 0 001 209



Mini hand-filing machine
JN 48
Order no. 0 001 403



Belt grinder
JBS 100
Order no. 0 008 950



Hand-filing machine
DIPROFIL®
Di-Pro FXM-N, Mark II
Order no. 0 001 521-N



Hand-filing machine
DIPROFIL®
FPM/ERJ, Mark II
Order no. 0 005 201-N



Hand-filing machine
FMD/3-2/EM
Order no. 0 011 550



Hand-filing machine
DIPROFIL®
FPT/ER, Mark II
Order no. 0 005 204-N

Handpieces with

connection can be mounted



Hand-filing machine
JFMM 4
Order no. 0 005 300

Legend

modular components

options

joke expert info

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ENESKAmicro with (+) connection
System overview

Handpieces and motors have different connections. All items on this page require this variant. ⊕

START



Foot controller
Order no. 0 011 002



Handpiece support HT, white
Order no. 0 011 109

Handpiece support standard, black
Order no. 0 011 110

Adapter for connecting the ENESKA 3-1 motorcables to ENESKAmicro 600 control unit.



Adapter ENESKA 3-1 motor cable
Order no. 0 006 203-1



Control unit 450 ENESKAmicro
Order no. 0 011 001



Control unit 600 ENESKAmicro
Order no. 0 011 201

The reduction gear ensures higher power transmission and lowers the speed to a quarter.



Extension cable 2 m
Order no. 0 011 401



Reducing gear JERG 01 B
Order no. 0 009 806



Brushless micromotor JBM 50 S
Order no. 0 008 803



Motor cable JBM 50 S/EM 1,5 m
Order no. 0 011 503

JBM 50 S/EM 4 m
Order no. 0 011 503-4m



Adapter JECN 01T for ENESKA 3-1 Handpieces
Order no. 0 009 807



Brushless micromotor JBM 50 HT
Order no. 0 008 806



Motor cable JBM 50 HT/EM 1,5 m
Order no. 0 011 504

JBM 50 HT/EM 4 m
Order no. 0 011 504-4m



ENESKAmicro democase incl. foam insert
Order no. 0 011 910



Motor cable SDE-BH60/EM, 1,4 m
Order no. 0 011 505

Also competitor motor „Marathon“ can be connected.

Equipment	Motors	Cables	Control unit

ENESKAmicro
Control units





The new standard for grinding, polishing, milling and deburring
ENESKAmicro – the unbeatable all-round talent
The in-house development by joke sets standards for micromotor systems. What is unique about this series is its system-wide and downwards compatibility as well as extreme power.
Higher final speed, more power, higher clamping force for the handpieces, 100% Made in Germany, touch display, USB interface and high level of true running are just some of the highlights of this extraordinary system.
This not only enables its use in many new application areas, such as aerospace and 3D printing, but also in conventional toolmaking and mould building or in medical engineering.

Simple to operate with the touch display
The core component of the ENESKAmicro is the intelligent control unit. Intelligent because it automatically detects which micromotor is connected, whether from the joke family or a third-party manufacturer. The individual settings can be saved on the touch display with station keys. The speed input can be set via a finely adjusted rotary knob or optionally via a foot switch. The slim design and low centre of gravity make for high stability. The control unit dispenses with fans or slots – which means less noise pollution for the user and it is also dust-protected (according to IP 54).
The newly developed handpieces achieve a higher clamping force than similar devices on the market. Created by a combination of spring and lever force that keeps the tool in position even at high speeds. The high-precision grinding of all axes and the installation of the latest-generation bearings enable a high level of true running to within less than 0.01 millimetres. Further advantages are the on/off switch directly on the motor and the toolless quick-clamping function. This saves time and guarantees precise, low-vibration and fatigue-free work. The joke team has developed handpieces with a longer XL axis for hard-to-reach areas in workpieces.
A special detail that was particularly important to us: the ENESKAmicro is completely “Made in Germany”. This serves local business and sensible further use and protection of previously made investments as well as our own high requirements in terms of quality and delivery time can thus be guaranteed. The powerful micromotor system therefore meets the technical requirements in milling in particular – wherever hard materials are machined, such as high-grade steels, Inconel and titanium for implant production.
The ENESKAmicro offers a genuine alternative to many compressed-air systems.

The facts speak for themselves:
- Tremendously high cost advantage compared to expensive compressed-air
- Remarkably high-speed, variably adjustable
- Low-vibration work
- Quick tool changes without external aids
- Low noise pollution

	Order No.	Price from 1 piece
ENESKAmicro 600 control unit		
	**0 011 201**	

- Infinitely variable speed control up to max. 60,000 rpm
- Speed limited by potentiometer
- Digital speed display
- Connection for 2 motors BLDC and 1 AC motor
- Motor recognition
- Speed Memory button
- Clockwise, anticlockwise running
- Connection for foot control
- USB charging port allows the addition of a workplace light

Weight:	2.4 kg
Dimensions (W x H x D):	135 x 235 x 200 mm
Connection:	90–240 V, 50–60 Hz

ENESKAmicro
Control units

	Order No.	Price from 1 piece
ENESKAmicro 450 control unit		
 • Infinitely variable speed control up to max. 45,000 rpm • Speed limited by potentiometer • Digital speed display • Connection for 2 motors BLDC • Motor recognition • Speed Memory button • Clockwise, anticlockwise running • Connection for foot control Weight: 2.4 kg Dimensions (W x H x D): 135 x 235 x 200 mm Connection: 90–240 V, 50–60 Hz	**0 011 001**	

Accessories / spare parts

	Order No.	Price from 1 piece
ENESKAmicro footpedal		
 for comfortable control by foot (start/stop, speed adjustment), cable length 2 m	**0 011 002**	
ENESKAmicro handpiece support HT, white		
 for secure handpiece storage	**0 011 109**	
ENESKAmicro handpiece support standard, black		
 for secure handpiece storage	**0 011 110**	
ENESKAmicro extension cable, 2 m		
 suitable for all motor cables of the ENESKAmicro series	**0 011 401**	
ENESKAmicro storage case, incl. foam inlay		
 Aluminium case with carrying handle and two lockable locks Dimensions (W x H x D): 502 x 150 x 370 mm Weight: 3.2 kg	**0 011 910**	

ENESKAmicro 600
Complete sets

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.5		
 The set contains the following components: 1 x ENESKAmicro 600 control unit (order no. 0 011 201) 1 x ENESKAmicro COMPACT HT60, Motor incl. Handpiece Power (order no 0 011 409) 1 x ENESKAmicro Motorcable HT, 1.8 m (order no. 0 011 402) 1 x ENESKAmicro Collet Type EMA, Ø 3 mm (order no 0 011 413) 1 x ENESKAmicro handpiece support HT, white (order no. 0 011 109)	**0 011 220**	

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.6		
 The set contains the following components: 1 x ENESKAmicro 600 control unit (order no. 0 011 201) 1 x ENESKAmicro motor HT60/rapid chuck Power, XL axle (order no. 0 011 419) 1 x ENESKAmicro motor cable HT, 1.8 m (order no. 0 011 402) 1 x ENESKAmicro collet type EMA, Ø 3 mm (order no. 0 011 413) 1 x ENESKAmicro handpiece support HT, white (order no. 0 011 109)	**0 011 230**	

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.7		
 The set contains the following components: 1 x ENESKAmicro 600 control unit (order no. 0 011 201) 1 x ENESKAmicro motor JENK-410S with (-) connection (order no. 0 007 505) 1 x ENESKAmicro motor cable JENK-410S/EM, 1.6 m (order no. 0 011 502) 1 x ENESKAmicro handpiece support, black (order no. 0 011 110) 1 x ENESKA rapid-chuck handpiece JIR 310 (order no. 0 007 515) incl. collet type CHH, Ø 3 mm	**0 011 240**	

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.8		
 The set contains the following components: 1 x ENESKAmicro 600 control unit (order no. 0 011 201) 1 x ENESKAmicro motor JENK-250T with (-) connection (order no. 0 007 525) 1 x ENESKAmicro motor cable JENK-250T/EM, 1.6 m (order no. 0 011 501) 1 x ENESKAmicro handpiece support, black (order no. 0 011 110) 1 x ENESKA rapid-chuck handpiece JIR 310 (order no. 0 007 515) incl. collet type CHH, Ø 3 mm	**0 011 245**	

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.9		
 The set contains the following components: 1 x ENESKAmicro 600 control unit (order no. 0 011 201) 1 x ENESKAmicro motor JBM 50 S with (+) connection (order no. 0 008 803) 1 x ENESKAmicro motor cable JBM 50 S/EM, 1.6 m (order no. 0 011 503) 1 x ENESKAmicro handpiece support standard, black (order no. 0 011 110) 1 x ENESKA rapid-chuck handpiece JEHR 500 (order no. 0 008 810) incl. collet type CHH, Ø 3 mm	**0 011 250**	

ENESKAmicro 600
Complete sets

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.10		



The set contains the following components:
1 x ENESKAmicro 600 control unit (order no. 0 011 201)
1 x ENESKAmicro motor JBM 50 HT with (+) connection (order no. 0 008 806)
1 x ENESKAmicro motor cable JBM 50 HT/EM, 1.6 m (order no. 0 011 504)
1 x ENESKAmicro handpiece support standard, black (order no. 0 011 110)
1 x ENESKA-rapid-chuck handpiece JEHR 500 (order no. 0 008 810) incl. collet type CHH, Ø 3 mm

0 011 255

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.11		



The set contains the following components:
1 x ENESKAmicro 600 control unit (order no. 0 011 201)
1 x ENESKAmicro COMPACT HT60-D6, motor incl. chuck Ø 6 mm (order no. 0 011 429)
1 x ENESKAmicro motor cable HT, 1.8 m (order no. 0 011 402)
1 x ENESKAmicro collet type CHG, Ø 6 mm (order no. 0 011 426)
1 x ENESKAmicro handpiece support, white (order no. 0 011 109)

0 011 235

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.12		



The set contains the following components:
1 x ENESKAmicro 600 control unit (order no. 0 011 201)
1 x ENESKAmicro motor JENK-410S with (-) connection (order no. 0 007 505)
1 x ENESKAmicro motor cable JENK-410S/EM, 1.6 m (order no. 0 011 502)
1 x ENESKAmicro handpiece support, black (order no. 0 011 110)
1 x ENESKA rapid-chuck handpiece JIH 300 (order no. 0 009 150) incl. collet type CHH, Ø 3 mm

0 011 260

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.14		



The set contains the following components:
1 x ENESKAmicro 600 control unit (order no. 0 011 201)
1 x ENESKAmicro COMPACT HT60 SMALL, motor incl. rapid-chuck head (order no. 0 011 469)
1 x ENESKAmicro motor cable HT, 1.8 m (order no. 0 011 402)
1 x ENESKAmicro collet type EMA, Ø 3 mm (order no. 0 011 413)
1 x ENESKAmicro handpiece support, white (order no. 0 011 109)

0 011 270

	Order No.	Price from 1 piece
ENESKAmicro 600 set 2.15		



The set contains the following components:
1 x ENESKAmicro 600 control unit (order no. 0 011 201)
1 x ENESKAmicro ENESKAmicro HT60-D6 CNC, motor spindle in stainless steel housing (order no. 0 011 470)
1 x ENESKAmicro motor cable HT-D6, 3 m (order no. 0 011 404-3M)
1 x ENESKAmicro collet type CHG, Ø 3 mm (order no. 0 009 652)
1 x ENESKAmicro collet type CHG, Ø 6 mm (order no. 0 009 651)

0 011 275

ENESKAmicro 450
Complete sets

	Order No.	Price from 1 piece
ENESKAmicro 450 set 1.5		
 The set contains the following components: 1 x ENESKAmicro 450 control unit (order no. 0 011 001) 1 x ENESKAmicro motor JENK-410S with (-) connection (order no. 0 007 505) 1 x ENESKAmicro motor cable JENK-410S/EM, 1.6 m (order no. 0 011 502) 1 x ENESKAmicro handpiece support, black (order no. 0 011 110) 1 x ENESKA rapid-chuck handpiece JIR 310 (order no. 0 007 515) incl. collet type CHH, Ø 3 mm	**0 011 020**	

	Order No.	Price from 1 piece
ENESKAmicro 450 set 1.6		
 The set contains the following components: 1 x ENESKAmicro 450 control unit (order no. 0 011 001) 1 x ENESKAmicro motor JENK-410S with (-) connection (order no. 0 007 505) 1 x ENESKAmicro motor cable JENK-410S/EM, 1.6 m (order no. 0 011 502) 1 x ENESKAmicro handpiece support, black (order no. 0 011 110) 1 x ENESKA rapid-chuck handpiece JIR 310 (order no. 0 007 515) incl. collet type CHH, Ø 3 mm	**0 011 025**	

	Order No.	Price from 1 piece
ENESKAmicro 450 set 1.7		
 The set contains the following components: 1 x ENESKAmicro 450 control unit (order no. 0 011 001) 1 x ENESKAmicro motor JENK-410S with (-) connection (order no. 0 007 505) 1 x ENESKAmicro motor cable JENK-410S/EM, 1.6 m (order no. 0 011 502) 1 x ENESKAmicro handpiece support, black (order no. 0 011 110) 1 x ENESKA rapid-chuck handpiece JIH 300 (order no. 0 009 150) incl. collet type CHH, Ø 3 mm	**0 011 030**	

ENESKAmicro COMPACT series
COMPACT HT60

		Design	Order No.	Price from 1 piece
ENESKAmicro COMPACT HT60				
	• With collet Ø 3 mm • Brushless DC motor BLDC • On-off switch located on the micromotor Motor speed: max. 60,000 rpm Output: 8.9 N cm at 280 W Weight: 0.4 kg Dimensions (D x L): Ø 30 x 170 mm Concentricity: < +/– 0.01 mm Collet type: EMA	incl. motor cable 1.8 m and fan	**0 011 409**	



COMPACT HT60 SMALL

		Design	Order No.	Price from 1 piece
ENESKAmicro COMPACT HT60 SMALL				
	• With collet Ø 3 mm • Brushless DC motor BLDC • On-off switch located on the micromotor Motor speed: max. 60,000 rpm Output: 7.8 N cm at 260 W Weight: 0.22 kg Dimensions (D x L): Ø 28 x 156 mm Concentricity: < +/– 0.01 mm Collet type: EMA	incl. motor cable 1.8 m and fan	**0 011 469**	



Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece
Collet type EMA				
		Ø 1.6 mm	**0 011 411**	
		Ø 2.35 mm	**0 011 412**	
		Ø 3.0 mm	**0 011 413**	
		Ø 1/8“	**0 011 414**	
ENESKAmicro motor cable HT, 1.8 m				
	For connecting the micromotors HT to the ENESKAmicro and ENESKAmobile control units		**0 011 402**	
ENESKAmicro extension cable, 2 m				
	Suitable for all motor cables of the ENESKAmicro series		**0 011 401**	

ENESKAmicro COMPACT series
COMPACT HT60-D6

		Design	Order No.	Price from 1 piece
ENESKAmicro COMPACT HT60-D6				
	• With collet Ø 6 mm • Brushless DC motor BLDC • On-off switch located on the micromotor Motor speed: up to max. 50,000 rpm Output: 8.9 N cm at 280 W Weight: 0.475 kg Dimensions (D x L): Ø 30 x 180 mm Concentricity: < +/– 0.01 mm Collet type: EMB	incl. motor cable 1.8 m and fan	**0 011 429**	
ENESKAmicro HT60-D6 CNC				
	• With collet Ø 3 and 6 mm • Brushless DC motor BLDC Motor speed: up to max. 50,000 rpm Output: 8.9 N cm at 280 W Weight: 0.5 kg Dimensions (D x L): Ø 28 x 170 mm Clamping shank: Ø 28 x 45 mm Concentricity: < +/– 0.01 mm Collet type: CHG	incl. motor cable 3 m, stainless steel case	**0 011 470**	



Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece	3 pieces	5 pieces
Collet type CHG						
		Ø 2.35 mm	**0 009 653**			
		Ø 3.0 mm	**0 009 652**			
		Ø 6.0 mm	**0 009 651**			
		Ø 1/8“	**0 009 657**			
ENESKAmicro motor cable HT-D6, 1.8 m						
	For connecting the micromotors HT-D6 to the ENESKAmicro and ENESKAmobile control units		**0 011 404**			
ENESKAmicro extension cable, 2 m						
	Suitable for all motor cables of the ENESKAmicro series		**0 011 401**			

ENESKAmicro COMPACT series
COMPACT HT60-XL

		Design	Order No.	Price from 1 piece
ENESKAmicro COMPACT HT60-XL				
	• With collet Ø 3 mm • Brushless DC motor BLDC • On-off switch located on the micromotor • XL axle Motor speed: up to max. 50,000 rpm Output: 8.9 N cm at 280 W Weight: 0.4 kg Dimensions (D x L): Ø 30 x 200 mm Collet axle: Ø 8 x 30 mm (outside the housing) Concentricity: < +/– 0.01 mm Collet type: EMA	incl. motor cable 1.8 m and fan	**0 011 419**	



Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece
Collet type EMA				
		Ø 1.6 mm	**0 011 411**	
		Ø 2.35 mm	**0 011 412**	
		Ø 3.0 mm	**0 011 413**	
		Ø 1/8“	**0 011 414**	
ENESKAmicro motor cable HT, 1.8 m				
	For connecting the micromotors HT to the ENESKAmicro and ENESKAmobile control units		**0 011 402**	
ENESKAmicro extension cable, 2 m				
	Suitable for all motor cables of the ENESKAmicro series		**0 011 401**	

ENESKAmicro micromotors with (-) connection
Micromotor JENK-250T

		Design	Order No.	Price from 1 piece
Micromotor JENK-250T				
	Brushless direct current motor BLDC for operation of handpieces with (-) connection Power: 76 watts Rotation speed range: 1,000 – 25,000 rpm Torque: 4.8 N cm Dimensions: Ø 28.4 x 78.4 mm Weight: 147 g	without motor cable	**0 007 525**	
		incl. motor cable 1.6 m	**0 007 525-E**	





Accessories / spare parts

		Order No.	Price from 1 piece
Step-down gear JRG 01			
	for connection to micromotors with (-) connection Reduces rotation speed: 4 : 1 Rotation speed max.: 30,000 rpm Dimensions: Ø 19 x 55 mm (Extension 42 mm) Weight: 68 g	**0 009 500**	
Extension element JCN 01			
	for connection to micromotors with (-) connection Rotation speed max.: 35,000 rpm Dimensions: Ø 19 x 63.5 mm (Extension 50 mm) Weight: 83 g	**0 009 505**	
Motor cable JENK-250T/EM, 1.6 m			
	for connecting the micromotors JENK-250T to the ENESKAmicro and ENESKAmobile control units	**0 011 501**	

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ENESKAmicro micromotors with (-) connection
Micromotor JENK-410S

		Design	Order No.	Price from 1 piece
Micromotor JENK-410S				
	Brushless direct current motor BLDC for operation of handpieces with (-) connection Power: 73 watts Rotation speed range: 1,000 – 40,000 rpm Torque: 4.2 N cm Dimensions: Ø 24.5 x 67.1 mm Weight: 90 g	without motor cable	**0 007 505**	
		incl. motor cable 1.6 m	**0 007 505-E**	





Accessories / spare parts

		Order No.	Price from 1 piece
Step-down gear JRG 01			
	for connection to micromotors with (-) connection Reduces rotation speed: 4 : 1 Rotation speed max.: 30,000 rpm Dimensions: Ø 19 x 55 mm (Extension 42 mm) Weight: 68 g	**0 009 500**	
Extension element JCN 01			
	for connection to micromotors with (-) connection Rotation speed max.: 35,000 rpm Dimensions: Ø 19 x 63.5 mm (Extension 50 mm) Weight: 83 g	**0 009 505**	
Motor cable JENK-410S/EM, 1.6 m			
	for connecting the micromotors JENK-410S to the ENESKAmicro and ENESKAmobile control units	**0 011 502**	

ENESKAmicro micromotors with (+) connection
Micromotor JBM 50 HT

		Design	Order No.	Price from 1 piece
Micromotor JBM 50 HT				
	Brushless direct current motor BLDC for operation of handpieces with (+) connection Output: 200 W Torque: 8.4 N cm Speed range: 1,000 – 50,000 1/min Sound level: < 62 dB(A) at 30,000 rpm Dimensions: Ø 28.3 x 87.7 mm (without cable) Weight: 160 g	without motor cable	**0 008 806**	
		incl. motor cable 1.5 m	**0 008 806-E**	





Accessories / spare parts

		Order No.	Price from 1 piece
Step-down gear JERG 01 B			
	For use with micromotors with (+) connection Speed step-down ratio: 4 : 1 Speed max.: 30,000 rpm Dimension: Ø 22.4 x 40 mm (without thread) Weight: 65 g	**0 009 806**	
Adapter JECN 01 T			
	To connect micromotors with (+) connection to handpieces with (-) connection Speed max.: 30,000 rpm Dimension: Ø 22.4 x 29 mm (without thread) Weight: 31 g	**0 009 807**	
Motor cable JBM 50 HT/EM, 1.5 m			
	For connecting the micromotors JBM 50 HT to the ENESKAmicro and ENESKAmobile control units	**0 011 504**	

ENESKAmicro micromotors with (+) connection
Micromotor JBM 50 S

		Design	Order No.	Price from 1 piece
Micromotor JBM 50 S				
	Brushless direct current motor BLDC for operation of handpieces with (+) connection Torque: 5.6 N cm Speed range: 1,000 – 50,000 1/min Sound level: < 58 dB(A) at 30,000 rpm Dimensions: Ø 27.4 x 74.7 mm (without cable) Weight: 117 g	without motor cable	**0 008 803**	
		incl. motor cable 1.5 m	**0 008 803-E**	





Accessories / spare parts

		Order No.	Price from 1 piece
Step-down gear JERG 01 B			
	For use with micromotors with (+) connection Speed step-down ratio: 4 : 1 Speed max.: 30,000 rpm Dimension: Ø 22.4 x 40 mm (without thread) Weight: 65 g	**0 009 806**	
Adapter JECN 01 T			
	To connect micromotors with (+) connection to handpieces with (-) connection Speed max.: 30,000 rpm Dimension: Ø 22.4 x 29 mm (without thread) Weight: 31 g	**0 009 807**	
Motor cable JBM 50 S/EM, 1.5 m			
	For connecting the micromotors JBM 50 S to the ENESKAmicro and ENESKAmobile control units	**0 011 503**	

ENESKAmicro Hand-filing machines with (+) connection
Hand-filing machine DIPROFIL® FPT/ER, Mark II

	Order No.	Price from 1 piece
Hand-filing machine DIPROFIL® FPT/ER, Mark II		
	**0 005 204-N**	

for connection to JBM 50 S and JBM 50 HT

Stroke length:	0 – 6 mm, continuously adjustable (0.5 – 3 mm recommended)
No. of strokes:	7,000 – 8,000 strokes/min (depending on control unit) (5,000 – 6,500 strokes/min recommended)
Tool receptacle:	Ø 2 – 6.4 mm
Insertion depth:	40 mm
Sound level:	< 70 dB(A) at 7,000 strokes/min (acc. to ISO 15744)
Vibration:	5.79 – 13.37 m/s²
Weight:	560 g (without micromotor)
Accessories:	storage box, tool set, extension tube/finger protection bush, replacement friction bearing and felts, lubricating oil

Accessories / spare parts

	Order No.	Price from 1 piece
Micromotor JBM 50 S		
	**0 008 803-E**	

Brushless direct current motor BLDC for operation of handpieces with (+) connection

Torque:	5.6 N cm
Speed range:	1,000 – 50,000 1/min
Sound level:	< 58 dB(A) at 30,000 rpm
Dimensions:	Ø 27.4 x 74.7 mm (without cable)
Weight:	117 g

Micromotor JBM 50 HT		
	**0 008 806-E**	

Brushless direct current motor BLDC for operation of handpieces with (+) connection

Output:	200 W
Torque:	8.4 N cm
Speed range:	1,000 – 50,000 1/min
Sound level:	< 62 dB(A) at 30,000 rpm
Dimensions:	Ø 28.3 x 87.7 mm (without cable)
Weight:	160 g

Suitable tool holders can be found on **page 249** and on the web at **www.joke-technology.com**

ENESKAmicro Hand-filing machines with (-) connection

Hand-filing machine DIPROFIL® FPT/NR, Mark II

		Order No.	Price from 1 piece
Hand-filing machine DIPROFIL® FPT/NR, Mark II			
	For connection to micromotors JENK-410S and JENK-250T Stroke length: 0 – 6 mm, continuously adjustable (0.5 – 3 mm recommended) No. of strokes: 7,000 – 8,000 strokes/min (depending on control unit) (5,000 – 6,500 strokes/min recommended) Tool receptacle: Ø 2 – 6.4 mm Insertion depth: 40 mm Noise level: < 70 dB(A) at 7,000 strokes/min according to ISO 15744) Vibration: 5.79 – 13.37 m/s² Weight: 560 g (without micromotor) Scope of supply: Storage case, tool set, extension tube/finger protection bush, Replacement friction bearing and felts, lubricating oil	**0 005 203-N**	

Accessories / spare parts

		Order No.	Price from 1 piece
Micromotor JENK-410S			
	Brushless direct current motor BLDC for operation of handpieces with (-) connection Power: 73 watts Rotation speed range: 1,000 – 40,000 rpm Torque: 4.2 N cm Dimensions: Ø 24.5 x 67.1 mm Weight: 90 g	**0 007 505-E**	
Micromotor JENK-250T			
	Brushless direct current motor BLDC for operation of handpieces with (-) connection Power: 76 watts Rotation speed range: 1,000 – 25,000 rpm Torque: 4.8 N cm Dimensions: Ø 28.4 x 78.4 mm Weight: 147 g	**0 007 525-E**	

Suitable tool holders can be found on **page 249** and on the web at **www.joke-technology.com**

ENESKAmicro Hand-filing machines with (+) connection
Hand-filing machine JFMM 4

		Order No.	Price from 1 piece
Hand-filing machine JFMM 4			
	For connection to micromotors with (+) connection, with step-down gear ratio 4:1 Stroke length: 0 – 6 mm, continuously adjustable No. of strokes: max. 7,800 strokes/min Initial speed: max. 30,000 1/min Tool support: Ø 1 – 6.2 mm Weight: 750 g Accessories: storage box, tool holder, tool set, oil	**0 005 300**	

Accessories / spare parts

		Order No.	Price from 1 piece
Micromotor JBM 50 S			
	Brushless direct current motor BLDC for operation of handpieces with (+) connection Torque: 5.6 N cm Speed range: 1,000 – 50,000 1/min Sound level: < 58 dB(A) at 30,000 rpm Dimensions: Ø 27.4 x 74.7 mm (without cable) Weight: 117 g	**0 008 803-E**	
Micromotor JBM 50 HT			
	Brushless direct current motor BLDC for operation of handpieces with (+) connection Output: 200 W Torque: 8.4 N cm Speed range: 1,000 – 50,000 1/min Sound level: < 62 dB(A) at 30,000 rpm Dimensions: Ø 28.3 x 87.7 mm (without cable) Weight: 160 g	**0 008 806-E**	

Suitable tool holders can be found on **page 249**
and in our shop at **www.joke-technology.com**

ENESKAmicro Hand-filing machines with integrated micromotor
Hand-filing machine DIPROFIL® Di-Pro FXM-N, Mark II

Hand-filing machines with integrated micromotor
These hand-filing machines with a built-in micromotor can be directly connected to suitable ENESKAmicro 600 series control units.
No additional micromotor is required.

	Order No.	Price from 1 piece
Hand-filing machine DIPROFIL® Di-Pro FXM-N, Mark II		
 for direct connection to ENESKAmicro control units 600 Stroke length: of 0 – 6 mm, continuously adjustable (0.5 – 3 mm recommended) No. of strokes: max. 7,000 strokes/min (5,000 – 6,000 strokes/min recommended) Tool receptacle: Ø 2 – 6.4 mm Insertion depth: 40 mm Vibration: 1.55 – 5.08 m/s² Weight: 860 g Noise level: < 75 dB (A) at 7,000 strokes/min Accessories: Storage case, tool set, extension tube /finger protection bush, counterweights, replacement friction bearing and felts, lubricating oil	**0 001 521-N**	



ENESKAmicro Hand-filing machines with integrated micromotor
Hand-filing machine DIPROFIL® FPM/R, Mark II

Hand-filing machines with integrated micromotor
These hand-filing machines with a built-in micromotor can be directly connected to suitable ENESKAmicro 600, as well as DIPROFIL® DPU-3 series control units (via adapter). No additional micromotor is required.

	Order No.	Price from 1 piece
Hand-filing machine DIPROFIL® FPM/R, Mark II		
 for direct connection to ENESKAmicro control units 600 Stroke length: 0.5 – 6 mm, infinitely adjustable Number of strokes: 1,000 – 7,800 strokes/min. Initial speed: max. 30,000 rpm Tool receptacle: Ø 1 – 6.2 mm Weight: 800 g Scope of supply: 2 tool holders, tool set, oil and storage case	**0 005 201-N**	



Suitable tool holders can be found on **page 249**
and in our shop at **www.joke-technology.com**

ENESKAmicro Hand-filing machines with integrated micromotor
Hand-filing machine FMD/3-2/EM

Hand-filing machines with integrated micromotor
These hand-filing machines with a built-in micromotor can be directly connected to suitable ENESKAmicro 600 series control units.
No additional micromotor is required.

		Order No.	Price from 1 piece
Hand-filing machine FMD/3-2/EM			
	for direct connection to ENESKAmicro and ENESKAmobile control units Stroke length: 0.5 – 6 mm, infinitely adjustable Number of strokes: 1,000 – 7,800 strokes/min. Initial speed: max. 30,000 rpm Tool receptacle: Ø 1 – 6.2 mm Weight: 800 g Scope of supply: 2 tool holders, tool set, oil and storage case	**0 011 550**	





Suitable tool holders can be found on **page 249**
and on the web at **www.joke-technology.com**

ENESKAmicro Mini hand-filing machines with (+) connection
Mini hand-filing machines

			Design	Order No.	Price from 1 piece
Mini hand-filing machine DIPROFIL® FMR/E					
	No. of strokes:	max. 8,000 strokes/min	stroke length 0.5 mm	**0 001 207**	
	Tool receptacle:	Ø 3.5 mm	stroke length 1.0 mm	**0 001 215**	
	Sound level:	< 70 dB(A)	stroke length 1.5 mm	**0 001 209**	
	Vibration:	< 2.5 m/s²			
	Dimensions:	Ø 24 x 90 mm (without thread)			
	Weight:	120 g			
	Scope of supply:	storage box, tools, oil, rubber covering (long)			
Mini hand-filing machine JN 48					
	with integrated step-down gear 4:1		stroke length 0.8 mm	**0 001 403**	
	No. of strokes:	max. 12,500 strokes/min			
	Tool receptacle:	Ø 3.1 mm			
	Dimensions:	Ø 22.4 x 92 mm (without thread)			
	Weight:	130 g			
	Scope of supply:	storage box, tools			

Suitable tool holders can be found on **page 249** and on the web at **www.joke-technology.com**

ENESKAmicro Mini hand-filing machines with (-) connection
Mini hand-filing machines

			Design	Order No.	Price from 1 piece
Mini hand-filing machine DIPROFIL® FMR/N					
	No. of stroke:	max. 8,000 strokes/min	stroke length 0.5 mm	**0 001 203**	
	Tool receptacle:	Ø 3.5 mm	stroke length 1.0 mm	**0 001 214**	
	Noise level:	< 70 dB(A)	stroke length 1.5 mm	**0 001 218**	
	Vibration:	< 2.5 m/s²			
	Dimensions:	Ø 24 x 83.5 mm (without thread)			
	Weight:	120 g			
	Scope of supply:	storage case, tools, oil, rubber collar long			
Mini hand-filing machine JN 38					
	With integrated step-down-gear 4:1		stroke length 0.8 mm	**0 001 401**	
	No. of strokes:	max. 10,000 strokes/min with the micromotor JNK 351			
	Tool receptacle:	Ø 3.1 mm			
	Dimensions:	Ø 21.4 x 93 mm (without thread)			
	Weight:	130 g			
	Scope of supply:	storage case, tools			

ENESKAmicro handpieces with (+) - connection
Rapid-chuck handpiece JEHR 500

		Order No.	Price from 1 piece
Rapid-chuck handpiece JEHR 500			
	Collet: CHH (Ø 3 mm in scope of supply) Speed: max. 50,000 rpm, in continuous operation 40,000 rpm Concentricity: ± 0.01 mm Dimensions: Ø 22.4 x 58 mm (without thread) Weight: 95 g	**0 008 810**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHH			
	Ø 1.0 mm	**0 009 155**	
	Ø 1.6 mm	**0 009 157**	
	Ø 2.35 mm	**0 009 152**	
	Ø 3.0 mm	**0 009 151**	
	Ø 1/8“	**0 009 153**	

ENESKAmicro handpieces with (+) - connection
Angle handpiece JERA 270 S

		Order No.	Price from 1 piece
Angle handpiece JERA 270 S			
	equipped from the outset with Rapid-Change connection! Collet: GH (Ø 6 mm included) Speed: max. 18,000 1/min, same rotation direction Dimensions: Ø 24 x 44 mm (without connector) Head dimensions: Ø 24 x 44 mm Weight: 110 g	**0 008 813**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type GH			
	Ø 2.35 mm – 3/32“	**0 030 010**	
	Ø 3 mm	**0 030 013**	
	Ø 6 mm	**0 030 016**	

ENESKAmicro handpieces with (+) - connection
Handpiece JEHG 400

			Order No.	Price from 1 piece
Handpiece JEHG 400				
	Collet: Speed: Concentricity: Dimensions: Weight:	CHG (Ø 6 mm included) max. 30,000 1/min ± 0.01 mm Ø 22.4 x 75 mm (without thread) 100 g	**0 009 811**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece	3 pieces	5 pieces
Collet type CHG					
	Ø 2.35 mm	**0 009 653**			
	Ø 3.0 mm	**0 009 652**			
	Ø 6.0 mm	**0 009 651**			

ENESKAmicro handpieces with (+) - connection
Angle handpiece JERA 270

			Order No.	Price from 1 piece
Angle handpiece JERA 270				
	Collet: Speed: Head gearing: Concentricity: Dimensions: Weight:	CHS (Ø 3 mm included) max. 20,000 1/min, reverse initial rotation 1:1,5 ± 0.01 mm Ø 22.4 x 71 mm (without thread) 100 g	**0 009 812**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHS			
	Ø 1.6 mm	**0 750 515**	
	Ø 2.35 mm	**0 750 511**	
	Ø 3.0 mm	**0 750 510**	
	Ø 1/8“	**0 750 520**	

ENESKAmicro handpieces with (+) - connection
Angle handpiece JEKC 300

		Order No.	Price from 1 piece
Angle handpiece JEKC 300			
	Collet: CHC (Ø 3 mm included) Speed: max. 20,000 1/min, same rotation direction Head gearing: 3:4 Concentricity: ± 0.01 mm Dimensions: Ø 22.5 x 69.5 mm (without thread) Weight: 60 g	**0 009 813**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHC			
	Ø 1.6 mm	**0 009 207**	
	Ø 2.35 mm	**0 009 202**	
	Ø 3.0 mm	**0 009 201**	

ENESKAmicro handpieces with (+) - connection
Angle handpiece WE4-90

		Order No.	Price from 1 piece
ENESKAmicro Angle handpiece WE4-90			
	Collet: CHC (Ø 3 mm included) Speed: max. 30,000 rpm, reversal of direction of rotation Concentricity: < +/– 0.01 mm Dimensions: Ø 22 x 62 mm (without thread) Weight: 65 g	**0 011 330**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHC			
	Ø 1.6 mm	**0 009 207**	
	Ø 2.35 mm	**0 009 202**	
	Ø 3.0 mm	**0 009 201**	

ENESKAmicro handpieces with (+) - connection
Angle handpiece WE4-45

			Order No.	Price from 1 piece
ENESKAmicro Angle handpiece WE4-45				
	Collet: Speed: Concentricity: Dimensions: Weight:	CHC (Ø 3 mm included) max. 30,000 rpm, same direction of rotation < +/– 0.01 mm Ø 22 x 62 mm (without thread) 65 g	**0 011 335**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHC			
	Ø 1.6 mm	**0 009 207**	
	Ø 2.35 mm	**0 009 202**	
	Ø 3.0 mm	**0 009 201**	

ENESKAmicro handpieces with (-) - connection
Rapid-chuck handpiece JIR -310

			Order No.	Price from 1 piece
Rapid-chuck handpiece JIR -310				
	Collet: Speed: Concentricity: Dimensions: Weight:	CHH (Ø 3 mm included) max. 40,000 rpm ± 0.01 mm Ø 24 x 75 mm (without thread) 90 g	**0 007 515**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHH			
	Ø 1.0 mm	**0 009 155**	
	Ø 1.6 mm	**0 009 157**	
	Ø 2.0 mm	**0 009 158**	
	Ø 2.35 mm	**0 009 152**	
	Ø 2.5 mm	**0 009 159**	
	Ø 3.0 mm	**0 009 151**	
	Ø 1/8“	**0 009 153**	

ENESKAmicro handpieces with (-) - connection
Handpiece JHG 210

			Order No.	Price from 1 piece
Handpiece JHG 210				
	Collet:	CHG (Ø 6 mm included)	**0 007 650**	
	Speed:	max. 27,000 rpm		
	Concentricity:	± 0.01 mm		
	Dimensions:	Ø 25 x 102 mm (without thread)		
	Weight:	180 g		

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece	3 pieces	5 pieces
Collet type CHG					
	Ø 2.35 mm	**0 009 653**			
	Ø 3.0 mm	**0 009 652**			
	Ø 6.0 mm	**0 009 651**			

ENESKAmicro handpieces with (-) - connection
Handpiece JIH 300

			Order No.	Price from 1 piece
Handpiece JIH 300				
	Collet:	CHH (Ø 3 mm included)	**0 009 150**	
	Speed:	max. 40,000 rpm		
	Concentricity:	± 0.01 mm		
	Dimensions:	Ø 23 x 60 mm (without thread)		
	Weight:	60 g		

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHH			
	Ø 1.0 mm	**0 009 155**	
	Ø 1.6 mm	**0 009 157**	
	Ø 2.0 mm	**0 009 158**	
	Ø 2.35 mm	**0 009 152**	
	Ø 2.5 mm	**0 009 159**	
	Ø 3.0 mm	**0 009 151**	
	Ø 1/8“	**0 009 153**	

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ENESKAmicro handpieces with (-) - connection
Angle handpiece JKC 345

			Order No.	Price from 1 piece
Angle handpiece JKC 345				
	Collet:	CHC (Ø 3 mm included)	**0 009 200**	
	Speed:	max. 20,000 rpm, same rotation direction		
	Head gear:	3:4		
	Concentricity:	± 0.01 mm		
	Dimensions:	Ø 22 x 62 mm (without thread)		
	Weight:	60 g		

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHC			
	Ø 1.6 mm	**0 009 207**	
	Ø 2.35 mm	**0 009 202**	
	Ø 3.0 mm	**0 009 201**	

ENESKAmicro handpieces with (-) - connection
Angle handpiece JIC 390

			Order No.	Price from 1 piece
Angle handpiece JIC 390				
	Collet:	CHC (Ø 3 mm included)	**0 009 250**	
	Speed:	max. 20,000 rpm, reverse initial rotation		
	Head gear:	3:4		
	Concentricity:	± 0.01 mm		
	Dimensions:	Ø 22 x 58 mm (without thread)		
	Weight:	60 g		

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHC			
	Ø 1.6 mm	**0 009 207**	
	Ø 2.35 mm	**0 009 202**	
	Ø 3.0 mm	**0 009 201**	

ENESKAmicro handpieces with (-) - connection
Miniature angle handpiece JMFC 300 S

			Order No.	Price from 1 piece
Miniature angle handpiece JMFC 300 S				
	Collet:	K-252 (Ø 1.6 mm included)	**0 009 512**	
	Speed:	max. 15,000 rpm, reverse initial rotation		
	Head gear:	10:11		
	Concentricity:	± 0.01 mm		
	Dimensions:	Ø 19 x 95 mm (without thread)		
	Head-Ø:	14 mm		
	Weight:	50 g		

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type K-252			
	Ø 1.6 mm	**0 009 514**	

ENESKAmicro handpieces with (-) - connection
Miniature angle handpiece JMFC 300 M

			Order No.	Price from 1 piece
Miniature angle handpiece JMFC 300 M				
	Collet:	K-253 (Ø 1.6 mm included)	**0 009 511**	
	Speed:	max. 15,000 rpm, reverse initial rotation		
	Head gear:	10:11		
	Concentricity:	± 0.01 mm		
	Dimensions:	Ø 19 x 95 mm (without thread)		
	Head-Ø:	9.8 mm		
	Weight:	47 g		

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type K-253			
	Ø 1.6 mm	**0 009 513**	

ENESKAmicro handpieces with (-) - connection
Handpiece JBMH 300 N

			Order No.	Price from 1 piece
Handpiece JBMH 300 N				
	Collet:	CHM (Ø 3 mm included)	**0 009 350**	
	Speed:	max. 35,000 rpm		
	Dimensions:	Ø 19 x 128.5 mm (without thread)		
	Concentricity:	± 0.01 mm		
	Weight:	160 g		

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collet type CHM			
	Ø 2.35 mm	**0 009 352**	
	Ø 3.0 mm	**0 009 351**	

ENESKAmicro belt grinder with (-)- and (+)-connection
J-BS 100 • J-BS 400

Belt grinder J-BS
Compliments the ENESKAmicro system. This belt grinder is screwed onto the micromotors, just like a handpiece. It is small, fits nicely in your hand and can be used for delicate work. The head can be swivelled on its axis by approximately 90°. A hand rest is located above the grinding belts to enable the device to be used safely with both hands.

			Order No.	Price from 1 piece
Belt grinder JBS 100 with (-)-connection				
	For connection to micromotors with (-)-connection, fits grinding belts 4, 6 and 8 mm wide.		**0 009 950**	
	Gearing: 8:3			
	Input rotation speed:	max. 35,000 rpm		
	Output speed:	max. 13,000 rpm		
	Weight:	355 g		
	Delivered with two grinding belts 6 x 300 mm respectively in grain sizes 120, 240 and 400.			
Belt grinder JBS 400 with (+)-connection				
	For connection to micromotors with (+)-connection, for grinding belts 4, 6 and 8 mm wide		**0 008 850**	
	Gearing:	8:3		
	Input speed:	max. 40,000 rpm		
	Speed:	max. 15,000 rpm		
	Weight:	355 g		
	Delivered with two grinding belts 6 x 300 mm respectively in grain sizes 120, 240 and 400.			

ENESKAmicro belt grinder with (-)- and (+)-connection
J-BS 100 • J-BS 400

Accessories / spare parts

	Dimensions	Grit size	Packing quantity	Order No.	Price from 1 pack	1 piece	10 packs	100 pieces	300 pieces
Grinding belt, corundum									
	6 x 300 mm	120	10 pieces	**0 401 540**					
		240	10 pieces	**0 401 541**					
		320	10 pieces	**0 401 545**					
		400	10 pieces	**0 401 542**					
		500	10 pieces	**0 401 549**					
		600	10 pieces	**0 401 547**					
	8 x 300 mm	80	50 pieces	**0 401 930**					
		120	50 pieces	**0 401 931**					
		180	50 pieces	**0 401 932**					
		240	20 pieces	**0 401 933-0**					
		320	50 pieces	**0 401 934**					
		400	20 pieces	**0 401 935-0**					
		600	20 pieces	**0 401 936-0**					
		800	20 pieces	**0 401 937-0**					
		1000	30 pieces	**0 401 938**					
Grinding belt, zirconium corundum									
	6 x 300 mm	80	10 pieces	**0 401 543**					
		120	10 pieces	**0 401 544**					
Grinding belt, diamond									
	8 x 300 mm	180	3 pieces	**0 404 343**					
		240	3 pieces	**0 404 344**					
		800	3 pieces	**0 404 348**					
		1000	3 pieces	**0 404 349**					
Grinding belt 3M Trizact									
	6 x 300 mm	120	1 piece	**0 404 362**					
		240	1 piece	**0 404 361**					
		280	1 piece	**0 404 360**					



Hollow handle
for ergonomic handling of your handpieces

Hollow handle for ENESKAmicro
Perfect handling of the handpiece during polishing. The handle hemisphere fits perfectly into the hand, thereby providing full control with fatigue-free work. By simple conversion, the handle can be used by both right and left-handed individuals.

		Order No.	Price from 1 piece
Hollow handle for ENESKAmicro with (-)-connection			
	Use with extension element JCN 01 (Order No. 0 009 505) or step-down gear JRG 01 (Order No. 0 009 500) Weight: 120 g	**0 009 240**	
Hollow handle for ENESKAmicro with (+)-connection			
	Use with step-down gear JERG 01B (Order No. 0 009 806) Weight: 100 g	**0 009 245**	

Quick coupling system with (-)-connection
joke Rapid-Change

Rapid-Change with (-) connection for ENESKAmicro
The system for changing handpieces on the ENESKAmicro with (-) connection within seconds. Ingenious and simple: Remove the old handpiece, attach the new one and back to work. All is a matter of a few seconds. Retrofitting the handpiece and motor is child's play with just two components. joke Rapid-Change lets you make the most of your working time, which is no longer spent on time-consuming changing of handpieces or collets.

		Order No.	Price from 1 piece	3 pieces	5 pieces
Rapid-Change coupling for micromotor with (-)-connection					
	for retrofitting of ENESKAmicro micromotors with (-) connection Weight: 30 g Dimensions: Ø 19 x 16 mm (without thread) The suitable hook wrench (Order No. 0 009 379) is included in the scope of supply of the handpieces!	**0 007 050**			
Rapid-Change connection plug for handpieces with (-)-connection					
	suitable for all ENESKAmicro-handpieces with (-) connection (except JHG 200), Order No. 0 009 650) Weight: 15 g Dimensions: Ø 19 x 14.7 mm (without thread) Suitable installation wrench (Order No. 0 007 052)	**0 007 051**			

Quick coupling system with (+)-connection
joke Rapid-Change

Rapid-Change with (+)-connection for ENESKAmicro
The system for rapid handpiece change for our ENESKAmicro system with (+)-connection.

Screw the coupling on to the micromotor and the desired handpieces and/or mini hand-filing machines can be simply push-fitted with the corresponding connector. Screw-fitting is a thing of the past!

The system is suitable for all ENESKAmicro handpieces with (+)-connection, the DIPROFIL® mini hand-filing machines and all micromotors with (+)-connection.

Switch to joke Rapid-Change saves you time, effort and hard cash.

		Order No.	Price from 1 piece	3 pieces	5 pieces
Rapid-Change coupling for micromotor with (+)-connection					
	for retrofitting of ENESKAmicro micromotors with (+) connection Dimensions: Ø 21.9 x 18 mm (without thread) Weight: 36 g	**0 008 815**			
Rapid-Change connection plug for handpieces with (+)-connection					
	suitable for all handpieces with (+) connection Dimensions: Ø 22 x 18 mm (without thread) Weight: 37 g	**0 008 816**			
Rapid-Change connector for DIPROFIL® mini hand-filing machines with (+)-connection					
	suitable for the DIPROFIL® FMR/E mini hand-filing machines Dimensions: Ø 21 x 18.2 mm (without thread) Weight: 33 g	**0 008 817**			



+ 30,7 mm
+ 45 g

The filigree Rapid-Change components fit perfectly between the motor and handpiece and are only minimally noticeable in length and weight.



The advantages to you:
- Handpiece change quick and easy
- Retrofitting child's play in two steps
- Fits perfectly between the handpiece and the motor

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Overview of old ENESKA systems
control units, micromotors, motor cables, carbon brushes



ENESKA 3-1



Motor cable
NCL-351
Order no. 0 007 150



Micromotor
JNK-351
Order no. 0 007 100

Spare carbon brushes
Order no. 0 009 142



Motor cable
NCL-261
Order no. 0 007 250

Micromotor
JNK-261
Order no. 0 007 200

Spare carbon brushes
Order no. 0 009 416



ENESKA 4-1



Motor cable
JBM 50S, 1,5 m
Order no. 0 008 804



Motor cable
JBM 50SL, 4 m
Order no. 0 008 808



Brushless micromotor
JBM 50S
Order no. 0 008 803



Motor cable
JBM 50HT, 1,5 m
Order no. 0 008 807



Motor cable
JBM 50HTL, 4 m
Order no. 0 008 809



Brushless micromotor
JBM 50HT
Order no. 0 008 806



ENESKA 3-2



Motor cable
JENK-250T, 1,6 m
Order no. 0 007 526

Motor cable
JENK-250T, 3 m
Order no. 0 007 527



Micromotor
JENK-250T
Order no. 0 007 525



Motor cable
JENK-410S, 1,6 m
Order no. 0 007 506

Motor cable
JENK-410S, 3 m
Order no. 0 007 507



Micromotor
JENK-410S
Order no. 0 007 505

Control unit	Motor cables	Micromotors	Equipment

Motor system with flexible shaft
jokeFlex Premium Plus



jokeFlex Premium PLUS

- Minimised noise emission
- The most powerful joke motor of all time
- Compatible with accessories from the previous generation
- Flexible shafts with silicon hose

jokeFlex Premium Plus motor system
Our flexible shaft system for today and the future. The core is the motor with an impressive 1,000 watts power. The noise level is reduced to a pleasant level in spite of increased power. The motor can be used in a hanging or lying position. Thanks to the robust construction of the suspension and shaft connection, it is optimally equipped for a hard day's work.

The matching **joke Premium Plus handpieces** fulfill all requirements which are expected of a modern handpiece. They lie comfortably and securely in the hand, muffle vibrations effectively and tire the worker's hand over long working periods. This is achieved by the uniformly narrow handle made of special rubber which is used in all handpieces. At least equally important: the inside. And also here high tech is the key. The handpieces are very robust and have a closed double bearing inside. The result is extremely quiet-running operation. Further advantages of the Premium Plus hand-pieces: changing the tool in seconds, without pinning.

The joke Premium Plus handpieces are available in a straight design or with a 90° angle head. The handpieces are of course also available in Rapid-Change design which connects to the motor system in a second. A closer look at the angle handpiece is worth-while: the slim, almost filigree head gives you the opportunity of reaching and processing even otherwise difficult to access areas of the workpiece.

Motor system with flexible shaft
jokeFlex Premium Plus



Handpiece
joke Premium Plus
Order No. 0 030 200
Collet Typ GH



Angle-handpiece
joke Premium Plus
Order No. 0 030 250
Collet Typ WH



Technical handpiece
THSZ/N
Order No. 0 030 004
Collet Typ GH



Angle-handpiece
VTN-N 90°
Order No. 0 031 341
Collet Typ WH



Angle-handpiece
VTN-S/N
Order No. 0 031 540
Collet Typ GH



Rapid-chuck handpiece
TH-M II
Order No. 0 030 640
Collet Typ TH



Hemisphere handpiece
NHG-L
Order No. 0 031 400
Collet Typ WH



Hand-filing machines
DIPROFIL®
Di-Pro FXK-N, Mark II
Order No. 0 001 503-N



Hand-filing machines
DIPROFIL®
FPK/R, Mark II
Order No. 0 005 151-N



Flexible shafts
Premium Plus

Standard motor connection
Spring clip 1.1 m
Order No. 0 015 800
Rapid-Change 1.1 m
Order No. 0 015 900

Quick-change
motor connection
Spring clip 1.1 m
Order No. 0 016 800
Rapid-Change 1.1 m
Order No. 0 016 900



Motor
jokeFlex Premium Plus
Order No. 0 016 550



Foot control
Premium
Order No. 0 016 600



Suspension device,
clamp-on
Order No. 0 020 200





Quick coupling system
joke Rapid-Change
Coupling piece
Order No. 0 015 250
Connector plugs for
handpieces see from page 54!

Motor system with flexible shaft
jokeFlex Premium Plus

Premium Plus flexible shafts
The Premium Plus flexible shafts are consistently optimised to suit everyday requirements in industry. The silicone hose offers many advantages:

- Utmost flexibility and suppleness
- Extremely smooth running (owing to minimised vibrations)
- Very quiet
- No heat generation

For connecting the handpieces, our flexible shafts offer you a choice between a spring clip and the joke Rapid-Change quick coupling system. This innovative system allows safe handpiece change in a few seconds without any "fumbling around". Shafts with a hook spring are also available on request.

On the motor side, a choice of shafts with standard motor connection or the joke Quick-Change "premium connection" is available.

Shaft connectors



Flexible shaft with spring clip



Flexible shaft with hook ring



Flexible shaft with Rapid-Change coupling

Motor connectors



joke Quick-Change motor connector



Standard motor connector (with pins)

	Motor connection	Dimensions	Order No.	Price from 1 piece
Flexible shaft with Rapid-Change coupling				
	standard	1,100 mm	**0 015 900**	
	Quick-Change	1,100 mm	**0 016 900**	
Flexible shaft with spring clip				
	standard	1,100 mm	**0 015 800**	
	Quick-Change	1,100 mm	**0 016 800**	

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Motor system with flexible shaft
jokeFlex Premium Plus

jokeFlex Premium Plus motor system
Our flexible shaft system for today and the future. The core is the motor with an impressive 1,000 watts power. The noise level is reduced to a pleasant level in spite of increased power. The motor can be used in a hanging or lying position. Thanks to the robust construction of the suspension and shaft connection, it is optimally equipped for a hard day's work.

The matching joke Premium Plus handpieces fulfill all requirements which are expected of a modern handpiece. They lie comfortably and securely in the hand, muffle vibrations effectively and tire the worker's hand over long working periods. This is achieved by the uniformly narrow handle made of special rubber which is used in all handpieces. At least equally important: the inside. And also here high tech is the key. The handpieces are very robust and have a closed double bearing inside. The result is extremely quiet-running operation. Further advantages of the Premium Plus hand-pieces: changing the tool in seconds, without pinning.

The joke Premium Plus handpieces are available in a straight design or with a 90° angle head. The handpieces are of course also available in Rapid-Change design which connects to the motorsystem in a second. A closer look at the angle handpiece is worthwhile: the slim, almost filigree head gives you the opportunity of reaching and processing even otherwise difficult to access areas of the workpiece.

		Order No.	Price from 1 piece
Motor jokeFlex Premium Plus			
	Robust construction (shaft connection and suspension) pleasant noise level, can be used lying and hanging, compatible with foot controller Premium Rotational speed: max. 18,000 1/min Power: 1,000 W input, 700 W output Dimensions (H x W x D): 240 x 105 x 95 mm Weight: 2.1 kg Cable length: 2.2 m Shaft connection: Quick-Change	**0 016 550**	

matching set

		Design	Order No.	Price from 1 piece
Advantage package jokeFlex Premium Plus				
	This advantage package for getting started straight away includes: 1 x motor Premium Plus (Order No. 0 016 550) 1 x foot controller Premium (Order No. 0 016 600) 1 x flexible shaft Premium Plus 1.1 m length (Order No. 0 016 800, for Rapid-Change Order No. 0 016 900)	Standard Rapid-Change	**0 016 850** **0 016 850R**	

Accessories / spare parts



		Order No.	Price from 1 pack	Price from 1 piece
Foot control Premium, Motor system with flexible shaft				
	To adjust motor speed by foot action Speed range: 3,000 to 22,000 1/min Speed restriction: 10,000 to 22,000 rpm Dimensions: Ø 190 (230 with pedal) x 200 mm Weight: 2 kg Supply voltage: 230 volts, 50 Hz Cable length: 2.8 m	**0 016 600**		
Suspension device G2, height adjustable				
	Fixable to the workbench Clamping range: max. 70 mm Height adjustable: between 700 and 1,100 mm Depth adjustable: cantilever arm adjustable by max. 300 mm, lockable in any desired position Colour: blue/silver	**0 020 200**		
Spring clip, Standard				
	Proven steel design, pack contents: 20 pieces	**0 015 201**		

Handpieces
joke Premium Plus

			Type	Order No.	Price from 1 piece
Handpiece joke Premium Plus					
	Rotational speed: Collet: Dimensions: Weight: Scope of delivery:	max. 22,000 1/min GH (Ø 3 mm in scope of delivery) Ø 25 x 138 mm 160 g including tool set	Standard Rapid-Change	**0 030 200** **0 030 200R**	

Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece	3 pieces
Collet type GH					
		Ø 2.35 mm – 3/32“	**0 030 010**		
		Ø 3 mm	**0 030 013**		
		Ø 6 mm	**0 030 016**		
Driver					
			**0 030 205**		
Connector plug					
	Rapid change to joke Premium Plus handpieces		**0 015 285**		

Handpieces
joke Premium Plus

			Type	Order No.	Price from 1 piece
Angle-Handpiece 90° joke Premium Plus					
	Rotational speed: Collet: Dimensions: Weight: Scope of delivery:	max. 18,000 1/min, clockwise rotation WH (Ø 3 mm in scope of delivery) Ø 26 x 165 mm (head Ø 17 x 27 mm) 170 g including tool set	Standard Rapid-Change	**0 030 250** **0 030 250R**	

Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece	3 pieces
Collets, type WH					
		Ø 2.35 mm – 3/32“	**0 031 301**		
		Ø 3 mm	**0 031 302**		
Driver					
			**0 030 205**		
Connector plug					
	Rapid change to joke Premium Plus handpieces		**0 015 285**		

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Handpieces
joke Classic-Line

		Type	Order No.	Price from 1 piece
Handpiece THSZ/N				
	Collet: GH (Ø 3 mm in scope of delivery) Speed: max. 18,000 1/min Dimensions: Ø 24 x 132 mm Weight: 120 g Scope of delivery: wrench, clamping pin	Standard	**0 030 004**	
		Rapid-Change	**0 030 004R**	

Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece	3 pieces
Collet type GH					
		Ø 2.35 mm – 3/32"	**0 030 010**		
		Ø 3 mm	**0 030 013**		
		Ø 6 mm	**0 030 016**		
Driver for Rapid-Change					
			**0 015 262**		
Connector plug					
	Rapid change to Handpiece THSZ/N (order no. 0 030 004, 0 030 005 and 0 030 006)		**0 015 261-1**		

		Type	Order No.	Price from 1 piece
Angle-handpiece VTN-N 90°				
	70 mm telescope-type extendable angle head with 90° head adjustment, clockwise rotation Collet: WH (Ø 2.35 and Ø 3 mm in scope of delivery) Speed: max. 18,000 1/min Dimensions: Ø 24 x 175 mm (head Ø 17 x 30 mm) Weight: 185 g Scope of delivery: tool kit	Standard	**0 031 341**	
		Rapid-Change	**0 031 341R**	

Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece	3 pieces
Collets, type WH					
		Ø 2.35 mm – 3/32"	**0 031 301**		
		Ø 3 mm	**0 031 302**		
Driver					
			**0 015 264**		
Connector plug					
	Rapid change to Anglehandpiece VTN/N		**0 015 263**		

Handpieces
joke Classic-Line

			Type	Order No.	Price from 1 piece
Angle-handpiece VTN-S/N					
	Collet:	GH (Ø 3 and Ø 6 mm in scope of delivery)	Standard	**0 031 540**	
	Speed:	max. 18,000 1/min	Rapid-Change	**0 031 540R**	
	Rotation:	clockwise			
	Dimensions:	Ø 24 x 171 mm (head Ø 24 x 40 mm)			
	Weight:	240 g			
	Scope of delivery:	tool kit			

Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece	3 pieces
Collet type GH					
		Ø 2.35 mm – 3/32“	**0 030 010**		
		Ø 3 mm	**0 030 013**		
		Ø 6 mm	**0 030 016**		
Driver					
			**0 031 563**		
Connector plug					
	Rapid change for anglehandpiece VTN-S/N		**0 015 265**		

Rapid-chuck handpiece
TH-M II

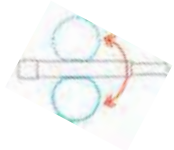
This Rapid-chuck handpiece was designed for lighter jobs involving frequent tool changes. The selected tools are clamped in using the clamping lever fitted on the top.

			Type	Order No.	Price from 1 piece
Rapid-chuck handpiece TH-M II					
	Collet:	TH (Ø 3 mm in scope of delivery)	Standard	**0 030 640**	
	Speed:	max. 15,000 1/min	Rapid-Change	**0 030 640R**	
	Dimensions:	Ø 21.9 x 139 mm			
	Weight:	107 g			

Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece	3 pieces
Collets, type TH					
		Ø 2.35 mm	**0 030 641**		
		Ø 3 mm	**0 030 642**		
Driver					
			0 030 666		
Connector plug					
	Rapid Change suitable for the TH-M II quick release handpiece (0 030 640)		**0 015 273**		

Hemisphere handpiece
NHG-L



Easy change between right and left-handed use!

Our special recommendation for polishing jobs (for example, when using rings for finishing).
The hemisphere attached to the handle provides a fatigue-free handrest and can be adapted for either right or left-handed users.

		Type	Order No.	Price from 1 piece
Hemisphere handpiece NHG-L				
	Telescopically extendable angle head (70 mm), with 125° head adjustment, anticlockwise rotation Collet: WH Speed: max. 11,000 1/min Dimensions: Ø 18 x 190 mm (head Ø 18 x 30 mm) Weight: 250 g Scope of delivery: Collet Ø 3 mm, holder for ring Ø 12 mm, tool kit	Standard	**0 031 400**	
		Rapid-Change	**0 031 400R**	

Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece	3 pieces
Collets, type WH					
		Ø 2.35 mm – 3/32“	**0 031 301**		
		Ø 3 mm	**0 031 302**		
Driver					
			**0 015 256**		
Connector plug					
	Rapid change for hollow handpiece		**0 015 255**		

Hand-filing machines
DIPROFIL® Di-Pro • FXK-N • FPK/R

		Type	Order No.	Price from 1 piece
Hand-filing machine DIPROFIL® FPK/R, Mark II				
	Stroke length: 0 – 6 mm, (recommended 0.5 – 3 mm) No. of strokes: max. 8,000 strokes/min (5,000 – 6,000 strokes/min recommended) Tool receptacle: Ø 2 – 6.4 mm Insertion depth: 40 mm Vibration: 5.79 – 13.37 m/s² Sound level: < 70 dB(A) at 7,000 strokes/min (acc. to ISO 15744) Weight: 575 g Scope of delivery: storage case, tool set, oil, extension tube/finger protection bush, replacement friction bearing and felts, lubricating oil	Standard	**0 005 151-N**	
		Rapid-Change	**0 005 151R-N**	

Accessories / spare parts

		Order No.	Price from 1 piece	3 pieces
Driver				
		0 015 252		
Connector plug				
	Rapid change to Diprofil-Handfilingmachine	**0 015 251**		

		Type	Order No.	Price from 1 piece
Hand-filing machine DIPROFIL® Di-Pro FXK-N, Mark II				
	Stroke length: 0.5 – 6 mm (recommended 0.5 – 3 mm) No. of strokes: max. 7,000 strokes/min, (5,000 – 6,000 strokes/min recommended) Tool receptacle: Ø 2 – 6.4 mm Insertion depth: 40 mm Vibration: 1.55 – 5.08 m/s² Sound level: < 75 dB(A) at 7,000 strokes/min Weight: 700 g Scope of delivery: Storage case, tool set, extension tube, finger protection bush, counterweights replacement friction bearing and felts, lubricating oil	Standard	**0 001 503-N**	
		Rapid-Change	**0 001 503R-N**	

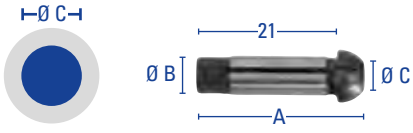
Accessories / spare parts

		Order No.	Price from 1 piece	3 pieces
Driver				
		0 015 252		
Connector plug				
	Rapid change to Diprofil-Handfilingmachine	**0 015 251**		

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Reducing sleeves
to allow use of a smaller shaft diameter in larger collets

	Length A	Dimensions	Order No.	Price from 1 piece	Price from 5 pieces
Reducing bush RHB					
	28 mm	B Ø 3.0 | C Ø 2.35 mm	**0 545 287**		
Reducing bush with collar					
	25 mm	B Ø 3.0 | C Ø 1.6 mm	**0 010 583**		
		B Ø 3.0 | C Ø 2.35 mm	**0 010 588**		
		B Ø 6.0 | C Ø 3.0 mm	**0 545 288**		



More reducing bushes on request!

Other reducing bushes in 0.1 mm decrements are available!

Quick coupling system
joke Rapid-Change

joke Rapid-Change
The revolution in secure, rapid handpiece changes. The joke Rapid-Change quick coupling system means you can change handpieces in just a few seconds: just pull out the old handpiece and push in the new one. Hey presto!

This system does not just optimise hand-piece changes however. It also means that you can work with joke Rapid-Change more safely and economically, because firstly, there is no longer any risk of injury from spring clips and secondly, repair costs are lower. A “Rapid-Change connection” between the hand-piece and the shaft simply lasts longer.

You can continue to use your existing hand-pieces. All you need is a conversion set and a coupling piece, which is simply fitted to the handpiece end of the flexible shaft.

When buying handpieces, you can choose between the standard design with spring clips and the version with the Rapid-Change connector.



		Order No.	Price from 1 piece	Price from 3 pieces
Rapid-Change coupling for jokeFlex Premium Plus				
	for mounting at the flexible shaft (handpiece end)	**0 015 250**		

Handpiece conversion in just two steps:

1



Unscrew sliding connector cover...

2



...Screw Rapid-Change connectors onto handpiece and shaft.

jokeFlex Power
Motor • Accessories • Flexible shafts

Motor system jokeFlex Power –
The heavyweight champion
Our most powerful driving motor – for your coarse and large surface grinding needs. The jokeFlex Power motor system delivers up to 13,000 rpm – adjustable in 100 rpm steps. Everything is adjusted and controlled digitally. Soft start, stable speeds and an active brake are the decisive advantages of the unit's electronic control. Low speeds down to 500 rpm are also possible with this system – thanks to powerful torque with real pulling power! Force is not the same as mass. The high-output motor in the metal housing is robust, but thanks to its light and compact design. It is also suitable for portable use. Also: the jokeFlex Power system has a 230 V connection, enabling it to be quickly connected anywhere.

- Output max. 1,500 W (230 V supply voltage)
- High torque for stability at all speeds
- Digital control and monitoring
- Versatile operation thanks to large range of handpieces



jokeFlex motor
Power 2.0
Order No. 0 019 020



Straight handpiece
FH 4 INOX
Order No. 0 019 120

Shaft connection
G16



Flexible shaft
DIN 10/G16
Order No. 0 019 100



Angle handpiece
WI 4
Order No. 0 019 130



Adapter for belt grinder
Order No. 0 019 150
Adapter for belt grinder on request!

Belt grinders
KAK 16/4
Order No. 0 019 155
KAK 16/9
Order No. 0 019 160
KAK 25/9
Order No. 0 019 165
KAK 9/9
Order No. 0 019 170
KAK 25/1.5
Order No. 0 019 175

Motor connection
DIN 10



Straight handpiece
FH 7 INOX
Order No. 0 019 420

Flexible shaft
DIN 10/G22
Order No. 0 019 200



Angle Handpiece
WI 7
Order No. 0 019 230



Shaft connection
G22



Movable stands
Order No. 0 019 021

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jokeFlex Power
Motor • Accessories • Flexible shafts

		Order No.	Price from 1 piece
Motor jokeFlex Power 2.0			
	Speed between: 500 and 13,000 1/min (adjustable in 100 rpm steps) Power output: 1,650 W Power consumption: 2,000 W Shaft connection: DIN 10 Supply voltage: 230 V, 50/60Hz, 1 phase Sound level: 63 dB(A) Dimensions (W x H x D): 472 x 340 x 352 mm Weight: 27 kg	**0 019 020**	

Accessories / spare parts

		Order No.	Price from 1 piece
Movable stands for jokeFlex Power 2.0			
	Dimensions (W x L x H): Ø 470 x 470 x 606 mm Weight: 23 kg	**0 019 021**	

	Shaft connection	Motor connection	Dimensions	Order No.	Price from 1 piece
Flexible shaft jokeFlex Power					
	G 16	DIN 10	Ø 4 x 1,250 mm	**0 019 100**	
	G 22	DIN 10	Ø 7 x 1,500 mm	**0 019 200**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Flexible shaft core NA 4 / G 16 for jokeFlex Power			
	Ø 4 x 1,250 mm	**0 019 101**	
Flexible shaft core NA 7 / G 22 for jokeFlex Power			
	Ø 7 x 1,500 mm	**0 019 201**	

jokeFlex Power
Handpieces

			Order No.	Price from 1 piece
Straight handpiece FH 4 INOX				
	Shaft connection: Speed: Dimensions: Weight: Accessories:	G 16 max. 40,000 rpm Ø 20 x 107 mm 135 g Collet 6 mm, chuck key set	**0 019 120**	

Accessories / spare parts

	Dimensions	Type	Order No.	Price from 1 piece
Collet for handpiece FH 4				
	Ø 3 mm	FH	**0 019 111**	
	Ø 6 mm	FH	**0 019 112**	

jokeFlex Power
Handpieces

			Order No.	Price from 1 piece
Straight handpiece FH 7 INOX				
	Shaft connection: Speed: Dimensions: Weight: Accessories Collet 6 mm, chuck key set	G 22 max. 25,000 rpm Ø 27 x 128 mm 315 g	**0 019 420**	

Accessories / spare parts

	Dimensions	Type	Order No.	Price from 1 piece
Collets for handpieces FH 7, FH 10				
	Ø 3 mm	FH	**0 019 211**	
	Ø 6 mm	FH	**0 019 212**	
	Ø 8 mm	FH	**0 019 213**	

jokeFlex Power
Handpieces

		Order No.	Price from 1 piece
Angle handpiece WI 4			
	Shaft connection: G 16 Rotation speed: max. 20,000 rpm (1 : 1), clockwise Dimensions: Ø 23 x 111 x 43 mm Weight: 265 g Accessories: Collet 3 mm, chuck key set	**0 019 130**	

Accessories / spare parts

	Dimensions	Type	Order No.	Price from 1 piece
Collet for angle handpiece WI 4				
	Ø 3 mm	WI	**0 019 131**	
	Ø 6 mm	WI	**0 019 132**	

jokeFlex Power
Handpieces

		Order No.	Price from 1 piece
Angle handpiece WI 7			
	Shaft connection: G 22 Speed: max. 17,000 rpm (1.3:1), clockwise Dimensions: Ø 36 x 156 x 61 mm Weight: 610 g Accessories: Collet 6 mm, chuck key set	**0 019 230**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Collets for angle handpieces WI 7, WI 10 and jokeAirMax			
	Ø 3 mm	**0 750 831**	
	Ø 6 mm	**0 750 832**	

Pneumatics
System overview



Rapid coupling
HSL-M
Best.-Nr. 0 003 001



Lubricant
MFA-K
Order No. 0 004 002



Heavy-duty lubricant
X 73012
0.1 litre
Order No. 0 580 601



Heavy-duty lubricant
X 73012
1 litre
Order No. 0 580 602



Heavy-duty lubricant
X 73012
5 litres
Order No. 0 580 603



Turbo hand grinder
G 180/60
Order No. 0 750 501



Turbo hand grinder
W 45/40
Order No. 0 750 502



Turbo hand grinder
W 45/23
Order No. 0 750 503



Turbo hand grinder
W 90/23
Order No. 0 750 504



Compressed-air engraving pen LGS 30
Order No. 0 750 790



Compressed-air grinder
FX 3.0
Order No. 0 750 705



Compressed-air grinder
joke AirMAX 20
Order No. 0 750 830



Compressed-air grinder
joke AirMAX 35
Order No. 0 750 840



Compressed-air grinder
joke AirMAX 90/20
Order No. 0 750 860



Hand-filing machines
DIPROFIL®
Di-Pro FXL-N, Mark II
Order No. 0 001 504-N



Hand-filing machines
DIPROFIL®
FPL/R, Mark II
Order No. 0 002 251-N



Set:
Compressed-air filing machine LFC 11 with case
Order No. 0 750 960

Legend
modular components
options
joke expert info

Equipment	Hand- & compressed-air grinder with oil	Hand- & compressed-air filing machine with oil & equipment

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Pneumatics
System overview



Maintenance unit joke Oiljet
Order No. 0 004 070

Tips for proper oiling

To ensure that the motors of the compressed-air devices are adequately lubricated during operation, the air processed by the maintenance unit joke Oiljet is impregnated with oil. Particularly with compressed-air grinders and DIPROFIL® hand-filing machines, less is often more: With these machines, the optimum injection quantity is approx. 2 – 3 drops per minute.



Set:
High-speed handpiece P320 with maintenance unit P 320-2
Order No. 0 009 900-0





Hand-filing machines Turbolap linear stroke
Turbolap TLL 03
Order No. 0 750 702

Turbolap TLL 07
Order No. 0 750 700

Turbolap TLL 12
Order No. 0 750 701



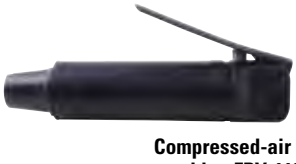
Hand-filing machines Turbolap transverse stroke
Turbolap TLS 03
Order No. 0 750 709

Turbolap TLS 07
Order No. 0 750 704

Turbolap TLS 12
Order No. 0 750 703



Compressed-air filing machine PRV-70
Order No. 0 751 630



Compressed-air filing machine FRV-110
Order No. 0 751 600



Compressed-air grinder ENESKAair G1000
Order No. 0 751 100



Maintenance unit joke Dryjet
Order No. 0 004 080

Maintenance unit with oil | **Hand-filing machines without oil** | **Maintenance unit without oil**

Maintenance units
joke Oiljet • joke Dryjet

Maintenance units
Maintenance unit for connection to all joke compressed-air equipment. Excellent compressed-air treatment with filter, manual water separator and a micro-oiler that is simple and precise to operate. The joke Oiljet Maintenance Unit is delivered preassembled with filter, manual water separator, pressure reducer, pressure gauge, micro-oiler and wall attachment. We recommend our prepared installation packs for connecting the individual compressed-air devices. Optimum results in conjunction with the two high-performance lubricants.

		Order No.	Price from 1 piece
Maintenance unit joke Dryjet			
	Filter controller MD1-FR0000-1/4: Max. Working flow: 1,200 l / min Max. Inlet pressure: 16 bar Container capacity: 24 cm³ Condensate drain: semi-automatic-manual, automatic via pressure relief, drain via threaded connection G1/8 Air connection: 1/4“ Medium: compressed air Scope of delivery: 25 µm filter, manual water separator, pressure reducer, pressure gauge and wall mounting	**0 004 080**	

Accessories / spare parts

		Order No.	Price from 1 piece
Ball stop valve 1/4“			
	1x internal and 1x external thread 1/4“	**0 004 053**	
Double nipple 1/4“			
	Fits on connector for Turbolap handpieces, supplied with two O-rings	**1 722 246-0**	

Maintenance units
joke Oiljet • joke Dryjet

	Order No.	Price from 1 piece
Maintenance unit joke Oiljet		
	**0 004 070**	

Filter controller MD1-FR0000-1/4:

- Max. Working flow: 1,200 l / min
- Max. Inlet pressure: 16 bar
- Container capacity: 24 cm³
- Condensate drain: semi-automatic-manual, automatic via pressure relief, drain via threaded connection G1/8
- Air connection: 1/4“
- Medium: compressed air

Oiler MD1-L00-1/4:

- Max. Inlet pressure: 16 bar
- Container capacity: 40 cm³
- Air connection: 1/4“
- Medium: compressed air

Scope of delivery: 25 µm filter, manual water separator, micro oiler, pressure reducer, pressure gauge and wall mounting

Accessories / spare parts

	Order No.	Price from 1 piece
Installation pack DIPROFIL®		
 The package contains everything necessary for the direct connection of the maintenance unit to its air supply line (including 1.5 m hose) and for connection of the DIPROFIL® hand-filing machine with (3 m hose) rapid coupling HSI-M (including lubricant MFA-K in a 0.5 l container).	**0 004 051**	
Installation pack Turbo hand grinder		
 The package contains everything necessary for the direct connection of the maintenance unit to its air supply line (including 1.5 m hose) and for connection of the Turbo hand grinder including high- performance lubricant X 73012 in a 1 l container.	**0 004 055**	
Ball stop valve 1/4“		
 1x internal and 1x external thread 1/4“	**0 004 053**	
Double nipple 1/4“		
 Fits on connector for Turbolap handpieces, supplied with two O-rings	**1 722 246-0**	

Lubricants
for compressed-air grinders and hand-filing machines

		Content	Order No.	Price from 1 piece
High-performance lubricant X 73012				
	for all compressed-air grinders	0.1 litre	**0 580 601**	
		1 litre	**0 580 602**	
		5 litres	**0 580 603**	
Lubricant MFA-K				
	for all DIPROFIL® hand-filing machines	0.5 litre	**0 004 002**	

Tips for proper oiling

To ensure that the motors of the compressed-air devices are adequately lubricated during operation, the air processed by the maintenance unit joke Oiljet is impregnated with oil. Particularly with compressed-air grinders and DIPROFIL® hand-filing machines, less is often more: With these machines, the optimum injection quantity is approx. 2 – 3 drops per minute.



High-speed handpiece
ENESKA P 320-2

High-speed handpiece ENESKA P 320-2
The virtuoso among our handpieces. This handpiece can be used for the highest precision jobs anywhere; for example, when deburring steel, stainless steel or even glass and plastics. Thanks to its compact, ergonomic and – due to its aluminium casing - very light design, the handpiece fits perfectly in your hand and can be held like a pen. This means that the user can work even for longer periods without tiring. Changing tools takes just seconds, thanks to the Quick-Change mechanism: Twist, take out old tool, click in new tool, that's it.



	Order No.	Price from 1 piece
Set ENESKA P 320-2		
 Complete set incl. handpiece including collet Ø 1.6 mm, 2 m air line and connection, maintenance unit, foot switch and connecting accessories (3-part) Dimensions (W x H x D): 115 x 160 x 100 mm (Maintenance unit) Ø 16 x 130 mm (handpiece) Weight handpieces: 71 g Speed: 320,000 1/min Power: approx. 10 W Air pressure: 2.5 bar Air consumption: 40 l/min Noise level: 75 dB(A) at 320,000 1/min	**0 009 900-0**	

Accessories / spare parts

	Dimensions	Type	Order No.	Price from 1 piece
Collet Ø 1.6 mm				
	Ø 1.6 mm	P 320-2	**0 009 909**	
Head, complete (spare), incl. collet				
			**0 009 902**	

Hand-grinders
joke TURBO

Hand-grinders joke TURBO
Our own old favourites: thanks to a powerful blade motor, these air grinders deliver real power (70 watts) and yet run very quietly (70 dB(A)). Thanks to their sturdy design, they are virtually tireless workhorses. Ideal for coarse grinding as well as finer tasks. Little maintenance is required, thanks to permanent lubrication by the oil mist (optimum: 3 drops/min). The drive air is led out backwards via a tube and baffle.

Use with:
joke Oiljet
(page 67)



- The installation pack (Order no. 0 004 055) contains everything for connecting the "TURBOs".
- Suitable collets (type CHS) to be found on page 39!
- Suitable tool holders with clamping shank on page 249!
- The matching rubber holder Ø 30 mm with internal thread bears the order no. 0 531 008!

	Hand grinders joke TURBO G 180/60	**Hand grinders joke TURBO W 45/40**	**Hand grinders joke TURBO W 45/23**	**Hand grinders joke TURBO W 90/23**
Rotation speed	60,000 1/min	40,000 1/min	23,000 1/min	23,000 1/min
Power	70 W	70 W	70 W	70 W
Air pressure	4 – 6 bar	4 – 6 bar	4 – 6 bar	4 – 6 bar
Air consumption	165 l/min	165 l/min	165 l/min	165 l/min
Exhaust air	backwards	backwards	backwards	backwards
Noise level	80 – 90 dB(A)	80 – 90 dB(A)	80 – 90 dB(A)	80 – 90 dB(A)
Vibration	< 0.32 m/s²	< 0.32 m/s²	< 0.56 m/s²	< 0.56 m/s²
Dimensions	Ø 24 x 146 mm	Ø 24 x 158 mm	Ø 51.5 x 159 mm	Ø 46.5 x 152 mm
Weight	200 g	230 g	230 g	230 g
Lubrication	continuously by oil mist	continuously by oil mist	continuously by oil mist	continuously by oil mist
Scope of delivery	Tube package (1.1 m) with coupling sleeve 1/4", collet Ø 3 mm (type CHS), tool set	Tube package (1.1 m) with coupling sleeve 1/4", collet Ø 3 mm (type CHS), tool set	1 x rubber holder, 2 x cup wheels, 1 x clamping shank, assortment of consumables, tool set, tube package 1.1 m with coupling sleeve 1/4", collet Ø 3 mm (type CHS)	1 x rubber holder, 2 x cup wheels, 1 x clamping shank, assortment of consumables, tool set, tube package 1.1 m with coupling sleeve 1/4", collet Ø 3 mm (type CHS)
Order No.	**0 750 501**	**0 750 502**	**0 750 503**	**0 750 504**
Price				

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Compressed-air grinder
FX 3.0

Compressed-air grinder FX 3.0
High power – low air consumption. With the FX 3.0 air grinder, you can use tools with heads-Ø up to 10 mm. Ergonomic design means that even working for longer periods need no longer be “torture”, as vibrations are absorbed efficiently.

		Order No.	Price from 1 piece
Compressed-air grinder FX 3.0			
	Speed: 65,000 rpm Air pressure: max. 5 bar Air consumption: 90 l/min Exhaust air: backwards Noise level: < 75 dB(A) Dimensions: Ø 22.5 x 150 mm Weight: 78 g Lubrication: continuously by oil mist Scope of delivery: collet Ø 3 mm, wrench, air tube 1.5 m, 1/4“ connecting sleeve including filter	**0 750 705**	

Use with:

joke Oiljet
(page 67)

Compressed-air grinder
ENESKAair G1000

The latest generation compressed-air grinder
- 100,000 rpm during oil-free operation
- Extremely compact construction incl. ceramic ball bearings
- Stainless steel construction throughout with rotary valve
- Replacement spare motor, easy replacement on site
- Quiet-running with very low vibration



Use with:

joke Dryjet
(page 66)

		Order No.	Price from 1 piece
Compressed-air grinder ENESKAair G1000			
	Speed: 100.000 1/min Power: 63 Watts Air pressure: max. 6.3 bars Air consumption: 170 l/min Exhaust air: backwards Noise level: 70 dB(A) Vibration: < 2.5 m/s² Dimension: Ø 21 x 129 mm Weight: 150 g Lubrication: oilfree Scope of delivery: Tube package (2 m) with connection nipple R1/4“, collet Ø 3 mm, tool set	**0 751 100**	

Compressed-air grinder
joke AirMAX

Compressed-air grinder joke AirMAX
The family of compressed-air grinders from joke. The name says it all, for these power tools make full use of air. Regardless of whether you need high speed or just solid performance – the joke AirMAX series has the right device for you. All these grinders are lubricated with oil in conjunction with the joke Oiljet.

Use with:
joke Oiljet
(page 67)





	Compressed-air grinder joke AirMAX 20	Compressed-air grinder joke AirMAX 35	Compressed-air grinder joke AirMAX 90/20
Rotation speed	20,000 1/min	35,000 1/min	20,000 1/min
Power	270 W	220 W	220 W
Air pressure	6 bar	6 bar	6 bar
Air consumption	590 l/min	520 l/min	520 l/min
Exhaust air	forwards	forwards	forwards
Noise level	81 dB(A)	78 dB(A)	79 dB(A)
Vibration	< 6 m/s²	< 6 m/s²	< 6 m/s²
Dimensions	Ø 32 x 80 mm	Ø 31 x 143 mm	Ø 31 x 70 mm / 42 x 137 mm
Weight	420 g	290 g	370 g
Lubrication	continuously by oil mist	continuously by oil mist	continuously by oil mist
Scope of delivery	collet Ø 6 mm, clamping wrench, rotary and lever valve	collet Ø 6 mm, clamping wrench, rotary and lever valve	collet Ø 6 mm, clamping wrench, rotary and lever valve
Order No.	**0 750 830**	**0 750 840**	**0 750 860**
Price			

Accessories / spare parts

		Type	Dimensions	Order No.	Price from 1 piece
Supply air tube, for all models					
	Important: also remember the matching air supply hose when ordering!			**0 750 813**	
Collets for angle handpieces WI 7, WI 10 and jokeAirMax					
			Ø 3 mm	**0 750 831**	
			Ø 6 mm	**0 750 832**	
Collet for angle handpiece WI 4					
		WI	Ø 3 mm	**0 019 131**	
		WI	Ø 6 mm	**0 019 132**	

Compressed-air hand-filing machines DIPROFIL®
for operating on the joke Oiljet maintenance unit

Use with:

joke Oiljet
(page 67)





	Compressed-air hand-filing machine DIPROFIL®, Di-Pro FXL-N, Mark II	**Compressed-air hand-filing machine DIPROFIL®, FPL/R, Mark II**
Stroke length	0 – 6 mm, continuously adjustable (0.5 – 3 mm recommended)	0 – 6 mm, continuously adjustable (0.5 – 3 mm recommended)
Max. no. of strokes	max. 7,000 strokes/min (5,000 – 6,000 strokes/min recommended)	max. 8,000 strokes/min (5,000 – 6,000 strokes/min recommended)
Tool support	Ø 2 – 6.4 mm	Ø 2 – 6.4 mm
Insertion depth	40 mm	40 mm
Air pressure	4 bar	4 bar
Air consumption	approx. 60 l/min at 7,000 strokes/min	approx. 65 l/min at 8,000 strokes/min
Exhaust air	through housing	through housing
Noise level	< 75 db(A) at 7,000 strokes/min	70 db(A) at 7,000 strokes/min (according to ISO 15744)
Vibration	< 1.55 – 5.08 m/s²	5.79 – 13.37 m/s²
Weight	900 g	740 g
Lubrication	continuously by oil mist	continuously by oil mist
Scope of delivery	storage case, tool set, extension tube/fingerprotection bush, counterweights, replacement friction bearing and felts, lubricating oil	storage case, tool set, extension tube/fingerprotection bush, replacement friction bearing and felts, lubricating oil
Order No.	**0 001 504-N**	**0 002 251-N**
Price		

Accessories / spare parts

	Order No.	Price from 1 piece
Rapid-release coupling HSL-M		
 With "on/off" switch, for connection of hand-filing machines to maintenance unit **Important:** this rapid-release coupling is needed for using the DIPROFIL® compressed-air hand-filing machines. So be sure to include it in your initial order!	**0 003 001**	

Compressed-air filing machine
LFC 11

Compressed-air filing machine LFC 11
The high-speed allrounder (12,000 strokes/min). Ideal for grinding, filing, polishing, cutting, sawing and also deburring larger areas. A continuously adjustable stroke length (between 2 and 11 mm) enables this device to be used for both coarse and fine working. The bare machine is available, but also a case, complete with tools and accessories.

Use with:

joke Oiljet
(page 67)

		Order No.	Price from 1 set
Set Compressed-air filing machine LFC 11 with case			
No. of strokes:	6,000 – 12,000 strokes/min	**0 750 960**	
Stroke length:	2 – 11 mm, continuously adjustable		
Output:	300 W		
Air pressure:	6.3 bar		
Air consumption:	230 l/min		
Noise level:	74 dB(A)		
Vibration:	< 2,2 m/s²		
Dimensions:	280 x 60 mm		
Weight:	830 g		
Lubrication:	continuously by oil mist		
Scope of supply:	tool holder Ø 4 mm, 1 file, various different tools, counter-holder, hose unit and case		



Accessories / spare parts

	Tool support	Order No.	Price from 1 piece
Tool holder			
	Ø 3 mm	**0 750 751**	
	Ø 4 mm	**0 750 752**	
	Ø 6 mm	**0 750 753**	
High-performance lubricant X 73012			
for all compressed-air grinders, 0.1 litre		**0 580 601**	
for all compressed-air grinders, 1 litre		**0 580 602**	
for all compressed-air grinders, 5 litres		**0 580 603**	



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Compressed-air filing machines PRV-70 • FRV-110
“24/7”-use owing to minimal vibrations

Compressed-air filing machines PRV-70 • FRV-110
24/7, so around the clock, 7 days a week:
this is just how long you can work with these filing machines at a stretch, as the vibration values lie markedly below the limit value of 2.5 m/s².

Available with short (2 mm) and long (8 mm) stroke. The machines lie conveniently and securely in the user’s hands and consume little air.
Both machines can dispense with oiling and may therefore be directly connected to the joke Dryjet maintenance unit.

Highlights:
- use 24/7 possible
- extremely high degree of running smoothness
- 2 and 8 mm stroke length versions
- excellent service life
- use without oil, only a few drops a day are required
- low air consumption

Use with:
joke Dryjet
(page 66)





	Compressed-air filing machine FRV-110	Compressed-air filing machine PRV-70
Stroke length	8 mm	2 mm
Max. no. of strokes	9,000 strokes/min	7,000 strokes/min
Tool support	max. 6 mm	max. 4 mm
Air pressure	6,5 bar	6,5 bar
Air consumption	78 l/min	30 l/min
Exhaust air	backwards	backwards
Noise level	< 77 dB(A)	< 71 dB(A)
Vibration	2 m/s²	2 m/s²
Dimensions	Ø 40 x 182 mm	Ø 28 x 190 mm
Weight	1,000 g	300 g
Lubrication	not necessary	not necessary
Scope of delivery	tool (without air hose)	tool, air hose
Order No.	**0 751 600**	**0 751 630**
Price		

Compressed-air engraving pen
LGS 30

Use with:
joke Oiljet
(page 67)



Compressed-air engraving pen LGS 30
This little pen enables you to engrave metal, glass, plastics, etc. effortlessly. Thanks to the carbide needle, you can even make deep indentations in hardened steel. No harmful vibrations are transmitted to your hand, which protects your health and gives you maximum pen control.

		Order No.	Price from 1 piece
Compressed-air engraving pen LGS 30, incl. engraving needle			
	No. of strokes: 30,000 strokes/min Air pressure: 6 bar Air consumption: 30 l/min Dimensions: Ø 17 x 154 mm Weight: 150 g Vibration: < 2.5 m/s² Lubrication: continuously by oil mist Scope of supply: air tube 2 m, engraving needle type GN M, connection nipple 1/4“	**0 750 790**	

Accessories / spare parts

	Shape	Type	Order No.	Price from 1 piece
Engraving needle				
	fine tipped	GN F	**0 750 791**	
	medium tipped	GN M	**0 750 792**	
	coarse tipped	GN G	**0 750 793**	
Engraving chisel				
	flat	GM F	**0 751 930**	
	angled	GM S	**0 751 931**	
Air hose, supply air, 2 m				
			**0 750 795**	

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Hand-filing machines Turbolap
Linear and transverse stroke!

Turbolap hand-filing machines
High power in a small casing. These permanently lubricated handfiling machines connect directly to the joke Dryjet maintenance unit. With these devices, there is no need to worry about oiling, just about your hands, as they will prefer to no longer be without from these ergonomic high-tech handpieces ...

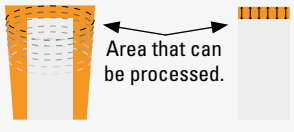
Available with linear and transverse stroke (0.3, 0.7 with 1.2 mm stroke length).

Use with:
joke Dryjet
(page 66)



Turbolap TLS: The tool works eliptically (oranged highlighted area) depending on the stroke length.

Turbolap TLL: The tool works linearly (oranged highlighted area) depending on the stroke length.





	Hand-filing machines Turbolap TLL 03 with linear stroke	Hand-filing machines Turbolap TLS 03 with transverse stroke	Hand-filing machines Turbolap TLL 07 with linear stroke	Hand-filing machines Turbolap TLS 07 with transverse stroke	Hand-filing machines Turbolap TLL 12 with linear stroke	Hand-filing machines Turbolap TLS 12 with transverse stroke
Stroke length	0.3 mm	0.3 mm	0.7 mm	0.7 mm	1.2 mm	1.2 mm
Max. no. of strokes	52,500 ¹/min	56,000 ¹/min	28,000 ¹/min	20,000 ¹/min	14,000 ¹/min	14,000 ¹/min
Tool support	Ø 3 mm / 4 mm high	Ø 3 mm / 4 mm high	Ø 3 mm / 4 mm high	Ø 3 mm / 4 mm high	Ø 3 mm / 4 mm high	Ø 3 mm / 4 mm high
Air pressure	3 bar / max. 6 bar	1–2 bar / max. 6 bar	3 bar / max. 6 bar	1,5–2,5 bar / max. 6 bar	2–3 bar / max. 6 bar	6 bar
Air consumption	125 l/min	125 l/min	46 l/min	46 l/min	46 l/min	46 l/min
Exhaust air	backwards	backwards	backwards	backwards	backwards	backwards
Noise level	72 dB(A)	73 dB(A)	64 dB(A)	63 dB(A)	59 dB(A)	63 dB(A)
Vibration	8.69 m/s²	4.58 m/s²	9.79 m/s²	3.37 m/s²	7.86 m/s²	4.90 m/s²
Dimensions	Ø 28 x 216 mm	Ø 28 x 216 mm	Ø 28 x 216 mm	Ø 28 x 216 mm	Ø 28 x 216 mm	Ø 28 x 216 mm
Weight	180 g	180 g	180 g	180 g	180 g	180 g
Lubrication	not necessary	not necessary	not necessary	not necessary	not necessary	not necessary
Scope of delivery	tool holder, chuck key, supply airhose 1.5 m, exhaust air tube, 1/4“ connecting sleeve incl. filter	tool holder, chuck key, supply airhose 1.5 m, exhaust air tube, 1/4“ connecting sleeve incl. filter	tool holder, chuck key, supply airhose 1.5 m, exhaust air tube, 1/4“ connecting sleeve incl. filter	tool holder, chuck key, supply airhose 1.5 m, exhaust air tube, 1/4“ connecting sleeve incl. filter	tool holder, chuck key, supply airhose 1.5 m, exhaust air tube, 1/4“ connecting sleeve incl. filter	tool holder, chuck key, supply airhose 1.5 m, exhaust air tube, 1/4“ connecting sleeve incl. filter
Order No.	**0 750 702**	**0 750 709**	**0 750 700**	**0 750 704**	**0 750 701**	**0 750 703**
Price						

Polishing machine
OPTI polish

Polishing machines OPTI polish
The workhorses for precision work. For grinding, polishing, deburring, matting, rounding... the possible uses of these grinding lathes are so to speak virtually unlimited.

Highlights:
- Robust, heavy industrial design
- Long lasting with maintenance-free motor
- Casing made of cast aluminium
- Quiet running owing to balanced motor and quality ball bearings …

For rapid deburring, we recommend a tandem of one brush with nylon bristles on one side of the polishing machine and a wrapped fleece disk on the other side.

For individual matching to your application please contact our Product Manager Dominic Singer:
Tel. +49 (0) 22 04 / 8 39-0 e-mail: d.singer@joke.de





	Polishing machine OPTI polish GU 20 P	Polishing machine OPTI polish GU 25 P
Polishing disc size Ø	200 x 20 mm	250 x 25 mm
Tool support	Ø 16 mm	Ø 20 mm
Max. tool width	20 mm	25 mm
Rotation speed	2,850 ¹/min	2,850 ¹/min
Power	600 W	1.500 W
Dimensions (W x H x D)	591 x 326 x 292 mm	591 x 326 x 292 mm
Supply voltage	230 V, AC, 1 PH, 50/60 Hz	400 V, AC, 3 PH, 50/60 Hz
Weight	10.6 kg	17.4 kg
Scope of delivery	1 x polishing disc soft Ø 200 x20 x 16 mm (Order No. 0 041 622) and 1 x polishing disc hard Ø 200 x 20 x 16 mm (Order-No. 0 041 623)	1 x polishing disc soft Ø 250 x25 x 20 mm (Order No. 0 041 632) and 1 x polishing disc hard Ø 250 x 25 x 20 mm (Order No. 0 041 633)
Order No.	**0 041 620-0**	**0 041 630-0**
Price		

Accessories / spare parts

	Order No.	Price from 1 piece
Machine substructure for polishing machines OPTI polish		
 Dimension: table 320 x 270 mm, height: 825 mm. The suitable substructure for the series OPTI PSM polishing machines. Please be aware that this must be fixed to the bottom and holes at the table need to be drilled. Drilling template inside but no fixing material.	**0 041 621-1**	

Polishing machine
Accessory

Convolute compact grinding discs
Wound, not pressed. These special grinding discs have been developed for the demanding preliminary and final processing of surfaces of the widest array of materials. They result from winding nylon fleece fabric around a hard core. The fabric is wetted with a special abrasive resin system beforehand. The winding results in a very uniform structure with which the direction of rotation must nevertheless be observed.

The discs are available in two abrasive finishes (corundum and SiC) and two diameters and grit sizes in addition to three hardnesses.

Further information on page 176.





Round brushes with nylon grinding bristles
The nylon fibres of these brushes are interspersed with silicon carbide. The latter is constantly released during work and a highly even grinding effect with a very uniform ground section is produced.

The nylon polishing bristles are extremely elastic and flexible and consequently absolutely unbreakable. The trimming area does not clog with work residues during deployment and the polishing effect remains constantly high throughout the entire working period. Suitable for wet and dry use.

Further information on page 177.





Polishing buffing discs OPTI
These discs are used on stationary polishing machines in conjunction with solid polishing compounds (Dialux).

Available in two versions:
- Cotton, soft
- Cotton, hard (quilted)

Further information on page 178.





Polishing lathe PB 2
System overview

Polishing lathe PB
The polishing lathes with high-performance motors. Three-stage or infinite speed adjustment possible. Ideal for all tough tasks that can be accomplished by turning: filing, sanding, polishing, deburring, scraping, brushing, winding, separating, chamfering, rounding, hand filing, coating, etc. ...

Highlights:
- Maintenance-free work
- Clamping of the workpieces by a three-jaw chuck
- Limited spatial requirements owing to compact construction
- Robust, interference-proof, extremely durable
- Comprehensive range of accessories and safety devices available
- Radial run-out of shaft ± 0,01 mm
- Shaft rotated and balanced in a clamping system



Optional accessory to be determined before ordering, as no longer possible afterwards!

Special lacquering
Order No. 0 200 459

Matching plastic safety shield
(view page 81)

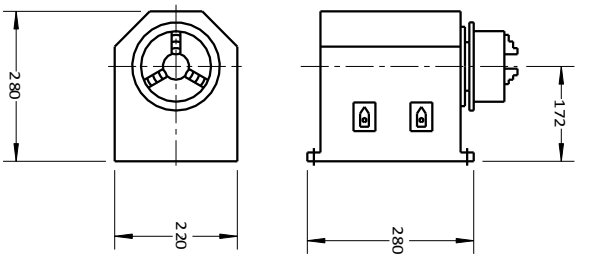
Three-jaw chuck
(view page 81)

Machine substructure with drawer
Order No. 0 200 458

Foot switch
Order No. 0 200 460
Order No. 0 200 461

Polishing lathe PB 2
fixed speed settings (450 / 700 / 1,400 1/min)
Order No. 0 200 452-1

Polishing lathe PB 2
with speed control (50 – 2,000 1/min)
Order No. 0 200 451-2



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Polishing lathe PB 2





	Polishing lathe PB 2	**Polishing lathe PB 2**
Tool support	Ø 37 mm	Ø 37 mm
Rotation speed	50 - 1,300 rpm, infinitely adjustable	450 / 700 / 1,400 rpm, fixed speed settings
Power	max. 0.2 kW	0.2 / 0.5 / 0.6 kW
Centre height	172 mm	172 mm
Dimensions (W x H x D)	280 x 280 x 220 mm	280 x 280 x 220 mm
Supply voltage	400 V, 50/60 Hz, IP 54	400 V, 50/60 Hz, IP 54
Weight	38 kg	38 kg
Order No.	**0 200 451-0**	**0 200 452**
Price		

Accessories / spare parts

		Size	Dimensions	Order No.	Price from 1 piece
Machine substructure with drawer					
	Dimensions (W x D x H): 390 x 540 x 800 mm			**0 200 458**	
Special lacquering					
	Any RAL colour is optionally available.			**0 200 459**	
Foot switch type 1					
	Function: press = start hold = work release = stop			**0 200 460**	
matching three-jaw chuck incl. chuck flange					
	Chuck Ø 125 mm max. perm. rpm 3,200 rpm		Ø 125 mm	**0 200 473**	
	Chuck Ø 160 mm max. perm. rpm 3,000 rpm		Ø 160 mm	**0 200 474**	
Plastic protective disc for three-jaw chuck					
	suitable for Ø 125 mm	Ø 125 mm		**0 200 481**	
	suitable for Ø 160 mm	Ø 160 mm		**0 200 482**	

Polishing lathe PB 3
System overview
Just bigger and stronger than his little brother PB 2!



Optional accessory to be determined before ordering, as no longer possible afterwards!

Special lacquering
Order No. 0 200 459

Matching plastic safety shield
(view page 83)

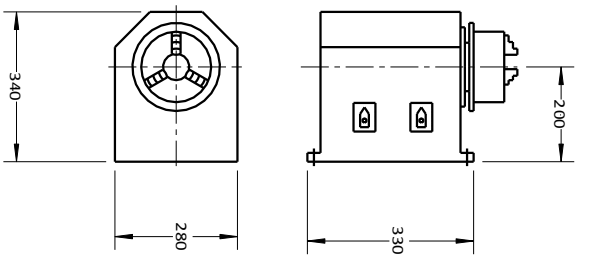
Three-jaw chuck
(view page 83)

Machine substructure with drawer
Order No. 0 200 458

Foot switch
Order No. 0 200 460
Order No. 0 200 461

Polishing lathe PB 3
fixed speed settings (700 / 1,400 / 2,800 1/min)
Order No. 0 200 455-0

Polishing lathe PB 3
with speed control (50 – 2,000 1/min)
Order No. 0 200 450-1



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Polishing lathe PB 3





	Polishing lathe PB 3	Polishing lathe PB 3
Tool support	Ø 37 mm	Ø 37 mm
Rotation speed	50 – 2,000 rpm, infinitely adjustable	700 / 1,400 / 2,800 rpm., fixed speed settings
Power	max. 2,5 kW	1,1 / 1,9 / 2,4 kW
Centre height	200 mm	200 mm
Dimensions (W x H x D)	330 x 340 x 280 mm	330 x 340 x 280 mm
Supply voltage	400 V, 50/60 Hz, IP 54	400 V, 50/60 Hz, IP 54
Weight [kg]	90 kg	90 kg
Order No.	**0 200 450-1**	**0 200 455-0**
Price		

Accessories / spare parts

		Size	Dimensions	Order No.	Price from 1 piece
Machine substructure with drawer					
	Dimensions (W x D x H): 390 x 540 x 800 mm			**0 200 458**	
Special lacquering					
	Any RAL colour is optionally available.			**0 200 459**	
Foot switch type 1					
	Function: press = start hold = work release = stop			**0 200 460**	
matching three-jaw chuck incl. chuck flange					
	Chuck Ø 125 mm max. perm. rpm 3,200 rpm		Ø 125 mm	**0 200 473**	
	Chuck Ø 160 mm max. perm. rpm 3,000 rpm		Ø 160 mm	**0 200 474**	
	Chuck Ø 250 mm max. perm. rpm 2,000 rpm		Ø 250 mm	**0 200 477**	
Plastic protective disc for three-jaw chuck					
	suitable for Ø 125 mm	Ø 125 mm		**0 200 481**	
	suitable for Ø 160 mm	Ø 160 mm		**0 200 482**	
	suitable for Ø 250 mm	Ø 250 mm		**0 200 483**	

Poli Base polishing unit
with integrated suction
NEW!

Are your quality requirements high, but space is limited? If so, the powerful, versatile and space-saving joke poli base polishing machine is exactly the right solution for your company. Our compact polishing unit guarantees extremely smooth running and excellent results when polishing or deburring in many areas, such as the industrial, optical, jewellery or dental sectors.

The most important data at a glance:
- particularly compact polishing unit, space-saving and efficient
- integrated, powerful and low-noise extraction system
- equipped with the universal 11 mm stub shaft
- wide variety of possible processing operations
- various tool receptacles available as accessories
- working area completely made of stainless steel
- easy to clean
- removable solid rubber polishing trough
- jacket-cooled motor, dust protected
- speed: 750 – 6,000 rpm, adjustable in increments
- easily replaceable, large-capacity micro fine dust filter bag, dust class M
- optimum illumination: integrated daylight LEDs and daylight LED spotlight
- designed for a long service life
- extremely low maintenance and wear
- completely preassembled



	Poli Base polishing unit with integrated suction
Rotation speed	750 – 6,000 rpm
Power	500 W
Noise level	< 65 dB(A)
Dimensions	455 x 485 x 505 mm
Fan output	445 m^3/h
Supply voltage	220 – 240 V, 50/60 Hz
Weight [kg]	37 kg
Scope of delivery	• Poli Base polishing unit • Micro fine dust filter bag • Storage tray (W 257 mm x H 40 mm x D 198 mm) • Polishing trough • Supply lead
Order No.	**0 200 400**
Price	



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Poli Base polishing unit
with integrated suction
NEW!

Accessories / spare parts

	Packing quantity	Order No.	Price from 1 set	Price from 1 piece
Pocket filter micro fine dust for Poli Base, set				
	2 pieces	**0 200 401**		
Poli Base drill chuck with a clamping range of 1.6-6 mm				
		**0 200 402**		
Poli Base tool holder big				
 for panes with: bore: Ø 14 mm – 25 mm diameter: max Ø 150 mm width: max 30 mm		**0 200 403**		
Poli Base tool holder medium				
 for panes with: bore: Ø 6 mm – 13 mm diameter: max Ø 110 mm width: max 30 mm		**0 200 404**		



NEW!

ENESKApostpro

100% made in Germany

The safety postprocessing system
for all materials and work steps






ENESKApostpro

Advantages at a glance

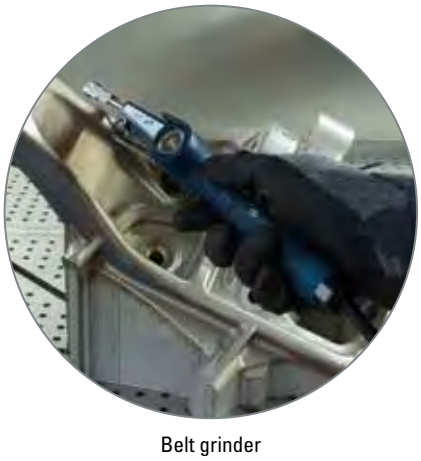
- High standard of safety
- No risk of explosion or deflagration
- No permanent damage due to respirable dust
- No need for additional protective clothing
- Ergonomic working and simple operation
- Many options for connecting various tools – either pneumatic or electric.

Work steps that you can perform

- Removal of residual powder
- Separation from the substrate material
- Removal of support structures
- Deburring
- Coarse surface finishing
- Fine surface finishing
- Finish

Materials that you can process

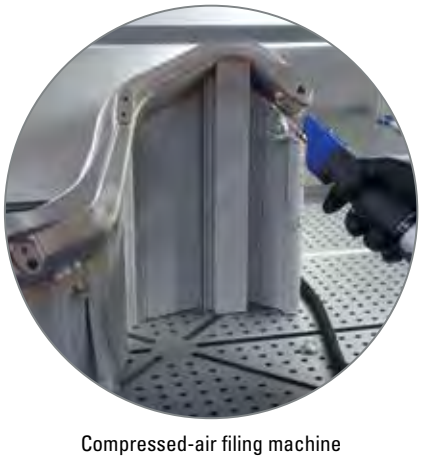
- Steel
- Stainless steel
- Aluminium
- Titanium
- Carbon
- Inconel
- Brass
- Ceramic
- PEEK
- POM
- Plastics
- Rubber-like materials
- Gypsum
- and many more



Belt grinder



Hand-filing machine



Compressed-air filing machine

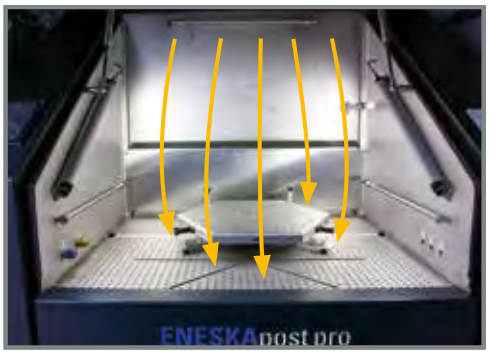
Extraction and cleaning process function



Extraction is through the floor of the working chamber.



It is only possible to work in the ENESKApostpro with the extraction system running.
The system is locked during processing.



With flow-optimised air guidance, hazardous dusts are directed towards the extractor.



After the processing, the system cannot be opened until a special automatic cleaning process has finished. This stirs up and extracts the residual dust from the corners of the chamber.



The system can be equipped with the special FSX automatic fine dust measurement. The dust load in the working chamber is continuously measured and shown on the display.

In combination with this FSX, the previously described cleaning process can be adjusted so that the system does not unlock before a defined value is reached.

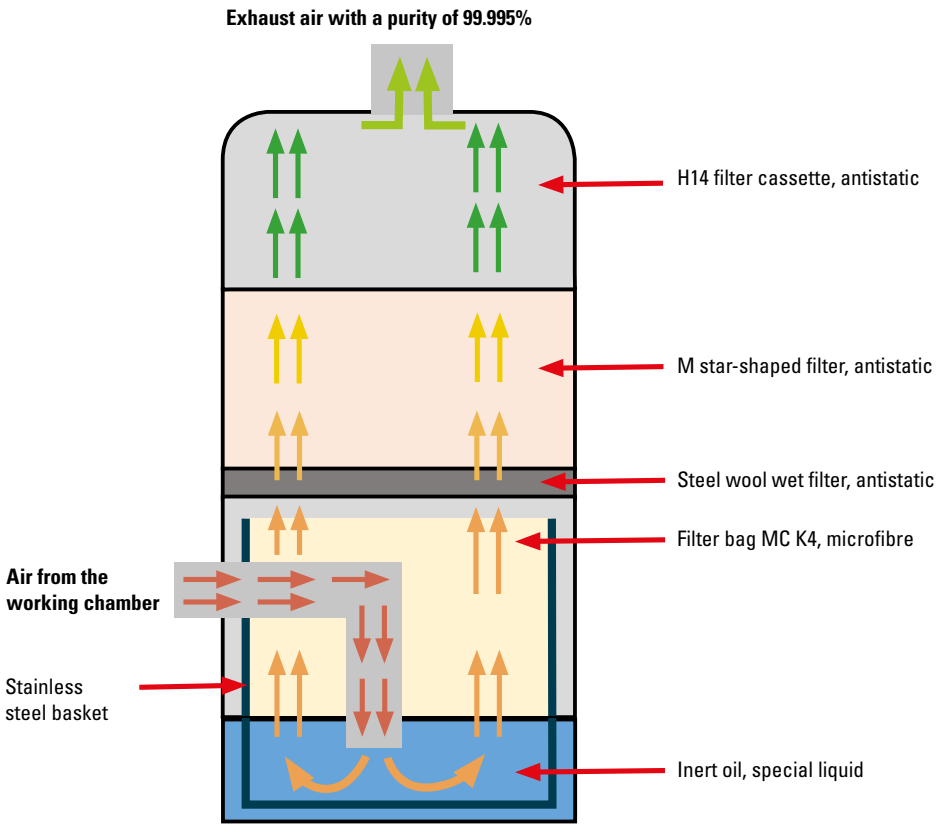


The system is not unlocked and the working chamber is not released until the cleaning process has finished.

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Filter system

Diagram of the system for reactive substances



View of extraction system



Extraction system is easily accessible from the rear



View of the ENESKApostpro extraction system - the complete extractor can be removed

ENESKApostpro
Perfect solution for finishing in 3D printing

The standard of safety during manual postprocessing is inadequate in many companies. Protective suits are often only worn during individual working stages and are of no help against the risk of deflagration. Moreover, the working areas are not protected from invisible airborne dusts, which are usually underestimated. This is precisely where ENESKApostpro from joke can help you.

Particular caution is required when processing reactive materials. In this case, it is not only the dusts that can ignite through friction; the material is also highly flammable and therefore carries higher risks of explosion and deflagration. A special moisture extractor with 5-fold filtration and explosion protection according to ATEX standard guarantees safe work. An integrated liquid bath binds the reactive particles which are thus unable to develop their explosive effect.

Titanium or aluminium are the common materials that most users recognised as reactive, but many alloys also have references to minimum ignition energy of less than one mJ in their data sheets.

Are you not sure? We will be pleased to advise you.

	Order No.	Price from 1 piece
ENESKApostpro incl. extraction with wet separator for reactive materials		
 • suitable for materials with a minimum ignition energy above one mJ • with explosion protection according to ATEX standard • moisture separator suitable for zone 22 • 5-fold filtration • extraction capacity / volumetric flow: max. 350 m³/h • incl. FSX automatic fine dust measuring system (for further information, see Order no. 0 210 306) • optionally with height adjustment • materials to be processed: incl. among others aluminium and titanium	**0 210 010**	

Technical data

	ENESKApostpro
Weight:	580 kg (Order No. 0 210 000) 600 kg (Order No. 0 210 010)
Dimensions of the working chamber (W x D x H):	930 x 790 x 250-600 mm
Device dimensions (W x D x H)	1,300 x 1,500 x 1,790 mm
Lighting:	a. 5,000K / ca. 3,300 lm, dimmable
Supply voltage:	400 V / 16 A

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ENESKApostpro
Perfect solution for finishing in 3D printing

This variant of ENESKApostpro was developed for the processing of non-reactive materials. However, respirable dusts are also an issue with steel, stainless steel and Inconel. The ENESKApostpro helps enormously in this case and protects you and your colleagues from hazardous particles. Wearing cumbersome protective suits is also no longer required.

A large working chamber of approx. 0.75 m^2 offers sufficient space even for the largest 3D-produced workpieces. There are numerous possibilities for connecting various tools simultaneously at the same workplace – whether pneumatic or electric.

Dimmable light, a large glass front and ergonomically shaped hand apertures make everyday work very pleasant.

	Order No.	Price from 1 piece
ENESKApostpro incl. extraction for non-reactive materials		
 Special features of the ENESKApostpro incl. extraction for non-reactive materials: • dry extractor with explosion protection according to ATEX standard • triple filtration • extraction capacity / volumetric flow: max. 350 m^3/h • optionally with FSX automatic fine dust measuring system (more Information see Order No. 0 210 306) • optionally with height adjustment • materials to be processed: incl. among others, steel, stainless steel, Inconel and various plastics	**0 210 000**	

Accessories / spare parts

	Order No.	Price from 1 piece
ENESKApostpro automatic fine dust measurement FSX		
 The FSX automatic fine dust measuring system from joke is to be included in the order for your ENESKApostpro! The FSX cannot be retrofitted! • Precise dust measurement – independent of gas velocity or particle charge • No external purge air unit required as it is integrated in the unit (option) • Low cost and maintenance due to self-monitoring • Independent measuring device • Automatic monitoring of zero and reference point • Robust and compact design • No moving parts in the duct	**0 210 306**	

Variants

ENESKApostpro for **reactive** substances (Order No. **0 210 010)**	ENESKApostpro for **non-reactive** substances (Order No. **0 210 000)**
Extraction system suitable for continuous operation, for extracting **flammable dusts** – MIE ≥ 1 mJ	Extraction system suitable for continuous operation, for extracting **dusts** – MIE ≥ 1 mJ
5-fold filtration, including moisture separator, suitable for zone 22 ATEX II 3D c T 125 °C 5-fold filtration, removal efficiency: 99.995%	**3-fold filtration**, removal efficiency: 99.95%
Exchangeable, stainless steel collection tank **with drain cock, inert oil (approx. 30 L),** tank capacity 100 litres	Exchangeable, stainless steel collection tank, tank capacity 100 litres
M star-shaped filter, antistatic with manual cleaning	M star-shaped filter, antistatic with manual cleaning
H14 filter cassette, antistatic	H14 filter cassette, antistatic
Wet filter cassette, earthed	–
Filter bag MC K4 microfibre, antistatic	–

ENESKApostpro



Improved safety standard for postprocessing

Powder removal, support removal and surface finishing, release of residual powders and dusts that may be respirable, carcinogenic, skin-irritant, and in some cases even explosive.

The standard of safety during manual postprocessing is inadequate in many companies. Protective suits are often only worn during individual work stages, and are of no help against the risk of deflagration.

Some deburring boxes are only slightly better than protective goggles, which do not retain the dust.
The ENESKApostpro makes it possible to carry out all work stages without any contact with the materials or fine dusts – which means greater safety for both user and company.



Safe working instead of silicosis

The respirable dusts released during post-processing are blamed for cancer and cardiovascular diseases, among other things.

For this reason, the ENESKApostpro is completely enclosed and sealed. It has appropriate and safe extraction and filtering equipment. No dust can escape from its working area. Before the system can be opened, there is an after-suction phase and a special cleaning process - only then does the system unlock and the finished workpiece can be removed.

The system complies with important legal regulations on dust control, such as that dust must be directly removed at the point of exit.



No more risks of explosion

Particularly with reactive substances, such as titanium and aluminium, explosions and fires may occur simply through friction of individual particles. Therefore, all components of the ENESKApostpro are completely earthed to prevent spark discharge. An integrated moisture separator is optionally available for highly reactive substances.

In addition, a compressed-air gun and special air showers enhance cleaning in more concealed corners. These enable fine dusts to be removed from crevices in a workpiece without any risk of explosion.



Convincing versatility

Integrated control units drive a range of electric and pneumatic tools for deburring, milling, grinding or polishing.
Up to three different micromotors and two pneumatic devices can be connected simultaneously – which reduces setup times, and allows rapid, versatile work.

A range of accessories may be used, such as magnifying glasses, turntables and magnetic clamping balls.



Ergonomics, user friendliness - and thinking of the user!

Concentration and relaxation during work is a prerequisite for optimum postprocessing results. The joke development team has achieved this goal by means of many details of the equipment. Coloured instructions on the touch display indicate the current status of the ENESKApostpro. The lighting intensity can be dimmed, and the hand apertures, with a diameter of 240 mm, give the user great freedom of movement. The display also shows information about upcoming maintenance, filter cleaning and similar items. Both the lower limit of the particle count and the cleaning cycle can be adjusted on the display.

An optimal working height is perfect for the back. The ENESKApostpro can be optionally equipped with height adjustment. The large glass dome gives a very good view of the components to be processed.

ENESKApostpro
Accessories

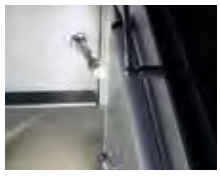
	Size	Dimensions	Order No.	Price from 1 piece	Price from 1 pair
ENESKAmicro footpedal					
 • for comfortable control by foot (start/stop, speed adjustment), • cable length 2 m			**0 011 002**		
Maintenance unit joke Oiljet					
 Filter controller MD1-FR0000-1/4: • Max. Working flow: 1,200 l / min • Max. Inlet pressure: 16 bar • Container capacity: 24 cm³ • Condensate drain: semi-automatic-manual, automatic via pressure relief, drain via threaded connection G1/8 • Air connection: 1/4“ • Medium: compressed air Oiler MD1-L00-1/4: • Max. Inlet pressure: 16 bar • Container capacity: 40 cm³ • Air connection: 1/4“ • Medium: compressed air Scope of delivery: 25 µm filter, manual water separator, micro oiler, pressure reducer, pressure gauge and wall mounting			**0 004 070**		
ENESKApostpro high-performance oil, 20 l					
 for filling the extraction with wet scrubber for reactive materials			**0 580 518**		
ENESKApostpro Glass dome, laminated glass					
		900 x 900 x 8,5 mm	**0 210 050**		
Protective screen with flexible arm and suction foot					
 can be clamped on flat and slightly uneven surfaces. Flexibly adjustable by 4 joints. Suction force: 350 N Dimensions: Suction foot: Ø 88 x 23 mm Screen: 300 x 200 x 2 mm			**0 210 208**		
Protective screen, plexiglass					
		200 x 200 x 2 mm	**0 210 202**		
		300 x 200 x 2 mm	**0 210 201**		

ENESKApostpro
Accessories

		Size	Dimensions	Order No.	Price from 1 piece	Price from 1 pair
Gloves latex for ENESKApostpro, 600 mm						
	• with cuff Ø 180 – 300 mm • size 10 • EN388	10		**0 210 250**		
ENESKApostpro arm cuff made of latex						
	• Length: 500 mm • Installation diameter: from Ø 230 to 360 mm • Arm cuff made from very robust and stretchable latex with rolled edge for installation for Ø 230 to approx. 360 mm • For long-term use because the wear on the extra gloves to be used happens • With star slits for optimal sealing			**0 210 260**		
Stainless steel tank 100 l, dry version						
				**0 210 360**		
Stainless steel tank 100 l, variant inert oil						
	with drain cock and window			**0 210 356**		
Stainless steel basket to hold the filter bag MC K4						
			Ø 430 x 500 mm	**0 210 362**		

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ENESKApostpro
Accessories

	Size	Dimensions	Order No.	Price from 1 piece	Price from 1 pair
Filter bag MC K4 microfibre, variant inert oil					
 with wire ring		Ø 430 x 500 mm	**0 210 361**		
Wet filter cassette, version inert oil					
 filled with stainless steel wool, antistatic		Ø 260 x 70 mm	**0 210 363**		
Star shaped filter dust class M, variant inert oil					
 • Dust class M (medium risk) according to EN60335-2-69 • for the separation of dust withan exposure limit of greater than 0.1 mg/m³ • Suitable for vacuuming dry, flammableDusts in zone 22 • PU/polyester, antistatic (separation efficiency: 99.95%)		Ø 460 x 210 mm	**0 210 357**		
HePa filter cartridge H14, variant inert oil					
 • 3 m² filter surface • Filter Dust class H (high risk) according to EN60335-2-69 • for the separation of all dust with all exposure limits, including carcinogenic and pathogenic dusts • antistatic (separation efficiency:99.995%)		Ø 460 x 105 mm	**0 210 358**		
ENESKApostpro automatic fine dust measurement FSX					
 The FSX automatic fine dust measuring system from joke is to be included in the order for your ENESKApostpro! The FSX cannot be retrofitted! • Precise dust measurement – independent of gas velocity or particle charge • No external purge air unit required as it is integrated in the unit (option) • Low cost and maintenance due to self-monitoring • Independent measuring device • Automatic monitoring of zero and reference point • Robust and compact design • No moving parts in the duct			**0 210 306**		

Tungsten carbide coating unit



Tungsten carbide coating unit
tucadur® 2020

Methods
Nowadays, very high demands are made on the toughness, hardness and surface wear resistance of tools, equipment and machines. Either hardness or toughness can be determined by the normal hardening process; in practice therefore a middle course is selected. The following options came to light in seeking a tough material with a more wear-resistant coating:

1. Galvanic coating with hard layers,
2. Plasma gun spraying method,
3. Electroerosive tungsten carbide coating.

The adhesive strength of the coatings in methods 1 and 2 is unsatisfactory in the case of heavy stresses since the coatings are likely to scale off. With the third method, however, it is possible to apply tungsten carbide in a very wear-resistant surface on the heavily stressed points of a workpiece.

Properties of the tungsten carbide coat
The layer applied combines joins perfectly with the steel and adheres in such a way that it withstands almost any mechanical stress. Blows, bending, stretching or compressive strains are incapable of detaching the coating. This can only be done by grinding or special sand blasting; it can, however, be relapped with diamond or silicon carbide. The steel beneath is not softened by the coating but increases in hardness in the upper zone. In the case of certain steel alloys the tungsten carbide layer even penetrates into the base material. The coating produces a hardness of up to 82 HR 30N, without the workpiece undergoing any change or distortion since the depositing process is practically cold. The coating possesses a high degree of heat resistance. The surface is uniform and shows no directional texture. With good saturation, it achieves a mean roughness of 2-9 µm.

Examples of applications
1. Hardness coating of tools or wear parts to extend service life.
2. Adhesion: coating of smooth surfaces in order to achieve greater adhesion through the structure of the layer.
3. Lubricating film: coating of smooth surfaces in order to maintain a lubricating film, as the lubricant remains embedded in the structure and therefor is not immediately squeezed out again.
4. Cold welding: coating of sliding surfaces in order to avoid cold weldings as a result of the structure of the layer, i.e. sticking of material.

Materials and their pretreatment
Any soft, heat-treated and hardened unalloyed or alloyed steel is suitable as material for coating with tungsten carbide. The surface must be clean and metallically pure. Scale and oxide layers must be removed without fail. Ground, polished or brightly machined parts must be degreased. If the tungsten carbide coating is applied to an unclean surface, no satisfactory adhesive strength can be obtained and the coating becomes irregular and exhibits inclusions.

Principle of operation
The coating device functions in accordance with the principle of electro-erosion. A tungsten carbide electrode is attached to the positive pole in a d.c. circuit with electric current and voltage regulation to which condensers of varying capacities are connected. The vibrator (coating gun) causes oscillations in the electrode and this is brought into contact with the workpiece to be treated. The workpiece is connected to the negative pole. By contact of the electrode with the workpiece, an ionised field results, which ensures that oxide-free fusion of the tungsten carbide with the base material occurs. This field is constantly reconstituted with the aid of the vibrator. With uniform to-and-fro movement of the electrode a compact hard metal layer results. The predetermined layer thickness cannot be exceeded, since no more uptake of material occurs once saturation is reached. The selected layer thickness is so precise that it does not normally need any finishing operation. It can nevertheless be lapped and polished if necessary. Coating using the tucadur® 2020 is so easy that anyone can do it.

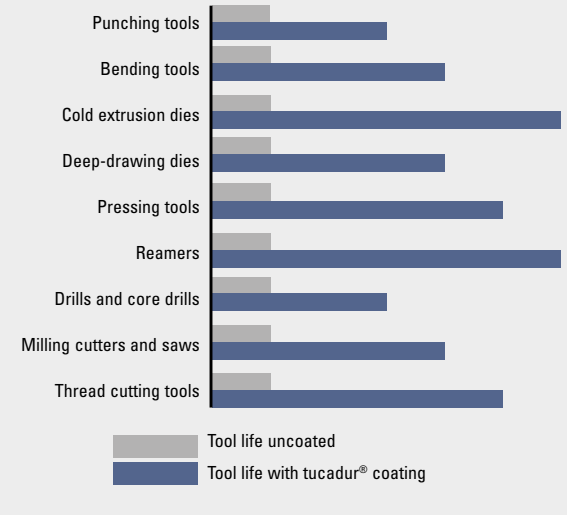


Micro-section magnified 250 times

uncoated coated



Comparison of tool life



Tungsten carbide coating unit
tucadur® 2020

	Order No.	Price from 1 piece
Tungsten carbide coating unit tucadur® 2020		
	**0 700 000**	

Control unit
Max. hardness of coating: 82 HR 30N
Layer thickness adjustable: from 2-40 micron
Vibration level: adjustable
Power supply: 230 V, 50 Hz
Dimensions (W x T x H): 210 x 320 x 220 mm
Weight: 11 kg

Coating gun
Vibration frequency: 100 Hz
Illumination: built-in

Scope of supply:
Control unit, coating gun, mains cable, foot switch, contact magnet, 1 set (24 pieces) of tungsten carbide electrodes, hexagon head screwdriver

Accessories / spare parts

	Order No.	Price from 1 piece
Coating gun		
	**0 700 213**	

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Tungsten carbide coating unit
tucadur® 2020

	Shape	Dimensions	Order No.	Price from 1 piece	Price from 10 pieces
Tungsten carbide electrodes, for tucadur® 2020					
	round	Ø 1.0 x 50 mm	**0 700 036**		
		Ø 1.3 x 50 mm	**0 700 046**		
		Ø 1.8 x 50 mm	**0 700 047**		
		Ø 2.3 x 50 mm	**0 700 048**		
	square	1.1 x 50 mm	**0 700 039**		
		1.6 x 50 mm	**0 700 040**		
		2.1 x 50 mm	**0 700 041**		
	triangular	1.95 x 50 mm	**0 700 042-0**		

matching set

	Order No.	Price from 1 set	Price from 10 set
Set of tungsten carbide electrodes (24 pieces)			
consisting of: • 3 pieces each 1.0 mm round (Art.-Nr. 0 700 036) • 3 pieces each 1.3 mm round (Art. no. 0 700 046) • 3 pieces each 1.8 mm round (Art. no. 0 700 047) • 3 pieces each 2.3 mm round (Art. no. 0 700 048) • 3 pieces each 1.1 mm square (Art. no. 0 700 039) • 3 pieces each 1.6 mm square (Art. no. 0 700 040) • 3 pieces each 2.1 mm square (Art. no. 0 700 041) • 3 pieces each 2.1 mm triangular (Art. no. 0 700 042)	**0 700 034**		



Grinding and polishing tools
Overview



Diamond compound polishing system joke Magic



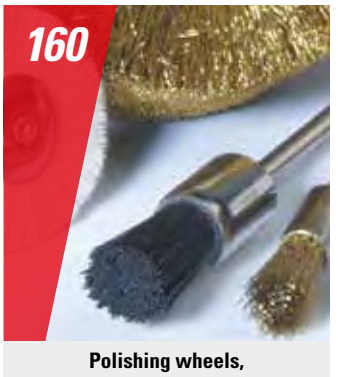
Lapping polishing and grinding compounds



Felts and cloths



Lapping tools



Polishing wheels, brushes, buff wheels



Convolute compact grinding discs



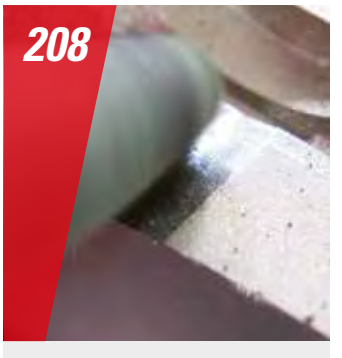
Round brushes



Drilling brushes



Grinding points



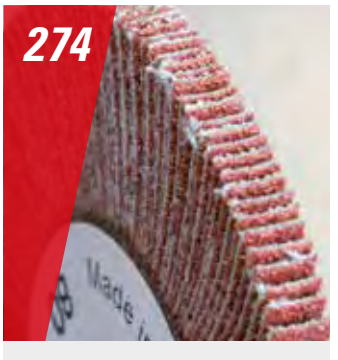
Rubber bonded grinding tools



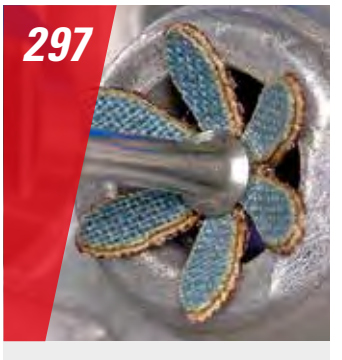
Grinding and polishing stones



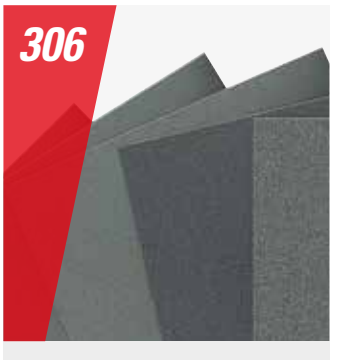
Ceramic-fibre tools



Emery and fleece tools



Grinding stars Polistar



Emery sheets and strips



Ultrasonic tools

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106 **Compounds and fluids**
Diamond compound polishing system joke Magic
Diamond compounds Hyprez®
Lapping, polishing and grinding compounds

132 **Felts and cloths**
Polishing felts with shank
Polishing felt, rings and lenses
Brass metallic fibre polishing felts
Felt lamellas on shank
Felt sticks • Felt sheets
Polishing cloths

144 **Lapping tools**
Wooden lapping and polishing points
Wooden and Plexiglas lapping sticks
Lapping tools on a shank
Lapping and polishing tools
HELICAL LAP

160 **Polishing brushes and buff wheels**
Fleece polishing wheels with shank
Polishing brushes and buff wheels with shank
Polishing and grinding discs joke HABRAS
Round brushes
Jet brushes
Pipe brushes
Nylon honing brushes
Compact fleece discs
Polishing buffing discs

186 **Grinding points**
Grinding points with shank
Accessories for grinding workplaces

208 **Rubber bonded grinding tools**
Rubber-bonded polishing points
Elastic polishing points
Elastic grinding files
Rubber-bonded grinding tools
Tool system CRATEX®

222 **Grinding and polishing stones**
joke stones
Gesswein® stones
Boride® stones
Bench stones
Holders for grinding and polishing stones

252 **Ceramic-fibre tools**
Ceramic-fibre files
Diamond ceramic-fibre files
Holders for ceramic-fibre files
Ceramic-fibre files on a shank
Ceramic-fibre brushes on a shank

274 **Emery and fleece tools**
Abrasive cords and belts
Abrasive sleeves and caps
Flap wheels
Cup wheel discs
Grinding discs
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318 **Ultrasonic tools**

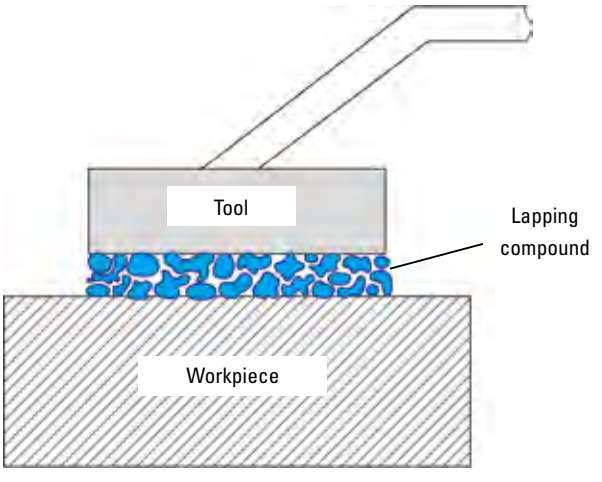


Grinding and polishing tools
Basic principles

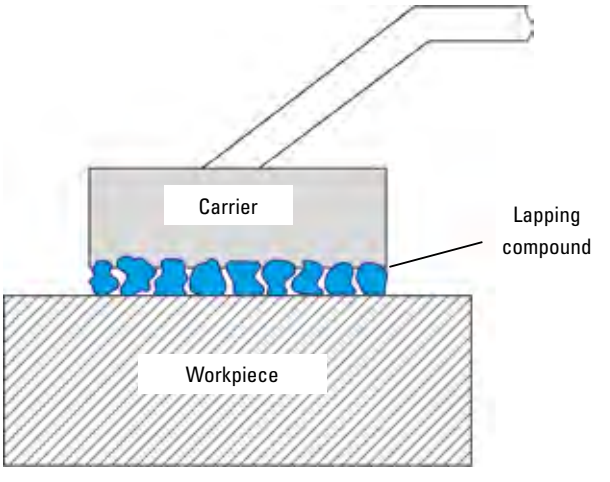
Finest working processes in tool and mould making
The border between grinding and polishing is not clear-cut and a clear distinction often difficult. Generally, three processes for the fine processing of surfaces can be identified: polishing, lapping and polishing/lapping, all of which are chipping processes with loose grit. These achieve the best roughness values (see page 104).
The surface quality achieved with these processes is mainly dependent on the following factors:

- **Grit size of the abrasive**
- **Working pressure**
- **Work movement**
- **Grading of the various abrasives**
- **Choice of lapping and polishing agent carrier**

Grinding
During preliminary processing, these very fine working processes (finishing) are often preceded by (manual) grinding. This involves a chipping process with firmly bound grit. See on the right side for an overview of typical abrasives.



Lapping



Lapping and polishing/polishing

Overview of work processes in tool and mould making

	Definition	Process	Result
Manual grinding	Chipping process with firmly bound grit	Directional movement, material is chipped by bound grit	Directional surface
Polishing	Chipping process with loose grit	Directional or undirectional, grit " embedded" in polishing cloth or felt	High-gloss surface
Lapping		Undirectional crossing movement, rolling grain	Matt surface
Lapping and polishing		Directional or undirectional movement, grit penetrates carrier	Shiny surface

Basic principles that should be adhered to:

- Always from coarse to fine
- Clean workpiece thoroughly after each grit change
- Change lapping or polishing medium carrier when changing grit

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Grinding and polishing tools
Basic principles

The theoretical definition of abrasives includes all hard material grits, which are used to achieve stock removal. These are usually applied bound in grinding tools. A distinction is drawn made between natural grits such as quartz, corundum, emery, garnet and natural diamond and synthetic grits such as corundum, silicon carbide, chromium oxide, cubic boron nitride (CBN) and diamonds.

Corundum (aluminium oxide Al_2O_3)
The most widely used abrasive is classed according to its hardness and toughness:

Regular aluminium oxide: consists of approx. 95% Al_2O_3 predominantly from non-alloy and low alloyed steels as well as cast steel and grey cast iron.

Special fused aluminium oxide: owing to a 99.9% Al_2O_3 very hard and heat resistant up to 2,000 °C. Very suitable for tough unhardened steels of more than 60 HRC (tool steel), for working with glass and all steels that require cool grinding.

Semi corundum: mixture of the above. For steels with high hardness and toughness, that are not heat-sensitive.

Silicon carbide
Silicon carbide is mainly characterised by its hard and sharp crystals. It is heat-resistant up to approx. 1,370 °C. An abrasive grit generally only consists of one or a few crystals. This material is harder and more brittle than corundum. Silicon carbide is mainly used on non ferrous metals, rust-free steels, ceramic and mineral materials such as carbonaceous steels. It is also used for dressing grinding tools.

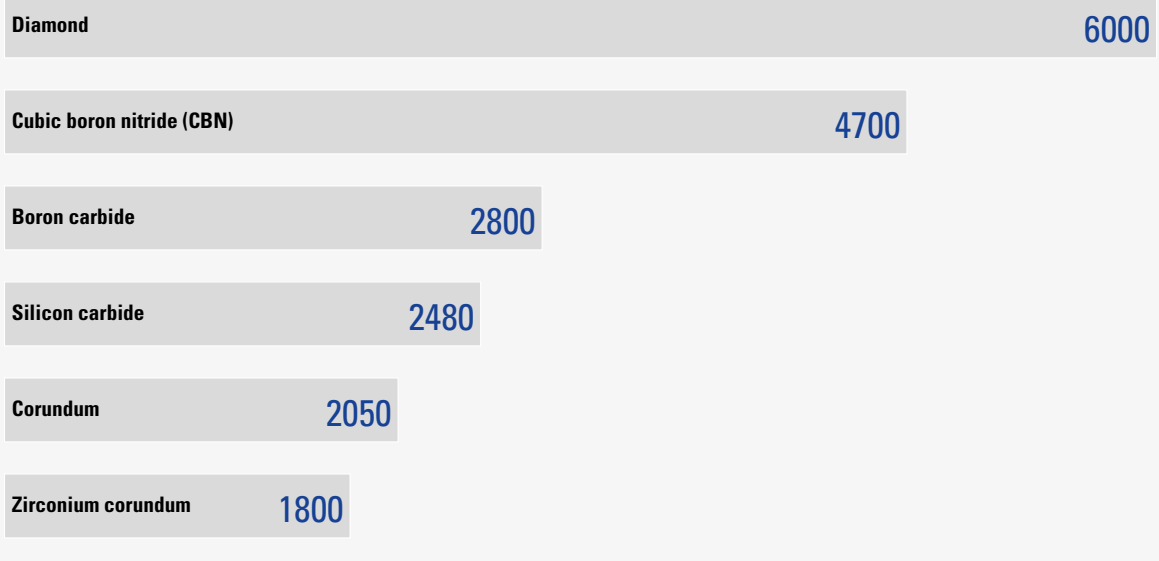
Cubic boron nitride (CBN)
Boron nitride is the second-toughest known material after diamond. It is only suitable as an abrasive in its cubic crystal form (CBN). It is produced synthetically from natural reserves of hexagonal crystalline boron nitride and is usually bound in resin or ceramic. It has a heat resistance of approx. 1,300 °C; from approx. 730 °C, it becomes even harder than diamond! It is used predominantly for grinding tough unhardened steels such as high-speed steel as well as hot- and coldwork steel. Not suitable for soft steels, tungsten carbides, nonferrous metals, chrome and nickel coatings as well as non-metals.

Diamond
The diamonds used today are almost exclusively synthetic. The hardness and geometries for specific applications achieved are superior to those of natural diamonds. Even as the hardest known material, diamonds are only heat-resistant up to 800 °C and their scope of application is therefore somewhat limited. Diamond tools are mainly used for precision grinding on tungsten carbide, grey cast iron, glass, ceramic, porcelain, fire-proof stones, germanium, graphite, cutting ceramics, silicon, rubber, non-ferrous heavy metal, cementite alloys, nickel and chrome alloys, ball bearing steel, tool steels with high carbon and low vanadium content.



manual grinding

Abrasive hardness according to Knoop



Surface roughness

Overview of the surface roughness of the preliminary processing methods and the different grinding medium grit sizes in linear processing

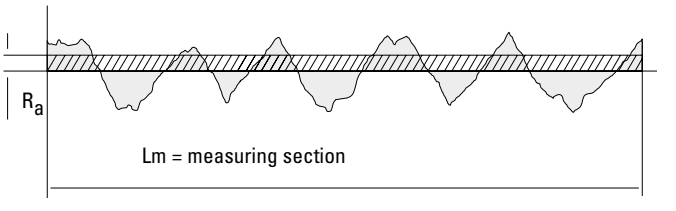
When selecting the correct grit size, a surface improvement by 1.5 roughness classes (coarse surfaces) to 0.5 roughness classes (fine surfaces) should be taken into account.

The tips of the wedges of preliminary processing are max. attainable values under good working conditions. The stock removal dimensions are usually higher than the absolute surface roughness (errors in the macrostructure and removal of the erosion skin). It may therefore be advisable to begin with a coarser grit size.

Surface roughness in mould building

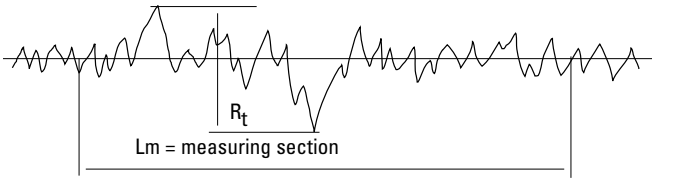
R_a

In by far the most cases, the surface roughness is indicated as an R_a value. The average roughness value finish R_a is the height of the fictitious surface over the midline, the magnitude of which corresponds to the sum of the individual surfaces above and below. The visual appearance may markedly deviate from the indication of the R_a value: e.g. smaller R_a value with visible isolated scratches.



R_t

The R_t value is considerably more meaningful for assessment of very fine surface finishes in mould making: the maximum peak-to-valley height R_t is the vertical distance between the highest and lowest point within the measuring section. For surface roughness indications in this catalogue, the maximum peak-to-valley height R_t is generally used.



Roughness classes

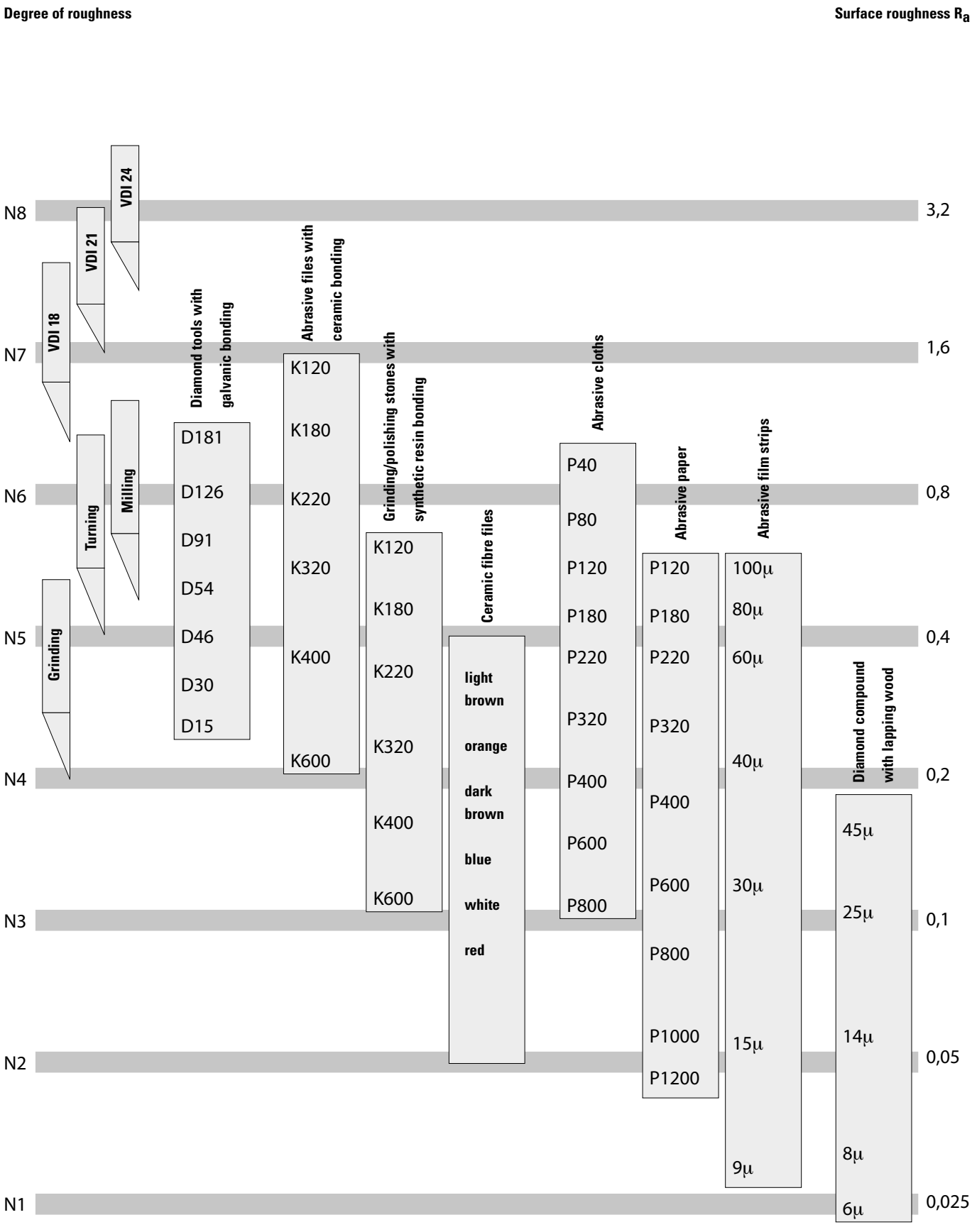
The roughness classes according to DIN/ISO 1302 are indicated as R_a values. The R_t values listed in the table are estimated values that are not contained in the standard. The ratio R_a:R_t corresponds to approx. 1:8 to 1:12 during manual working. As a result of the evenness of manual working and also less pressure and good lubrication, the ration R_a:R_t can be reduced to 1:6. All the values indicated in this catalogue are empirically determined on steel 1.2767 with 53 HRC and represent non-binding guideline values.

Roughness classes according to DIN/ISO 1302

Degree of roughness No.	Roughness value R_a (µm)	Roughness value R_{max} (µm)
N 12	50	~ 500
N 11	25	~ 250
N 10	12.5	~ 125
N 9	6.3	~ 60
N 8	3.2	20 ... 40
N 7	1.6	10 ... 20
N 6	0.8	6 ... 10
N 5	0.4	2 ... 6
N 4	0,2	1.5 ... 2.5
N 3	0.1	0.75 ... 1.25
N 2	0.05	0.3 ... 0.7
N 1	0.025	0.1 ... 0.3

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Surface roughness



Diamond compound polishing system
joke Magic

joke Magic enables you to polish all types of steel, tungsten carbide, ceramics, aluminium and all non-ferrous metals. In no time at all. Reproducible. In material laboratory quality!

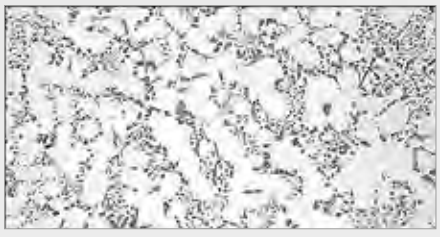
Diamond compound polishing system joke Magic
Everyone knows that many roads lead to Rome and there are just as many to the polishing result you want. Wouldn't it be nice to have a system that has been carefully devised to make sure you get the same highgloss finish on the workpiece every time? A system for achieving reproducible results on all types of steel, as well as on tungsten carbides, ceramics, nonferrous metals and aluminium.

Welcome to joke Magic!

joke Magic saves time...
...because its components make sure you attain smoother surfaces quicker without orange peel effect or excavations. With joke Magic you polish in logical steps.

joke Magic saves money...
...because you achieve your goal using less "material". All its components give you the best results with optimised economy and longer life.

joke Magic just does it better...
...see for yourself what joke Magic can do. It's time to switch!

joke Magic	Standard
	
Steel Totally even surface	**Steel** Uneven surface causes later blotching
	
Steel Polishing without breakouts	**Steel** Breakouts in material
	
Aluminium All alloy components stay clean	**Aluminium** Silicon torn out



Compounds and fluids



Diamond compounds joke Magic
oil and alcohol soluble

Our best-selling diamond compound. Specially designed for the new types of steel that tools are manufactured in. To be used neat or with just two drops of diamond fluid. Normally, diamond compounds must be used with a large amount of fluid. Using a large amount of fluid, however, has the effect of making the diamond compound runny, so that a lot of it is simply projected away during polishing. joke Magic diamond compound effectively creates a precisely calibrated, blocky diamond grit, which guarantees top-quality polishing. The result is an incomparably high level of removal on all materials: From soft aluminium to the hardest ceramics as well as for unlimited use on all grades of steel and tungsten carbides.



Content	Grit size	Concentration	Colour	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds joke Magic, oil and alcohol soluble							
10 g	0.25 µm	extra high	grey	**0 590 109**			
	1 µm	extra high	blue	**0 590 101**			
	3 µm	extra high	green	**0 590 102**			
	6 µm	extra high	yellow	**0 590 103**			
	9 µm	extra high	red	**0 590 104**			
	14 µm	extra high	brown	**0 590 105**			
	25 µm	extra high	mahagony	**0 590 106**			
	45 µm	extra high	purple	**0 590 107**			
	70 µm	extra high	burgundy	**0 590 108**			
20 g	0.25 µm	high	grey	**0 590 300**			
	1 µm	high	blue	**0 590 301**			
	3 µm	high	green	**0 590 302**			
	6 µm	high	yellow	**0 590 303**			
	9 µm	high	red	**0 590 304**			
	14 µm	high	brown	**0 590 305**			
	25 µm	high	mahagony	**0 590 306**			
	45 µm	high	purple	**0 590 307**			
	70 µm	high	burgundy	**0 590 308**			
	0.25 µm	extra high	grey	**0 590 200**			
	1 µm	extra high	blue	**0 590 201**			
	3 µm	extra high	green	**0 590 202**			
	6 µm	extra high	yellow	**0 590 203**			
	9 µm	extra high	red	**0 590 204**			
	14 µm	extra high	brown	**0 590 205**			
	25 µm	extra high	mahagony	**0 590 206**			
	45 µm	extra high	purple	**0 590 207**			
	70 µm	extra high	burgundy	**0 590 208**			

joke Magic = unparalleled high diamond concentrations

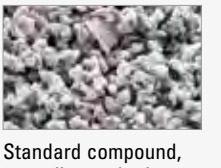
joke Magic **extra strong**: Our Magic diamond compounds contain twice the quantity of diamonds in comparison to other compounds. Owing to a special manufacturing process, we have managed to rule out contact between the individual diamond grit particles in spite of twice the quantity. Consequently, an inimitable, extremely high stock removal is achieved.

joke Magic **strong**: the “strong” concentration of our Magic diamond compounds is already comparable to that of other compounds with concentrations indicated as “extra strong”, “strong”, “very strong”, “SS”, “K 100”, “high”, “heavy”, etc.

The diamond compounds from the joke Magic series have become the favourite compounds of many polishers, since they always yield a perfect result as innovative all-round diamond compounds. This is something you should not miss either.



joke Magic 6 µm diamond grit – closely calibrated with uniform grit shape –



Standard compound, 6 µm diamond grit – poorly calibrated with uneven grit shape –

Diamond compounds joke Eco-Star
the coloured
NEW!

This diamond compound has been produced for all users who would like to work with a coloured compound. The compound is universally soluble and is recommended as a good alternative to other coloured diamond compounds owing to high stock removal and production of a good shine. Very good for wiping with polishing wool!

	Content	Grit size	Concentration	Colour	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds joke Eco-Star, the coloured								
	20 g	0.25 µm	extra high	grey	**0 590 870**			
		1 µm	extra high	blue	**0 590 871**			
		3 µm	extra high	green	**0 590 872**			
		6 µm	extra high	yellow	**0 590 873**			
		9 µm	extra high	red	**0 590 874**			
		15 µm	extra high	brown	**0 590 875**			
		25 µm	extra high	mahagony	**0 590 876**			
		45 µm	extra high	purple	**0 590 877**			





Diamond compounds joke Magic ALU
water and alcohol soluble

Special compound for aluminium and all non-ferrous metals. Can be used on all host materials, in either a rotating or a linear motion.

	Content	Grit size	Concentration	Colour	Order No.	Price from 1 piece	3 pieces	6 pieces
joke Magic ALU diamond compound, water and alcohol soluble								
	10 g	1 µm	extra high	blue	**0 591 101**			
		3 µm	extra high	green	**0 591 102**			
		6 µm	extra high	yellow	**0 591 103**			
		9 µm	extra high	red	**0 591 104**			
		14 µm	extra high	brown	**0 591 105**			

Diamond compounds joke Magic FAS
the polycrystalline

joke Magic FAS diamond compound consists of a low-viscosity, easily spreadable oil-soluble carrier with hard synthetic diamonds (PKD). The polycrystalline diamond is significantly stronger than the cheaper monocrystalline diamond. Owing to the high stock removal rates, this compound is particularly suitable for hard materials such as ceramic, carbide, cobalt, titanium or nickel.

	Content	Grit size	Concentration	Colour	Order No.	Price from 1 piece	3 pieces	6 pieces
joke Magic FAS diamond compounds, the polycrystalline								
	10 g	0.25 µm	extra high	grey	**0 590 820**			
		1 µm	extra high	blue	**0 590 821**			
		3 µm	extra high	green	**0 590 822**			
		6 µm	extra high	yellow	**0 590 823**			
		9 µm	extra high	red	**0 590 824**			
		15 µm	extra high	brown	**0 590 825**			
		25 µm	extra high	mahagony	**0 590 826**			

Diamond compounds joke Magic US
universally soluble

Can be mixed with water, oil or alcohol. Very smooth, very easy to clean.

	Content	Grit size	Concentration	Colour	Order No.	Price from 1 piece	3 pieces	6 pieces
joke Magic US diamond compound, universally soluble								
	10 g	1 µm	extra high	blue	**0 590 351**			
		3 µm	extra high	green	**0 590 352**			
		6 µm	extra high	yellow	**0 590 353**			
		9 µm	extra high	red	**0 590 354**			
		14 µm	extra high	brown	**0 590 355**			
		25 µm	extra high	mahagony	**0 590 356**			
		45 µm	extra high	purple	**0 590 357**			
		70 µm	extra high	burgundy	**0 590 358**			
		90 µm	extra high	grey	**0 590 359**			

Diamond compounds joke Magic WS
water and alcohol soluble

The compound you need to achieve very high gloss effects. Fantastic with high-speed steels!

	Content	Grit size	Concentration	Colour	Order No.	Price from 1 piece	3 pieces	6 pieces
joke Magic WS diamond compound, water and alcohol soluble								
	10 g	1 µm	extra high	blue	**0 590 701**			
		3 µm	extra high	green	**0 590 702**			
		6 µm	extra high	yellow	**0 590 703**			
		9 µm	extra high	red	**0 590 704**			
		14 µm	extra high	brown	**0 590 705**			
		25 µm	extra high	mahagony	**0 590 706**			
		45 µm	extra high	purple	**0 590 707**			
		70 µm	extra high	burgundy	**0 590 708**			
		90 µm	extra high	grey	**0 590 709**			

Diamond sprays joke Magic
alcohol soluble

These diamond sprays contain extremely hard, synthetically manufactured diamonds in an alcohol soluble carrier. Also ideal for hard materials such as ceramic and carbide.
CFC-free

	Content	Grit size	Order No.	Price from 1 piece
Diamond spray joke Magic, alcohol soluble				
	200 ml	1 µm	**0 590 910**	
		3 µm	**0 590 913**	
		6 µm	**0 590 914**	
		9 µm	**0 590 915**	
		15 µm	**0 590 916**	

Diamond fluids
joke Magic

Thinner for joke Magic diamond compounds, joke Magic US and joke Eco-Star

	Content	Order No.	Price from 1 piece
Diamond fluid joke Magic, oil soluble			
	0.5 l	**0 590 451**	
	2.5 l	**0 590 451-1**	
	10 l	**0 590 452**	

Diamond fluid
joke Magic ALU

Specially for joke Magic ALU diamond compounds, with 100% corrosion protection

	Content	Order No.	Price from 1 piece
Diamond fluid joke Magic ALU, water and alcohol soluble			
	500 ml	**0 591 451**	

Accessories / spare parts

	Order No.	Price from 1 piece
Dosing bottle with pipette, oilproof, 30 ml		
	**0 590 491-1**	

Super-fine polishing suspensions
joke Magic

Magic super-fine polishingsuspension
Magic super-fine polishing suspension with combined anti-corrosion power gives workpieces that final, brilliant gloss. This thin suspension and the blocky, agglomerate-free diamonds it contains enables totally scratch-free polishing. If necessary, you can use the super-fine polishing suspension together with the Magic „Clean“ cloth to remove any shadows created during final polishing.

	Content	Grit size	Order No.	Price from 1 piece
Super-fine diamond plastic polishing medium joke Magic				
	specially developed for polishing plastics. Use with polishing cloth Magic SHINE.	50 ml	1 µm	**0 590 901**
		500 ml	1 µm	**0 590 902**
		50 ml	3 µm	**0 590 903**
		50 ml	6 µm	**0 590 904**
Super-fine diamond polishing suspension joke Magic				
	water soluble and alcohol soluble, with anti-corrosion power. For the final, brilliant mirror finish.	500 ml	1 µm	**0 591 401**
		500 ml	3 µm	**0 590 401**
		500 ml	6 µm	**0 591 402**

Diamond compound polishing system joke Magic
Grinding and polishing stones joke Magic STONES

Magic STONES grinding stones
A complete system incorporating grinding stones for pretreatment purposes. The fixed connection to the connecting rod (click system) ensures that no edging takes place whenever the Magic STONES are fitted, which prevents the rat marks usually created otherwise. The spherical pressure load ensures that grinding is vibration-free and leads to a totally even grinding result. The Magic STONES guarantee that the subsequent steps in the process can be carried out errorfree.

	Dimensions	Grit size	Packing quantity	Order No.	Price from 1 pack
Grinding and polishing stones joke Magic STONES					
rectangular					
	7 x 9 x 4 mm	220	10 pieces	**0 590 759**	
		320	10 pieces	**0 590 760**	
		400	10 pieces	**0 590 761**	
		600	10 pieces	**0 590 762**	

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
Ball-ended rod for Magic STONES, length 80 mm			
	80 mm	**0 590 753**	
Ball-ended rod for Magic STONES, length 140 mm			
	140 mm	**0 590 752**	

Polishing cloths Kleenex

High quality 3-ply cloth for wiping after polishing and for applying joke Magic very fine polishing suspension (similar illustration)

	Design	Content	Colour	Dimensions	Order No.	Price from 1 piece
Polishing cloths Kleenex						
	3-ply	72 cloths	white	20 x 20 cm	**0 590 602**	



Polishing cloths
self-adhesive

Polishing cloths, self-adhesive
Polishing cloths are perfect for final polishing. Thanks to their self-adhesive backing, these cloths can be mounted on a wide variety of holders. Thus, for example, tools used during preparation can be reused simply by sticking the polishing cloth on them. You can choose between standard polishing cloths and Magic JOKER, FINAL and SHINE polishing cloths, which were specially designed for use with joke Magic diamond compound. JOKER and FINAL cloths can be used on 99% of materials. They are ideal for polishing all types of steel and aluminium. SHINE cloths were developed specially for polishing plastics. The cushioning base layer in these cloths means that they are very quiet to use and reduces score marks on the material. Breakouts and dimpling are prevented.

		Shape	Dimensions	Design	Type	Packing quantity	Order No.	Price from 1 pack
Polishing cloths joke Magic, self-adhesive								
	Magic JOKER (synthetic fibre cloth) for diamond compound grit sizes 6 to 3 µm	round	Ø 20 x 1 mm	self-adhesive	Magic JOKER	50 pieces	**0 591 501**	
		round	Ø 32 x 1 mm	self-adhesive	Magic JOKER	50 pieces	**0 591 502**	
		rectangular	9 x 11.5 x 1 mm	self-adhesive	Magic JOKER	50 pieces	**0 591 503**	
		square	100 x 100 mm	self-adhesive	Magic JOKER	50 pieces	**0 591 505**	
	Magic FINAL (short flocked cloth) for diamond compound grit sizes 3 to 1 µm	round	Ø 20 x 2 mm	self-adhesive	Magic FINAL	50 pieces	**0 591 601**	
		round	Ø 32 x 2 mm	self-adhesive	Magic FINAL	50 pieces	**0 591 602**	
		rectangular	9 x 11.5 x 2 mm	self-adhesive	Magic FINAL	50 pieces	**0 591 603**	
		square	100 x 100 mm	self-adhesive	Magic FINAL	50 pieces	**0 591 605**	
	Magic SHINE especially for plastics. Diamond comound grit sizes 6, 3 and 1 µm	round	Ø 12 mm	self-adhesive	Magic SHINE	50 pieces	**0 591 707**	
		round	Ø 18 x 2 mm	self-adhesive	Magic SHINE	50 pieces	**0 591 701**	
		round	Ø 30 x 2 mm	self-adhesive	Magic SHINE	50 pieces	**0 591 702**	
		rectangular	9 x 11.5 x 2 mm	self-adhesive	Magic SHINE	50 pieces	**0 591 703**	
		square	100 x 100 mm	self-adhesive	Magic SHINE	50 pieces	**0 591 706**	

Accessories / spare parts

	Dimensions	Shank dimensions	Type	Suitable abrasive discs	Packing quantity	Order No.	Price from 1 piece	1 pack	5 pieces	10 pieces
Toggle rod for tool carrier, length 140 mm										
		Ø 3 mm				**0 411 008**				
Supports for felts and cloths										
	9 x 11.5				10 pieces	**0 411 009-2**				
Rubber holder ROTAFLEX										
	Ø 10 mm	Ø 3 x 26 mm	RK 0	R 0		**0 544 101**				
	Ø 18 mm	Ø 3 x 26 mm	RK 1	R 1		**0 544 103**				
	Ø 30 mm	Ø 3 x 26 mm	RK 2	R 2		**0 544 104**				

Polishing cloths
self-adhesive

		Shape	Dimensions	Design	Type	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Standard polishing cloths, self-adhesive									
	Type 450 for diamond compound grit sizes 6 to 3 µm	round	Ø 12 x 0.8 mm	self-adhesive	450	10 pieces	**0 543 311**		
		round	Ø 20 x 0.8 mm	self-adhesive	450	10 pieces	**0 543 312**		
		round	Ø 33 x 0.8 mm	self-adhesive	450	10 pieces	**0 543 313**		
		round	Ø 50 x 0.8 mm	self-adhesive	450	10 pieces	**0 543 314**		
		round	Ø 78 x 0.8 mm	self-adhesive	450	10 pieces	**0 543 316**		
	Type 432 for diamond compound grit sizes 3 to 1/4 µm	round	Ø 12 x 1.0 mm	self-adhesive	432	10 pieces	**0 543 301**		
		round	Ø 20 x 1.0 mm	self-adhesive	432	10 pieces	**0 543 302**		
		round	Ø 33 x 1.0 mm	self-adhesive	432	10 pieces	**0 543 303**		
		round	Ø 50 x 1.0 mm	self-adhesive	432	10 pieces	**0 543 304**		
		round	Ø 78 x 1.0 mm	self-adhesive	432	10 pieces	**0 543 306**		



Diamond compounds Hyprez®



Diamond compounds Hyprez®

The diamonds

Our Hyprez® diamond compounds contain only special, tested and approved diamonds, ("Advanced Technology Diamonds") from brand manufacturers. They are selected with the greatest care for their size, purity and shape. The diamonds are very pressure-resistant and stay "aggressive" for as long as it is needed. Decades of use of Hyprez® diamond products in industrial mould-making as well as electronics and nanotechnology demonstrate that these products can meet the toughest requirements.

The host material

The host material will not separate from the diamond content and does not dry out. Its compatibility with the various solvents and the solubility of the compounds is also monitored closely.

Continuity thanks to quality

Hyprez® compounds deliver consistent, optimum polishing results. The durability of the diamond compounds is outstanding. The production process, which is continually improved and checked, ensures that their extremely high quality really lasts.

All Hyprez® diamond compounds at a glance

F - Versatile compound	The widest and most varied range of concentrations.
S - Economy compound	Developed for simple, cost-effective jobs.
W - Eco-compound	Water-based W compound developed for environment-friendly and oil-sensitive tasks.
OS - Oil-soluble compound	The ideal compound for high stock removal requirements.
L - for hard cases	Especially for working on tungsten carbide, ceramics and hardened steel.
Super-L - finishing compound	Finest grits for finishing hardened steels and ceramics.
C11 - Stabilised compound	The best compound for direct use on hot moulds or upright walls. Special host material providing optimum tool adhesion.
SC-HT	For high-temperature-areas up to 250°C.

Diamond compounds Hyprez® F
oil and water soluble

For maximum flexibility the Hyprez® F series offers both water and oil soluble hosts and a large selection of diamond concentrations. 5 g in Hyplicator® or 10 g syringe.

	Content	Grit size	Concentration	Colour	Type	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds Hyprez® F, oil and water soluble									
	5 g	0.10 µm	high	grey	1/10-F 2	**0 580 002**			
		0.25 µm	high	grey	1/4-F 2	**0 580 004**			
		1 µm	low	blue	1-F 1	**0 580 005**			
		1 µm	high	blue	1-F 3	**0 580 006**			
		1 µm	extra high	blue	1-F 4	**0 580 007**			
		3 µm	medium	green	3-F 3	**0 580 009**			
		3 µm	high	green	3-F 4	**0 580 010**			
		3 µm	extra high	green	3-F 6	**0 580 011**			
		6 µm	medium	yellow	6-F 4	**0 580 012**			
		6 µm	high	yellow	6-F 5	**0 580 013**			
		6 µm	extra high	yellow	6-F 7	**0 580 014**			
		8 µm	medium	red	8-F 6	**0 580 015**			
		8 µm	high	red	8-F 8	**0 580 016**			
		14 µm	medium	brown	14-F 6	**0 580 018**			
		14 µm	high	brown	14-F 8	**0 580 019**			
		14 µm	extra high	brown	14-F 9	**0 580 020**			
		25 µm	medium	mahagony	25-F 6	**0 580 021**			
		25 µm	high	mahagony	25-F 8	**0 580 022**			
		45 µm	medium	purple	45-F 6	**0 580 024**			
		45 µm	high	purple	45-F 8	**0 580 025**			
		60 µm	extra high	orange	60-F 9	**0 580 027**			
	10 g	0.10 µm	high	grey	1/10-F 2	**0 580 032**			
		0.25 µm	high	grey	1/4-F 2	**0 580 034**			
		1 µm	low	blue	1-F 1	**0 580 035**			
		1 µm	high	blue	1-F 3	**0 580 036**			
		1 µm	extra high	blue	1-F 4	**0 580 037**			
		3 µm	medium	green	3-F 3	**0 580 039**			
		3 µm	high	green	3-F 4	**0 580 040**			
		3 µm	extra high	green	3-F 6	**0 580 041**			
		6 µm	medium	yellow	6-F 4	**0 580 042**			
		6 µm	high	yellow	6-F 5	**0 580 043**			
		6 µm	extra high	yellow	6-F 7	**0 580 044**			
		8 µm	medium	red	8-F 6	**0 580 045**			
		8 µm	high	red	8-F 8	**0 580 046**			
		14 µm	medium	brown	14-F 6	**0 580 048**			
		14 µm	high	brown	14-F 8	**0 580 049**			
		14 µm	extra high	brown	14-F 9	**0 580 050**			
		25 µm	medium	mahagony	25-F 6	**0 580 051**			
		25 µm	high	mahagony	25-F 8	**0 580 052**			
		45 µm	medium	purple	45-F 6	**0 580 054**			
		45 µm	high	purple	45-F 8	**0 580 055**			
		60 µm	extra high	orange	60-F 9	**0 580 057**			

Diamond compounds Hyprez® OS
oil soluble

This oil-based compound is ideal for all uses that require a high level of stock removal.

	Content	Grit size	Concentration	Colour	Type	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds Hyprez® OS, oil soluble									
	5 g	1 µm	high	blue	1-OS 3	**0 580 206**			
		1 µm	extra high	blue	1-OS 4	**0 580 207**			
		3 µm	medium	green	3-OS 3	**0 580 209**			
		3 µm	high	green	3-OS 4	**0 580 210**			
		3 µm	extra high	green	3-OS 6	**0 580 211**			
		6 µm	medium	yellow	6-OS 4	**0 580 212**			
		6 µm	high	yellow	6-OS 5	**0 580 213**			
		6 µm	extra high	yellow	6-OS 7	**0 580 214**			
		8 µm	medium	red	8-OS 6	**0 580 215**			
		8 µm	high	red	8-OS 8	**0 580 216**			
		8 µm	extra high	red	8-OS 9	**0 580 217**			
		14 µm	medium	brown	14-OS 6	**0 580 218**			
		14 µm	high	brown	14-OS 8	**0 580 219**			
		14 µm	extra high	brown	14-OS 9	**0 580 220**			
		25 µm	medium	mahagony	25-OS 6	**0 580 221**			
		25 µm	high	mahagony	25-OS 8	**0 580 222**			
		25 µm	extra high	mahagony	25-OS 9	**0 580 223**			
		45 µm	medium	purple	45-OS 6	**0 580 224**			
		45 µm	extra high	purple	45-OS 9	**0 580 226**			
	10 g	1 µm	high	blue	1-OS 3	**0 580 236**			
		1 µm	extra high	blue	1-OS 4	**0 580 237**			
		3 µm	medium	green	3-OS 3	**0 580 239**			
		3 µm	high	green	3-OS 4	**0 580 240**			
		3 µm	extra high	green	3-OS 6	**0 580 241**			
		6 µm	medium	yellow	6-OS 4	**0 580 242**			
		6 µm	high	yellow	6-OS 5	**0 580 243**			
		6 µm	extra high	yellow	6-OS 7	**0 580 244**			
		8 µm	medium	red	8-OS 6	**0 580 245**			
		8 µm	high	red	8-OS 8	**0 580 246**			
		8 µm	extra high	red	8-OS 9	**0 580 247**			
		14 µm	medium	brown	14-OS 6	**0 580 248**			
		14 µm	high	brown	14-OS 8	**0 580 249**			
		14 µm	extra high	brown	14-OS 9	**0 580 250**			
		25 µm	medium	mahagony	25-OS 6	**0 580 251**			
		25 µm	high	mahagony	25-OS 8	**0 580 252**			
		25 µm	extra high	mahagony	25-OS 9	**0 580 253**			
		45 µm	medium	purple	45-OS 6	**0 580 254**			
		45 µm	extra high	purple	45-OS 9	**0 580 256**			

Diamond compounds Hyprez® S
oil and water soluble

This compound consists of "Advanced Technology" diamonds which are used in more economical doses than F series compounds, for example. They are ideal for simple, economical uses.

	Content	Grit size	Concentration	Colour	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds Hyprez® S, oil and water soluble								
	10 g	1 µm	medium	blue	**0 580 381**			
		3 µm	medium	green	**0 580 382**			
		6 µm	medium	yellow	**0 580 383**			
		8 µm	medium	red	**0 580 384**			
		14 µm	medium	brown	**0 580 385**			
		25 µm	medium	mahagony	**0 580 386**			
		45 µm	medium	purple	**0 580 387**			
	20 g	1 µm	medium	blue	**0 580 391**			
		3 µm	medium	green	**0 580 392**			
		6 µm	medium	yellow	**0 580 393**			
		8 µm	medium	red	**0 580 394**			
		14 µm	medium	brown	**0 580 395**			
		25 µm	medium	mahagony	**0 580 396**			
		45 µm	medium	purple	**0 580 397**			

Diamond compounds Hyprez® W
water soluble

The compound for environmentally friendly and oil-sensitive jobs. It is water soluble and contains exclusively natural diamonds.

	Content	Grit size	Concentration	Colour	Type	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds Hyprez® W, water soluble									
	5 g	1 µm	high	blue	1-W 3	**0 580 106**			
		1 µm	extra high	blue	1-W 4	**0 580 107**			
		3 µm	medium	green	3-W 3	**0 580 109**			
		3 µm	extra high	green	3-W 6	**0 580 111**			
		6 µm	low	yellow	6-W 4	**0 580 112**			
		6 µm	extra high	yellow	6-W 7	**0 580 114**			
		14 µm	medium	brown	14-W 6	**0 580 118**			
	10 g	1 µm	high	blue	1-W 3	**0 580 136**			
		1 µm	extra high	blue	1-W 4	**0 580 137**			
		3 µm	medium	green	3-W 3	**0 580 139**			
		3 µm	extra high	green	3-W 6	**0 580 141**			
		6 µm	low	yellow	6-W 4	**0 580 142**			
		6 µm	extra high	yellow	6-W 7	**0 580 144**			
		14 µm	medium	brown	14-W 6	**0 580 148**			

Diamond compounds Hyprez® SC-HT
oil soluble

Newly developed diamond compound with quick-cutting, sharp-cutting diamond particles for rapid, high stock removal. The diamond particles are embedded in an innovative carrier with excellent sliding characteristics and extremely high temperature resistance. Workpieces with a surface temperature of up to max. 250 °C can easily be processed with this compound without the compound melting.

	Content	Grit size	Concentration	Colour	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds Hyprez® SC-HT, oil soluble								
	5 g	1 µm	extra high	white	**0 580 270**			
		3 µm	extra high	yellow	**0 580 271**			
		6 µm	extra high	orange	**0 580 272**			
		9 µm	extra high	green	**0 580 273**			
		20 µm	extra high	blue	**0 580 274**			
		30 µm	extra high	red	**0 580 275**			
		45 µm	extra high	brown	**0 580 276**			
		60 µm	extra high	black	**0 580 277**			

Diamond compounds Hyprez® L
oil soluble

Hyprez® L compound was developed for particularly hard materials. It is oil soluble and the best choice for treating tungsten carbide, ceramics, hardened and powder metalurgic steels. 5 g in Hyplicator® or 10 g spray.

	Content	Grit size	Concentration	Colour	Type	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds Hyprez® L, oil soluble									
	5 g	1 µm	extra high	blue	1-L 2	**0 580 302**			
		3 µm	high	green	3-L 3	**0 580 304**			
		6 µm	high	yellow	6-L 4	**0 580 306**			
		14 µm	medium	brown	14-L 3	**0 580 309**			
		14 µm	high	brown	14-L 5	**0 580 310**			
		25 µm	medium	mahagony	25-L 4	**0 580 311**			
		25 µm	high	mahagony	25-L 6	**0 580 312**			
		45 µm	medium	purple	45-L 4	**0 580 313**			
		45 µm	high	purple	45-L 5	**0 580 314**			
		60 µm	high	orange	60-L 6	**0 580 316**			
	10 g	1 µm	extra high	blue	1-L 2	**0 580 322**			
		3 µm	high	green	3-L 3	**0 580 324**			
		6 µm	high	yellow	6-L 4	**0 580 326**			
		14 µm	medium	brown	14-L 3	**0 580 329**			
		14 µm	high	brown	14-L 5	**0 580 330**			
		25 µm	medium	mahagony	25-L 4	**0 580 331**			
		25 µm	high	mahagony	25-L 6	**0 580 332**			
		45 µm	medium	purple	45-L 4	**0 580 333**			
		45 µm	high	purple	45-L 5	**0 580 334**			
		60 µm	high	orange	60-L 6	**0 580 336**			

Diamond compounds Hyprez® Super-L
oil soluble

Very fine grits and extremely stable diamonds for final finishing of tungsten, ceramics and powder metallurgic steels.

	Content	Grit size	Concentration	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds Hyprez® Super L, oil soluble							
	5 g	0.10 µm	high	**0 580 260**			
		0.25 µm	high	**0 580 261**			
		0.75 µm	high	**0 580 262**			
		1 µm	high	**0 580 263**			
		2 µm	high	**0 580 264**			
		3 µm	high	**0 580 265**			

Diamond compounds Hyprez® C11
water soluble

Especially for difficult applications on hot moulds or standing walls. The uneven surfaces of high-strength diamond grits ensure a high level of material removal, even in difficult situations.

	Content	Grit size	Concentration	Colour	Type	Order No.	Price from 1 piece	3 pieces	6 pieces
Diamond compounds Hyprez® C11, water soluble									
	5 g	1 µm	high	light yellow	1-C 11	**0 580 701**			
		3 µm	high	yellow	3-C 11	**0 580 702**			
		6 µm	high	ochre	6-C 11	**0 580 703**			
		14 µm	high	light blue	14-C 11	**0 580 704**			
		25 µm	high	red	25-C 11	**0 580 705**			
		45 µm	high	brown	45-C 11	**0 580 706**			
	20 g	1 µm	high	light yellow	1-C 11	**0 580 711**			
		3 µm	high	yellow	3-C 11	**0 580 712**			
		6 µm	high	ochre	6-C 11	**0 580 713**			
		14 µm	high	light blue	14-C 11	**0 580 714**			
		25 µm	high	red	25-C 11	**0 580 715**			

Diamond fluids Hyprez® OS
oil soluble

Thinner for all oil soluble diamond compounds Hyprez®

	Content	Type	Order No.	Price from 1 piece
Diamond fluid Hyprez® OS, oil soluble				
	1 litre	OS	**0 580 504**	
	2 litres	OS	**0 580 507**	
	5 litres	OS	**0 580 510**	

Diamond fluids Hyprez® W
water soluble

Thinner for all water soluble diamond compounds Hyprez®

	Content	Type	Order No.	Price from 1 piece
Diamond fluid Hyprez® W, water soluble				
	1 litre	W	**0 580 505**	
	2 litres	W	**0 580 508**	

Accessories / spare parts

	Order No.	Price from 1 piece
Pump spray bottle, 250 ml		
	0 580 455	
Spray bottle, 100 ml		
	**0 580 515-2**	

Diamond gels Hyprez®

Hyprez® diamond gels combine the advantages of diamond compounds and diamond emulsions in one efficient product – ideal for polishing large surface areas. They work in the conventional way but need no additional fluid or other substances. The gel retains its viscosity even for longer periods. The diamond grits are always uniformly distributed. The practical dispensing bottle is simple to use and enables economical dosing. Please be careful not to apply too much diamond gel - one drop is generally enough for the entire surface to be polished.

Tip: to thoroughly clean the tool after polishing, we recommend X 73016-A cleaner.

	Content	Grit size	Colour	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond gels Hyprez®							
	20 g	1 µm	red	HYG 450	**0 580 371**		
		3 µm	yellow	HYG 430	**0 580 372**		
		6 µm	yellow	HYG 420	**0 580 373**		
		8 µm	green	HYG 410	**0 580 374**		
		15 µm	blue	HYG 320	**0 580 375**		
		30 µm	blue	HYG 310	**0 580 376**		
		45 µm	blue	HYG 300	**0 580 377**		

Diamond sprays Hyprez®

For efficient, economic polishing and lapping of large surfaces as well as impregnating polishing cloths and plates. The solvent contained in the diamond spray ensures the even distribution of diamond grits. Diamond particles do not clump together, which guarantees the full cutting power of every individual particle.

	Content	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond spray Hyprez®					
	75 g	0.10 µm	**0 580 361**		
		0.25 µm	**0 580 362**		
		1 µm	**0 580 363**		
		3 µm	**0 580 364**		
		6 µm	**0 580 365**		
		8 µm	**0 580 366**		
		14 µm	**0 580 367**		
		25 µm	**0 580 368**		
		45 µm	**0 580 369**		

Polishing compounds
Dialux

Ranging from “normal” polishing to superfinishing. The right compound for every application. Owing to the very good adhesive properties, the Dialux polishing compounds are perfectly suited to work with polishing felts and brushes.

	Content	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
Polishing compounds Dialux						
 for polishing metals, chromium etc.	140 g	green	**0 580 560**			
high-gloss polishing for all metals	125 g	white	**0 580 561**			
for super-finishing of all metals	120 g	blue	**0 580 562**			
for eliminating scratches and streaks (high-gloss polish white is additionally required for this purpose)	145 g	orange	**0 580 563**			
for refreshing stainless steels	125 g	grey	**0 580 564**			
for polishing or refreshing non-ferrous metals and aluminium	110 g	yellow	**0 580 565**			
Polishing compound type 462 – without particles of animal origin • Specially designed for use in the food and chemical industry!	700 g	blue	**0 580 566**			

Polishing compounds
Dipo

The “classic” product uses corundum as abrasive for polishing unhardened steels and aluminium. Available as a tube (50 ml) or in the large canister (1,000 ml).

	Content	Grit size	Order No.	Price from 1 piece	25 pieces
Lapping and polishing compounds Dipo					
	50 ml tube	5 - 8 µm, very fine	**0 580 571**		
		10 - 15 µm, fine	**0 580 572**		
		30 - 50 µm, coarse	**0 580 573**		
		80 - 100 µm, very coarse	**0 580 574**		
	1,000 ml can	5 - 8 µm, very fine	**0 580 575**		
		10 - 15 µm, fine	**0 580 576**		
		30 - 50 µm, coarse	**0 580 577**		
		80 - 100 µm, very coarse	**0 580 578**		

Marking pen easyMark
writes on all surfaces

No mould should be without this pen. You can use it to write on or mark practically any surface – whatever its condition may be. The pen even writes on moist, oily surfaces and its markings are resistant to sunlight and smudging. The highly resistant tip can even be used on asphalt. Additionally on all metals, wood, glass, foam materials, rubber, concrete, stone, paper, on fabrics and many more. Stroke width up to 4 mm.



			Order No.	Price from 1 piece	10 pieces
easyMark marking pen					
	colour:	white	**0 202 250**		
	stroke width:	up to 4 mm			

Marking compounds

For controlling surfaces. The parts to be controlled are covered in marking compound after processing. The movement of components on a surface plate or against each other results in a colour layer, which provides information regarding the surface quality. Can be easily removed with a cleaning agent.

	Content	Colour	Order No.	Price from 1 piece
Marking compounds				
heat resistant up to 60 °C				
	60 g tube	blue	**0 202 252**	
	225 g can	blue	**0 202 251-1**	
heat resistant up to 200 °C				
	60 g tube	blue	**0 202 255**	
	225 g can	blue	**0 202 257-1**	

Special grinding compounds

For fine grinding, lapping and dressing work. Also suitable for plastics. The paste with SiC abrasive can be diluted and removed with oil, petroleum or petroleum spirit.

	Content	Grit size	Order No.	Price from 1 piece
Special grinding compounds				
	220 ml can	8 - 11 µm, very fine	**0 580 581-1**	
		16 - 20 µm, fine	**0 580 582-1**	
		27 - 31 µm, medium fine	**0 580 583-1**	
		42 - 47 µm, medium	**0 580 584-1**	
		88 - 105 µm, very coarse	**0 580 586-1**	

Polishing compounds
Elsterglanz polishing compound

Original Elsterglanz safely cleans, polishes and preserves surfaces of different materials. Elsterglanz is non-corrosive, acidfree and completely material-friendly. Special ingredients have a water-repellant and preserving effect, thereby providing long-lasting protection against tarnishing and resoiling.

	Content	Application	Order No.	Price from 1 piece	Price from 10 pieces
Elsterglanz polishing compound					
	150 ml tube	Universal, particularly for stainless steels	**0 580 630**		
		Copper, brass, bronze	**0 580 631**		

Polishing compounds
Simichrome polishing compound

Suitable for almost all metals such as stainless steel, chrome, copper, tin, aluminium, brass, magnesium, gold and silver.
- Extremely fine metal polish
- Removes small scratches and aging layers
- Leaves an absolutely tremendous shine
- Additionally forms an ultrafine and lasting protective film

	Content	Order No.	Price from 1 piece
Simichrome polishing compound			
	50 g tube	**0 580 638**	
	250 g can	**0 580 642**	

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Polishing compounds
Polishing compound Dur-Plastic-Polish

Care from a tube for all ungrained hard plastics. Returns clarity to dull Plexiglas and Macrolon panes and creates a shine on polyester and Plexiglas products. In paste form; use undiluted with a soft cloth.

	Content	Order No.	Price from 1 piece
Dur-Plastic-Polish			
	125 ml tube	**0 960 024-1**	
	1,000 ml can	**0 960 014**	

Polishing compounds
Polishing medium METAREX

A polishing medium consisting of impregnated cotton for use on metals. Very well suited for repolishing PET bottle moulds. Gently eliminates everything that may have accumulated on the material (rust, verdigris, sulphide and oxide blackening) gently without leaving traces (scratches, white residues). Protects against premature oxidation.

	Content	Suitable for materials	Order No.	Price from 1 piece
METAREX polishing medium				
	100 g can	Metal	**0 960 028**	
	200 g can	Metal	**0 960 029**	

Polishing pad Micro-Mesh®, Ultra-Flex
ideal for small polishing work

The polishing pads are the ideal partner for minor repairs and polishing work on smaller workpieces. The abrasive is applied on both sides and a larger surface area of the grinding points is achieved by the flexible carrier. The pads can be used wet or dry. Also very good for processing aluminium; an appropriate cooling fluid should be used in this case and the processing speed should be reduced.

	Dimensions	Grit size	Design	Packing quantity	Order No.	Price from 1 piece	30 pieces	50 pieces
Polishing pads Micro-Mesh®, Ultra-Flex								
	50 x 50 mm	60	Ultra-Flex	10 pieces	**0 402 091**			
		80	Ultra-Flex	10 pieces	**0 402 092**			
		100	Ultra-Flex	10 pieces	**0 402 093**			
		120	Ultra-Flex	10 pieces	**0 402 094**			
		150	Ultra-Flex	10 pieces	**0 402 095**			
		180	Ultra-Flex	10 pieces	**0 402 096**			
		240	Ultra-Flex	10 pieces	**0 402 097**			
		320	Ultra-Flex	10 pieces	**0 402 098**			
		360	Ultra-Flex	10 pieces	**0 402 099**			
		400	Ultra-Flex	10 pieces	**0 402 100**			
		600	Ultra-Flex	10 pieces	**0 402 101**			
		800	Ultra-Flex	10 pieces	**0 402 102**			
		1200	Ultra-Flex	10 pieces	**0 402 103**			

matching set

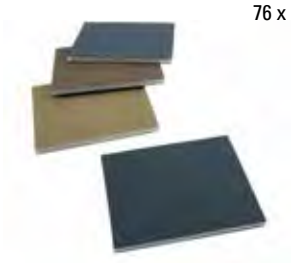
	Dimensions	Content	Order No.	Price from 1 set	3 set
Polishing pad set Micro-Mesh®, Ultra-Flex					
	50 x 50 mm	13 pads	**0 402 090**		



Know-how!
60 MX corresponds to approx. grit size P 240

Material
60 MX – 600 MX = SiC
800 MX – 1200 MX = corundum

Polishing pad Micro-Mesh®
ideal for small polishing work

	Dimensions	Grit size	Design	Packing quantity	Order No.	Price from 1 piece	30 pieces	50 pieces
Polishing pads Micro-Mesh®, Ultra-Flex								
	76 x 102 mm	60	Ultra-Flex	10 pieces	**0 402 065**			
		80	Ultra-Flex	10 pieces	**0 402 066**			
		100	Ultra-Flex	10 pieces	**0 402 067**			
		120	Ultra-Flex	10 pieces	**0 402 068**			
		150	Ultra-Flex	10 pieces	**0 402 069**			
		180	Ultra-Flex	10 pieces	**0 402 070**			
		240	Ultra-Flex	10 pieces	**0 402 071**			
		320	Ultra-Flex	10 pieces	**0 402 072**			
		360	Ultra-Flex	10 pieces	**0 402 073**			
		400	Ultra-Flex	10 pieces	**0 402 075**			
		600	Ultra-Flex	10 pieces	**0 402 076**			
		800	Ultra-Flex	10 pieces	**0 402 077**			
		1200	Ultra-Flex	10 pieces	**0 402 078**			

Schmitzol's Wiener Kalk

Look it up in a German dictionary and you will find that the German word "Wienern" means polishing, buffing and raising a shine. That is what this original has been producing for more than 125 years: brilliance. Excellent for caring for and cleaning stainless steel, chrome, brass, copper, nickel, gold, silver, aluminium, glass, varnish and plastic. Even tiles, baths, washbasins and hobs are given a shine. Wiener Kalk is very well suited for cleaning moulds polished with up to 6 µm diamond. As a pure natural product, it is completely free of organic substances, phosphates and heavy metals. It does not contain any lime (Kalk) either; the name has merely grown up historically over the years.

	Content	Order No.	Price from 1 piece
Schmitzol´s Wiener Kalk			
	125 g can	**0 960 020**	

Polishing medium Ouator

Cotton wool balls for gentle polishing of aluminium, metal and plastic. The cotton wool is impregnated with a polishing medium and can be plucked piecewise from the ball. This allows very economical use, all the more so in that the individual pieces can easily be reused several times (keep in a bag after use!).

A deep gloss can be achieved on all materials with this cotton wool - perfect for cleaning and raising a shine. Furthermore, the surface is slightly sealed, which protects against water droplets and corrosion.

	Content	Type	Colour	Suitable for materials	Order No.	Price from 1 piece
Ouator polishing medium						
	250 g can	A	pink	Aluminium	**0 960 025**	
		M	blue	Metal	**0 960 026**	
		MPT	white	Plastic	**0 960 027**	

Polishing wool

If it is good for human skin, it cannot fail to be right for technical surfaces. Cotton wool is a universal cleaning aid. A choice between cotton and viscose (rayon) in addition to a “50/50 blend” of both is available. Rayon very rapidly absorbs liquid, whereas cotton stores it longer and offers better cohesion of the fibres. Cotton wool pads (100 % cotton) are available in addition to the loose cotton wool balls.

	Design	Material	Content	Order No.	Price from 1 pack
Polishing wool					
	Cotton wool	50 % viscose / 50 % cotton	100 g in the bag	**0 960 010**	
		100 % cotton	100 g in the bag	**0 960 011**	
		100 % viscose	180 g in the bag	**0 960 013-1**	
	Cotton wool pads	100 % cotton	40 pieces in the bag	**0 960 015**	

Polishing cloths Kleenex

High quality 3-ply cloth for wiping after polishing and for applying joke Magic very fine polishing suspension (similar illustration).

	Design	Content	Colour	Dimensions	Order No.	Price from 1 piece
Polishing cloths Kleenex						
	3-ply	72 cloths	white	20 x 20 cm	**0 590 602**	

Cleaning wires

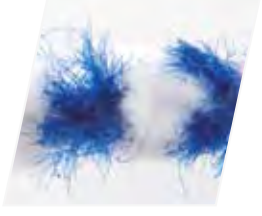
Flexible and firm at the same time. Particularly suitable for detaching and removing simple soiling in the drilling holes. Trimming made of soft cotton, with and without incorporated bristles (for maximum cleaning power). The wires are resistant against cleaning media and can be used both wet and dry. Available in long (150 mm) and longer (300 mm), conically wound respectively.

	Material	Dimensions	Packing quantity	Order No.	Price from 1 pack
Cleaning wires					
	Cotton wool without bristles	Ø 4/5 x 150 mm	80 pieces	**0 960 005**	
	Cotton wool with bristles	Ø 4/5 x 150 mm	80 pieces	**0 960 006**	
		Ø 3.5/5.5 x 300 mm	50 pieces	**0 960 007**	



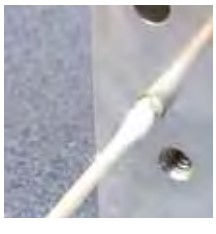
Cotton wool without bristles

Cotton wool with bristles



Cotton buds

Familiar in principle to any child. The joke cotton buds have a very dense and firm cotton wool head trimming (small and large version available). With their long wooden shanks, they are markedly superior to PP sticks, since more rigid and resistant to cleaners. Furthermore, their diameter also fits in the collets of our handpieces. Use wet or dry for cleaning and with compound for polishing.



	Design	Dimensions	Packing quantity	Order No.	Price from 1 pack
Cotton buds on wooden sticks					
	small head (Ø approx. 4 – 5.5 mm)	Ø 2.3 x 150 mm	100 pieces	**0 960 001**	
	large head (Ø approx. 10 – 12 mm)	Ø 3 x 200 mm	50 pieces	**0 960 002**	

Cleaning stick

The lint-free cleaning sticks are highly absorbent and owing to their pointed shape, ideal for use in model and mould making as well as in areas such as optics, laser and microtechnology. The rods have a very dense and firm head made of highest-quality cotton. They are therefore super absorbent, suitable for solvents and retain their shape when wet. Perfect for all cleaning tasks in hard-to-reach areas or for precise application of liquids (e. g. adhesives, resins, alcohols).

		Packing quantity	Order No.	Price from 1 pack
Cleaning stick				
	Sharp head on both sides, Ø 5 x 13 mm, hard, head and stick made of cotton	100 pieces	**0 960 003**	

Felts and cloths

Our polishing felt selection is the result of long, practical experience. All common shapes, dimensions and grades of hardness are available. joke polishing felts are distinguished both by the high stability and outstanding elasticity of their material. In order to no need for new paragraph results at all times, they should always be used in conjunction with Magic and/or Hyprez® diamond compounds available from joke. Polishing felts from our company enable you to polish safely, cleanly and efficiently even the most complicated moulds, such as die-casting and injection moulds, cutting tools, dies etc.

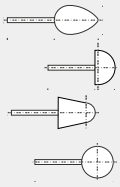
Shank-Ø:
- Ø 2,35 x 40 mm
- Ø 3 x 40 mm
- Ø 6 x 40 mm

Hardness grades:
Soft: felt on its own without any impregnation (< 0.65 g/cm³ density)

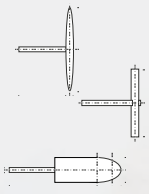
Standard: light impregnation means greater stability (< 0.65 g/cm³ density)

Super-hard: total shape stability due to special, additional impregnation (0.65 g/cm³ density)

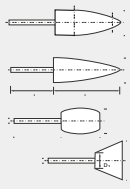
15 different shapes:



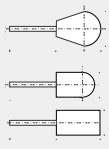
- Pear
- Halfround
- Cone
- Sphere



- Lens
- Wheel
- Rings
- Tree



- Tree with pointed end
- Pointed cone
- Barrel
- Trapezium



- Drop
- Rounded cylinder
- Cylinder

133 **Polishing felts with shank**
137 **Polishing felt rings and lenses**
140 **Brass filament polishing felts**
142 **Felt lamellas on shank**
143 **Felt sticks • Felt sheets**



Polishing felts
shank Ø 2.35 x 40 mm

	Head dimensions	Hardness	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Polishing felts, shank Ø 2.35 x 40 mm								
cylinder								
	Ø 4 x 10 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 107**		
	Ø 4 x 12 mm	super-hard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 494**		
	Ø 8 x 12 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 105**		
sphere								
	Ø 6 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 104**		
pointed cone								
	Ø 6 x 18 mm	super-hard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 490**		
	Ø 7 x 15 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 109**		
		super-hard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 451**		
pear								
	Ø 8 x 11 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 114**		
	Ø 9 x 13 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 110**		
		super-hard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 452**		
cone								
	Ø 7 x 15 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 116**		
		super-hard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 454**		
lens								
	Ø 17 x 5 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 121**		
		super-hard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 458**		
	Ø 22 x 5 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 120**		
		super-hard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 457**		
wheel								
	Ø 17 x 5 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 119**		
	Ø 22 x 5 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 118**		
		super-hard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 456**		
barrel								
	Ø 8 x 11 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 112**		
	Ø 9 x 13 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 111**		
trapeze								
	Ø 12 / 8 x 12 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 117**		
		super-hard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 455**		
drop								
	Ø 8 x 11 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 115**		
	Ø 9 x 13 mm	standard	Ø 2.35 x 40 mm	10 m/s	10 pieces	**0 570 113**		

Polishing felts
shank Ø 3 x 40 mm

	Head dimensions	Hardness	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Polishing felts, shank Ø 3 x 40 mm								
cylinder								
	Ø 6 x 10 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 301**		
		super-hard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 461**		
		soft	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 315**		
	Ø 6 x 13 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 322**		
	Ø 8 x 10 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 302**		
		super-hard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 462**		
	Ø 8 x 12 mm	soft	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 317**		
	Ø 10 x 10 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 303**		
		super-hard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 463**		
	Ø 10 x 12 mm	soft	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 319**		
	Ø 10 x 13 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 323**		
	Ø 10 x 15 mm	soft	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 320**		
	Ø 10 x 20 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 354**		
	Ø 13 x 20 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 324**		
	Ø 15 x 20 mm	standard	Ø 3 x 30 mm	10 m/s	10 pieces	**0 570 355**		
	Ø 15 x 32 mm	soft	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 347**		
	Ø 16 x 30 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 325**		
	Ø 20 x 20 mm	soft	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 498**		
	Ø 20 x 40 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 326**		
rounded cylinder								
	Ø 6 x 10 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 312**		
	Ø 8 x 12 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 313**		
sphere								
	Ø 6 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 356**		
	Ø 8 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 357**		
	Ø 10 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 358**		
	Ø 12 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 359**		
pointed cone								
	Ø 6 x 18 mm	super-hard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 328**		
	Ø 7 x 16 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 327**		
	Ø 10 x 18 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 304**		
lens								
	Ø 21 x 4 mm	super-hard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 459**		
wheel								
	Ø 21 x 4 mm	standard	Ø 3 x 37 mm	10 m/s	10 pieces	**0 570 489**		

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Polishing felts
shank Ø 3 x 40 mm

		Head dimensions	Hardness	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
rounded arch									
		Ø 6 x 10 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 308**		
			super-hard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 466**		
		Ø 8 x 12 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 311**		
tree with pointed end									
		Ø 6 x 10 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 310**		
		Ø 7 x 15 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 314**		
		Ø 8 x 12 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 309**		
			super-hard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 465**		
trapeze									
		Ø 9 / 6 x 15 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 491**		
		Ø 10 / 7 x 15 mm	super-hard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 469**		
		Ø 15 / 10 x 15 mm	soft	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 321**		
			standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 305**		
			super-hard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 464**		
drop									
		Ø 6 x 10 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 306**		
		Ø 8 x 12 mm	standard	Ø 3 x 40 mm	10 m/s	10 pieces	**0 570 307**		

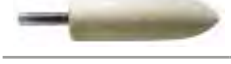
matching set

		Order No.	Price from 1 set
Set Polishing felts, shank Ø 3 x 40 mm			
	Content: 14 pieces	**0 570 300**	

Other polishing felts on request!
We will also be pleased to supply polishing felts in other shapes, hardnesses, head and shank dimensions.

Please consult **Markus Abstoß:**
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m.abstoss@joke.de

Polishing felts
shank Ø 6 x 40 mm

	Head dimensions	Hardness	Shank dimensions	Cutting speed max.	Order No.	Price from 1 piece	Price from 50 pieces
Polishing felts, shank Ø 6 x 40 mm							
cylinder							
	Ø 10 x 12 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 331**		
	Ø 12 x 12 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 332**		
	Ø 15 x 20 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 333**		
		super-hard	Ø 6 x 40 mm	10 m/s	**0 570 471**		
	Ø 15 x 30 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 334**		
	Ø 20 x 20 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 335**		
		super-hard	Ø 6 x 40 mm	10 m/s	**0 570 472**		
	Ø 20 x 30 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 336**		
	Ø 25 x 30 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 337**		
	Ø 30 x 35 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 338**		
		super-hard	Ø 6 x 40 mm	10 m/s	**0 570 473**		
sphere							
	Ø 12 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 360**		
	Ø 20 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 362**		
cone							
	Ø 20 x 30 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 339**		
		super-hard	Ø 6 x 40 mm	10 m/s	**0 570 474**		
rounded arch							
	Ø 15 x 20 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 340**		
		super-hard	Ø 6 x 40 mm	10 m/s	**0 570 475**		
tree, XL							
	Ø 20 x 70 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 342**		
trapeze							
	Ø 30 / 22 x 25 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 493**		
halfround							
	Ø 30 x 20 mm	standard	Ø 6 x 40 mm	10 m/s	**0 570 341**		

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Polishing felts
shank Ø 6 x 40 mm

matching set

		Order No.	Price from 1 set
Set of polishing felts, shank Ø 6 x 40 mm			
	Content: 12 pieces	**0 570 330**	

Polishing felts
Polishing felt rings

	Exterior Ø	Interior Ø	Height	Hardness	Cutting speed max.	Packing quantity	Order No.	Price from 1 pack	Price from 10 packs
Polishing felt rings									
non-self-adhesive									
	18 mm	7 mm	4 mm	standard	10 m/s	10 pieces	**0 570 412**		
	30 mm	12 mm	4 mm	standard	10 m/s	10 pieces	**0 570 414**		
	45 mm	18 mm	4 mm	standard	10 m/s	10 pieces	**0 570 415**		
self-adhesive									
	18 mm	7 mm	4 mm	standard	10 m/s	10 pieces	**0 570 422**		
	30 mm	12 mm	4 mm	standard	10 m/s	10 pieces	**0 570 424**		
	45 mm	18 mm	4 mm	standard	10 m/s	10 pieces	**0 570 425**		

Polishing felts
rings • lenses • holders

Magic polishing felts – with barrier layer
A newly developed special impregnation technique ensures you get the best polishing results when using Magic polishing felts. It means you to get less moisture absorption than with normal felts, which enables the diamonds to provide their best cutting performance. joke Magic polishing felts have a wavy surface and are not impregnated, yet they need up to 40% less diamond compound than normal felts. Their precise, smooth surface creates a rapid, even surface on the material being worked and consistently prevents dimpling. A barrier located on the rear side of the felts prevents the ingress of liquid adhesive whenever the felts are glued to the rubber holders. It also prevents the felts from being affected by the adhesive and the adhesive from softening due to the polish used on the felts.

	Dimensions	Hardness	Packing quantity	Order No.	Price from 1 piece	5 pieces	1 pack	5 packs
Polishing felts joke Magic, non-self adhesive								
	Ø 30 / 12 x 4 mm	standard	10 pieces	**0 590 501**				
	100 x 30 x 2 mm	standard	10 pieces	**0 590 502**				
	290 x 280 x 2 mm	standard	10 pieces	**0 411 370**				

Accessories / spare parts

		Order No.	Price from 1 piece	10 pieces
Adhesive Pattex, 125 g tube				
	for fixing polishing felt rings to rubber supports	**0 570 420-1**		

Felt sheets

	Dimensions	Hardness	Order No.	Price from 1 piece	5 pieces
Felt sheets					
	6 x 250 x 250 mm	soft	**0 411 341**		
		medium	**0 411 351**		
		standard	**0 411 361**		
	10 x 250 x 250 mm	soft	**0 411 342**		
		medium	**0 411 352**		
		standard	**0 411 362**		
	12 x 250 x 250 mm	medium	**0 411 353**		
		standard	**0 411 363**		
	25 x 250 x 250 mm	soft	**0 411 345**		
		medium	**0 411 355**		
		standard	**0 411 365**		
Felt sheets, self-adhesive					
	3 x 250 x 250 mm	standard	**0 411 368**		

Hardness grades

Soft	0.8 g/cm³
Medium	0.56 g/cm³
Standard	0.64 g/cm³
Super-hard	0.64 g/cm³ (with impregnation!)

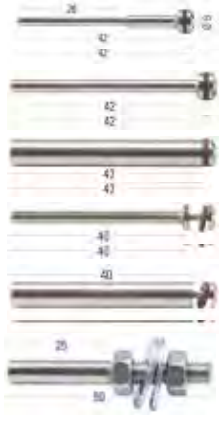
Polishing felts
Polishing felt holder

	Dimensions	Hardness	Shank dimensions	Cutting speed max.	Order No.	Price from 1 piece	Price from 10 pieces
Polishing felt holder (rubber holders with attached felt ring)							
	Ø 18 mm	standard	Ø 3 x 26 mm	10 m/s	**0 570 403**		
	Ø 30 mm	standard	Ø 3 x 26 mm	10 m/s	**0 570 404**		
	Ø 45 mm	standard	Ø 6 x 32 mm	10 m/s	**0 570 405**		

Polishing felts
Polishing felt lenses

	Dimensions	Drilling dimension	Hardness	Suitable mounting shank	Cutting speed max.	Order No.	Price from 1 piece	Price from 50 pieces
Polishing felt lenses								
without shank								
	Ø 13 x 4 mm	2 mm	standard	Type 21, 22, 23	10 m/s	**0 570 431**		
	Ø 19 x 5 mm	2 mm	standard	Type 26, 27	10 m/s	**0 570 433**		
	Ø 25 x 6 mm	2 mm	standard	Type 26, 27	10 m/s	**0 570 434**		
	Ø 38 x 6 mm	2 mm	standard	Type 26, 27	10 m/s	**0 570 435**		
	Ø 51 x 8 mm	6 mm	standard	Type 41	10 m/s	**0 570 436**		

Accessories / spare parts

	for bore dimensions	Shank dimensions	Type	Max. disc size	Order No.	Price from 1 piece	Price from 10 pieces
CRATEX® grinding wheel holder							
	Ø 1.5 – 1.8 mm	Ø 2.35 x 40/28 mm	21	Ø 38 x 4.5 mm	**0 545 275**		
	Ø 1.5 – 1.8 mm	Ø 3 x 42 mm	22	Ø 38 x 4.5 mm	**0 545 276**		
	Ø 1.5 – 1.8 mm	Ø 6 x 42 mm	23	Ø 38 x 4.5 mm	**0 545 277**		
	Ø 1.5 – 1.8 mm	Ø 3 x 40 mm	26	Ø 25 x 8.5 mm	**0 545 280**		
	Ø 1.5 – 1.8 mm	Ø 6 x 40 mm	27	Ø 25 x 8.5 mm	**0 545 281**		
	Ø 6 mm	Ø 6 x 25 mm	41	Ø 75 x 9.5 mm	**0 545 282**		

Brass filament polishing felts
shank Ø 3 and 6 mm • Felt rings

Brass filament polishing felts
The felts, which contain brass filaments, are excellent for working with complex geometries, such as with aluminium. In conjunction with compounds, they can be used to remove process residues (e.g. on milling lines) very rapidly. Cloths, felt discs, polishing felts or polishing brushes can be used for final polishing.

	Head dimensions	Shank dimensions	Cutting speed max.	Order No.	Price from 1 piece	Price from 50 pieces
Brass filament polishing felts with shank						
cylinder						
	Ø 6 x 10 mm	Ø 3 x 40 mm	10 m/s	**0 570 291**		
	Ø 8 x 10 mm	Ø 3 x 40 mm	10 m/s	**0 570 292**		
	Ø 10 x 10 mm	Ø 3 x 40 mm	10 m/s	**0 570 293**		
	Ø 12 x 12 mm	Ø 6 x 40 mm	10 m/s	**0 570 296**		
	Ø 15 x 20 mm	Ø 6 x 40 mm	10 m/s	**0 570 297**		
	Ø 20 x 20 mm	Ø 6 x 40 mm	10 m/s	**0 570 298**		
	Ø 25 x 30 mm	Ø 6 x 40 mm	10 m/s	**0 570 299**		
sphere						
	Ø 12 mm	Ø 6 x 40 mm	10 m/s	**0 570 398**		
pointed cone						
	Ø 10 x 18 mm	Ø 3 x 40 mm	10 m/s	**0 570 294**		
trapeze						
	Ø 15 / 10 x 15 mm	Ø 3 x 40 mm	10 m/s	**0 570 295**		

Brass filament polishing felts
Rings

	Exterior Ø	Interior Ø	Height	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Brass polishing felt rings, non-self adhesive							
	18 mm	7 mm	4 mm	10 pieces	**0 570 392**		
	30 mm	12 mm	4 mm	10 pieces	**0 570 394**		
	45 mm	18 mm	4 mm	10 pieces	**0 570 395**		

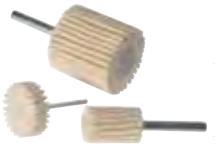
Accessories / spare parts

		Order No.	Price from 1 piece	Price from 10 pieces
Adhesive Pattex, 125 g tube				
	for fixing polishing felt rings to rubber supports	**0 570 420-1**		

Felt lamellas
shank Ø 3 and 6 mm

Felt lamellas
The main strength of these polishing felts is their elasticity. They fit perfectly onto the contours of the tool being used. In particular, their "slit shape" is a must-have for this type of work. Because these felts fit tool contours, you need less working pressure and that means less "scoring" on the workpiece. Essentially you just get better results. Ideal for use with jokeFlex Premium Plus or Power Motor Systems.

Recommended speed: 3,000 – 6,000 rpm

	Head dimensions	Hardness	Felt thickness	Shank dimensions	Cutting speed max.	Order No.	Price from 1 piece	Price from 10 pieces
Felt lamellas on shank								
standard								
	20 x 10 mm	H 40	2 mm	Ø 3 x 40 mm	10 m/s	**0 411 701**		
		H 40	2 mm	Ø 6 x 40 mm	10 m/s	**0 411 721**		
	20 x 20 mm	H 40	2 mm	Ø 3 x 40 mm	10 m/s	**0 411 702**		
		H 40	2 mm	Ø 6 x 40 mm	10 m/s	**0 411 722**		
	25 x 10 mm	H 40	2 mm	Ø 3 x 40 mm	10 m/s	**0 411 703**		
	25 x 20 mm	H 40	2 mm	Ø 3 x 40 mm	10 m/s	**0 411 704**		
		H 40	2 mm	Ø 6 x 40 mm	10 m/s	**0 411 724**		
	25 x 30 mm	H 40	2 mm	Ø 3 x 40 mm	10 m/s	**0 411 705**		
		H 40	2 mm	Ø 6 x 40 mm	10 m/s	**0 411 725**		
	30 x 5 mm	H 40	3 mm	Ø 3 x 40 mm	10 m/s	**0 411 710**		
		H 40	2 mm	Ø 6 x 40 mm	10 m/s	**0 411 712**		
	40 x 5 mm	H 40	3 mm	Ø 3 x 40 mm	10 m/s	**0 411 711**		
		H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 713**		
	50 x 5 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 714**		
slit								
	30 x 10 mm	H 40	2 mm	Ø 3 x 40 mm	10 m/s	**0 411 706**		
		H 40	2 mm	Ø 6 x 40 mm	10 m/s	**0 411 726**		
	30 x 20 mm	H 40	2 mm	Ø 3 x 40 mm	10 m/s	**0 411 707**		
		H 40	2 mm	Ø 6 x 40 mm	10 m/s	**0 411 727**		
	30 x 30 mm	H 40	2 mm	Ø 3 x 40 mm	10 m/s	**0 411 708**		
		H 40	2 mm	Ø 6 x 40 mm	10 m/s	**0 411 728**		
	40 x 10 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 733**		
	40 x 20 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 734**		
	40 x 30 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 735**		
	40 x 40 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 736**		
	50 x 20 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 741**		
	50 x 30 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 742**		
	50 x 40 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 743**		
	50 x 50 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 744**		
	60 x 40 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 751**		
	60 x 50 mm	H 40	3 mm	Ø 6 x 40 mm	10 m/s	**0 411 752**		
	80 x 30 mm	H 40	5 mm	Ø 6 x 40 mm	10 m/s	**0 411 765**		
	80 x 50 mm	H 40	5 mm	Ø 6 x 40 mm	10 m/s	**0 411 767**		

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Felt sticks
Felt sticks without shank

	Dimensions	Hardness	Order No.	Price from 1 piece	Price from 10 pieces
Felt sticks					
square					
	6 x 6 x 150 mm	medium	**0 411 301**		
		standard	**0 411 304**		
	10 x 10 x 150 mm	medium	**0 411 302**		
		standard	**0 411 305**		
	12 x 12 x 150 mm	medium	**0 411 303**		
		standard	**0 411 306**		

matching set

		Order No.	Price from 1 set
Assorted felt sticks			
	Contents: 18 felt sticks, three in each hardness and design	**0 411 300**	

Felt sticks
shank Ø 3.2 mm

	Dimensions	Hardness	Shank dimensions	Order No.	Price from 1 piece	Price from 10 pieces
Felt sticks with shank, 30° slant						
	6 x 6 x 37 mm	medium	Ø 3.2 x 30 mm	**0 411 321**		
		standard	Ø 3.2 x 30 mm	**0 411 324**		
		super-hard	Ø 3.2 x 30 mm	**0 411 327**		
	10 x 10 x 45 mm	medium	Ø 3.2 x 30 mm	**0 411 322**		
		standard	Ø 3.2 x 30 mm	**0 411 325**		
	12 x 12 x 45 mm	medium	Ø 3.2 x 30 mm	**0 411 323**		
		standard	Ø 3.2 x 30 mm	**0 411 326**		

matching set

		Order No.	Price from 1 set
Assorted felt sticks with shank, Contents: 6 pieces			
	Contents: 6 pieces	**0 411 320**	

Lapping tools

145 **Lapping and polishing points made of wood**

146 **Lapping sticks made of wood and Plexiglas**

148 **Lapping and polishing tools**

152 **HELICAL LAP**

Discover the entire range of abrasives and grinding tools.

Regardless of whether rotating on a shank, cap and sleeve-shaped, as belts, sheets, discs, emery papers and/or strips…we've got the right tool to match your grinding task!!

Lapping and polishing points made of wood
shank Ø 3 mm

Lapping and polishing points made of wood
These points made of hard and soft wood can be used rotating or linear (in hand-filing machines). These points can also be shaped for processing radii and the like. Use mainly with compounds.

	Design	Shape	Head dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 10 pieces
Lapping and polishing points made of wood, shank Ø 3 mm							
	hard wood	cylinder	Ø 6 x 15 mm	Ø 3 x 30 mm	**0 570 174**		
		cylinder	Ø 10 x 20 mm	Ø 3 x 30 mm	**0 570 173**		
		cylinder	Ø 15 x 25 mm	Ø 3 x 30 mm	**0 570 172**		
		cylinder	Ø 20 x 30 mm	Ø 3 x 30 mm	**0 570 171**		
		sphere	Ø 10 x 10 mm	Ø 3 x 30 mm	**0 570 176**		
		flame	Ø 10 x 30 mm	Ø 3 x 30 mm	**0 570 178**		
	soft wood	cylinder	Ø 6 x 15 mm	Ø 3 x 30 mm	**0 570 184**		
		cylinder	Ø 10 x 20 mm	Ø 3 x 30 mm	**0 570 183**		
		cylinder	Ø 15 x 25 mm	Ø 3 x 30 mm	**0 570 182**		
		cylinder	Ø 20 x 30 mm	Ø 3 x 30 mm	**0 570 181**		
		sphere	Ø 10 x 10 mm	Ø 3 x 30 mm	**0 570 186**		
		flame	Ø 10 x 30 mm	Ø 3 x 30 mm	**0 570 188**		

Lapping and polishing points made of wood
shank Ø 6 mm

Lapping and polishing points made of wood
These points made of hard and soft wood can be used rotating or linear (in hand-filing machines). These points can also be shaped for processing radii and the like. Use mainly with compounds.

	Design	Shape	Head dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 10 pieces
Lapping and polishing points made of wood, shank Ø 6 mm							
	hard wood	cylinder	Ø 15 x 25 mm	Ø 6 x 30 mm	**0 570 272**		
		cylinder	Ø 20 x 30 mm	Ø 6 x 30 mm	**0 570 271**		
	soft wood	cylinder	Ø 15 x 25 mm	Ø 6 x 30 mm	**0 570 282**		
		cylinder	Ø 20 x 30 mm	Ø 6 x 30 mm	**0 570 281**		

Wooden lapping sticks
hard and soft

These sticks are made from laminated hard wood. The individual layers are pressed together crossways to their grain under very high pressure. This results in a long service life with very high structural stability. Use with diamond compounds before final polishing and whenever high stock removal is required.

	Dimensions	Hardness	Order No.	Price from 1 piece	Price from 10 pieces
Wooden lapping sticks, hard (pear)					
round, pointed					
	Ø 3 x 150 mm	hard	**0 411 277**		
	Ø 4.5 x 150 mm	hard	**0 411 278**		
	Ø 6.5 x 150 mm	hard	**0 411 279**		
round, unpointed					
	Ø 10 x 300 mm	hard	**0 411 290**		
square, with chamfer					
	3 x 3 x 150 mm	hard	**0 411 271**		
	4.5 x 4.5 x 150 mm	hard	**0 411 272**		
	6.5 x 6.5 x 150 mm	hard	**0 411 273**		
rectangular, with chamfer					
	7 x 3 x 150 mm	hard	**0 411 274**		
	12.5 x 8 x 150 mm	hard	**0 411 275**		
	19 x 8 x 150 mm	hard	**0 411 276**		

matching set

	Order No.	Price from 1 set
Wooden lapping stick set, hard (9 pcs)		
	**0 411 270**	

Wooden lapping sticks
hard and soft

These soft wooden lapping sticks are used as carriers for fine diamond compounds during polishing. Precision is therefore a must. That is why only carefully selected, clean and absolutely inclusion-free wood is able to complete its career as a soft wood lapping stick at joke.

	Dimensions	Hardness	Order No.	Price from 1 piece	Price from 10 pieces
Wooden lapping sticks, soft (lime)					
round, pointed					
	Ø 3 x 150 mm	soft	**0 411 287**		
	Ø 4.5 x 150 mm	soft	**0 411 288**		
	Ø 6.5 x 150 mm	soft	**0 411 289**		
square, with chamfer					
	3 x 3 x 150 mm	soft	**0 411 281**		
	4.5 x 4.5 x 150 mm	soft	**0 411 282**		
	6.5 x 6.5 x 150 mm	soft	**0 411 283**		
rectangular, with chamfer					
	7 x 3 x 150 mm	soft	**0 411 284**		
	12.5 x 8 x 150 mm	soft	**0 411 285**		
	19 x 8 x 150 mm	soft	**0 411 286**		

matching set

	Order No.	Price from 1 set
Wooden lapping stick set, soft (9 pcs)		
	**0 411 280**	

Plexiglas lapping sticks

We offer these Plexiglas lapping sticks for all those unable to choose between hard and soft wood for their lapping sticks. Their hardness falls right between both wood versions. Likewise used with diamond compounds.

	Dimensions	Hardness	Order No.	Price from 1 piece	Price from 10 pieces
Plexiglas lapping sticks					
square, with chamfer					
	3 x 3 x 150 mm	medium	**0 411 251**		
	4.5 x 4.5 x 150 mm	medium	**0 411 252**		
	6.5 x 6.5 x 150 mm	medium	**0 411 253**		
rectangular, with chamfer					
	7 x 3 x 150 mm	medium	**0 411 254**		
	12.5 x 8 x 150 mm	medium	**0 411 255**		
	19 x 8 x 150 mm	medium	**0 411 256**		

Lapping and polishing tool system
flex-poli-snap

These lapping and polishing tools are linked to the ball-ended rod via a clever snap-mechanism. This prevents the ball-ended rod from slipping during processing and damaging the material. Simply "snap in" and get down to work.

	Design	Dimensions	Suitable ball-ended rod	Packing quantity	Order No.	Price from 1 pack	Price from 3 packs
Lapping and polishing tools flex-poli-snap							
square							
	plastic	4 x 4 mm	0 411 174 / 170	50 pieces	**0 411 610-50**		
		5 x 5 mm	0 411 175 / 171	50 pieces	**0 411 611-50**		
		6 x 6 mm	0 411 176 / 172	50 pieces	**0 411 612-50**		
		8 x 8 mm	0 411 177 / 173	50 pieces	**0 411 613-50**		
	brass	4 x 4 mm	0 411 174 / 170	50 pieces	**0 411 630-50**		
		5 x 5 mm	0 411 175 / 171	50 pieces	**0 411 631-50**		
		6 x 6 mm	0 411 176 / 172	50 pieces	**0 411 632-50**		
		8 x 8 mm	0 411 177 / 173	50 pieces	**0 411 633-50**		
ring							
	plastic	Ø 4 mm	0 411 174 / 170	50 pieces	**0 411 600-50**		
		Ø 5 mm	0 411 175 / 171	50 pieces	**0 411 601-50**		
		Ø 6 mm	0 411 176 / 172	50 pieces	**0 411 602-50**		
		Ø 8 mm	0 411 177 / 173	50 pieces	**0 411 603-50**		
	brass	Ø 4 mm	0 411 174 / 170	50 pieces	**0 411 620-50**		
		Ø 5 mm	0 411 175 / 171	50 pieces	**0 411 621-50**		
		Ø 6 mm	0 411 176 / 172	50 pieces	**0 411 622-50**		
		Ø 8 mm	0 411 177 / 173	50 pieces	**0 411 623-50**		

matching set



	Order No.	Price from 1 set	Price from 3 set
Set flex-poli-snap lapping and polishing tool set			
10 tools each in brass and plastic, Ø or edge length: 4, 5, 6 and 8 mm	**0 411 189**		

The flex-poli-snap ball-ended rods are available with angular and straight heads (only in the set!). Both versions offer the "click" for a secure snap-on connection between tool and rod.

	Head dimensions	For lapping tool size	Design	Shank dimensions	Order No.	Price from 1 piece
Ball-ended rods flex-poli-snap						
	Ø 1.9 mm	Ø 4 / 4 x 4 mm	angular	Ø 3.5 mm	**0 411 174**	
	Ø 2.4 mm	Ø 5 / 5 x 5 mm	angular	Ø 3.5 mm	**0 411 175**	
	Ø 2.9 mm	Ø 6 / 6 x 6 mm	angular	Ø 3.5 mm	**0 411 176**	
	Ø 3.9 mm	Ø 8 / 8 x 8 mm	angular	Ø 3.5 mm	**0 411 177**	

matching set



	Order No.	Price from 1 set
flex-poli-snap ball-ended rod set		
The set contains 4 straight and 4 angular flex-poli-snap ball-ended rods, rod holder, allen key and a hand rest including suitable stopper.	**0 411 169**	

Lapping and polishing rings
for rotating processing

Lapping and polishing rings for driving by the corresponding articulated handle and an angle handpiece.
Tip: the Ø 12 mm can also be used for linear movement with a ball-ended rod, for example in hand-filing machines.

	Design	Dimensions	Packing quantity	Order No.	Price from 1 pack
Lapping and polishing rings					
	plastic	Ø 8 mm	10 pieces	**0 570 045**	
		Ø 12 mm	10 pieces	**0 570 055-10**	
		Ø 20 mm	10 pieces	**0 570 075**	
	plastic collar ring	Ø 12 mm	5 pieces	**0 570 063**	
	brass	Ø 8 mm	10 pieces	**0 570 044**	
		Ø 12 mm	10 pieces	**0 570 054-10**	
		Ø 20 mm	10 pieces	**0 570 074**	
	brass collar ring	Ø 12 mm	5 pieces	**0 570 062**	

Lapping and polishing rings
for rotating processing

Diamond lapping and polishing rings with metalbound diamonds for lapping of copied, milled, turned and eroded surfaces with peak-to-valley heights greater than 5 µm. Ring and workpiece must be free of oil. Build-up edges must be removed with the ring on abrasive paper of grit size 80-120.

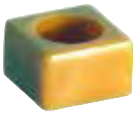
	Dimensions	Grit size	Order No.	Price from 1 piece
Diamond lapping and polishing rings				
	Ø 8 mm	D 151	**0 570 041**	
	Ø 12 mm	D 151	**0 570 051**	
	Ø 20 mm	D 151	**0 570 071**	

Accessories / spare parts

	Dimensions	Shank dimensions	Order No.	Price from 1 piece
suitable articulated handles for lapping and polishing rings				
	Ø 8 mm	Ø 3 mm	**0 570 050**	
	Ø 12 mm	Ø 3 mm	**0 570 060**	
	Ø 20 mm	Ø 3 mm	**0 570 080**	
		Ø 6 mm	**0 570 081**	

Lapping and polishing tools
for linear processing

Rings, squares and triangles made of brass and plastic for lapping and polishing of small faces, corners and edges (particularly triangles). Linear movement through ball-ended rods, which are clamped into hand-filing machines.

	Design	Dimensions	Suitable ball-ended rod	Packing quantity	Order No.	Price from 1 pack	Price from 3 packs
Lapping and polishing tools							
triangle							
	brass	3.5 x 3.5 x 3.5 mm	0 411 141	50 pieces	**0 411 117-50**		
		6 x 6 x 6 mm	0 411 142	50 pieces	**0 411 118-50**		
		8 x 8 x 8 mm	0 411 144	50 pieces	**0 411 119-50**		
	plastic	3.5 x 3.5 x 3.5 mm	0 411 141	100 pieces	**0 411 137**		
		6 x 6 x 6 mm	0 411 142	100 pieces	**0 411 138**		
		8 x 8 x 8 mm	0 411 144	100 pieces	**0 411 139**		
square							
	brass	2 x 2 x 1.5 mm	0 411 141	50 pieces	**0 411 111-50**		
		2.5 x 2.5 x 1.5 mm	0 411 142	50 pieces	**0 411 112-50**		
		3 x 3 x 2 mm	0 411 143	50 pieces	**0 411 113-50**		
		4 x 4 x 3 mm	0 411 144	50 pieces	**0 411 114-50**		
		5 x 5 x 3 mm	0 411 145	50 pieces	**0 411 115-50**		
		6 x 6 x 4 mm	0 411 146	50 pieces	**0 411 116-50**		
	plastic	2 x 2 x 1.5 mm	0 411 141	100 pieces	**0 411 131**		
		3 x 3 x 2 mm	0 411 143	100 pieces	**0 411 133**		
		4 x 4 x 3 mm	0 411 144	100 pieces	**0 411 134**		
		5 x 5 x 3 mm	0 411 145	100 pieces	**0 411 135**		
		6 x 6 x 4 mm	0 411 146	100 pieces	**0 411 136**		
ring							
	brass	Ø 2 x 1.5 mm	0 411 141	50 pieces	**0 411 101-50**		
		Ø 2.5 x 1.5 mm	0 411 142	50 pieces	**0 411 102-50**		
		Ø 3 x 2 mm	0 411 143	50 pieces	**0 411 103-50**		
		Ø 4 x 3 mm	0 411 144	50 pieces	**0 411 104-50**		
		Ø 5 x 3 mm	0 411 145	50 pieces	**0 411 105-50**		
		Ø 6 x 4 mm	0 411 146	50 pieces	**0 411 106-50**		
	plastic	Ø 2 x 1.5 mm	0 411 141	100 pieces	**0 411 121**		
		Ø 2.5 x 1.5 mm	0 411 142	100 pieces	**0 411 122**		
		Ø 3 x 2 mm	0 411 143	100 pieces	**0 411 123**		
		Ø 4 x 3 mm	0 411 144	100 pieces	**0 411 124**		
		Ø 5 x 3 mm	0 411 145	100 pieces	**0 411 125**		
		Ø 6 x 4 mm	0 411 146	100 pieces	**0 411 126**		

Lapping and polishing tools
for linear processing

Accessories / spare parts

	Dimensions	Shank dimensions	Order No.	Price from 1 piece
Ball-ended rods, straight				
	Ø 1.8 x 140 mm	Ø 3.5 mm	**0 411 141**	
	Ø 2.2 x 140 mm	Ø 3.5 mm	**0 411 142**	
	Ø 2.7 x 140 mm	Ø 3.5 mm	**0 411 143**	
	Ø 3.5 x 140 mm	Ø 3.5 mm	**0 411 144**	
	Ø 4.5 x 140 mm	Ø 3.5 mm	**0 411 145**	
	Ø 5.5 x 140 mm	Ø 3.5 mm	**0 411 146**	

matching set

		Order No.	Price from 5 set	1 set
Lapping and polishing tool set, triangles				
	50 pcs of each dimension in brass and plastic	**0 411 120**		
Lapping and polishing tool set, rings and squares				
	Approx. 25 pcs per dimension and shape in brass and plastic	**0 411 100**		

Internal lapping tools HELICAL LAP

The ideal solution for perfect bores

HELICAL LAP internal and external lapping tools
are made of close-grained grey cast iron. A homogonous smooth structure is achieved by a special annealing process making HELILAP the ideal carrier for any lapping media, especially for joke Magic and/or Hyprez® diamond compounds.

HELICAL LAP internal lapping tools
have a spiral cut and taper bore, which fits precisely to the corresponding shaft. These two features guarantee a uniform and cylindrical expansion of the lapping tools. Roundness and parallelism of bores can be achieved quickly and economically within extremely fine limits. All internal lapping tools are ground. The retraction tool is used for the expanded lapping tool. It is available with several inserts; for applications refer to the table.

HELICAL LAP outside lapping tools
also have a spiral cut and must be used with the corresponding holder. First, the lapping tool is fixed in the holder to prevent the tool from rotating simultaneously. The inside diameter of the lapping tool can be adjusted to a precisely round shape by contracting the holder. All external lapping tools are ground and supplied at least 0.02 mm bigger than the indicated nominal diameter.

Basic principles
- Internal lapping tools should be longer than the bore to be lapped
- External lapping tools should be shorter than the shaft to be lapped
- Lapping tools should be stored separately according to the grit size.

Looking for the right compound?

Flip through to page 108. A large selection of the widest variety of compounds is to be found on 24 pages. **Markus Abstoß** will be pleased to help you with any enquiries:
Tel. +49 (0) 22 04 / 8 39-0
m.abstoss@joke.de





The HELICAL LAP system works

Work instructions
Drilling and reaming, then finishing with HELICAL LAP, Tolerance $^{+0,002}_{-0}$

All finished bores must be cylindrical and round, max. deviation 0.2 µm.
The R_a value must not exceed 0.05 µm.

Measuring results

1. INITIAL SITUATION
Steel bush, hardened Ø 16 x 35 mm
Measuring instrument: Taylor Hobson Talyrond Roundness error: 0.04 mm
Measured R_a value: 0.6 µm



2. ROUGH LAPPING
Time: 5 min
Tool: HELICAL LAP
Lapping compound: joke HYPREZ® diamond compound 14 µm
Correction of roundness to 0.0004 mm



3. FINISHING
Time: 5 min
Tool: HELICAL LAP
Lapping compound: joke HYPREZ® diamond compound 3 µm
Correction of roundness to 0.0002 mm
Measured R_a value: 0.04 µm



Internal lapping tools HELICAL LAP
Standard dimensions

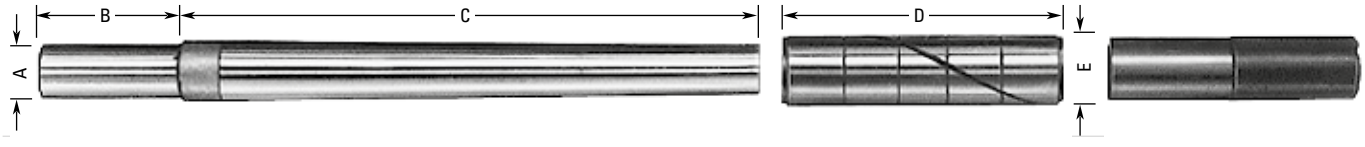
	Design	End Ø E	Total length D	Suitable push-fit shaft	Suitable driver	Suitable retraction tool	Order No.	Price from 1 piece
Internal lapping tool HELICAL LAP								
	without radial groove	1.674 - 1.930 mm	16 mm	0 586 102	0 586 152	0 586 201	**0 586 302**	
		1.956 - 2.311 mm	16 mm	0 586 102	0 586 152	0 586 201	**0 586 303**	
		2.362 - 2.743 mm	19 mm	0 586 103	0 586 153	0 586 201	**0 586 304**	
		2.743 - 3.099 mm	19 mm	0 586 103	0 586 154	0 586 201	**0 586 305**	
		3.149 - 3.479 mm	22 mm	0 586 104	0 586 154	0 586 201	**0 586 306**	
		3.530 - 3.886 mm	22 mm	0 586 104	0 586 154	0 586 201	**0 586 307**	
		3.937 - 4.318 mm	22 mm	0 586 104	0 586 154	0 586 201	**0 586 308**	
		4.318 - 4.673 mm	22 mm	0 586 104	0 586 154	0 586 201	**0 586 309**	
	with radial groove	4.724 - 5.105 mm	35 mm	0 586 105	0 586 155	0 586 211	**0 586 310**	
		5.130 - 5.461 mm	35 mm	0 586 105	0 586 155	0 586 211	**0 586 311**	
		5.537 - 5.918 mm	45 mm	0 586 106	0 586 156	0 586 211	**0 586 312**	
		5.918 - 6.248 mm	45 mm	0 586 106	0 586 156	0 586 211	**0 586 313**	
		6.324 - 6.705 mm	50 mm	0 586 107	0 586 157	0 586 211	**0 586 314**	
		6.731 - 7.010 mm	50 mm	0 586 107	0 586 157	0 586 211	**0 586 315**	
		7.112 - 7.340 mm	50 mm	0 586 107	0 586 157	0 586 211	**0 586 316**	
		7.518 - 7.670 mm	50 mm	0 586 107	0 586 157	0 586 211	**0 586 317**	
		7.924 - 8.305 mm	50 mm	0 586 108	0 586 158	0 586 211	**0 586 318**	
		8.305 - 8.610 mm	50 mm	0 586 108	0 586 158	0 586 211	**0 586 319**	
		8.712 - 8.915 mm	50 mm	0 586 108	0 586 158	0 586 211	**0 586 320**	
		9.093 - 9.245 mm	50 mm	0 586 108	0 586 158	0 586 211	**0 586 321**	
		9.499 - 9.855 mm	63 mm	0 586 109	0 586 159	0 586 211	**0 586 322**	
		9.906 - 10.185 mm	63 mm	0 586 109	0 586 159	0 586 211	**0 586 323**	
		10.287 - 10.515 mm	63 mm	0 586 109	0 586 159	0 586 211	**0 586 324**	
		10.693 - 10.845 mm	63 mm	0 586 109	0 586 159	0 586 211	**0 586 325**	
		11.074 - 11.430 mm	63 mm	0 586 110	0 586 160	0 586 211	**0 586 326**	
		11.480 - 11.785 mm	63 mm	0 586 110	0 586 160	0 586 211	**0 586 327**	
		11.861 - 12.090 mm	63 mm	0 586 110	0 586 160	0 586 211	**0 586 328**	
		12.268 - 12.420 mm	63 mm	0 586 110	0 586 160	0 586 211	**0 586 329**	
		12.674 - 13.081 mm	83 mm	0 586 111	0 586 161	0 586 211	**0 586 330**	
		13.081 - 13.487 mm	83 mm	0 586 111	0 586 161	0 586 211	**0 586 331**	
		13.462 - 13.868 mm	83 mm	0 586 111	0 586 161	0 586 211	**0 586 332**	

Practical tips

If the desired diameter cannot be found in the table, rework the next largest lapping tool to the suitable diameter, e.g. on a lathe. The recesses must be retained, since they serve as a compound reservoir.
The diameter to be adjusted is always the actual bore diameter minus 2 x stated grit size of the compound used. Process, clean and measure the bore and subsequently fit the tool to the mandrel accordingly by expansion.

Special sizes available on request! Please enquire about our special sizes, indicating the actual diameter of the workpiece to be processed.

Speed: 100 – 200 1/min



Internal lapping tools HELICAL LAP
Standard dimensions

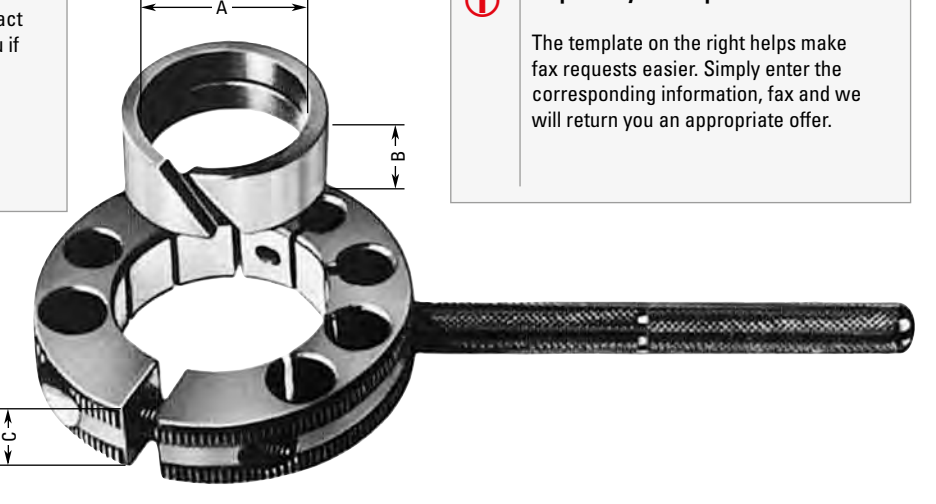
Accessories / spare parts

	Type	Shank dimensions A x B	Cone length C	Order No.	Price from 1 piece
Push-fit shafts HELICAL LAP					
	3/0	Ø 3.2 x 19 mm	38 mm	**0 586 102**	
	2/0	Ø 3.2 x 19 mm	41 mm	**0 586 103**	
	0	Ø 3.2 x 19 mm	44 mm	**0 586 104**	
	1	Ø 4.8 x 25 mm	70 mm	**0 586 105**	
	2	Ø 4.8 x 25 mm	76 mm	**0 586 106**	
	3	Ø 4.8 x 25 mm	102 mm	**0 586 107**	
	4	Ø 5.6 x 25 mm	102 mm	**0 586 108**	
	5	Ø 7.2 x 38 mm	127 mm	**0 586 109**	
	6	Ø 8.0 x 38 mm	127 mm	**0 586 110**	
	7	Ø 9.5 x 38 mm	152 mm	**0 586 111**	
Driver HELICAL LAP					
	3/0			**0 586 152**	
	2/0			**0 586 153**	
	0			**0 586 154**	
	1			**0 586 155**	
	2			**0 586 156**	
	3			**0 586 157**	
	4			**0 586 158**	
	5			**0 586 159**	
	6			**0 586 160**	
	7			**0 586 161**	
Retraction tool HELICAL LAP					
	Size 0			**0 586 201**	
	Size 1			**0 586 211**	

Your choice made easy

Refer to the relevant column in the "internal lapping tools" table to find the matching accessories. Enquiries pleased, your contact **Markus Abstoß** will be pleased to help you if you still have any further questions:

Tel. +49 (0) 22 04 / 8 39-0
m.abstoss@joke.de



Requests by fax template

The template on the right helps make fax requests easier. Simply enter the corresponding information, fax and we will return you an appropriate offer.

Technical support
HELICAL LAP

Request HELICAL LAP

Fax No. +49 (0) 22 04 / 8 39-540
Mail sales@joke.de

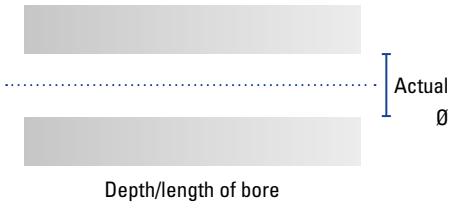
Internal lapping tool

Actual Ø of bore .....

Depth/length of bore .....

Blind hole bore ☐ yes ☐ no

Number of internal lapping tools required .....



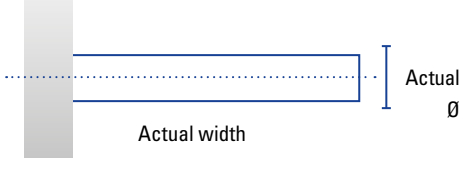
External lapping tool

Actual Ø of shaft .....

Required width of lapping tool .....

Actual shaft width .....

Number of external lapping tools required .....



Sender

Company .....

Name .....

First name .....

Department .....

Street .....

Postcode / town /city .....

Phone no. .....

Fax no. .....

Mail .....

Date, signature .....

Polishing brushes and buff wheels

158 Fleece polishing wheels with shank
161 Polishing brushes and buff wheels with shaft
170 Polishing grinding discs joke HABRAS
176 Convolute compact grinding discs
177 Round brushes
178 Polishing buffing discs
180 Jet brushes
182 Pipe brushes
184 Nylon honing brushes

Characteristics and fields of application of the brush trimmings

Trimming material	Characteristics	Field of application
Fine cotton	• Natural product, soft • Picked • Highly adaptable	• Shining, polishing, dust removal • Use with compounds
Felt buff	• Natural product • Highly adaptable	• Shining, polishing, dust removal • Use with compounds
Muslin/fleece	• Highly adaptable • High strength • High stock removal until completely worn	• Shining, polishing, dust removal • Use with compounds • Deburring
Goat hair	• Very flexible, very soft • Absorbent • Natural product	• Shining, polishing, dust removal • Use with compounds (< 6 µm)
Horsehair	• Flexible yet hard • Absorbent • Natural product	• Shining, polishing, dust removal • Use with compounds (< 6 µm)
Bristles (black or white)	• Flexible, yet hard • Elastic • Strongest of all natural products • Good compound absorbence in the individual bristles (hollow!)	• Shining, polishing, dust removal • Use with compounds (< 6 µm)

Polishing wheels, brushes, buff wheels
Overview

Characteristics and fields of application of the brush trimmings

Trimming material	Characteristics	Field of application
Nylon/synthetic	• Better than chemical fibres with regard to friction resistance, elasticity, flexibility and durability • Resistant to solvents, but readily soluble in acids • Preferably used in the food and chemical industry (in contrast to natural products --> bristles)	• Shining, polishing, dust removal • Use with compounds (< 6 µm)
Deerskin	• Highly adaptable • Natural product • Resistant • High stock removal	• Shining, polishing, dust removal • Use with compounds
Brass wire	• More supple and softer in the polished section than steel wires • Discoloration on the workpiece possible	• Polishing, descaling, deburring • Use with and without compounds
BAE steel, Bessemer wire, steel wire	• Flexible and elastic • Leave a distinctly visible polished section	• Preliminary polishing, descaling, deburring • Use with and without compounds
V2A wire	• Comparable to steel wire • Resistant to acids and alkalis • More unbreakable than steel • Does not leave any rust residues and may also be used with water	• Preliminary polishing, polishing, deburring of stainless steel and aluminium • Polishing with water and at high temperatures • Use with and without compounds
HABRAS discs	• Work without additional abrasive • Very flexible, soft plastic • Excellent service life • High, uniform stock removal until completely worn	• Soft metals, aluminium, non-ferrous metals to a shine • Deburring of hard plastic • Deburring, matting and working to a finish
HABRAS brushes	• High elasticity and resistance to buckling • High, uniform stock removal until completely worn • Long service life • Low dust generation • Work without additional abrasive	• General deburring • Preparation for polishing
Nylon bristles	• Work without additional abrasive • High elasticity and resistance to buckling • High, uniform stock removal until completely worn • Little contact pressure required	• Deburring • Matting • Surface smoothing
Grinding fleece	• Work without additional abrasive • High, uniform stock removal until completely worn • Cool, soft cut • Usable on all materials • Adapts to contours	• Deburring • Matting • Surface smoothing

Polishing wheels, foamed
shank Ø 2.35 x 40 mm

Polishing wheels and abrasive fleece
Foamed polishing wheels are highly dimensionally stable and are usedin grooves and for edge processing. Abrasive fleece may be used wet and dry for deburring, matting and improving surfaces. They are characterised by a cool, soft cut. Owing to their elasticity, they adapt well to the surface contours. Use on all steels, non-ferrous metals, aluminium and plastics.

	Head dimensions	Hardness	Grit size	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Polishing wheel, foamed, shank Ø 2.35 mm									
	Ø 25 x 6 mm	medium	coarse	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 950**		

Polishing wheels, foamed
shank Ø 3 x 40 mm

	Head dimensions	Hardness	Grit size	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Polishing wheel, foamed, shank Ø 3 mm									
	Ø 25 x 6 mm	soft	fine	Ø 3 x 40 mm	15000 1/min	10 pieces	**0 570 926**		
		hard	medium	Ø 3 x 40 mm	15000 1/min	10 pieces	**0 570 923**		
		hard	coarse	Ø 3 x 40 mm	15000 1/min	10 pieces	**0 570 922**		
	Ø 25 x 12 mm	hard	medium	Ø 3 x 40 mm	15000 1/min	10 pieces	**0 570 924**		
		hard	coarse	Ø 3 x 40 mm	15000 1/min	10 pieces	**0 570 925**		
	Ø 30 x 3 mm	medium	medium	Ø 3 x 40 mm	15000 1/min	10 pieces	**0 570 933**		
	Ø 30 x 6 mm	soft	fine	Ø 3 x 40 mm	15000 1/min	10 pieces	**0 570 932**		
		medium	medium	Ø 3 x 40 mm	15000 1/min	10 pieces	**0 570 931**		
		hard	coarse	Ø 3 x 40 mm	15000 1/min	10 pieces	**0 570 930**		
	Ø 40 x 3 mm	medium	medium	Ø 3 x 40 mm	12000 1/min	10 pieces	**0 570 937**		
	Ø 40 x 6 mm	soft	fine	Ø 3 x 40 mm	12000 1/min	10 pieces	**0 570 936**		
		medium	medium	Ø 3 x 40 mm	12000 1/min	10 pieces	**0 570 935**		
		hard	coarse	Ø 3 x 40 mm	12000 1/min	10 pieces	**0 570 934**		

Fleece polishing wheels
shank Ø 2.35 x 40 mm

	Material	Head dimensions	Hardness	Grit size	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Abrasive fleece, shank Ø 2.35 mm, dual-layer										
		Ø 25 x 6 mm	medium	medium	Ø 2.35 x 40 mm	5000 1/min	10 pieces	**0 570 951**		
		Ø 25 x 6 mm	medium	fine	Ø 2.35 x 40 mm	5000 1/min	10 pieces	**0 570 952**		
		Ø 25 x 6 mm	medium	very fine	Ø 2.35 x 40 mm	5000 1/min	10 pieces	**0 570 956**		
Abrasive fleece, shank Ø 2.35 mm, triple-layer										
		Ø 25 x 8 mm	medium	medium	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 953**		
Polishing brush, shank Ø 2.35 mm										
	Scotch-Brite, fine and Chung-King	Ø 22 x 8 mm			Ø 2.35 x 40 mm		10 pieces	**0 570 888**		

NEW!





Polishing and deburring sets
shank Ø 2.35 x 48 mm

NEW!

These tools are suitable for all metals, non-ferrous metals, gold and silver etc. Ideally suited for machining bores and transverse holes. Depending on the grit size, these tools can be used for deburring or polishing to a mirror finish. The polishers can be used dry and without additional compound.

		Abrasive	Grit size	Shank dimensions	Total length	Packing quantity	Order No.	Price from 1 set	Price from 3 set	Price from 5 set
Polishing and deburring set										
	Set includes 1 piece each: • grit size 800 • grit size 1000 • grit size 1200 • grit size 1500	corundum	fine	2.35 mm	48 mm	4 pieces	**0 402 104**			
	Set includes 1 piece each: • grit size 80 • grit size 150 • grit size 220 • grit size 320 • grit size 400 • grit size 600	corundum	coarse	2.35 mm	48 mm	6 pieces	**0 402 105**			
	Set includes 1 piece each: • grit size 80 to 1500	corundum	fine - coarse	2.35 mm	48 mm	10 pieces	**0 402 106**			

Fleece polishing wheels
shank Ø 3 x 40 mm

Grit fleece
very coarse = K 60
coarse = K 80
medium = K 180
fine = K 240
very fine = K 400
ultra fine = K 1000



		Head dimensions	Hardness	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Abrasive fleece, shank Ø 3 mm, triple-layer									
extra coarse									
	For deburring, derusting, etc. • firm grade	Ø 22 x 13 mm	hard	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 572 309**		
		Ø 25 x 17 mm	hard	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 572 310**		
		Ø 30 x 17 mm	hard	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 572 311**		
very coarse									
	Ideally suited for all metals. High stock removal on aluminium, gold and silver. • very coarse grade	Ø 22 x 13 mm	medium	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 570 966**		
		Ø 30 x 17 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 940**		
		Ø 40 x 22 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 945**		
coarse									
	For processing all materials, ideal for removing small scratches, for deburring on hard metals	Ø 22 x 13 mm	medium	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 570 967**		
		Ø 30 x 17 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 941**		
		Ø 40 x 22 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 946**		
medium									
	Very well suited for processing aluminium and stainless steel. • very firm grade	Ø 22 x 13 mm	very hard	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 572 315**		
		Ø 25 x 17 mm	very hard	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 572 316**		
		Ø 30 x 17 mm	very hard	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 572 317**		
	For processing all materials, ideal for removing small scratches, for deburring on hard metals	Ø 22 x 13 mm	medium	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 570 968**		
		Ø 30 x 17 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 942**		
		Ø 40 x 22 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 947**		
fine									
	For processing all metals, highly versatile.	Ø 22 x 13 mm	medium	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 570 969**		
		Ø 30 x 17 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 943**		
		Ø 40 x 22 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 948**		
very fine (SIC)									
	Using this grinding fleece results in a slight shine. Ideal for aluminium, stainless steels, etc..	Ø 22 x 13 mm	medium	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 572 301**		
		Ø 25 x 17 mm	medium	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 572 302**		
		Ø 30 x 17 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 572 303**		
ultrafine									
	Very fine grinding nylon and grit. Ideal for processing gold, silver, brass, copper and aluminium.	Ø 22 x 13 mm	soft	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 572 305**		
		Ø 25 x 17 mm	soft	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 572 304**		
		Ø 30 x 17 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 958**		
without grit									
	Grinding nylon without grit, ideal in combination with diamond compounds or also other polishing compounds.	Ø 22 x 13 mm	medium	Ø 3 x 40 mm	10,000 1/min	10 pieces	**0 570 970**		
		Ø 30 x 17 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 944**		
		Ø 30 x 17 mm	hard	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 572 306**		
		Ø 40 x 22 mm	medium	Ø 3 x 40 mm	8,000 1/min	10 pieces	**0 570 949**		

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Polishing brushes
shank Ø 2.35 mm

	Material	Head dimensions	Trimming Ø	Trimming	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Polishing brushes, shank Ø 2.35 mm										
cup										
	BAE steel, corrugated	Ø 12 x 6 mm	0.08 mm	straight	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 570**		
		Ø 12 x 8 mm	0.08 mm	cylindrical	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 160**		
		Ø 12 x 6 mm	0.10 mm	bevelled	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 571**		
	V2A wire, corrugated	Ø 12 x 6 mm	0.08 mm	straight	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 520**		
		Ø 12 x 6 mm	0.10 mm	bevelled	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 503**		
	brass, corrugated	Ø 12 x 6 mm	0.08 mm	straight	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 610**		
		Ø 12 x 6 mm	0.10 mm	bevelled	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 501**		
		Ø 12 x 8 mm	0.08 mm	cylindrical	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 133**		
	bristles, white	Ø 8 x 4 mm		bevelled	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 663**		
		Ø 12 x 8 mm		straight	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 660**		
		Ø 12 x 8 mm		cylindrical	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 130**		
		Ø 12 x 8 mm		bevelled	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 661**		
	bristles, black	Ø 8 x 4 mm		bevelled	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 714**		
		Ø 12 x 8 mm		straight	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 710**		
		Ø 12 x 8 mm		cylindrical	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 128**		
		Ø 12 x 8 mm		bevelled	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 711**		
	nylon	Ø 8 x 4 mm		bevelled	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 754**		
		Ø 12 x 6 mm	0.30 mm	cylindrical	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 751-0**		
	goat hair, white	Ø 8 x 4 mm		bevelled	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 872**		
		Ø 12 x 6 mm		cylindrical	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 871-0**		
		Ø 12 x 8 mm		bevelled	Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 870**		
small brushes										
	V2A wire, corrugated	Ø 3 x 8 mm	0.10 mm		Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 513**		
		Ø 4 x 8 mm	0.10 mm		Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 510**		
		Ø 5.5 x 11 mm	0.10 mm		Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 511**		
		Ø 6 x 13 mm	0.10 mm		Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 502**		
	BAE steel, corrugated	Ø 4 x 8 mm	0.10 mm		Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 560**		
		Ø 5.5 x 11 mm	0.10 mm		Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 561**		
	brass, corrugated	Ø 4 x 8 mm	0.10 mm		Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 620**		
		Ø 5.5 x 11 mm	0.10 mm		Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 621**		
	bristles, white	Ø 3 x 8 mm			Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 669**		
		Ø 4 x 8 mm			Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 670**		
		Ø 5.5 x 11 mm			Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 671**		
	bristles, black	Ø 4 x 8 mm			Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 720**		
		Ø 5.5 x 11 mm			Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 721**		
		Ø 7 x 13 mm			Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 723**		
	goat hair, white	Ø 4 x 8 mm			Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 673**		
		Ø 5.5 x 11 mm			Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 674**		

Polishing brushes
shank Ø 2.35 mm

	Material	Head dimensions	Trimming Ø	Trimming	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
small brushes with elastic protection										
	V2A wire, corrugated	Ø 4 x 8 mm	0.10 mm		Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 512**		
	BAE steel, corrugated	Ø 4 x 8 mm	0.10 mm		Ø 2.35 x 35 mm	10000 1/min	10 pieces	**0 570 562**		
	brass, corrugated	Ø 4 x 8 mm	0.10 mm		Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 622**		
	bristles, white	Ø 4 x 8 mm			Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 672**		
	bristles, black	Ø 4 x 8 mm			Ø 2.35 x 25 mm	10000 1/min	10 pieces	**0 570 722**		
wheel										
	VA wire, corrugated	Ø 12 mm	0.06 mm		Ø 2.35 x 30 mm	10000 1/min	10 pieces	**0 570 583**		
		Ø 14 mm	0.06 mm		Ø 2.35 x 30 mm	10000 1/min	10 pieces	**0 570 585**		
	V2A wire, corrugated	Ø 16 x 2 mm	0.08 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 505**		
		Ø 19 x 2 mm	0.08 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 500**		
		Ø 22 x 2 mm	0.08 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 504**		
	BAE steel, corrugated	Ø 16 x 2 mm	0.08 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 553**		
		Ø 19 x 2 mm	0.08 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 551**		
		Ø 22 x 2 mm	0.10 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 550**		
	brass, corrugated	Ø 16 x 2 mm	0.10 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 605**		
		Ø 19 x 2 mm	0.10 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 600**		
		Ø 22 x 2 mm	0.08 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 601**		
	goat hair, grey	Ø 10 mm			Ø 2.35 x 30 mm	10000 1/min	10 pieces	**0 570 575**		
	horsehair, grey	Ø 10 mm			Ø 2.35 x 30 mm	10000 1/min	10 pieces	**0 570 576**		
	horsehair, silver-grey	Ø 10 mm			Ø 2.35 x 30 mm	10000 1/min	10 pieces	**0 570 577**		
	Chungking bristles, white	Ø 10 mm			Ø 2.35 x 30 mm	10000 1/min	10 pieces	**0 570 578**		
	cotton	Ø 10 mm			Ø 2.35 x 30 mm	10000 1/min	10 pieces	**0 570 579**		
	Scotch Brite, coarse	Ø 10 mm			Ø 2.35 x 30 mm	10000 1/min	10 pieces	**0 570 582**		
	bristles, white	Ø 16 x 1 mm			Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 653**		
		Ø 19 x 1 mm			Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 652**		
		Ø 22 x 1 mm			Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 651**		

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Polishing brushes
shank Ø 2.35 mm

	Material	Head dimensions	Trimming Ø	Trimming	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
	bristles, black	Ø 16 x 1 mm			Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 703**		
		Ø 19 x 1 mm			Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 702**		
		Ø 22 x 1 mm			Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 701**		
	nylon	Ø 16 x 1.5 mm	0.15 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 752**		
		Ø 19 x 1.5 mm	0.15 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 753**		
		Ø 22 x 1.5 mm	0.15 mm		Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 750**		
	goat hair, white	Ø 16 x 1 mm			Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 851**		
		Ø 22 x 1 mm			Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 850**		

matching set

NEW!

		Order No.	Price from 1 set	Price from 3 set
Set polishing brushes				
	The set contains 12 brushes in the shape of a wheel, Ø 10 mm, shaft Ø 2.35 x 40 mm with the following fill material: • goat hair, white • horse hair • goat hair, grey • stainless steel • steel wire • brass wire • Chung King bristle, black • Chung King bristle, white • Muslin • cotton • Scotch-Brite, coarse • Nylon, smooth, white, 0.2 mm	**0 570 887**		



Polishing brushes
shank Ø 3 mm

	Material	Head dimensions	Trimming Ø	Trimming	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Polishing brushes, shank Ø 3 mm										
cup										
	BAE steel, corrugated	Ø 8 x 5 mm	0.08 mm	straight	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 587**		
		Ø 10 x 6 mm	0.08 mm	straight	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 588**		
	BAE steel, corrugated	Ø 12 x 6 mm	0.08 mm	straight	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 568**		
		Ø 12 x 6 mm	0.10 mm	bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 573**		
	bristles, black	Ø 8 x 4 mm		bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 775**		
		Ø 12 x 8 mm		straight	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 776**		
		Ø 12 x 8 mm		bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 734**		
	bristles, white	Ø 8 x 4 mm		bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 777**		
		Ø 12 x 8 mm		straight	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 664**		
		Ø 12 x 8 mm		bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 735**		
	brass, corrugated	Ø 6.5 x 4 mm	0.08 mm	bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 785**		
		Ø 6.5 x 4 mm	0.10 mm	bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 786**		
		Ø 12 x 6 mm	0.08 mm	straight	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 614**		
		Ø 12 x 6 mm	0.10 mm	bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 779**		
	nylon	Ø 8 x 4 mm	0.15 mm	bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 774**		
	horse hair, black	Ø 25 x 15 mm		bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 873**		
	Steel wire, corrugated	Ø 6.5 x 4 mm	0.08 mm	bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 787**		
	V2A wire, corrugated	Ø 12 x 6 mm	0.08 mm	straight	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 521**		
	V2A wire, corrugated	Ø 12 x 6 mm	0.10 mm	bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 736**		
	goat hair, grey	Ø 25 x 15 mm		bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 874**		
	goat hair, white	Ø 8 x 4 mm		bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 773**		
		Ø 12 x 8 mm		bevelled	Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 733**		
small brushes										
	BAE steel, corrugated	Ø 5.5 x 11 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 564**		
	bristles, black	Ø 4 x 8 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 727**		
		Ø 5.5 x 11 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 737**		
		Ø 7 x 13 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 728**		
	bristles, white	Ø 3 x 8 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 668**		
		Ø 4 x 8 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 676**		
		Ø 5.5 x 11 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 677**		
	brass, corrugated	Ø 4 x 8 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 625**		
		Ø 5.5 x 11 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 626**		
	V2A wire, corrugated	Ø 3 x 8 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 761**		
		Ø 4 x 8 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 762**		
		Ø 5.5 x 11 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 763**		
		Ø 6 x 13 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 729**		
	goat hair, white	Ø 4 x 8 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 679**		
		Ø 5.5 x 11 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 760**		

Polishing brushes
shank Ø 3 mm

	Material	Head dimensions	Trimming Ø	Trimming	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
small brushes with elastic protection										
	BAE steel, corrugated	Ø 4 x 8 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 567**		
	bristles, black	Ø 4 x 8 mm			Ø 3 x 25 mm	10000 1/min	10 pieces	**0 570 719**		
	bristles, white	Ø 4 x 8 mm			Ø 3 x 25 mm	10000 1/min	10 pieces	**0 570 678**		
	brass, corrugated	Ø 4 x 8 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 764**		
	V2A wire, corrugated	Ø 4 x 8 mm	0.10 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 765**		
wheel										
	BAE steel, corrugated	Ø 16 x 2 mm	0.08 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 770**		
		Ø 19 x 2 mm	0.08 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 771**		
		Ø 22 x 2 mm	0.08 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 554**		
	cotton	Ø 10 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 794**		
	bristles, black	Ø 16 x 1 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 709**		
		Ø 19 x 1 mm			Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 708**		
		Ø 22 x 1 mm			Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 731**		
	bristles, white	Ø 16 x 1 mm			Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 657**		
		Ø 19 x 1 mm			Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 656**		
		Ø 22 x 1 mm			Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 732**		
	Chungking bristles, black	Ø 10 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 793**		
	Chungking bristles, white	Ø 10 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 792**		
	brass, corrugated	Ø 10 mm	0.08 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 795**		
		Ø 16 x 2 mm	0.10 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 769**		
		Ø 19 x 2 mm	0.10 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 607**		
		Ø 22 x 2 mm	0.08 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 603**		
		Ø 32 x 2 mm	0.10 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 602**		
	nylon	Ø 16 x 1.5 mm	0.15 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 767**		
		Ø 19 x 1.5 mm	0.15 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 768**		
		Ø 22 x 1.5 mm	0.15 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 755**		
	horsehair, grey	Ø 10 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 790**		
	horsehair, silver-grey	Ø 10 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 791**		
	Scotch Brite, rough	Ø 10 mm			Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 798**		
	Steel wire, corrugated	Ø 10 mm	0.08 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 797**		
	V2A wire, corrugated	Ø 16 x 2 mm	0.08 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 772**		
		Ø 19 x 2 mm	0.08 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 508**		
		Ø 22 x 2 mm	0.08 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 506**		
	SS wire, corrugated	Ø 10 mm	0.08 mm		Ø 3 x 30 mm	10000 1/min	10 pieces	**0 570 796**		
		Ø 12 mm	0.06 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 584**		
		Ø 14 mm	0.06 mm		Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 586**		

Polishing brushes
shank Ø 3 mm

	Material	Head dimensions	Trimming Ø	Trimming	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
	goat hair, grey	Ø 10 mm			Ø 3 x 30 mm	10,000 1/min	10 pieces	**0 570 789**		
	goat hair, white	Ø 10 mm			Ø 3 x 30 mm	10,000 1/min	10 pieces	**0 570 788**		
		Ø 16 x 1 mm			Ø 3 x 37 mm	10,000 1/min	10 pieces	**0 570 766**		
		Ø 22 x 1 mm			Ø 3 x 37 mm	10,000 1/min	10 pieces	**0 570 730**		

Polishing brushes
shank Ø 6 mm

	Material	Head dimensions	Trimming Ø	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	Price from 25 pieces
Polishing brushes, shank Ø 6 mm								
wheel								
	goat hair	Ø 45 / 25 x 4 mm	0.10 mm	Ø 6 x 40 mm	10000 1/min	**0 570 243**		
	cotton	Ø 45 / 25 x 4 mm		Ø 6 x 40 mm	10000 1/min	**0 570 246**		
	fleece, 8 layers	Ø 80 / 40 x 8 mm		Ø 6 x 40 mm	10000 1/min	**0 570 144**		
	perlon	Ø 45 / 25 x 4 mm	0.30 mm	Ø 6 x 40 mm	10000 1/min	**0 570 244**		
	bristles, black	Ø 45 / 25 x 4 mm		Ø 6 x 40 mm	10000 1/min	**0 570 245**		
	brass wire	Ø 30 / 18 x 6 mm	0.10 mm	Ø 6 x 40 mm	10000 1/min	**0 570 223**		
		Ø 50 / 25 x 6 mm	0.10 mm	Ø 6 x 40 mm	10000 1/min	**0 570 229**		
	Bessemer wire	Ø 45 / 25 x 4 mm	0.10 mm	Ø 6 x 40 mm	10000 1/min	**0 570 241**		

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Diamond polishing brushes
shank Ø 3 mm
NEW!

	Material	Head dimensions	Grit size	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	5 pieces	10 pieces
Polishing brushes, shank Ø 3 mm									
cup									
	Nylon-Diamond	Ø 25 x 8 mm	# 400	Ø 3 x 30 mm	10000 1/min	**0 572 370**			
		Ø 25 x 8 mm	# 600	Ø 3 x 30 mm	10000 1/min	**0 572 371**			
		Ø 25 x 8 mm	# 800	Ø 3 x 30 mm	10000 1/min	**0 572 372**			
		Ø 14 x 7 mm	# 400	Ø 3 x 30 mm	10000 1/min	**0 572 373**			
		Ø 14 x 7 mm	# 600	Ø 3 x 30 mm	10000 1/min	**0 572 374**			
		Ø 14 x 7 mm	# 800	Ø 3 x 30 mm	10000 1/min	**0 572 375**			
	Nylon-SiC	Ø 25 x 8 mm	# 120	Ø 3 x 30 mm	10000 1/min	**0 572 385**			
		Ø 25 x 8 mm	# 320	Ø 3 x 30 mm	10000 1/min	**0 572 386**			
		Ø 25 x 8 mm	# 500	Ø 3 x 30 mm	10000 1/min	**0 572 387**			
		Ø 30 x 8 mm	# 120	Ø 3 x 30 mm	10000 1/min	**0 572 388**			
		Ø 30 x 8 mm	# 320	Ø 3 x 30 mm	10000 1/min	**0 572 389**			
		Ø 30 x 8 mm	# 500	Ø 3 x 30 mm	10000 1/min	**0 572 390**			
wheel									
	Nylon-Diamond	Ø 20 x 2 mm	# 400	Ø 3 x 30 mm	10000 1/min	**0 572 376**			
		Ø 20 x 2 mm	# 600	Ø 3 x 30 mm	10000 1/min	**0 572 377**			
		Ø 20 x 2 mm	# 800	Ø 3 x 30 mm	10000 1/min	**0 572 378**			
		Ø 25 x 2 mm	# 400	Ø 3 x 30 mm	10000 1/min	**0 572 379**			
		Ø 25 x 2 mm	# 600	Ø 3 x 30 mm	10000 1/min	**0 572 380**			
		Ø 25 x 2 mm	# 800	Ø 3 x 30 mm	10000 1/min	**0 572 381**			

Diamond polishing brushes
shank Ø 6 mm
NEW!

	Material	Head dimensions	Grit size	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	5 pieces	10 pieces
Polishing brushes, shank Ø 6 mm									
cup									
	Nylon-SiC	Ø 40 x 24 mm	# 80	Ø 6 x 40 mm	10000 1/min	**0 572 400**			
		Ø 40 x 24 mm	# 120	Ø 6 x 40 mm	10000 1/min	**0 572 401**			
		Ø 40 x 24 mm	# 240	Ø 6 x 40 mm	10000 1/min	**0 572 402**			
		Ø 50 x 24 mm	# 80	Ø 6 x 40 mm	10000 1/min	**0 572 403**			
		Ø 50 x 24 mm	# 120	Ø 6 x 40 mm	10000 1/min	**0 572 404**			
		Ø 50 x 24 mm	# 240	Ø 6 x 40 mm	10000 1/min	**0 572 405**			
wheel									
	Nylon-SiC	Ø 40 x 10 mm	# 80	Ø 6 x 40 mm	10000 1/min	**0 572 391**			
		Ø 40 x 10 mm	# 120	Ø 6 x 40 mm	10000 1/min	**0 572 392**			
		Ø 40 x 10 mm	# 240	Ø 6 x 40 mm	10000 1/min	**0 572 393**			
		Ø 50 x 10 mm	# 80	Ø 6 x 40 mm	10000 1/min	**0 572 394**			
		Ø 50 x 10 mm	# 120	Ø 6 x 40 mm	10000 1/min	**0 572 395**			
		Ø 50 x 10 mm	# 240	Ø 6 x 40 mm	10000 1/min	**0 572 396**			
		Ø 65 x 10 mm	# 80	Ø 6 x 40 mm	10000 1/min	**0 572 397**			
		Ø 65 x 10 mm	# 120	Ø 6 x 40 mm	10000 1/min	**0 572 398**			
		Ø 65 x 10 mm	# 240	Ø 6 x 40 mm	10000 1/min	**0 572 399**			

Polishing buff wheels
shank Ø 2.35 mm

	Material	Layers	Head dimensions	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Polishing buff wheels, shank Ø 2.35 mm									
	fine cotton		Ø 22 x 6 mm	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 900**		
	felt	3 layers	Ø 22 x 6 mm	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 980**		
	deerskin	5 layers	Ø 22 x 8 mm	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 800**		
	muslin	16 layers	Ø 22 x 3 mm	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 990**		
	fleece	16 layers	Ø 21 x 3 mm	Ø 2.35 x 40 mm	10000 1/min	10 pieces	**0 570 143**		



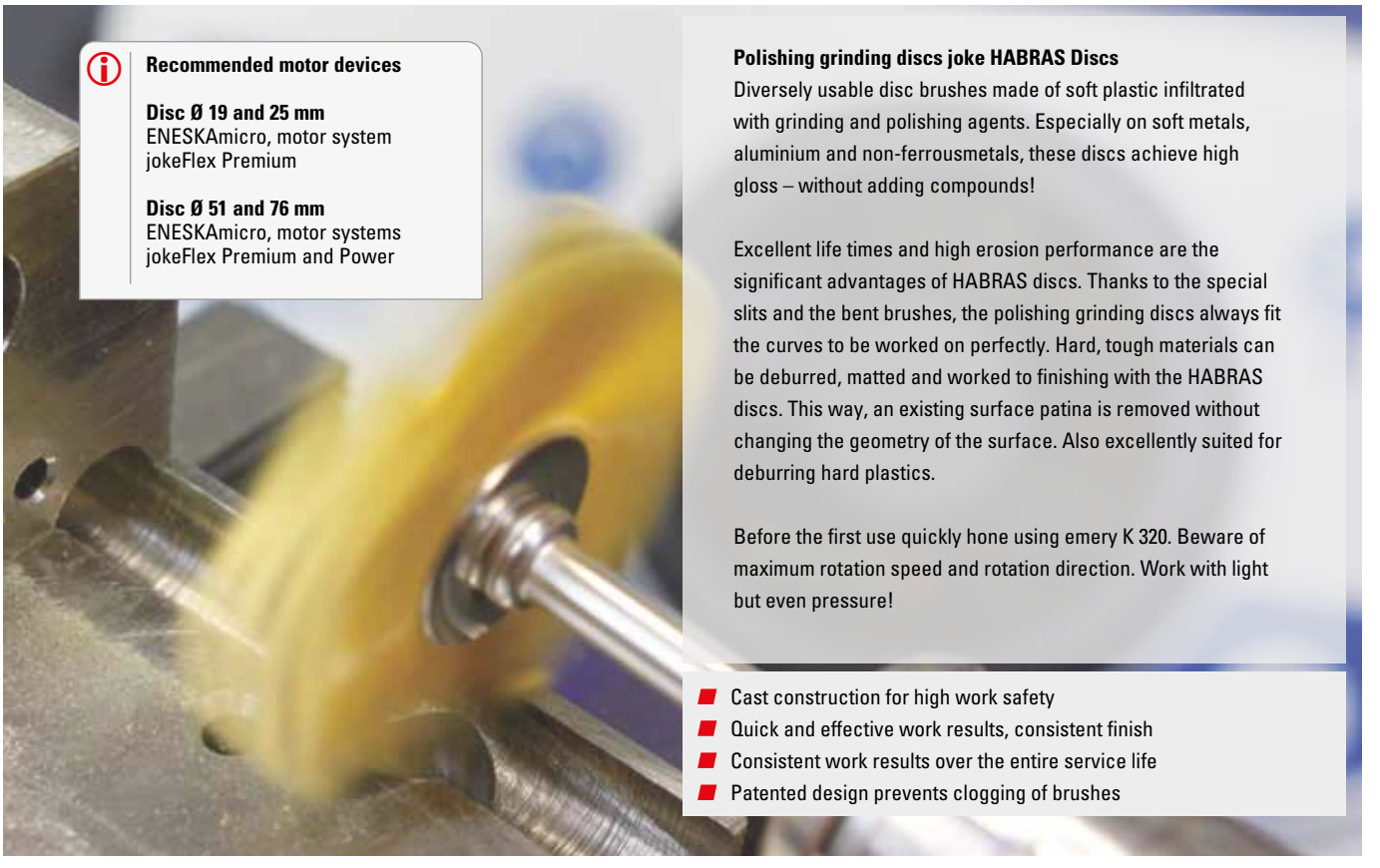
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Polishing buff wheels
shank Ø 3 mm

	Material	Layers	Head dimensions	Shank dimensions	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces
Polishing buff wheels, shank Ø 3 mm									
	fine cotton		Ø 22 x 6 mm	Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 900-0**		
	felt	3 layers	Ø 22 x 6 mm	Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 984**		
	deerskin	5 layers	Ø 22 x 8 mm	Ø 3 x 37 mm	10000 1/min	10 pieces	**0 570 801**		



Polishing grinding discs
joke HABRAS Discs



Recommended motor devices

Disc Ø 19 and 25 mm
ENESKAmicro, motor system
jokeFlex Premium

Disc Ø 51 and 76 mm
ENESKAmicro, motor systems
jokeFlex Premium and Power

Polishing grinding discs joke HABRAS Discs
Diversely usable disc brushes made of soft plastic infiltrated with grinding and polishing agents. Especially on soft metals, aluminium and non-ferrousmetals, these discs achieve high gloss – without adding compounds!

Excellent life times and high erosion performance are the significant advantages of HABRAS discs. Thanks to the special slits and the bent brushes, the polishing grinding discs always fit the curves to be worked on perfectly. Hard, tough materials can be deburred, matted and worked to finishing with the HABRAS discs. This way, an existing surface patina is removed without changing the geometry of the surface. Also excellently suited for deburring hard plastics.

Before the first use quickly hone using emery K 320. Beware of maximum rotation speed and rotation direction. Work with light but even pressure!

- Cast construction for high work safety
- Quick and effective work results, consistent finish
- Consistent work results over the entire service life
- Patented design prevents clogging of brushes

Overview HABRAS discs

Use	Abrasive	Grit size	Colour	Deliverable diameter					
				Ø 19 mm	Ø 25 mm*	Ø 51 mm		Ø 76 mm	
				with shank Ø 3 x 40 mm	with shank Ø 3 x 40 mm	with shank Ø 6 x 40 mm	without shank	with shank Ø 6 x 40 mm	without shank
Deburring, Matting	Corundum	extra coarse P 36	brown	✗	✓ 0571 067	✗	✗	✗	✗
		very coarse P 50	green	✗	✓ 0571 068	✗	✗	✗	✗
		coarse P 80	yellow	✓ 0571 031	✓ 0571 061	✓ 0571 501	✓ 0571 521	✓ 0571 511	✓ 0571 531
Deburring, Matting, Cross fading		medium P 120	white	✗	✓ 0571 069	✓ 0571 509	✓ 0571 529	✓ 0571 519	✓ 0571 539
		standard P 220	red	✓ 0571 032	✓ 0571 062	✓ 0571 502	✓ 0571 522	✓ 0571 512	✓ 0571 532
Matting, Cleaning		fine P 400	blue	✓ 0571 033	✓ 0571 063	✓ 0571 503	✓ 0571 523	✓ 0571 513	✓ 0571 533
Cleaning, Finishing	Pumic stone	very fine –	pink	✓ 0571 034	✗	✓ 0571 504	✓ 0571 524	✓ 0571 514	✓ 0571 534
Finishing	High-grade corundum (EKR)	extra fine 6 µm	orange	✓ 0571 035	✗	✓ 0571 505	✓ 0571 525	✓ 0571 515	✓ 0571 535
		ultra fine 1 µm	light green	✓ 0571 036	✗	✓ 0571 506	✓ 0571 526	✓ 0571 516	✓ 0571 536

* HABRAS Pro: The special robust design!

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Polishing grinding discs joke HABRAS Discs
shank Ø 3 x 40 mm

joke HABRAS discs are characterised by excellent service life and uniform stock removal. Work is performed directly without addition of compounds. Especially for mirror-polishing soft metals, aluminium and non-ferrous metals. Hard, tough metals such as titanium and stainless steels can be matted and mirror-polished. Any existing surface patina is removed without changing the surface geometry. Well suited for deburring hard plastics. Owing to their slotted design, joke HABRAS discs adapt to the surface shape.

TIP: briefly dress joke HABRAS discs before first time use and observe the maximum speed and direction of rotation. Work with light but even working pressure.

	Polish	Head dimensions	Grit size	Colour	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	5 pieces	10 pieces
Polishing grinding discs joke HABRAS Discs, shank Ø 3 x 40 mm										
corundum										
	coarse	Ø 19 mm	P 80	yellow	Ø 3 x 40 mm	20000 1/min	**0 571 031**			
	standard	Ø 19 mm	P 220	red	Ø 3 x 40 mm	20000 1/min	**0 571 032**			
	fine	Ø 19 mm	P 400	blue	Ø 3 x 40 mm	20000 1/min	**0 571 033**			
Pumice										
	very fine	Ø 19 mm	-	pink	Ø 3 x 40 mm	20000 1/min	**0 571 034**			
extra fine high-grade corundum										
	high gloss	Ø 19 mm	1 µm	light green	Ø 3 x 40 mm	20000 1/min	**0 571 036**			
	shine	Ø 19 mm	6 µm	orange	Ø 3 x 40 mm	20000 1/min	**0 571 035**			

TIP:

The worn grinding discs can be replaced! In doing so, you can reuse the shanks!

Replacement discs for shank mounting on page 174!

Polishing grinding discs joke HABRAS Discs Pro
shank Ø 3 x 40 mm

	Polish	Head dimensions	Grit size	Colour	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	5 pieces	10 pieces
Polishing grinding discs joke HABRAS Discs Pro, shank Ø 3 x 40 mm										
corundum										
	extra coarse	Ø 25 x 4 mm	P 36	brown	Ø 3 x 37 mm	20000 1/min	**0 571 067**			
	very coarse	Ø 25 x 4 mm	P 50	green	Ø 3 x 37 mm	20000 1/min	**0 571 068**			
	coarse	Ø 25 x 4 mm	P 80	yellow	Ø 3 x 37 mm	20000 1/min	**0 571 061**			
	medium	Ø 25 x 4 mm	P 120	white	Ø 3 x 37 mm	20000 1/min	**0 571 069**			
	standard	Ø 25 x 4 mm	P 220	red	Ø 3 x 37 mm	20000 1/min	**0 571 062**			
extra fine high-grade corundum										
	fine	Ø 25 x 4 mm	P 400	blue	Ø 3 x 37 mm	20000 1/min	**0 571 063**			

Polishing grinding discs joke HABRAS Discs
shank Ø 6 x 40 mm

	Polish	Head dimensions	Grit size	Colour	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	5 pieces	10 pieces
Polishing grinding discs joke HABRAS Discs, 4 layers, shank Ø 6 x 40 mm										
corundum										
	coarse	Ø 51 x 5 mm	P 80	yellow	Ø 6 x 40 mm	12500 1/min	**0 571 501**			
		Ø 76 x 5 mm	P 80	yellow	Ø 6 x 40 mm	7500 1/min	**0 571 511**			
	medium	Ø 51 x 5 mm	P 120	white	Ø 6 x 40 mm	12500 1/min	**0 571 509**			
		Ø 76 x 5 mm	P 120	white	Ø 6 x 40 mm	7500 1/min	**0 571 519**			
	standard	Ø 51 x 5 mm	P 220	red	Ø 6 x 40 mm	12500 1/min	**0 571 502**			
		Ø 76 x 5 mm	P 220	red	Ø 6 x 40 mm	7500 1/min	**0 571 512**			
	fine	Ø 51 x 5 mm	P 400	blue	Ø 6 x 40 mm	12500 1/min	**0 571 503**			
		Ø 76 x 5 mm	P 400	blue	Ø 6 x 40 mm	7500 1/min	**0 571 513**			
Pumice										
	very fine	Ø 51 x 5 mm	-	pink	Ø 6 x 40 mm	12500 1/min	**0 571 504**			
extra fine high-grade corundum										
	shine	Ø 51 x 5 mm	6 µm	orange	Ø 6 x 40 mm	12500 1/min	**0 571 505**			
		Ø 76 x 5 mm	6 µm	orange	Ø 6 x 40 mm	7500 1/min	**0 571 515**			
	high gloss	Ø 51 x 5 mm	1 µm	light green	Ø 6 x 40 mm	12500 1/min	**0 571 506**			
		Ø 76 x 5 mm	1 µm	light green	Ø 6 x 40 mm	7500 1/min	**0 571 516**			

Polishing grinding discs joke HABRAS
without shank for self-assembly



HABRAS Discs without shank
Simply go and make yourself your own HABRAS disc tool! The individual solution tailored to your application.

The individually available HABRAS discs are supplied in the same versions, grit sizes and diameters as the shank-mounted discs.

	Dimensions	Drilling dimension	Polish	Grit size	Colour	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	5 packs	10 packs
Polishing grinding discs joke HABRAS without shank											
	Ø 19 mm	1.8 mm	coarse	P 80	yellow	20000 1/min	4 pieces	**0 571 037**			
		1.8 mm	coarse	P 80	yellow	20000 1/min	48 pieces	**0 571 043**			
		1.8 mm	medium	P 120	white	20000 1/min	4 pieces	**0 571 075**			
		1.8 mm	medium	P 120	white	20000 1/min	48 pieces	**0 571 076**			
		1.8 mm	standard	P 220	red	20000 1/min	4 pieces	**0 571 038**			
		1.8 mm	standard	P 220	red	20000 1/min	48 pieces	**0 571 044**			
		1.8 mm	fine	P 400	blue	20000 1/min	4 pieces	**0 571 039**			
		1.8 mm	fine	P 400	blue	20000 1/min	48 pieces	**0 571 045**			
		1.8 mm	very fine	-	pink	20000 1/min	4 pieces	**0 571 040**			
		1.8 mm	very fine	-	pink	20000 1/min	48 pieces	**0 571 046**			
		1.8 mm	shine	6 µm	orange	20000 1/min	4 pieces	**0 571 041**			
		1.8 mm	shine	6 µm	orange	20000 1/min	48 pieces	**0 571 047**			
		1.8 mm	high gloss	1 µm	light green	20000 1/min	4 pieces	**0 571 042**			
		1.8 mm	high gloss	1 µm	light green	20000 1/min	48 pieces	**0 571 048**			

	Dimensions	Drilling dimension	Polish	Grit size	Colour	Rotation speed max.	Order No.	Price from 1 piece	5 pieces	10 pieces
Polishing grinding discs joke HABRAS without shank										
	Ø 51 x 5 mm	5 mm	coarse	P 80	yellow	12500 1/min	**0 571 521**			
		5 mm	medium	P 120	white	12500 1/min	**0 571 529**			
		5 mm	standard	P 220	red	12500 1/min	**0 571 522**			
		5 mm	fine	P 400	blue	12500 1/min	**0 571 523**			
		5 mm	very fine	-	pink	12500 1/min	**0 571 524**			
		5 mm	shine	6 µm	orange	12500 1/min	**0 571 525**			
		5 mm	high gloss	1 µm	light green	12500 1/min	**0 571 526**			
	Ø 76 x 5 mm	5 mm	coarse	P 80	yellow	7500 1/min	**0 571 531**			
		5 mm	medium	P 120	white	7500 1/min	**0 571 539**			
		5 mm	standard	P 220	red	7500 1/min	**0 571 532**			
		5 mm	fine	P 400	blue	7500 1/min	**0 571 533**			
		5 mm	shine	6 µm	orange	7500 1/min	**0 571 535**			
		5 mm	high gloss	1 µm	light green	7500 1/min	**0 571 536**			

Matching mounting shanks on page 220:

- for discs Ø 19 mm: type 21, 22, 23, 24, 25, 26, 27
- for discs Ø 51 and 76 mm: type 41, 42

Note: 4 layers are bound together here to form a disc

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Polishing grinding brushes joke HABRAS
shank Ø 3 x 40 mm

Polishing grinding brushes joke HABRAS

The carrier material of these polishing grinding brushes consists of nylon fibre, the characteristics of which, such as elasticity and bend-resistance are of advantage for all applications. The silicon carbide and corundum abrasives are applied with even distribution in the individual fibres.

Owing to the different grit sizes, the brushes in the HABRAS series are highly versatile in use. During processing, the HABRAS brushes are characterised above all by high stability with simultaneously low dust production.

Use for example for deburring cutting edges in carbide metal. Simply condition on K 320 emery before using for the first time!

HABRAS brushes and HABRAS
discs – what is the difference?
In both versions, the grit is embedded in the carrier material and is not released during work. Consequently, the result is consistent until completely worn out.

The discs are manufactured in their entirety using the injection moulding method and are only available as wheels. In the case of the brushes, the nylon fibres are grouped together as a pencil, wheel or cup. In contrast to the discs, it is not necessary to observe the direction of rotation in this case!

	Abrasive	Fibre	Head dimensions	Grit size	Colour	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	Price from 10 pieces
Polishing grinding brushes joke HABRAS shank Ø 3 x 40 mm										
cup										
	corundum	coarse	Ø 12 / 6 mm	P 320	blue/red	Ø 3 x 40 mm	2800 1/min	**0 571 013**		
		medium	Ø 12 / 6 mm	P 500	blue/green	Ø 3 x 40 mm	2800 1/min	**0 571 012**		
		fine	Ø 12 / 6 mm	P 600	blue	Ø 3 x 40 mm	2800 1/min	**0 571 011**		
	SiC	coarse	Ø 12 / 6 mm	P 320	green	Ø 3 x 40 mm	2800 1/min	**0 571 016**		
		medium	Ø 12 / 6 mm	P 500	red	Ø 3 x 40 mm	2800 1/min	**0 571 015**		
		extra fine	Ø 12 / 6 mm	P 800	white	Ø 3 x 40 mm	2800 1/min	**0 571 014**		
small brushes										
	corundum	coarse	Ø 5 / 8 mm	P 320	blue/red	Ø 3 x 40 mm	6000 1/min	**0 571 023**		
		medium	Ø 5 / 8 mm	P 500	blue/green	Ø 3 x 40 mm	6000 1/min	**0 571 022**		
		fine	Ø 5 / 8 mm	P 600	blue	Ø 3 x 40 mm	6000 1/min	**0 571 021**		
	SiC	coarse	Ø 5 / 8 mm	P 320	green	Ø 3 x 40 mm	6000 1/min	**0 571 026**		
		medium	Ø 5 / 8 mm	P 500	red	Ø 3 x 40 mm	6000 1/min	**0 571 025**		
		extra fine	Ø 5 / 8 mm	P 800	white	Ø 3 x 40 mm	6000 1/min	**0 571 024**		
wheel										
	corundum	coarse	Ø 22 mm	P 320	blue/red	Ø 3 x 37 mm	6000 1/min	**0 571 003**		
		medium	Ø 22 mm	P 500	blue/green	Ø 3 x 37 mm	6000 1/min	**0 571 002**		
		fine	Ø 22 mm	P 600	blue	Ø 3 x 37 mm	6000 1/min	**0 571 001**		
	SiC	coarse	Ø 22 mm	P 320	green	Ø 3 x 37 mm	6000 1/min	**0 571 006**		
		medium	Ø 22 mm	P 500	red	Ø 3 x 37 mm	6000 1/min	**0 571 005**		
		extra fine	Ø 22 mm	P 800	white	Ø 3 x 37 mm	6000 1/min	**0 571 004**		

Convolute compact grinding discs



Convolute compact grinding discs
Wound, not pressed. These special grinding discs have been developed for the demanding preliminary and final processing of surfaces of the widest array of materials. They result from winding nylon fleece fabric around a hard core. Beforehand, the fabric is wetted with a special abrasive resin system. The winding results in a very uniform structure with which the direction of rotation must nevertheless be observed.

The discs are available in two abrasive finishes grit sizes in addition to three hardnesses.

The advantages:
- long service life
- consistent stock removal, dust-free
- highly resistant with only minor edge wear
- little contact heating
- no smearing of the surface
- rapid and easy profiling
- simple to use = efficient work
- optimally adapts to the workpiece
- no workpiece damage

Hardness grades

9 = extra hard
8 = hard
7 = medium/hard

		Dimensions	Drilling dimension	Hardness	Grit size	Rotation speed max.	Order No.	Price from 1 piece	Price from 5 pieces
Convolute compact grinding discs									
Corundum									
	The best choice for working on steel, aluminium, zinc, die-cast metal and brass.	Ø 150 x 12.5 mm	25.4 mm	8	A-Medium	5500 1/min	**0 430 021**		
		Ø 200 x 25.4 mm	76.2 mm	7	A-Medium	4500 1/min	**0 430 022**		
Silicon carbide									
	For final finishing on stainless steel, titanium, cobalt chrome and nickel alloys.	Ø 150 x 12.5 mm	25.4 mm	7	S-Fine	5500 1/min	**0 430 031**		
		Ø 150 x 25.4 mm	25.4 mm	7	S-Fine	5500 1/min	**0 430 033**		
		Ø 200 x 25.4 mm	76.2 mm	7	S-Medium	4500 1/min	**0 430 036**		
		Ø 200 x 25.4 mm	76.2 mm	7	S-Fine	4500 1/min	**0 430 037**		
		Ø 200 x 25.4 mm	76.2 mm	9	S-Medium	4500 1/min	**0 430 040**		
		Ø 200 x 25.4 mm	76.2 mm	9	S-Fine	4500 1/min	**0 430 041**		

Applications for the convolute compact grinding discs

Application	Specification	Recommended working speed
Cleaning: general cleaning, removal of rust, oxidation and slight scale, cleaning of pipe threads and slight casting burrs	6 S-Fine 7 S-Fine 8 S-Fine	11 – 32 m/sec.
Deburring: mouldings and milled parts, rounding of edges on metal parts, slight deburring of piston rings and other metal parts	7 S-Medium 8 S-Medium 9 S-Medium 9 S-Fine	28 – 41 m/sec.
Overlaying: turbine blades, preparation of surfaces before galvanising, forging flashes on turbine blades, overlaying sanding marks of grit size 60/80/120	7 S-Fine 8 A-Medium	28 – 41 m/sec.
Final finishing: satin finishing, finishing of aluminium parts, final surface finishing before coating, final finishing of cutlery, final finishing of hand-held tools before coating	S-Med finishing S-Fine finishing 8 S-Fine 9 S-Fine	2 – 15 m/sec.

Round brushes
with nylon grinding bristles

Round brushes with nylon grinding bristles
The nylon fibres of these brushes are interspersed with silicon carbide. The latter is constantly released during work and a highly even grinding effect with a highly uniform ground section is produced.

The nylon polishing bristles are extremely elastic and flexible and consequently absolutely unbreakable. The trimming area does not clog with work residues during deployment and the polishing effect remains constantly high throughout the entire working period. Suitable for wet and dry use.

Further advantages:
- long service life
- only very light contact pressure required
- low heat generation
- usable for clockwise and anticlockwise running
- suitable for machine and manual use

	Dimensions	Grit size	Drilling dimension	Rotation speed max.	Order No.	Price from 1 piece	Price from 3 pieces
Round brushes with nylon grinding bristles (silicon-carbide-embedded)							
	Ø 75 x 12 mm	K 80	15.9 mm	20000 1/min	**0 571 370**		
		K 120	15.9 mm	20000 1/min	**0 571 371**		
		K 180	15.9 mm	20000 1/min	**0 571 372**		
		K 320	15.9 mm	20000 1/min	**0 571 373**		
	Ø 100 x 13 mm	K 80	15.9 mm	12000 1/min	**0 571 374**		
		K 120	15.9 mm	12000 1/min	**0 571 375**		
		K 180	15.9 mm	12000 1/min	**0 571 376**		
		K 320	15.9 mm	12000 1/min	**0 571 377**		
	Ø 125 x 16 mm	K 80	15.9 mm	12000 1/min	**0 571 378**		
		K 120	15.9 mm	12000 1/min	**0 571 379**		
		K 180	15.9 mm	12000 1/min	**0 571 380**		
		K 320	15.9 mm	12000 1/min	**0 571 381**		
	Ø 150 x 18 mm	K 80	20 mm	6000 1/min	**0 571 382**		
		K 120	20 mm	6000 1/min	**0 571 383**		
		K 180	20 mm	6000 1/min	**0 571 384**		
		K 320	20 mm	6000 1/min	**0 571 385**		

Accessories / spare parts

		for bore dimensions	Shank dimensions	Order No.	Price from 1 piece
Clamping mandrel					
	using this clamping mandrel, the round brushes Ø 75, 100 and 125 mm can be operated manually on the jokeFlex Power motor unit.	Ø 15.9 mm	Ø 6 x 40 mm	**0 571 400**	

Polishing buffing discs OPTI
for use on polishing machines

Polishing buffing discs OPTI
These discs are used on stationary polishing machines in conjunction with solid polishing compounds (Dialux).

Available in two versions:

Cotton, soft:
- highly adaptable
- use for final polishing

Cotton, hard (quilted):
- very firm
- high stock removal rates
- highly dimensionally stable



	Head dimensions	Material	Drilling dimension	Rotation speed max.	Order No.	Price from 1 piece
Polishing buffing discs OPTI						
	Ø 200 x 20 mm	cotton, soft	15.9 mm	3000 1/min	**0 041 622**	
		cotton, hard (quilted)	15.9 mm	3000 1/min	**0 041 623**	
	Ø 250 x 25 mm	cotton, soft	20 mm	3000 1/min	**0 041 632**	
		cotton, hard (quilted)	20 mm	3000 1/min	**0 041 633**	

The perfect complement

OPTI polish
The ideal polishing machine for fine machining



Order No.	Price
0 041 620-0	



The perfect complement



Order No.	Price
0 580 560	

The perfect complement

Protective goggles
- Clear, optically correct, scratchproof PC glasses
- Comfort cushions on the sidepiece ends
- Soft nose pad



Order No.	Price
0 203 083-1	

The perfect complement

Universal-Spray joke X 73020
- Five products rolled into one: corrosion protection, cleaning, water repellence, lubrication and preservation
- Cleans surfaces and cares for tools



Order No.	Price
0 580 526	

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Drilling brushes

Drilling brushes
Do you often struggle with heavy burrs on tough materials? From now on, the odds will be in your favour, for we are providing you with the appropriate "weapon" in the form of these new brushes.
The special feature: triangular piano wire is used as the trimming, which is additionally twisted again around its own axis.

The drilling brushes are available with three different head versions:
1. Wire, oval: for readily accessible transverse holes.
2. Wire, crossed: for transverse holes and end face processing in addition to non-concentric holes.
3. Wire, knotted: for transverse holes at the bottom of the blind hole. For removing very heavy burrs.

	Head dimensions	Trimming Ø	Shank dimensions	Total length	Rotation speed max.	Order No.	Price from 1 piece	3 pieces	5 pieces
Drilling brushes									
Wire, crossed									
	Ø 3 x 30 mm	Ø 0.7 mm	Ø 3 x 70 mm	100 mm	700 1/min	**0 571 721**			
	Ø 4 x 30 mm	Ø 0.7 mm	Ø 3 x 70 mm	100 mm	700 1/min	**0 571 722**			
	Ø 5 x 30 mm	Ø 0.7 mm	Ø 4 x 50 mm	100 mm	700 1/min	**0 571 723**			
	Ø 6 x 30 mm	Ø 0.7 mm	Ø 4 x 50 mm	100 mm	700 1/min	**0 571 724**			
	Ø 7 x 30 mm	Ø 0.7 mm	Ø 5 x 50 mm	100 mm	700 1/min	**0 571 725**			
	Ø 8 x 35 mm	Ø 0.7 mm	Ø 5 x 45 mm	100 mm	700 1/min	**0 571 726**			
Wire, oval									
	Ø 3 x 30 mm	Ø 0.7 mm	Ø 3 x 70 mm	100 mm	700 1/min	**0 571 701**			
	Ø 4 x 30 mm	Ø 0.7 mm	Ø 3 x 70 mm	100 mm	700 1/min	**0 571 702**			
	Ø 5 x 30 mm	Ø 0.7 mm	Ø 4 x 50 mm	100 mm	700 1/min	**0 571 703**			
	Ø 6 x 30 mm	Ø 0.7 mm	Ø 5 x 50 mm	100 mm	700 1/min	**0 571 704**			
	Ø 7 x 40 mm	Ø 0.7 mm	Ø 5 x 40 mm	100 mm	700 1/min	**0 571 705**			
	Ø 8 x 40 mm	Ø 0.7 mm	Ø 5 x 40 mm	100 mm	700 1/min	**0 571 706**			
	Ø 9 x 45 mm	Ø 0.7 mm	Ø 6 x 35 mm	100 mm	700 1/min	**0 571 707**			
Wire, knotted									
	Ø 5 x 30 mm	Ø 0.7 mm	Ø 4 x 50 mm	100 mm	700 1/min	**0 571 711**			
	Ø 6 x 30 mm	Ø 0.7 mm	Ø 4 x 50 mm	100 mm	700 1/min	**0 571 712**			
	Ø 7 x 30 mm	Ø 0.7 mm	Ø 5 x 50 mm	100 mm	700 1/min	**0 571 713**			
	Ø 8 x 30 mm	Ø 0.7 mm	Ø 5 x 50 mm	100 mm	700 1/min	**0 571 714**			
	Ø 9 x 30 mm	Ø 0.7 mm	Ø 6 x 50 mm	100 mm	700 1/min	**0 571 715**			
	Ø 10 x 30 mm	Ø 0.7 mm	Ø 6 x 50 mm	100 mm	700 1/min	**0 571 716**			
	Ø 11 x 30 mm	Ø 0.7 mm	Ø 6 x 50 mm	100 mm	700 1/min	**0 571 717**			

The drilling brushes are available with three different head versions:

1. **Wire, oval:** for readily accessible transverse holes.



2. **Wire, crossed:** for transverse holes and end face processing in addition to non-concentric holes.



3. **Wire, knotted:** for transverse holes at the bottom of the blind hole. For removing very heavy burrs.



Jet brushes
shaft with eyelets

Jet brushes
The solution for inner cleaning, dust removal and varnish removal for jets, pipes, hoses, threaded holes, crossed holes, cylinders and much more.

Created for real men capable of driving the brushes with sheer muscle power. For those with less brute force, the brushes can also be inserted using a cordless screw driver. To do this, simply cut off the eyelets. The jet brushes are wound clockwise.

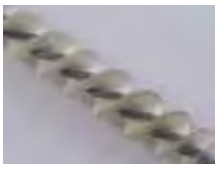
Available with nylon trimming and corrugated wire made of brass, steel or stainless steel.



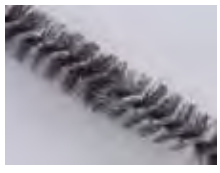
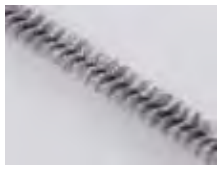
- Processing of (cross) drill holes, jets, cylinders etc.
- Optimum for deburring, dust removal and varnish removal
- Drive by muscle power or machine (cordless screw driver)
- Available in four trimming versions

A little thicker please!

For optimum results, select the following excess brush dimensions according to the drilling hole diameter:
- Drilling hole > 4 mm: approx. 10 – 15 %
- Drilling hole > 15 mm: approx. 20 – 25 %

		Head dimensions	Trimming Ø	Shank dimensions	Total length	Order No.	Price from 1 piece	Price from 10 pieces
Jet brushes, cylinders, shaft with eyelets								
Nylon								
	Excellent elasticity and durability. Resistant to solvents, but easily dissolved in acid. To shine, polish and clean. Possible to use with compounds.	Ø 2 x 100 mm	0.06 mm	Ø 1.4 x 200 mm	300 mm	**0 571 240**		
		Ø 3 x 100 mm	0.10 mm	Ø 1.6 x 200 mm	300 mm	**0 571 241**		
		Ø 4 x 100 mm	0.15 mm	Ø 1.4 x 200 mm	300 mm	**0 571 200**		
		Ø 5 x 100 mm	0.15 mm	Ø 1.8 x 200 mm	300 mm	**0 571 201**		
		Ø 6 x 100 mm	0.15 mm	Ø 1.8 x 200 mm	300 mm	**0 571 202**		
		Ø 8 x 100 mm	0.25 mm	Ø 2.6 x 200 mm	300 mm	**0 571 203**		
		Ø 10 x 100 mm	0.25 mm	Ø 2.6 x 200 mm	300 mm	**0 571 204**		
		Ø 12 x 100 mm	0.25 mm	Ø 2.6 x 200 mm	300 mm	**0 571 205**		
		Ø 15 x 100 mm	0.25 mm	Ø 2.6 x 200 mm	300 mm	**0 571 206**		
		Ø 18 x 100 mm	0.25 mm	Ø 2.6 x 200 mm	300 mm	**0 571 207**		
		Ø 20 x 100 mm	0.25 mm	Ø 2.6 x 200 mm	300 mm	**0 571 208**		
		Ø 25 x 100 mm	0.35 mm	Ø 3.2 x 200 mm	300 mm	**0 571 209**		
Corrugated brass wire								
	Silkier and softer grinding pattern than steel wires. Possible discolouration on workpiece. For polishing, descaling, deburring. Possible to use with and without compounds.	Ø 4 x 100 mm	0.08 mm	Ø 1.8 x 200 mm	300 mm	**0 571 210**		
		Ø 5 x 100 mm	0.08 mm	Ø 1.8 x 200 mm	300 mm	**0 571 211**		
		Ø 6 x 100 mm	0.15 mm	Ø 1.8 x 200 mm	300 mm	**0 571 212**		
		Ø 8 x 100 mm	0.15 mm	Ø 2.8 x 200 mm	300 mm	**0 571 213**		
		Ø 10 x 100 mm	0.15 mm	Ø 2.8 x 200 mm	300 mm	**0 571 214**		
		Ø 12 x 100 mm	0.15 mm	Ø 2.8 x 200 mm	300 mm	**0 571 215**		
		Ø 15 x 100 mm	0.15 mm	Ø 4.6 x 200 mm	300 mm	**0 571 216**		
		Ø 18 x 100 mm	0.15 mm	Ø 4.6 x 200 mm	300 mm	**0 571 217**		
		Ø 20 x 100 mm	0.20 mm	Ø 4.6 x 200 mm	300 mm	**0 571 218**		
		Ø 25 x 100 mm	0.20 mm	Ø 4.6 x 200 mm	300 mm	**0 571 219**		

Jet brushes
shaft with eyelets

		Head dimensions	Trimming Ø	Shank dimensions	Total length	Order No.	Price from 1 piece	Price from 10 pieces
Corrugated steel wire								
	Bendable and elastic wire which leaves a significantly visible grinding pattern on the work piece. For pre-polishing, descaling, deburring. Possible to use with and without compounds.	Ø 4 x 100 mm	0.10 mm	Ø 1.8 x 200 mm	300 mm	**0 571 220**		
		Ø 5 x 100 mm	0.10 mm	Ø 1.8 x 200 mm	300 mm	**0 571 221**		
		Ø 6 x 100 mm	0.10 mm	Ø 1.8 x 200 mm	300 mm	**0 571 222**		
		Ø 8 x 100 mm	0.15 mm	Ø 3.7 x 200 mm	300 mm	**0 571 223**		
		Ø 10 x 100 mm	0.15 mm	Ø 3.7 x 200 mm	300 mm	**0 571 224**		
		Ø 12 x 100 mm	0.15 mm	Ø 3.7 x 200 mm	300 mm	**0 571 225**		
		Ø 15 x 100 mm	0.15 mm	Ø 4.6 x 200 mm	300 mm	**0 571 226**		
		Ø 18 x 100 mm	0.15 mm	Ø 4.6 x 200 mm	300 mm	**0 571 227**		
		Ø 20 x 100 mm	0.20 mm	Ø 4.6 x 200 mm	300 mm	**0 571 228**		
		Ø 25 x 100 mm	0.20 mm	Ø 4.6 x 200 mm	300 mm	**0 571 229**		
Stainless steel wire, corrugated								
	Comparable with steel wire but resistant to acids and alkalis. More break resistant than steel. Can also be used with water and leaves no rust residues on the material. For pre-polishing, descaling, deburring especially for stainless steels and aluminium. With and without compounds.	Ø 4 x 100 mm	0.10 mm	Ø 1.8 x 200 mm	300 mm	**0 571 230**		
		Ø 5 x 100 mm	0.10 mm	Ø 1.8 x 200 mm	300 mm	**0 571 231**		
		Ø 6 x 100 mm	0.10 mm	Ø 1.8 x 200 mm	300 mm	**0 571 232**		
		Ø 8 x 100 mm	0.15 mm	Ø 1.8 x 200 mm	300 mm	**0 571 233**		
		Ø 10 x 100 mm	0.15 mm	Ø 3.7 x 200 mm	300 mm	**0 571 234**		
		Ø 12 x 100 mm	0.15 mm	Ø 3.7 x 200 mm	300 mm	**0 571 235**		
		Ø 15 x 100 mm	0.15 mm	Ø 4.6 x 200 mm	300 mm	**0 571 236**		
		Ø 25 x 100 mm	0.15 mm	Ø 4.6 x 200 mm	300 mm	**0 571 239**		

Jet brushes
stainless steel shank with eyelets

		Head dimensions	Trimming Ø	Shank dimensions	Total length	Order No.	Price from 1 piece	Price from 10 pieces
Jet brush, cylinder,stainless steel shank with eyelets								
Nylon								
	Very good elasticity, durability and resistance to solvents. For shining, polishing and cleaning. Can be used with compounds. What is special about these jet brushes is the stainless steel shank. This ensures that no corrosion forms when used with water.	2 x 100 mm	0.08 mm	Ø 0.93 x 200 mm	300 mm	**0 571 801**		
		3 x 100 mm	0.10 mm	Ø 1.50 x 200 mm	300 mm	**0 571 802**		
		4 x 100 mm	0.10 mm	Ø 2.22 x 200 mm	300 mm	**0 571 803**		
		5 x 100 mm	0.10 mm	Ø 2.22 x 200 mm	300 mm	**0 571 804**		
		6 x 100 mm	0.10 mm	Ø 2.22 x 200 mm	300 mm	**0 571 805**		
		8 x 100 mm	0.15 mm	Ø 2.22 x 200 mm	300 mm	**0 571 806**		
		10 x 100 mm	0.15 mm	Ø 2.22 x 200 mm	300 mm	**0 571 807**		
		12 x 100 mm	0.15 mm	Ø 2.22 x 200 mm	300 mm	**0 571 808**		
		20 x 100 mm	0.15 mm	Ø 2.96 x 200 mm	300 mm	**0 571 809**		
		30 x 100 mm	0.30 mm	Ø 3.33 x 200 mm	300 mm	**0 571 810**		
		40 x 100 mm	0.30 mm	Ø 3.70 x 200 mm	300 mm	**0 571 811**		
		60 x 100 mm	0.30 mm	Ø 3.70 x 200 mm	300 mm	**0 571 812**		
		100 x 100 mm	0.30 mm	Ø 4.62 x 200 mm	300 mm	**0 571 813**		

Pipe brushes
nylon with silicon carbide

Pipe brushes
Pipe brushes are ideally suited for deburring and cleaning work in crossways drillings and insertions. The flexible trimming made of nylon or steel prevents breakage of the material even with the highest stress and deformation.

The pipe brushes are available in four different versions:

- nylon standard with silicon carbide
- nylon standard with corundum
- nylon-diamond
- steel without additional abrasive.

		Abrasive	Head dimensions	Grit size	Shank dimensions	Total length	Rotation speed max.	Order No.	Price from 1 piece	Price from 10 pieces
Nylon silicon carbide pipe brushes										
SiC										
	Using nylon pipe brushes smooths the surface and positively influences the latter for subsequent use. The twisted wire is zinc-coated. Linear use by hand and clockwise in machines.	SiC	Ø 0.7 x 12 mm	K 1000	Ø 0.42 mm	100 mm	700 1/min	**0 571 101**		
			Ø 1.2 x 12 mm	K 1000	Ø 0.47 mm	100 mm	700 1/min	**0 571 102**		
			Ø 1.9 x 18 mm	K 1000	Ø 0.74 mm	100 mm	700 1/min	**0 571 103**		
			Ø 2.2 x 18 mm	K 1000	Ø 0.94 mm	100 mm	700 1/min	**0 571 104**		
			Ø 2.6 x 25 mm	K 1000	Ø 1.08 mm	100 mm	700 1/min	**0 571 105**		
			Ø 3.2 x 25 mm	K 1000	Ø 1.66 mm	100 mm	700 1/min	**0 571 106**		
			Ø 3.5 x 25 mm	K 1000	Ø 1.66 mm	100 mm	700 1/min	**0 571 107**		
Nylon-corundum pipe brushes										
Corundum										
	Using nylon pipe brushes smooths the surface and positively influences the latter for subsequent use. The twisted wire is zinc-coated. Linear use by hand and clockwise in machines.	Corundum	Ø 4.2 x 25 mm	K 600	Ø 2.2 mm	125 mm	700 1/min	**0 571 108**		
			Ø 4.8 x 25 mm	K 600	Ø 2.2 mm	125 mm	700 1/min	**0 571 109**		
			Ø 5.5 x 25 mm	K 600	Ø 2.2 mm	125 mm	700 1/min	**0 571 110**		
			Ø 6.6 x 25 mm	K 600	Ø 3 mm	125 mm	700 1/min	**0 571 111**		
			Ø 8.2 x 25 mm	K 600	Ø 3 mm	125 mm	700 1/min	**0 571 112**		
			Ø 9.8 x 25 mm	K 600	Ø 3.4 mm	125 mm	700 1/min	**0 571 113**		
			Ø 11.5 x 25 mm	K 600	Ø 3.4 mm	125 mm	700 1/min	**0 571 114**		
			Ø 13.0 x 25 mm	K 600	Ø 4.2 mm	125 mm	700 1/min	**0 571 115**		
			Ø 16.0 x 25 mm	K 600	Ø 4.2 mm	125 mm	700 1/min	**0 571 116**		
			Ø 17.5 x 25 mm	K 600	Ø 4.2 mm	125 mm	700 1/min	**0 571 117**		
			Ø 19.4 x 25 mm	K 600	Ø 5.6 mm	125 mm	700 1/min	**0 571 118**		
			Ø 22.6 x 25 mm	K 600	Ø 5.6 mm	125 mm	700 1/min	**0 571 119**		
			Ø 25.8 x 25 mm	K 600	Ø 6.2 mm	125 mm	700 1/min	**0 571 120**		

Pipe brushes
nylon with diamond

		Abrasive	Head dimensions	Grit size	Shank dimensions	Total length	Rotation speed max.	Order No.	Price from 1 piece	Price from 3 pieces
Nylon-diamond pipe brushes										
Diamond										
	By the use of industrial diamonds, eminently suitable for processing tungsten carbide. The shank in zinc-coated twisted wire is additionally stabilised with a brass bush for brushes of Ø 4 mm and more. Suitable for manual and machine use.	Diamond	Ø 2 x 20 mm	K 400	Ø 1 mm	100 mm	700 1/min	**0 571 121**		
			Ø 2,5 x 20 mm	K 400	Ø 1 mm	100 mm	700 1/min	**0 571 122**		
			Ø 3 x 20 mm	K 400	Ø 1.5 mm	100 mm	700 1/min	**0 571 123**		
			Ø 3,5 x 20 mm	K 400	Ø 1.5 mm	100 mm	700 1/min	**0 571 124**		
			Ø 4 x 20 mm	K 400	Ø 3 mm	115 mm	700 1/min	**0 571 125**		
			Ø 5 x 20 mm	K 400	Ø 3 mm	115 mm	700 1/min	**0 571 126**		
			Ø 6 x 20 mm	K 400	Ø 3 mm	115 mm	700 1/min	**0 571 127**		
			Ø 7 x 20 mm	K 400	Ø 3 mm	115 mm	700 1/min	**0 571 128**		
			Ø 8 x 20 mm	K 400	Ø 3 mm	115 mm	700 1/min	**0 571 129**		
			Ø 9 x 20 mm	K 400	Ø 3 mm	115 mm	700 1/min	**0 571 130**		
			Ø 10 x 20 mm	K 400	Ø 4 mm	115 mm	700 1/min	**0 571 131**		
			Ø 12 x 20 mm	K 400	Ø 6 mm	115 mm	700 1/min	**0 571 132**		

Pipe brushes
steel

		Trimming	Head dimensions	Trimming Ø	Shank dimensions	Total length	Rotation speed max.	Order No.	Price from 1 piece	Price from 10 pieces
Steel pipe brushes										
	Brushes with steel trimming without additional abrasive. Ideal for simple deburring work.	Steel	Ø 6 x 25 mm	0.13 mm	Ø 3.18 mm	89 mm	700 1/min	**0 571 170**		
			Ø 8 x 25 mm	0.13 mm	Ø 3.18 mm	89 mm	700 1/min	**0 571 171**		
			Ø 10 x 25 mm	0.13 mm	Ø 3.18 mm	89 mm	700 1/min	**0 571 172**		
			Ø 11 x 25 mm	0.13 mm	Ø 3.18 mm	89 mm	700 1/min	**0 571 173**		
			Ø 13 x 25 mm	0.13 mm	Ø 3.18 mm	89 mm	700 1/min	**0 571 174**		
			Ø 14 x 25 mm	0.13 mm	Ø 3.18 mm	89 mm	700 1/min	**0 571 175**		
			Ø 16 x 25 mm	0.13 mm	Ø 3.18 mm	89 mm	700 1/min	**0 571 176**		

Nylon honing brushes
Novoflex-B



Nylon honing brushes Novoflex-B

An innovative tool for perfect results on surfaces or in bores. These silicon carbide abrasive balls have a flexible arrangement and therefore adapt to the processed surface – even in non-concentric bores.
These brushes are useful for example for removing burr on all common materials. The Novoflex-B honing brushes leave a cross-grinding on the surface, which is the perfect carrier for an possible oil film. The surface is free from cold-shaped or deformed material. The only „hardware" you need to work with these brushes is a conventionel hand drill. Honing machines or cordless screwdrivers can be used for serial production.

Possible applications:
- Motor cylinders
- Drive rods
- Bores on shafts and crank levers
- Pneumatic and hydraulic cylinders
- Valve guides
- Compressed air units
- Wheel brake cylinders
- Brake control cylinders
- Pipes and hoses
- Many more applications in the automotive, aeronautics and aerospace construction and in the firearms industry.

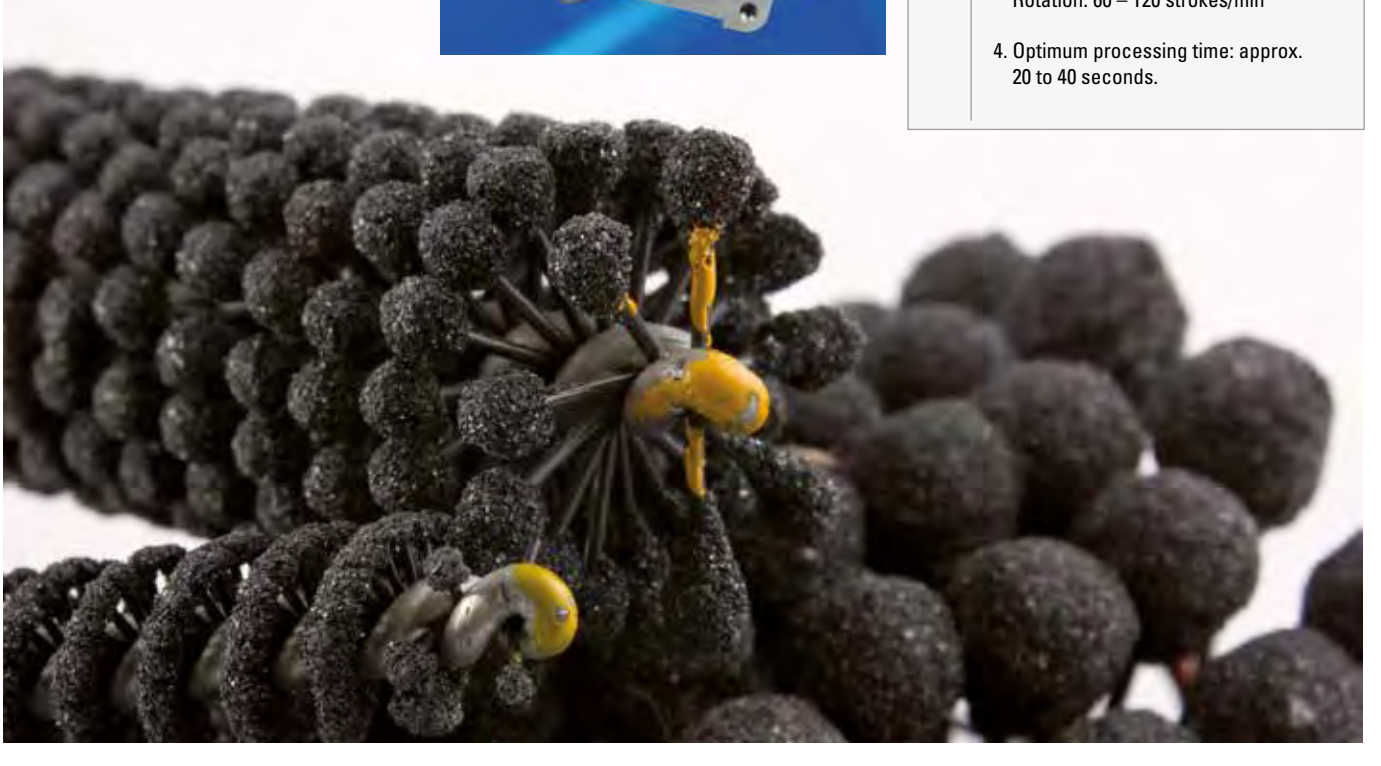




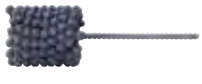
Tip: jet and pipe brushes are best suited for bores < 8 mm (see pages 180 and 182)!

Important points for the use of Novoflex-B nylon honing brushes?

1. Always choose the brush diameter according to the bore. If the desired brush size is not available, use the next larger one.
2. Always use the brushes with oil with a viscosity between 10 and 30 or with special honing oil. We also recommend joke lubricant X 73012.
3. Recommended speed: 350 – 700 rpm; Rotation: 60 – 120 strokes/min
4. Optimum processing time: approx. 20 to 40 seconds.



Nylon honing brushes
Novoflex-B

	for bore dimensions	Head dimensions	Grit size	Shank dimensions	Total length	Order No.	Price from 1 piece
Nylon honing brushes Novoflex-B							
	Ø 8 mm	Ø 9 x 50 mm	120	Ø 3.7 mm	200 mm	**0 571 300**	
		Ø 9 x 50 mm	180	Ø 3.6 mm	200 mm	**0 571 330**	
	Ø 10 mm	Ø 11 x 60 mm	120	Ø 3.7 mm	200 mm	**0 571 301**	
		Ø 11 x 60 mm	180	Ø 3.6 mm	200 mm	**0 571 331**	
	Ø 11 mm	Ø 12 x 60 mm	120	Ø 3.7 mm	200 mm	**0 571 302**	
		Ø 12 x 60 mm	180	Ø 3.6 mm	200 mm	**0 571 332**	
	Ø 12 mm	Ø 13 x 60 mm	120	Ø 3.7 mm	200 mm	**0 571 303**	
		Ø 13 x 60 mm	180	Ø 3.6 mm	200 mm	**0 571 333**	
	Ø 14 mm	Ø 15.5 x 60 mm	120	Ø 3.7 mm	200 mm	**0 571 304**	
		Ø 15.5 x 60 mm	180	Ø 3.6 mm	200 mm	**0 571 334**	
	Ø 16 mm	Ø 18 x 60 mm	120	Ø 4.6 mm	200 mm	**0 571 305**	
		Ø 18 x 60 mm	180	Ø 4.6 mm	200 mm	**0 571 335**	
	Ø 18 mm	Ø 20 x 60 mm	120	Ø 4.6 mm	200 mm	**0 571 306**	
		Ø 20 x 60 mm	180	Ø 4.6 mm	200 mm	**0 571 336**	
	Ø 20 mm	Ø 22 x 70 mm	120	Ø 4.6 mm	200 mm	**0 571 307**	
		Ø 22 x 70 mm	180	Ø 4.6 mm	200 mm	**0 571 337**	
	Ø 22 mm	Ø 25 x 70 mm	120	Ø 4.6 mm	200 mm	**0 571 308**	
		Ø 25 x 70 mm	180	Ø 4.6 mm	200 mm	**0 571 338**	
	Ø 24 mm	Ø 27 x 70 mm	120	Ø 5.1 mm	200 mm	**0 571 309**	
		Ø 27 x 70 mm	180	Ø 5.1 mm	200 mm	**0 571 339**	
	Ø 25 mm	Ø 28 x 70 mm	120	Ø 5.1 mm	200 mm	**0 571 310**	
		Ø 28 x 70 mm	180	Ø 5.1 mm	200 mm	**0 571 340**	
	Ø 27 mm	Ø 30 x 70 mm	120	Ø 5.1 mm	200 mm	**0 571 311**	
		Ø 30 x 70 mm	180	Ø 5.1 mm	200 mm	**0 571 341**	
	Ø 29 mm	Ø 32 x 70 mm	120	Ø 5.1 mm	200 mm	**0 571 312**	
		Ø 32 x 70 mm	180	Ø 5.1 mm	200 mm	**0 571 342**	
	Ø 32 mm	Ø 35 x 70 mm	120	Ø 5.1 mm	200 mm	**0 571 313**	
		Ø 35 x 70 mm	180	Ø 5.7 mm	200 mm	**0 571 343**	
	Ø 35 mm	Ø 38 x 70 mm	120	Ø 5.7 mm	200 mm	**0 571 314**	
		Ø 38 x 70 mm	180	Ø 5.7 mm	200 mm	**0 571 344**	
	Ø 38 mm	Ø 41 x 70 mm	120	Ø 5.7 mm	200 mm	**0 571 315**	
		Ø 41 x 70 mm	180	Ø 5.7 mm	200 mm	**0 571 345**	
	Ø 42 mm	Ø 45 x 70 mm	120	Ø 5.7 mm	200 mm	**0 571 316**	
		Ø 45 x 70 mm	180	Ø 5.7 mm	200 mm	**0 571 346**	
	Ø 45 mm	Ø 48 x 70 mm	120	Ø 5.7 mm	200 mm	**0 571 317**	
		Ø 48 x 70 mm	180	Ø 5.7 mm	200 mm	**0 571 347**	

In order to avoid blunders...

...the honing brushes are colour-coded to distinguish between the grit sizes:

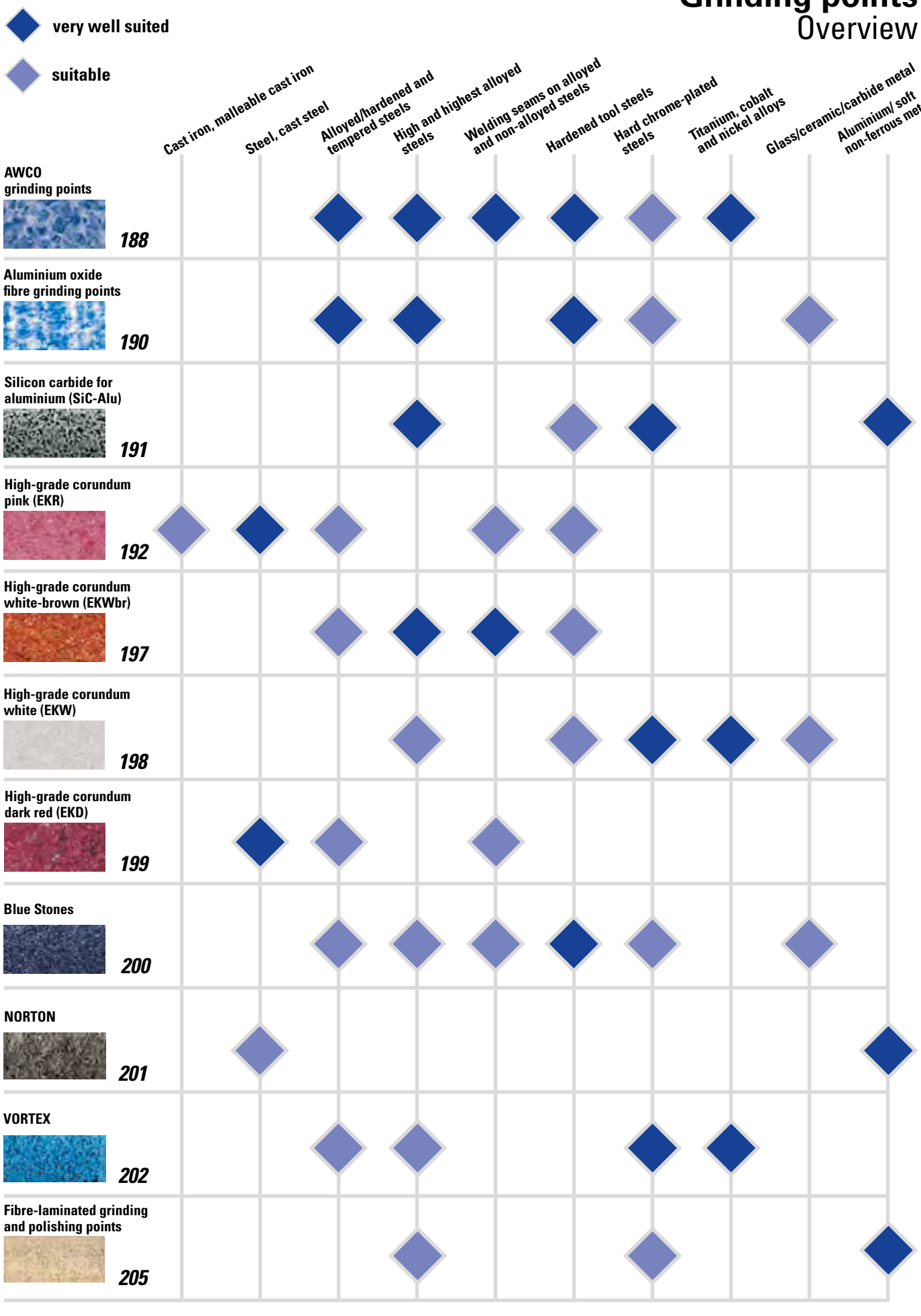
Grit 120 = yellow
Grit 180 = red

Grinding points

The maximum permissible speeds depending on the cutting speed:

Ø	V_c 35 m/s	V_c 50 m/s
4 mm	170,000 1/min	240,000 1/min
6 mm	110,000 1/min	160,000 1/min
8 mm	80,000 1/min	120,000 1/min
10 mm	65,000 1/min	95,000 1/min
12 mm	55,000 1/min	80,000 1/min
20 mm	33,000 1/min	47,000 1/min

Grinding points
Overview



Grinding points AWCO
shank Ø 3 x 30 mm, hardness J

Grinding points AWCO
The ideal points for regrinding repair weldings. Produced from ceramic bond with a mixture of white high-grade corundum and blue ceramic sintered corundum. This material combination results in extraordinarily high chip removal rates with an excellent service life.

The advantages:
- cool cutting owing to friability of the grit mixture
- high stock removal rates with a very good service life
- self-sharpening effect of the sintered corundum for consistent stock removal rates

	Head dimensions	Hardness	Grit size	Shank dimension	Cutting speed max.	Order No.	Price from 1 piece	20 pieces	50 pieces
AWCO grinding points, shank Ø 3 x 30 mm									
cylinder									
	Ø 1 x 5 mm	J	320	Ø 3 x 30 mm	50 m/s	**0 542 421**			
	Ø 1.5 x 8 mm	J	320	Ø 3 x 30 mm	50 m/s	**0 542 422**			
	Ø 1.7 x 8 mm	J	320	Ø 3 x 30 mm	50 m/s	**0 542 423**			
	Ø 2 x 5 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 424**			
	Ø 3 x 6 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 427**			
	Ø 3 x 6 mm	J	120	Ø 3 x 30 mm	50 m/s	**0 542 428**			
	Ø 4 x 8 mm	J	60	Ø 3 x 30 mm	50 m/s	**0 542 429**			
	Ø 4 x 8 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 430**			
	Ø 4 x 8 mm	J	100	Ø 3 x 30 mm	50 m/s	**0 542 431**			
	Ø 5 x 10 mm	J	60	Ø 3 x 30 mm	50 m/s	**0 542 432**			
	Ø 5 x 10 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 433**			
	Ø 5 x 10 mm	J	100	Ø 3 x 30 mm	50 m/s	**0 542 434**			
	Ø 6 x 13 mm	J	60	Ø 3 x 30 mm	50 m/s	**0 542 436**			
	Ø 8 x 16 mm	J	46	Ø 3 x 30 mm	50 m/s	**0 542 439**			
	Ø 8 x 16 mm	J	60	Ø 3 x 30 mm	50 m/s	**0 542 440**			
	Ø 8 x 16 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 441**			
sphere									
	Ø 3 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 447**			
	Ø 6 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 449**			
	Ø 8 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 452**			
wheel									
	Ø 13 x 3 mm	J	60	Ø 3 x 30 mm	50 m/s	**0 542 443**			
	Ø 20 x 6 mm	J	46	Ø 3 x 30 mm	50 m/s	**0 542 444**			
	Ø 20 x 6 mm	J	60	Ø 3 x 30 mm	50 m/s	**0 542 445**			
tree with pointed end									
	Ø 3 x 6 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 455**			
	Ø 4 x 8 mm	J	80	Ø 3 x 30 mm	50 m/s	**0 542 458**			

matching set

	Order No.	Price from 1 set
Set of grinding points AWCO		
 Contents: 12 pieces	**0 542 420**	

Grinding points AWCO
Ø 6 x 40 mm, hardness J

Grinding points AWCO
The ideal points for regrinding repair weldings. Produced from ceramic bond with a mixture of white high-grade corundum and blue ceramic sintered corundum. This material combination results in extraordinarily high chip removal rates with an excellent service life.

The advantages:
- cool cutting owing to friability of the grit mixture
- high stock removal rates with a very good service life
- self-sharpening effect of the sintered corundum for consistent stock removal rates

	Head dimensions	Hard-ness	Grit size	Shank dimensions	Cutting speed max.	Order No.	Price from 1 piece	20 pieces	50 pieces
AWCO grinding points, shank Ø 6 x 40 mm									
cylinder									
	Ø 8 x 16 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 471**			
	Ø 10 x 13 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 473**			
	Ø 10 x 20 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 475**			
	Ø 13 x 25 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 477**			
	Ø 16 x 20 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 479**			
	Ø 16 x 32 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 481**			
	Ø 20 x 25 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 483**			
	Ø 20 x 40 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 485**			
sphere									
	Ø 13 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 491**			
tree with pointed end									
	Ø 13 x 20 mm	J	46	Ø 6 x 40 mm	50 m/s	**0 542 494**			

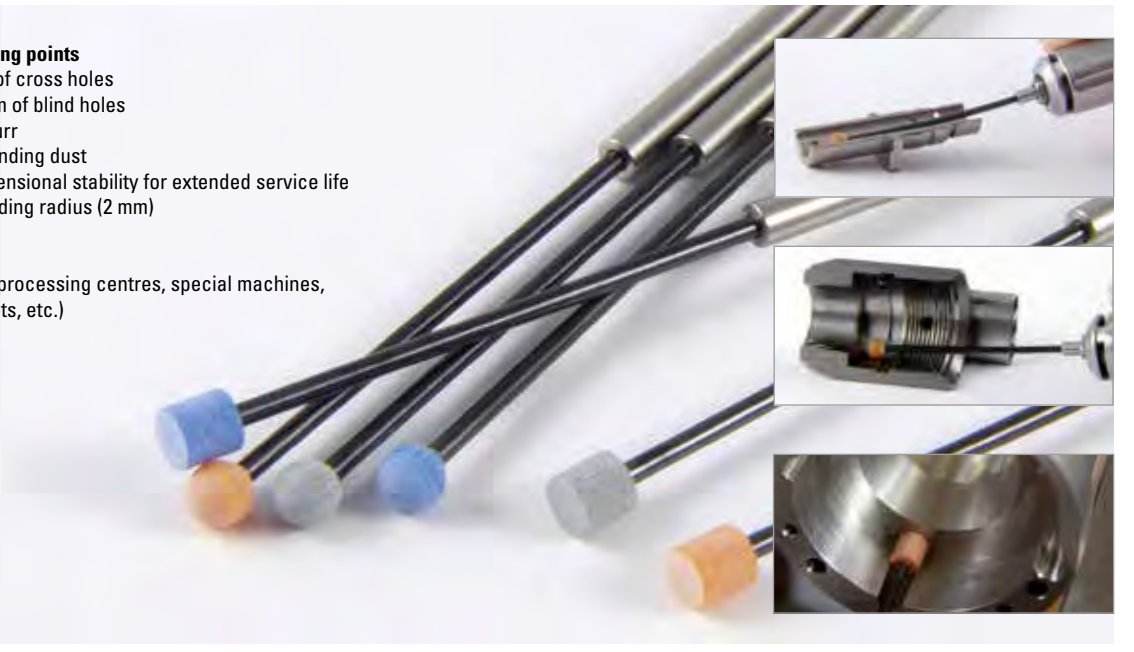
matching set

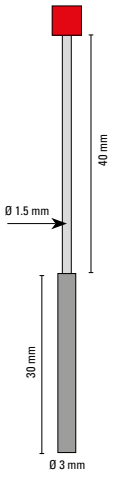
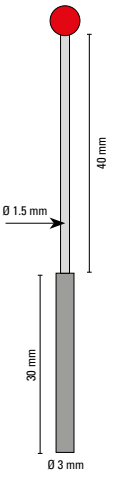
		Order No.	Price from 1 set
Set of grinding points AWCO			
	Contents: 12 pieces	**0 542 470**	



Aluminium oxide fibre grinding points
shank Ø 3 x 30 mm

Aluminium oxide fibre grinding points
- Deburring and chamfering of cross holes
- Removing burr at the bottom of blind holes
- Precision removal of fine burr
- Self-sharpening without grinding dust
- High edge stability and dimensional stability for extended service life
- Elastic shank with high bending radius (2 mm)
- Range of different grit sizes
- Versatile application areas
- Use by hand and machine (processing centres, special machines, drilling machines, with robots, etc.)



	Head dimensions	Collar dimensions	Grit size	Colour	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	3 pieces	5 pieces
Aluminium oxide fibre grinding points, shank Ø 3 mm										
cylinder										
	Ø 3 x 3 mm	Ø 1.5 x 40 mm	# 220	grey	Ø 3 x 30 mm	6000 1/min	**0 425 181**			
		Ø 1.5 x 40 mm	# 400	orange	Ø 3 x 30 mm	6000 1/min	**0 425 182**			
		Ø 1.5 x 40 mm	# 800	blue	Ø 3 x 30 mm	6000 1/min	**0 425 183**			
	Ø 4 x 4 mm	Ø 1.5 x 40 mm	# 220	grey	Ø 3 x 30 mm	6000 1/min	**0 425 184**			
		Ø 1.5 x 40 mm	# 400	orange	Ø 3 x 30 mm	6000 1/min	**0 425 185**			
		Ø 1.5 x 40 mm	# 800	blue	Ø 3 x 30 mm	6000 1/min	**0 425 186**			
	Ø 5 x 5 mm	Ø 1.5 x 40 mm	# 220	grey	Ø 3 x 30 mm	6000 1/min	**0 425 187**			
		Ø 1.5 x 40 mm	# 400	orange	Ø 3 x 30 mm	6000 1/min	**0 425 188**			
		Ø 1.5 x 40 mm	# 800	blue	Ø 3 x 30 mm	6000 1/min	**0 425 189**			
sphere										
	Ø 3 mm	Ø 1.5 x 40 mm	# 220	grey	Ø 3 x 30 mm	6000 1/min	**0 425 161**			
		Ø 1.5 x 40 mm	# 400	orange	Ø 3 x 30 mm	6000 1/min	**0 425 162**			
		Ø 1.5 x 40 mm	# 800	blue	Ø 3 x 30 mm	6000 1/min	**0 425 163**			
	Ø 4 mm	Ø 1.5 x 40 mm	# 220	grey	Ø 3 x 30 mm	6000 1/min	**0 425 164**			
		Ø 1.5 x 40 mm	# 400	orange	Ø 3 x 30 mm	6000 1/min	**0 425 165**			
		Ø 1.5 x 40 mm	# 800	blue	Ø 3 x 30 mm	6000 1/min	**0 425 166**			
	Ø 5 mm	Ø 1.5 x 40 mm	# 220	grey	Ø 3 x 30 mm	6000 1/min	**0 425 167**			
		Ø 1.5 x 40 mm	# 400	orange	Ø 3 x 30 mm	6000 1/min	**0 425 168**			
		Ø 1.5 x 40 mm	# 800	blue	Ø 3 x 30 mm	6000 1/min	**0 425 169**			
	Ø 6 mm	Ø 1.5 x 40 mm	# 220	grey	Ø 3 x 30 mm	6000 1/min	**0 425 170**			
		Ø 1.5 x 40 mm	# 400	orange	Ø 3 x 30 mm	6000 1/min	**0 425 171**			
		Ø 1.5 x 40 mm	# 800	blue	Ø 3 x 30 mm	6000 1/min	**0 425 172**			
	Ø 10 mm	Ø 1.5 x 40 mm	# 220	grey	Ø 3 x 30 mm	6000 1/min	**0 425 173**			

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Grinding points SiC-Alu
shank Ø 3 x 30 mm and 6 x 40 mm

Grinding points SiC-Alu
These grinding points were especially developed for processing aluminium. The high plasticity of aluminium means that if the wrong grinding points are used, "smearing" and "clogging" of the tool occurs.

Owing to their special structural configuration, extremely long service lives are achieved, as the pores of the points do not become clogged during processing. The selfsharpening effect is enhanced by the special impregnation of these grinding points.

Particularly suitable for:
- non-ferrous metals (especially aluminium)
- hard-chromium plated steels
- high and highest-alloyed steels

Also suitable for:
- tempered and hardened steels
- soft non-ferrous metals



	Head dimensions	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	20 pieces	50 pieces
SiC-Alu grinding points, shank Ø 3 x 30 mm									
cylinder									
	Ø 4 x 8 mm	80	Ø 3 x 30 mm	50 m/s	10 piece	**0 542 501**			
	Ø 5 x 10 mm	80	Ø 3 x 30 mm	50 m/s	10 piece	**0 542 502**			
	Ø 6 x 10 mm	80	Ø 3 x 30 mm	50 m/s	10 piece	**0 542 503**			
	Ø 8 x 10 mm	80	Ø 3 x 30 mm	50 m/s	10 piece	**0 542 504**			
	Ø 10 x 10 mm	80	Ø 3 x 30 mm	50 m/s	10 piece	**0 542 505**			
SiC-Alu grinding points,shank Ø 6 x 40 mm									
cylinder									
	Ø 10 x 13 mm	80	Ø 6 x 40 mm	50 m/s	10 piece	**0 542 506**			
	Ø 16 x 32 mm	80	Ø 6 x 40 mm	50 m/s	10 piece	**0 542 511**			
	Ø 20 x 25 mm	80	Ø 6 x 40 mm	50 m/s	10 piece	**0 542 513**			

matching set

		Grit size	Order No.	Price from 1 set
Set of grinding points SiC-Alu				
	The set consists of the following five cylindrical grinding points with a grit size of SiC 80, shank Ø 3 x 30 mm: • Cylinder, Ø 4 x 8 mm (order no. 0 542 501) • Cylinder, Ø 5 x 10 mm (order no. 0 542 502) • Cylinder, Ø 6 x 10 mm (order no. 0 542 503) • Cylinder, Ø 8 x 10 mm (order no. 0 542 504) • Cylinder, Ø 10 x 10 mm (order no. 0 542 505) The grinding points are particularly suitable for processing aluminium and hard chrome-plated steels as well as high-alloy and ultra high alloy steels. They are also suitable for annealed and hardened steels and for soft non-ferrous metals.	K 80	**0 542 530**	

Grinding points EKR
shank Ø 2.35 x 40 mm, hardness N

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 20 pieces	Price from 50 pieces
EKR grinding points, shank Ø 2.35 x 40 mm										
cylinder										
	Ø 2 x 5 mm	N	120	Ø 2.35 x 40 mm	50 m/s	10 pieces	**0 542 101**			
	Ø 3 x 6 mm	N	100	Ø 2.35 x 40 mm	50 m/s	10 pieces	**0 542 102**			
	Ø 4 x 8 mm	N	80	Ø 2.35 x 40 mm	50 m/s	10 pieces	**0 542 103**			
	Ø 6 x 10 mm	N	80	Ø 2.35 x 40 mm	50 m/s	10 pieces	**0 542 105**			
wheel										
	Ø 10 x 3 mm	N	100	Ø 2.35 x 40 mm	50 m/s	10 pieces	**0 542 107**			
sphere										
	Ø 5 mm	N	100	Ø 2.35 x 40 mm	50 m/s	10 pieces	**0 542 114**			
	Ø 8 mm	N	80	Ø 2.35 x 40 mm	50 m/s	10 pieces	**0 542 115**			

Grinding points EKR
shank Ø 3 x 30 mm, hardness N

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 20 pieces	Price from 50 pieces
EKR grinding points, shank Ø 3 x 30 mm										
cylinder										
	Ø 2 x 5 mm	N	120	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 131**			
	Ø 2.5 x 6 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 922**			
	Ø 3 x 6 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 132**			
	Ø 4 x 8 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 133**			
	Ø 5 x 6 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 923**			
	Ø 5 x 10 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 134**			
	Ø 6 x 6 mm	N	60	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 924**			
	Ø 6 x 10 mm	N	60	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 135**			

Grinding points EKR
shank Ø 3 x 30 mm, hardness N

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	20 pieces	50 pieces
pointed cylinder										
	Ø 5 x 7 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 932**			
	Ø 8 x 10 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 140**			
wheel										
	Ø 4 x 1 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 904**			
	Ø 5 x 3 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 905**			
	Ø 8 x 2 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 903**			
	Ø 9 x 2 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 901**			
	Ø 9 x 3 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 902**			
	Ø 10 x 5 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 139**			
Conical										
	Ø 3.3 / 2.2 x 6.4 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 929**			
	Ø 4.4 / 3 x 10 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 930**			
	Ø 7 / 3.5 x 6 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 906**			
cone										
	Ø 6 x 11 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 936**			
	Ø 8 x 8 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 149**			
	Ø 10 x 10 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 150**			
trapeze										
	Ø 3.2 / 2 x 4 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 910**			
	Ø 5 / 2 x 2.5 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 907**			
	Ø 5 / 3 x 5 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 911**			
	Ø 7 / 5 x 6 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 912**			
	Ø 8 / 3.5 x 4 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 909**			
tree with pointed end										
	Ø 4.3 x 7 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 934**			
	Ø 5 x 10 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 147**			
	Ø 6 x 8 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 933**			
	Ø 6 x 10 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 935**			

Grinding points EKR
shank Ø 3 x 30 mm, hardness N

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 20 pieces	Price from 50 pieces
barrel										
	Ø 4 x 5 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 917**			
	Ø 6 x 8 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 918**			
rhombus										
	Ø 7 x 5 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 920**			
mushroom										
	Ø 8 x 1.6 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 921**			
sphere										
	Ø 3 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 913**			
	Ø 4 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 914**			
	Ø 5 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 915**			
	Ø 8 mm	N	80	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 145**			
	Ø 10 mm	N	60	Ø 3 x 30 mm	50 m/s	10 pieces	**0 542 146**			
wheel										
	Ø 5 x 1.5 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 925**			
	Ø 6 x 2.5 mm	N	100	Ø 3 x 30 mm	50 m/s	10 pieces	**0 540 926**			

matching set

	Order No.	Price from 1 set
Set of grinding points EKR		
Contents: 36 pieces	**0 540 900**	



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Grinding points EKR
shank Ø 6 x 40 mm, hardness N

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	20 pieces	50 pieces
EKR grinding points, shank Ø 6 x 40 mm										
cylinder										
	Ø 4 x 8 mm	N	80	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 702**			
	Ø 5 x 10 mm	N	80	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 703**			
	Ø 6 x 10 mm	N	60	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 704**			
	Ø 8 x 10 mm	N	60	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 705**			
	Ø 8 x 16 mm	N	60	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 706**			
	Ø 10 x 10 mm	N	60	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 707**			
	Ø 10 x 20 mm	N	60	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 708**			
	Ø 13 x 13 mm	N	46	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 710**			
	Ø 13 x 20 mm	N	46	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 711**			
	Ø 16 x 16 mm	N	46	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 712**			
	Ø 16 x 20 mm	N	46	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 713**			
	Ø 16 x 32 mm	N	46	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 714**			
	Ø 20 x 20 mm	N	36	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 715**			
	Ø 20 x 25 mm	N	36	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 716**			
	Ø 20 x 40 mm	N	36	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 718**			
sphere										
	Ø 8 mm	N	60	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 747**			
	Ø 10 mm	N	60	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 736**			
	Ø 16 mm	N	46	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 738**			
	Ø 20 mm	N	36	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 739**			
cone										
	Ø 16 x 32 mm	N	46	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 742**			
	Ø 16 x 40 mm	N	46	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 743**			
	Ø 20 x 32 mm	N	36	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 744**			
	Ø 20 x 40 mm	N	36	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 745**			
wheel										
	Ø 25 x 6 mm	N	60	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 728**			
	Ø 32 x 8 mm	N	46	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 730**			
	Ø 40 x 10 mm	N	30	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 731**			
	Ø 40 x 20 mm	N	30	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 724**			

Grinding points EKR
shank Ø 3 x 40/60 mm, hardness N • Shanks made from rustproof steel

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	20 pieces	50 pieces
EKR grinding points, shank Ø 3 x 40 mm, rustproof steel										
cylinder										
	Ø 2 x 5 mm	N	60	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 651**			
		N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 661**			
	Ø 3 x 5 mm	N	60	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 652**			
		N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 662**			
	Ø 4 x 8 mm	N	60	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 653**			
		N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 663**			
	Ø 5 x 10 mm	N	60	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 654**			
		N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 664**			
	Ø 6 x 10 mm	N	60	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 655**			
		N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 665**			
	Ø 7 x 10 mm	N	60	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 656**			
	Ø 7 x 70 mm	N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 666**			
sphere										
	Ø 5 mm	N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 677**			
	Ø 6 mm	N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 678**			
cone										
	Ø 6 x 10 mm	N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 680**			
tree with pointed end										
	Ø 3 x 6 mm	N	60	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 679**			

Why rustproof shanks?

These points have shanks made of rustproof steel. They are mainly used in the food and chemical industry.

Blowing pen
A must for every workplace!

Possibly the smallest blowing pen in the world. It weighs a mere 20 g and regulates the compressed air perfectly. The small aperture of 3 mm ensures that the air really only goes where it should. A must for every workplace!

		Order No.	Price from 1 piece
Blowing pen			
	For direct connection to a rapid coupling system. Dimensions: Ø 12.5 x 108 mm Weight: 20 g	**0 203 200**	

Grinding points EKWbr
shank Ø 3 x 30 mm, hardness O/P

	Head dimensions	Hard-ness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	20 pieces	50 pieces
EKWbr grinding points, shank Ø 3 x 30 mm										
cylinder										
	Ø 3 x 6 mm	O/P	100	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 401**			
	Ø 4 x 8 mm	O/P	80	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 402**			
	Ø 5 x 10 mm	O/P	80	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 403**			
	Ø 6 x 10 mm	O/P	60	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 404**			
	Ø 8 x 10 mm	O/P	60	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 405**			
	Ø 10 x 10 mm	O/P	60	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 406**			
	Ø 10 x 13 mm	O/P	60	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 407**			
	Ø 10 x 15 mm	O/P	60	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 408**			
	Ø 13 x 13 mm	O/P	60	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 409**			
	Ø 13 x 16 mm	O/P	60	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 410**			
wheel										
	Ø 16 x 4 mm	O/P	60	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 413**			
	Ø 20 x 6 mm	O/P	60	Ø 3 x 30 mm	35 m/s	10 pieces	**0 542 414**			



Grinding points EKW
shank Ø 3 x 40 mm, hardness N

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	20 pieces	50 pieces
EKW grinding points, shank Ø 3 x 40 mm										
cylinder										
	Ø 2 x 5 mm	N	80	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 601**			
	Ø 3 x 5 mm	N	80	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 602**			
	Ø 4 x 8 mm	N	80	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 603**			
	Ø 5 x 10 mm	N	80	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 604**			
	Ø 6 x 10 mm	N	80	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 605**			
	Ø 7 x 10 mm	N	80	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 606**			

Grinding points EKW
shank Ø 3 x 40/60 mm, hardness N, shanks made from rustproof steel

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	20 pieces	50 pieces
EKW grinding points, shank Ø 3 x 40/60 mm, rustproof steel										
cylinder										
	Ø 2 x 5 mm	N	80	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 631**			
		N	80	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 641**			
	Ø 3 x 5 mm	N	80	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 632**			
	Ø 4 x 8 mm	N	80	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 633**			
		N	80	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 643**			
	Ø 5 x 10 mm	N	80	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 634**			
		N	80	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 644**			
	Ø 6 x 10 mm	N	80	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 635**			
	Ø 7 x 10 mm	N	80	Ø 3 x 40 mm	35 m/s	10 pieces	**0 542 636**			
sphere										
	Ø 3 mm	N	80	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 671**			
	Ø 5 mm	N	80	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 672**			
	Ø 6 mm	N	80	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 673**			
cone										
	Ø 6 x 10 mm	N	80	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 675**			
tree with pointed end										
	Ø 3 x 6 mm	N	80	Ø 3 x 60 mm	35 m/s	10 pieces	**0 542 674**			

Why rustproof shanks?

These points have shanks made of rustproof steel. They are mainly used in the food and chemical industry.

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Grinding points EKD
shank Ø 3 x 40 mm, hardness N

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	20 pieces	50 pieces
EKD grinding points, shank Ø 3 x 40 mm										
cylinder										
	Ø 2 x 5 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 331**			
	Ø 4 x 8 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 332**			
	Ø 5 x 10 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 333**			
	Ø 8 x 10 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 334**			
pointed cylinder										
	Ø 7 x 12 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 340**			
rounded cylinder										
	Ø 3 x 6 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 347**			
	Ø 4 x 8 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 348**			
	Ø 6 x 10 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 341**			
	Ø 6 x 12 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 342**			
wheel										
	Ø 10 x 2 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 336**			
	Ø 10 x 5 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 337**			
mushroom										
	Ø 10 x 2 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 338**			
cone										
	Ø 5 x 10 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 339**			
sphere										
	Ø 5 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 344**			
	Ø 8 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 345**			
	Ø 10 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 346**			
cone										
	Ø 8 x 8 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 349**			
	Ø 10 x 10 mm	N	100	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 350**			

matching set

		Order No.	Price from 1 set
Set of grinding points EKD			
	Contents: 18 pieces	**0 542 330**	

Grinding points Blue Stones
shank Ø 3 x 40 mm, hardness QU

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 20 pieces	Price from 50 pieces
Blue Stones grinding points, shank Ø 3 x 40 mm										
cylinder										
	Ø 2 x 5 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 778**			
	Ø 3 x 6 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 779**			
	Ø 4 x 8 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 780**			
	Ø 5 x 6 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 781**			
	Ø 5 x 10 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 782**			
	Ø 6 x 6 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 783**			
	Ø 6 x 10 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 784**			
	Ø 8 x 10 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 785**			
	Ø 10 x 10 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 786**			
wheel										
	Ø 4 x 1.6 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 787**			
	Ø 8 x 1.6 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 788**			
	Ø 13 x 3 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 789**			
	Ø 13 x 6 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 790**			
tree with pointed end										
	Ø 3 x 6 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 774**			
	Ø 5 x 10 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 773**			
sphere										
	Ø 3 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 775**			
	Ø 5 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 776**			
	Ø 6 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 777**			
rounded arch										
	Ø 6 x 10 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 772**			
pointed cone										
	Ø 6 x 10 mm	QU	120	Ø 3 x 40 mm	50 m/s	10 pieces	**0 542 771**			

matching set

		Grit size	Order No.	Price from 1 set
Set of grinding points Blue Stones				
	Contents: 20 pieces	K 120	**0 542 770**	

Grinding points Blue Stones
shank Ø 6 x 40 mm, hardness QU

	Head dimensions	Hardness	Grit size	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 20 pieces	Price from 50 pieces
Blue Stones grinding points, shank Ø 6 x 40 mm										
cylinder										
	Ø 6 x 10 mm	QU	120	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 812**			
	Ø 8 x 10 mm	QU	120	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 813**			
	Ø 10 x 10 mm	QU	120	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 815**			
	Ø 10 x 20 mm	QU	120	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 816**			
sphere										
	Ø 8 mm	QU	120	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 818**			
	Ø 10 mm	QU	120	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 819**			
	Ø 13 mm	QU	120	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 820**			
tree with pointed end										
	Ø 6 x 13 mm	QU	120	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 822**			
cone										
	Ø 8 x 10 mm	QU	120	Ø 6 x 40 mm	50 m/s	10 pieces	**0 542 824**			

matching set

	Grit size	Order No.	Price from 1 set
Set of grinding points Blue Stones			
 Contents: 9 pieces	K 120	**0 542 810**	

Grinding points NORTON
shank Ø 3 / 6 x 40 mm, soft

Suitable for all metals, ideal for softer materials such as aluminium. Perfect in postprocessing for 3D printed aluminium parts

	Head dimensions	Hardness	Grit size	Colour	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 20 pieces	Price from 50 pieces
NORTON grinding points, shank Ø 3 mm											
cylinder											
	Ø 6 x 12 mm	soft	fine	grey	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 911**			
	Ø 10 x 12 mm	soft	fine	grey	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 910**			
	Ø 20 x 25 mm	soft	fine	grey	Ø 6 x 40 mm	50 m/s	10 pieces	**0 571 912**			

Compact discs VORTEX Unitized
for manual and machine use

Compact discs VORTEX Unitized
A new dimension in deburring and uniform finishing – particularly on materials that are difficult to process.

The patented grit of these discs results in an up to twice as high, very aggressive stock removal in comparison to conventional discs, with improved results on the workpiece.

The advantages at a glance:
- more rapid stock removal, shortened throughput times, optimised quality
- cool cut
- maximum service lives: consistent stock removal performance from the beginning to the end of the disc
- usable for a wide range of shapes and contours

	Bonding	Dimensions	Drilling dimension	Order No.	Price from 1 piece	Price from 10 pieces
Compact discs VORTEX Unitized						
	soft	Ø 75 x 3 mm	6.3 mm	**0 545 681**		
	hard	Ø 50 x 6 mm	6.3 mm	**0 545 680**		
		Ø 75 x 3 mm	6.3 mm	**0 545 682**		
		Ø 75 x 12 mm	6.3 mm	**0 545 683**		
		Ø 150 x 6 mm	25.4 mm	**0 545 684**		

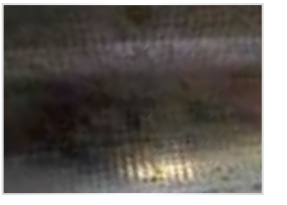
Accessories / spare parts

	for bore dimensions	Shank dimensions	Type	Max. disc size	Order No.	Price from 1 piece	Price from 10 pieces
CRATEX® grinding wheel holder							
	Ø 1/4" / Ø 6.3 mm	Ø 6 x 40 mm	32	Ø 75 x 20 mm	**0 545 297**		



removing of milling traces from 1.2379

before



after



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Grinding wheels VORTEX Rapid
with quick change system

NEW!

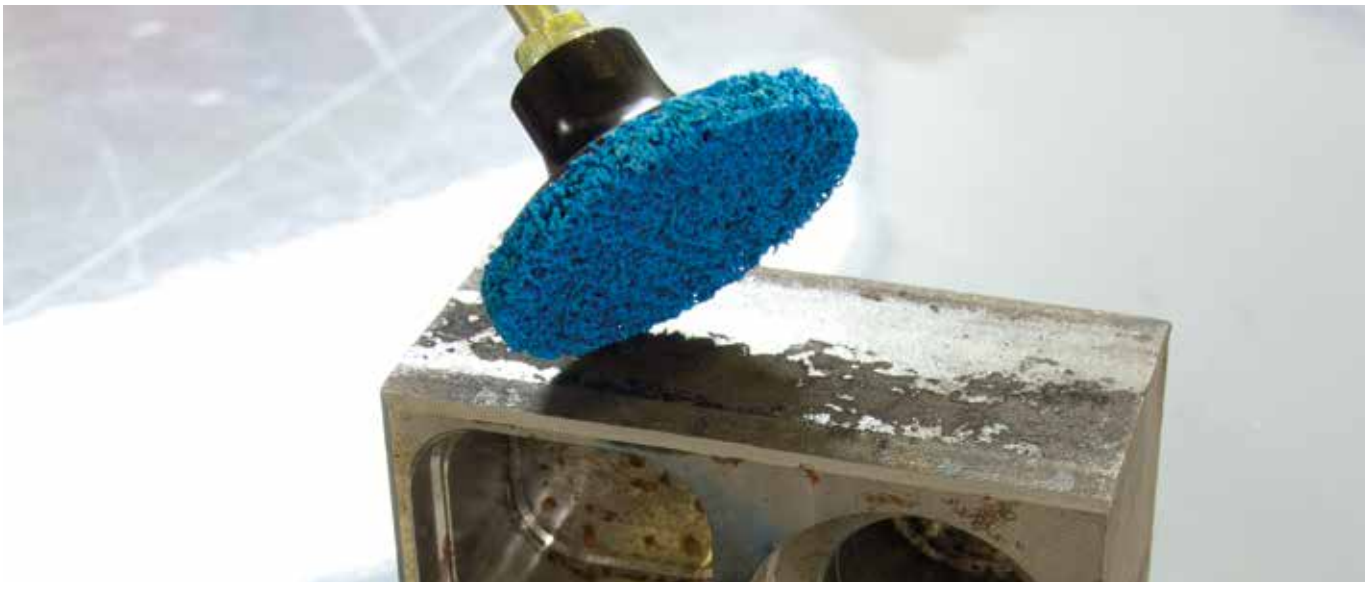
Patented grain technology combined with improved synthetic resin system prevents rapid clogging. Up to 8 x longer lifetime than other surface finishing discs.

suitable for the following materials:
stainless steel, carbon steels, aluminum

	Dimensions	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 3 packs
Grinding wheels VORTEX Rapid						
	Ø 50 mm	medium	25 pieces	**0 545 697**		
	Ø 75 mm	medium	25 pieces	**0 545 698**		

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece	Price from 3 pieces
Grinding disc holder TR				
	Ø 50 mm	**0 545 699**		
	Ø 75 mm	**0 545 700**		



Grinding points VORTEX®
shank Ø 3 x 40 mm, hard

VORTEX®-blue grinding points
The grinding points are ideally suited for processing hard materials that are difficult to machine, such as titanium, Inconel, etc.
The patented high performance grit is ideal for rapid stock removal and reduces processing times.

The following versions are available:
- Wheel version (slightly flexible)
- Cylinder version (firm)

	Head dimensions	Hardness	Grit size	Colour	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 20 pieces	Price from 50 pieces
VORTEX®-blue grinding points, shank Ø 3 x 40 mm											
wheel											
	Ø 25 x 3 mm	hard	coarse	blue	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 904**			
	Ø 30 x 3 mm	hard	coarse	blue	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 900**			
cylinder											
	Ø 5 x 12 mm	hard	coarse	blue	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 901**			
	Ø 6 x 13 mm	hard	coarse	blue	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 902**			
	Ø 10 x 12 mm	hard	coarse	blue	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 903**			
sphere											
	Ø 6 mm	hard	coarse	blue	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 926**			
	Ø 8 mm	hard	coarse	blue	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 927**			
	Ø 10 mm	hard	coarse	blue	Ø 3 x 40 mm	50 m/s	10 pieces	**0 571 928**			

matching set

		Order No.	Price from 1 set
Set of grinding points VORTEX®-blue			
	The set consists of the following five coarse-grit, hard grinding points with a shank Ø 3 x 40 mm: • Wheel, Ø 25 x 3 mm (order no. 0 571 904) • Wheel, Ø 30 x 3 mm (order no. 0 571 900) • Cylinder, Ø 5 x 13 mm (order no. 0 571 901) • Cylinder, Ø 6 x 13 mm (order no. 0 571 902) • Cylinder, Ø 10 x 12 mm (order no. 0 571 903)	**0 571 915**	



Grinding points VORTEX®
shank Ø 6 x 40 mm, hard

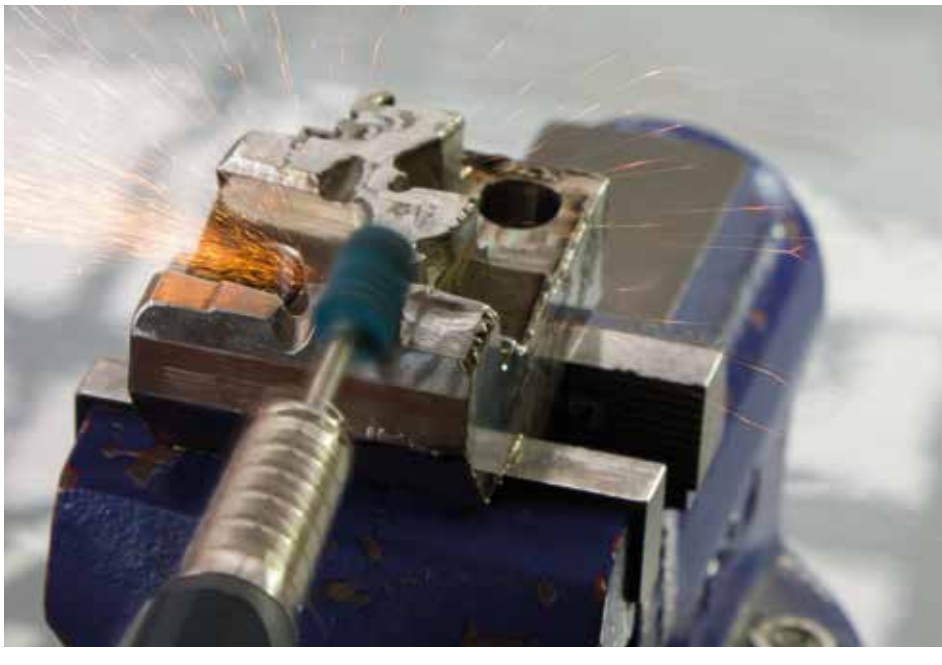
VORTEX®-blue grinding points
The grinding points are ideally suited for processing hard materials that are difficult to machine, such as titanium, Inconel, etc.
The patented high performance grit is ideal for rapid stock removal and reduces processing times.

The following versions are available:
- Wheel version (slightly flexible)
- Cylinder version (firm)

	Head dimensions	Hardness	Grit size	Colour	Shank dimensions	Cutting speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 20 pieces	Price from 50 pieces
VORTEX®-blue grinding points, shank Ø 6 x 40 mm											
cylinder											
	Ø 10 x 20 mm	hard	coarse	blue	Ø 6 x 40 mm	50 m/s	10 pieces	**0 571 920**			
	Ø 13 x 20 mm	hard	coarse	blue	Ø 6 x 40 mm	50 m/s	10 pieces	**0 571 921**			
	Ø 20 x 25 mm	hard	coarse	blue	Ø 6 x 40 mm	50 m/s	10 pieces	**0 571 922**			

matching set

		Order No.	Price from 1 set
Set of grinding points VORTEX® blue			
	The set consists of the following three coarse-grit, hard grinding points with a shank Ø 6 x 40 mm: • Cylinder, Ø 10 x 20 mm (order no. 0 571 920) • Cylinder, Ø 13 x 20 mm (order no. 0 571 921) • Cylinder, Ø 20 x 25 mm (order no. 0 571 922)	**0 571 925**	



Fibre-laminated grinding and polishing points
shank Ø 3 x40 mm

Fibre-laminated grinding and polishing points
These fibre-laminated grinding points produce excellent surfaces with high stock removal. The tools do not clog, offer a very good service life, grind and polish simultaneously and are vibration-free. They are ideal for hard chromium plated steels and have proved their worth with all difficult steels in aeronautical, motor and plant construction. The points are available in two bonding strengths and different grit sizes:

Hard: Aggressive for high stock removal and fine surfaces.
Soft: Polishing with low stock removal and deburring.

Vmax 30 m/s

	Head dimensions	Bonding	Grit size	Shank dimensions	Order No.	Price from 1 piece	10 pieces	20 pieces
Fibre-laminated grinding points, corundum, shank Ø 3 x 40 mm								
cylinder								
	Ø 6 x 6 mm	hard	80	Ø 3 x 40 mm	**0 545 611**			
		soft	80	Ø 3 x 40 mm	**0 545 612**			
		soft	180	Ø 3 x 40 mm	**0 545 613**			
	Ø 6 x 13 mm	hard	80	Ø 3 x 40 mm	**0 545 614**			
		soft	80	Ø 3 x 40 mm	**0 545 615**			
		soft	180	Ø 3 x 40 mm	**0 545 616**			
	Ø 10 x 19 mm	hard	54	Ø 3 x 40 mm	**0 545 617**			
		hard	80	Ø 3 x 40 mm	**0 545 618**			
		soft	80	Ø 3 x 40 mm	**0 545 619**			
		soft	180	Ø 3 x 40 mm	**0 545 620**			
	Ø 13 x 13 mm	hard	80	Ø 3 x 40 mm	**0 545 621**			
		soft	80	Ø 3 x 40 mm	**0 545 622**			
		soft	180	Ø 3 x 40 mm	**0 545 623**			
sphere								
	Ø 6 mm	hard	80	Ø 3 x 40 mm	**0 545 658**			
	Ø 6.5 mm	soft	80	Ø 3 x 40 mm	**0 545 647**			
	Ø 8 mm	hard	80	Ø 3 x 40 mm	**0 545 659**			
	Ø 13 mm	soft	80	Ø 3 x 40 mm	**0 545 609**			
		hard	80	Ø 3 x 40 mm	**0 545 627**			
		soft	180	Ø 3 x 40 mm	**0 545 610**			
pointed cone								
	Ø 10 x 19 mm	hard	54	Ø 3 x 40 mm	**0 545 605**			
		soft	80	Ø 3 x 40 mm	**0 545 607**			
		hard	80	Ø 3 x 40 mm	**0 545 606**			
		soft	180	Ø 3 x 40 mm	**0 545 608**			
cone								
	Ø 13 x 19 mm	hard	54	Ø 3 x 40 mm	**0 545 601**			
		soft	80	Ø 3 x 40 mm	**0 545 603**			
		hard	80	Ø 3 x 40 mm	**0 545 602**			
		soft	180	Ø 3 x 40 mm	**0 545 604**			
sphere								
	Ø 13 mm	hard	54	Ø 3 x 40 mm	**0 545 626**			

Fibre-laminated grinding and polishing points
shank Ø 3 x40 mm

matching set

		Grit size	Order No.	Price from 1 set
Set of grinding points, fibre-laminated				
	This range contains following seven hard bonded fibre-laminated polishing points in grit size 80, shank dimensions 3 x 40mm: • Cylinder, Ø 6 x 6 mm (order no. 0 545 611) • Cylinder, Ø 6 x 13 mm (order no. 0 545 614) • Cylinder, Ø 10 x 19 mm (order no. 0 545 618) • Cylinder, Ø 13 x 13 mm (order no. 0 545 621) • Sphere, Ø 13 mm (order no. 0 545 627) • Pointed Cone, Ø 10 x 19 mm (order no. 0 545 606) • Cone, Ø 13 x 19 mm (order no. 0 545 602) These polishing points are suitable for fine surfaces due to a high material removal.	K 80	**0 545 695**	
	This range contains following seven soft bonded fibre-laminated polishing points in grit size 80, shank dimensions 3 x 40 mm: • Cylinder, Ø 6 x 6 mm (order no. 0 545 612) • Cylinder, Ø 6 x 13 mm (order no. 0 545 615) • Cylinder, Ø 10 x 19 mm (order no. 0 545 619) • Cylinder, Ø 13 x 13 mm (order no. 0 545 622) • Sphere, Ø 13 mm (order no. 0 545 609) • Pointed Cone, Ø 10 x 19 mm (order no. 0 545 607) • Cone, Ø 13 x 19 mm (order no. 0 545 603) These polishing points are suitable for polishing aluminium and for deburring due to a low material removal.	K 80	**0 545 690**	



Rubber-bonded grinding tools

209 **Rubber-bonded polishing points**

212 **Elastic polishing points**

214 **Elastic grinding files**

215 **Rubber-bonded grinding tools CERA Sticks**

216 **Tool system CRATEX®**

Rubber-bonded tools are the right choice wherever the highest demands are placed on the polished section and the latter's dimensional stability. A wide selection of these can be found with us: polishing points on a shank (rubber-bonded, elastic and fibrelaminated), rubber-bonded grinding discs, in addition to compact discs and of course the CRATEX® tool system, which has been tried and trusted for decades.

Rubber-bonded polishing points series 700
hard rubber bonding • shank Ø 3 x 30 mm

Rubber-bonded polishing points series 700
Thanks to their hard rubber bond and corundum grit combination, these fine grinding and polishing tools with hard rubber bonding are particularly suited for very fine grinding, equally for cast iron, hardened or unhardened, alloy or nonalloy steels as well as all other materials to be ground. These tools do not clog, do not smear and deliver high efficiency with medium grinding pressure.

Cutting speed Vmax: 50 m/s

	Head dimensions	Grit size	Shank dimensions	Order No.	Price from 1 piece	20 pieces	50 pieces
Rubber-bonded polishing points series 700, shank Ø 3 x 30 mm							
hard rubber bonding							
cylinder							
	Ø 4 x 8 mm	100	Ø 3 x 30 mm	**0 544 701**			
	Ø 5 x 10 mm	100	Ø 3 x 30 mm	**0 544 702**			
	Ø 6 x 10 mm	100	Ø 3 x 30 mm	**0 544 703**			
	Ø 7 x 10 mm	100	Ø 3 x 30 mm	**0 544 704**			
	Ø 8 x 10 mm	100	Ø 3 x 30 mm	**0 544 705**			
	Ø 10 x 10 mm	100	Ø 3 x 30 mm	**0 544 706**			
	Ø 10 x 13 mm	100	Ø 3 x 30 mm	**0 544 707**			
	Ø 10 x 16 mm	100	Ø 3 x 30 mm	**0 544 708**			
	Ø 13 x 3 mm	100	Ø 3 x 30 mm	**0 544 712**			
	Ø 13 x 13 mm	100	Ø 3 x 30 mm	**0 544 709**			
	Ø 13 x 16 mm	100	Ø 3 x 30 mm	**0 544 710**			
	Ø 16 x 4 mm	100	Ø 3 x 30 mm	**0 544 713**			
	Ø 16 x 16 mm	100	Ø 3 x 30 mm	**0 544 715**			
	Ø 20 x 6 mm	100	Ø 3 x 30 mm	**0 544 714**			

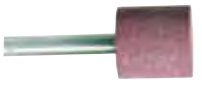
matching set

	Grit size	Order No.	Price from 1 set
Rubber-bonded polishing points series 700, shank Ø 3 mm, 14 pieces			
 Set contains all head sizes 1 x each.	100	**0 544 700**	

Rubber-bonded polishing points series 720
Soft rubber bond

Rubber-bonded polishing points series 720
The special features of the soft rubber bond of the series 720 is an extremely soft cut, high surface quality and very low stock removal of the corundum grit. The outstanding elasticity of the soft rubber bond results in a relatively low cutting speed for the vibration-free operation.

Cutting speed Vmax: 15 m/s

	Head dimensions	Grit size	Colour	Shank dimensions	Order No.	Price from 1 piece	20 pieces	50 pieces
Rubber-bonded polishing points series 720, shank Ø 3 x 30 mm & 3 x 60 mm								
Soft rubber bond								
sphere								
	Ø 5 mm	120	red	Ø 3 x 30 mm	**0 544 760**			
		120	red	Ø 3 x 60 mm	**0 544 727**			
	Ø 8 mm	120	red	Ø 3 x 30 mm	**0 544 767**			
		120	red	Ø 3 x 60 mm	**0 544 726**			
	Ø 10 mm	120	red	Ø 3 x 30 mm	**0 544 768**			
		120	red	Ø 3 x 60 mm	**0 544 725**			
	Ø 13 mm	120	red	Ø 3 x 30 mm	**0 544 719**			
cylinder								
	Ø 4 x 8 mm	80	grey	Ø 3 x 30 mm	**0 544 731**			
		120	red	Ø 3 x 30 mm	**0 544 751**			
		220	brown	Ø 3 x 30 mm	**0 544 771**			
		280	green	Ø 3 x 30 mm	**0 544 791**			
	Ø 5 x 10 mm	80	grey	Ø 3 x 30 mm	**0 544 732**			
		120	red	Ø 3 x 30 mm	**0 544 752**			
		220	brown	Ø 3 x 30 mm	**0 544 772**			
		280	grey	Ø 3 x 30 mm	**0 544 792**			
	Ø 6 x 10 mm	80	grey	Ø 3 x 30 mm	**0 544 733**			
		120	red	Ø 3 x 30 mm	**0 544 753**			
		220	brown	Ø 3 x 30 mm	**0 544 773**			
		280	green	Ø 3 x 30 mm	**0 544 793**			
	Ø 8 x 10 mm	80	grey	Ø 3 x 30 mm	**0 544 734**			
		120	red	Ø 3 x 30 mm	**0 544 754**			
		220	brown	Ø 3 x 30 mm	**0 544 774**			
		280	green	Ø 3 x 30 mm	**0 544 794**			
	Ø 10 x 10 mm	80	grey	Ø 3 x 30 mm	**0 544 735**			
		120	red	Ø 3 x 30 mm	**0 544 755**			
		220	brown	Ø 3 x 30 mm	**0 544 775**			
		280	green	Ø 3 x 30 mm	**0 544 795**			
	Ø 13 x 13 mm	80	grey	Ø 3 x 30 mm	**0 544 736**			
		120	red	Ø 3 x 30 mm	**0 544 756**			
		220	brown	Ø 3 x 30 mm	**0 544 776**			
		280	green	Ø 3 x 30 mm	**0 544 796**			
	Ø 13 x 16 mm	80	grey	Ø 3 x 30 mm	**0 544 737**			
		120	red	Ø 3 x 30 mm	**0 544 757**			
		220	brown	Ø 3 x 30 mm	**0 544 777**			
		280	green	Ø 3 x 30 mm	**0 544 797**			
	Ø 16 x 16 mm	80	grey	Ø 3 x 30 mm	**0 544 738**			
		120	red	Ø 3 x 30 mm	**0 544 758**			
		220	brown	Ø 3 x 30 mm	**0 544 778**			
		280	green	Ø 3 x 30 mm	**0 544 798**			

Rubber-bonded polishing points series 720
Soft rubber bond

matching set

		Grit size	Order No.	Price from 1 set
Rubber-bonded polishing points series 720, 8 pieces, shank Ø 3 x 30 mm				
	Set contains all head sizes 1x each	80	**0 544 730**	
		120	**0 544 750**	
		220	**0 544 770**	
		280	**0 544 790**	

	Head dimensions	Grit size	Colour	Shank dimensions	Order No.	Price from 1 piece	20 pieces	50 pieces
Rubber-bonded polishing points series 720, shank Ø 6 x 40 mm								
Soft rubber bond								
cylinder								
	Ø 8 x 16 mm	80	grey	Ø 6 x 40 mm	**0 544 741**			
		120	red	Ø 6 x 40 mm	**0 544 761**			
		220	brown	Ø 6 x 40 mm	**0 544 781**			
		280	green	Ø 6 x 40 mm	**0 544 801**			
	Ø 10 x 20 mm	80	grey	Ø 6 x 40 mm	**0 544 742**			
		120	red	Ø 6 x 40 mm	**0 544 762**			
		220	brown	Ø 6 x 40 mm	**0 544 782**			
		280	green	Ø 6 x 40 mm	**0 544 802**			
	Ø 13 x 20 mm	80	grey	Ø 6 x 40 mm	**0 544 743**			
		120	red	Ø 6 x 40 mm	**0 544 763**			
		220	brown	Ø 6 x 40 mm	**0 544 783**			
		280	green	Ø 6 x 40 mm	**0 544 803**			
	Ø 16 x 20 mm	80	grey	Ø 6 x 40 mm	**0 544 744**			
		120	red	Ø 6 x 40 mm	**0 544 764**			
		220	brown	Ø 6 x 40 mm	**0 544 784**			
		280	green	Ø 6 x 40 mm	**0 544 804**			
	Ø 16 x 32 mm	120	red	Ø 6 x 40 mm	**0 544 765**			
		80	grey	Ø 6 x 40 mm	**0 544 745**			
		220	brown	Ø 6 x 40 mm	**0 544 785**			
	Ø 20 x 20 mm	80	grey	Ø 6 x 40 mm	**0 544 746**			
		120	red	Ø 6 x 40 mm	**0 544 766**			
		220	brown	Ø 6 x 40 mm	**0 544 786**			
		280	green	Ø 6 x 40 mm	**0 544 806**			
sphere								
	Ø 13 mm	120	red	Ø 6 x 40 mm	**0 544 769**			

Elastic polishing points
shank Ø 2.35 x 40 mm

Elastic polishing points
These points are available with silicon carbide or diamond as abrasive. These points are highly suitable for working on hard and tough materials, such as titanium or ceramic. They leave a matt finish with excellent roughness values on materials. Regardless of the various bonds, these points can be easily shaped.

Recommended Speed: 5,000 – 10,000 rpm

	Head dimensions	Grit size	Colour	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	Price from 10 pieces
Elastic polishing points, shank Ø 2.35 x 40 mm								
Diamond polishing points, medium bond								
pointed								
	Ø 4 x 13 mm	medium / K 150	pink	Ø 2.35 x 40 mm	10000 1/min	**0 542 914**		
		fine / K 240	light grey	Ø 2.35 x 40 mm	10000 1/min	**0 542 915**		
silicone polishing points, soft bond								
cylinder								
	Ø 6 x 11.5 mm	coarse / K 80	white	Ø 2.35 x 40 mm	10000 1/min	**0 542 904**		
		medium / K 150	black	Ø 2.35 x 40 mm	10000 1/min	**0 542 905**		
		fine / K 240	light blue	Ø 2.35 x 40 mm	10000 1/min	**0 542 906**		
pointed								
	Ø 4.5 x 12 mm	coarse / K 80	white	Ø 2.35 x 40 mm	10000 1/min	**0 542 901**		
		medium / K 150	black	Ø 2.35 x 40 mm	10000 1/min	**0 542 902**		
		fine / K 240	light blue	Ø 2.35 x 40 mm	10000 1/min	**0 542 903**		
technical polishing points, hard bond								
cylinder								
	Ø 10 x 12 mm	very coarse	blue	Ø 2.35 x 40 mm	10000 1/min	**0 542 910**		
		coarse	grey	Ø 2.35 x 40 mm	10000 1/min	**0 542 911**		
		medium	red brown	Ø 2.35 x 40 mm	10000 1/min	**0 542 912**		
pointed								
	Ø 3.3 x 7.5 mm	very coarse	blue	Ø 2.35 x 40 mm	10000 1/min	**0 542 907**		
		coarse	grey	Ø 2.35 x 40 mm	10000 1/min	**0 542 908**		
		medium	red brown	Ø 2.35 x 40 mm	10000 1/min	**0 542 909**		

Elastic polishing points
shank Ø 3 x 30 mm

		Order No.	Price from 1 set	Price from 5 set	Price from 10 set
SET – Elastic grinding- and polishing points, shank-Ø 3 x 30 mm, 10 pieces					
	Set includes: 2 x cyl., Ø 5x15mm, grit 80 2 x cyl., Ø 5x15mm, grit 120 2 x cyl., Ø 5x15mm, grit 220 2 x cyl., Ø 5x15mm, grit 320 1 x cyl., Ø 4x13mm, diamond grit 1000 1 x cyl., Ø 4x13mm, diamond grit 3000	**0 544 800**			

Elastic polishing points joke FlexPol
with holder shank Ø 2.35 x 30 mm

These elastic polishers with silicon carbide in plastic rubber bond are ideal for processing hard and tough materials in hard to reach places. The points are available in five different diameters and six grit sizes each. Independently of the various bond strengths, these points can be profiled very well. The points are suitable for both rotating and linear applications. Handling the points is very easy with the right holder. By simply turning the holder, you can clamp the flexi-polishers and change them equally quickly.
Recommended rotational speed: 15,000 rpm. – max. rotational speed: 30,000 rpm

	Dimensions	Grit size	Colour	Bonding	Packing quantity	Order No.	Price from 1 pack
Elastic polishing points joke FlexPol							
	Ø 1.5 x 15 mm	coarse	blue	hard	10 pieces	**0 542 942-10**	
		medium	dark brown	x-hard	10 pieces	**0 542 941-10**	
		medium	dark grey	medium	10 pieces	**0 542 943-10**	
		fine	red brown	medium	10 pieces	**0 542 944-10**	
		x-fine	green	medium	10 pieces	**0 542 945-10**	
		xx-fine	yellow	medium	10 pieces	**0 542 946-10**	
	Ø 2 x 20 mm	coarse	blue	hard	10 pieces	**0 542 952-10**	
		medium	dark brown	x-hard	10 pieces	**0 542 951-10**	
		medium	dark grey	medium	10 pieces	**0 542 953-10**	
		fine	red brown	medium	10 pieces	**0 542 954-10**	
		x-fine	green	medium	10 pieces	**0 542 955-10**	
		xx-fine	yellow	medium	10 pieces	**0 542 956-10**	
	Ø 3 x 23 mm	coarse	blue	hard	10 pieces	**0 542 962-10**	
		medium	dark brown	x-hard	10 pieces	**0 542 961-10**	
		medium	dark grey	medium	10 pieces	**0 542 963-10**	
		fine	red brown	medium	10 pieces	**0 542 964-10**	
		x-fine	green	medium	10 pieces	**0 542 965-10**	
		xx-fine	yellow	medium	10 pieces	**0 542 966-10**	
	Ø 4 x 26 mm	coarse	blue	hard	10 pieces	**0 542 972-10**	
		medium	dark brown	x-hard	10 pieces	**0 542 971-10**	
		medium	dark grey	medium	10 pieces	**0 542 973-10**	
		fine	red brown	medium	10 pieces	**0 542 974-10**	
		x-fine	green	medium	10 pieces	**0 542 975-10**	
		xx-fine	yellow	medium	10 pieces	**0 542 976-10**	
	Ø 5 x 28 mm	coarse	blue	hard	10 pieces	**0 542 982-10**	
		medium	dark brown	x-hard	10 pieces	**0 542 981-10**	
		medium	dark grey	medium	10 pieces	**0 542 983-10**	
		fine	red brown	medium	10 pieces	**0 542 984-10**	
		x-fine	green	medium	10 pieces	**0 542 985-10**	
		xx-fine	yellow	medium	10 pieces	**0 542 986-10**	

Accessories / spare parts

	Dimensions	Order No.	1 piece	Price from 3 pieces	5 pieces
Holder for joke FlexPol, shank Ø 2.35 x 30 mm					
	Ø 2 mm	**0 542 950**			
	Ø 3 mm	**0 542 960**			
	Ø 4 mm	**0 542 970**			
	Ø 5 mm	**0 542 980**			

Elastic grinding files
joke PU-DIA

Rubber-bonded grinding files joke PU-DIA
Synthetic diamond grits bonded in polyurethane (PU). Excellent stock removal performance on hardened surfaces and also the correct medium of choice for removing erosion structures. Owing to the elastic bond, these tools also adapt very well to the widest array of contours without any risk of breaking. Two dimensions in each of six grit sizes as standard (others on request!).

Use: Wet/dry with water, fluid or oil.

Tip: Make your own grinding files.
The joke Pu-Dia's can be simply cut to size and adapted.





	Dimensions	Grit size	Colour	Order No.	Price from 1 piece	Price from 5 pieces
Elastic grinding files joke PU-DIA						
rectangular						
	10 x 10 x 100 mm	D 3	green	**0 545 801**		
		D 9	red	**0 545 802**		
		D 15	brown	**0 545 803**		
		D 30	mahagony	**0 545 804**		
		D 40	purple	**0 545 805**		
		D 60	orange	**0 545 806**		
	20 x 20 x 100 mm	D 3	green	**0 545 811**		
		D 9	red	**0 545 812**		
		D 15	brown	**0 545 813**		
		D 30	mahagony	**0 545 814**		
		D 40	purple	**0 545 815**		
		D 60	orange	**0 545 816**		

Polishing point set, soft elastomer
shank Ø 2.35 x 30 mm

		Grit size	Colour	Shank dimensions	Packing quantity	Order No.	Price from 1 set	Price from 20 set	Price from 50 set
Polishing point set, soft elastomer									
	Set – silicone polishers consisting of 1 piece each: Wheel: head dim. 10 x 2 mm Mushroom: head dim. 10 x 2 mm Cylinder: head dim. 10 x 4 mm Cylinder: head dim. 6 x 10 mm Trapezium (open): head dim. 9 x 6 mm Trapezium (closed): head dim. 8 x 6 mm Barrel: head dim. 6 x 6 mm Sphere: head dim. Ø 8 mm Cone: head dim. 6 x 6 mm Tree: head dim. 6 x 6 mm Tree with pointed end: head dim. 6 x 12 mm Tree: head dim. 6 x 15 mm Storage in a plastic box.	SiC 240	green	Ø 2.35 - 30 mm	12 pieces	**0 544 855**			
		SiC 400	grey	Ø 2.35 - 30 mm	12 pieces	**0 544 856**			

Lapping and polishing rubber
for self-made tools

	Dimensions	Grit size	Type	Order No.	Price from 1 piece	Price from 20 pieces
Lapping and polishing rubber for self-made tools						
stick						
	Ø 6 x 200 mm	120	SG-6	**0 544 951**		
	Ø 10 x 200 mm	120	SG-100	**0 544 956**		
	Ø 12 x 200 mm	120	SG-120	**0 544 952**		

Rubber-bonded grinding tools
CERA Sticks

Rubber-bonded grinding tools CERA Sticks
A rubber tool on a handle – or modern: stick. Highly practical in any case, since firstly handy and secondly adapting optimally to the contours to be processed. This qualifies the sticks above all for uneven surfaces in addition to places which are difficult to reach. For deburring work, removal of annealing colours, for chamfering ...

... available separately in different grit sizes or as a set in the practical plastic box.

	Coating dimensions	Grit size	Colour	Order No.	Price from 1 piece
Rubber-bonded grinding tool with handle CERA Stick					
	50 x 12 x 6 mm	# 46	grey	**0 544 581**	
	50 x 12 x 6 mm	# 80	red	**0 544 582**	
	50 x 12 x 6 mm	# 120	blue	**0 544 583**	
	50 x 12 x 6 mm	# 220	yellow	**0 544 584**	
	50 x 12 x 6 mm	# 320	violet	**0 544 585**	

matching set

		Order No.	Price from 1 pack
Set CERA Sticks in plastic box			
	Contents: 1 stick of each grit size	**0 544 580**	

Tool system CRATEX®
Sets

The assortment for tool and mould makers. The bond is made of chemical rubber. In contrast to hard grinding wheels, the CRATEX® bond has a unique cushioned action ensuring soft, smooth and free cutting. With harder materials, CRATEX® yields a clean, polishable cut, free from corrugation and discoloration. CRATEX® grinds and polishes soft materials and plastics without tearing. It resists clogging and smearing and does not result in any glassy points.

CRATEX® can be used for dry and wet grinding. The tools are insensitive to all common grinding cooling media and rust protectors and to oil. Even more gentle work can be achieved in conjunction with polishing pastes.

Typical applications:
Smoothing and polishing of casting moulds, dies and other production tools, smoothing of edges on punched or sheared parts or glass, lapping of welded seams after rough grinding: sharpening of cutting dies, deburring and smoothing of plastic workpieces, reworking injection channels; polishing of moulds.

The advantages at a glance:
- flexible and adaptable
- clean, discoloration-free polished section
- for all metals, non-ferrous metals and plastics
- grinding, polishing, deburring and smoothing
- four different grit sizes

CRATEX® tools are available in four standard grit sizes, which each have a different colour for ease of differentiation:

(C) Coarse – dark green – grit size 40
For coarse grinding and deburring. Cuts rapidly without clogging. CRATEX® C is used for soft materials such as brass, copper and aluminium and leaves a clean, smooth surface after rough casting.

(M) Medium – dark brown – grit size 90
For light deburring and for general finishing, yielding a surface quality between preliminary grinding and polishing. CRATEX® M is recommended for the working states following rough grinding of brass, copper, aluminium and stainless steel, etc. It is eminently suitable for polishing of moulds and for performing general finishing work.

(F) Fine – light brown – grit size120
A fine, needle-sharp grit size for polishing. A clean, polished surface is achieved very rapidly using this grit size. Particularly suitable for highalloyed steels, gold and other noble metals, for which a good surface is required.

(XF) Extra fine – light green – grit size 240
A microfine grit for achievement of a high gloss polish or final polishing on all metals.



Maximum cutting speeds and best operating speeds

For most efficient results and good surface quality, operating speeds must not exceed the maximum safety speeds mentioned in the instruction sheets of the relevant CRATEX® tools. The maximum cutting speed must never be exceeded.

The rpm values for small CRATEX® wheels up to Ø 25 mm are based on a protruding shank length between 10 and 15 mm. If the protruding shank length exceeds 15 mm, the speed must be reduced by 20 % per 5 mm.

Tool system CRATEX®
Sets

	Order No.	Price from 1 set
CRATEX® Set 778, 68 pieces		
	**0 545 291**	

Contents in plastic storage case:
8 CRATEX® points shape 4
8 CRATEX® points shape 6
8 CRATEX® points shape 8
8 CRATEX® points shape 10
8 CRATEX® points shape 11
8 CRATEX® points shape 12
8 CRATEX® points shape 14
8 CRATEX® points shape 15
equally assorted in the four CRATEX® grit sizes
2 point mounting shanks shape 12 (Ø 3 mm)
2 point mounting shanks shape 13 (Ø 3 mm)

	Order No.	Price from 1 set
CRATEX® Set 777, 84 pieces		
	**0 545 292**	

Contents in plastic storage case:
8 CRATEX® wheels shape 2
16 CRATEX® points shape 6
16 CRATEX® points shape 8
8 CRATEX® points shape 10
8 CRATEX® wheels shape 54
16 CRATEX® wheels shape 74
8 CRATEX® wheels shape 86
equally assorted in the four CRATEX® grit sizes
2 point mounting shanks shape 22 (Ø 3 mm)
2 point mounting shanks shape 12 (Ø 3 mm)

Tool system CRATEX®
rubber-bonded abrasives for shank-mounting

	Shape	Dimensions	Grit size	Type	Matching-receptacles	Order No.	Price from 1 piece	Price from 20 pieces
CRATEX® rubber-bonded abrasive for shank mounting								
	wheel, tapered	Ø 16 x 2.5 mm	C-coarse 40	2	21, 22, 23, 25	**0 545 005**		
		Ø 16 x 2.5 mm	M-medium 90	2	21, 22, 23, 25	**0 545 006**		
		Ø 16 x 2.5 mm	F-fine 120	2	21, 22, 23, 25	**0 545 007**		
		Ø 16 x 2.5 mm	XF-extra fine 240	2	21, 22, 23, 25	**0 545 008**		
		Ø 25 x 3 mm	C-coarse 40	5	21, 22, 23, 25	**0 545 009**		
		Ø 25 x 3 mm	M-medium 90	5	21, 22, 23, 25	**0 545 010**		
		Ø 25 x 3 mm	F-fine 120	5	21, 22, 23, 25	**0 545 011**		
		Ø 25 x 3 mm	XF-extra fine 240	5	21, 22, 23, 25	**0 545 012**		
	point, cylindrical shape	Ø 6 x 12.5 mm	C-coarse 40	4	11, 12	**0 545 017**		
		Ø 6 x 12.5 mm	M-medium 90	4	11, 12	**0 545 018**		
		Ø 6 x 12.5 mm	F-fine 120	4	11, 12	**0 545 019**		
		Ø 6 x 12.5 mm	XF-extra fine 240	4	11, 12	**0 545 020**		
		Ø 6 x 22 mm	C-coarse 40	6	11, 12	**0 545 021**		
		Ø 6 x 22 mm	M-medium 90	6	11, 12	**0 545 022**		
		Ø 6 x 22 mm	F-fine 120	6	11, 12	**0 545 023**		
		Ø 6 x 22 mm	XF-extra fine 240	6	11, 12	**0 545 024**		
	point, bullet-shape	Ø 7 x 25 mm	C-coarse	8	11, 12	**0 545 029**		
		Ø 7 x 25 mm	M-medium 90	8	11, 12	**0 545 030**		
		Ø 7 x 25 mm	F-fine 120	8	11, 12	**0 545 031**		
		Ø 7 x 25 mm	XF-extra fine 240	8	11, 12	**0 545 032**		
		Ø 9.5 x 16 mm	C-coarse 40	10	11, 12	**0 545 033**		
		Ø 9.5 x 16 mm	M-medium 90	10	11, 12	**0 545 034**		
		Ø 9.5 x 16 mm	F-fine 120	10	11, 12	**0 545 035**		
		Ø 9.5 x 16 mm	XF-extra fine 240	10	11, 12	**0 545 036**		
		Ø 9.5 x 25 mm	C-coarse 40	11	13, 14	**0 545 037**		
		Ø 9.5 x 25 mm	M-medium 90	11	13, 14	**0 545 038**		
		Ø 9.5 x 25 mm	F-fine 120	11	13, 14	**0 545 039**		
		Ø 9.5 x 25 mm	XF-extra fine 240	11	13, 14	**0 545 040**		
		Ø 12.5 x 22 mm	C-coarse 40	15	13, 14	**0 545 041**		
		Ø 12.5 x 22 mm	M-medium 90	15	13, 14	**0 545 042**		
		Ø 12.5 x 22 mm	F-fine 120	15	13, 14	**0 545 043**		
		Ø 12.5 x 22 mm	XF-extra fine 240	15	13, 14	**0 545 044**		

Tool system CRATEX®
rubber-bonded abrasives for shank-mounting

	Shape	Dimensions	Grit size	Type	Matching-receptacles	Order No.	Price from 1 piece	Price from 20 pieces
	wheel	Ø 16 x 2.3 mm	C-coarse 40	53	21, 22, 23, 25	**0 545 073**		
		Ø 16 x 2.3 mm	M-medium 90	53	21, 22, 23, 25	**0 545 074**		
		Ø 16 x 2.3 mm	F-fine 120	53	21, 22, 23, 25	**0 545 075**		
		Ø 16 x 2.3 mm	XF-extra fine 240	53	21, 22, 23, 25	**0 545 076**		
		Ø 16 x 3 mm	C-coarse 40	54	21, 22, 23, 25	**0 545 077**		
		Ø 16 x 3 mm	M-medium 90	54	21, 22, 23, 25	**0 545 078**		
		Ø 16 x 3 mm	F-fine 120	54	21, 22, 23, 25	**0 545 079**		
		Ø 16 x 3 mm	XF-extra fine 240	54	21, 22, 23, 25	**0 545 080**		
		Ø 22 x 3 mm	C-coarse 40	74	21, 22, 23, 25	**0 545 085**		
		Ø 22 x 3 mm	M-medium 90	74	21, 22, 23, 25	**0 545 086**		
		Ø 22 x 3 mm	F-fine 120	74	21, 22, 23, 25	**0 545 087**		
		Ø 22 x 3 mm	XF-extra fine 240	74	21, 22, 23, 25	**0 545 088**		
		Ø 22 x 4.5 mm	C-coarse 40	76	21, 22, 23, 25	**0 545 089**		
		Ø 22 x 4.5 mm	M-medium 90	76	21, 22, 23, 25	**0 545 090**		
		Ø 22 x 4.5 mm	F-fine 120	76	21, 22, 23, 25	**0 545 091**		
		Ø 22 x 4.5 mm	XF-extra fine 240	76	21, 22, 23, 25	**0 545 092**		
		Ø 25 x 3 mm	C-coarse 40	80	21, 22, 23, 25	**0 545 101**		
		Ø 25 x 3 mm	M-medium 90	80	21, 22, 23, 25	**0 545 102**		
		Ø 25 x 3 mm	F-fine 120	80	21, 22, 23, 25	**0 545 103**		
		Ø 25 x 3 mm	XF-extra fine 240	80	21, 22, 23, 25	**0 545 104**		
	cone	Ø 16/6 x 25 mm	M-medium 90	1340	31	**0 545 118**		
		Ø 16/6 x 25 mm	F-fine 120	1340	31	**0 545 119**		

Tool system CRATEX®
rubber-bonded grinding wheels for elastic grinding

	Dimensions	Drilling dimension	Grit size	Type	Rotation speed max.	Order No.	Price from 1 piece
CRATEX® Rubber-bonded grinding wheels							
	Ø 38 x 3 mm	3 mm	M-medium 90	152	15000 1/min	**0 545 302**	
	Ø 38 x 9.5 mm	6 mm	M-medium 90	156	15000 1/min	**0 545 314**	
	Ø 50 x 3 mm	6 mm	C-coarse 40	202	10500 1/min	**0 545 321**	
		6 mm	F-fine 120	202	10500 1/min	**0 545 323**	
	Ø 50 x 4.5 mm	6 mm	M-medium 90	203	10500 1/min	**0 545 326**	
	Ø 50 x 6 mm	6 mm	C-coarse 40	204	10500 1/min	**0 545 329**	
		6 mm	F-fine 120	204	10500 1/min	**0 545 331**	
	Ø 75 x 6 mm	6 mm	M-medium 90	304	7000 1/min	**0 545 358**	
	Ø 125 x 6 mm	25 mm	XF-extra fine 240	504	4200 1/min	**0 545 408**	

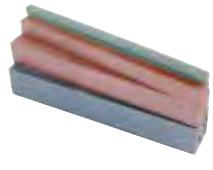
Tool system CRATEX®
mounting shanks and grinding wheel holders

	for bore dimensions	Shank dimensions	Type	Order No.	Price from 1 piece	Price from 10 pieces
CRATEX® mounting shanks						
	Ø 2 mm	Ø 2.35 mm	11	**0 545 271**		
	Ø 2 mm	Ø 3 mm	12	**0 545 272**		
	Ø 3 mm	Ø 3 mm	13	**0 545 273**		
	Ø 3 mm	Ø 6 mm	14	**0 545 274**		

Tool system CRATEX®
mounting shanks and grinding wheel holders

	for bore dimensions	Shank dimensions	Type	Max. disc size	Order No.	Price from 1 piece	Price from 10 pieces
CRATEX® grinding wheel holder							
	Ø 1.5 – 1.8 mm	Ø 2.35 x 30/15 mm	25	Ø 38 x 4.5 mm	**0 545 279**		
	Ø 1.5 – 1.8 mm	Ø 2.35 x 40/28 mm	21	Ø 38 x 4.5 mm	**0 545 275**		
	Ø 1.5 – 1.8 mm	Ø 3 x 40/30 mm	24	Ø 38 x 3 mm	**0 545 278**		
	Ø 1.5 – 1.8 mm	Ø 3 x 42 mm	22	Ø 38 x 4.5 mm	**0 545 276**		
	Ø 1/8" / Ø 3.2 mm	Ø 3 x 40/30 mm	28	Ø 38 x 5.5 mm	**0 545 296**		
	Ø 1.5 – 1.8 mm	Ø 3 x 40 mm	26	Ø 25 x 8.5 mm	**0 545 280**		
	Ø 1.5 – 1.8 mm	Ø 6 x 42 mm	23	Ø 38 x 4.5 mm	**0 545 277**		
	Ø 1.5 – 1.8 mm	Ø 6 x 40 mm	27	Ø 25 x 8.5 mm	**0 545 281**		
	Ø 3 mm	Ø 6 x 40 mm	33	Ø 45 x 6 mm	**0 545 269**		
	Ø 6 mm	Ø 6 x 25 mm	41	Ø 75 x 9.5 mm	**0 545 282**		
	Ø 6 mm	Ø 6 x 40 mm	42	Ø 75 x 20 mm	**0 545 283**		
	Ø 1/4" / Ø 6.3 mm	Ø 6 x 30 mm	31	Ø 75 x 25 mm	**0 545 284**		
	Ø 1/4" / Ø 6.3 mm	Ø 6 x 40 mm	32	Ø 75 x 20 mm	**0 545 297**		

Tool system CRATEX®
rubber-bonded sticks for hand (filing machine) use

	Dimensions	Grit size	Type	Order No.	Price from 1 piece	Price from 10 pieces
CRATEX® rubber-bonded sticks						
square						
	6 x 6 x 150 mm	C-coarse 40	6202	**0 545 171**		
		M-medium 90	6202	**0 545 172**		
		F-fine 120	6202	**0 545 173**		
		XF-s, fine 240	6202	**0 545 174**		
	12.5 x 12.5 x 150 mm	C-coarse 40	6404	**0 545 175**		
		M-medium 90	6404	**0 545 176**		
		F-fine 120	6404	**0 545 177**		
		XF-s, fine 240	6404	**0 545 178**		
	18 x 18 x 150 mm	C-coarse 40	6606	**0 545 179**		
		M-medium 90	6606	**0 545 180**		
		F-fine 120	6606	**0 545 181**		
		XF-s, fine 240	6606	**0 545 182**		
round						
	Ø 4.8 x 150 mm	M-medium 90	036	**0 545 228**		
		F-fine 120	036	**0 545 229**		
	Ø 6 x 150 mm	C-coarse 40	046	**0 545 231**		
		M-medium 90	046	**0 545 232**		
		F-fine 120	046	**0 545 233**		
		XF-s, fine 240	046	**0 545 234**		
	Ø 9.5 x 150 mm	M-medium 90	066	**0 545 240**		
		F-fine 120	066	**0 545 241**		
		XF-s, fine 240	066	**0 545 242**		
	Ø 12.5 x 150 mm	C-coarse 40	086	**0 545 243**		
		M-medium 90	086	**0 545 244**		
		F-fine 120	086	**0 545 245**		
		XF-s, fine 240	086	**0 545 246**		
	Ø 16 x 150 mm	M-medium 90	0106	**0 545 248**		
		F-fine 120	0106	**0 545 249**		
	Ø 18 x 150 mm	C-coarse 40	0126	**0 545 251**		
		M-medium 90	0126	**0 545 252**		
		F-fine 120	0126	**0 545 253**		
	Ø 25 x 150 mm	F-fine 120	0166	**0 545 261**		
rectangular						
	25 x 3 x 150 mm	C-coarse 40	6801	**0 545 191**		
		M-medium 90	6801	**0 545 192**		
		F-fine 120	6801	**0 545 193**		
	25 x 6 x 150 mm	C-coarse 40	6802	**0 545 199**		
		M-medium 90	6802	**0 545 200**		
		F-fine 120	6802	**0 545 201**		
	25 x 9.5 x 150 mm	C-coarse 40	6803	**0 545 203**		
		M-medium 90	6803	**0 545 204**		
		F-fine 120	6803	**0 545 205**		
		XF-s, fine 240	6803	**0 545 206**		

Grinding and polishing stones

223 joke stones
228 Gesswein® stones
238 Boride® stones
246 Bench stones
249 Holder for grinding and polishing stones

	Typ	Page	Tool steel	Steels	Erosion structures	Stainless steel	Aluminium	Non-ferrous metals	Hard metal
joke	FD	223	◆						◆
	JB 1	224	◆	◆	◆				
	JB 2	225	◆	◆	◆				
	C-AS	226	◆	◆		◆	◆	◆	
	Royal S	227	◆	◆	◆				
Gesswein®	EDM BLUE	228	◆	◆	◆				
	OT	229	◆	◆	◆				
	EDM	230	◆	◆	◆				
	DIEMAKER	231	◆	◆			◆	◆	
	MOLDMAKER	233	◆	◆		◆	◆	◆	
	ULTRASOFT	234	◆	◆	◆	◆	◆	◆	
	PREMIUM WHITE	235	◆	◆		◆	◆	◆	
	SUPER FINE	236	◆	◆		◆	◆	◆	
	GP-STONE	237	◆	◆	◆				
Boride®	CS-HD	238	◆	◆	◆				
	T2	239	◆		◆	◆			
	Orange EDM	240	◆	◆	◆				
	AO	241	◆	◆	◆				
	Golden Star	242	◆	◆					
	AM-2	243	◆	◆		◆	◆	◆	
	RO-MED	244	◆	◆	◆				
	RASP	245	◆	◆	◆	◆	◆	◆	
	CS-M	246	◆	◆					

Grinding and polishing stones
joke FD

These ceramic oxide stones consist of mixed crystals of outstanding hardness. The main component is aluminium oxide. This crystal occurs naturally as ruby, hence the name “ruby stones” or “degussit”.

The stones are free of bonding agents, absolutely dimensionally stable and low-wear. Ideal for manual use and in ultrasonic polishing systems.
Tip: well suited for carbide metal processing and very fine finishing after grinding.





Bonding

1	2	3	4	(5)
soft				hard

Stock removal

1	2	3	(4)	5
slow				fast

Wear

(1)	2	3	4	5
slow				fast

Application

1	2	3	4	(5)
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece
Grinding and polishing stones, joke FD				
crossing				
4 x 1.5 x 100 mm	fine	FD	**0 401 570**	
triangular				
2 x 50 mm	fine	FD	**0 401 566**	
3 x 100 mm	fine	FD	**0 401 567**	
4 x 100 mm	fine	FD	**0 401 586**	
	medium	FD	**0 401 587**	
5 x 1.5 x 100 mm	fine	FD	**0 401 571**	
6 x 100 mm	fine	FD	**0 401 588**	
	medium	FD	**0 401 589**	
8 x 100 mm	fine	FD	**0 401 590**	
	medium	FD	**0 401 591**	
square				
1 x 50 mm	fine	FD	**0 401 568**	
2 x 100 mm	fine	FD	**0 401 569**	
4 x 100 mm	fine	FD	**0 401 592**	
	medium	FD	**0 401 593**	
6 x 100 mm	fine	FD	**0 401 594**	
	medium	FD	**0 401 595**	
8 x 100 mm	fine	FD	**0 401 596**	
	medium	FD	**0 401 597**	
round				
Ø 1 x 50 mm	fine	FD	**0 401 563**	
Ø 2 x 100 mm	fine	FD	**0 401 564**	
Ø 3 x 100 mm	fine	FD	**0 401 565**	
Ø 4 x 100 mm	fine	FD	**0 401 580**	
	medium	FD	**0 401 581**	
Ø 6 x 100 mm	fine	FD	**0 401 582**	
	medium	FD	**0 401 583**	
Ø 8 x 100 mm	fine	FD	**0 401 584**	
	medium	FD	**0 401 585**	
halfround				
Ø 4 x 100 mm	fine	FD	**0 401 562**	
rectangular				
3 x 0.3 x 50 mm	fine	FD	**0 401 561**	
6 x 3 x 100 mm	fine	FD	**0 401 576**	
	medium	FD	**0 401 577**	
8 x 6 x 100 mm	fine	FD	**0 401 578**	
	medium	FD	**0 401 579**	

Grinding and polishing stones
joke JB1

These grinding and polishing stones are made of pink highgrade corundum in a soft bond. They can be used dry. When used without oil, the grinding residues are simply removed with a brush. The JB1 grinding and polishing stones are suitable for both soft and hard materials and are used, for example, on milled or ground surfaces and contours.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones, joke JB1						
square						
6 x 6 x 150 mm	80	JB1	**0 401 675**			
	120	JB1	**0 401 676**			
	180	JB1	**0 401 677**			
4 x 4 x 150 mm	120	JB1	**0 401 805**			
	180	JB1	**0 401 815**			
rectangular						
6 x 3 x 150 mm	80	JB1	**0 401 801**			
	120	JB1	**0 401 806**			
	180	JB1	**0 401 816**			
13 x 3 x 150 mm	80	JB1	**0 401 802**			
	120	JB1	**0 401 807**			
	180	JB1	**0 401 817**			
13 x 6 x 150 mm	80	JB1	**0 401 803**			
	120	JB1	**0 401 808**			
	180	JB1	**0 401 818**			
20 x 10 x 150 mm	80	JB1	**0 401 804**			
	120	JB1	**0 401 809**			
	180	JB1	**0 401 819**			

Grinding and polishing stone oil (fluid)
for all grinding and polishing stones

The oil/fluid suitable for all grinding and polishing stones. Very economical to use and practically odourless. The use of this fluid prevents clogging of stones during processing. The grinding tools cut better, producing a brilliant, uniform surface.

	Content	Order No.	Price from 1 piece	5 pieces
Grinding and polishing stone oil (fluid)				
	1 litre	**0 401 870**		
	5 litres	**0 401 870-5**		

Grinding and polishing stones
joke JB2

These stones of sulphured high-grade corundum are particularly suitable for grinding eroded surfaces and contours. The hard bond guarantees a very high edge strength for the stones and at the same time prevents excessive clogging. The additional use of abrasive stone oil (fluid) is recommended.





Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones joke JB2						
rectangular						
6 x 3 x 150 mm	180	JB2	**0 401 821**			
	320	JB2	**0 401 826**			
	600	JB2	**0 401 841**			
13 x 3 x 150 mm	180	JB2	**0 401 822**			
	320	JB2	**0 401 827**			
13 x 6 x 150 mm	120	JB2	**0 401 813**			
	180	JB2	**0 401 823**			
	320	JB2	**0 401 828**			
	600	JB2	**0 401 843**			
20 x 10 x 150 mm	120	JB2	**0 401 814**			
	320	JB2	**0 401 829**			

Bonding

1	2	3	(4)	5

soft — hard

Stock removal

1	2	3	(4)	5

slow — fast

Wear

1	(2)	3	4	5

slow — fast

Application

1	2	3	(4)	5

Preparatory work — Finishing

Grinding and polishing stones
joke C-AS

joke C-AS stones are made from white high-grade corundum with sulphured graphite to prevent tearing on the surface. The bond is hard and therefore edge-stable. Use with a fluid or file oil is recommended.





Bonding

1	2	3	(4)	5
soft				hard

Stock removal

1	2	3	(4)	5
slow				fast

Wear

1	(2)	3	4	5
slow				fast

Application

1	2	3	4	(5)
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones, joke C-AS						
square						
6 x 6 x 125 mm	220	C-AS	**0 414 023**			
	320	C-AS	**0 414 024**			
	400	C-AS	**0 414 025**			
	600	C-AS	**0 414 026**			
	800	C-AS	**0 414 027**			
	1000	C-AS	**0 414 028**			
	1200	C-AS	**0 414 029**			
rectangular						
12 x 3 x 125 mm	220	C-AS	**0 414 033**			
	320	C-AS	**0 414 034**			
	400	C-AS	**0 414 035**			
	600	C-AS	**0 414 036**			
	800	C-AS	**0 414 037**			
	1000	C-AS	**0 414 038**			
	1200	C-AS	**0 414 039**			
12 x 6 x 125 mm	220	C-AS	**0 414 043**			
	320	C-AS	**0 414 044**			
	400	C-AS	**0 414 045**			
	600	C-AS	**0 414 046**			
	800	C-AS	**0 414 047**			
	1000	C-AS	**0 414 048**			
	1200	C-AS	**0 414 049**			

Grinding and polishing stones
joke Royal S

These aluminium oxide grinding stones with a special oil impregnation have very good dry running properties and a very hard bond. The stones are used for finishing soft and hard metals. The very mild microsection makes it possible to achieve optimum surfaces up to superfinish. Contours can be retained easily.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

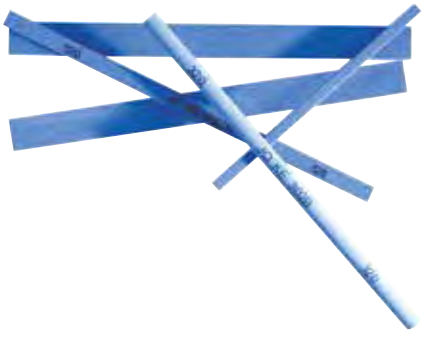
Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones, joke Royal S						
square						
6 x 6 x 150 mm	320	Royal S	**0 401 862**			
	400	Royal S	**0 401 863**			
	600	Royal S	**0 401 864**			
	800	Royal S	**0 401 865**			
	1000	Royal S	**0 401 866**			
rectangular						
6 x 3 x 150 mm	320	Royal S	**0 401 831**			
	400	Royal S	**0 401 836**			
	600	Royal S	**0 401 846**			
	800	Royal S	**0 401 851**			
	1000	Royal S	**0 401 856**			
13 x 3 x 150 mm	320	Royal S	**0 401 832**			
	400	Royal S	**0 401 837**			
	600	Royal S	**0 401 847**			
	800	Royal S	**0 401 852**			
	1000	Royal S	**0 401 857**			
13 x 6 x 150 mm	320	Royal S	**0 401 833**			
	400	Royal S	**0 401 838**			
	600	Royal S	**0 401 848**			
	800	Royal S	**0 401 853**			
	1000	Royal S	**0 401 858**			

Grinding and polishing stones
Gesswein® EDM BLUE

Premium aluminium oxide stones. The hardest Gesswein® stones. Ideal for use with hand-filing machines and ultrasonic polishing systems. As these stones are a lot harder than the EDM series, they are better suited for the quick removal of hard erosion skin. Optimum results in conjunction with fluid.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones Gesswein® EDM BLUE						
square						
4 x 4 x 100 mm	120	EDM BLUE 61	**0 401 601**			
	180	EDM BLUE 62	**0 401 602**			
	220	EDM BLUE 622	**0 401 603**			
	320	EDM BLUE 63	**0 401 604**			
	400	EDM BLUE 64	**0 401 605**			
	600	EDM BLUE 66	**0 401 606**			
6 x 6 x 150 mm	120	EDM BLUE 6122	**0 401 613**			
	180	EDM BLUE 6182	**0 401 614**			
	220	EDM BLUE 6202	**0 401 615**			
	320	EDM BLUE 6302	**0 401 616**			
	400	EDM BLUE 6402	**0 401 617**			
	600	EDM BLUE 6602	**0 401 618**			
round						
Ø 6 x 150 mm	120	EDM BLUE E122	**0 401 637**			
	180	EDM BLUE E182	**0 401 638**			
	320	EDM BLUE E302	**0 401 639**			
rectangular						
6 x 3 x 150 mm	120	EDM BLUE 6121	**0 401 607**			
	180	EDM BLUE 6181	**0 401 608**			
	220	EDM BLUE 6201	**0 401 609**			
	320	EDM BLUE 6301	**0 401 610**			
	400	EDM BLUE 6401	**0 401 611**			
	600	EDM BLUE 6601	**0 401 612**			
13 x 1.6 x 150 mm	120	EDM BLUE 6120	**0 401 619**			
	180	EDM BLUE 6180	**0 401 620**			
	220	EDM BLUE 6200	**0 401 621**			
	320	EDM BLUE 6300	**0 401 622**			
	400	EDM BLUE 6400	**0 401 623**			
	600	EDM BLUE 6600	**0 401 624**			
13 x 3 x 150 mm	120	EDM BLUE 6123	**0 401 625**			
	180	EDM BLUE 6183	**0 401 626**			
	220	EDM BLUE 6203	**0 401 627**			
	320	EDM BLUE 6303	**0 401 628**			
	400	EDM BLUE 6403	**0 401 629**			
	600	EDM BLUE 6603	**0 401 630**			
13 x 6 x 150 mm	120	EDM BLUE 6124	**0 401 631**			
	180	EDM BLUE 6184	**0 401 632**			
	220	EDM BLUE 6204	**0 401 633**			
	320	EDM BLUE 6304	**0 401 634**			
	400	EDM BLUE 6404	**0 401 635**			
	600	EDM BLUE 6604	**0 401 636**			

Grinding and polishing stones
Gesswein® OT

These hard white aluminium oxide stones are ideal for fine work on both hard and soft metals and in particular for the finishing of slots and points that are difficult to reach. A sophisticated oil impregnation ensures that the OT stones do not clog up and an excellent grinding pattern is achieved.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones, Gesswein® OT						
square						
4 x 4 x 100 mm	120	OT 51	**0 401 276**			
	220	OT 52	**0 401 277**			
	320	OT 53	**0 401 278**			
	400	OT 54	**0 401 279**			
	600	OT 56	**0 401 280**			
4 x 4 x 150 mm	120	OT 51	**0 401 202**			
	220	OT 52	**0 401 203**			
	320	OT 53	**0 401 204**			
	400	OT 54	**0 401 205**			
	600	OT 56	**0 401 206**			
6 x 6 x 150 mm	120	OT 5102	**0 401 286**			
	220	OT 5202	**0 401 287**			
	320	OT 5302	**0 401 288**			
	400	OT 5402	**0 401 289**			
	600	OT 5602	**0 401 290**			
rectangular						
6 x 3 x 150 mm	120	OT 5101	**0 401 281**			
	220	OT 5201	**0 401 282**			
	320	OT 5301	**0 401 283**			
	400	OT 5401	**0 401 284**			
	600	OT 5601	**0 401 285**			
13 x 3 x 150 mm	120	OT 5103	**0 401 291**			
	220	OT 5203	**0 401 292**			
	320	OT 5303	**0 401 293**			
	400	OT 5403	**0 401 294**			
	600	OT 5603	**0 401 295**			
	800	OT 5803	**0 401 254**			
	1200	OT 5903	**0 401 255**			
13 x 6 x 150 mm	120	OT 5104	**0 401 296**			
	220	OT 5204	**0 401 297**			
	320	OT 5304	**0 401 298**			
	400	OT 5404	**0 401 299**			
	600	OT 5604	**0 401 300**			
	800	OT 5804	**0 401 256**			
	1200	OT 5904	**0 401 257**			
25 x 13 x 150 mm	120	OT	**0 401 641**			
	220	OT	**0 401 642**			
	320	OT	**0 401 643**			
	400	OT	**0 401 644**			
	600	OT	**0 401 645**			

Grinding and polishing stones
Gesswein® EDM

The cutting effect of these stones makes them ideal for processing of moulds manufactured by electroerosion. The sharp and easy-cutting premium aluminium oxide strips the extremely hard surface layer that remains after electroerosion in a very short time. EDM stones are very hard and therefore dimensionally stable and do not clog. Further surface refinement can be achieved with the subsequent use of finer grit sizes of DF quality.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

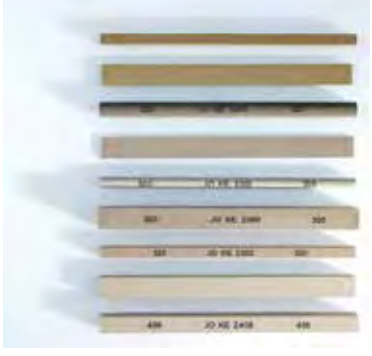
Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones, Gesswein® EDM						
square						
4 x 4 x 100 mm	180	EDM 62	**0 401 002**			
	220	EDM 622	**0 401 755**			
	320	EDM 63	**0 401 003**			
	400	EDM 64	**0 401 710**			
	600	EDM 66	**0 401 711**			
6 x 6 x 150 mm	120	EDM 6122	**0 401 010**			
	180	EDM 6182	**0 401 011**			
	220	EDM 6202	**0 401 752**			
	320	EDM 6302	**0 401 012**			
	400	EDM 6402	**0 401 716**			
	600	EDM 6602	**0 401 717**			
10 x 10 x 150 mm	120	EDM 6128	**0 401 019**			
	180	EDM 6188	**0 401 020**			
	320	EDM 6308	**0 401 021**			
round						
Ø 6 x 150 mm	120	EDM 122	**0 401 264**			
	180	EDM 182	**0 401 265**			
	320	EDM 302	**0 401 266**			
	400	EDM 402	**0 401 722**			
	220	EDM 222	**0 401 750**			
rectangular						
6 x 3 x 150 mm	120	EDM 6121	**0 401 007**			
	180	EDM 6181	**0 401 008**			
	220	EDM 6201	**0 401 751**			
	320	EDM 6301	**0 401 009**			
	400	EDM 6401	**0 401 714**			
	600	EDM 6601	**0 401 715**			
13 x 1.6 x 150 mm	120	EDM 6120	**0 401 004**			
	180	EDM 6180	**0 401 005**			
	320	EDM 6300	**0 401 006**			
	400	EDM 6400	**0 401 712**			
13 x 3 x 150 mm	120	EDM 6123	**0 401 013**			
	180	EDM 6183	**0 401 014**			
	220	EDM 6203	**0 401 753**			
	320	EDM 6303	**0 401 015**			
	400	EDM 6403	**0 401 718**			
	600	EDM 6603	**0 401 719**			
13 x 6 x 150 mm	120	EDM 6124	**0 401 016**			
	180	EDM 6184	**0 401 017**			
	220	EDM 6204	**0 401 708**			
	320	EDM 6304	**0 401 018**			
	400	EDM 6404	**0 401 720**			
	600	EDM 6604	**0 401 721**			
40 x 25 x 150 mm	120	EDM	**0 401 273**			
	180	EDM	**0 401 274**			
	320	EDM	**0 401 275**			

Grinding and polishing stones
Gesswein® DIEMAKER

The original "diemaker stones". Medium hard aluminium oxide combined with a semi-soft bond results in a DF stone quality with high dimensional stability and existing contours are therefore easily rectified. They are mainly used for cutting and punching tools, but are also very suitable for mould and tool making.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

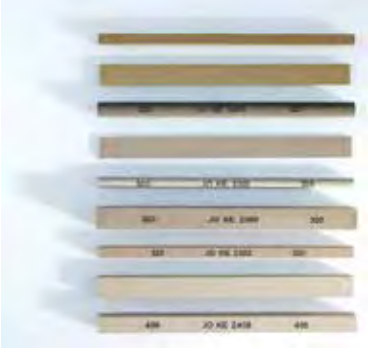
Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones Gesswein® DIEMAKER						
triangular						
10 x 10 x 10 x 150 mm	150	DIEMAKER 2198	**0 401 249**			
	220	DIEMAKER 2298	**0 401 250**			
	320	DIEMAKER 2398	**0 401 251**			
	400	DIEMAKER 2498	**0 401 252**			
square						
4 x 4 x 100 mm	150	DIEMAKER 0010	**0 401 786**			
	220	DIEMAKER 2	**0 401 141**			
	320	DIEMAKER 3	**0 401 142**			
	400	DIEMAKER 4	**0 401 143**			
	600	DIEMAKER 6	**0 401 144**			
	800	DIEMAKER 8	**0 401 145**			
	900	DIEMAKER 9	**0 401 146**			
6 x 6 x 150 mm	150	DIEMAKER 2102	**0 401 748**			
	220	DIEMAKER 2202	**0 401 158**			
	320	DIEMAKER 2302	**0 401 159**			
	400	DIEMAKER 2402	**0 401 160**			
	600	DIEMAKER 2602	**0 401 161**			
	900	DIEMAKER 2902	**0 401 162**			
10 x 10 x 150 mm	150	DIEMAKER 2108	**0 401 757**			
	220	DIEMAKER 2208	**0 401 163**			
	320	DIEMAKER 2308	**0 401 164**			
	400	DIEMAKER 2408	**0 401 165**			
	600	DIEMAKER 2608	**0 401 166**			
	900	DIEMAKER 2908	**0 401 167**			
13 x 13 x 150 mm	150	DIEMAKER 2105	**0 401 789**			
	220	DIEMAKER 2205	**0 401 183**			
	320	DIEMAKER 2305	**0 401 184**			
	400	DIEMAKER 2405	**0 401 185**			
25 x 25 x 150 mm	150	DIEMAKER 2106	**0 401 237**			
	220	DIEMAKER 2206	**0 401 238**			
round						
Ø 6 x 150 mm	220	DIEMAKER 3202	**0 401 188**			
	320	DIEMAKER 3302	**0 401 189**			
	400	DIEMAKER 3402	**0 401 190**			
	600	DIEMAKER 3602	**0 401 191**			
	900	DIEMAKER 3902	**0 401 192**			
Ø 10 x 150 mm	220	DIEMAKER 3208	**0 401 193**			
	320	DIEMAKER 3308	**0 401 194**			
	400	DIEMAKER 3408	**0 401 195**			
	600	DIEMAKER 3608	**0 401 196**			

Grinding and polishing stones
Gesswein® DIEMAKER

The original "diemaker stones". Medium hard aluminium oxide combined with a semi-soft bond results in a DF stone quality with high dimensional stability and existing contours are therefore easily rectified. They are mainly used for cutting and punching tools, but are also very suitable for mould and tool making.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
rectangular						
6 x 1,6 x 100 mm	220	DIEMAKER 2210	**0 401 148**			
	320	DIEMAKER 2310	**0 401 149**			
	400	DIEMAKER 2410	**0 401 150**			
	600	DIEMAKER 2610	**0 401 151**			
6 x 3 x 150 mm	150	DIEMAKER 2101	**0 401 242**			
	220	DIEMAKER 2201	**0 401 153**			
	320	DIEMAKER 2301	**0 401 154**			
	400	DIEMAKER 2401	**0 401 155**			
	600	DIEMAKER 2601	**0 401 156**			
	900	DIEMAKER 2901	**0 401 157**			
13 x 1,6 x 150 mm	220	DIEMAKER 2200	**0 401 168**			
	320	DIEMAKER 2300	**0 401 169**			
	400	DIEMAKER 2400	**0 401 170**			
	600	DIEMAKER 2600	**0 401 171**			
13 x 3 x 150 mm	150	DIEMAKER 2103	**0 401 705**			
	220	DIEMAKER 2203	**0 401 173**			
	320	DIEMAKER 2303	**0 401 174**			
	400	DIEMAKER 2403	**0 401 175**			
	600	DIEMAKER 2603	**0 401 176**			
	900	DIEMAKER 2903	**0 401 177**			
13 x 6 x 150 mm	150	DIEMAKER 2104	**0 401 747**			
	220	DIEMAKER 2204	**0 401 178**			
	320	DIEMAKER 2304	**0 401 179**			
	400	DIEMAKER 2404	**0 401 180**			
	600	DIEMAKER 2604	**0 401 181**			
	900	DIEMAKER 2904	**0 401 182**			
25 x 12 x 150 mm	150	DIEMAKER 2107	**0 401 231**			
	220	DIEMAKER 2207	**0 401 232**			
	320	DIEMAKER 2307	**0 401 233**			
	400	DIEMAKER 2407	**0 401 234**			
	600	DIEMAKER 2607	**0 401 235**			

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Grinding and polishing stones
Gesswein® MOLDMAKER

These stones produce a semi-gloss surface. As abrasive for these stones, silicon carbide or Premium silicon carbide is used. The soft bonding results in fast cutting action and largely prevents clogging. Since these stones easily adapt to the required profile, they are ideal for outlines and radii.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones Gesswein® MOLDMAKER						
square						
4 x 4 x 100 mm	220	MOLDMAKER 1020P	**0 401 766**			
	320	MOLDMAKER 1030P	**0 401 767**			
	400	MOLDMAKER 1040P	**0 401 768**			
	600	MOLDMAKER 1060P	**0 401 769**			
	800	MOLDMAKER 1080P	**0 401 770**			
6 x 6 x 100 mm	220	MOLDMAKER 202	**0 401 089**			
	320	MOLDMAKER 302	**0 401 090**			
	400	MOLDMAKER 402	**0 401 091**			
	600	MOLDMAKER 602	**0 401 092**			
6 x 6 x 150 mm	220	MOLDMAKER 1202	**0 401 109**			
	320	MOLDMAKER 1302	**0 401 110**			
	400	MOLDMAKER 1402	**0 401 111**			
	600	MOLDMAKER 1602	**0 401 112**			
	800	MOLDMAKER 1802P	**0 401 774**			
13 x 13 x 150 mm	220	MOLDMAKER 1205	**0 401 101-1**			
	320	MOLDMAKER 1305	**0 401 102-1**			
	400	MOLDMAKER 1405	**0 401 103-1**			
	600	MOLDMAKER 1605	**0 401 104-1**			
rectangular						
6 x 3 x 100 mm	220	MOLDMAKER 201	**0 401 085**			
	320	MOLDMAKER 301	**0 401 086**			
	400	MOLDMAKER 401	**0 401 087**			
	600	MOLDMAKER 601	**0 401 088**			
6 x 3 x 150 mm	220	MOLDMAKER 1201	**0 401 105**			
	320	MOLDMAKER 1301	**0 401 106**			
	400	MOLDMAKER 1401	**0 401 107**			
	600	MOLDMAKER 1601	**0 401 108**			
	800	MOLDMAKER 1801P	**0 401 772**			
13 x 3 x 150 mm	220	MOLDMAKER 1203	**0 401 113**			
	320	MOLDMAKER 1303	**0 401 114**			
	400	MOLDMAKER 1403	**0 401 115**			
	600	MOLDMAKER 1603	**0 401 116**			
	800	MOLDMAKER 1803P	**0 401 776**			
13 x 6 x 100 mm	220	MOLDMAKER 204	**0 401 097**			
	320	MOLDMAKER 304	**0 401 098**			
	400	MOLDMAKER 404	**0 401 099**			
	600	MOLDMAKER 604	**0 401 100**			
13 x 6 x 150 mm	150	MOLDMAKER 1154P	**0 401 123**			
	220	MOLDMAKER 1204	**0 401 117**			
	320	MOLDMAKER 1304	**0 401 118**			
	400	MOLDMAKER 1404	**0 401 119**			
	600	MOLDMAKER 1604	**0 401 120**			
	100	MOLDMAKER 1104P	**0 401 125**			
	800	MOLDMAKER 1804P	**0 401 778**			
	1200	MOLDMAKER 2004P	**0 401 779**			

Grinding and polishing stones
Gesswein® Hybrid test set

	Order No.	Price from 1 set
Hybrid test set Gesswein®		
 20 stones (dimensions: 6 x 6 x 150 mm), 1 piece each in grit size 220, 320, 400, 600: • DIEMAKER • EDM • GP • MOLDMAKER • OT	**0 401 140**	

Grinding and polishing stones
Gesswein® ULTRASOFT

The abrasive used for the ultrasoft version is white aluminium oxide. The very soft bond for a quick adaptation of these stones. The extra-soft bond prevents clogging. Perfectly suited for processing aluminium, beryllium, brass, bronze and stainless steel. These stones can be quickly and easily shaped.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones Gesswein® ULTRASOFT						
square						
6 x 6 x 150 mm	120	ULTRASOFT 7102	**0 401 724**			
	320	ULTRASOFT 7302	**0 401 725**			
	600	ULTRASOFT 7602	**0 401 726**			
	1200	ULTRASOFT 7002	**0 401 727**			
rectangular						
13 x 3 x 150 mm	120	ULTRASOFT 7103	**0 401 728**			
	320	ULTRASOFT 7303	**0 401 729**			
	600	ULTRASOFT 7603	**0 401 730**			
	1200	ULTRASOFT 7003	**0 401 731**			
13 x 6 x 150 mm	120	ULTRASOFT 7104	**0 401 732**			
	320	ULTRASOFT 7304	**0 401 733**			
	600	ULTRASOFT 7604	**0 401 734**			
	1200	ULTRASOFT 7004	**0 401 735**			
25 x 13 x 150 mm	120	ULTRASOFT 7107	**0 401 736**			
	320	ULTRASOFT 7307	**0 401 737**			

Grinding and polishing stones
Gesswein® PREMIUM WHITE

The medium-hard PREMIUM WHITE stones are ideally suited for all work on tool steels and have good dimensional stability.
The stones are also suitable for use in ultrasonic polishing systems.



Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Gesswein® PREMIUM WHITE						
square						
6 x 6 x 150 mm	600	PREMIUM WHITE 802	12 pieces	**0 401 131-1**		
rectangular						
6 x 3 x 150 mm	600	PREMIUM WHITE 801	12 pieces	**0 401 130-1**		
13 x 3 x 150 mm	600	PREMIUM WHITE 803	12 pieces	**0 401 132-1**		
13 x 6 x 150 mm	600	PREMIUM WHITE 804	12 pieces	**0 401 133-1**		



Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Grinding and polishing stones
Gesswein® SUPER FINE

These stones are recommended for an extra-fine surface finish on the workpiece. They are made of levigated alumina in grit size finer than 1200. These stones are guaranteed not to scratch and are eminently suitable for polishing with a diamond compound.



Dimensions	Grit size	Type	Order No.	Price from 1 piece	12 pieces	60 pieces
Grinding and polishing stones Gesswein® SUPER FINE						
square						
4 x 4 x 100 mm	1200	SUPER FINE 12	**0 401 210**			
6 x 6 x 150 mm	1200	SUPER FINE 9002	**0 401 212**			
rectangular						
6 x 3 x 150 mm	1200	SUPER FINE 9001	**0 401 211**			
13 x 3 x 150 mm	1200	SUPER FINE 9003	**0 401 213**			
13 x 6 x 150 mm	1200	SUPER FINE 9004	**0 401 214**			



Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Grinding and polishing stones
Gesswein® GP – General Purpose

The polishing stone GP from Gesswein® is ideally suited for both eroded and machined surfaces of all tool steels and hardened steels. Owing to its special, medium-hard bond made of extra sharp, white aluminium oxide particles, it guarantees high stock removal with simultaneously low wear and a high level of dimensional stability. Grinding stone oil (fluid) is also recommended for processing.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

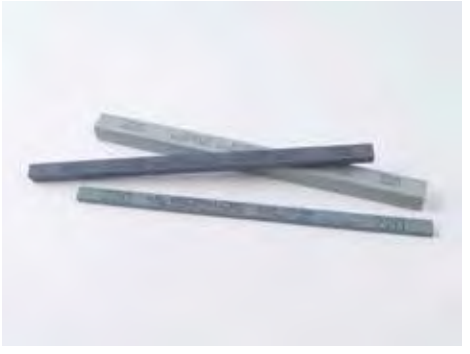
Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Gesswein® GP – General Purpose						
square						
4 x 4 x 100 mm	320	GP	12 pieces	**0 405 100**		
	150	GP	12 pieces	**0 405 101**		
6 x 6 x 150 mm	150	GP	12 pieces	**0 405 118**		
	180	GP	12 pieces	**0 405 119**		
	220	GP	12 pieces	**0 405 120**		
	320	GP	12 pieces	**0 405 121**		
	400	GP	12 pieces	**0 405 122**		
	600	GP	12 pieces	**0 405 123**		
	800	GP	12 pieces	**0 405 124**		
	1200	GP	12 pieces	**0 405 125**		
rectangular						
6 x 3 x 150 mm	150	GP	12 pieces	**0 405 110**		
	180	GP	12 pieces	**0 405 111**		
	220	GP	12 pieces	**0 405 112**		
	320	GP	12 pieces	**0 405 113**		
	400	GP	12 pieces	**0 405 114**		
	600	GP	12 pieces	**0 405 115**		
	800	GP	12 pieces	**0 405 116**		
	1200	GP	12 pieces	**0 405 117**		
13 x 3 x 150 mm	150	GP	12 pieces	**0 405 126**		
	180	GP	12 pieces	**0 405 127**		
	220	GP	12 pieces	**0 405 128**		
	320	GP	12 pieces	**0 405 129**		
	400	GP	12 pieces	**0 405 130**		
	600	GP	12 pieces	**0 405 131**		
	800	GP	12 pieces	**0 405 132**		
	1200	GP	12 pieces	**0 405 133**		
13 x 6 x 150 mm	150	GP	12 pieces	**0 405 134**		
	180	GP	12 pieces	**0 405 135**		
	220	GP	12 pieces	**0 405 136**		
	320	GP	12 pieces	**0 405 137**		
	400	GP	12 pieces	**0 405 138**		
	600	GP	12 pieces	**0 405 139**		
	800	GP	12 pieces	**0 405 140**		
	1200	GP	12 pieces	**0 405 141**		

Grinding and polishing stones
Boride® CS-HD

Extremely hard stones made of silicon carbide for the pretreatment in hard moulds (> 47 HRC). Can be used manually or in a handfiling machine, dry or with a fluid.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Boride® CS-HD						
rectangular						
6 x 3 x 150 mm	120	CS-HD	12 pieces	**0 410 861**		
	150	CS-HD	12 pieces	**0 410 862**		
	220	CS-HD	12 pieces	**0 410 864**		
	320	CS-HD	12 pieces	**0 410 866**		
	400	CS-HD	12 pieces	**0 410 867**		
	600	CS-HD	12 pieces	**0 410 868**		
13 x 6 x 150 mm	120	CS-HD	12 pieces	**0 410 901**		
	150	CS-HD	12 pieces	**0 410 903**		
	220	CS-HD	12 pieces	**0 410 904**		
	320	CS-HD	12 pieces	**0 410 906**		
	400	CS-HD	12 pieces	**0 410 907**		
	600	CS-HD	12 pieces	**0 410 908**		

Grinding and polishing stones
Boride® T2

These stones are perfect for high-alloyed tools and high-grade steels. Thanks to their own impregnation, these stones work very efficiently and produce a semi matt surface on the workpiece. Can be used manually or in a handfiling machine, with a fluid.





Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Boride® T2						
rectangular						
6 x 3 x 150 mm	150	T2	12 pieces	**0 409 952**		
	220	T2	12 pieces	**0 409 954**		
	320	T2	12 pieces	**0 409 956**		
	400	T2	12 pieces	**0 409 957**		
	600	T2	12 pieces	**0 409 958**		
13 x 6 x 150 mm	150	T2	12 pieces	**0 409 932**		
	220	T2	12 pieces	**0 409 934**		
	320	T2	12 pieces	**0 409 936**		
	400	T2	12 pieces	**0 409 937**		
	600	T2	12 pieces	**0 409 938**		

Bonding

1	2	3	(4)	5

soft — hard

Stock removal

1	2	(3)	4	5

slow — fast

Wear

1	(2)	3	4	5

slow — fast

Application

1	(2)	3	4	5

Preparatory work — Finishing

Grinding and polishing stones
Boride® Orange EDM

The EDM orange grinding and polishing stones in aluminium oxide have been developed for the removal of erosion layers. The bonding allows rapid adaptation to the contour with good dimensional stability. Good stock removal. Can be used manually or in a handfiling machine, either dry or with a fluid.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Boride® Orange EDM						
square						
6 x 6 x 150 mm	120	Orange EDM	12 pieces	**0 409 372**		
	180	Orange EDM	12 pieces	**0 409 373**		
	220	Orange EDM	12 pieces	**0 409 374**		
	320	Orange EDM	12 pieces	**0 409 376**		
	400	Orange EDM	12 pieces	**0 409 377**		
	600	Orange EDM	12 pieces	**0 409 378**		
rectangular						
6 x 3 x 150 mm	120	Orange EDM	12 pieces	**0 409 332**		
	180	Orange EDM	12 pieces	**0 409 333**		
	220	Orange EDM	12 pieces	**0 409 334**		
	320	Orange EDM	12 pieces	**0 409 336**		
	400	Orange EDM	12 pieces	**0 409 337**		
	600	Orange EDM	12 pieces	**0 409 338**		
13 x 3 x 150 mm	120	Orange EDM	12 pieces	**0 409 342**		
	180	Orange EDM	12 pieces	**0 409 343**		
	220	Orange EDM	12 pieces	**0 409 344**		
	320	Orange EDM	12 pieces	**0 409 346**		
	400	Orange EDM	12 pieces	**0 409 347**		
	600	Orange EDM	12 pieces	**0 409 348**		
13 x 6 x 150 mm	120	Orange EDM	12 pieces	**0 409 382**		
	180	Orange EDM	12 pieces	**0 409 383**		
	220	Orange EDM	12 pieces	**0 409 384**		
	320	Orange EDM	12 pieces	**0 409 386**		
	400	Orange EDM	12 pieces	**0 409 387**		
	600	Orange EDM	12 pieces	**0 409 388**		

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Grinding and polishing stones
Boride® AO

Very aggressive all-round stones made of aluminium oxide for all steels in tool and mould building. These grinding stones have a semi-hard bonding and are oil impregnated, so that they do not clog easily. AO stones are dimensionally stable and offer a good cutting performance. High stock removal rates with milling and erosion structures. Can be used manually or in a hand-filing machine, always with a fluid.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Boride® AO						
round						
Ø 10 x 140 mm	150	AO	12 pieces	**0 410 692**		
	220	AO	12 pieces	**0 410 694**		
	320	AO	12 pieces	**0 410 696**		
	400	AO	12 pieces	**0 410 697**		
rectangular						
6 x 3 x 150 mm	120	AO	12 pieces	**0 410 531**		
	150	AO	12 pieces	**0 410 532**		
	220	AO	12 pieces	**0 410 534**		
	320	AO	12 pieces	**0 410 536**		
	400	AO	12 pieces	**0 410 537**		
	600	AO	12 pieces	**0 410 538**		
13 x 3 x 150 mm	120	AO	12 pieces	**0 410 541**		
	150	AO	12 pieces	**0 410 542**		
	220	AO	12 pieces	**0 410 544**		
	320	AO	12 pieces	**0 410 546**		
	400	AO	12 pieces	**0 410 547**		
	600	AO	12 pieces	**0 410 548**		
13 x 6 x 150 mm	120	AO	12 pieces	**0 410 581**		
	150	AO	12 pieces	**0 410 582**		
	220	AO	12 pieces	**0 410 584**		
	320	AO	12 pieces	**0 410 586**		
	400	AO	12 pieces	**0 410 587**		
	600	AO	12 pieces	**0 410 588**		
25 x 13 x 150 mm	120	AO	12 pieces	**0 410 621**		
	150	AO	12 pieces	**0 410 622**		
	220	AO	12 pieces	**0 410 624**		
	320	AO	12 pieces	**0 410 626**		
	400	AO	12 pieces	**0 410 627**		
	600	AO	12 pieces	**0 410 628**		

Grinding and polishing stones
Boride® Golden Star

The Golden Star is a premium corundum stone which, owing to its specially developed treatment, leaves a silky smooth finish. Excellent for eroded and milled surfaces. The stone is of moderate hardness and achieves rapid stock removal. The stone is used dry; even better results are achieved in conjunction with fluid.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

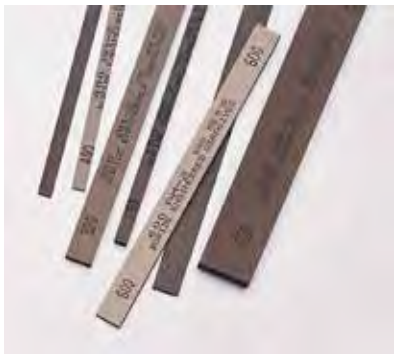
Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Boride® Golden Star						
rectangular						
6 x 3 x 150 mm	150	Golden Star	12 pieces	**0 407 811**		
	180	Golden Star	12 pieces	**0 407 812**		
	220	Golden Star	12 pieces	**0 407 813**		
	320	Golden Star	12 pieces	**0 407 814**		
	400	Golden Star	12 pieces	**0 407 815**		
	600	Golden Star	12 pieces	**0 407 816**		
	800	Golden Star	12 pieces	**0 407 817**		
	1000	Golden Star	12 pieces	**0 407 818**		
13 x 3 x 150 mm	150	Golden Star	12 pieces	**0 407 821**		
	180	Golden Star	12 pieces	**0 407 822**		
	220	Golden Star	12 pieces	**0 407 823**		
	320	Golden Star	12 pieces	**0 407 824**		
	400	Golden Star	12 pieces	**0 407 825**		
	600	Golden Star	12 pieces	**0 407 826**		
	800	Golden Star	12 pieces	**0 407 827**		
	1000	Golden Star	12 pieces	**0 407 828**		
13 x 6 x 150 mm	150	Golden Star	12 pieces	**0 407 851**		
	180	Golden Star	12 pieces	**0 407 852**		
	220	Golden Star	12 pieces	**0 407 853**		
	320	Golden Star	12 pieces	**0 407 854**		
	400	Golden Star	12 pieces	**0 407 855**		
	600	Golden Star	12 pieces	**0 407 856**		
	800	Golden Star	12 pieces	**0 407 857**		
	1000	Golden Star	12 pieces	**0 407 858**		

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Grinding and polishing stones
Boride® AM-2

These universal AM-2 grinding and polishing stones in aluminium oxide are used for all types of steel in mould and tool building. Owing to the uniform stock removal with a fine grinding pattern, the AM-2 abrasive stone is also very suitable for all non-ferrous metals, aluminium, copper and high-chrome and high-nickel steels. The semi-hard stones are used with fluid up to the very fine finishing stage with K 900.

Tip: When processsing aluminum, work should be performed from 320 onwards with an abrasive cloth.





Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Boride® AM-2						
square						
6 x 6 x 150 mm	100	AM-2	12 pieces	**0 410 270**		
	150	AM-2	12 pieces	**0 410 272**		
	180	AM-2	12 pieces	**0 410 273**		
	220	AM-2	12 pieces	**0 410 274**		
	280	AM-2	12 pieces	**0 410 275**		
	320	AM-2	12 pieces	**0 410 276**		
	400	AM-2	12 pieces	**0 410 277**		
	600	AM-2	12 pieces	**0 410 278**		
	900	AM-2	12 pieces	**0 410 279**		
rectangular						
6 x 3 x 150 mm	100	AM-2	12 pieces	**0 410 230**		
	150	AM-2	12 pieces	**0 410 232**		
	180	AM-2	12 pieces	**0 410 233**		
	220	AM-2	12 pieces	**0 410 234**		
	280	AM-2	12 pieces	**0 410 235**		
	320	AM-2	12 pieces	**0 410 236**		
	400	AM-2	12 pieces	**0 410 237**		
	600	AM-2	12 pieces	**0 410 238**		
	900	AM-2	12 pieces	**0 410 239**		
13 x 3 x 150 mm	100	AM-2	12 pieces	**0 410 240**		
	150	AM-2	12 pieces	**0 410 242**		
	180	AM-2	12 pieces	**0 410 243**		
	220	AM-2	12 pieces	**0 410 244**		
	280	AM-2	12 pieces	**0 410 245**		
	320	AM-2	12 pieces	**0 410 246**		
	400	AM-2	12 pieces	**0 410 247**		
	600	AM-2	12 pieces	**0 410 248**		
	900	AM-2	12 pieces	**0 410 249**		
13 x 6 x 150 mm	100	AM-2	12 pieces	**0 410 280**		
	150	AM-2	12 pieces	**0 410 282**		
	180	AM-2	12 pieces	**0 410 283**		
	220	AM-2	12 pieces	**0 410 284**		
	280	AM-2	12 pieces	**0 410 285**		
	320	AM-2	12 pieces	**0 410 286**		
	400	AM-2	12 pieces	**0 410 287**		
	600	AM-2	12 pieces	**0 410 288**		
	900	AM-2	12 pieces	**0 410 289**		
25 x 13 x 150 mm	100	AM-2	12 pieces	**0 410 320**		
	150	AM-2	12 pieces	**0 410 322**		
	180	AM-2	12 pieces	**0 410 323**		
	220	AM-2	12 pieces	**0 410 324**		
	280	AM-2	12 pieces	**0 410 325**		
	320	AM-2	12 pieces	**0 410 326**		
	400	AM-2	12 pieces	**0 410 327**		

Grinding and polishing stones
Boride® RO-MED

These grinding and polishing stones have been especially developed for use in large moulds and are therefore only available in large grit sizes. They offer particularly fast and aggressive stock removal. Thanks to their medium-hard bond, they adapt quickly to the geometry.



Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Boride® RO-MED						
rectangular						
25 x 13 x 200 mm	80	RO-MED	12 pieces	**0 410 970**		
	100	RO-MED	12 pieces	**0 410 971**		
	150	RO-MED	12 pieces	**0 410 972**		
	220	RO-MED	12 pieces	**0 410 974**		



Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Fluid for grinding and polishing stones
Boride® Bori Lube 10

		Content	Order No.	Price from 1 piece
Fluid Boride®				
	Experience improved cutting performance and cleaning with original Boride® abrasive stone fluid. Our recommendation for all our grinding and polishing stones.	3.8 l	**0 409 046**	

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Grinding and polishing stones
Boride® RASP

The RASP stones from Boride® are now also available from joke and are manufactured from the finest quality aluminium dioxide. This universal stone is optimally suited for most tool steels, aluminium and even EDM surfaces. They are often used for cutting and finishing, but the stones can also cope with surface lapping.RASP stones are of very high quality, are durable and readily adapt to your workpiece. Owing to its special composition, it is to be used wet and dry.





Bonding

1	2	3	(4)	5

soft — hard

Stock removal

1	2	3	4	(5)

slow — fast

Wear

1	2	(3)	4	5

slow — fast

Application

(1)	2	3	4	5

Preparatory work — Finishing

Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Boride® RASP						
square						
6 x 6 x 150 mm	150	RASP	12 pieces	**0 407 892**		
	220	RASP	12 pieces	**0 407 893**		
	320	RASP	12 pieces	**0 407 894**		
	400	RASP	12 pieces	**0 407 895**		
	600	RASP	12 pieces	**0 407 896**		
	900	RASP	12 pieces	**0 407 897**		
	1200	RASP	12 pieces	**0 407 898**		
13 x 13 x 150 mm	150	RASP	12 pieces	**0 407 926**		
	220	RASP	12 pieces	**0 407 927**		
	320	RASP	12 pieces	**0 407 928**		
	400	RASP	12 pieces	**0 407 929**		
	600	RASP	12 pieces	**0 407 930**		
	900	RASP	12 pieces	**0 407 931**		
	1200	RASP	12 pieces	**0 407 932**		
rectangular						
6 x 3 x 150 mm	150	RASP	12 pieces	**0 407 869**		
	220	RASP	12 pieces	**0 407 879**		
	320	RASP	12 pieces	**0 407 880**		
	400	RASP	12 pieces	**0 407 881**		
	600	RASP	12 pieces	**0 407 882**		
	900	RASP	12 pieces	**0 407 883**		
	1200	RASP	12 pieces	**0 407 884**		
13 x 3 x 150 mm	150	RASP	12 pieces	**0 407 885**		
	220	RASP	12 pieces	**0 407 886**		
	320	RASP	12 pieces	**0 407 887**		
	400	RASP	12 pieces	**0 407 888**		
	600	RASP	12 pieces	**0 407 889**		
	900	RASP	12 pieces	**0 407 890**		
	1200	RASP	12 pieces	**0 407 891**		
13 x 6 x 150 mm	150	RASP	12 pieces	**0 407 899**		
	220	RASP	12 pieces	**0 407 920**		
	320	RASP	12 pieces	**0 407 921**		
	400	RASP	12 pieces	**0 407 922**		
	600	RASP	12 pieces	**0 407 923**		
	900	RASP	12 pieces	**0 407 924**		
	1200	RASP	12 pieces	**0 407 925**		

Grinding and polishing stones
Boride® CS-M

The medium-soft bond of these premium silicon carbide stones allows high stock removal rates without clogging. CS-M stones are generally used with a fluid, either manually or with a hand-filing machine.





Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 piece	Price from 60 pieces
Grinding and polishing stones Boride® CS-M						
rectangular						
13 x 6 x 150 mm	120	CS-M	12 pieces	**0 410 761**		
	150	CS-M	12 pieces	**0 410 762**		
	220	CS-M	12 pieces	**0 410 764**		
	320	CS-M	12 pieces	**0 410 766**		
	400	CS-M	12 pieces	**0 410 767**		
	600	CS-M	12 pieces	**0 410 768**		

Bonding

1	2	3	4	5
soft				hard

Stock removal

1	2	3	4	5
slow				fast

Wear

1	2	3	4	5
slow				fast

Application

1	2	3	4	5
Preparatory work				Finishing

Bench stones

These stones can be used on both sides and are available in aluminium oxide or silicon carbide. Combination of K 120 and 320.

	Design	Dimensions	Grit size	Order No.	Price from 1 piece
Bench stones					
rectangular					
	aluminium oxide	25 x 50 x 200 mm	# 120 / 320	**0 401 754**	
	silicon carbide	25 x 50 x 150 mm	# 120 / 320	**0 401 758**	

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Grinding and polishing stones
Boride® Test sets

Our Boride® test sets are ideal for trying out these products. Without minimum order, you can easily send an order for 5 grinding and polishing stones respectively in different grit sizes.

		Order No.	Price from 1 set
Test set Boride® Golden Star			
	5 abrasive test stones (13 x 3 x 150 mm), grit sizes 150, 220, 320, 400, 600	**0 407 800**	

		Order No.	Price from 1 set
Test set Boride® Gold			
	5 abrasive test stones (13 x 3 x 150 mm), grit sizes 320, 400, 600, 800, 1000	**0 407 820**	

		Order No.	Price from 1 set
Test set Boride® Orange EDM			
	5 abrasive test stones (13 x 3 x 150 mm), grit sizes 150, 220, 320, 400, 600	**0 409 300**	

		Order No.	Price from 1 set
Test set Boride® T2			
	5 abrasive test stones (13 x 3 x 150 mm), grit sizes 150, 220, 320, 400, 600	**0 409 900**	

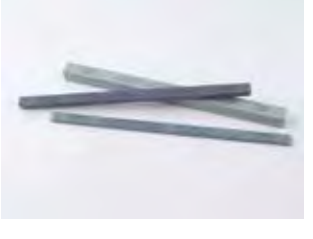
Grinding and polishing stones
Boride® Test sets

Our Boride® test sets are ideal for trying out these products. Without minimum order, you can easily send an order for 5 grinding and polishing stones respectively in different grit sizes.

		Order No.	Price from 1 set
Test set Boride® AM-2			
	5 abrasive test stones (13 x 3 x 150 mm), grit sizes 150, 220, 320, 400, 600	**0 410 390**	

		Order No.	Price from 1 set
Test set Boride® AO			
	5 abrasive test stones (13 x 3 x 150 mm), grit sizes 150, 220, 320, 400, 600	**0 410 500**	

		Order No.	Price from 1 set
Test set Boride® CS-M			
	5 abrasive test stones (13 x 3 x 150 mm), grit sizes 150, 220, 320, 400, 600	**0 410 700**	

		Order No.	Price from 1 set
Test set Boride® CS-HD			
	5 abrasive test stones (13 x 3 x 150 mm), grit sizes 150, 220, 320, 400, 600	**0 410 850**	

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Holders for grinding and polishing stones
for hand and machine use

		Shank dimensions	Packing quantity	Order No.	Price from 1 piece	1 set	1 pack
Tool holder A							
	with rapid clamping for grinding stones 4 x 4 mm			**0 401 215**			
Tool holder B							
	for receiving grinding stones 4 x 4, 6 x 6 or 6 x 3 mm			**0 401 216**			
Tool holder, single							
	for grinding stones 6 x 13 mm			**0 401 228**			
Tool holder, double							
	for receiving stones 1.6 x 13, 6 x 6 or 6 x 3 mm			**0 401 227**			
Tool holder range	***NEW!***						
	for receiving grinding stones 4 x 4, 6 x 6 or 6 x 3 mm on both sides (3 pieces, blue, red, black)		3 pieces	**0 401 500**			
Tool holder for lapping sticks							
	head pivotable through 90°, for receiving tool up to 10 x 10 mm	Ø 3 x 35 mm		**0 411 291**			
	for receiving tool up to 8 mm high	Ø 3.5 x 30 mm		**0 411 292**			
	for receiving tool up to 8 mm high	Ø 6 x 30 mm		**0 411 201**			
Holder for grinding files							
	clamping height up to 11 mm	Ø 4 x 50 mm		**0 401 959**			
Tool holder Premium, mini							
	clamping range: height up to 8 mm, hardened finish, high-strength clamping plate	Ø 3 mm		**0 401 951**			
Tool holder Premium, medium							
	Clamping range: height 6 mm, hardened finish. Shank and body manufactured from a piece of high-strength clamping plate. With recess for 6 mm flat and round stones.	Ø 3 mm		**0 401 972**			
Tool holder with counter-clamping							
	sturdy holder for clamping round and flat tools up to max. 3 mm. All solid carbide (VHM) round rods (see articles: 2 012 498 and 2 012 499) are used as a clamping shank for handpieces and/or hand-filing machines and are simply clamped and screwed to the rear of the holder.			**0 750 710**			

Holders for grinding and polishing stones
for hand and machine use

		Shank dimensions	Packing quantity	Order No.	Price from 1 piece	1 set	1 pack
VHM round rod head Ø 3 mm, length 50 mm							
	head Ø 3 mm, length 50 mm			**2 012 498**			
VHM round rod head Ø 6 mm, length 50 mm							
	head Ø 6 mm, length 50 mm			**2 012 499**			
Tool carrier, 30 x 9 x 2 mm (pack: 10 pieces)							
	without tool		10 pieces	**0 411 009**			
Toggle rod for tool carrier, length 140 mm							
	for tool carrier, shank Ø 3 mm, length 140 mm	Ø 3 mm		**0 411 008**			



Tool holder system
with counter clamping

An ergonomically designed handle, which can be used with eight different inserts. The lock nut fixes the insert and therefore clamps the inserted tools. Available as single pieces on demand or in a set with eight “completely equipped” handles.

	Dimensions	Order No.	Price from 1 piece
Tool holder handle, without lock nut			
		**0 401 981**	
Tool holder lock nut			
		**0 401 982**	
Tool holder insert			
	3 x 6 mm	**0 401 984**	
	3 x 13 mm	**0 401 983**	
	4 x 4 mm	**0 401 985**	
	6 x 6 mm	**0 401 986**	
	6 x 13 mm	**0 401 987**	
	10 x 10 mm	**0 401 988**	
	Ø 6 mm	**0 401 989**	
	Ø 10 mm	**0 401 990**	

matching set

		Order No.	Price from 1 set
Tool holder set			
	The set contains 8 complete handles with inserts for the following tools: flat: 3 x 6 mm, 3 x 13 mm and 6 x 13 mm, square: 3 x 4 mm, 3 x 13 mm and 10 x 13 mm, round: Ø 6 mm and Ø 10 mm	**0 401 980**	



Ceramic-fibre tools

The ceramic-fibre files from joke are highly versatile tools. They are above all used wherever you get bogged down with conventional tools, for example at highly filigree spots such as slots, ribs and ridges, etc. Ideal for removing erosion structures. Very good results are achieved during use as lapping and polishing tools in conjunction with diamond compounds. They can be used manually (e.g. in special file holders, see page 260) or with the aid of a hand-filing machine. Ceramic-fibre files make a perfect team in conjunction with ultrasonic polishing systems.

In this case however, we recommend the special HT-140 or the particularly heat-resistant Ultra-HT files, which with greater heat resistance also withstand very high output ratings, without proverbially "burning away". With the mini ceramic files, you can process even the most filigree areas; the soft files are highly adaptable owing to the rubbery bond and do not leave any scratches whatsoever. You will also find a matching selection of holders available from us for convenient manual use of the files. The range is rounded off by the ceramicfibre files and brushes on a shank.

Five facts about the joke ceramic-fibre files

1. The files are no. 1 when it comes to heat resistance (an upper temperature limit higher by 30 °C in comparison!)
2. The joke files and the ENESKAsonic system have been optimally adapted to one another!
3. Specially developed polishing fibres allow maximum stock removals and absolutely uniform finishing quality!
4. A combination of polishing fibres and a special bond prevent splintering at the tip!
5. Integrated development and production from the initial fibre to the finished product guarantee consistent product quality and constant optimisation!

253 **Ceramic-fibre files joke ULTRA-HT**

254 **Ceramic-fibre files joke HT-140**

256 **Ceramic-fibre files NEW Super Stone**

263 **Diamond ceramic-fibre files**

264 **Ceramic-fibre files joke Mini**

264 **Ceramic-fibre files joke Soft**

265 **Set: Holder + ceramic-fibre files**

266 **Holders for ceramic-fibre files**

267 **Ceramic-fibre files on a shank**

268 **Ceramic-fibre brushes**

269 **Ceramic-fibre brushes Cross Hole**

270 **Crystal fibre cutting disc Cristone**

Ceramic-fibre files joke Ultra-HT
Heat-resistant up to 200 °C!

These files are heat-resistant up to 200 °C and therefore optimally suitable for the high-performance ultrasonic polishing systems. Even under high loads, the ceramic-fibre files remain break-resistant and do not get clogged up during processing.



	Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
Ceramic-fibre files joke Ultra-HT							
flat							
	1 x 4 x 100 mm	# 120 / 110 µm	violet	**0 424 601**			
		# 220 / 50 µm	dark brown	**0 424 611**			
		# 400 / 30 µm	orange	**0 424 641**			
		# 800 / 20 µm	blue	**0 424 621**			
		# 1200 / 10 µm	red	**0 424 631**			
	1 x 6 x 100 mm	# 120 / 110 µm	violet	**0 424 602**			
		# 220 / 50 µm	dark brown	**0 424 612**			
		# 400 / 30 µm	orange	**0 424 642**			
		# 800 / 20 µm	blue	**0 424 622**			
		# 1200 / 10 µm	red	**0 424 632**			
	1 x 10 x 100 mm	# 120 / 110 µm	violet	**0 424 603**			
		# 220 / 50 µm	dark brown	**0 424 613**			
		# 400 / 30 µm	orange	**0 424 643**			
		# 800 / 20 µm	blue	**0 424 623**			
		# 1200 / 10 µm	red	**0 424 633**			
	2 x 4 x 100 mm	# 120 / 110 µm	violet	**0 424 604**			
		# 220 / 50 µm	dark brown	**0 424 614**			
		# 400 / 30 µm	orange	**0 424 644**			
		# 800 / 20 µm	blue	**0 424 624**			
		# 1200 / 10 µm	red	**0 424 634**			
	2 x 6 x 100 mm	# 120 / 110 µm	violet	**0 424 605**			
		# 220 / 50 µm	dark brown	**0 424 615**			
		# 400 / 30 µm	orange	**0 424 645**			
		# 800 / 20 µm	blue	**0 424 625**			
		# 1200 / 10 µm	red	**0 424 635**			
	2 x 10 x 100 mm	# 120 / 110 µm	violet	**0 424 606**			
		# 220 / 50 µm	dark brown	**0 424 616**			
		# 400 / 30 µm	orange	**0 424 646**			
		# 800 / 20 µm	blue	**0 424 626**			
		# 1200 / 10 µm	red	**0 424 636**			

You´ll find suitable holders for these files on page 260!

Ceramic-fibre files joke HT-140

The advantages at a glance:
- unbreakable files
- very high heat resistance
- developed specifically for ultrasonic systems
- perfect for ribs and ridges
- files do not splinter



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
0.5 x 4 x 150 mm	# 220 / 50 µm	dark brown	**0 406 160-2**			
0.5 x 4 x 150 mm	# 300 / 40 µm	light brown	**0 406 110-2**			
0.5 x 4 x 150 mm	# 400 / 30 µm	orange	**0 406 120-2**			
0.5 x 4 x 150 mm	# 600 / 25 µm	black	**0 406 170-2**			
0.5 x 4 x 150 mm	# 800 / 20 µm	blue	**0 406 180-2**			
0.5 x 4 x 150 mm	# 1000 / 15 µm	white	**0 406 140-2**			
0.5 x 4 x 150 mm	# 1200 / 10 µm	red	**0 406 100-2**			
1 x 1 x 100 mm	# 1500	yellow	**0 406 371**			
1 x 1 x 100 mm	# 2000	cream	**0 406 381**			
1 x 1 x 100 mm	# 3000	pink	**0 406 391**			
1 x 2 x 100 mm	# 1500	yellow	**0 406 372**			
1 x 2 x 100 mm	# 2000	cream	**0 406 382**			
1 x 2 x 100 mm	# 3000	pink	**0 406 392**			
1 x 4 x 100 mm	# 1500	yellow	**0 406 373**			
1 x 4 x 150 mm	# 120 / 110 µm	violet	**0 406 211**			
1 x 4 x 150 mm	# 220 / 50 µm	dark brown	**0 406 161-2**			
1 x 4 x 150 mm	# 300 / 40 µm	light brown	**0 406 111-2**			
1 x 4 x 150 mm	# 400 / 30 µm	orange	**0 406 121-2**			
1 x 4 x 150 mm	# 600 / 25 µm	black	**0 406 171-2**			
1 x 4 x 150 mm	# 800 / 20 µm	blue	**0 406 181-2**			
1 x 4 x 150 mm	# 1000 / 15 µm	white	**0 406 141-2**			
1 x 4 x 150 mm	# 1200 / 10 µm	red	**0 406 101-2**			
1 x 6 x 100 mm	# 1500	yellow	**0 406 374**			
1 x 6 x 150 mm	# 120 / 110 µm	violet	**0 406 212**			
1 x 6 x 150 mm	# 220 / 50 µm	dark brown	**0 406 162-2**			
1 x 6 x 150 mm	# 300 / 40 µm	light brown	**0 406 112-2**			
1 x 6 x 150 mm	# 400 / 30 µm	orange	**0 406 122-2**			
1 x 6 x 150 mm	# 600 / 25 µm	black	**0 406 172-2**			
1 x 6 x 150 mm	# 800 / 20 µm	blue	**0 406 182-2**			
1 x 6 x 150 mm	# 1000 / 15 µm	white	**0 406 142-2**			
1 x 6 x 150 mm	# 1200 / 10 µm	red	**0 406 102-2**			
1 x 10 x 100 mm	# 1500	yellow	**0 406 375**			
1 x 10 x 150 mm	# 120 / 110 µm	violet	**0 406 213**			
1 x 10 x 150 mm	# 220 / 50 µm	dark brown	**0 406 163-2**			
1 x 10 x 150 mm	# 300 / 40 µm	light brown	**0 406 113-2**			
1 x 10 x 150 mm	# 400 / 30 µm	orange	**0 406 123-2**			
1 x 10 x 150 mm	# 600 / 25 µm	black	**0 406 173-2**			
1 x 10 x 150 mm	# 800 / 20 µm	blue	**0 406 183-2**			
1 x 10 x 150 mm	# 1000 / 15 µm	white	**0 406 143-2**			

Ceramic-fibre files joke HT-140



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
1 x 10 x 150 mm	# 1200 / 10 µm	red	**0 406 103-2**			
2 x 6 x 150 mm	# 120 / 110 µm	violet	**0 406 214**			
2 x 6 x 150 mm	# 220 / 50 µm	dark brown	**0 406 164-2**			
2 x 6 x 150 mm	# 300 / 40 µm	light brown	**0 406 114-2**			
2 x 6 x 150 mm	# 400 / 30 µm	orange	**0 406 124-2**			
2 x 6 x 150 mm	# 600 / 25 µm	black	**0 406 174-2**			
2 x 6 x 150 mm	# 800 / 20 µm	blue	**0 406 184-2**			
2 x 6 x 150 mm	# 1000 / 15 µm	white	**0 406 144-2**			
2 x 6 x 150 mm	# 1200 / 10 µm	red	**0 406 104-2**			
Ø 2.35 x 100 mm	# 220 / 50 µm	grey	**0 406 200-2**			
Ø 2.35 x 100 mm	# 300 / 40 µm	light brown	**0 406 201-2**			
Ø 2.35 x 100 mm	# 400 / 30 µm	orange	**0 406 202-2**			
Ø 2.35 x 100 mm	# 600 / 25 µm	black	**0 406 203-2**			
Ø 2.35 x 100 mm	# 800 / 20 µm	blue	**0 406 204-2**			
Ø 2.35 x 100 mm	# 1200 / 10 µm	red	**0 406 206-2**			
Ø 2.35 x 150 mm	# 300 / 40 µm	light brown	**0 406 342**			
Ø 2.35 x 150 mm	# 400 / 30 µm	orange	**0 406 243**			
Ø 2.35 x 150 mm	# 600 / 25 µm	dark brown	**0 406 244**			
Ø 2.35 x 150 mm	# 800 / 20 µm	blue	**0 406 245**			
Ø 2.35 x 150 mm	# 1000 / 15 µm	white	**0 406 246**			
Ø 2.35 x 150 mm	# 1200 / 10 µm	red	**0 406 247**			
Ø 3 x 100 mm	# 220 / 50 µm	grey	**0 406 190-2**			
Ø 3 x 100 mm	# 300 / 40 µm	light brown	**0 406 191-2**			
Ø 3 x 100 mm	# 400 / 30 µm	orange	**0 406 192-2**			
Ø 3 x 100 mm	# 600 / 25 µm	black	**0 406 193-2**			
Ø 3 x 100 mm	# 800 / 20 µm	blue	**0 406 194-2**			
Ø 3 x 100 mm	# 1000 / 15 µm	white	**0 406 195-2**			
Ø 3 x 100 mm	# 1200 / 10 µm	red	**0 406 196-2**			
Ø 3 x 150 mm	# 220 / 50 µm	grey	**0 406 251**			
Ø 3 x 150 mm	# 300 / 40 µm	light brown	**0 406 352**			
Ø 3 x 150 mm	# 400 / 30 µm	orange	**0 406 253**			
Ø 3 x 150 mm	# 600 / 25 µm	black	**0 406 254**			
Ø 3 x 150 mm	# 800 / 20 µm	blue	**0 406 255**			
Ø 3 x 150 mm	# 1000 / 15 µm	white	**0 406 256**			
Ø 3 x 150 mm	# 1200 / 10 µm	red	**0 406 257**			

There is even more to it!

Please let us know your special requests regarding ceramic-fibre files. We can make almost anything possible. For further information, please contact

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Ceramic-fibre files NEW Super Stone

The advantages at a glance:
- unbreakable files
- very high heat resistance
- developed specifically for ultrasonic systems
- perfect for ribs and ridges
- files do not splinter



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
0.5 x 4 x 50 mm	# 120 / 110 µm	green	**0 424 571-1**			
	# 180 / 80 µm	gold	**0 424 572-1**			
	# 300 / 40 µm	light brown	**0 424 573-1**			
	# 400 / 30 µm	orange	**0 424 574-1**			
	# 600 / 25 µm	dark brown	**0 424 575-1**			
	# 800 / 20 µm	blue	**0 424 576-1**			
	# 1000 / 15 µm	white	**0 424 577-1**			
	# 1200 / 10 µm	red	**0 424 578-1**			
0.5 x 1 x 100 mm	# 80 / 150 µm	violet	**0 426 810**			
	# 120 / 110 µm	green	**0 426 001**			
	# 180 / 80 µm	gold	**0 426 101**			
	# 300 / 40 µm	light brown	**0 426 201**			
	# 400 / 30 µm	orange	**0 426 301**			
	# 600 / 25 µm	dark brown	**0 426 401**			
	# 800 / 20 µm	blue	**0 426 501**			
	# 1000 / 15 µm	white	**0 426 601**			
	# 1200 / 10 µm	red	**0 426 701**			
0.5 x 1 x 150 mm	# 80 / 150 µm	violet	**0 426 839**			
0.5 x 2 x 150 mm	# 80 / 150 µm	violet	**0 426 840**			
	# 120 / 110 µm	green	**0 426 031**			
	# 180 / 80 µm	gold	**0 426 131**			
	# 300 / 40 µm	light brown	**0 426 231**			
	# 400 / 30 µm	orange	**0 426 331**			
	# 600 / 25 µm	dark brown	**0 426 431**			
	# 800 / 20 µm	blue	**0 426 531**			
	# 1000 / 15 µm	white	**0 426 631**			
	# 1200 / 10 µm	red	**0 426 731**			
0.5 x 4 x 150 mm	# 80 / 150 µm	violet	**0 426 841**			
	# 120 / 110 µm	green	**0 426 032**			
	# 180 / 80 µm	gold	**0 426 132**			
	# 300 / 40 µm	light brown	**0 426 232**			
	# 400 / 30 µm	orange	**0 426 332**			
	# 600 / 25 µm	dark brown	**0 426 432**			
	# 800 / 20 µm	blue	**0 426 532**			
	# 1000 / 15 µm	white	**0 426 632**			
	# 1200 / 10 µm	red	**0 426 732**			

Ceramic-fibre files NEW Super Stone



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
0.5 x 6 x 150 mm	# 80 / 150 µm	violet	**0 426 842**			
	# 120 / 110 µm	green	**0 426 033**			
	# 180 / 80 µm	gold	**0 426 133**			
	# 300 / 40 µm	light brown	**0 426 233**			
	# 400 / 30 µm	orange	**0 426 333**			
	# 600 / 25 µm	dark brown	**0 426 433**			
	# 800 / 20 µm	blue	**0 426 533**			
	# 1000 / 15 µm	white	**0 426 633**			
	# 1200 / 10 µm	red	**0 426 733**			
0.5 x 10 x 150 mm	# 80 / 150 µm	violet	**0 426 843**			
	# 120 / 110 µm	green	**0 426 034**			
	# 180 / 80 µm	gold	**0 426 134**			
	# 300 / 40 µm	light brown	**0 426 234**			
	# 400 / 30 µm	orange	**0 426 334**			
	# 600 / 25 µm	dark brown	**0 426 434**			
	# 800 / 20 µm	blue	**0 426 534**			
	# 1000 / 15 µm	white	**0 426 634**			
	# 1200 / 10 µm	red	**0 426 734**			
0.8 x 1 x 150 mm	# 80 / 150 µm	violet	**0 426 844**			
0.8 x 2 x 150 mm	# 80 / 150 µm	violet	**0 426 845**			
0.8 x 4 x 150 mm	# 80 / 150 µm	violet	**0 426 846**			
0.8 x 6 x 150 mm	# 80 / 150 µm	violet	**0 426 847**			
0.8 x 10 x 150 mm	# 80 / 150 µm	violet	**0 426 848**			
1 x 2 x 100 mm	# 120 / 110 µm	green	**0 426 012**			
	# 180 / 80 µm	gold	**0 426 112**			
	# 300 / 40 µm	light brown	**0 426 212**			
	# 400 / 30 µm	orange	**0 426 312**			
	# 600 / 25 µm	dark brown	**0 426 412**			
	# 800 / 20 µm	blue	**0 426 512**			
	# 1000 / 15 µm	white	**0 426 612**			
	# 1200 / 10 µm	red	**0 426 712**			
1 x 2 x 150 mm	# 80 / 150 µm	violet	**0 426 850**			
	# 120 / 110 µm	green	**0 426 041**			
	# 180 / 80 µm	gold	**0 426 141**			
	# 300 / 40 µm	light brown	**0 426 241**			
	# 400 / 30 µm	orange	**0 426 341**			
	# 600 / 25 µm	dark brown	**0 426 441**			
	# 800 / 20 µm	blue	**0 426 541**			
	# 1000 / 15 µm	white	**0 426 641**			
	# 1200 / 10 µm	red	**0 426 741**			

Ceramic-fibre files NEW Super Stone



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
1 x 4 x 100 mm	# 120 / 110 µm	green	**0 426 013**			
	# 180 / 80 µm	gold	**0 426 113**			
	# 300 / 40 µm	light brown	**0 426 213**			
	# 400 / 30 µm	orange	**0 426 313**			
	# 600 / 25 µm	dark brown	**0 426 413**			
	# 800 / 20 µm	blue	**0 426 513**			
	# 1000 / 15 µm	white	**0 426 613**			
	# 1200 / 10 µm	red	**0 426 713**			
1 x 4 x 150 mm	# 80 / 150 µm	violet	**0 426 851**			
	# 120 / 110 µm	green	**0 426 042**			
	# 180 / 80 µm	gold	**0 426 142**			
	# 300 / 40 µm	light brown	**0 426 242**			
	# 400 / 30 µm	orange	**0 426 342**			
	# 600 / 25 µm	dark brown	**0 426 442**			
	# 800 / 20 µm	blue	**0 426 542**			
	# 1000 / 15 µm	white	**0 426 642**			
	# 1200 / 10 µm	red	**0 426 742**			
1 x 6 x 100 mm	# 120 / 110 µm	green	**0 426 014**			
	# 180 / 80 µm	gold	**0 426 114**			
	# 300 / 40 µm	light brown	**0 426 214**			
	# 400 / 30 µm	orange	**0 426 314**			
	# 600 / 25 µm	dark brown	**0 426 414**			
	# 800 / 20 µm	blue	**0 426 514**			
	# 1000 / 15 µm	white	**0 426 614**			
	# 1200 / 10 µm	red	**0 426 714**			
1 x 6 x 150 mm	# 80 / 150 µm	violet	**0 426 852**			
	# 120 / 110 µm	green	**0 426 043**			
	# 180 / 80 µm	gold	**0 426 143**			
	# 300 / 40 µm	light brown	**0 426 243**			
	# 400 / 30 µm	orange	**0 426 343**			
	# 600 / 25 µm	dark brown	**0 426 443**			
	# 800 / 20 µm	blue	**0 426 543**			
	# 1000 / 15 µm	white	**0 426 643**			
	# 1200 / 10 µm	red	**0 426 743**			
1 x 10 x 100 mm	# 120 / 110 µm	green	**0 426 015**			
	# 180 / 80 µm	gold	**0 426 115**			
	# 300 / 40 µm	light brown	**0 426 215**			
	# 400 / 30 µm	orange	**0 426 315**			
	# 600 / 25 µm	dark brown	**0 426 415**			
	# 800 / 20 µm	blue	**0 426 515**			
	# 1000 / 15 µm	white	**0 426 615**			
	# 1200 / 10 µm	red	**0 426 715**			
1 x 10 x 150 mm	# 80 / 150 µm	violet	**0 426 853**			
	# 120 / 110 µm	green	**0 426 044**			
	# 180 / 80 µm	gold	**0 426 144**			
	# 300 / 40 µm	light brown	**0 426 244**			
	# 400 / 30 µm	orange	**0 426 344**			
	# 600 / 25 µm	dark brown	**0 426 444**			
	# 800 / 20 µm	blue	**0 426 544**			
	# 1000 / 15 µm	white	**0 426 644**			
	# 1200 / 10 µm	red	**0 426 744**			

Ceramic-fibre files NEW Super Stone



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
1.5 x 1 x 150 mm	# 80 / 150 µm	violet	**0 426 854**			
1.5 x 2 x 100 mm	# 120 / 110 µm	green	**0 426 017**			
	# 180 / 80 µm	gold	**0 426 117**			
	# 300 / 40 µm	light brown	**0 426 217**			
	# 400 / 30 µm	orange	**0 426 317**			
	# 600 / 25 µm	dark brown	**0 426 417**			
	# 800 / 20 µm	blue	**0 426 517**			
	# 1000 / 15 µm	white	**0 426 617**			
	# 1200 / 10 µm	red	**0 426 717**			
1.5 x 2 x 150 mm	# 80 / 150 µm	violet	**0 426 855**			
	# 120 / 110 µm	green	**0 426 046**			
	# 180 / 80 µm	gold	**0 426 146**			
	# 300 / 40 µm	light brown	**0 426 246**			
	# 400 / 30 µm	orange	**0 426 346**			
	# 600 / 25 µm	dark brown	**0 426 446**			
	# 800 / 20 µm	blue	**0 426 546**			
	# 1000 / 15 µm	white	**0 426 646**			
	# 1200 / 10 µm	red	**0 426 746**			
1.5 x 4 x 150 mm	# 80 / 150 µm	violet	**0 426 856**			
	# 120 / 110 µm	green	**0 426 047**			
	# 180 / 80 µm	gold	**0 426 147**			
	# 300 / 40 µm	light brown	**0 426 247**			
	# 400 / 30 µm	orange	**0 426 347**			
	# 600 / 25 µm	dark brown	**0 426 447**			
	# 800 / 20 µm	blue	**0 426 547**			
	# 1000 / 15 µm	white	**0 426 647**			
	# 1200 / 10 µm	red	**0 426 747**			
1.5 x 6 x 100 mm	# 120 / 110 µm	green	**0 426 019**			
	# 180 / 80 µm	gold	**0 426 119**			
	# 300 / 40 µm	light brown	**0 426 219**			
	# 400 / 30 µm	orange	**0 426 319**			
	# 600 / 25 µm	dark brown	**0 426 419**			
	# 800 / 20 µm	blue	**0 426 519**			
	# 1000 / 15 µm	white	**0 426 619**			
	# 1200 / 10 µm	red	**0 426 719**			
1.5 x 6 x 150 mm	# 80 / 150 µm	violet	**0 426 857**			
	# 120 / 110 µm	green	**0 426 048**			
	# 180 / 80 µm	gold	**0 426 148**			
	# 300 / 40 µm	light brown	**0 426 248**			
	# 400 / 30 µm	orange	**0 426 348**			
	# 600 / 25 µm	dark brown	**0 426 448**			
	# 800 / 20 µm	blue	**0 426 548**			
	# 1000 / 15 µm	white	**0 426 648**			
	# 1200 / 10 µm	red	**0 426 748**			

Ceramic-fibre files NEW Super Stone



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
1.5 x 10 x 150 mm	# 80 / 150 µm	violet	**0 426 858**			
	# 120 / 110 µm	green	**0 426 049**			
	# 180 / 80 µm	gold	**0 426 149**			
	# 300 / 40 µm	light brown	**0 426 249**			
	# 400 / 30 µm	orange	**0 426 349**			
	# 600 / 25 µm	dark brown	**0 426 449**			
	# 800 / 20 µm	blue	**0 426 549**			
	# 1000 / 15 µm	white	**0 426 649**			
	# 1200 / 10 µm	red	**0 426 749**			
2 x 4 x 100 mm	# 120 / 110 µm	green	**0 426 022**			
	# 180 / 80 µm	gold	**0 426 122**			
	# 300 / 40 µm	light brown	**0 426 222**			
	# 400 / 30 µm	orange	**0 426 322**			
	# 600 / 25 µm	dark brown	**0 426 422**			
	# 800 / 20 µm	blue	**0 426 522**			
	# 1000 / 15 µm	white	**0 426 622**			
	# 1200 / 10 µm	red	**0 426 722**			
2 x 4 x 150 mm	# 80 / 150 µm	violet	**0 426 860**			
	# 120 / 110 µm	green	**0 426 051**			
	# 180 / 80 µm	gold	**0 426 151**			
	# 300 / 40 µm	light brown	**0 426 251**			
	# 400 / 30 µm	orange	**0 426 351**			
	# 600 / 25 µm	dark brown	**0 426 451**			
	# 800 / 20 µm	blue	**0 426 551**			
	# 1000 / 15 µm	white	**0 426 651**			
	# 1200 / 10 µm	red	**0 426 751**			
2 x 6 x 100 mm	# 120 / 110 µm	green	**0 426 023**			
	# 180 / 80 µm	gold	**0 426 123**			
	# 300 / 40 µm	light brown	**0 426 223**			
	# 400 / 30 µm	orange	**0 426 323**			
	# 600 / 25 µm	dark brown	**0 426 423**			
	# 800 / 20 µm	blue	**0 426 523**			
	# 1000 / 15 µm	white	**0 426 623**			
	# 1200 / 10 µm	red	**0 426 723**			
2 x 6 x 150 mm	# 80 / 150 µm	violet	**0 426 861**			
	# 120 / 110 µm	green	**0 426 052**			
	# 180 / 80 µm	gold	**0 426 152**			
	# 300 / 40 µm	light brown	**0 426 252**			
	# 400 / 30 µm	orange	**0 426 352**			
	# 600 / 25 µm	dark brown	**0 426 452**			
	# 800 / 20 µm	blue	**0 426 552**			
	# 1000 / 15 µm	white	**0 426 652**			
	# 1200 / 10 µm	red	**0 426 752**			

Ceramic-fibre files NEW Super Stone



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
2 x 10 x 150 mm	# 80 / 150 µm	violet	**0 426 862**			
	# 120 / 110 µm	green	**0 426 053**			
	# 180 / 80 µm	gold	**0 426 153**			
	# 300 / 40 µm	light brown	**0 426 253**			
	# 400 / 30 µm	orange	**0 426 353**			
	# 600 / 25 µm	dark brown	**0 426 453**			
	# 800 / 20 µm	blue	**0 426 553**			
	# 1000 / 15 µm	white	**0 426 653**			
	# 1200 / 10 µm	red	**0 426 753**			
3 x 1 x 150 mm	# 80 / 150 µm	violet	**0 426 863**			
3 x 2 x 150 mm	# 80 / 150 µm	violet	**0 426 864**			
3 x 4 x 150 mm	# 80 / 150 µm	violet	**0 426 865**			
	# 120 / 110 µm	green	**0 426 056**			
	# 180 / 80 µm	gold	**0 426 156**			
	# 300 / 40 µm	light brown	**0 426 256**			
	# 400 / 30 µm	orange	**0 426 356**			
	# 600 / 25 µm	dark brown	**0 426 456**			
	# 800 / 20 µm	blue	**0 426 556**			
	# 1000 / 15 µm	white	**0 426 656**			
	# 1200 / 10 µm	red	**0 426 756**			
3 x 6 x 100 mm	# 120 / 110 µm	green	**0 426 028**			
	# 180 / 80 µm	gold	**0 426 128**			
	# 300 / 40 µm	light brown	**0 426 228**			
	# 400 / 30 µm	orange	**0 426 328**			
	# 600 / 25 µm	dark brown	**0 426 428**			
	# 800 / 20 µm	blue	**0 426 528**			
	# 1000 / 15 µm	white	**0 426 628**			
	# 1200 / 10 µm	red	**0 426 728**			
3 x 6 x 150 mm	# 80 / 150 µm	violet	**0 426 866**			
	# 120 / 110 µm	green	**0 426 057**			
	# 180 / 80 µm	gold	**0 426 157**			
	# 300 / 40 µm	light brown	**0 426 257**			
	# 400 / 30 µm	orange	**0 426 357**			
	# 600 / 25 µm	dark brown	**0 426 457**			
	# 800 / 20 µm	blue	**0 426 557**			
	# 1000 / 15 µm	white	**0 426 657**			
	# 1200 / 10 µm	red	**0 426 757**			
3 x 10 x 150 mm	# 80 / 150 µm	violet	**0 426 867**			
	# 120 / 110 µm	green	**0 426 058**			
	# 180 / 80 µm	gold	**0 426 158**			
	# 300 / 40 µm	light brown	**0 426 258**			
	# 400 / 30 µm	orange	**0 426 358**			
	# 600 / 25 µm	dark brown	**0 426 458**			
	# 800 / 20 µm	blue	**0 426 558**			
	# 1000 / 15 µm	white	**0 426 658**			
	# 1200 / 10 µm	red	**0 426 758**			

Ceramic-fibre files NEW Super Stone



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
1 x 1 x 100 mm	# 120 / 110 µm	green	**0 426 011**			
	# 180 / 80 µm	gold	**0 426 111**			
	# 300 / 40 µm	light brown	**0 426 211**			
	# 400 / 30 µm	orange	**0 426 311**			
	# 600 / 25 µm	dark brown	**0 426 411**			
	# 800 / 20 µm	blue	**0 426 511**			
	# 1000 / 15 µm	white	**0 426 611**			
	# 1200 / 10 µm	red	**0 426 711**			
1 x 1 x 150 mm	# 80 / 150 µm	violet	**0 426 849**			
	# 120 / 110 µm	green	**0 426 040**			
	# 180 / 80 µm	gold	**0 426 140**			
	# 300 / 40 µm	light brown	**0 426 240**			
	# 400 / 30 µm	orange	**0 426 340**			
	# 600 / 25 µm	dark brown	**0 426 440**			
	# 800 / 20 µm	blue	**0 426 540**			
	# 1000 / 15 µm	white	**0 426 640**			
	# 1200 / 10 µm	red	**0 426 740**			
2 x 2 x 100 mm	# 120 / 110 µm	green	**0 426 021**			
	# 180 / 80 µm	gold	**0 426 121**			
	# 300 / 40 µm	light brown	**0 426 221**			
	# 400 / 30 µm	orange	**0 426 321**			
	# 600 / 25 µm	dark brown	**0 426 421**			
	# 800 / 20 µm	blue	**0 426 521**			
	# 1000 / 15 µm	white	**0 426 621**			
	# 1200 / 10 µm	red	**0 426 721**			
2 x 2 x 150 mm	# 80 / 150 µm	violet	**0 426 859**			
	# 120 / 110 µm	green	**0 426 050**			
	# 180 / 80 µm	gold	**0 426 150**			
	# 300 / 40 µm	light brown	**0 426 250**			
	# 400 / 30 µm	orange	**0 426 350**			
	# 600 / 25 µm	dark brown	**0 426 450**			
	# 800 / 20 µm	blue	**0 426 550**			
	# 1000 / 15 µm	white	**0 426 650**			
	# 1200 / 10 µm	red	**0 426 750**			
Ø 2.35 x 50 mm	# 120 / 110 µm	green	**0 428 001**			
Ø 2.35 x 100 mm	# 120 / 110 µm	green	**0 428 002**			
	# 180 / 80 µm	gold	**0 428 102**			
	# 300 / 40 µm	light brown	**0 428 202**			
	# 400 / 30 µm	orange	**0 428 302**			
	# 600 / 25 µm	dark brown	**0 428 402**			
	# 800 / 20 µm	blue	**0 428 502**			
	# 1000 / 15 µm	white	**0 428 602**			
	# 1200 / 10 µm	red	**0 428 702**			
Ø 2.35 x 150 mm	# 120 / 110 µm	green	**0 428 003**			
	# 180 / 80 µm	gold	**0 428 103**			
	# 300 / 40 µm	light brown	**0 428 203**			
	# 400 / 30 µm	orange	**0 428 303**			
	# 600 / 25 µm	dark brown	**0 428 403**			
	# 800 / 20 µm	blue	**0 428 503**			
	# 1000 / 15 µm	white	**0 428 603**			
	# 1200 / 10 µm	red	**0 428 703**			

Ceramic-fibre files NEW Super Stone



Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
Ø 3 x 100 mm	# 120 / 110 µm	green	**0 428 005**			
	# 180 / 80 µm	gold	**0 428 105**			
	# 300 / 40 µm	light brown	**0 428 205**			
	# 400 / 30 µm	orange	**0 428 305**			
	# 600 / 25 µm	dark brown	**0 428 405**			
	# 800 / 20 µm	blue	**0 428 505**			
	# 1000 / 15 µm	white	**0 428 605**			
	# 1200 / 10 µm	red	**0 428 705**			
Ø 3 x 150 mm	# 120 / 110 µm	green	**0 428 006**			
	# 180 / 80 µm	gold	**0 428 106**			
	# 300 / 40 µm	light brown	**0 428 206**			
	# 400 / 30 µm	orange	**0 428 306**			
	# 600 / 25 µm	dark brown	**0 428 406**			
	# 800 / 20 µm	blue	**0 428 506**			
	# 1000 / 15 µm	white	**0 428 606**			
	# 1200 / 10 µm	red	**0 428 706**			

Ceramic-fibre files



Take the long-established ceramic fibre-files and blend additional diamond grits into the binder. You then have this sensible further development. Owing to the additional diamond grits among the individual fibres and above all around the circumference of the files, the latter can be used over their entire length. The result is a fine, very uniform grinding pattern with good stock removal.

Tip: very well suited for use with ultrasonic polishing systems.

Dimensions	Total length	Grit size	Colour	Order No.	Price from 1 piece	5 pieces
Diamond ceramic-fibre files						
flat						
1 x 4 x 100 mm	100	# 200 / 70 µm	black	**0 406 080**		
	100	# 400 / 30 µm	blue/green	**0 406 051**		
	100	# 800 / 20 µm	grey	**0 406 052**		
	100	# 1200 / 15 µm	moss green	**0 406 053**		
1 x 6 x 100 mm	100	# 200 / 70 µm	black	**0 406 081**		
	100	# 400 / 30 µm	blue/green	**0 406 054**		
	100	# 800 / 20 µm	grey	**0 406 055**		
	100	# 1200 / 15 µm	moss green	**0 406 056**		
1 x 10 x 100 mm	100	# 200 / 70 µm	black	**0 406 082**		
	100	# 400 / 30 µm	blue/green	**0 406 057**		
	100	# 800 / 20 µm	grey	**0 406 058**		
	100	# 1200 / 15 µm	moss green	**0 406 059**		
round						
Ø 3 x 100 mm	100	# 200 / 70 µm	black	**0 406 089**		
	100	# 400 / 30 µm	grey	**0 406 090**		
	100	# 600 / 25 µm	moss green	**0 406 091**		

Ceramic-fibre files joke Mini
for filigree processing!

These tiny little things are optimal for working on the smallest scale by hand. The right holders make for convenient handling.

	Dimensions	Grit size	Colour	Packing quantity	Order No.	Price from 1 pack	3 packs	5 packs
Ceramic-fibre files joke Mini								
flat								
	0.5 x 0.5 x 50 mm	# 800 / 20 µm	blue	3 pieces	**0 424 952**			
		# 1200 / 10 µm	red	3 pieces	**0 424 951**			
	0.9 x 0.9 x 50 mm	# 800 / 20 µm	blue	3 pieces	**0 424 962**			
		# 1200 / 10 µm	red	3 pieces	**0 424 961**			

Accessories / spare parts

		Order No.	Price from 1 piece
holder for ceramic-fibre file Mini			
	holder for ceramic-fibre file 0.5 x 0.5 mm	**0 424 950**	
	holder for ceramic-fibre file 0.9 x 0.9 mm	**0 424 960**	

Ceramic-fibre files joke Soft
soft and adjustable!

Ideal for deburring eroded electrodes made of copper and the processing of stainless steel and aluminium. Due to the rubber bond these files are soft and adaptable. They do not cause any scratches, as a result of which for example the electrode is not damaged during processing. Error rate, costs and processing time are reduced. The files wear very evenly and produce a shiny surface. Suitable for raising a shine on tool steel from 50 HRC. Only suitable for manual use!

	Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
Ceramic-fibre files joke Soft							
flat							
	2 x 6 x 100 mm	# 1200 / 10 µm	white	**0 424 981**			
round							
	Ø 3 x 100 mm	# 1200 / 10 µm	white	**0 424 982**			



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Set of holder + ceramic-fibre files
for manual use

Set of holder + ceramic-fibre files
With this set, the suitable ceramic-fibre files are already included with the handy holder.

The ideal combination for filigree, narrow and difficult to access places in addition to very fine details on the workpiece.

The very light holder lies securely in the hand and allows you extremely comfortable work. The practical rotary lock secures the inserted files and makes changing tools child's play.

Set including holder plus three files. Other suitable files available (see table!).





		Order No.	Price from 1 set
Set of holder + ceramic fibre files			
	The set consists of 1 x holder with protective cap and 1 x ceramic file 0.5 x 4 x 50 mm respectively in grit size # 120/110 µm, # 300/40 µm and # 800/20 µm	**0 424 600**	

Accessories / spare parts

	Dimensions	Grit size	Colour	Order No.	Price from 1 piece	5 pieces	10 pieces
Spare files							
	0.5 x 4 x 50 mm	# 120 / 110 µm	green	**0 424 571-1**			
		# 180 / 80 µm	gold	**0 424 572-1**			
		# 300 / 40 µm	light brown	**0 424 573-1**			
		# 400 / 30 µm	orange	**0 424 574-1**			
		# 600 / 25 µm	dark brown	**0 424 575-1**			
		# 800 / 20 µm	blue	**0 424 576-1**			
		# 1000 / 15 µm	white	**0 424 577-1**			
		# 1200 / 10 µm	red	**0 424 578-1**			

Holders for ceramic-fibre files
for manual use

Practical plastic holders facilitating the manual use of ceramic-fibre files. Available in various different widths and as metal holder for round files.

		Packing quantity	Order No.	Price from 1 set	Price from 1 piece
Holders for ceramic-fibre files					
	Holder for files of 1 mm width		**0 406 157**		
	Holder for files of 2 mm width		**0 406 154**		
	Holder for files of 4 mm width		**0 406 151**		
	Holder for files of 6 mm width		**0 406 152**		
	Holder for files of 10 mm width		**0 406 153**		
	Set (for 4, 6 and 10 mm width)	3 pieces	**0 406 150**		
Holder for round ceramic-fibre files					
	Holder for round ceramic-fibre files Ø 2.35 mm		**0 406 156**		
	Holder for round ceramic-fibre files Ø 3 mm		**0 406 155**		
holder for ceramic-fibre file Mini					
	holder for ceramic-fibre file 0.5 x 0.5 mm		**0 424 950**		
	holder for ceramic-fibre file 0.9 x 0.9 mm		**0 424 960**		

Ceramic-fibre files on a shank
shank Ø 3 x 30 mm

These ceramic-fibre files offer a secure grip in the shank. They are economical and efficient to use, as there are no more left-overs. These tools can be used for a wide range of applications: They are ideal for use in ultrasonic polishing systems and short-stroke hand-filing machines. Good results are also achieved when used in rotating handpieces with up to 50,000 rpm.



	Head dimensions	Grit size	Colour	Shank dimensions	Order No.	Price from 1 piece	5 pieces	10 pieces
Ceramic-fibre files on a shank, shank Ø 3 x 30 mm								
round								
 n_{max} 50,000 1/min	Ø 1 x 9 mm	# 180 / 80 µm	gold	Ø 3 x 30 mm	**0 425 100**			
		# 180 / 80 µm	gold	Ø 3 x 30 mm	**0 425 101**			
		# 180 / 80 µm	gold	Ø 3 x 30 mm	**0 425 102**			
		# 300 / 40 µm	light brown	Ø 3 x 30 mm	**0 425 105**			
		# 300 / 40 µm	light brown	Ø 3 x 30 mm	**0 425 106**			
		# 300 / 40 µm	light brown	Ø 3 x 30 mm	**0 425 107**			
		# 400 / 30 µm	orange	Ø 3 x 30 mm	**0 425 110**			
	Ø 1.5 x 9 mm	# 400 / 30 µm	orange	Ø 3 x 30 mm	**0 425 111**			
		# 400 / 30 µm	orange	Ø 3 x 30 mm	**0 425 112**			
		# 600 / 25 µm	dark brown	Ø 3 x 30 mm	**0 425 115**			
		# 600 / 25 µm	dark brown	Ø 3 x 30 mm	**0 425 116**			
		# 800 / 20 µm	blue	Ø 3 x 30 mm	**0 425 120**			
		# 800 / 20 µm	blue	Ø 3 x 30 mm	**0 425 121**			
		# 1000 / 15 µm	white	Ø 3 x 30 mm	**0 425 125**			
	Ø 1.5 x 9 mm	# 1000 / 15 µm	white	Ø 3 x 30 mm	**0 425 126**			
		# 1000 / 15 µm	white	Ø 3 x 30 mm	**0 425 127**			
		# 1200 / 10 µm	red	Ø 3 x 30 mm	**0 425 130**			
		# 1200 / 10 µm	red	Ø 3 x 30 mm	**0 425 131**			
		# 1200 / 10 µm	red	Ø 3 x 30 mm	**0 425 132**			

Crystal-fibre-brushes
shank Ø 3 x 30 mm



These crystal fibre brushes on shank are made of bundled crystal fibers. Through frontal application, these tools achieve their best results and thus remove erosion structures, burrs and much more.

	Head dimensions	Grit size	Colour	Shank dimensions	Order No.	Price from 1 piece	5 pieces	10 pieces
Crystal-fibre-brushes, shank Ø 3 x 30 mm								
	Ø 5 x 20 mm	# 150	green	Ø 3 x 30 mm	**0 406 430**			
	Ø 5 x 20 mm	# 200	pink	Ø 3 x 30 mm	**0 406 431**			
	Ø 5 x 20 mm	# 400	violet	Ø 3 x 30 mm	**0 406 432**			
	Ø 5 x 20 mm	# 600	orange	Ø 3 x 30 mm	**0 406 433**			
	Ø 5 x 20 mm	# 800	blue	Ø 3 x 30 mm	**0 406 434**			
	Ø 5 x 20 mm	# 1000	white	Ø 3 x 30 mm	**0 406 435**			

Ceramic-fibre brushes
shank Ø 3 x 30 mm

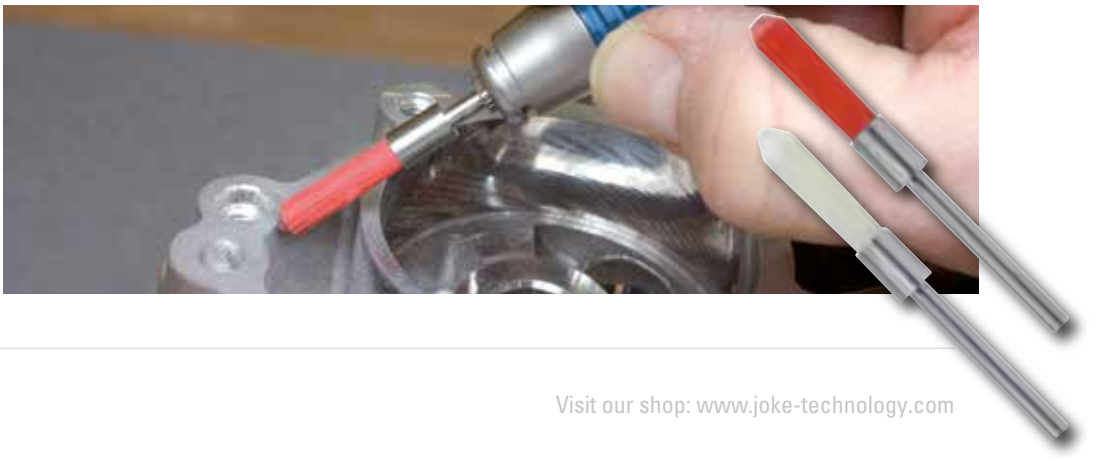
nmax 12.000 1/min



In these tools, individual ceramic-fibres are grouped together to form a brush. This allows effective work with the fibre tips. Excellent properties in eliminating erosion structures and for deburring aluminium, brass etc.

Tip: the additional use of diamond compound considerably improves the working result.

	Head dimensions	Grit size	Colour	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	5 pieces	10 pieces
Ceramic-fibre brushes, shank Ø 3 x 30 mm									
	Ø 5 x 20 mm	# 1000 / 15 µm	white	Ø 3 x 30 mm	12000 1/min	**0 406 240**			
	Ø 5 x 20 mm	# 1200 / 10 µm	red	Ø 3 x 30 mm	12000 1/min	**0 406 200**			

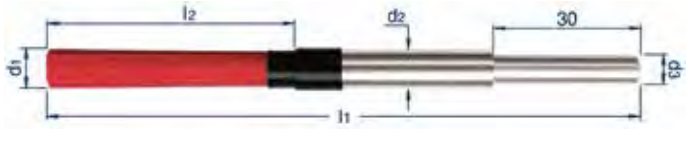


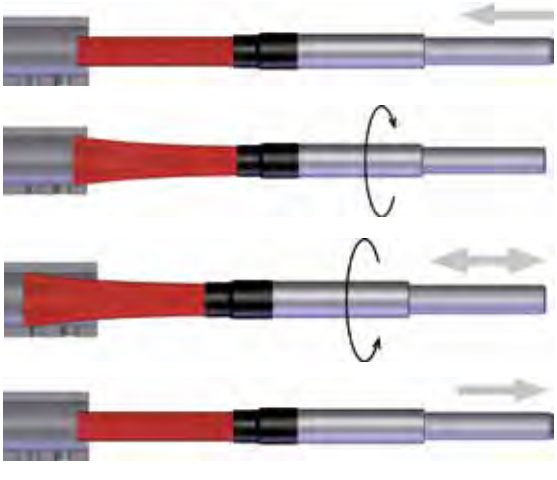
Ceramic-fibre brushes
Cross-Hole

- High-tech material made of special Al_2O_3 ceramic
- The centrifugal force generated by rotation guides the grinding tips of the fibre rods on the crossways bores and effciently removes fine burrs of up to 0.1 mm
- Burrs are thoroughly removed without damaging the bores
- A fibre rod consists of approx. 1,000 individual fibres, each with a diameter of approx. 10 µm and optimum crystalline structure for the grinding process; the tip consists of approx. 1,000 high-density cutting edges
- The self-sharpening action of the cutting edges at the fibre ends ensures a high level of grinding ability. The constantly acting cutting edges ensure a stable and continuous cutting performance.
- Versatile in use, e.g. in processing centres, special machines, drilling machines and robots and many others
- High elasticity and flexibility ensure optimum adaptation to the workpiece
- Long service lives for markedly higher productivity and lower costs

	Head dimensions	Shank dimensions	Total length	Rotation speed max.	Order No.	Price from 1 piece	3 pieces	5 pieces
Ceramic-fibre brushes Cross-Hole								
	Ø 3.5 x 50 mm	Ø 3 x 30 mm	120 mm	10000 1/min	**0 406 291**			
	Ø 5 x 50 mm	Ø 3 x 30 mm	120 mm	10000 1/min	**0 406 292**			
		Ø 4 x 30 mm	170 mm	10000 1/min	**0 406 293**			
	Ø 8 x 50 mm	Ø 6 x 30 mm	120 mm	10000 1/min	**0 406 294**			
		Ø 6 x 30 mm	170 mm	10000 1/min	**0 406 295**			
	Ø 10 x 50 mm	Ø 6 x 30 mm	120 mm	10000 1/min	**0 406 296**			
		Ø 8 x 30 mm	170 mm	10000 1/min	**0 406 297**			
	Ø 20 x 60 mm	Ø 12 x 30 mm	130 mm	10000 1/min	**0 406 320**			







Functional principle

1. Approach movement
With the shaft stationary, the tool is inserted into the bore in front of the position to be deburred.

2. Switch on the working shaft
Set the shaft in motion in the bore in the clockwise direction immediately in front of the crossways bore to be deburred.

3. Backwards and forwards movement
Guide the fibre rods in front of and behind the crossways bores. In rearwards motion, we additionally recommend a change in the shaft rotation direction.

4. Withdrawal from the bore
Shaft rotation must be stopped before the tool is removed from the bore.

Note:
For an optimum deburring result, repeat the four working stages from the other side of the main bore.

Crystal fibre cutting disc Cristone
for hardened steel and carbide metal

Extremely stable, unbreakable, high cutting performance. These are the crystal fibre cutting discs from joke. Use dry or with diamond pastes or fluids.

	Dimensions	Drilling dimension	Grit size	Colour	Rotation speed max.	Order No.	Price from 1 piece	5 pieces	10 pieces
Crystal fibre cutting disc Cristone									
	Ø 19 x 0.8 mm	1.6 mm	150	green	50000 1/min	**0 425 200**			
	Ø 19 x 0.8 mm	1.6 mm	200	pink	50000 1/min	**0 425 201**			
	Ø 19 x 0.8 mm	1.6 mm	400	violet	50000 1/min	**0 425 202**			
	Ø 19 x 0.8 mm	1.6 mm	600	orange	50000 1/min	**0 425 203**			
	Ø 19 x 0.8 mm	1.6 mm	800	blue	50000 1/min	**0 425 204**			
	Ø 19 x 0.8 mm	1.6 mm	1000	white	50000 1/min	**0 425 205**			
	Ø 22 x 0.8 mm	1.6 mm	150	green	45000 1/min	**0 425 206**			
	Ø 22 x 0.8 mm	1.6 mm	200	pink	45000 1/min	**0 425 207**			
	Ø 22 x 0.8 mm	1.6 mm	400	violet	45000 1/min	**0 425 208**			
	Ø 22 x 0.8 mm	1.6 mm	600	orange	45000 1/min	**0 425 209**			
	Ø 22 x 0.8 mm	1.6 mm	800	blue	45000 1/min	**0 425 210**			
	Ø 22 x 0.8 mm	1.6 mm	1000	white	45000 1/min	**0 425 211**			

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Crystal fibre cutting disc Cristone
for hardened steel and carbide metal

Accessories / spare parts

	for bore dimensions	Shank dimensions	Type	Max. disc size	Order No.	Price from 1 piece	Price from 10 pieces
CRATEX® grinding wheel holder							
	Ø 1.5 – 1.8 mm	Ø 2.35 x 30/15 mm	25	Ø 38 x 4.5 mm	**0 545 279**		
	Ø 1.5 – 1.8 mm	Ø 2.35 x 40/28 mm	21	Ø 38 x 4.5 mm	**0 545 275**		
	Ø 1.5 – 1.8 mm	Ø 3 x 40/30 mm	24	Ø 38 x 3 mm	**0 545 278**		
	Ø 1.5 – 1.8 mm	Ø 3 x 42 mm	22	Ø 38 x 4.5 mm	**0 545 276**		
	Ø 1.5 – 1.8 mm	Ø 3 x 40 mm	26	Ø 25 x 8.5 mm	**0 545 280**		
	Ø 1.5 – 1.8 mm	Ø 6 x 42 mm	23	Ø 38 x 4.5 mm	**0 545 277**		
	Ø 1.5 – 1.8 mm	Ø 6 x 40 mm	27	Ø 25 x 8.5 mm	**0 545 281**		



Crystal fibre brush insert
Cristone®
NEW!

	Dimensions	Grit size	Colour	Order No.	Price from 1 piece	Price from 3 pieces
Crystal fibre brush insert Cristone®						
	Ø 6 x 30 mm	# 150	green	**0 406 440**		
		# 200	pink	**0 406 446**		
		# 400	violet	**0 406 452**		
		# 600	orange	**0 406 458**		
		# 800	blue	**0 406 464**		
		# 1000	white	**0 406 470**		
		# 1200	red	**0 406 476**		
	Ø 15 x 50 mm	# 150	green	**0 406 441**		
		# 200	pink	**0 406 447**		
		# 400	violet	**0 406 453**		
		# 600	orange	**0 406 459**		
		# 800	blue	**0 406 465**		
		# 1000	white	**0 406 471**		
		# 1200	red	**0 406 477**		
	Ø 25 x 75 mm	# 150	green	**0 406 442**		
		# 200	pink	**0 406 448**		
		# 400	violet	**0 406 454**		
		# 600	orange	**0 406 460**		
		# 800	blue	**0 406 466**		
		# 1000	white	**0 406 472**		
		# 1200	red	**0 406 478**		
	Ø 40 x 75 mm	# 150	green	**0 406 443**		
		# 200	pink	**0 406 449**		
		# 400	violet	**0 406 455**		
		# 600	orange	**0 406 461**		
		# 800	blue	**0 406 467**		
		# 1000	white	**0 406 473**		
		# 1200	red	**0 406 479**		
	Ø 60 x 75 mm	# 150	green	**0 406 444**		
		# 200	pink	**0 406 450**		
		# 400	violet	**0 406 456**		
		# 600	orange	**0 406 462**		
		# 800	blue	**0 406 468**		
		# 1000	white	**0 406 474**		
		# 1200	red	**0 406 480**		
	Ø 100 x 75 mm	# 150	green	**0 406 445**		
		# 200	pink	**0 406 451**		
		# 400	violet	**0 406 457**		
		# 600	orange	**0 406 463**		
		# 800	blue	**0 406 469**		
		# 1000	white	**0 406 475**		
		# 1200	red	**0 406 481**		

Crystal fibre brush insert
Cristone®

Use:
Optimum tools for the surface finishing process, fine polishing of precision components and smoothing uneven edges.
- Fibre brushes wear out over time and work less flexibly, resulting in higher grinding force.
- The flexibility is adjusted by varying the bristle length in the holder.

Can be used for example in CNC processing machines, robots, etc.

Materials:
- Hardened and pre-hardened steels
- Alloyed steels
- Brass
- Aluminium alloys

Accessories / spare parts



	Dimensions	Order No.	Price from 1 piece	Price from 3 pieces
Holder for Cristone® bristle brush				
	Ø 6 mm	**0 406 482**		
	Ø 15 mm	**0 406 483**		
	Ø 25 mm	**0 406 484**		
	Ø 40 mm	**0 406 485**		
	Ø 60 mm	**0 406 486**		
	Ø 100 mm	**0 406 487**		

Emery and fleece tools

275 Abrasive cords and belts

276 Abrasive sleeves and caps

284 Flap wheels

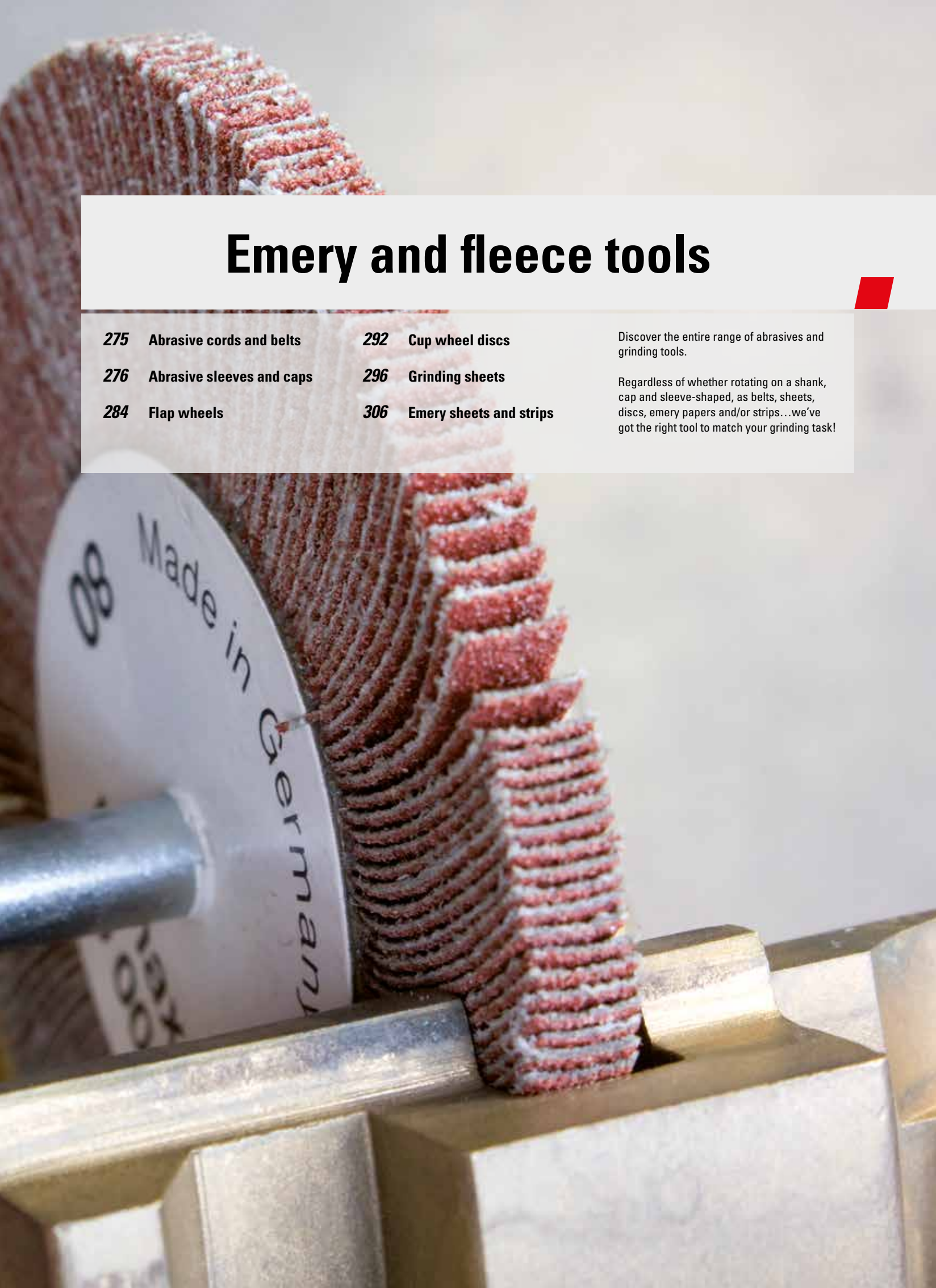
292 Cup wheel discs

296 Grinding sheets

306 Emery sheets and strips

Discover the entire range of abrasives and grinding tools.

Regardless of whether rotating on a shank, cap and sleeve-shaped, as belts, sheets, discs, emery papers and/or strips…we've got the right tool to match your grinding task!



MITCHELL'S Abrasive cords and belts
Corundum • Silicon carbide

The flexible abrasive cords from joke will open up a whole new world for you when processing hard to access areas. With these tools it is possible to grind, deburr and polish small holes, grooves, incisions and many further fiddly areas. The abrasive cords are rip-resistant, do not fray and are optionally impregnated with corundum or silicon carbide. They are therefore perfectly suited to your individual requirements. Use is possible with and without compounds and handling is child's play: with just a "cut" you can make the cord the length you want. The almost 15-metre long abrasive cords are delivered on a handy spool. They are available in diameters 0.3 mm to 2.4 mm and as belt in 2.4 mm width.

- Applicable to all materials
- Processing of areas difficult to reach

	Dimensions	Grit size	Type	Order No.	Price from 1 piece	3 pieces	5 pieces
Abrasive cords and belts							
Corundum							
	Ø 0.8 mm	200	54	**0 531 974**			
	Ø 1.0 mm	180	53	**0 531 973**			
	Ø 1.4 mm	120	51	**0 531 972**			
	Ø 1.8 mm	180	50	**0 531 971**			
	Ø 2.1 mm	120	49	**0 531 970**			
	Ø 2.4 mm	150	48	**0 531 998**			
	2.4 x 0.9 mm	180	56	**0 531 975**			
	3.2 x 0.9 mm	180	57	**0 531 976**			
Silicon carbide							
	Ø 0.3 mm	280	66	**0 531 983**			
	Ø 0.4 mm	200	60	**0 531 982**			
	Ø 0.5 mm	200	55	**0 531 981**			
	Ø 1.0 mm	180	53-S	**0 531 985**			





Processing tooth bases



Processing bore holes

Abrasive sleeves, caps and rubber holders
jokeFlex

jokeFlex abrasive sleeves and caps
Thanks to their seamless and transition-free shape, jokeFlex abrasive sleeves and caps achieve top results. They are push-fitted on elastic, suitably shaped rubber holders. The special feature owing to the slotted shape of the rubber holder, the push-fit abrasive sleeves and caps are held securely by the rotational forces during processing. Once they are worn out, simply replace the sleeves/caps with new ones, re-using the same holder.

jokeFlex abrasive sleeves and caps run particularly true, are easy to guide and achieve a very soft grinding pattern.

Particularly very well suited for fine finishing of metals, particularly steels.

Cutting speed Vmax: 40 m/s

	Inside dimensions	Suitable rubber holder	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Abrasive sleeves, cylinder							
Corundum							
	Ø 10 x 10 mm	0 544 601	80	10 pieces	**0 544 622**		
		0 544 601	150	10 pieces	**0 544 621**		
		0 544 601	240	10 pieces	**0 544 620**		
	Ø 10 x 20 mm	0 544 602	80	10 pieces	**0 544 625**		
		0 544 602	150	10 pieces	**0 544 624**		
	Ø 13 x 25 mm	0 544 604	80	10 pieces	**0 544 631**		
		0 544 604	150	10 pieces	**0 544 630**		
	Ø 15 x 10 mm	0 544 605	80	10 pieces	**0 544 634**		
		0 544 605	150	10 pieces	**0 544 633**		
	Ø 15 x 30 mm	0 544 606	60	10 pieces	**0 544 639**		
		0 544 606	80	10 pieces	**0 544 638**		
		0 544 606	150	10 pieces	**0 544 637**		
		0 544 606	240	10 pieces	**0 544 636**		
	Ø 22 x 20 mm	0 544 607	60	10 pieces	**0 544 643**		
		0 544 607	80	10 pieces	**0 544 642**		
		0 544 607	150	10 pieces	**0 544 641**		
		0 544 607	240	10 pieces	**0 544 640**		
	Ø 25 x 25 mm	0 544 608	60	10 pieces	**0 544 647**		
		0 544 608	80	10 pieces	**0 544 646**		
		0 544 608	150	10 pieces	**0 544 645**		
	Ø 30 x 20 mm	0 544 609	80	10 pieces	**0 544 650**		
		0 544 609	150	10 pieces	**0 544 649**		
	Ø 30 x 30 mm	0 544 610	40	10 pieces	**0 544 657**		
		0 544 610	60	10 pieces	**0 544 656**		
		0 544 610	80	10 pieces	**0 544 655**		
		0 544 610	150	10 pieces	**0 544 654**		
		0 544 610	240	10 pieces	**0 544 653**		
	Ø 45 x 30 mm	0 544 612	40	10 pieces	**0 544 667**		
		0 544 612	80	10 pieces	**0 544 665**		
Zirconium corundum							
	Ø 30 x 30 mm	0 544 610	36	50 pieces	**0 544 870**		
		0 544 610	50	50 pieces	**0 544 871**		
		0 544 610	60	50 pieces	**0 544 872**		
		0 544 610	80	50 pieces	**0 544 873**		

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Abrasive sleeves, caps and rubber holders
jokeFlex

	Inside dimensions	Suitable rubber holder	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Abrasive sleeves, conical							
Corundum							
	Ø 29/22 x 30 mm	0 544 617	60	10 pieces	**0 544 691**		
		0 544 617	80	10 pieces	**0 544 690**		
		0 544 617	150	10 pieces	**0 544 689**		

Accessories / spare parts

	Head dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 5 pieces
Rubber holder, jokeFlex					
cylinder					
	Ø 10 x 10 mm	Ø 6 x 40 mm	**0 544 601**		
	Ø 10 x 20 mm	Ø 6 x 40 mm	**0 544 602**		
	Ø 13 x 25 mm	Ø 6 x 40 mm	**0 544 604**		
	Ø 15 x 10 mm	Ø 6 x 40 mm	**0 544 605**		
	Ø 15 x 30 mm	Ø 6 x 40 mm	**0 544 606**		
	Ø 22 x 20 mm	Ø 6 x 40 mm	**0 544 607**		
	Ø 25 x 25 mm	Ø 6 x 40 mm	**0 544 608**		
	Ø 30 x 20 mm	Ø 6 x 40 mm	**0 544 609**		
	Ø 30 x 30 mm	Ø 6 x 40 mm	**0 544 610**		
	Ø 45 x 30 mm	Ø 6 x 40 mm	**0 544 612**		
Conical					
	Ø 29/22 x 30 mm	Ø 6 x 40 mm	**0 544 617**		

Abrasive caps and rubber holders
jokeFlex

	Outside dimensions	Suitable rubber holder	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Abrasive caps, cylinder							
Green Corundum							
	Ø 7 x 10 mm	0 544 401	80	100 pieces	**0 544 421-1**		
		0 544 401	150	100 pieces	**0 544 422-1**		
		0 544 401	320	100 pieces	**0 544 423-1**		
	Ø 9 x 12 mm	0 544 402	80	100 pieces	**0 544 424-1**		
		0 544 402	150	100 pieces	**0 544 425-1**		
		0 544 402	320	100 pieces	**0 544 426-1**		
	Ø 12 x 15 mm	0 544 403	80	100 pieces	**0 544 427-1**		
		0 544 403	150	100 pieces	**0 544 428-1**		
		0 544 403	320	100 pieces	**0 544 429-1**		
	Ø 15 x 17 mm	0 544 404	80	100 pieces	**0 544 430-1**		
		0 544 404	150	100 pieces	**0 544 431-1**		
		0 544 404	320	100 pieces	**0 544 432-1**		
	Ø 18 x 26 mm	0 544 405, 0 544 406	80	100 pieces	**0 544 433-1**		
		0 544 405, 0 544 406	150	100 pieces	**0 544 434-1**		
		0 544 405, 0 544 406	320	100 pieces	**0 544 435-1**		

Accessories / spare parts

	Head dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 5 pieces	Price from 10 pieces
Rubber holder, jokeFlex						
cylinder						
	Ø 5 x 10 mm	Ø 3 x 25 mm	**0 544 401**			
	Ø 7 x 12 mm	Ø 3 x 25 mm	**0 544 402**			
	Ø 10 x 15 mm	Ø 3 x 25 mm	**0 544 403**			
	Ø 13 x 17 mm	Ø 3 x 25 mm	**0 544 404**			
	Ø 16 x 26 mm	Ø 3 x 25 mm	**0 544 405**			
		Ø 6 x 40 mm	**0 544 406**			

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Abrasive caps and rubber holders
jokeFlex

	Outside dimensions	Suitable rubber holder	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Abrasive caps, rounded cylinder							
Green Corundum							
	Ø 7 x 11 mm	0 544 407	80	100 pieces	**0 544 436-1**		
		0 544 407	150	100 pieces	**0 544 437-1**		
		0 544 407	320	100 pieces	**0 544 438-1**		
	Ø 9 x 13 mm	0 544 408	80	100 pieces	**0 544 439-1**		
		0 544 408	150	100 pieces	**0 544 440-1**		
		0 544 408	320	100 pieces	**0 544 441-1**		
	Ø 12 x 15 mm	0 544 409	80	100 pieces	**0 544 442-1**		
		0 544 409	150	100 pieces	**0 544 443-1**		
		0 544 409	320	100 pieces	**0 544 444-1**		
	Ø 15 x 19 mm	0 544 410	80	100 pieces	**0 544 445-1**		
		0 544 410	150	100 pieces	**0 544 446-1**		
		0 544 410	320	100 pieces	**0 544 447-1**		
	Ø 18 x 26 mm	0 544 411, 0 544 412	80	100 pieces	**0 544 448-1**		
		0 544 411, 0 544 412	150	100 pieces	**0 544 449-1**		
		0 544 411, 0 544 412	320	100 pieces	**0 544 450-1**		
	Ø 12 x 15 mm	0 544 409	60	100 pieces	**0 544 482**		

Accessories / spare parts

	Head dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 5 pieces	Price from 10 pieces
Rubber holder, jokeFlex						
rounded cylinder						
	Ø 5 x 11 mm	Ø 3 x 25 mm	**0 544 407**			
	Ø 7 x 13 mm	Ø 3 x 25 mm	**0 544 408**			
	Ø 10 x 15 mm	Ø 3 x 25 mm	**0 544 409**			
	Ø 13 x 19 mm	Ø 3 x 25 mm	**0 544 410**			
	Ø 16 x 26 mm	Ø 3 x 25 mm	**0 544 411**			
		Ø 6 x 40 mm	**0 544 412**			

Abrasive caps and rubber holders
jokeFlex

	Outside dimensions	Suitable rubber holder	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Abrasive caps, pointed cylinder							
Green Corundum							
	Ø 7 x 11 mm	0 544 413	80	100 pieces	**0 544 451-1**		
		0 544 413	150	100 pieces	**0 544 452-1**		
		0 544 413	320	100 pieces	**0 544 453-1**		
	Ø 9 x 13 mm	0 544 414	80	100 pieces	**0 544 454-1**		
		0 544 414	150	100 pieces	**0 544 455-1**		
		0 544 414	320	100 pieces	**0 544 456-1**		
	Ø 12 x 15 mm	0 544 415	80	100 pieces	**0 544 457-1**		
		0 544 415	150	100 pieces	**0 544 458-1**		
		0 544 415	320	100 pieces	**0 544 459-1**		
	Ø 15 x 19 mm	0 544 416	80	100 pieces	**0 544 460-1**		
		0 544 416	150	100 pieces	**0 544 461-1**		
		0 544 416	320	100 pieces	**0 544 462-1**		
	Ø 18 x 26 mm	0 544 417, 0 544 418	80	100 pieces	**0 544 463-1**		
		0 544 417, 0 544 418	150	100 pieces	**0 544 464-1**		

Accessories / spare parts

	Head dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 5 pieces	Price from 10 pieces
Rubber holder, jokeFlex						
pointed cylinder						
	Ø 5 x 11 mm	Ø 3 x 25 mm	**0 544 413**			
	Ø 7 x 13 mm	Ø 3 x 25 mm	**0 544 414**			
	Ø 10 x 15 mm	Ø 3 x 25 mm	**0 544 415**			
	Ø 13 x 19 mm	Ø 3 x 25 mm	**0 544 416**			
	Ø 16 x 26 mm	Ø 3 x 25 mm	**0 544 417**			
	Ø 16 x 26 mm	Ø 6 x 40 mm	**0 544 418**			

Abrasive caps and rubber holders
POLICAP

		Outside dimensions	Suitable rubber holder	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Abrasive caps POLICAP, rounded cylinder								
Co-Cool								
 	Owing to the special structure of the ceramic grit in addition to the active grinding bond components, ideal for processing stainless steels (INOX) and for the high-temperature nickel and cobalt-based alloys, e.g. Inconel®, Hastelloy® frequently used in turbine construction. The active grinding additives prevent clogging and result in a cooler cut with markedly greater stock removal.	Ø 7 x 13 mm	0 544 408	80	50 pieces	**0 543 000**		
		Ø 7 x 13 mm	0 544 408	120	50 pieces	**0 543 001**		
SiC-Cool								
 	Ideal for processing components made of titanium and aluminium, in addition to their respective alloys. Excellent for use in aircraft and turbine construction and the correspondent maintenance. The special grit selection and the active grinding additive material in the bond allow a cool cut, reduce the workpiece temperature and prevent adhesion of the chips.	Ø 7 x 13 mm	0 544 408	80	50 pieces	**0 543 010**		
		Ø 7 x 13 mm	0 544 408	150	50 pieces	**0 543 011**		

Accessories / spare parts

	Head dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 5 pieces	Price from 10 pieces
Rubber holder, jokeFlex						
rounded cylinder						
	Ø 7 x 13 mm	Ø 3 x 25 mm	**0 544 408**			

Abrasive caps and rubber holders
jokeFlex

jokeFlex abrasive sleeves and caps
Thanks to their seamless and transition-free shape, jokeFlex abrasive sleeves and caps achieve top results. They are push-fitted on elastic, suitably shaped rubber holders. The special feature owing to the slotted shape of the rubber holder, the push-fit abrasive sleeves and caps are held securely by the rotational forces during processing. Once they are worn out, simply replace the sleeves/caps with new ones, re-using the same holder.

jokeFlex abrasive sleeves and caps run particularly true, are easy to guide and achieve a very soft grinding pattern.
Particularly very well suited for fine finishing of metals, particularly steels.

Cutting speed Vmax: 40 m/s

	Outside dimensions	Suitable rubber holder	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Abrasive caps, rounded cone							
Green Corundum							
	Ø 7/6 x 15 mm	0 544 501	80	100 pieces	**0 544 511-1**		
		0 544 501	150	100 pieces	**0 544 512-1**		
	Ø 13/11 x 25 mm	0 544 502	80	100 pieces	**0 544 513-1**		
		0 544 502	150	100 pieces	**0 544 514-1**		
	Ø 18/16 x 32 mm	0 544 503	80	25 pieces	**0 544 515-1**		
		0 544 503	150	25 pieces	**0 544 516-1**		
	Ø 23/21 x 40 mm	0 544 504	80	25 pieces	**0 544 517-1**		

Accessories / spare parts

	Head dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 5 pieces	Price from 10 pieces
Rubber holder, jokeFlex						
rounded cone						
	Ø 5 / 4 x 15 mm	Ø 6 x 40 mm	**0 544 501**			
	Ø 11 / 9 x 25 mm	Ø 6 x 40 mm	**0 544 502**			
	Ø 16 / 14 x 32 mm	Ø 6 x 40 mm	**0 544 503**			
	Ø 21 / 19 x 40 mm	Ø 6 x 40 mm	**0 544 504**			

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Abrasive finger caps
jokeFlex

	Outside dimensions	Suitable rubber holder	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Abrasive finger caps, rounded cone							
Corundum							
	Ø 6/10 x 85 mm	0 544 505	80	25 pieces	**0 544 521**		
		0 544 505	150	25 pieces	**0 544 522**		
	Ø 20/16 x 85 mm	0 544 507	80	25 pieces	**0 544 525**		

Accessories / spare parts

	Head dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 5 pieces	Price from 10 pieces
Rubber holder, jokeFlex						
rounded cone						
	Ø 8 / 4 x 85 mm	Ø 6 x 40 mm	**0 544 505**			
	Ø 18 / 14 x 85 mm	Ø 6 x 40 mm	**0 544 507**			

Selection of abrasive caps and fingers
jokeFlex

Selection
Our range offers you everything to just get up and go. It contains a total of 640 abrasive caps and fingers in every dimension and grit sizes 80 and 150 plus 23 matching rubber holders. Go ahead and order and discover the entire band width of jokeFlex abrasive caps and fingers.

		Order No.	Price from 1 set
Abrasive caps/fingers/rubber holders			
	This range contains 640 abrasive caps and fingers and 23 rubber holders in every dimension in grit sizes 80 and 150.	**0 544 600-1**	

Flap wheels

Flap wheels
Large selection of flap wheels with 3 and 6 mm shanks, plus “special models” such as radially slotted flap wheels or those with a combination of abrasive cloths and fleece - for a particularly uniform microsection. The “fleece only” flap wheels are a further highlight in the range: a really super solution for very fine finishing. The cleaning grinding wheels are suitable for removing rust, weld splatters and other troublemakers from the workpiece.



You´ll find here:

Flap wheels shank Ø 3 mm	**page 285**
Flap wheels shank Ø 6 mm	**page 287**
Flap wheels with fleece lamellas	**page 288**
Grinding wheels for cleaning	**page 288**

Max. rotational speed in relation to cutting speed Vmax and Ø of the tool used

Ø	15 m/s	20 m/s	25 m/s	30 m/s	35 m/s	40 m/s	45 m/s	50 m/s	55 m/s	60 m/s
10 mm	28,500	38,200	47,700	57,300	66,800	76,400	86,000	95,500	105,000	114,600
15 mm	19,100	25,400	31,800	38,200	44,600	51,000	57,300	63,700	70,000	76,400
20 mm	14,300	19,100	23,900	28,700	33,400	38,200	43,000	47,800	52,600	57,400
25 mm	11,400	15,200	19,100	22,900	26,700	30,500	34,400	38,200	42,000	45,900
30 mm	9,500	12,700	15,900	19,000	22,300	25,400	28,500	31,800	34,800	38,000
40 mm	7,100	9,600	11,900	14,300	16,700	19,100	21,500	23,800	26,200	28,600
50 mm	5,700	7,600	9,500	11,400	13,400	15,300	17,000	19,000	20,900	22,800
60 mm	4,700	6,300	7,900	9,500	11,100	12,700	14,300	15,900	17,500	19,100
75 mm	3,800	5,100	6,400	7,700	9,000	10,100	11,600	12,800	14,100	15,400
80 mm	3,500	4,700	5,900	7,100	8,360	8,360	10,700	11,900	13,100	14,300
100 mm	2,800	3,800	4,800	5,700	6,700	7,650	8,600	9,600	10,500	11,400
125 mm	2,300	3,000	3,800	4,600	5,300	6,150	6,900	7,600	8,500	9,200
150 mm	1,900	2,500	3,200	3,800	4,500	5,100	5,700	6,400	7,000	7,600
175 mm	1,600	2,200	2,700	3,300	3,800	4,350	4,950	5,400	6,050	6,600
200 mm	1,400	1,900	2,400	2,900	3,400	3,850	4,350	4,800	5,300	5,800
250 mm	1,100	1,500	1,900	2,300	2,700	3,100	3,450	3,800	4,200	4,600
300 mm	1,000	1,300	1,600	1,900	2,200	2,550	2,850	3,200	3,500	3,800

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Flap wheels jokeFlex
shank Ø 3 mm

For elastic grinding. The slit lamellas of jokeFlex flap wheels allows them to adapt better to the contour of the workpiece being processed. They cover a wide range of applications: from the metal-working and finishing to the rubber and plastics industry.

Cutting speed Vmax: 40 m/sec.



Head dimensions	Grit size	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	10 pieces	20 pieces
Ø 10 x 10 mm	60	Ø 3 x 40 mm	76400 1/min	**0 543 902**			
	80	Ø 3 x 40 mm	76400 1/min	**0 543 903**			
	120	Ø 3 x 40 mm	76400 1/min	**0 543 904**			
	150	Ø 3 x 40 mm	76400 1/min	**0 543 906**			
	180	Ø 3 x 40 mm	76400 1/min	**0 543 907**			
	240	Ø 3 x 40 mm	76400 1/min	**0 543 908**			
	320	Ø 3 x 40 mm	76400 1/min	**0 543 909**			
	400	Ø 3 x 40 mm	76400 1/min	**0 543 910**			
Ø 10 x 15 mm	80	Ø 3 x 40 mm	76400 1/min	**0 543 913**			
	150	Ø 3 x 40 mm	76400 1/min	**0 543 916**			
	240	Ø 3 x 40 mm	76400 1/min	**0 543 918**			
	320	Ø 3 x 40 mm	76400 1/min	**0 543 919**			
Ø 15 x 10 mm	80	Ø 3 x 40 mm	51000 1/min	**0 543 923**			
	150	Ø 3 x 40 mm	51000 1/min	**0 543 926**			
	240	Ø 3 x 40 mm	51000 1/min	**0 543 928**			
	320	Ø 3 x 40 mm	51000 1/min	**0 543 929**			
Ø 15 x 15 mm	80	Ø 3 x 40 mm	51000 1/min	**0 543 933**			
	150	Ø 3 x 40 mm	51000 1/min	**0 543 936**			
	240	Ø 3 x 40 mm	51000 1/min	**0 543 938**			
	320	Ø 3 x 40 mm	51000 1/min	**0 543 939**			
Ø 20 x 5 mm	80	Ø 3 x 40 mm	38200 1/min	**0 543 943**			
	150	Ø 3 x 40 mm	38200 1/min	**0 543 946**			
	240	Ø 3 x 40 mm	38200 1/min	**0 543 948**			
	320	Ø 3 x 40 mm	38200 1/min	**0 543 949**			
Ø 20 x 10 mm	80	Ø 3 x 40 mm	38200 1/min	**0 543 953**			
	150	Ø 3 x 40 mm	38200 1/min	**0 543 956**			
	240	Ø 3 x 40 mm	38200 1/min	**0 543 958**			
	320	Ø 3 x 40 mm	38200 1/min	**0 543 959**			
Ø 20 x 15 mm	80	Ø 3 x 40 mm	38200 1/min	**0 543 963**			
	150	Ø 3 x 40 mm	38200 1/min	**0 543 966**			
	240	Ø 3 x 40 mm	38200 1/min	**0 543 968**			
	320	Ø 3 x 40 mm	38200 1/min	**0 543 969**			
Ø 20 x 20 mm	80	Ø 3 x 40 mm	38200 1/min	**0 543 973**			
	150	Ø 3 x 40 mm	38200 1/min	**0 543 976**			
	240	Ø 3 x 40 mm	38200 1/min	**0 543 978**			
	320	Ø 3 x 40 mm	38200 1/min	**0 543 979**			
Ø 25 x 5 mm	80	Ø 3 x 40 mm	30500 1/min	**0 543 983**			
	150	Ø 3 x 40 mm	30500 1/min	**0 543 986**			
	240	Ø 3 x 40 mm	30500 1/min	**0 543 988**			
	320	Ø 3 x 40 mm	30500 1/min	**0 543 989**			

Flap wheels jokeFlex
shank Ø 3 mm



Head dimensions	Grit size	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	10 pieces	20 pieces
Ø 25 x 10 mm	80	Ø 3 x 40 mm	30500 1/min	**0 543 993**			
	150	Ø 3 x 40 mm	30500 1/min	**0 543 996**			
	240	Ø 3 x 40 mm	30500 1/min	**0 543 998**			
	320	Ø 3 x 40 mm	30500 1/min	**0 543 999**			
Ø 30 x 5 mm	60	Ø 3 x 40 mm	25400 1/min	**0 544 222**			
	80	Ø 3 x 40 mm	25400 1/min	**0 544 223**			
	150	Ø 3 x 40 mm	25400 1/min	**0 544 226**			
	240	Ø 3 x 40 mm	25400 1/min	**0 544 228**			
	320	Ø 3 x 40 mm	25400 1/min	**0 544 229**			
Ø 30 x 10 mm	60	Ø 3 x 40 mm	25400 1/min	**0 544 232**			
	80	Ø 3 x 40 mm	25400 1/min	**0 544 233**			
	150	Ø 3 x 40 mm	25400 1/min	**0 544 236**			
	240	Ø 3 x 40 mm	25400 1/min	**0 544 238**			
	320	Ø 3 x 40 mm	25400 1/min	**0 544 239**			
Ø 40 x 5 mm	60	Ø 3 x 40 mm	19100 1/min	**0 544 532**			
	80	Ø 3 x 40 mm	19100 1/min	**0 544 533**			
	150	Ø 3 x 40 mm	19100 1/min	**0 544 536**			
	320	Ø 3 x 40 mm	19100 1/min	**0 544 539**			
Ø 40 x 10 mm	60	Ø 3 x 40 mm	19100 1/min	**0 544 242**			
	80	Ø 3 x 40 mm	19100 1/min	**0 544 243**			
	150	Ø 3 x 40 mm	19100 1/min	**0 544 246**			
	240	Ø 3 x 40 mm	19100 1/min	**0 544 248**			
Ø 40 x 15 mm	80	Ø 3 x 40 mm	19100 1/min	**0 544 253**			
	240	Ø 3 x 40 mm	19100 1/min	**0 544 258**			

Two short working stages are better than a single long one!

Even if it seems tempting to complete the “job” in one single stage: at the final count you will work more efficiently with two harmonised working stages using different grit sizes (from coarse to fine)!

Consult **Markus Abstoß:**
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Even more choice

Apart from the large choice of flap wheels shown here, we also offer further dimensions on request. Please contact
Markus Abstoß:
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Flap wheels jokeFlex
shank Ø 6 mm

For elastic grinding. The slit lamellas of jokeFlex flap wheels allows them to adapt better to the contour of the workpiece being processed. They cover a wide range of applications: from the metal-working and finishing to the rubber and plastics industry.

Cutting speed Vmax: 40 m/sec.

	Head dimensions	Grit size	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	10 pieces	20 pieces
Flap wheels with lamellas, corundum, shank Ø 6 mm								
	Ø 40 x 10 mm	60	Ø 6 x 40 mm	19100 1/min	**0 544 362**			
		80	Ø 6 x 40 mm	19100 1/min	**0 544 363**			
		150	Ø 6 x 40 mm	19100 1/min	**0 544 366**			
		240	Ø 6 x 40 mm	19100 1/min	**0 544 368**			
		320	Ø 6 x 40 mm	19100 1/min	**0 544 369**			
	Ø 40 x 15 mm	60	Ø 6 x 40 mm	19100 1/min	**0 544 372**			
		80	Ø 6 x 40 mm	19100 1/min	**0 544 373**			
		120	Ø 6 x 40 mm	19100 1/min	**0 544 374**			
		150	Ø 6 x 40 mm	19100 1/min	**0 544 376**			
		180	Ø 6 x 40 mm	19100 1/min	**0 544 377**			
		240	Ø 6 x 40 mm	19100 1/min	**0 544 378**			
		320	Ø 6 x 40 mm	19100 1/min	**0 544 379**			
	Ø 50 x 5 mm	60	Ø 6 x 40 mm	15300 1/min	**0 544 542**			
		80	Ø 6 x 40 mm	15300 1/min	**0 544 543**			
		150	Ø 6 x 40 mm	15300 1/min	**0 544 546**			
	Ø 50 x 10 mm	60	Ø 6 x 40 mm	15300 1/min	**0 544 262**			
		80	Ø 6 x 40 mm	15300 1/min	**0 544 263**			
		150	Ø 6 x 40 mm	15300 1/min	**0 544 266**			
		240	Ø 6 x 40 mm	15300 1/min	**0 544 268**			
	Ø 60 x 5 mm	60	Ø 6 x 40 mm	12700 1/min	**0 544 552**			
		80	Ø 6 x 40 mm	12700 1/min	**0 544 553**			
		150	Ø 6 x 40 mm	12700 1/min	**0 544 556**			
		320	Ø 6 x 40 mm	12700 1/min	**0 544 559**			
	Ø 80 x 5 mm	80	Ø 6 x 40 mm	8360 1/min	**0 544 563**			
		150	Ø 6 x 40 mm	8360 1/min	**0 544 566**			
	Ø 60 x 40 mm	60	Ø 6 x 40 mm	12700 1/min	**0 544 322**			
		80	Ø 6 x 40 mm	12700 1/min	**0 544 323**			
		150	Ø 6 x 40 mm	12700 1/min	**0 544 326**			
		320	Ø 6 x 40 mm	12700 1/min	**0 544 329**			

Flap wheels, SiC
shank Ø 6 mm

It is harder and more brittle than corundum. Applications include non-ferrous metals, stainless steels, ceramic and mineral materials, high-carbon steels, plastics and glass, etc.

Cutting speed Vmax: 40 m/sec.

	Head dimensions	Grit size	Shank dimensions	Packing quantity	Order No.	Price from 1 pack	5 packs	10 packs
Flap wheels, SiC, shank Ø 6 mm								
	Ø 60 x 30 mm	60	Ø 6 x 40 mm	10 pieces	**0 543 686**			
		80	Ø 6 x 40 mm	10 pieces	**0 543 687**			
		120	Ø 6 x 40 mm	10 pieces	**0 543 688**			

Flap wheels with fleece lamellas
shank Ø 6 mm

Flap wheels made of combined grinding fleece/cloth, sulphur-free. The combination of grinding fleece/cloth achieves a more uniform grinding pattern with high stock removal.

Cutting speed Vmax: 40 m/sec.

	Head dimensions	Grit size	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	10 pieces
Flap wheels made of combined fleece / cloth lamellas, corundum, shank Ø 6 mm							
	Ø 40 x 20 mm	medium / K 80	Ø 6 x 40 mm	19100 1/min	**0 543 450**		
		fine / K 150	Ø 6 x 40 mm	19100 1/min	**0 543 451**		
		very fine / K 240	Ø 6 x 40 mm	19100 1/min	**0 543 452**		
	Ø 50 x 20 mm	medium / K 80	Ø 6 x 40 mm	15300 1/min	**0 543 456**		
		fine / K 150	Ø 6 x 40 mm	15300 1/min	**0 543 457**		
		very fine / K 240	Ø 6 x 40 mm	15300 1/min	**0 543 458**		
	Ø 60 x 30 mm	medium / K 80	Ø 6 x 40 mm	12700 1/min	**0 543 462**		
		fine / K 150	Ø 6 x 40 mm	12700 1/min	**0 543 463**		
		very fine / K 240	Ø 6 x 40 mm	12700 1/min	**0 543 464**		

Cleaning flap wheels
shank Ø 6 mm

The ideal solution for cleaning with simultaneous surface preparation. For aggressive removal of rust, weld splatters, coating and paint. Also very suitable for deburring.

Cutting speed Vmax: 35 m/sec.

	Head dimensions	Grit size	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	5 pieces	10 pieces	20 pieces
Cleaning flap wheels, type "coarse"									
	Ø 55 x 15 mm	coarse	Ø 6 x 40 mm	14000 1/min	**0 544 588**				

Grit size fleece	Comparable to FEPA
coarse	K 40 – 80
medium	K 100 – 180
fine	K 220 – 240
very fine	K 280 – 360

Flap wheels with fleece lamellas
shank Ø 3 mm

These fan-shaped grinders have radially arranged abrasive fleece lamellas and are ideal for very fine work in awkward areas. They achieve highest surface qualities.

Cutting speed Vmax: 10 m/sec.

	Head dimensions	Grit size	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	10 pieces	20 pieces
Flap wheels with fleece lamellas, corundum, shank Ø 3 mm								
	Ø 20 x 20 mm	coarse	Ø 3 x 40 mm	13000 1/min	**0 547 001**			
		medium	Ø 3 x 40 mm	13000 1/min	**0 547 002**			
		fine	Ø 3 x 40 mm	13000 1/min	**0 547 003**			
		very fine	Ø 3 x 40 mm	13000 1/min	**0 547 004**			
	Ø 30 x 10 mm	coarse	Ø 3 x 40 mm	11000 1/min	**0 547 009**			
		medium	Ø 3 x 40 mm	11000 1/min	**0 547 010**			
		fine	Ø 3 x 40 mm	11000 1/min	**0 547 011**			
		very fine	Ø 3 x 40 mm	11000 1/min	**0 547 012**			
	Ø 30 x 20 mm	coarse	Ø 3 x 40 mm	11000 1/min	**0 547 017**			
		medium	Ø 3 x 40 mm	11000 1/min	**0 547 018**			
		fine	Ø 3 x 40 mm	11000 1/min	**0 547 019**			
		very fine	Ø 3 x 40 mm	11000 1/min	**0 547 020**			
	Ø 30 x 30 mm	coarse	Ø 3 x 40 mm	11000 1/min	**0 547 025**			
		medium	Ø 3 x 40 mm	11000 1/min	**0 547 026**			
		very fine	Ø 3 x 40 mm	11000 1/min	**0 547 028**			

Flap wheels with fleece lamellas
shank Ø 6 mm

These fan-shaped grinders have radially arranged abrasive fleece lamellas and are ideal for very fine work in awkward areas. They achieve highest surface qualities.

Cutting speed Vmax: 10 m/sec.

	Head dimensions	Grit size	Shank dimensions	Rotation speed max.	Order No.	Price from 1 piece	10 pieces	20 pieces
Flap wheels with fleece lamellas, corundum, shank Ø 6 mm								
	Ø 40 x 20 mm	coarse	Ø 6 x 40 mm	8000 1/min	**0 547 033**			
		medium	Ø 6 x 40 mm	8000 1/min	**0 547 034**			
		fine	Ø 6 x 40 mm	8000 1/min	**0 547 035**			
		very fine	Ø 6 x 40 mm	8000 1/min	**0 547 036**			
	Ø 40 x 40 mm	medium	Ø 6 x 40 mm	8000 1/min	**0 547 042**			
		fine	Ø 6 x 40 mm	8000 1/min	**0 547 043**			
		very fine	Ø 6 x 40 mm	8000 1/min	**0 547 044**			
	Ø 50 x 20 mm	medium	Ø 6 x 40 mm	6500 1/min	**0 547 046**			
		fine	Ø 6 x 40 mm	6500 1/min	**0 547 047**			
		very fine	Ø 6 x 40 mm	6500 1/min	**0 547 048**			

Even more choice on request!

These flap wheels are available in many more sizes. Please contact **Markus Abstoß:**
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Cutting Discs
POWER
NEW!

	Suitable for materials	Dimensions	Drilling dimension	Design	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	50 pieces	100 pieces
Cutting Disc POWER										
	Aluminium	Ø 115 x 1.5 mm	22.23 mm	straight	13300 1/min	25 pieces	**0 575 140**			
	Aluminium	Ø 125 x 1.5 mm	22.23 mm	straight	12200 1/min	25 pieces	**0 575 141**			
	Stainless steel	Ø 115 x 1.0 mm	22.23 mm	straight	13300 1/min	25 pieces	**0 575 100**			
	Stainless steel	Ø 115 x 1.5 mm	22.23 mm	straight	13300 1/min	25 pieces	**0 575 102**			
		Ø 125 x 1.0 mm	22.23 mm	straight	12200 1/min	25 pieces	**0 575 101**			
		Ø 125 x 1.5 mm	22.23 mm	straight	12200 1/min	25 pieces	**0 575 103**			
		Ø 125 x 2.5 mm	22.23 mm	straight	12200 1/min	25 pieces	**0 575 104**			
	Stainless steel	Ø 178 x 2.5 mm	22.23 mm	straight	8600 1/min	25 pieces	**0 575 105**			
	Stainless steel	Ø 230 x 1.9 mm	22.23 mm	angular	6600 1/min	25 pieces	**0 575 110**			
	Steel	Ø 115 x 1.0 mm	22.23 mm	straight	13300 1/min	25 pieces	**0 575 120**			
		Ø 115 x 3.0 mm	22.23 mm	angular	13300 1/min	25 pieces	**0 575 131**			
		Ø 125 x 1.0 mm	22.23 mm	straight	12200 1/min	25 pieces	**0 575 121**			
	Steel	Ø 115 x 1.5 mm	22.23 mm	straight	12200 1/min	25 pieces	**0 575 122**			
	Steel	Ø 230 x 3.0 mm	22.23 mm	angular	6600 1/min	25 pieces	**0 575 132**			

Grinding Discs
POWER
NEW!

	Suitable for materials	Dimensions	Drilling dimension	Design	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	50 pieces	100 pieces
Grinding Disc POWER										
	Steel	Ø 115 x 6.5 mm	22.23 mm	angular	13300 1/min	10 pieces	**0 575 150**			
		Ø 125 x 6.5 mm	22.23 mm	angular	12200 1/min	10 pieces	**0 575 151**			
		Ø 178 x 7.0 mm	22.23 mm	angular	8600 1/min	10 pieces	**0 575 152**			
		Ø 230 x 7.0 mm	22.23 mm	angular	6600 1/min	10 pieces	**0 575 153**			
	Stainless steel	Ø 115 x 6.5 mm	22.23 mm	angular	13300 1/min	10 pieces	**0 575 160**			
		Ø 125 x 6.5 mm	22.23 mm	angular	12200 1/min	10 pieces	**0 575 161**			
		Ø 178 x 7.0 mm	22.23 mm	angular	8600 1/min	10 pieces	**0 575 162**			

Felt polishing flap discs
NEW!

Thanks to the flexible lamellas made of 70% wool felt, the felt polishing flap discs adapt ideally to the contours of the workpiece. Perfect for polishing uneven and contoured surfaces. Achieves an optimal high-gloss finish in combination with polishing compounds.

	Dimensions	Drilling dimension	Hardness	Type	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	50 pieces	100 pieces
Felt polishing flap disc extra flexible										
	Ø 115 mm	22.23 mm	soft	FG27	8500 1/min	5 pieces	**0 575 200**			
		22.23 mm	medium	FG27	8500 1/min	5 pieces	**0 575 201**			
	Ø 125 mm	22.23 mm	soft	FG27	7700 1/min	5 pieces	**0 575 202**			
		22.23 mm	medium	FG27	7700 1/min	5 pieces	**0 575 204**			
	Ø 178 mm	22.23 mm	soft	FG27	5500 1/min	5 pieces	**0 575 205**			

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Compact Discs
UNITIZED
NEW!

This tool is characterised by multilayer pressed grinding fleece with high, evenly distributed abrasive grit. It offers a long service life and is very hard wearing.

The compact grinding disc is used for
- decorative finishes on stainless steel surfaces
- levelling of surfaces after weld seam processing
- preparation of titanium and stainless steel surfaces before polishing
- preparation of aluminium, copper and brass etc. before coating.

	Dimensions	Drilling dimension	Hardness	Grit size	Type	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces	Price from 100 pieces
Compact Disc											
	Ø 115 mm	22.23 mm	medium	coarse	G27	11000 1/min	5 pieces	**0 575 190**			
	Ø 115 mm	22.23 mm	medium	medium	G27	11000 1/min	5 pieces	**0 575 191**			
	Ø 115 mm	22.23 mm	medium	very fine	G27	11000 1/min	5 pieces	**0 575 192**			

Flap Discs
HYBRID • SCM • Zirconium corundum
NEW!

The combination of abrasive cloth and abrasive fleece facilitates material removal and achieving a decorative surface finish in a single work step.

The hybrid grinding disc is optimally suitable for
- Removing welding seams
- Removing burrs after plasma and laser cutting
- Removing small unevennesses and surface defects
- Suitable for stainless steel, mild steel, aluminium and other alloys.

	Dimensions	Drilling dimension	Grit size	Type	Colour	Rotation speed max.	Packing quantity	Order No.	Price from 1 piece	Price from 50 pieces	Price from 100 pieces
Flap Disc HYBRID											
	Ø 115 mm	22.23 mm	medium	conical	red brown	13300 1/min	10 pieces	**0 575 170**			
	Ø 125 mm	22.23 mm	medium	conical	red brown	12200 1/min	10 pieces	**0 575 171**			
Flap Disc SCM											
	Ø 115 mm	22.23 mm	coarse	G27	brown	13300 1/min	10 pieces	**0 575 180**			
		22.23 mm	medium	G27	red brown	13300 1/min	10 pieces	**0 575 181**			
		22.23 mm	very fine	G27	blue	13300 1/min	10 pieces	**0 575 182**			
	Ø 125 mm	22.23 mm	coarse	G27	brown	12200 1/min	10 pieces	**0 575 183**			
		22.23 mm	medium	G27	red brown	12200 1/min	10 pieces	**0 575 184**			
		22.23 mm	very fine	G27	blue	12200 1/min	10 pieces	**0 575 185**			
	Ø 178 mm	22.23 mm	coarse	G27	brown	8600 1/min	10 pieces	**0 575 186**			
		22.23 mm	medium	G27	red brown	8600 1/min	10 pieces	**0 575 187**			
		22.23 mm	very fine	G27	blue	8600 1/min	10 pieces	**0 575 188**			
Flap Disc Zirconium corundum											
	Ø 115 mm	22.23 mm	40	conical	blue	13300 1/min	10 pieces	**0 575 220**			
	Ø 125 mm	22.23 mm	40	conical	blue	12200 1/min	10 pieces	**0 575 230**			

Cup wheel discs



Cup wheel disc with TURBO hand air grinder

These cup wheel discs are screwed onto the mandrel (Order No. 0 750 512) of the TURBO hand grinder. Thanks to the separate cup wheel disc receptacle, these tools can also be used with all commercially available rotating handpieces.

Maximale Drehzahl 25.000 1/min

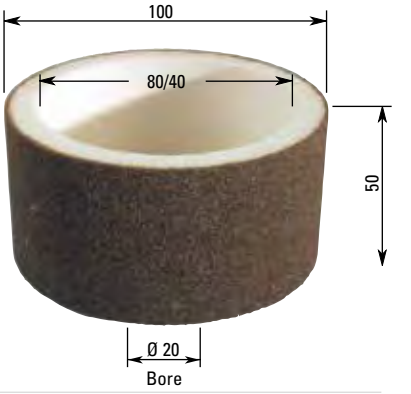
	Dimensions	Grit size	Colour	Rotation speed max.	Order No.	Price from 1 piece	Price from 10 pieces
Cup wheel discs, high-grade corundum							
	Ø 30	60	brown	25000 1/min	**0 530 721**		
		100	brown	25000 1/min	**0 530 722**		
		150	brown	25000 1/min	**0 530 723**		

Accessories / spare parts

		Order No.	Price from 1 piece
Clamping shank			
	For receiving the cup wheel discs and rubber holders on TURBO hand grinders.	**0 750 512**	

EKW cup wheel discs

		Dimensions	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
EKW cup wheel discs						
	Hardness JOT, resin-hardened edge for grinding HSS max. speed 7,500 rpm	Ø 100 x 50 x 20 mm	80	**0 542 751**		
EKW cup wheel disc – Top quality						
	Hardness JOT, resin-hardened edge for grinding HSS, hardened steel and hard metal max. speed 7,500 rpm	Ø 100 x 50 x 20 mm	80	**0 542 753**		



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Nylon cut-off discs, fibre-reinforced

Nylon cut-off discs, fibre-reinforced
Much more breakproof for a high level of working safety. Thinner discs can be selected.

This results in the following advantages:
- very small contact area
- little heat generation in the cut
- narrower cut
- less expenditure of effort
- fast separation time
- less burr formation



		Dimensions	Drilling dimension	Matching-receptacles	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	5 packs	10 packs
Nylon cut-off discs, fibre-reinforced										
high-grade corundum										
	for hardened and unhardened steels	Ø 22 x 0.2 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 901**			
		Ø 22 x 0.3 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 902**			
		Ø 22 x 0.5 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 903**			
		Ø 25 x 0.2 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 904**			
		Ø 25 x 0.3 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 905**			
		Ø 25 x 0.5 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 906**			
		Ø 40 x 0.5 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 907**			
		Ø 40 x 0.7 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 908**			
		Ø 40 x 1.0 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 909**			
silicon carbide										
	for stainless steels and non-ferrous metals	Ø 22 x 0.2 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 910**			
		Ø 22 x 0.3 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 911**			
		Ø 25 x 0.2 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 913**			
		Ø 25 x 0.3 mm	1.8 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 914**			

Accessories / spare parts

	for bore dimensions	Shank dimensions	Type	Max. disc size	Order No.	Price from 1 piece	10 pieces
CRATEX® grinding wheel holder							
	Ø 1.5 – 1.8 mm	Ø 2.35 x 40/28 mm	21	Ø 38 x 4.5 mm	**0 545 275**		
		Ø 3 x 42 mm	22	Ø 38 x 4.5 mm	**0 545 276**		
		Ø 6 x 42 mm	23	Ø 38 x 4.5 mm	**0 545 277**		
		Ø 2.35 x 30/15 mm	25	Ø 38 x 4.5 mm	**0 545 279**		

Nylon cut-off discs, fibre-reinforced

Nylon cut-off discs, fibre-reinforced
Much more breakproof for a high level of working safety. Thinner discs can be selected.

This results in the following advantages:
- very small contact area
- little heat generation in the cut
- narrower cut
- less expenditure of effort
- fast separation time
- less burr formation

		Dimensions	Drilling dimension	Matching-receptacles	Rotation speed max.	Order No.	Price from 1 piece
Nylon cut-off discs, fibre-reinforced							
diamond							
	for ceramic and all difficult steels in aircraft, engine and power plant construction and for implant processing	Ø 20 x 0.2 mm	1.8 mm	21, 22, 23, 25	20000 1/min	**0 544 920**	
		Ø 20 x 0.3 mm	1.8 mm	21, 22, 23, 25	20000 1/min	**0 544 921**	

Accessories / spare parts

	for bore dimensions	Shank dimensions	Type	Max. disc size	Order No.	Price from 1 piece	Price from 10 pieces
CRATEX® grinding wheel holder							
	Ø 1.5 – 1.8 mm	Ø 2.35 x 40/28 mm	21	Ø 38 x 4.5 mm	**0 545 275**		
		Ø 3 x 42 mm	22	Ø 38 x 4.5 mm	**0 545 276**		
		Ø 6 x 42 mm	23	Ø 38 x 4.5 mm	**0 545 277**		
		Ø 2.35 x 30/15 mm	25	Ø 38 x 4.5 mm	**0 545 279**		

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Nylon cut-off discs

		Dimensions	Drilling dimension	Matching-receptacles	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Nylon cut-off discs									
high-grade corundum (brown)									
	for hardened and unhardened steels	Ø 22 x 0.3 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 960**		
		Ø 22 x 0.7 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 961**		
		Ø 22 x 2.0 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 962**		
		Ø 22 x 3.0 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 963**		
		Ø 25 x 0.5 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 972**		
		Ø 25 x 0.7 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 965**		
		Ø 25 x 0.8 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 974**		
		Ø 25 x 1.0 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 966**		
		Ø 34 x 1.65 mm	1.5 mm	21, 22, 23, 25	10000 1/min	10 pieces	**0 544 967**		
		Ø 37.5 x 1.0 mm	1.5 mm	21, 22, 23, 25	10000 1/min	10 pieces	**0 544 968**		
		Ø 40 x 1.0 mm	6 mm	41	10000 1/min	10 pieces	**0 544 969**		
silicon carbide (grey)									
	for stainless steels and non-ferrous metals	Ø 22 x 0.7 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 981**		
		Ø 22 x 2.0 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 982**		
		Ø 25 x 0.7 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 985**		
		Ø 25 x 1.0 mm	1.5 mm	21, 22, 23, 25	20000 1/min	10 pieces	**0 544 986**		

Accessories / spare parts

	for bore dimensions	Shank dimensions	Type	Max. disc size	Order No.	Price from 1 piece	Price from 10 pieces
CRATEX® grinding wheel holder							
	Ø 1.5 – 1.8 mm	Ø 2.35 x 40/28 mm	21	Ø 38 x 4.5 mm	**0 545 275**		
		Ø 3 x 42 mm	22	Ø 38 x 4.5 mm	**0 545 276**		
		Ø 6 x 42 mm	23	Ø 38 x 4.5 mm	**0 545 277**		
		Ø 2.35 x 30/15 mm	25	Ø 38 x 4.5 mm	**0 545 279**		
	Ø 6 mm	Ø 6 x 25 mm	41	Ø 75 x 9.5 mm	**0 545 282**		

Abrasive discs

Abrasive discs need a firm hold, since only then do they develop their full performance. In order to provide them this hold, you can select from among three different types of fastenings for the abrasive discs on the holder:

The largest selection of grit sizes and diameters can be found among our **self-adhesive abrasive discs**. These disposable articles provide the most economical solution at the same time. In addition to the large selection in the catalogue, we also offer you many special solutions here, for example in the "soft" or SiC paper versions. Consult Markus Abstoß about the possibilities.

Very rapid abrasive disc changes are possible with our discs with Velcro fastening. In contrast to the self-adhesive version, the rubber holders can be reused in this case.

The **COMBIDISC®** system offers the best hold and a very large selection of discs. Simply screw the abrasive disc on to the rubber holder and set to work. Flying discs are finally a thing of the past with this solution. These abrasive discs are thermally more resilient and always sit centrically owing to the innovative fastener. The rubber holder can also be reused in this case too.

Self-adhesive



Velcro fastening



COMBIDISC®



298 **Abrasive discs, self-adhesive**

299 **Abrasive discs with Velcro fastening**

304 **Abrasive discs with rapid clamping fastener COMBIDISC®**

Grinding stars Polistar
Corundum

Grinding stars Polistar
Highly versatile deburring tools for processing the internal surfaces of drilling holes and pipes. Optimally suitable for small diameters (Ø 7 to 40 mm).

Polistar can be clamped in multiple layers (offset in relation to one another) in the tool holders.

Applications:
- cleaning and fine grinding of drilling holes
- removal of annealing colours
- rounding of inlet and outlet sides for drilling holes
- removal of slight burrs

Cutting speed Vmax: 20 m/sec.



perfect for deburring of drill holes etc.

	Dimensions	Grit size	Drilling dimension	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack
Grinding stars Polistar, corundum							
	Ø 20 mm	60	1.6 mm	20000 1/min	25 pieces	**0 570 910-0**	
	Ø 20 mm	80	1.6 mm	20000 1/min	25 pieces	**0 570 911-0**	
	Ø 20 mm	120	1.6 mm	20000 1/min	25 pieces	**0 570 912-0**	
	Ø 30 mm	60	1.6 mm	13000 1/min	25 pieces	**0 570 913-0**	
	Ø 30 mm	80	1.6 mm	13000 1/min	25 pieces	**0 570 914-0**	
	Ø 30 mm	120	1.6 mm	13000 1/min	25 pieces	**0 570 915-0**	
	Ø 40 mm	60	3 mm	10000 1/min	10 pieces	**0 570 904-0**	
	Ø 40 mm	80	3 mm	10000 1/min	10 pieces	**0 570 905-0**	
	Ø 40 mm	120	3 mm	10000 1/min	10 pieces	**0 570 906-0**	
	Ø 50 mm	60	3 mm	8000 1/min	10 pieces	**0 570 907-0**	
	Ø 50 mm	80	3 mm	8000 1/min	10 pieces	**0 570 908-0**	
	Ø 50 mm	120	3 mm	8000 1/min	10 pieces	**0 570 909-0**	

Accessories / spare parts

	for bore dimensions	Shank dimensions	Type	Max. disc size	Order No.	Price from 1 piece	10 pieces
CRATEX® grinding wheel holder							
	Ø 1.5 – 1.8 mm	Ø 2.35 x 40/28 mm	21	Ø 38 x 4.5 mm	**0 545 275**		
	Ø 1.5 – 1.8 mm	Ø 3 x 42 mm	22	Ø 38 x 4.5 mm	**0 545 276**		
	Ø 3 mm	Ø 6 x 40 mm	33	Ø 45 x 6 mm	**0 545 269**		

Grinding stars POLINOX
Fleece

Grinding stars POLINOX
The new fleece alternative to the Polistar corundum grindings stars. Owing to the fleece trimming the POLINOX stars are particularly adaptable and therefore predestined for tight working areas: drilling holes, recesses and places which are difficult to reach. Available in packs containing 5 pieces respectively in three dimensions and three grit sizes.

Applications:
- deburring of in components made of nonferrous metals and non-ferrous heavy metals
- fine grinding on internal surfaces of stainless steel pipes
- cleaning of thread turns

Cutting speed Vmax: 20 m/sec.

	Dimensions	Grit size	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	Price from 4 packs
Grinding stars POLINOX, corundum							
	Ø 19 mm	P 80	20000 1/min	5 pieces	**0 570 991**		
		very fine	20000 1/min	5 pieces	**0 570 992**		
	Ø 25 mm	coarse	15000 1/min	5 pieces	**0 570 993**		
		medium	15000 1/min	5 pieces	**0 570 994**		
		very fine	15000 1/min	5 pieces	**0 570 995**		
	Ø 38 mm	coarse	10000 1/min	5 pieces	**0 570 996**		
		medium	10000 1/min	5 pieces	**0 570 997**		
		very fine	10000 1/min	5 pieces	**0 570 998**		

Accessories / spare parts

	Shank dimensions	Type	Thread	Order No.	Price from 1 piece
suitable tool holders					
	Ø 6 x 125 mm	XL	8/32-UNC	**0 570 960**	
	Ø 6 x 75 mm	L	8/32-UNC	**0 570 965**	

Abrasive discs ROTAFLEX
Silicon carbide, self-adhesive

The silicon carbide abrasive discs are ideal for processing aluminium, copper, bronze, titanium, high-alloyed steels and fibrereinforced plastics. Optimally suited for the aeronautical industry and in areas where only SiC is allowed.



use with and without coolant/lubricant!

Cutting speed Vmax: 13 m/sec.

	Dimensions	Grit size	Type	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	Price from 3 packs
Abrasive discs ROTAFLEX								
	Ø 30 mm	80	CPC 871	8500 1/min	250 pieces	**0 530 660**		
		120	CPC 871	8500 1/min	250 pieces	**0 530 662**		
		220	CPA 871	8500 1/min	250 pieces	**0 530 665**		
		240	CPA 871	8500 1/min	250 pieces	**0 530 666**		
		320	CPA 871	8500 1/min	250 pieces	**0 530 668**		
		500	CPA 871	8500 1/min	250 pieces	**0 530 671**		
		800	CPA 871	8500 1/min	250 pieces	**0 530 673**		
		1000	CPA 871	8500 1/min	250 pieces	**0 530 674**		
		1200	CPA 871	8500 1/min	250 pieces	**0 530 675**		

Abrasive discs ROTAFLEX-Trizact
Corundum

The ROTAFLEX Trizact grinding sheets – a guarantee of particularly even surfaces and a perfect finish. Owing to the pyramid-shaped, uniform arrangement of identical abrasive particles on a foam-like carrier, the abrasive particles are continuously exposed during grinding. The result is reproducible and smooth surfaces with a longer service life.

Cutting speed Vmax: 13 m/sec.

	Dimensions	Grit size	Packing quantity	Order No.	Price from 1 pack
Abrasive discs ROTAFLEX-Trizact with velcro fastening					
	Ø 30 mm	160	10 pieces	**0 572 001**	
Abrasive discs ROTAFLEX-Trizact, self-adhesive					
		160	10 pieces	**0 572 101**	

Accessories / spare parts

	Dimensions	Shank dimensions	Type	Suitable abrasive discs	Order No.	Price from 1 piece	5 pieces	10 pieces
Rubber holder ROTAFLEX								
	Ø 30 mm	Ø 3 x 26 mm	RK 2	R 2	**0 544 104**			

Abrasive discs ROTAFLEX
Corundum, with Velcro fastening

Owing to the velour Velcro fastening, these abrasive discs adhere particularly well to the corresponding rubber holders. Ideal for multiple use!

Cutting speed Vmax: 20 m/sec.

	Dimensions	Grit size	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	3 packs	5 packs
ROTAFLEX abrasive discs with Velcro fastening								
	Ø 20 mm	60	19000 1/min	100 pieces	**0 544 012**			
		80	19000 1/min	100 pieces	**0 544 013**			
		120	19000 1/min	100 pieces	**0 544 014**			
		150	19000 1/min	100 pieces	**0 544 015**			
		180	19000 1/min	100 pieces	**0 544 016**			
		240	19000 1/min	100 pieces	**0 544 017**			
		320	19000 1/min	100 pieces	**0 544 018**			
	Ø 30 mm	60	13000 1/min	100 pieces	**0 544 032**			
		80	13000 1/min	100 pieces	**0 544 033**			
		120	13000 1/min	100 pieces	**0 544 034**			
		180	13000 1/min	100 pieces	**0 544 036**			
		240	13000 1/min	100 pieces	**0 544 037**			
		320	13000 1/min	100 pieces	**0 544 038**			

Abrasive discs ROTAFLEX
Corundum, with Velcro fastening

The matching rubber holders for abrasive discs with Velcro fastening. Unlike conventional stick-on discs, the rubber holder can be reused once the disc is worn out. **Cutting speed Vmax: 20 m/sec.**

	Dimensions	Shank dimensions	Order No.	Price from 1 piece	Price from 5 pieces
Rubber holders with Velcro fastening					
	Ø 18 mm	Ø 3 x 30 mm	**0 544 010**		
	Ø 30 mm	Ø 3 x 30 mm	**0 544 020**		
		Ø 6 x 40 mm	**0 544 030**		

Abrasive discs ROTAFLEX
Corundum, self-adhesive

for elastic grinding in combination with the suitable rubber holders.

Cutting speed Vmax: 13 m/sec.

	Dimensions	Grit size	Type	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs	Price from 10 packs
ROTAFLEX abrasive discs									
	Ø 12 mm	50	R 0	20000 1/min	50 pieces	**0 544 111**			
		60	R 0	20000 1/min	50 pieces	**0 544 112**			
		80	R 0	20000 1/min	50 pieces	**0 544 113**			
		120	R 0	20000 1/min	50 pieces	**0 544 114**			
		150	R 0	20000 1/min	50 pieces	**0 544 115**			
		180	R 0	20000 1/min	50 pieces	**0 544 116**			
		240	R 0	20000 1/min	50 pieces	**0 544 117**			
		320	R 0	20000 1/min	50 pieces	**0 544 118**			
		400	R 0	20000 1/min	50 pieces	**0 544 119**			
		600	R 0	20000 1/min	50 pieces	**0 544 174**			
	Ø 20 mm	50	R 1	12000 1/min	50 pieces	**0 544 121**			
		60	R 1	12000 1/min	50 pieces	**0 544 122**			
		80	R 1	12000 1/min	50 pieces	**0 544 123**			
		120	R 1	12000 1/min	50 pieces	**0 544 124**			
		150	R 1	12000 1/min	50 pieces	**0 544 125**			
		180	R 1	12000 1/min	50 pieces	**0 544 126**			
		240	R 1	12000 1/min	50 pieces	**0 544 127**			
		320	R 1	12000 1/min	50 pieces	**0 544 128**			
		400	R 1	12000 1/min	50 pieces	**0 544 129**			
		600	R 1	12000 1/min	50 pieces	**0 544 175**			

Abrasive discs ROTAFLEX
Corundum, self-adhesive



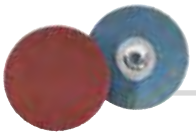
Dimensions	Grit size	Type	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	5 packs	10 packs
Ø 33 mm	50	R 2	7500 1/min	50 pieces	**0 544 131**			
	60	R 2	7500 1/min	50 pieces	**0 544 132**			
	80	R 2	7500 1/min	50 pieces	**0 544 133**			
	120	R 2	7500 1/min	50 pieces	**0 544 134**			
	150	R 2	7500 1/min	50 pieces	**0 544 135**			
	180	R 2	7500 1/min	50 pieces	**0 544 136**			
	240	R 2	7500 1/min	50 pieces	**0 544 137**			
	320	R 2	7500 1/min	50 pieces	**0 544 138**			
	400	R 2	7500 1/min	50 pieces	**0 544 139**			
	600	R 2	7500 1/min	50 pieces	**0 544 176**			
Ø 50 mm	40	R 3	5000 1/min	50 pieces	**0 544 140**			
	50	R 3	5000 1/min	50 pieces	**0 544 141**			
	60	R 3	5000 1/min	50 pieces	**0 544 142**			
	80	R 3	5000 1/min	50 pieces	**0 544 143**			
	120	R 3	5000 1/min	50 pieces	**0 544 144**			
	150	R 3	5000 1/min	50 pieces	**0 544 145**			
	180	R 3	5000 1/min	50 pieces	**0 544 146**			
	240	R 3	5000 1/min	50 pieces	**0 544 147**			
	320	R 3	5000 1/min	50 pieces	**0 544 148**			
	400	R 3	5000 1/min	50 pieces	**0 544 149**			
	600	R 3	5000 1/min	50 pieces	**0 544 177**			

Accessories / spare parts

Dimensions	Shank dimensions	Type	Suitable abrasive discs	Order No.	Price from 1 piece	5 pieces	10 pieces
Rubber holder ROTAFLEX							
Ø 10 mm	Ø 3 x 26 mm	RK 0	R 0	**0 544 101**			
Ø 18 mm	Ø 2.35 x 26 mm	RK 1	R 1	**0 544 102**			
	Ø 3 x 26 mm	RK 1	R 1	**0 544 103**			
Ø 30 mm	Ø 3 x 26 mm	RK 2	R 2	**0 544 104**			
Ø 45 mm	Ø 6 x 32 mm	RK 3	R 3	**0 544 105**			



Abrasive discs ROTAFLEX
Silicon carbide, self-adhesive

	Steel, cast steel	Coarse grinding of steel and cast steel	Stainless steel (INOX)	Materials with high thermal stability (Ni-Co alloy)	Hard non-ferrous metals, titanium, bronze, hardened aluminium alloys	Soft non-ferrous metals, brass, copper, aluminium alloys	Carbide metal, hard material coatings, hard facings, glass, GRP, CRP	Cleaning, structuring, deburring	Polishing
 **Corundum A** universally for all metals ***page 304***	◆				◆				
 **Corundum A-Forte** universally, long service life, cool cut **on request!**	◆				◆				
 **Silicon carbide** non-ferrous metals, titanium, aeronautical industry, SiC authorisation **on request!**				◆	◆				
 **Fleece rounds, hard** universally for surface processing of many materials ***page 304***								◆	
 **Fleece rounds, soft** universally for surface processing of many materials ***page 304***								◆	
 **Felt rounds** polishing of larger surfaces **on request!**									◆
 **Corundum A-FLEX** universally for all metals, flexibly for uneven surfaces **on request!**	◆				◆				
 **Ceramic grit CO-COOL** extremely hard materials, high stock removal, long service life **on request!**			◆	◆	◆				
 **TX rounds** surface processing, deburring, particularly on INOX and aluminium **on request!**			◆		◆	◆			
Fig. shows other rapid fastener									
 **Cleaning rounds POLICLEAN®** cleaning, removal, surface processing **on request!**								◆	

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Abrasive discs ROTAFLEX
Silicon carbide, self-adhesive

	Steel, cast steel	Coarse grinding of steel and cast steel	Stainless steel (INOX)	Materials with high thermal stability (Ni-Co alloy)	Hard non-ferrous metals, titanium, bronze, hardened aluminium alloys	Soft non-ferrous metals, brass, copper, aluminium alloys	Carbide metal, hard material coatings, hard facings, glass, GRP, CRP	Cleaning, structuring, deburring	Polishing
 **Corundum A-PLUS** universally for metals, long service lives, stable carrier material	◆				◆				
on request!									
 **Small fibre grinders corundum A** surface and edge grinding, very long service lives, reinforced fibre backing		◆							
on request!									
 **Corundum A-COOL** materials difficult to cut, such as INOX, Hastelloy, Inconel, Ni-Co			◆		◆	◆			
auf Anfrage!									
 **Zirconium corundum Z** for all carbide metals during coarse grinding up to grit size 36 and grit size 80	◆	◆		◆					
on request!									
 **Small fibre grinders ceramic grit CO-COOL** extremely hard materials, high stock removal, reinforced fibre backing			◆	◆	◆				
on request!									
 **Diamond grinding discs** Hastelloy, Inconel, chrome, tungsten, titanium carbide, carbide metal, CRP/GRP							◆		
on request!									
 **Brush** remove adhesive etc., cleaning of contours and edges								◆	
on request!									
Fig. shows other rapid fastener									
 **mini-POLIFAN Corundum A** universal coarse grinding tasks, high cutting performance		◆							
Fig. shows other rapid fastener									
 **mini-POLIFAN Zirconium corundum ZA** grcoarse grinding tasks, high cutting performance		◆	◆	◆					
on request!									

Grinding and polishing discs COMBIDISC®
Corundum A

The corundum A version is suitable for universal use on metals and other materials. “Medium” version abrasive discs are recommended.

	Dimensions	Grit size	Recommended speed	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	Price from 4 packs
Abrasive discs COMBIDISC® corundum A								
	Ø 20 mm	60	35,000 1/min	35000 1/min	50 pieces	**0 541 020**		
		80	35,000 1/min	35000 1/min	50 pieces	**0 541 021**		
		120	35,000 1/min	35000 1/min	50 pieces	**0 541 022**		
		180	35,000 1/min	35000 1/min	50 pieces	**0 541 023**		
		320	35,000 1/min	35000 1/min	50 pieces	**0 541 024**		
	Ø 25 mm	60	26,000 1/min	26000 1/min	50 pieces	**0 541 025**		
		80	26,000 1/min	26000 1/min	50 pieces	**0 541 026**		
		120	26,000 1/min	26000 1/min	50 pieces	**0 541 027**		
		180	26,000 1/min	26000 1/min	50 pieces	**0 541 028**		
		320	26,000 1/min	26000 1/min	50 pieces	**0 541 029**		
	Ø 38 mm	60	16,000 1/min	16000 1/min	50 pieces	**0 541 031**		
		80	16,000 1/min	16000 1/min	50 pieces	**0 541 032**		
		120	16,000 1/min	16000 1/min	50 pieces	**0 541 033**		
		180	16,000 1/min	16000 1/min	50 pieces	**0 541 034**		
		320	16,000 1/min	16000 1/min	50 pieces	**0 541 035**		
	Ø 50 mm	60	13,000 1/min	13000 1/min	50 pieces	**0 541 037**		
		80	13,000 1/min	13000 1/min	50 pieces	**0 541 038**		
		120	13,000 1/min	13000 1/min	50 pieces	**0 541 039**		
		180	13,000 1/min	13000 1/min	50 pieces	**0 541 040**		
		320	13,000 1/min	13000 1/min	50 pieces	**0 541 041**		

Grinding and polishing discs COMBIDISC®
Fleece rounds

The fleece rounds are universally suitable for surface processing on metals. For eliminating grinding marks, removing oxidation and for light deburring work for example. The flexibility of the fleece rounds is determined by the choice of holder hardness.

	Dimensions	Grit size	Recommended speed	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	Price from 4 packs
Fleece rounds COMBIDISC® – hard version, corundum A								
	Ø 20 mm	very fine	19,000 1/min	19000 1/min	25 pieces	**0 541 110**		
	Ø 25 mm	coarse	15,000 1/min	15000 1/min	25 pieces	**0 541 111**		
	Ø 25 mm	medium	15,000 1/min	15000 1/min	25 pieces	**0 541 112**		
	Ø 25 mm	very fine	15,000 1/min	15000 1/min	25 pieces	**0 541 113**		
	Ø 38 mm	coarse	10,000 1/min	10000 1/min	25 pieces	**0 541 114**		
	Ø 38 mm	medium	10,000 1/min	10000 1/min	25 pieces	**0 541 115**		
	Ø 38 mm	very fine	10,000 1/min	10000 1/min	25 pieces	**0 541 116**		
	Ø 50 mm	coarse	7,500 1/min	7500 1/min	25 pieces	**0 541 117**		
	Ø 50 mm	medium	7,500 1/min	7500 1/min	25 pieces	**0 541 118**		
	Ø 50 mm	very fine	7,500 1/min	7500 1/min	25 pieces	**0 541 119**		
Fleece rounds COMBIDISC® – soft version, corundum A								
	Ø 50 mm	medium	7,500 1/min	7500 1/min	25 pieces	**0 541 130**		
	Ø 50 mm	fine	7,500 1/min	7500 1/min	25 pieces	**0 541 131**		
	Ø 50 mm	very fine	7,500 1/min	7500 1/min	25 pieces	**0 541 132**		

Grinding and polishing discs COMBIDISC®
Ceramic grit CO-COOL

Ceramic grit CO-COOL is suitable for processing unalloyed and alloyed steels, cast iron, stainless steel (INOX), titanium, nickel alloys and extra-hard materials. Consistent high performance self-sharpening ceramic grits. Fillers with an active grinding effect in the coating result in an outstanding improvement in stock removal and long stock removal periods and service lives. Furthermore, the fillers prevent clogging of the discs and ensure a cool cut. The “medium” and “hard” abrasive disc holders are particularly well suited.

	Dimensions	Grit size	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	Price from 4 packs
Abrasive discs COMBIDISC® ceramic grid CO-COOL							
	Ø 38 mm	36	16000 1/min	25 pieces	**0 541 091**		
		60	16000 1/min	25 pieces	**0 541 092**		
		80	16000 1/min	25 pieces	**0 541 093**		
		120	16000 1/min	25 pieces	**0 541 094**		
	Ø 50 mm	36	13000 1/min	25 pieces	**0 541 096**		
		60	13000 1/min	25 pieces	**0 541 097**		
		80	13000 1/min	25 pieces	**0 541 098**		
		120	13000 1/min	25 pieces	**0 541 099**		

Grinding and polishing discs COMBIDISC®
Felt round s

For frontal polishing with diamond, grinding and polishing pastes on larger surfaces. Optionally, the holders can be used “soft” or “medium”.

	Dimensions	Recommended speed	Rotation speed max.	Packing quantity	Order No.	Price from 1 pack	Price from 4 packs
Felt rounds COMBIDISC®							
	Ø 50 mm	4,000 1/min	4000 1/min	5 pieces	**0 541 150**		

Grinding and polishing discs COMBIDISC®
Holders

	Dimensions	Design	Shank dimensions	Recommended speed	Rotation speed max.	Order No.	Price from 1 piece
Grinding and polishing disc holders COMBIDISC®							
 Soft abrasive disc holder	Ø 20 mm	medium	Ø 3 x 27 mm	12.000 1/min	12000 1/min	**0 541 012**	
		medium	Ø 6 x 40 mm	47.500 1/min	47500 1/min	**0 541 001**	
	Ø 25 mm	medium	Ø 3 x 27 mm	12.000 1/min	12000 1/min	**0 541 013**	
		medium	Ø 6 x 40 mm	38.000 1/min	38000 1/min	**0 541 002**	
 Medium abrasive disc holder	Ø 38 mm	hard	Ø 6 x 40 mm	25.000 1/min	25000 1/min	**0 541 003**	
		medium	Ø 6 x 40 mm	25.000 1/min	25000 1/min	**0 541 004**	
		soft	Ø 6 x 40 mm	25.000 1/min	25000 1/min	**0 541 005**	
 Hard abrasive disc holder	Ø 50 mm	hard	Ø 6 x 40 mm	19.000 1/min	19000 1/min	**0 541 006**	
		medium	Ø 6 x 40 mm	19.000 1/min	19000 1/min	**0 541 007**	
		soft	Ø 6 x 40 mm	19.000 1/min	19000 1/min	**0 541 008**	

Abrasive paper
Silicon carbide

The well-known wet abrasive paper. Owing to the very fine grit size, suitable up to the polishing stage. Use wet and dry on all steels and nonferrous metals. An insider's tip for aluminium!

	Dimensions	Grit size	Type	Packing quantity	Order No.	Price from 1 pack	Price from 5 packs
Silicon carbide abrasive paper							
	230 x 280 mm	150	991 C	50 pieces	**0 401 379**		
		180	991 C	50 pieces	**0 401 380**		
		220	991 C	50 pieces	**0 401 381**		
		240	991 C	50 pieces	**0 401 382**		
		280	991 C	50 pieces	**0 401 383**		
		320	991 C	50 pieces	**0 401 384**		
		400	991 C	50 pieces	**0 401 386**		
		500	991 C	50 pieces	**0 401 387**		
		600	991 C	50 pieces	**0 401 388**		
		800	991 C	50 pieces	**0 401 389**		
		1000	991 C	50 pieces	**0 401 390**		
		1200	991 C	50 pieces	**0 401 391**		
		1200	991 A	50 pieces	**0 401 373**		
		2000	991 A	50 pieces	**0 401 392**		
		2500	991 A	50 pieces	**0 401 393**		
		3000	991 A	50 pieces	**0 401 394**		
		5000	991 A	50 pieces	**0 401 395**		
		1500	991 A	50 pieces	**0 401 397**		
		7000	991 A	50 pieces	**0 401 399**		


use with or without coolant/lubricant!

Difference between A and C grades?

The A and C grade wet abrasive papers differ in the specific weight of the base:
- **A ≤ 115 g/m²**
- **C > 115 g/m²**



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Abrasive paper
Corundum

This microfinishing 3M® emery paper, consisting of a polyester film backing, is characterised by densely dispersed, closely calibrated corundum grit in a synthetic resin bond. This results in very fine surfaces on all metals and even on plastics.

	Dimensions	Grit size	Colour	Packing quantity	Order No.	Price from 1 piece	10 pieces	50 pieces
Mikro-Finishing-Abrasive Paper 3M®								
	216 x 280 mm	180 / 80 µm	brown	5 pieces	**0 530 708**			
		220 / 60 µm	black	5 pieces	**0 530 709**			
		320 / 40 µm	blue	5 pieces	**0 530 710**			
		400 / 30 µm	green	5 pieces	**0 530 711**			
		500 / 20 µm	red	5 pieces	**0 530 712**			
		600 / 15 µm	orange	5 pieces	**0 530 713**			
		1200 / 9 µm	light blue	5 pieces	**0 530 714**			

matching set

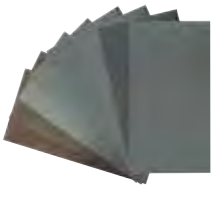
		Order No.	Price from 1 set	3 set	5 set
Mikro-Finishing-Abrasive Paper 3M®					
	The set contains one sheet each in the version: brown, black, blue, green, red,orange and light blue	**0 530 715**			

Padded abrasive cloth
MX

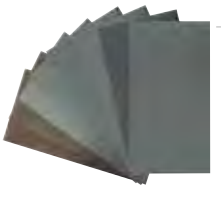
The somewhat different kind of abrasive. The grinding crystals are accommodated in an elastic latex layer on a fabric base. The crystals move flexibly during grinding and always optimally align themselves in relation to the surface; the stock removal level constantly remains even. The result is a completely smooth surface on almost all materials: metal, plastics, glass, wood, lacquer or stone. Practically all smooth surfaces can be superfine ground. In doing so, it is possible to work with a considerably coarser grit size than usual and markedly finer surfaces result all the same. Comparatively large grinding crystals and the flexible carrier material prevent scratches on the workpiece, since no adherence of the grinding crystals occurs as a result of dust particle accumulation.

Grit size MX	Comparable to FEPA
180	> P 360
240	P 800
320	> P 1500
360	P 2000
400	P 2500
600	> P 3000
800	P 5000
1200	> P 5000

use with or without coolant/lubricant!

	Dimensions	Grit size	Order No.	Price from 1 piece
Padded abrasive cloth MX				
	150 x 305 mm	180	**0 401 651**	
		240	**0 401 652**	
		320	**0 401 653**	
		360	**0 401 654**	
		400	**0 401 655**	
		600	**0 401 656**	
		800	**0 401 657**	
		1200	**0 401 658**	

matching set

	Order No.	Price from 1 set
Set of padded abrasive cloth MX		
 One sheet per grit size respectively	**0 401 650**	

What advantages does the “padded abrasive cloth” offer?

- up to 15 x service life
- a markedly finer polished section than with conventional abrasives
- grit size 400 corresponds to the surface roughness of grit size P 2500 in spite of the high stock removal
- delayed friction and consequently less heat generation
- large crystals
- no built-up edges

Do you need MX on the roll, as rounds or in different sheet dimensions, then please contact Markus Abstoss:
Tel. +49 (0) 22 04 / 8 39-0 • m.abstoss@joke.de

Abrasive strips ROTAFLEX
Corundum, self-adhesive

	Dimensions	Grit size	Packing quantity	Order No.	Price from 1 pack	Price from 10 packs
Abrasive strips ROTAFLEX, corundum, self-adhesive						
	7 x 580 mm	60	10 pieces	**0 401 302**		
		80	10 pieces	**0 401 303**		
		120	10 pieces	**0 401 304**		
		150	10 pieces	**0 401 305**		
		180	10 pieces	**0 401 306**		
		240	10 pieces	**0 401 307**		
		320	10 pieces	**0 401 308**		
		400	10 pieces	**0 401 309**		
		600	10 pieces	**0 401 310**		
	10 x 580 mm	80	10 pieces	**0 401 333**		
		120	10 pieces	**0 401 334**		
		150	10 pieces	**0 401 335**		
		180	10 pieces	**0 401 336**		
		240	10 pieces	**0 401 337**		
		320	10 pieces	**0 401 338**		
		400	10 pieces	**0 401 339**		
		600	10 pieces	**0 401 340**		



use with or without coolant/lubricant!

Abrasive sheets
Corundum, self-adhesive

	Dimensions	Grit size	Order No.	Price from 1 piece	Price from 10 pieces
Abrasive sheets ROTAFLEX, corundum, self-adhesive					
	210 x 580 mm	60	**0 401 312**		
		80	**0 401 313**		
		120	**0 401 314**		
		150	**0 401 315**		
		180	**0 401 316**		
		240	**0 401 317**		
		320	**0 401 318**		
		400	**0 401 319**		
		600	**0 401 320**		
	250 x 580 mm	60	**0 401 322**		
		80	**0 401 323**		
		120	**0 401 324**		
		150	**0 401 325**		
		180	**0 401 326**		
		240	**0 401 327**		
		320	**0 401 328**		
		400	**0 401 329**		
		600	**0 401 330**		



use with or without coolant/lubricant!

Felt pads
ROTAFLEX

Why should this idea of the small self-adhesive pads be restricted to grinding! We also offer a self-adhesive polishing felt in the same shape.

	Dimensions	Grit size	Packing quantity	Order No.	Price from 1 pack	5 packs	10 packs
Felt tips ROTAFLEX, self-adhesive							
	20 x 10 mm		50 pieces	**0 530 604**			
Abrasive Pads, self-adhesive							
Corundum							
	20 x 10 mm	180	100 pieces	**0 530 605**			
		240	100 pieces	**0 530 606**			
		280	100 pieces	**0 530 607**			
		320	100 pieces	**0 530 608**			
		400	100 pieces	**0 530 609**			
		600	100 pieces	**0 530 610**			
		800	100 pieces	**0 530 611**			
		1000	100 pieces	**0 530 612**			
		1200	100 pieces	**0 530 613**			

Accessories / spare parts

		Order No.	Price from 1 piece	5 pieces	10 pieces
Abrasive pad holder, 180° pivotable					
	shank Ø x total length 3 x 85 mm	**0 530 601**			
Abrasive pad holder					
	shank Ø x total length 3 x 65 mm	**0 530 602**			
	shank Ø x total length 3 x 40 mm	**0 530 603**			



Grinding fleece
Pads and rolls

Elastic material made from unwoven nylon fibres, within which the abrasive grain is uniformly distributed. The joke grinding fleece adapts to any surface and therefore allows consistent working results through-out its entire service life. This grinding fleece is ideal for fine grinding, cleaning, and elimination of corrosion and for very fine deburring. Can be used dry or with water, fluid or oil.

	Dimensions	Grit size	Design	Order No.	Price from 1 piece	3 pieces	5 pieces
Grinding fleece – rolls and pads							
	115 mm x 10 m	100 - 180 / medium	Roll – corundum	**0 401 430-0**			
		220 - 240 / fine	Roll – corundum	**0 401 431-0**			
	115 mm x 10 m	280 - 360 / very fine	Roll – corundum	**0 401 432-0**			
		280 - 360 / very fine	Roll – silicon carbide	**0 401 433-0**			
		400 - 600 / superfine	Roll – silicon carbide	**0 401 434-0**			
		800 - 1500 / ultrafine	Roll – silicon carbide	**0 401 435-0**			
		320 - 360 / very fine	Pad – corundum	**0 401 436**			
		500 - 600 / superfine	Pad – silicon carbide	**0 401 437**			

use with or without coolant/lubricant!

Grit size Fleece	comparable to FEPA
coarse	K 40 - 80
medium	K 100 - 180
fine	K 220 - 240
very fine	K 280 - 360
super-fine	K 400 - 600
ultra-fine	K 800 - 1500

Abrasive cloth sheets Premium
Corundum

One of the best abrasive cloths in the world – now available in sheet and roll form! The material can be torn to the desired length very easily and cleanly and is highly flexible, yet still has high edge stability.

What is elutriated grit application?
With the elutriated material, the abrasive is „painted“ on to the base in a „sludge“ cons-isting of binder and grinding grit. This results in a very fine and uniform emery surface, which is ideally suited for prepolishing.

	Dimensions	Grit size	Packing quantity	Order No.	Price from 1 pack	3 packs	5 packs
Abrasive cloth sheets Premium VSM, KK 114 F, corundum							
	230 x 280 mm	999 rouge	50 pieces	**0 530 630**			
		444 silver	50 pieces	**0 530 629**			
		400	50 pieces	**0 530 628**			
		360	50 pieces	**0 530 627**			
		320	50 pieces	**0 530 626**			
		280	50 pieces	**0 530 625**			
		240	50 pieces	**0 530 624**			
		220	50 pieces	**0 530 623**			
		180	50 pieces	**0 530 622**			
		150	50 pieces	**0 530 621**			
		120	50 pieces	**0 530 620**			
		100	50 pieces	**0 530 619**			
		80	50 pieces	**0 530 618**			

use with or without coolant/lubricant!

Economy abrasive cloth rolls Premium
Corundum

Premium abrasive cloth delivered – on 50 m rolls. Likewise very flexible, yet with high edge stability and easy to tear to the desired size.

	Width	Grit size	Design	Order No.	Price from 1 piece	3 pieces	5 pieces
Premium economy abrasive cloth roll, 50 m, VSM, KK 114 F and KK 511 F							
	25 mm	80	KK 114 F	**0 543 851**			
		120	KK 114 F	**0 543 847**			
		150	KK 114 F	**0 543 852**			
		180	KK 114 F	**0 543 853**			
		240	KK 114 F	**0 543 854**			
		320	KK 114 F	**0 543 855**			
		400	KK 114 F	**0 543 856**			
		600	KK 511 F	**0 543 858**			
		800	KK 511 F	**0 543 859**			
		999	KK 114 F	**0 543 844**			
	40 mm	80	KK 114 F	**0 543 861**			
		120	KK 114 F	**0 543 848**			
		150	KK 114 F	**0 543 862**			
		180	KK 114 F	**0 543 863**			
		240	KK 114 F	**0 543 864**			
		320	KK 114 F	**0 543 865**			
		400	KK 114 F	**0 543 866**			
		600	KK 511 F	**0 543 868**			
		800	KK 511 F	**0 543 869**			
		999	KK 114 F	**0 543 845**			
	50 mm	40	KK 114 F	**0 543 843**			
		60	KK 114 F	**0 543 870**			
		80	KK 114 F	**0 543 871**			
		100	KK 114 F	**0 543 841**			
		120	KK 114 F	**0 543 849**			
		150	KK 114 F	**0 543 872**			
		180	KK 114 F	**0 543 873**			
		240	KK 114 F	**0 543 874**			
		320	KK 114 F	**0 543 875**			
		400	KK 114 F	**0 543 876**			
		500	KK 511 F	**0 543 877**			
		600	KK 511 F	**0 543 878**			
		800	KK 511 F	**0 543 879**			
		999	KK 114 F	**0 543 846**			



use with or without coolant/lubricant!



Practical:
The grit sizes 60 to 400 are supplied in a cardboard dispenser with a cutting edge.

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Economy abrasive cloth rolls Standard
Corundum

Suitable for removing milling, turning and erosion structures. Good as preparation before processing with grinding stones and diamond compound.

	Width	Grit size	Order No.	Price from 1 piece	Price from 3 pieces
Standard economy abrasive cloth rolls, Starcke 641 PF, corundum, 50 m					
	25 mm	80	**0 401 403-1**		
		150	**0 401 405-1**		
		180	**0 401 406-1**		
		240	**0 401 407-1**		
		320	**0 401 408-1**		
		400	**0 401 409-1**		
	50 mm	80	**0 401 413**		
		120	**0 401 414**		
		150	**0 401 415**		
		180	**0 401 416**		
		240	**0 401 417**		
		320	**0 401 418**		
		400	**0 401 419**		

Abrasive strip holder
for Microgrinding strips and Poly-Strip

For processing narrow edges and tight slots with the Poly-Strip grinding strips. Use by hand and also in hand-filing machines.

	Dimensions	Shank dimensions	Order No.	Price from 1 piece
Holder for Poly-Strip abrasive strips				
	6 x 1 x 26 mm	Ø 3.5 x 50 mm	**0 401 551**	
	10 x 1 x 26 mm	Ø 3.5 x 50 mm	**0 401 552**	
	15 x 1 x 26 mm	Ø 3.5 x 50 mm	**0 401 553**	
	6 x 1 x 50 mm	Ø 3.5 x 50 mm	**0 401 556**	
	10 x 1 x 50 mm	Ø 3.5 x 50 mm	**0 401 557**	
	15 x 1 x 50 mm	Ø 3.5 x 50 mm	**0 401 558**	

matching set

		Order No.	Price from 1 set
Poly-Strip abrasive strip holder set 2			
	contains one Poly-Strip abrasive strip holder in 50 mm length each	**0 401 555**	

Abrasive strips
Poly-Strip

Poly-Strip abrasive strips
This tried and trusted system always provides the right abrasive strip in the desired width and grit size. Simply pull out the required length and tear - hey presto! A tear-off edge dispenses with tedious cutting with scissors. As soon as the end of a strip is reached, the new abrasive strip can be easily inserted in the cartridge.

		Order No.	Price from 1 piece
Poly-Strip abrasive strips, cassette of 6			
	containing 1 abrasive strip roll each 15 mm, roll length 25 m in grit size 150, 180, 240, 320, 400, 600	**0 401 501**	

Accessories / spare parts

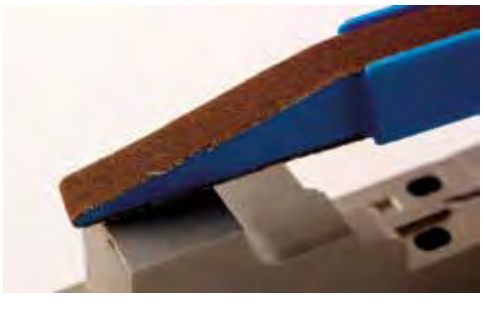
	Width	Grit size	Order No.	Price from 1 piece
Spare Poly-Strip abrasive strip roll, 25 m				
	6 mm	150	**0 401 511**	
	6 mm	180	**0 401 512**	
	6 mm	240	**0 401 513**	
	6 mm	320	**0 401 514**	
	6 mm	400	**0 401 515**	
	6 mm	600	**0 401 516**	
	6 mm	800	**0 401 517**	
	6 mm	1000	**0 401 518**	
	6 mm	1200	**0 401 519**	
	10 mm	150	**0 401 521**	
	10 mm	180	**0 401 522**	
	10 mm	240	**0 401 523**	
	10 mm	320	**0 401 524**	
	10 mm	400	**0 401 525**	
	10 mm	600	**0 401 526**	
	10 mm	800	**0 401 527**	
	10 mm	1000	**0 401 528**	
	10 mm	1200	**0 401 529**	
	15 mm	150	**0 401 531**	
	15 mm	180	**0 401 532**	
	15 mm	240	**0 401 533**	
	15 mm	320	**0 401 534**	
	15 mm	400	**0 401 535**	
	15 mm	600	**0 401 536**	

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Abrasive bands
and Gesswein®-Holder

These abrasive bands and their holders are a must for every professional workplace. They are tightened by means of the built-in spring and offer absolutely secure adhesion to the holder. The holder itself is made from impact-proof polypropylene and is therefore suitable even for the toughest of applications.

	Dimensions	Grit size	Packing quantity	Order No.	Price from 1 pack
Abrasive bands for Gesswein®-Holder					
	7 x 330 mm	120	10 pieces	**0 401 460**	
		240	10 pieces	**0 401 461**	
		320	10 pieces	**0 401 462**	
		400	10 pieces	**0 401 463**	
		600	10 pieces	**0 401 464**	
	13 x 420 mm	120	10 pieces	**0 401 465**	
		240	10 pieces	**0 401 466**	
		320	10 pieces	**0 401 467**	
		400	10 pieces	**0 401 426**	
		600	10 pieces	**0 401 428**	
	19 x 508 mm	120	10 pieces	**0 401 468**	
		240	10 pieces	**0 401 469**	
		320	10 pieces	**0 401 470**	
		400	10 pieces	**0 401 427**	
		600	10 pieces	**0 401 429**	



No mix-ups possible
In order to avoid mix-ups, we recommend a separate holder colour for each grit size.

For example:

K 120	**Red**
K 240	**Blue**
K 320	**Green**
K 400	**Yellow**
K 600	**Black**

Accessories / spare parts

	Dimensions	Colour	Order No.	Price from 1 piece
Abrasive band holder				
	7 mm	red	**0 401 439**	
		blue	**0 401 440**	
		green	**0 401 441**	
		yellow	**0 401 442**	
		black	**0 401 443**	
	13 mm	red	**0 401 444**	
		blue	**0 401 445**	
		green	**0 401 446**	
		yellow	**0 401 422**	
		black	**0 401 423**	
	19 mm	red	**0 401 447**	
		blue	**0 401 448**	
		green	**0 401 449**	
		yellow	**0 401 424**	
		black	**0 401 425**	



Micro grinding strip holders and strips

The microfinishing grinding strip holders and strips are the ideal tool for use in the metal, wood and jewellery industries as well as in all areas of very fine finishing. The holder has 3 geometrically different working areas (surface, tip, radius), which make it the ideal tool for finishing.
The integrated spring ensures good pretensioning and easy changing of the strips. The individual holders are supplied with a microgrinding strip; spare strips in 8 different grit sizes in packs of 10 pieces each; 3 different sets are also available.

	Dimensions	Grit size	Colour	Order No.	Price from 1 piece
Micro grinding strip holders and grinding strips, 160 x 6 mm					
	160 x 6 mm	Grit 220 / 60 µm	black	**0 415 000**	
		Grit 270 / 50 µm	grey	**0 415 001**	
		Grit 320 / 40 µm	red	**0 415 002**	
		Grit 400 / 30 µm	green	**0 415 003**	
		Grit 600 / 15 µm	orange	**0 415 004**	
		Grit 800 / 14 µm	yellow	**0 415 005**	
		Grit 1000 / 12 µm	white	**0 415 006**	
		Grit 1200 / 9 µm	blue	**0 415 007**	

Accessories / spare parts

	Grit size	Packing quantity	Order No.	Price from 1 pack	3 packs	5 packs
Micro replacement grinding strips						
	Grit 220 / 60 µm	10 pieces	**0 415 010**			
	Grit 270 / 50 µm	10 pieces	**0 415 011**			
	Grit 320 / 40 µm	10 pieces	**0 415 012**			
	Grit 400 / 30 µm	10 pieces	**0 415 013**			
	Grit 600 / 15 µm	10 pieces	**0 415 014**			
	Grit 800 / 14 µm	10 pieces	**0 415 015**			
	Grit 1000 / 12 µm	10 pieces	**0 415 016**			
	Grit 1200 / 9 µm	10 pieces	**0 415 017**			

Micro grinding strip holders and strips

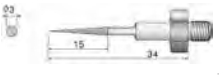
matching set

		Order No.	Price from 1 set	3 set	5 set
Micro grinding strip holders and strips					
	Contents: 24-piece, 4 holders incl. grinding strip (grit size 220, 270, 320, 400), 16 replacement strips (4 x grit size 220, 270.320, 400 each)	**0 415 020**			
	Contents: 24-piece, 4 holders incl. grinding strip (grit size 600, 800, 1000, 1200), 16 replacement strips (4 x grit size 600, 800, 1000, 1200 each)	**0 415 021**			
	Contents: 8 holders incl. grinding strip (grit size 220, 270, 320, 400, 600, 800, 1000, 1200)	**0 415 022**			

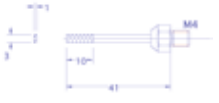
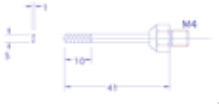
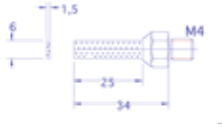


Diamond tools for ultrasonic processing
galvanic bonding

Diamond tools, galvanic bonding
These tools are particularly suitable for removing the hard layers caused by erosion machines, for deburring, polishing and lapping and optimally for finishing hard-to-reach corners, slits and joints. By adapting toolholders suitable for all commercial ultrasonic, lapping and polishing systems.

	Coating dimensions	Length	Grit size	Thread	Order No.	Price from 1 piece
Diamond tools for ultrasonic processing						
flat						
	4 x 1 x 15 mm	44 mm	200	M6/fine	**0 006 450**	
		44 mm	320	M6/fine	**0 006 451**	
		44 mm	600	M6/fine	**0 006 452**	
		37 mm	200	M4	**0 405 782**	
		37 mm	320	M4	**0 405 794**	
		37 mm	600	M4	**0 405 795**	
	5 x 1 x 40 mm	137 mm	320	M6/fine	**0 006 454**	
		137 mm	600	M6/fine	**0 006 455**	
flat / conical						
	4 x 0.4/0.8 x 15 mm	44 mm	200	M4	**0 405 783**	
		44 mm	320	M4	**0 405 815**	
		50 mm	200	M6/fine	**0 006 456**	
		50 mm	320	M6/fine	**0 006 457**	
		50 mm	600	M6/fine	**0 006 458**	
round/pointed						
	Ø 3 x 15 mm	34 mm	200	M4	**0 405 786**	
		34 mm	320	M4	**0 405 787**	

Diamond tools for ultrasonic processing
metal bondig – sintered

	Coating dimensions	Length	Grit size	Thread	Order No.	Price from 1 piece
Diamond tools for ultrasonic processing, metal bondig – sintered						
flat						
	3 x 1 x 10 mm	41 mm	200	M4	**0 405 839**	
		41 mm	320	M4	**0 405 840**	
	5 x 1 x 10 mm	41 mm	200	M4	**0 405 847**	
		41 mm	320	M4	**0 405 848**	
	6 x 1.5 x 25 mm	34 mm	200	M4	**0 405 796**	
		34 mm	320	M4	**0 405 797**	

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Ruby stones

Ruby stones
Using our tried and trusted joke FD ruby stones on page 217, you can easily build yourself an ultrasonic tool for very fine deburring work.

In order to do this, simply cut the stones to your desired dimensions and clamp them in the appropriate tool holder (see page 243).

Ruby stones allow you very “soft” work, but nevertheless create sharp edges. Shaping is very readily possible using diamond tools.



You can find the components here:

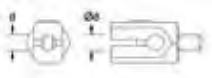
- Ruby stones joke FD page 223
- Tool holder page 320

Wooden and brass polishing sticks

	Material	Shape	Dimensions	Packing quantity	Order No.	Price from 1 pack
Wooden and brass polishing sticks						
	hard beech wood	round / cylinder	Ø 3 x 40 mm	10 pieces	**0 006 611**	
		flat	6 x 3 x 40 mm	10 pieces	**0 006 612**	
	brass	round / cylinder	Ø 3 x 40 mm	5 pieces	**0 006 614**	

Tool holder for ultrasonic tools
for round and flat tools

Tool holder for receiving round ultrasonic tools, such as polishing sticks or ceramic-fibre files.

	Tool support	Profile	Thread	Order No.	Price from 1 piece
Tool holder for receiving round tools					
	d = Ø 2 mm	round	M6/fine	**0 006 305**	
	d = Ø 3 mm	squared	M6/fine	**0 006 306-E**	
	d = Ø 2 mm	round	M4	**0 405 740**	
	d = Ø 3 mm	round	M4	**0 405 746**	
	d = Ø 2 mm	round	M6	**0 405 750**	
	d = Ø 3 mm	round	M6	**0 405 751**	
	d = Ø 2 mm	squared	M6 x 0.75	**0 405 761**	
	d = Ø 3 mm	squared	M6 x 0.75	**0 405 762**	



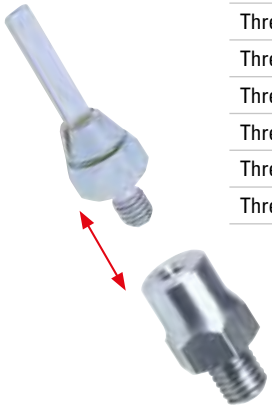
Tool holder for ultrasonic tools
for round and flat tools

These holders provide a firm grip for all flat ultrasonic tools, such as ceramic-fibre files or brass sticks.

Zeichnung	Tool support	Profile	Thread	Order No.	Price from 1 piece
Tool holder for receiving flat tools					
	t = 0.5 mm	squared	M4	**0 405 742**	
	t = 1 mm	squared	M4	**0 405 743**	
	t = 2 mm	squared	M4	**0 405 744**	
	t = 3 mm	squared	M4	**0 405 745**	
	t = 0.5 mm	squared	M6	**0 405 752**	
	t = 1 mm	squared	M6	**0 405 753**	
	t = 2 mm	squared	M6	**0 405 754**	
	t = 3 mm	squared	M6	**0 405 755**	
	t = 0.5 mm	squared	M6 x 0.75	**0 405 764**	
	t = 0.8 mm	squared	M6 x 0.75	**0 405 765**	
	t = 1 mm	squared	M6 x 0.75	**0 405 766**	
	t = 2 mm	squared	M6 x 0.75	**0 405 767**	
	t = 3 mm	squared	M6 x 0.75	**0 405 768**	
	t = 0.8 mm	squared	M6/fine	**0 006 309**	
	t = 1 mm	round	M6/fine	**0 006 310**	
		squared	M6/fine	**0 006 310-E**	
	t = 2 mm	squared	M6/fine	**0 006 311**	
	t = 3 mm	squared	M6/fine	**0 006 312**	

Adapters for receiving ultrasonic tools

These adapters let you use virtually all ultrasonic tools on the different systems. Find out which threads the individual systems have in the information box below.



	Tool support	Design	Thread	Order No.	Price from 1 piece
Adapters for receiving ultrasonic tools					
	Thread M4	squared	M6	**0 405 757**	
	Thread M6/fine	squared	M6	**0 405 758**	
	Thread M4		M6 x 0.75	**0 405 769**	
	Thread M6/fine		M6 x 0.75	**0 405 770**	
	Thread M4		M8 x 1	**0 405 780**	
	Thread M6/fine		M8 x 1	**0 405 781**	
	Thread M4		M6/fine	**0 006 900**	

Overview of thread designs of common ultrasonic polishing systems

M 4	e. g. Ultramax UM 2000, Sonofile SF 1000
M 6	e. g. joke 226, UC 550, Roya
M 6/fine (M 6 x 0.9)	ENESKAsonic, ENESKA 2-1
M 6 x 0.75	e. g. Ultramax DF and SF, Ultraform UF 5600 and 2600, Sonotec SF-5600 and SF 2600
M 8 x 1	e. g. Laptron, Ultramax UM 1200

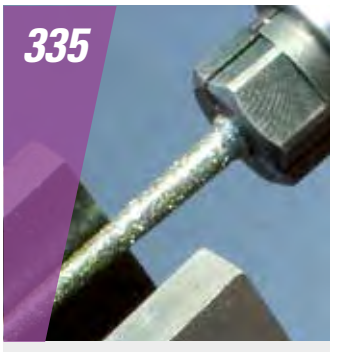
Diamond and CBN tools
Overview



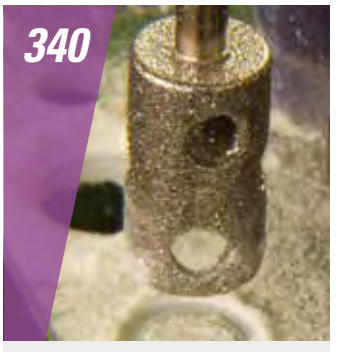
Diamond and CBN grinding points



Diamond cut-off discs



Diamond point DIATIP



Diamond hollow drill



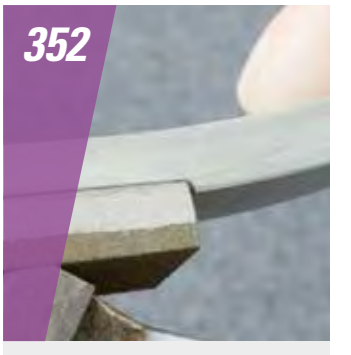
CBN grinding point sets



Diamond honing tools



Diamond spring steel wires



Diamond hand lappers



Diamond cup grinding wheels



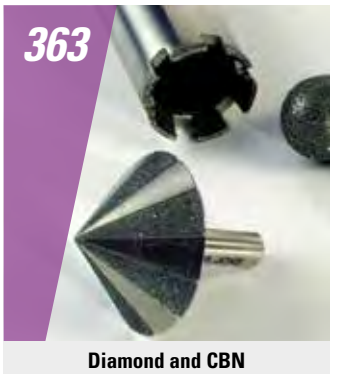
Diamond dressers



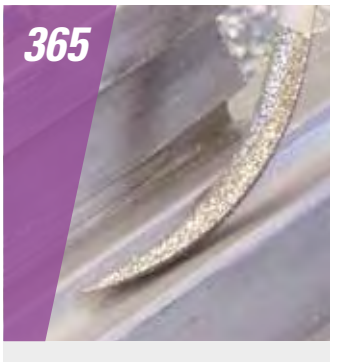
Diamond abrasive sheets



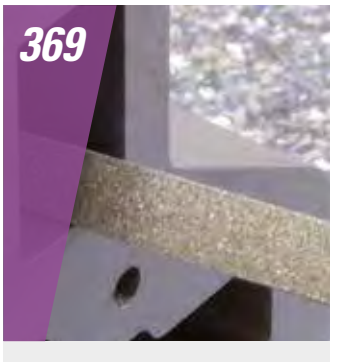
Diamond-coated strips



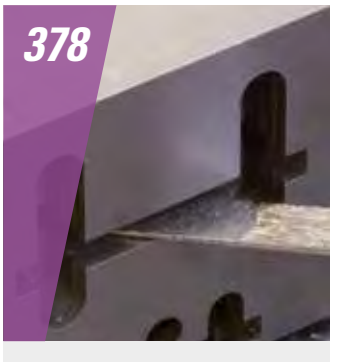
Diamond and CBN special tools



Diamond machine files



Diamond hand files



Conical diamond files

326 **Diamond and CBN grinding points**
Diamond grinding points
CBN grinding points
Diamond hollow drill

348 **Diamond and CBN deburring tools**
Diamond honing tools
Diamond/boron nitride reamers
Diamond spring steel wires
Diamond hand lappers

354 **Diamond abrasive discs and sheets**
Diamond cup wheels
Diamond grinding discs
Diamond cut-off discs
Diamond abrasive discs

357 **Diamond dressers**
Diamond single-stone dressers
Diamond multiple-stone dressers
Diamond multi-grit dressers

360 **Diamond sheets and strips**
Diamond abrasive sheets
Flexible diamond files
Diamond strips

364 **Diamond files**
Diamond machine files
Diamond hand files
Conical diamond machine files
Conical diamond hand files



3

Diamond and CBN tools
Interesting facts

Diamond and CBN tools are available in galvanic, resin, metal or the new vacuum-brazed bonding.

Galvanic bonding
With this type of bonding, the diamond or boron nitride grain is bonded to the carrier by galvanisation. The coating is applied in layers, the thickness of which is dictated by the grit size. In special cases, however, several layers may also be applied. In galvanic bonding, the abrasive grits project to a relatively high degree from the bonding. The cutting action of these tools is highly effective and allows high cutting rates. This bonding allows economical and rapid manufacture of special tools. The worn grinding tool can be recoated.

Applications
Diamond: Tungsten carbide and tungsten carbide green blanks, glass-fibre reinforced (GFR) plastics, carbon fibre reinforced (CFR) plastics, duroplastics and thermoplastics, electrocarbon ferrite, graphite, glass and rubber.
CBN: High speed steels, hardened steels, high alloy steels.

Cutting speed:
Approximately 20 – 60 m/sec.

Resin bonding
In resin bonding, the diamond or boron nitride grit is densely compacted over the entire coating. Synthetic materials with different properties are used as binders. The number of grit particles distributed over the abrasive coating depends on the concentration. This bonding is characterised by a low grinding temperature and high stock removal. It has established itself for tool grinding applications. It allows a high surface quality to be obtained.

Concentration
C50 and C75 as standard

Applications
Tungsten carbide (diamond), high-speed steel, tool steel (CBN).

Cutting speed
Approximately 10 – 40 m/sec.

Metal bonding
The abrasive coating in this type of bonding consists of a mixture of metal powder and diamond or boron nitride grit. Grinding tools with metal bonding are manufactured by sintering. The high degree of hardness of the metal bonding renders the tool very resistant to wear, but does not achieve the same cutting effectiveness as the other bonding systems.

Concentration
C100 as standard

Applications
Ceramic materials, glass, profile grinding of tungsten carbide, ferrite (diamond).

Cutting speed
Approximately 10 – 30 m/sec.

Vacuum-brazed bonding
With this bonding type, the abrasive grits are directly fused to the carrier. The adhesion of the grits can thus be greatly improved. The grain protrusion results in very high stock removal.

Applications
These tools are particularly suited for glass-fibre reinforced and carbon-fibre reinforced plastics (in aircraft construction and shipbuilding), tungsten carbide green blanks (unsintered carbide metal), ceramics (e. g. valve coverings for car engines), carbon products (e.g. brake discs, carbon brushes) and cast materials.

Cutting speed
Approximately 20 – 40 m/sec.

Grits

FEPA standard		U. S. standard mesh		Grit size (micron)	
tight	loose	tight	loose		
D 1181	D 1182	16/18	16/20	1180 - 1000	coarse
D 1001		18/20		1000 - 850	
D 851	D 852	20/25	20/30	850 - 710	
D 711		25/30		710 - 600	
D 601	D 602	30/35	30/40	600 - 500	
D 501		35/40		500 - 425	
D 426	D 427	40/45	40/50	425 - 355	
D/B 356		45/50		355 - 300	
D/B 301		50/60		300 - 250	
D/B 251	D/B 252	60/70	60/80	250 - 212	
D/B 213		70/80		212 - 180	
D/B 181		80/100		180 - 150	
D/B 151		100/120		150 - 125	
D/B 126		120/140		125 - 106	
D/B 107		140/170		106 - 90	
D/B 91		170/200		90 - 75	
D/B 76		200/230		75 - 63	
D/B 64		230/270		63 - 53	
D/B 54		270/325		53 - 45	
D/B 46		325/400		45 - 38	
D/B 30		500/600		20 - 40	
D/B 15		1200		9 - 18	fine

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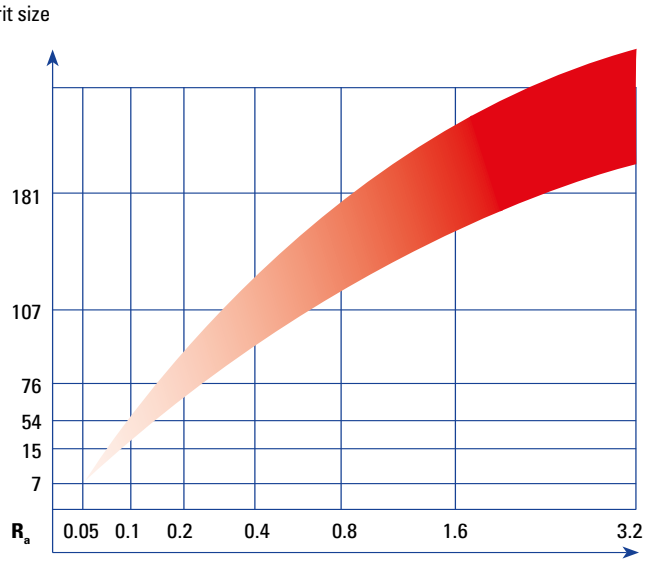
Diamond and CBN tools
Interesting facts

Max. speed depending on cutting speed and tool diameter

Ø	10	15	20	25	30
mm	m/s	m/s	m/s	m/s	m/s
1	191,083	286,624	382,166	477,707	573,248
2	95,554	143,312	191,083	238,854	286,624
3	63,694	95,541	127,389	159,236	191,083
4	47,771	71,656	95,541	119,427	143,312
5	38,217	57,325	76,433	95,541	114,650
6	31,847	47,771	63,694	79,618	95,541
7	27,298	40,946	54,595	68,244	81,893
8	23,885	35,828	47,771	59,713	71,656
10	19,108	28,662	38,217	47,771	57,325
12	15,924	23,885	31,847	39,809	47,771
15	12,739	19,108	25,478	31,847	38,217
18	10,616	15,924	21,231	26,539	31,847
20	9,554	14,331	19,108	23,885	28,662
30	6,300	9,500	12,700	15,900	19,000
40	4,800	7,200	9,600	11,900	14,300
50	3,800	5,700	7,600	9,500	11,400
75	2,500	3,800	5,100	6,400	7,700
100	1,900	2,900	3,800	4,800	5,700
125	1,500	2,300	3,000	3,800	4,600
150	1,260	1,800	2,500	3,200	3,800
175	1,080	1,600	2,200	2,700	3,300
200	950	1,400	1,900	2,400	2,900
250	750	1,150	1,500	1,900	2,300
300	640	950	1,300	1,600	1,900

Grit/roughness ratio (for grinding discs with resin bonding)

The table opposite shows the approximate possible surface roughness values that can be achieved with the various grits. The surface roughness is heavily influenced not only by the grit, but also by the grinding conditions, e.g. machine rigidity.



Diamond and boron nitride abrasives

Diamond and boron nitride are the hardest abrasives in the world. They are far harder in comparison to conventional abrasives such as corundum and silicon carbide. Diamonds exist in natural and synthetic form though synthetic diamonds are almost exclusively used today. Boron nitride exists only in synthetic form.

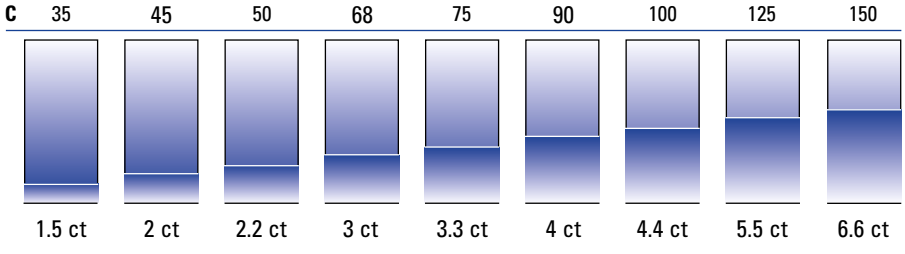
Diamonds consist of carbon and are excellent for grinding short-chipping materials. Owing to the fact that the carbon in diamond is incompatible with the carbon contained in steel, diamonds are unsuitable for steel processing.

Boron nitride contains no carbon and is optimally suitable for grinding different types of steel. The high level of hardness of diamond and boron nitride offers a number of advantages, such as a long service life, precise reproduction of shape and exact dimensions during the machining process.

Concentration (for grinding discs with resin and metal bonding)

The concentration is indicated in carat/cm^3. This value represents the ratio between the weight of the diamond/boron nitride and the coating volume. Three concentrations are generally proposed: C50, C75 and C100. The concentration C75 contains 3.3 carat per cm^3 grinding layer.

1 carat = 0.2 g



Diamond and CBN tools

327 **Diamond grinding points shank Ø 1.6 mm**

329 **Diamond grinding points shank Ø 2.35 mm**

330 **Diamond flap wheels**

331 **Diamond cutting discs**

331 **Diamond grinding points shank Ø 3 mm**

340 **Diamond hollow drill**

341 **Diamond grinding points shank Ø 6 mm**

343 **CBN grinding points shank Ø 3 mm**

345 **CBN grinding points shank Ø 6 mm**

346 **Diamond grinding points, vacuum brazed**

348 **Diamond deburring tools**

351 **Diamond spring steel wires**

352 **Diamond hand lappers**

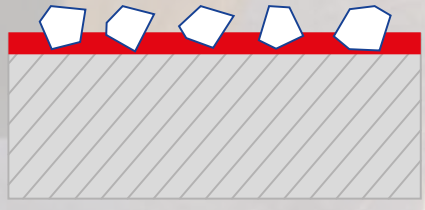
354 **Diamond grinding wheels and discs**

357 **Diamond dressers**

360 **Diamond abrasive sheets and films**

Diamond and CBN tools are available in four different bonding types. The standard is **galvanic bonding**, in which a layer of abrasive is "applied" to the base material. In addition, we offer tools with a **metal or resin bonding**, in which the diamond grits are completely embedded in the bonding. Finally, **vacuum brazed bonding**, in which the grit is directly welded to the base material – for even better service lives and maximum cutting efficiency:

Galvanic bonding



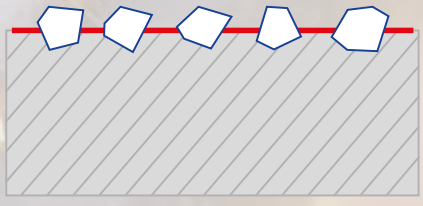
Abrasive is "applied" in a layer of nickel.

Metal/resin bonding



The diamonds are completely embedded in the bonding.

Vacuum-brazed bonding



The grit is directly welded to the base material.

Precision diamond grinding points
shank Ø 1.6 mm

Precision diamond grinding points
These points are the perfect partner for our high-speed handpiece P 320 and the handpieces of the ENESKAmicro series.

Areas of use:
- Casting alloys
- Precious metal alloys
- Ceramic
- Plastics

	Head dimensions	Shank Ø x total length	Grit size	Order No.	Price from 1 piece
Precision diamond grinding points, galvanic bonding, shank Ø 1.6 mm					
cylinder					
	Ø 1 x 4 mm	Ø 1.6 x 19 mm	D 46	**0 560 585-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 575-S**	
	Ø 1.4 x 8 mm	Ø 1.6 x 19 mm	D 46	**0 560 586-S**	
	Ø 1.8 x 8 mm	Ø 1.6 x 19 mm	D 126	**0 560 576-S**	
rounded cylinder					
	Ø 1 x 4 mm	Ø 1.6 x 19 mm	D 126	**0 560 557-S**	
	Ø 1.4 x 8 mm	Ø 1.6 x 19 mm	D 46	**0 560 587-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 577-S**	
sphere					
	Ø 0.9 mm	Ø 1.6 x 19 mm	D 46	**0 560 580-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 570-S**	
	Ø 1.6 mm	Ø 1.6 x 19 mm	D 46	**0 560 581-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 571-S**	
	Ø 1.8 mm	Ø 1.6 x 19 mm	D 46	**0 560 590-S**	
	Ø 2.1 mm	Ø 1.6 x 19 mm	D 46	**0 560 582-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 572-S**	
pear					
	Ø 1 x 2 mm	Ø 1.6 x 19 mm	D 46	**0 560 584-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 574-S**	
round cone					
	Ø 1.2 x 10 mm	Ø 1.6 x 19 mm	D 46	**0 560 588-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 578-S**	
	Ø 1.6 x 10 mm	Ø 1.6 x 19 mm	D 46	**0 560 589-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 579-S**	
pointed cone					
	Ø 1.2 x 8 mm	Ø 1.6 x 19 mm	D 46	**0 560 595-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 598-S**	
	Ø 1.5 x 8 mm	Ø 1.6 x 19 mm	D 46	**0 560 596-S**	
		Ø 1.6 x 19 mm	D 126	**0 560 597-S**	

matching set

		Grit size	Order No.	Price from 1 set
Set (12) of diamond grinding points, shank-Ø 1.6 mm				
	1 per grit respectively of the points listed above	D 46	**0 560 505-S**	
	1 per grit respectively of the points listed above	D 126	**0 560 504-S**	

Precision diamond grinding points
shank Ø 1.6 mm

Recommendations for the use of these precision grinding points?

- always observe recommended rotation speed
- avoid excess grinding pressure
- bring grinding tools to working speed before use
- do not use damaged and/or blunt tools
- avoid tilting and leverage

Which speed for which tool diameter?

Working Ø of the tool	Max. perm. speed	Recommended speed
0.7 – 1 mm	450,000 1/min	10,000 – 200,000 1/min
1.2 – 1.4 mm	450,000 1/min	70,000 – 220,000 1/min
1.6 – 1.8 mm	450,000 1/min	55,000 – 160,000 1/min
2.1 – 2.3 mm	300,000 1/min	40,000 – 120,000 1/min
2.5 – 2.7 mm	160,000 1/min	35,000 – 110,000 1/min
2.9 – 3.1 mm	140,000 1/min	30,000 – 95,000 1/min
3.3 – 4 mm	120,000 1/min	25,000 – 75,000 1/min
4.2 – 5 mm	95,000 1/min	15,000 – 60,000 1/min
5.5 – 7 mm	60,000 1/min	12,000 – 40,000 1/min
8.0 – 10 mm	45,000 1/min	10,000 – 20,000 1/min

Diamond grinding points DIPROFIL®
shank Ø 2.35 mm

Vrecom. = 15 - 20 m/s (head-Ø > 10 mm Vmax. = 20 m/s) • max. extension length 25 mm

	Head dimensions	Collar dimensions	Angle	Radius	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 10 pieces
DIPROFIL® diamond grinding points, galvanic bonding, shank Ø 2.35 mm									
cylinder									
	Ø 1.4 x 7 mm	Ø 1.1 x 9 mm			Ø 2.35 x 46 mm	D 107	**0 560 740**		
	Ø 1.7 x 5 mm	Ø 1.4 x 6 mm			Ø 2.35 x 46 mm	D 151	**0 560 739**		
	Ø 1.9 x 5 mm	Ø 1.7 x 6 mm			Ø 2.35 x 46 mm	D 151	**0 560 737**		
	Ø 2.5 x 7 mm	Ø 2.2 x 13 mm			Ø 2.35 x 46 mm	D 151	**0 560 735**		
sphere									
	Ø 0.8 mm	Ø 0.5 x 5 mm			Ø 2.35 x 46 mm	D 107	**0 560 761**		
	Ø 1.3 mm	Ø 1 x 6 mm			Ø 2.35 x 46 mm	D 107	**0 560 760**		
	Ø 1.7 mm	Ø 1 x 6 mm			Ø 2.35 x 46 mm	D 151	**0 560 759**		
	Ø 1.9 mm	Ø 1.2 x 6 mm			Ø 2.35 x 46 mm	D 151	**0 560 758**		
	Ø 2.5 mm	Ø 1.6 x 6 mm			Ø 2.35 x 46 mm	D 151	**0 560 757**		
	Ø 3 mm	Ø 1.9 x 5 mm			Ø 2.35 x 42 mm	D 151	**0 560 756**		
	Ø 4.1 mm	Ø 1.9 x 6 mm			Ø 2.35 x 43 mm	D 151	**0 560 755**		
round cone									
	Ø 1.3 / 0.7 x 9 mm		4°		Ø 2.35 x 46 mm	D 151	**0 560 786**		
	Ø 1.6 / 0.8 x 9 mm		5°		Ø 2.35 x 46 mm	D 151	**0 560 785**		
	Ø 1.9 / 1.1 x 9 mm		5°		Ø 2.35 x 46 mm	D 151	**0 560 784**		
pointed cone									
	Ø 4.3 x 2.7 mm		80°		Ø 2.35 x 42 mm	D 151	**0 560 781**		
	Ø 5.1 x 9.5 mm		27°		Ø 2.35 x 48 mm	D 151	**0 560 780**		
	Ø 7.3 x 6 mm		60°		Ø 2.35 x 46 mm	D 151	**0 560 779**		

Diamond grinding points DIPROFIL®
shank Ø 2.35 mm

Vrecom. = 15 - 20 m/s (head-Ø > 10 mm Vmax. = 20 m/s) • max. extension length 25 mm

	Head dimensions	Collar dimensions	Angle	Radius	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 10 pieces
wheel									
	Ø 9 / 7 x 0.6 mm				Ø 2.35 x 40 mm	D 151	**0 560 725**		
	Ø 12.9 / 9.5 x 1.4 mm				Ø 2.35 x 46 mm	D 151	**0 560 724**		
	Ø 20 / 12.75 x 1 mm				Ø 2.35 x 45 mm	D 151	**0 560 723**		
rounded wheel									
	Ø 9.8 x 3.4 mm			1.5 mm	Ø 2.35 x 41 mm	D 151	**0 560 732**		
wheel with front screw									
	Ø 15 / 13 x 0.6 mm				Ø 2.35 x 45 mm	D 151	**0 560 704**		
	Ø 18 / 16 x 0.6 mm				Ø 2.35 x 45 mm	D 151	**0 560 703**		
	Ø 20 / 18 x 0.6 mm				Ø 2.35 x 45 mm	D 151	**0 560 702**		
	Ø 22 / 20 x 0.6 mm				Ø 2.35 x 45 mm	D 151	**0 560 701**		
tree with pointed end									
	Ø 1.3 x 4 mm			18 mm	Ø 2.35 x 46 mm	D 151	**0 560 775**		
	Ø 1.6 x 7.5 mm			45 mm	Ø 2.35 x 46 mm	D 151	**0 560 774**		
	Ø 2.4 x 7.5 mm			30 mm	Ø 2.35 x 46 mm	D 151	**0 560 772**		
	Ø 2.4 x 10 mm			30 mm	Ø 2.35 x 46 mm	D 151	**0 560 771**		

Precision diamond grinding points
shank Ø 2.35 mm

Vrecom. = 15 - 20 m/s • max. extension length = 0.5 x L

	Head dimensions	Angle	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond grinding points, galvanic bonding, shank Ø 2.35 mm							
sphere							
	Ø 1.0 mm		Ø 2.35 x 44.5 mm	D 126	**0 560 260HP**		
	Ø 1.8 mm		Ø 2.35 x 44.5 mm	D 126	**0 560 261HP**		
	Ø 2.9 mm		Ø 2.35 x 44.5 mm	D 126	**0 560 263HP**		
	Ø 5.0 mm		Ø 2.35 x 44.5 mm	D 126	**0 560 257HP**		
round cone							
	Ø 3.4 / 2.6 x 9.2 mm		Ø 2.35 x 44.5 mm	D 126	**0 560 276HP**		
pointed cone							
	Ø 2.5 x 6.9 mm	20°	Ø 2.35 x 44.5 mm	D 126	**0 560 281HP**		
tree with pointed end							
	Ø 2.2 x 9 mm		Ø 2.35 x 44.5 mm	D 126	**0 560 275HP**		

Diamond grinding point sets

Diamond grinding point sets
With these sets, you will always have the right diamond grinding point at hand – at an unbeatable price.

Grit size D 107 for head Ø up to 2.5 mm
Grit size D 126 for head Ø more than 2.5 mm

	Order No.	Price from 1 set
Diamond grinding point set (30 pieces), shank Ø 2.35 mm		
 The set contains 30 diamond grinding points in spherical, trapezium, pointed cone, rounded cone, tree with pointed end, flame, lens and wheel shapes.	**0 403 554**	

	Order No.	Price from 1 set
Diamond grinding point set (30 pieces), shank Ø 3 mm		
 The set contains 30 diamond grinding points in cylinder, rounded cylinder, sphere, trapezium, rounded cone, tree with pointed end and pointed cone shapes.	**0 403 551**	

Diamond flap wheels
for hard and brittle material

Diamond flap wheels
The flap wheels coated with diamonds are used with hard and brittle materials. Ideally suited for carbide, ceramic, hard coatings, glass, granite, etc., etc. ... The flexible flaps adapt to the contour of the workpiece and thus enable elastic grinding.

The flap wheels are available in grit sizes 100, 200, 400, 600 and 800.


coated with diamonds

	Head dimensions	Grit size	Shank dimensions	Order No.	Price from 1 piece	10 pieces
Diamond flap wheels, shank-Ø 3 mm						
	Ø 15 x 10 mm	200	Ø 3 x 40 mm	**0 560 006**		
		600	Ø 3 x 40 mm	**0 560 009**		
	Ø 25 x 10 mm	100	Ø 3 x 40 mm	**0 560 013**		
		800	Ø 3 x 40 mm	**0 560 020**		



Diamond cut-off discs DIPROFIL®
for shank mounting • shank Ø 2.35 and 3 mm

	Dimensions	Drilling dimension	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond cut-off discs DIPROFIL®, galvanic bonding						
	Ø 20 x 0.4 mm	2.5 mm	D 107	**0 560 652**		
	Ø 20 x 0.6 mm	2.5 mm	D 151	**0 560 653**		
	Ø 20 x 0.8 mm	2.5 mm	D 151	**0 560 654**		
	Ø 20 x 1 mm	2.5 mm	D 151	**0 560 655**		
	Ø 22 x 0.6 mm	2.5 mm	D 151	**0 560 656**		
	Ø 25 x 0.8 mm	2.5 mm	D 151	**0 560 657**		
	Ø 36 x 1 mm	2.5 mm	D 151	**0 560 658**		

Accessories / spare parts

		Shank dimensions	Order No.	Price from 1 piece	Price from 5 pieces
Cut-off disc receptacles DIPROFIL®					
	hardened stainless steel, thread M 2.5	Ø 2.35 x 37 mm	**0 560 665**		
		Ø 3.0 x 37 mm	**0 560 666**		

Diamond grinding points DIPROFIL®
shank Ø 3 mm

Vrecom. = 15 - 20 m/s (head-Ø > 10 mm Vmax. = 20 m/s) • max. extension length 25 mm

	Head dimensions	Collar dimensions	Angle	Radius	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
DIPROFIL® diamond grinding points, galvanic bonding, shank Ø 3 mm									
cylinder									
	Ø 0.8 x 4 mm	Ø 0.5 x 7 mm			Ø 3 x 46 mm	D 107	**0 560 671**		
	Ø 1 x 4 mm	Ø 0.6 x 8 mm			Ø 3 x 46 mm	D 107	**0 560 672**		
	Ø 1.5 x 4 mm	Ø 1.2 x 10 mm			Ø 3 x 46 mm	D 107	**0 560 673**		
	Ø 2 x 5 mm	Ø 1.6 x 14 mm			Ø 3 x 46 mm	D 151	**0 560 674**		
	Ø 2 x 5 mm	Ø 1.6 x 14 mm			Ø 3 x 46 mm	D 64	**0 560 674-1**		
	Ø 2.5 x 5 mm	Ø 2.1 x 19 mm			Ø 3 x 46 mm	D 151	**0 560 675**		
	Ø 2.5 x 7 mm	Ø 2.1 x 19 mm			Ø 3 x 46 mm	D 151	**0 560 628**		
	Ø 3 x 5 mm	Ø 2.6 x 21 mm			Ø 3 x 46 mm	D 64	**0 560 676-1**		
	Ø 3 x 5 mm	Ø 2.6 x 21 mm			Ø 3 x 46 mm	D 151	**0 560 676**		
	Ø 3.5 x 5 mm				Ø 3 x 50 mm	D 151	**0 560 677**		
	Ø 4 x 5 mm				Ø 3 x 50 mm	D 151	**0 560 678**		
	Ø 5 x 6 mm				Ø 3 x 50 mm	D 151	**0 560 680**		
	Ø 6 x 10 mm				Ø 3 x 49 mm	D 151	**0 560 603**		
rounded cylinder									
	Ø 6 x 10 mm			3 mm	Ø 3 x 49 mm	D 151	**0 560 614**		

Diamond grinding points DIPROFIL®
shank Ø 3 mm

Vrecom. = 15 - 20 m/s (head-Ø > 10 mm Vmax. = 20 m/s) • max. extension length 25 mm

	Head dimensions	Collar dimensions	Angle	Radius	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
sphere									
	Ø 1.7 mm	Ø 1 x 5 mm			Ø 3 x 46 mm	D 64	**0 560 637-1**		
	Ø 1.7 mm	Ø 1 x 5 mm			Ø 3 x 46 mm	D 151	**0 560 637**		
	Ø 2.1 mm	Ø 1.3 x 6 mm			Ø 3 x 46 mm	D 151	**0 560 636**		
	Ø 2.5 mm	Ø 1.5 x 6 mm			Ø 3 x 46 mm	D 151	**0 560 635**		
	Ø 3 mm	Ø 1.5 x 6 mm			Ø 3 x 46 mm	D 151	**0 560 634**		
	Ø 3 mm	Ø 1.5 x 6 mm			Ø 3 x 46 mm	D 64	**0 560 634-1**		
	Ø 4.1 mm	Ø 1.8 x 7 mm			Ø 3 x 46 mm	D 151	**0 560 633**		
	Ø 5 mm				Ø 3 x 46 mm	D 151	**0 560 651**		
	Ø 6 mm				Ø 3 x 46 mm	D 151	**0 560 601**		
round cone									
	Ø 1.3 / 0.7 x 9 mm		4°		Ø 3 x 46 mm	D 151	**0 560 650**		
	Ø 1.6 / 0.8 x 9 mm		5°		Ø 3 x 46 mm	D 151	**0 560 649**		
	Ø 1.9 / 1.1 x 9 mm		5°		Ø 3 x 46 mm	D 64	**0 560 648-1**		
	Ø 1.9 / 1.1 x 9 mm		5°		Ø 3 x 46 mm	D 151	**0 560 648**		
pointed cone									
	Ø 3.1 x 5 mm	Ø 1.8 x 7 mm	30°		Ø 3 x 46 mm	D 64	**0 560 647-1**		
	Ø 3.1 x 5 mm	Ø 1.8 x 7 mm	30°		Ø 3 x 46 mm	D 151	**0 560 647**		
	Ø 7 x 10 mm		30°		Ø 3 x 49 mm	D 151	**0 560 612**		
	Ø 8 x 3.9 mm		90°		Ø 3 x 43 mm	D 151	**0 560 609**		
	Ø 8 x 6.6 mm		60°		Ø 3 x 46 mm	D 151	**0 560 610**		
	Ø 8 x 8.5 mm		45°		Ø 3 x 47 mm	D 151	**0 560 607**		
cone									
	Ø 1.6 / 0.9 x 10 mm		4°		Ø 3 x 46 mm	D 151	**0 560 632**		
	Ø 2.1 / 1.4 x 10 mm		4°		Ø 3 x 46 mm	D 151	**0 560 630**		
	Ø 2.1 / 1.4 x 10 mm		4°		Ø 3 x 46 mm	D 64	**0 560 630-1**		
	Ø 2.6 / 1.75 x 7 mm		4°		Ø 3 x 46 mm	D 151	**0 560 629**		
lens									
	Ø 4.1 x 1.3 mm	Ø 1.8 x 5 mm		60 mm	Ø 3 x 48 mm	D 151	**0 560 646**		
	Ø 9.3 x 1.3 mm			75 mm	Ø 3 x 41 mm	D 151	**0 560 645**		
wheel									
	Ø 7.3 x 0.8 mm				Ø 3 x 40 mm	D 151	**0 560 625**		
	Ø 9 / 7 x 0.6 mm				Ø 3 x 40 mm	D 151	**0 560 624**		
	Ø 17.2 / 14.6 x 2.4 mm				Ø 3 x 48 mm	D 151	**0 560 622**		
	Ø 20 / 12.75 x 1 mm				Ø 3 x 48 mm	D 151	**0 560 623**		
rounded wheel									
	Ø 5.8 x 2.3 mm			1 mm	Ø 3 x 41 mm	D 151	**0 560 627**		
	Ø 9.8 x 3.4 mm			1.5 mm	Ø 3 x 42 mm	D 151	**0 560 626**		
wheel with front screw									
	Ø 22 / 20 x 0.6 mm				Ø 3 x 48 mm	D 151	**0 560 620**		

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Diamond grinding points DIPROFIL®
shank Ø 3 mm

Vrecom. = 15 - 20 m/s (head-Ø > 10 mm Vmax. = 20 m/s) • max. extension length 25 mm

		Head dimensions	Collar dimensions	Angle	Radius	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
wheel, front coated with front screw										
		Ø 22 / 7 x 0.35 mm				Ø 3 x 48 mm	D 151	**0 560 621**		
tree with pointed end										
		Ø 1.6 x 7.5 mm			45 mm	Ø 3 x 46 mm	D 151	**0 560 644**		
	↓	Ø 1.6 x 10 mm			45 mm	Ø 3 x 46 mm	D 64	**0 560 643-1**		
	↓	Ø 1.6 x 10 mm			45 mm	Ø 3 x 46 mm	D 151	**0 560 643**		
		Ø 2.4 x 7.5 mm			30 mm	Ø 3 x 46 mm	D 151	**0 560 642**		
	↓	Ø 2.4 x 10 mm			30 mm	Ø 3 x 46 mm	D 64	**0 560 641-1**		
	↓	Ø 2.4 x 10 mm			30 mm	Ø 3 x 46 mm	D 151	**0 560 641**		
		Ø 6 x 10 mm			17 mm	Ø 3 x 49 mm	D 151	**0 560 602**		
barrel										
		Ø 7 x 10 mm			10 mm	Ø 3 x 49 mm	D 151	**0 560 616**		
trapeze										
	↓	Ø 2.4 x 3 mm	Ø 1.5 x 7 mm	20°		Ø 3 x 46 mm	D 151	**0 560 638**		
	↓	Ø 2.4 x 3 mm	Ø 1.5 x 7 mm	20°		Ø 3 x 46 mm	D 64	**0 560 638-1**		
trapeze, outline coated										
		Ø 8 x 3 mm		90°		Ø 3 x 42 mm	D 151	**0 560 604**		
drop										
		Ø 6 x 10 mm		20°	3 mm	Ø 3 x 49 mm	D 151	**0 560 615**		

matching set

	Grit size	Order No.	Price from 1 set
DIPROFIL® diamond grinding point set, 10 pieces			
The set contains diamond grinding points sphere, cylinder, tree with pointed end, cone, pointed cone, rounded cone and trapezium shapes.	D 64	**0 560 661**	
	D 151	**0 560 660**	



Precision diamond grinding points
shank Ø 3 mm

Vrecom. = 15 - 20 m/s • max. extension length = 0.5 x L

	Head dimensions	Angle	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Precision diamond grinding points, galvanic bonding, shank Ø 3 mm							
cylinder							
	Ø 1.6 x 4.6 mm		Ø 3 x 44.5 mm	D 126	**0 560 271**		
	Ø 1.9 x 5 mm		Ø 3 x 44.5 mm	D 126	**0 560 272**		
	Ø 2.5 x 5.2 mm		Ø 3 x 44.5 mm	D 126	**0 560 273**		
	Ø 3.5 x 5.8 mm		Ø 3 x 44.5 mm	D 126	**0 560 274**		
rounded cylinder							
	Ø 3 x 15 mm		Ø 3 x 40 mm	D 126	**0 560 395**		
	Ø 4 x 10 mm		Ø 3 x 40 mm	D 126	**0 560 396**		
	Ø 5 x 10 mm		Ø 3 x 40 mm	D 126	**0 560 397**		
sphere							
	Ø 0.5 mm		Ø 3 x 40 mm	D 30	**0 560 126**		
	Ø 0.6 mm		Ø 3 x 40 mm	D 54	**0 560 127**		
	Ø 0.7 mm		Ø 3 x 40 mm	D 54	**0 560 128**		
	Ø 0.8 mm		Ø 3 x 40 mm	D 91	**0 560 129**		
	Ø 0.9 mm		Ø 3 x 40 mm	D 91	**0 560 130**		
	Ø 1 mm		Ø 3 x 44.5 mm	D 126	**0 560 260**		
	Ø 1.8 mm		Ø 3 x 44.5 mm	D 126	**0 560 261**		
	Ø 2 mm		Ø 3 x 44.5 mm	D 126	**0 560 262**		
	Ø 2.9 mm		Ø 3 x 44.5 mm	D 126	**0 560 263**		
round cone							
	Ø 3.4 / 2.6 x 9.2 mm		Ø 3 x 44.5 mm	D 126	**0 560 276**		
	Ø 6.5 x 10 mm		Ø 3 x 44.5 mm	D 126	**0 560 613**		
pointed cone							
	Ø 2.5 x 6.9 mm	20°	Ø 3 x 44.5 mm	D 126	**0 560 281**		
	Ø 3 x 14 mm	12°	Ø 3 x 40 mm	D 126	**0 560 618**		
	Ø 5.1 x 4.3 mm		Ø 3 x 44.5 mm	D 126	**0 560 282**		
	Ø 6 x 3 mm	90°	Ø 3 x 40 mm	D 126	**0 560 619**		
cone							
	Ø 1.6 / 1 x 4.6 mm		Ø 3 x 44.5 mm	D 126	**0 560 267**		
lens							
	Ø 6.1 x 2.3 mm		Ø 3 x 44.5 mm	D 126	**0 560 280**		
wheel							
	Ø 5.3 x 0.8 mm		Ø 3 x 44.5 mm	D 126	**0 560 277**		
	Ø 5.4 x 2 mm		Ø 3 x 44.5 mm	D 126	**0 560 278**		
	Ø 6.4 x 2 mm		Ø 3 x 44.5 mm	D 126	**0 560 279**		
wheel with front screw							
	Ø 22 / 8 x 0.22 mm		Ø 3 x 44.5 mm	D 76	**0 560 711**		
	Ø 22 / 8 x 0.27 mm		Ø 3 x 44.5 mm	D 54	**0 560 712**		
	Ø 22 / 8 x 0.3 mm		Ø 3 x 44.5 mm	D 107	**0 560 288**		
	Ø 22 / 16 x 0.12 mm		Ø 3 x 44.5 mm	D 30	**0 560 710**		
	Ø 22 / 16 x 0.3 mm		Ø 3 x 44.5 mm	D 76	**0 560 287**		

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Precision diamond grinding points
shank Ø 3 mm

Vrecom. = 15 - 20 m/s • max. extension length = 0.5 x L

	Head dimensions	Angle	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
tree with pointed end							
	Ø 2.2 x 9 mm		Ø 3 x 44.5 mm	D 126	**0 560 275**		
trapeze							
	Ø 1.5 / 1.3 x 1.8 mm	10.7°	Ø 3 x 44.5 mm	D 126	**0 560 264**		
	Ø 2.3 / 1.9 x 6.2 mm	5.3°	Ø 3 x 44.5 mm	D 126	**0 560 266**		
	Ø 2.6 / 2.1 x 2.3 mm	10.7°	Ø 3 x 44.5 mm	D 126	**0 560 265**		
trapeze, outline coated							
	Ø 6.2 / 3 x 3.1 mm	75°	Ø 3 x 44.5 mm	D 126	**0 560 283**		
	Ø 8.2 / 3 x 4 mm	75°	Ø 3 x 44.5 mm	D 126	**0 560 284**		
trapeze, front coated							
	Ø 6.4 / 3 x 2.3 mm	75°	Ø 3 x 44.5 mm	D 126	**0 560 285**		
	Ø 9.4 / 3 x 4.5 mm	75°	Ø 3 x 44.5 mm	D 126	**0 560 286**		

Diamond point DIATIP
shank Ø 3 mm

The secret weapon for rib machining. Thanks to a long coating and small diameter, you can reach the deepest ribs. Erosion skin is easily torn open, erodible points removed safely. Less time is therefore needed during subsequent stages

	Coating dimensions	Angle	Shank Ø x total length	Shank dimensions	Order No.	Price from 1 piece
Diamond point DIATIP						
conical pointed						
	50 mm	2.5°	Ø 3 x 66 mm	Ø 3.0 mm	**0 560 998**	



Diamond grinding points with carbide metal shank
shank Ø 3 mm

Diamond grinding points with carbide metal shank
Extra long for special grinding tasks in deep bores etc.



	Head dimensions	Shank Ø x total length	Grit size	Order No.	Price from 1 piece
Diamond grinding points with carbide metal shank, galvanic bonding, shank Ø 3 mm					
cylinder					
	Ø 5 x 5 mm	Ø 3 x 78 mm	D 76	**0 560 225**	
		Ø 3 x 78 mm	D 107	**0 560 226**	
		Ø 3 x 78 mm	D 151	**0 560 227**	
	Ø 6 x 6 mm	Ø 3 x 78 mm	D 76	**0 560 228**	
		Ø 3 x 78 mm	D 107	**0 560 229**	
		Ø 3 x 78 mm	D 151	**0 560 230**	
	Ø 8 x 6 mm	Ø 3 x 78 mm	D 76	**0 560 234**	
		Ø 3 x 78 mm	D 107	**0 560 235**	
		Ø 3 x 78 mm	D 151	**0 560 236**	
sphere					
	Ø 5 mm	Ø 3 x 77 mm	D 76	**0 560 201**	
		Ø 3 x 102 mm	D 76	**0 560 201-2**	
		Ø 3 x 77 mm	D 107	**0 560 202**	
		Ø 3 x 102 mm	D 107	**0 560 202-2**	
		Ø 3 x 77 mm	D 151	**0 560 203**	
		Ø 3 x 102 mm	D 151	**0 560 203-2**	
	Ø 6 mm	Ø 3 x 77 mm	D 76	**0 560 204**	
		Ø 3 x 102 mm	D 76	**0 560 204-2**	
		Ø 3 x 77 mm	D 107	**0 560 205**	
		Ø 3 x 102 mm	D 107	**0 560 205-2**	
		Ø 3 x 77 mm	D 151	**0 560 206**	
		Ø 3 x 102 mm	D 151	**0 560 206-2**	
	Ø 8 mm	Ø 3 x 77 mm	D 76	**0 560 210**	
		Ø 3 x 102 mm	D 76	**0 560 210-2**	
		Ø 3 x 77 mm	D 107	**0 560 211**	
		Ø 3 x 102 mm	D 107	**0 560 211-2**	
		Ø 3 x 77 mm	D 151	**0 560 212**	
		Ø 3 x 102 mm	D 151	**0 560 212-2**	



Diamond grinding points wiht carbide metal shank up to length 250 mm avaible!

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Diamond grinding points
shank Ø 3 mm

Vrecom. wet = 15 - 25 m/s • Vrecom. dry = 10 - 20 m/s max. • max. extension length = 0.5 x L, shaft tolerance = h6, head tolerance = ± 0.2 mm

	Head dimensions	Collar dimensions	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond grinding points, galvanic bonding, shank Ø 3 mm							
cylinder							
	Ø 0.4 x 2 mm	Ø 0.3 x 5 mm	Ø 3 x 46 mm	D 46	**0 560 304**		
	Ø 0.5 x 2 mm	Ø 0.4 x 5 mm	Ø 3 x 46 mm	D 46	**0 560 305**		
	Ø 0.5 x 3 mm	Ø 0.4 x 7 mm	Ø 3 x 50 mm	D 91	**0 560 251**		
	Ø 0.6 x 2 mm	Ø 0.5 x 5 mm	Ø 3 x 46 mm	D 64	**0 560 306**		
	Ø 0.6 x 3 mm	Ø 0.5 x 7 mm	Ø 3 x 50 mm	D 91	**0 560 252**		
	Ø 0.8 x 2 mm	Ø 0.6 x 7 mm	Ø 3 x 46 mm	D 91	**0 560 309**		
		Ø 0.6 x 7 mm	Ø 3 x 46 mm	D 126	**0 560 308**		
	Ø 0.8 x 4 mm	Ø 0.6 x 10 mm	Ø 3 x 50 mm	D 91	**0 560 253**		
	Ø 1 x 2 mm	Ø 0.7 x 7 mm	Ø 3 x 46 mm	D 91	**0 560 311**		
		Ø 0.7 x 7 mm	Ø 3 x 46 mm	D 126	**0 560 310**		
	Ø 1 x 5 mm	Ø 0.7 x 10 mm	Ø 3 x 55 mm	D 91	**0 560 802**		
		Ø 0.7 x 10 mm	Ø 3 x 55 mm	D 126	**0 560 801**		
	Ø 1.5 x 5 mm	Ø 1.2 x 12 mm	Ø 3 x 55 mm	D 91	**0 560 316**		
		Ø 1.2 x 12 mm	Ø 3 x 55 mm	D 126	**0 560 315**		
	Ø 2 x 5 mm	Ø 1.7 x 12 mm	Ø 3 x 55 mm	D 91	**0 560 321**		
		Ø 1.7 x 12 mm	Ø 3 x 55 mm	D 126	**0 560 320**		
		Ø 1.7 x 12 mm	Ø 3 x 55 mm	D 181	**0 560 319**		
	Ø 2.5 x 5 mm	Ø 2.2 x 16 mm	Ø 3 x 55 mm	D 91	**0 560 326**		
		Ø 2.2 x 16 mm	Ø 3 x 55 mm	D 126	**0 560 325**		
		Ø 2.2 x 16 mm	Ø 3 x 55 mm	D 181	**0 560 324**		
	Ø 3 x 5 mm	Ø 2.7 x 16 mm	Ø 3 x 55 mm	D 91	**0 560 331**		
		Ø 2.7 x 16 mm	Ø 3 x 55 mm	D 126	**0 560 330**		
		Ø 2.7 x 16 mm	Ø 3 x 55 mm	D 181	**0 560 329**		
	Ø 3.5 x 5 mm		Ø 3 x 55 mm	D 91	**0 560 336**		
			Ø 3 x 55 mm	D 126	**0 560 335**		
			Ø 3 x 55 mm	D 181	**0 560 334**		
	Ø 4 x 5 mm		Ø 3 x 55 mm	D 91	**0 560 341**		
			Ø 3 x 55 mm	D 126	**0 560 340**		
			Ø 3 x 55 mm	D 181	**0 560 339**		
	Ø 5 x 6 mm		Ø 3 x 55 mm	D 91	**0 560 351**		
			Ø 3 x 55 mm	D 126	**0 560 350**		
			Ø 3 x 55 mm	D 181	**0 560 349**		
	Ø 6 x 6 mm		Ø 3 x 55 mm	D 91	**0 560 355**		
			Ø 3 x 55 mm	D 126	**0 560 354**		
			Ø 3 x 55 mm	D 181	**0 560 353**		

Diamond grinding points
shank Ø 3 mm

Vrecom. wet = 15 - 25 m/s • Vrecom. dry = 10 - 20 m/s max. • max. extension length = 0.5 x L, shaft tolerance = h6, head tolerance = ± 0.2 mm

	Head dimensions	Collar dimensions	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
sphere							
	Ø 1 mm		Ø 3 x 45 mm	D 91	**0 560 993**		
			Ø 3 x 45 mm	D 126	**0 560 992**		
			Ø 3 x 45 mm	D 181	**0 560 991**		
	Ø 1.5 mm		Ø 3 x 45 mm	D 91	**0 560 993-5**		
			Ø 3 x 45 mm	D 126	**0 560 992-5**		
			Ø 3 x 45 mm	D 181	**0 560 991-5**		
	Ø 2 mm		Ø 3 x 45 mm	D 91	**0 560 996**		
			Ø 3 x 45 mm	D 126	**0 560 995**		
			Ø 3 x 45 mm	D 181	**0 560 994**		
	Ø 2.5 mm		Ø 3 x 45 mm	D 91	**0 560 996-5**		
			Ø 3 x 45 mm	D 126	**0 560 995-5**		
			Ø 3 x 45 mm	D 181	**0 560 994-5**		
	Ø 3 mm		Ø 3 x 45 mm	D 91	**0 560 913**		
			Ø 3 x 45 mm	D 126	**0 560 912**		
			Ø 3 x 45 mm	D 181	**0 560 911**		
	Ø 4 mm		Ø 3 x 45 mm	D 91	**0 560 916**		
			Ø 3 x 45 mm	D 126	**0 560 915**		
			Ø 3 x 45 mm	D 181	**0 560 914**		
	Ø 5 mm		Ø 3 x 60 mm	D 91	**0 560 919**		
			Ø 3 x 60 mm	D 126	**0 560 918**		
			Ø 3 x 60 mm	D 181	**0 560 917**		
	Ø 6 mm		Ø 3 x 40 mm	D 91	**0 560 997**		
			Ø 3 x 40 mm	D 126	**0 560 990**		
			Ø 3 x 40 mm	D 181	**0 560 989**		

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Diamond grinding points solid tungsten carbide
shank Ø 3 mm

Diamond grinding points, solid carbide metal
The diamond grinding points made from solid carbide metal convince through their high rigidity and the resulting precise true running. They are available in ascending increments of 1/10 mm with a head diameter from 0.4 to 3 mm.

Suitable for every measurement!

These grinding points are available in increments of 1/10 mm between 0.4 and 3 mm diameter. You can be sure to find the right one for your application!

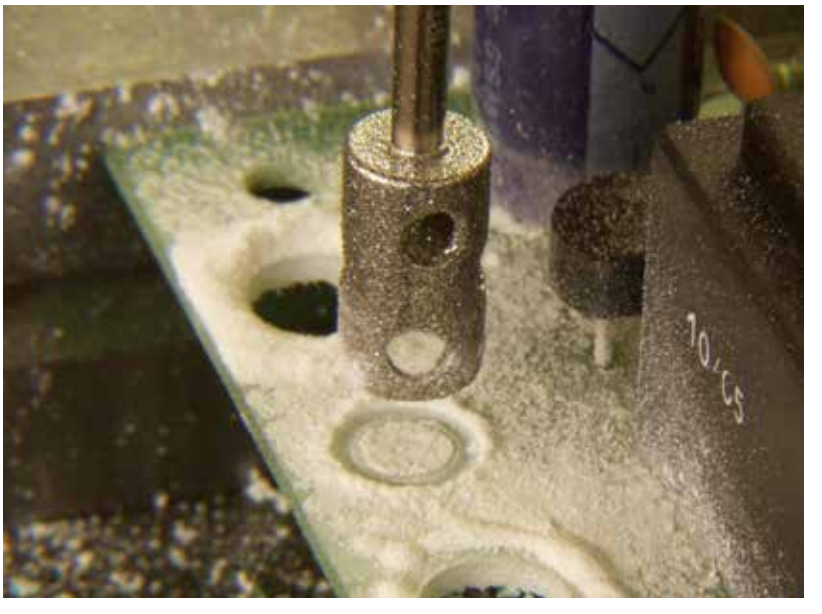
	Head dimensions	Collar dimensions	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond grinding points, solid carbide metal, galvanic bonding, shank Ø 3 mm							
cylinder							
	Ø 0.4 x 2 mm	Ø 0.3 x 3 mm	Ø 3 x 40 mm	D 54	**0 560 051**		
	Ø 0.5 x 2 mm	Ø 0.4 x 5 mm	Ø 3 x 40 mm	D 64	**0 560 052**		
	Ø 0.6 x 3 mm	Ø 0.4 x 5 mm	Ø 3 x 40 mm	D 91	**0 560 054**		
		Ø 0.5 x 5 mm	Ø 3 x 40 mm	D 64	**0 560 053**		
	Ø 0.7 x 3 mm	Ø 0.5 x 5 mm	Ø 3 x 40 mm	D 91	**0 560 056**		
		Ø 0.6 x 5 mm	Ø 3 x 40 mm	D 64	**0 560 055**		
	Ø 0.8 x 3 mm	Ø 0.6 x 6 mm	Ø 3 x 40 mm	D 91	**0 560 058**		
		Ø 0.7 x 6 mm	Ø 3 x 40 mm	D 64	**0 560 057**		
	Ø 0.8 x 4 mm	Ø 0.6 x 9 mm	Ø 3 x 55 mm	D 91	**0 564 058**		
		Ø 0.7 x 9 mm	Ø 3 x 55 mm	D 64	**0 564 057**		
	Ø 0.9 x 3 mm	Ø 0.7 x 10 mm	Ø 3 x 40 mm	D 91	**0 560 060**		
		Ø 0.8 x 10 mm	Ø 3 x 40 mm	D 64	**0 560 059**		
	Ø 1 x 3 mm	Ø 0.7 x 6 mm	Ø 3 x 40 mm	D 151	**0 560 063**		
		Ø 0.7 x 10 mm	Ø 3 x 40 mm	D 107	**0 560 062**		
		Ø 0.8 x 10 mm	Ø 3 x 40 mm	D 76	**0 560 061**		
	Ø 1 x 4 mm	Ø 0.7 x 9 mm	Ø 3 x 55 mm	D 151	**0 564 063**		
		Ø 0.7 x 9 mm	Ø 3 x 55 mm	D 107	**0 564 062**		
		Ø 0.8 x 9 mm	Ø 3 x 55 mm	D 76	**0 564 061**		
	Ø 1.5 x 3 mm	Ø 1.2 x 15 mm	Ø 3 x 40 mm	D 151	**0 560 078**		
		Ø 1.2 x 15 mm	Ø 3 x 40 mm	D 107	**0 560 077**		
		Ø 1.3 x 15 mm	Ø 3 x 40 mm	D 76	**0 560 076**		
	Ø 1.5 x 4 mm	Ø 1.2 x 13 mm	Ø 3 x 55 mm	D 151	**0 564 078**		
		Ø 1.2 x 13 mm	Ø 3 x 55 mm	D 107	**0 564 077**		
		Ø 1.3 x 13 mm	Ø 3 x 55 mm	D 76	**0 564 076**		
	Ø 2 x 4 mm	Ø 1.7 x 16 mm	Ø 3 x 55 mm	D 151	**0 564 093**		
		Ø 1.7 x 16 mm	Ø 3 x 55 mm	D 107	**0 564 092**		
		Ø 1.8 x 16 mm	Ø 3 x 55 mm	D 76	**0 564 091**		
	Ø 2 x 5 mm	Ø 1.7 x 15 mm	Ø 3 x 40 mm	D 151	**0 560 093**		
		Ø 1.7 x 15 mm	Ø 3 x 40 mm	D 107	**0 560 092**		
		Ø 1.8 x 15 mm	Ø 3 x 40 mm	D 76	**0 560 091**		
	Ø 2.5 x 4 mm	Ø 2.2 x 16 mm	Ø 3 x 55 mm	D 151	**0 564 108**		
		Ø 2.2 x 16 mm	Ø 3 x 55 mm	D 107	**0 564 107**		
		Ø 2.3 x 16 mm	Ø 3 x 55 mm	D 76	**0 564 106**		
	Ø 2.5 x 5 mm	Ø 2.2 x 16 mm	Ø 3 x 40 mm	D 151	**0 560 108**		
		Ø 2.2 x 16 mm	Ø 3 x 40 mm	D 107	**0 560 107**		
		Ø 2.3 x 16 mm	Ø 3 x 40 mm	D 76	**0 560 106**		
	Ø 3 x 5 mm	Ø 2.7 x 17 mm	Ø 3 x 40 mm	D 151	**0 560 123**		
		Ø 2.7 x 17 mm	Ø 3 x 40 mm	D 107	**0 560 122**		
		Ø 2.8 x 17 mm	Ø 3 x 40 mm	D 76	**0 560 121**		
		Ø 2.7 x 20 mm	Ø 3 x 55 mm	D 151	**0 564 123**		
		Ø 2.7 x 20 mm	Ø 3 x 55 mm	D 107	**0 564 122**		
		Ø 2.8 x 20 mm	Ø 3 x 55 mm	D 76	**0 564 121**		

Diamond hollow drill
shank Ø 3 mm

joke diamond hollow drills are used for drilling in GRP circuit boards, porcelain, glass and many other materials. The lateral recesses of the drill prevent the workpiece from overheating.

A shank with a diameter of 3.0 mm is offered as standard. Special dimensions are however also available on request.
Just consult us: We will be pleased to advise you! **Contact: Stefan Spiegel, tel.: +49 2204 / 8 39-0, email: s.spiegel@joke.de**

	Head dimensions	Interior Ø	Shank dimensions	Drilling depth	Flush drilling	Grit size	Order No.	Price from 1 piece	Price from 10 pieces
Diamond hollow drill, electroplated									
	Ø 1.5 x 7 mm	0.6 mm	Ø 3 x 38	7 mm	–	D 107	**0 560 039**		
	Ø 2 x 7 mm	0.8 mm	Ø 3 x 38	7 mm	Ø 1 x 4 mm	D 107	**0 560 040**		
	Ø 3 x 10 mm	1.7 mm	Ø 3 x 35	7 mm	Ø 1.5 x 4 mm	D 151	**0 560 041**		
	Ø 4 x 10 mm	2.5 mm	Ø 3 x 35	7 mm	Ø 2 x 4 mm	D 151	**0 560 042**		
	Ø 5 x 10 mm	3.6 mm	Ø 3 x 38	7 mm	Ø 2 x 4 mm	D 151	**0 560 043**		
	Ø 6 x 10 mm	4.7 mm	Ø 3 x 35	7 mm	Ø 2 x 4 mm	D 151	**0 560 044**		
	Ø 8 x 10 mm	6.1 mm	Ø 3 x 35	7 mm	Ø 3 x 4 mm	D 151	**0 560 045**		
	Ø 10 x 15 mm	8 mm	Ø 3 x 30	10 mm	Ø 3 x 4 mm	D 151	**0 560 046**		
	Ø 11 x 15 mm	9 mm	Ø 3 x 30	10 mm	Ø 4 x 4 mm	D 151	**0 560 047**		



Examples of use:
Plate drilling

The perfect complement

Protective goggles
- Clear, optically correct, scratchproof PC glasses
- Comfort cushions on the sidepiece ends
- Soft nose pad



Order No.	Price
0 203 083-1	

The perfect complement

Cleaning fluid X 73016-A
- Ideal for cleaning moulds and workpieces
- Evaporates rapidly and without leaving residues
- For all metals, glass, ceramics and almost all plastics



Order No.	Price
0 580 521	

Diamond grinding points
shank Ø 6 mm

Vrecom. = 15 - 20 m/s (head-Ø > 10 mm Vmax. = 20 m/s) • max. extension length 0.5 L, shank tolerance = h6, head tolerance = ± 0.2 mm

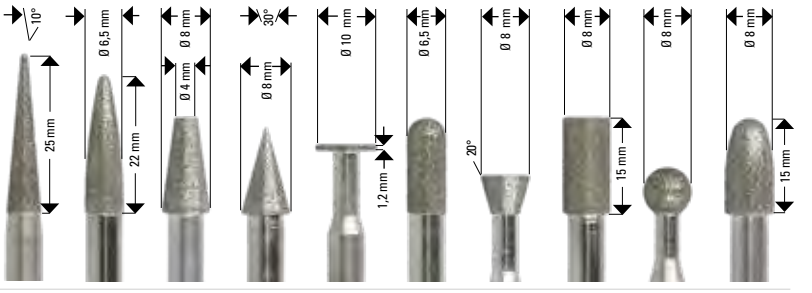
	Head dimensions	Collar dimensions	Angle	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond grinding points, galvanic bonding, shank Ø 6 mm								
cylinder								
	Ø 4 x 7 mm	Ø 3.7 x 20 mm		Ø 6 x 60 mm	D 91	**0 560 388**		
		Ø 3.7 x 20 mm		Ø 6 x 60 mm	D 126	**0 560 389**		
		Ø 3.7 x 20 mm		Ø 6 x 60 mm	D 181	**0 560 390**		
	Ø 5 x 7 mm	Ø 4.7 x 20 mm		Ø 6 x 60 mm	D 91	**0 560 391**		
		Ø 4.7 x 20 mm		Ø 6 x 60 mm	D 126	**0 560 392**		
	Ø 6 x 8 mm	Ø 5.7 x 20 mm		Ø 6 x 60 mm	D 91	**0 560 358**		
		Ø 5.7 x 20 mm		Ø 6 x 60 mm	D 126	**0 560 357**		
		Ø 5.7 x 20 mm		Ø 6 x 60 mm	D 181	**0 560 356**		
	Ø 6 x 20 mm			Ø 6 x 60 mm	D 91	**0 560 820**		
				Ø 6 x 60 mm	D 126	**0 560 819**		
				Ø 6 x 60 mm	D 181	**0 560 818**		
	Ø 8 x 6 mm			Ø 6 x 60 mm	D 91	**0 560 823**		
				Ø 6 x 60 mm	D 126	**0 560 822**		
				Ø 6 x 60 mm	D 181	**0 560 821**		
	Ø 10 x 6 mm			Ø 6 x 60 mm	D 91	**0 560 366**		
				Ø 6 x 60 mm	D 126	**0 560 365**		
				Ø 6 x 60 mm	D 181	**0 560 364**		
	Ø 10 x 10 mm			Ø 6 x 60 mm	D 91	**0 560 829**		
				Ø 6 x 60 mm	D 126	**0 560 828**		
				Ø 6 x 60 mm	D 181	**0 560 827**		
	Ø 12 x 6 mm			Ø 6 x 60 mm	D 91	**0 560 371**		
				Ø 6 x 60 mm	D 126	**0 560 370**		
	Ø 12 x 20 mm			Ø 6 x 60 mm	D 91	**0 560 841**		
				Ø 6 x 60 mm	D 126	**0 560 840**		
				Ø 6 x 60 mm	D 181	**0 560 839**		
	Ø 15 x 6 mm			Ø 6 x 60 mm	D 91	**0 560 381**		
				Ø 6 x 60 mm	D 126	**0 560 380**		
	Ø 15 x 10 mm			Ø 6 x 60 mm	D 126	**0 560 846**		
				Ø 6 x 60 mm	D 181	**0 560 845**		
	Ø 15 x 20 mm			Ø 6 x 60 mm	D 126	**0 560 849**		
				Ø 6 x 60 mm	D 181	**0 560 848**		
sphere								
	Ø 8 mm			Ø 6 x 60 mm	D 91	**0 560 922**		
				Ø 6 x 60 mm	D 126	**0 560 921**		
				Ø 6 x 60 mm	D 181	**0 560 920**		
	Ø 10 mm			Ø 6 x 60 mm	D 91	**0 560 892**		
				Ø 6 x 60 mm	D 126	**0 560 891**		
				Ø 6 x 60 mm	D 181	**0 560 890**		
	Ø 15 mm			Ø 6 x 60 mm	D 91	**0 560 898**		
				Ø 6 x 60 mm	D 126	**0 560 897**		
				Ø 6 x 60 mm	D 181	**0 560 896**		
	Ø 20 mm			Ø 6 x 60 mm	D 91	**0 560 925**		
				Ø 6 x 60 mm	D 126	**0 560 924**		
				Ø 6 x 60 mm	D 181	**0 560 923**		

Diamond grinding points
shank Ø 6 mm

Vrecom. = 15 - 20 m/s (head-Ø > 10 mm Vmax. = 20 m/s) • max. extension length 0.5 L, shank tolerance = h6, head tolerance = ± 0.2 mm

	Head dimensions	Collar dimensions	Angle	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
pointed cone								
	Ø 6 x 12 mm		30°	Ø 6 x 52 mm	D 126	**0 560 900**		
	Ø 6 x 18 mm		20°	Ø 6 x 58 mm	D 126	**0 560 972**		
	Ø 6 x 33 mm		10°	Ø 6 x 100 mm	D 126	**0 560 957**		
	Ø 6 x 42 mm		8°	Ø 6 x 100 mm	D 126	**0 560 799**		
	Ø 6 x 55 mm		6°	Ø 6 x 100 mm	D 126	**0 560 797**		
	Ø 10 x 5 mm		90°	Ø 6 x 45 mm	D 91	**0 560 931**		
			90°	Ø 6 x 45 mm	D 126	**0 560 930**		
			90°	Ø 6 x 45 mm	D 181	**0 560 929**		
	Ø 10 x 9 mm		60°	Ø 6 x 50 mm	D 91	**0 560 985**		
			60°	Ø 6 x 50 mm	D 126	**0 560 984**		
	Ø 10 x 12 mm		45°	Ø 6 x 52 mm	D 91	**0 560 976**		
			45°	Ø 6 x 52 mm	D 126	**0 560 975**		
	Ø 15 x 14 mm		60°	Ø 6 x 54 mm	D 91	**0 560 988**		
			60°	Ø 6 x 54 mm	D 126	**0 560 987**		
	Ø 20 x 10 mm		90°	Ø 6 x 50 mm	D 91	**0 560 934**		
			90°	Ø 6 x 50 mm	D 126	**0 560 933**		
			90°	Ø 6 x 50 mm	D 181	**0 560 932**		
	Ø 20 x 18 mm		60°	Ø 6 x 58 mm	D 91	**0 560 928**		
			60°	Ø 6 x 58 mm	D 126	**0 560 927**		
	Ø 30 x 15 mm		90°	Ø 6 x 55 mm	D 91	**0 560 937**		
			90°	Ø 6 x 55 mm	D 126	**0 560 936**		
			90°	Ø 6 x 55 mm	D 181	**0 560 935**		
rounded cylinder								
	Ø 6 x 20 mm			Ø 6 x 60 mm	D 126	**0 560 864**		
				Ø 6 x 60 mm	D 181	**0 560 863**		
	Ø 10 x 15 mm			Ø 6 x 55 mm	D 126	**0 560 867**		
				Ø 6 x 55 mm	D 181	**0 560 866**		

	Order No.	Price from 1 set
Diamond grinding point set (10 pieces), shank Ø 6 mm		
 The set contains 10 diamond grinding points in shapes: pointed cone Ø 6 x 25 mm, 10°, tree with pointed end Ø 6.5 x 22 mm, cone Ø 8/4 x 15 mm, pointed cone shapes Ø 8 x 15 mm, 30°, wheel Ø 10 x 1.2 mm, Cylindrical with radius Ø 6.5 x 15 mm, trapeze Ø 8 x 5.5 mm, 20°, cylinder Ø 8 x 15 mm, sphere Ø 8 mm, rounded arch Ø 8 x 15 mm, D126, total length 60 mm, content: 10 pieces	**0 403 551-6**	



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CBN grinding points
shank Ø 3 mm

Vrecom. wet = 30 m/s • Vrecom. dry = 20 m/s max. • max. extension length = 0.5 x L

	Head dimensions	Collar dimensions	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
CBN grinding points, galvanic bonding, shank Ø 3 mm							
cylinder							
	Ø 0.4 x 2 mm	Ø 0.3 x 5 mm	Ø 3 x 46 mm	B 46	**0 565 304**		
	Ø 0.5 x 2 mm	Ø 0.4 x 5 mm	Ø 3 x 46 mm	B 46	**0 565 305**		
	Ø 0.6 x 2 mm	Ø 0.5 x 5 mm	Ø 3 x 46 mm	B 64	**0 565 306**		
	Ø 0.8 x 2 mm	Ø 0.6 x 7 mm	Ø 3 x 46 mm	B 91	**0 565 309**		
		Ø 0.4 x 7 mm	Ø 3 x 46 mm	B 126	**0 565 308**		
	Ø 1 x 2 mm	Ø 0.8 x 7 mm	Ø 3 x 46 mm	B 91	**0 565 311**		
		Ø 0.6 x 7 mm	Ø 3 x 46 mm	B 126	**0 565 310**		
	Ø 1 x 5 mm	Ø 0.6 x 10 mm	Ø 3 x 55 mm	B 126	**0 565 801**		
	Ø 1.5 x 5 mm	Ø 1.2 x 12 mm	Ø 3 x 46 mm	B 91	**0 565 316**		
		Ø 1.1 x 12 mm	Ø 3 x 46 mm	B 126	**0 565 315**		
	Ø 2 x 5 mm	Ø 1.7 x 12 mm	Ø 3 x 55 mm	B 91	**0 565 321**		
		Ø 1.6 x 12 mm	Ø 3 x 55 mm	B 126	**0 565 320**		
		Ø 1.5 x 12 mm	Ø 3 x 55 mm	B 181	**0 565 319**		
	Ø 2.5 x 5 mm	Ø 2.2 x 16 mm	Ø 3 x 55 mm	B 91	**0 565 326**		
		Ø 2.1 x 16 mm	Ø 3 x 55 mm	B 126	**0 565 325**		
		Ø 2.0 x 16 mm	Ø 3 x 55 mm	B 181	**0 565 324**		
	Ø 3 x 5 mm	Ø 2.7 x 16 mm	Ø 3 x 55 mm	B 91	**0 565 331**		
		Ø 2.6 x 16 mm	Ø 3 x 55 mm	B 126	**0 565 330**		
		Ø 2.5 x 16 mm	Ø 3 x 55 mm	B 181	**0 565 329**		
	Ø 3.5 x 5 mm		Ø 3 x 55 mm	B 91	**0 565 336**		
			Ø 3 x 55 mm	B 126	**0 565 335**		
			Ø 3 x 55 mm	B 181	**0 565 334**		
	Ø 4 x 5 mm		Ø 3 x 55 mm	B 91	**0 565 341**		
			Ø 3 x 55 mm	B 126	**0 565 340**		
			Ø 3 x 55 mm	B 181	**0 565 339**		
	Ø 5 x 6 mm		Ø 3 x 55 mm	B 91	**0 565 351**		
			Ø 3 x 55 mm	B 126	**0 565 350**		
			Ø 3 x 55 mm	B 181	**0 565 349**		
	Ø 6 x 6 mm		Ø 3 x 55 mm	B 91	**0 565 355**		
			Ø 3 x 55 mm	B 126	**0 565 354**		
			Ø 3 x 55 mm	B 181	**0 565 353**		

The perfect complement

Protective goggles
- Clear, optically correct, scratchproof PC glasses
- Comfort cushions on the sidepiece ends
- Soft nose pad



Order No.	Price
0 203 083-1	

The perfect complement

Allround glove Maxi-Hit
- Abrasion-resistant, pleasant, flexible, breathable and liquid-repellant
- Highly stretchable and quick drying



Order No.	Price
0 960 701	

The perfect complement

Earplugs Super-Fit incl. box
- Very comfortable to wear
- Noise attenuation by 30 decibels (dB)
- Incl. practical storage box, belt clip and safety cord



Order No.	Price
0 960 724	

CBN grinding points, solid carbide metal
shank Ø 3 mm

CBN grinding points, solid carbide metal
The new boron nitride grinding points made from solid carbide metal convince through their high rigidity and the resulting precise true running. They are available in ascending increments of 1/10 mm with a head diameter from 0.4 to 3 mm.

Suitable for every measurement!

These grinding points are available in increments of 1/10 mm between 0.4 and 3 mm diameter. You can be sure to find the right one for your application!

	Head dimensions	Collar dimensions	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
CBN grinding points, solid carbide metal, galvanic bonding, shank Ø 3 mm							
cylinder							
	Ø 0.4 x 2 mm	Ø 0.3 x 3 mm	Ø 3 x 40 mm	B 54	**0 565 051**		
	Ø 0.5 x 2 mm	Ø 0.4 x 5 mm	Ø 3 x 40 mm	B 54	**0 565 052**		
	Ø 0.6 x 3 mm	Ø 0.5 x 5 mm	Ø 3 x 40 mm	B 54	**0 565 053**		
		Ø 0.4 x 5 mm	Ø 3 x 40 mm	B 91	**0 565 054**		
	Ø 0.7 x 3 mm	Ø 0.6 x 5 mm	Ø 3 x 40 mm	B 54	**0 565 055**		
		Ø 0.5 x 5 mm	Ø 3 x 40 mm	B 91	**0 565 056**		
	Ø 0.8 x 3 mm	Ø 0.7 x 6 mm	Ø 3 x 40 mm	B 54	**0 565 057**		
		Ø 0.6 x 6 mm	Ø 3 x 40 mm	B 91	**0 565 058**		
	Ø 0.9 x 3 mm	Ø 0.8 x 10 mm	Ø 3 x 40 mm	B 54	**0 565 059**		
		Ø 0.7 x 10 mm	Ø 3 x 40 mm	B 91	**0 565 060**		
	Ø 1 x 3 mm	Ø 0.8 x 10 mm	Ø 3 x 40 mm	B 76	**0 565 061**		
		Ø 0.7 x 10 mm	Ø 3 x 40 mm	B 107	**0 565 062**		
	Ø 1.5 x 3 mm	Ø 1.3 x 15 mm	Ø 3 x 40 mm	B 76	**0 565 076**		
		Ø 1.2 x 15 mm	Ø 3 x 40 mm	B 107	**0 565 077**		
	Ø 2 x 5 mm	Ø 1.8 x 15 mm	Ø 3 x 40 mm	B 76	**0 565 091**		
		Ø 1.7 x 15 mm	Ø 3 x 40 mm	B 107	**0 565 092**		
	Ø 2.5 x 5 mm	Ø 2.3 x 16 mm	Ø 3 x 40 mm	B 76	**0 565 106**		
		Ø 2.2 x 16 mm	Ø 3 x 40 mm	B 107	**0 565 107**		
	Ø 3 x 5 mm	Ø 2.8 x 17 mm	Ø 3 x 40 mm	B 76	**0 565 121**		
		Ø 2.7 x 17 mm	Ø 3 x 40 mm	B 107	**0 565 122**		

CBN grinding point set
shank Ø 3mm

		Order No.	Price from 1 set
CBN grinding point set (30 pieces), shank Ø 3 mm			
	The set contains CBN grinding points in cylinder, rounded cylinder, sphere, trapezium, rounded cone, tree with pointed end and pointed cone shapes.	**0 403 553**	



CBN grinding points
shank Ø 6 mm

Vrecom. wet = 30 m/s • Vrecom. dry = 20 m/s max. • max. extension length = 0.5 x L

	Head dimensions	Collar dimensions	Shank Ø x total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
CBN grinding points, galvanic bonding, shank Ø 6 mm							
cylinder							
	Ø 4 x 7 mm	Ø 3.7 x 20 mm	Ø 6 x 60 mm	B 126	**0 565 389**		
	Ø 5 x 7 mm	Ø 4.7 x 20 mm	Ø 6 x 60 mm	B 126	**0 565 392**		
	Ø 6 x 7 mm	Ø 5.7 x 20 mm	Ø 6 x 60 mm	B 126	**0 565 357**		
	Ø 6 x 20 mm		Ø 6 x 60 mm	B 181	**0 565 818**		
	Ø 8 x 6 mm		Ø 6 x 60 mm	B 126	**0 565 822**		
	Ø 10 x 6 mm		Ø 6 x 60 mm	B 91	**0 565 366**		
			Ø 6 x 60 mm	B 126	**0 565 365**		
	Ø 10 x 10 mm		Ø 6 x 60 mm	B 126	**0 565 828**		
			Ø 6 x 60 mm	B 181	**0 565 827**		
	Ø 12 x 6 mm		Ø 6 x 60 mm	B 126	**0 565 370**		
	Ø 12 x 10 mm		Ø 6 x 60 mm	B 126	**0 565 837**		
			Ø 6 x 60 mm	B 181	**0 565 836**		
	Ø 15 x 10 mm		Ø 6 x 60 mm	B 126	**0 565 846**		
			Ø 6 x 60 mm	B 181	**0 565 845**		

The perfect complement

Cleaning fluid X 73016-A
- Ideal for cleaning moulds and workpieces
- Evaporates rapidly and without leaving residues
- For all metals, glass, ceramics and almost all plastics



Order No.	Price
0 580 521	

The perfect complement

Gloves Ultra Lite PU Hyflex
- Lint-free and breathable
- Exact fit and adjustability
- Multiple use



Order No.	Price
0 960 702	

The perfect complement

Ear plugs with headband
- Plastic headband provides a secure hold in case of jerky or rapid movements
- Pleasantly comfortable to wear
- Noise attenuation by 24 decibels (dB)



Order No.	Price
0 960 723	

Diamond grinding points, vacuum brazed
shank Ø 3 mm

Diamond grinding points vacuum-brazed bonding
The vacuum-brazed bonding provides a much better adhesion of grits to the carrier thanks to direct fusing.
These tools are particularly suited for fibre glass reinforced materials GFR and CFR plastics (in aircraft construction and shipbuilding), tungsten carbide green components (unsintered carbide), ceramics (e.g. valve cover rings for car engines), coal products (e.g. brake discs, carbon brushes), cast materials.

Benefits of this new bonding:
- Very good stock removal thanks to higher grit protrusion
- Allows production of more complex forms, e.g. inner radiuses
- Markedly better grit retention force
- Cooler grinding thanks to larger chipping spaces



	Head dimensions	Angle	Radius	Shank Ø x total length	Grit size	Order No.	Price from 1 piece
Diamond grinding points vacuum brazed bonding, shank Ø 3 mm							
cylinder							
	Ø 7 x 7 mm			Ø 3 x 55 mm	D 427	**0 563 037**	
sphere							
	Ø 6 mm			Ø 3 x 55 mm	D 427	**0 563 040**	
	Ø 7 mm			Ø 3 x 55 mm	D 427	**0 563 041**	
round cone							
	Ø 4 / 1 x 10 mm	14°	0.5 mm	Ø 3 x 55 mm	D 427	**0 563 033**	
	Ø 6 / 3 x 10 mm	20°	1.5 mm	Ø 3 x 55 mm	D 427	**0 563 034**	
	Ø 7 / 3 x 7 mm	36°	1.5 mm	Ø 3 x 55 mm	D 427	**0 563 032**	
pointed cone							
	Ø 6 x 4 mm	60°		Ø 3 x 55 mm	D 427	**0 563 035**	
	Ø 6 x 10 mm	30°		Ø 3 x 55 mm	D 427	**0 563 036**	
round cylinder							
	Ø 4 x 7 mm		2 mm	Ø 3 x 55 mm	D 427	**0 563 038**	
	Ø 6 x 10 mm		3 mm	Ø 3 x 55 mm	D 427	**0 563 039**	

matching set

		Grit size	Order No.	Price from 1 set
Set diamond grinding points, vacuum brazed, shank Ø 3 mm				
	The set consists of the following ten diamond grinding points with a vacuum brazed bond in addition to a grit size of D 427, shank Ø 3 x 55 mm: • Cylinder, Ø 7 x 7 mm (order no. 0 563 037) • Rounded cylinder, Ø 4 x 7 mm, R = 2 (order no. 0 563 038) • Rounded cylinder, Ø 6 x 10 mm, R = 3 (order no. 0 563 039) • Ball, Ø 6 mm (order no. 0 563 040) • Ball, Ø 7 mm (order no. 0 563 041) • Pointed cone, Ø 6 x 4 mm, 60° (order no. 0 563 035) • Pointed cone, Ø 6 x 10 mm, 30° (order no. 0 563 036) • Rounded cone, Ø 4 / 1 x 10 mm, 14°, R = 0.5 (order no. 0 563 033) • Rounded cone, Ø 6 / 3 x 10 mm, 20°, R = 1.5 (order no. 0 563 034) • Rounded cone, Ø 7 / 3 x 7 mm, 36°, R = 1.5 (order no. 0 563 032)	D 427	**0 563 003**	

Diamond grinding points, vacuum brazed
shank Ø 6 mm

	Head dimensions	Angle	Radius	Shank Ø x total length	Grit size	Order No.	Price from 1 piece
Diamond grinding points vacuum brazed bonding, shank Ø 6 mm							
round cone							
	Ø 6 / 1 x 19 mm	15°	0.5 mm	Ø 6 x 60 mm	D 427	**0 563 042**	
flame							
	Ø 8 x 14 mm			Ø 6 x 60 mm	D 427	**0 563 043**	
pointed cone							
	Ø 7 x 6 mm	60°		Ø 6 x 60 mm	D 427	**0 563 045**	
	Ø 9 x 4.5 mm	90°		Ø 6 x 60 mm	D 427	**0 563 044**	
cylinder							
	Ø 8 x 20 mm			Ø 6 x 60 mm	D 427	**0 563 046**	
	Ø 10 x 24 mm			Ø 6 x 60 mm	D 427	**0 563 047**	
round cylinder							
	Ø 6 x 31 mm		3 mm	Ø 6 x 60 mm	D 427	**0 563 048**	
sphere							
	Ø 6 mm			Ø 6 x 60 mm	D 427	**0 563 049**	
	Ø 8 mm			Ø 6 x 60 mm	D 427	**0 563 050**	
	Ø 12 mm			Ø 6 x 60 mm	D 427	**0 563 051**	

matching set

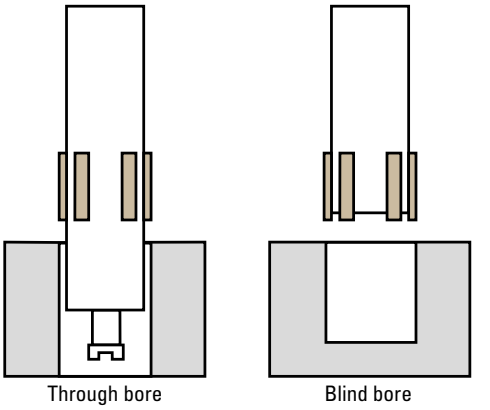
		Grit size	Order No.	Price from 1 set
Set diamond grinding points, vacuum brazed, shank Ø 6 mm				
	The set consists of the following ten diamond grinding points with a vacuum brazed bond in addition to a grit size of D 427, shank Ø 6 x 60 mm: • Rounded cone, Ø 6 / 1 x 19 mm, 15°, R = 0,50 (order no. 0 563 042) • flame-shaped, Ø 8 x 14 mm (order no. 0 563 043) • Pointed cone, Ø 9 x 4,5 mm, 90° (order no. 0 563 044) • Pointed cone, Ø 7 x 6 mm, 60° (order no. 0 563 045) • Cylinder, Ø 8 x 20 mm (order no. 0 563 046) • Cylinder, Ø 10 x 24 mm, S.-Ø 6 x 65 mm (order no. 0 563 047) • Rounded cylinder, Ø 6 x 31 mm, R = 3, S.-Ø 6 x 65 mm (order no. 0 563 048) • Ball, Ø 6 mm (order no. 0 563 049) • Ball, Ø 8 mm (order no. 0 563 050) • Ball, Ø 12 mm (order no. 0 563 051)	D 427	**0 563 005**	



Diamond honing tools
for through bores and blind bores

Diamond honing tools are the ideal implements for very fine processing of bores in toolmaking and mould building, machine and gauge construction, e.g. final processing, hardened bores or reworking of ejector bores. Versatile in use (lathe, drilling machine, CNC machining centre, milling machine, etc.)

... they **improve** surface quality
... they **increase** accuracy of diameter
... they **enhance** geometric roundness.



Diamond honing tools for blind bores
Each of these awls has 6 diamond inserts. The body has 6 slots. These awls are suitable for processing carbide metal, hardened steel and nonferrous metals, etc. and likewise for use on drilling machines and lathes.

Important: only work with petroleum and honing oil!

Practical tip

- Only push the workpiece onto the relaxed awl without any resistance
- Subsequently expand the honing tool until slight friction is felt.
- Burr in the bore will damage the honing tool!

	Nominal size	Shank dimensions	Total length	Expansion	Diamond inserts	Coating dimensions	Grit size	Order No.	Price from 1 piece
Diamond honing tools for blind bores, metallic bond									
	3 mm	Ø 2.5 mm	60 mm	0.3 mm	5	7 x 1.0 mm	D 85	**0 562 701**	
	3.5 mm	Ø 2.5 mm	60 mm	0.3 mm	6	7 x 1.0 mm	D 85	**0 562 702**	
	4 mm	Ø 3.5 mm	70 mm	0.3 mm	6	7 x 1.0 mm	D 85	**0 562 703**	
	4.5 mm	Ø 4 mm	70 mm	0.3 mm	6	7 x 1.0 mm	D 85	**0 562 704**	
	5 mm	Ø 4.5 mm	85 mm	0.5 mm	6	7 x 1.0 mm	D 85	**0 562 705**	
	5.5 mm	Ø 5 mm	85 mm	0.5 mm	6	7 x 1.0 mm	D 85	**0 562 706**	
	6 mm	Ø 5.5 mm	85 mm	0.5 mm	6	11 x 1.4 mm	D 85	**0 562 707**	
	6.5 mm	Ø 6 mm	100 mm	0.5 mm	6	11 x 1.4 mm	D 85	**0 562 708**	
	7 mm	Ø 6.5 mm	100 mm	0.5 mm	6	11 x 1.4 mm	D 85	**0 562 709**	
	7.5 mm	Ø 7 mm	100 mm	0.5 mm	6	11 x 1.4 mm	D 85	**0 562 710**	
	8 mm	Ø 7.5 mm	100 mm	0.5 mm	6	11 x 1.4 mm	D 85	**0 562 711**	
	8.5 mm	Ø 8 mm	120 mm	0.5 mm	6	16 x 2.0 mm	D 85	**0 562 712**	
	9 mm	Ø 8.5 mm	120 mm	0.5 mm	6	16 x 2.0 mm	D 85	**0 562 713**	
	9.5 mm	Ø 9 mm	120 mm	0.5 mm	6	16 x 2.0 mm	D 85	**0 562 714**	
	10 mm	Ø 9.5 mm	120 mm	0.5 mm	6	16 x 2.0 mm	D 85	**0 562 715**	
	10.5 mm	Ø 10 mm	140 mm	0.5 mm	6	16 x 2.0 mm	D 85	**0 562 716**	
	11 mm	Ø 10.5 mm	140 mm	0.5 mm	6	16 x 2.0 mm	D 85	**0 562 717**	
	11.5 mm	Ø 11 mm	140 mm	0.5 mm	6	16 x 2.0 mm	D 85	**0 562 718**	
	12 mm	Ø 11.5 mm	140 mm	0.5 mm	6	16 x 2.0 mm	D 85	**0 562 719**	

Recommended cutting speed: V_c = 15 – 30 m/min
Approximate stroke speed: V_a = 10 m/min

Diamond honing tools
for through bores

Diamond honing tools for through bores
The cone of the expansion element is hard chrome-plated and fits in the awl body over the entire length. These awls are suitable for processing carbide metal, hardened steel and non-ferrous metals, etc. and can be used on drilling machines and lathes.

Important: only work with petroleum or honing oil!

Diamond honing tools with double coating length available at short notice on request!

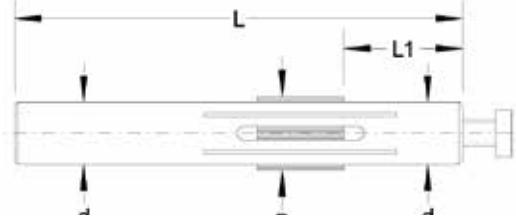
Consult **Stefan Spiegel:**
Tel. +49 (0) 22 04 / 8 39-0
s.spiegel@joke.de



	Nominal size	Collar dimensions	Shank dimensions	Total length	Expansion	Diamond inserts	Coating dimensions	Grit size	Order No.	Price from 1 piece
Diamond honing tools for through bores, metallic bond										
	2 mm	1.8 x 15.0 mm	Ø 1.8 mm	65 mm	0.3 mm	3	10 x 0.8 mm	D 85	**0 562 621**	
	2.5 mm	2.0 x 15.0 mm	Ø 2 mm	65 mm	0.3 mm	3	10 x 1.0 mm	D 85	**0 562 622**	
	3 mm	2.5 x 15.0 mm	Ø 2.5 mm	65 mm	0.3 mm	3	10 x 1.0 mm	D 85	**0 562 623**	
	3.5 mm	2.5 x 15.0 mm	Ø 3 mm	65 mm	0.4 mm	3	10 x 1.0 mm	D 85	**0 562 624**	
	4 mm	3.5 x 18.0 mm	Ø 3.5 mm	80 mm	0.4 mm	3	16 x 1.4 mm	D 85	**0 562 625**	
	4.5 mm	4.0 x 18.0 mm	Ø 4 mm	80 mm	0.5 mm	3	16 x 1.4 mm	D 85	**0 562 626**	
	5 mm	4.5 x 22.0 mm	Ø 4.5 mm	100 mm	0.5 mm	3	16 x 2.0 mm	D 85	**0 562 627**	
	5.5 mm	5.0 x 22.0 mm	Ø 5 mm	100 mm	0.6 mm	3	16 x 2.0 mm	D 85	**0 562 628**	
	6 mm	5.5 x 24.0 mm	Ø 5.5 mm	120 mm	0.6 mm	3	16 x 2.0 mm	D 85	**0 562 629**	
	6.5 mm	6.0 x 24.0 mm	Ø 6 mm	120 mm	0.6 mm	3	16 x 3.0 mm	D 85	**0 562 630**	
	7 mm	6.5 x 24.0 mm	Ø 6.5 mm	120 mm	0.6 mm	3	16 x 3.0 mm	D 85	**0 562 631**	
	7.5 mm	7.0 x 30.0 mm	Ø 7 mm	140 mm	0.6 mm	3	20 x 3.0 mm	D 85	**0 562 632**	
	8 mm	7.5 x 30.0 mm	Ø 7.5 mm	140 mm	0.6 mm	3	20 x 3.0 mm	D 85	**0 562 633**	
	8.5 mm	8.0 x 30.0 mm	Ø 8 mm	140 mm	0.6 mm	3	20 x 3.0 mm	D 85	**0 562 634**	
	9 mm	8.5 x 30.0 mm	Ø 8.5 mm	140 mm	0.6 mm	3	20 x 3.0 mm	D 85	**0 562 635**	
	9.5 mm	9.0 x 30.0 mm	Ø 9 mm	140 mm	0.6 mm	3	20 x 3.0 mm	D 85	**0 562 636**	
	10 mm	9.5 x 37.0 mm	Ø 9.5 mm	160 mm	0.6 mm	3	26 x 4.0 mm	D 85	**0 562 637**	
	10.5 mm	9.5 x 37.0 mm	Ø 10 mm	160 mm	0.6 mm	3	26 x 4.0 mm	D 85	**0 562 638**	
	11 mm	10.5 x 37.0 mm	Ø 10 mm	160 mm	0.6 mm	3	26 x 4.0 mm	D 85	**0 562 639**	
	11.5 mm	11.0 x 37.0 mm	Ø 11 mm	160 mm	0.6 mm	3	26 x 4.0 mm	D 85	**0 562 640**	
	12 mm	11.0 x 37.0 mm	Ø 11.5 mm	160 mm	0.6 mm	3	26 x 4.0 mm	D 85	**0 562 641**	
	12.5 mm	12.0 x 37.0 mm	Ø 12 mm	160 mm	0.6 mm	3	26 x 4.0 mm	D 85	**0 562 642**	
	13 mm	12.5 x 37.0 mm	Ø 12.5 mm	160 mm	1 mm	3	26 x 4.0 mm	D 85	**0 562 643**	
	13.5 mm	13.0 x 37.0 mm	Ø 13 mm	160 mm	1 mm	3	26 x 4.0 mm	D 85	**0 562 644**	
	14 mm	13.5 x 37.0 mm	Ø 13.5 mm	160 mm	1 mm	3	26 x 4.0 mm	D 85	**0 562 645**	
	14.5 mm	14.0 x 37.0 mm	Ø 14 mm	160 mm	1 mm	3	26 x 4.0 mm	D 85	**0 562 646**	
	15 mm	14.5 x 42.0 mm	Ø 14.5 mm	200 mm	1 mm	3	26 x 4.0 mm	D 85	**0 562 647**	
	15.5 mm	15.0 x 42.0 mm	Ø 15 mm	200 mm	1 mm	3	26 x 4.0 mm	D 85	**0 562 648**	
	16 mm	15.5 x 42.0 mm	Ø 15 mm	200 mm	1 mm	3	26 x 4.0 mm	D 85	**0 562 649**	
	17 mm	16.5 x 42.0 mm	Ø 16.5 mm	200 mm	1 mm	5	26 x 4.0 mm	D 85	**0 562 650**	
	18 mm	17.5 x 42.0 mm	Ø 17.5 mm	200 mm	1 mm	5	26 x 4.0 mm	D 85	**0 562 651**	
	19 mm	18.5 x 42.0 mm	Ø 18.5 mm	200 mm	1 mm	5	26 x 4.0 mm	D 85	**0 562 652**	
	20 mm	19.5 x 42.0 mm	Ø 19.5 mm	200 mm	1 mm	5	26 x 4.0 mm	D 85	**0 562 653**	



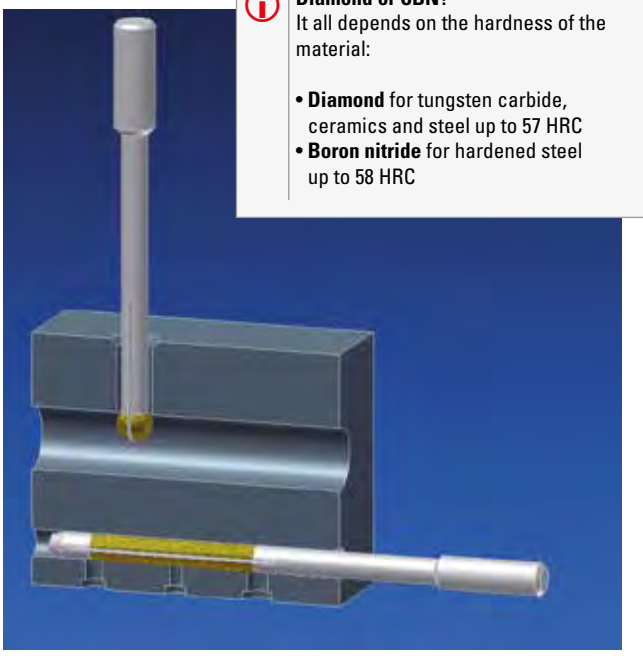
Recommended cutting speed: V_c = 15 – 30 m/min
Approximate stroke speed: V_a = 10 m/min



Diamond/CBN reamers
with adjustable recess

Diamond/CBN reamers
These tools appeal by their robust and user-friendly design and extraordinary durability. As the advancement of conventional lapping arbors, these reamers can be used without compound – so that no time-consuming cleaning is necessary. Design features fixed shank, cylindrical clamping, slotted front and continuous adjustability by means of a locking screw.

Main applications
- Finishing-machining of hardened press bores for tool and mould making
- Reworking on hard ejector bores and sleeves for the plastics industry
- Fine machining and finishing for large-scale production on transfer lines and machining centres



Diamond or CBN?
It all depends on the hardness of the material:

- **Diamond** for tungsten carbide, ceramics and steel up to 57 HRC
- **Boron nitride** for hardened steel up to 58 HRC

	Design	Nominal size	Shank dimensions	Total length	Grit size	Order No.	Price from 1 piece
CBN reamers, galvanic bonding							
	CBN	Ø 2 x 10 mm	Ø 6 x 25 mm	80 mm	B 76	**0 566 240**	
		Ø 3 x 20 mm	Ø 6 x 25 mm	80 mm	B 91	**0 566 241**	
		Ø 4 x 20 mm	Ø 6 x 25 mm	80 mm	B 126	**0 566 242**	
		Ø 5 x 30 mm	Ø 5 x 25 mm	100 mm	B 126	**0 566 243**	
		Ø 6 x 30 mm	Ø 6 x 25 mm	100 mm	B 126	**0 566 244**	
		Ø 8 x 40 mm	Ø 8 x 25 mm	140 mm	B 126	**0 566 245**	
		Ø 10 x 40 mm	Ø 10 x 25 mm	140 mm	B 126	**0 566 246**	
		Ø 12 x 40 mm	Ø 12 x 25 mm	140 mm	B 126	**0 566 247**	
Diamond reamers, galvanic bonding							
	diamond	Ø 2 x 10 mm	Ø 6 x 25 mm	80 mm	D 76	**0 561 240**	
		Ø 3 x 20 mm	Ø 6 x 25 mm	80 mm	D 91	**0 561 241**	
		Ø 4 x 20 mm	Ø 6 x 25 mm	80 mm	D 126	**0 561 242**	
		Ø 5 x 30 mm	Ø 5 x 25 mm	100 mm	D 126	**0 561 243**	
		Ø 6 x 30 mm	Ø 6 x 25 mm	100 mm	D 126	**0 561 244**	
		Ø 8 x 40 mm	Ø 8 x 25 mm	140 mm	D 126	**0 561 245**	
		Ø 10 x 40 mm	Ø 10 x 25 mm	140 mm	D 126	**0 561 246**	
		Ø 12 x 40 mm	Ø 12 x 25 mm	140 mm	D 126	**0 561 247**	

Recommended cutting speed: V = 12 – 15 m/min.

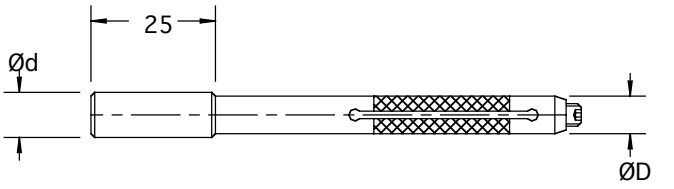
Special dimensions available on request!

Maximum processing range:

nominal dimensions Ø D + 0.2 mm / - 0.05 mm

Optimum processing range:

nominal dimensions Ø D ± 0.03 mm



Diamond grinding points
lightly springy
NEW!

Diamond grinding point, ball, lightly springy
- Manual and machine use (drills, machining centers, special-purpose machines, robots etc.)
- Wide-range of uses, even on hard materials, such as deburring and chamfering cross holes, deburring deep blind holes etc.

	Head dimensions	Collar dimensions	Shank Ø x total length	Grit size	Rotation speed max.	Order No.	Price from 1 piece	Price from 5 pieces
Diamond grinding point, ball, lightly springy								
	Ø 1.9 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 76	10,000 1/min	**0 564 212**		
	Ø 2 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 126	10,000 1/min	**0 564 214**		
	Ø 2.9 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 76	8,000 1/min	**0 564 222**		
	Ø 3 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 126	8,000 1/min	**0 564 224**		
	Ø 3.9 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 76	8,000 1/min	**0 564 232**		
	Ø 4 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 126	8,000 1/min	**0 564 234**		
	Ø 4.9 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 76	6,000 1/min	**0 564 242**		
	Ø 5 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 126	6,000 1/min	**0 564 244**		
	Ø 5.9 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 76	6,000 1/min	**0 564 252**		
	Ø 6 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 126	6,000 1/min	**0 564 254**		
	Ø 7.9 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 76	6,000 1/min	**0 564 262**		
	Ø 8 mm	Ø 1.5 x 45 mm	Ø 3 x 75 mm	D 126	6,000 1/min	**0 564 264**		

Diamond spring steel wires

Diamond spring steel wires
Flexible application for example for dividing outline parts, reworking of bores or slots in hard materials.



Wire as desired

All wires are 0.6 mm and are available in grit sizes D30, D54, D64, D91, D107 and D126 at short notice.

If desired, wires can also be delivered in 200, 250 and 320 mm length. Custom-made coating length, wire with or without tip.

Consult **Stefan Spiegel:**
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	Dimensions	Coating dimensions	Total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond spring steel wires, galvanic bonding							
	Ø 0.4 mm	70 mm	130 mm	D 30	**0 560 140**		
	Ø 0.5 mm	70 mm	130 mm	D 54	**0 560 141**		
	Ø 0.6 mm	70 mm	130 mm	D 91	**0 560 142**		
	Ø 0.7 mm	70 mm	130 mm	D 91	**0 560 143**		
	Ø 0.8 mm	70 mm	130 mm	D 91	**0 560 144**		
	Ø 0.9 mm	70 mm	130 mm	D 91	**0 560 145**		
	Ø 1.0 mm	70 mm	130 mm	D 91	**0 560 146**		
	Ø 1.1 mm	70 mm	130 mm	D 91	**0 560 147**		
	Ø 1.2 mm	70 mm	130 mm	D 91	**0 560 148**		
	Ø 1.3 mm	70 mm	130 mm	D 91	**0 560 149**		
	Ø 1.4 mm	70 mm	130 mm	D 91	**0 560 150**		
	Ø 1.5 mm	70 mm	130 mm	D 91	**0 560 151**		
	Ø 2.0 mm	70 mm	130 mm	D 91	**0 560 156**		

Diamond hand lappers
Synthetic and metal bond

Diamond hand lappers
Hand lappers are suitable for sharpening, eliminating built-up edges, removal of microcracks, chamfering and breaking of tool cuts. Preferably for carbide metal tools and also suitable for processing of hardened or ground tools. With aluminium handles.

The hand lappers are available in three types of bond:
- Synthetic bond for fine reworking, e.g. on turning tools, knife heads and cutters.
- The metal bond is highly wear-resistant and suitable for robust applications, for example on turnover boards, turntables, cutters, etc.
- Galvanic bonding, open structure also suitable for plastics

	Bonding	Dimensions	Coating dimensions	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond hand lappers with aluminium handles							
	synthetic	10 x 150 mm	10 x 2 x 30 mm	D 76 / # 200	**0 562 401-1**		
		10 x 150 mm	10 x 2 x 30 mm	D 30 / # 400	**0 562 403-1**		
		10 x 150 mm	10 x 2 x 30 mm	D 15 / # 800	**0 562 404-1**		
	metal	10 x 150 mm	10 x 1 x 30 mm	D 76	**0 562 411**		
		10 x 150 mm	10 x 1 x 30 mm	D 46	**0 562 413**		
		10 x 150 mm	10 x 1 x 30 mm	D 15	**0 562 414**		
	galvanic	10 x 165 mm	12 x 1 x 50 mm	# 160	**0 562 421**		
		10 x 165 mm	12 x 1 x 50 mm	# 400	**0 562 422**		
		10 x 165 mm	12 x 1 x 50 mm	# 600	**0 562 423**		
		10 x 165 mm	12 x 1 x 50 mm	# 1200	**0 562 424**		

matching set

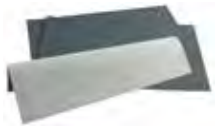
	Order No.	Price from 1 pack
Diamond hand lapper set		
	**0 562 420**	

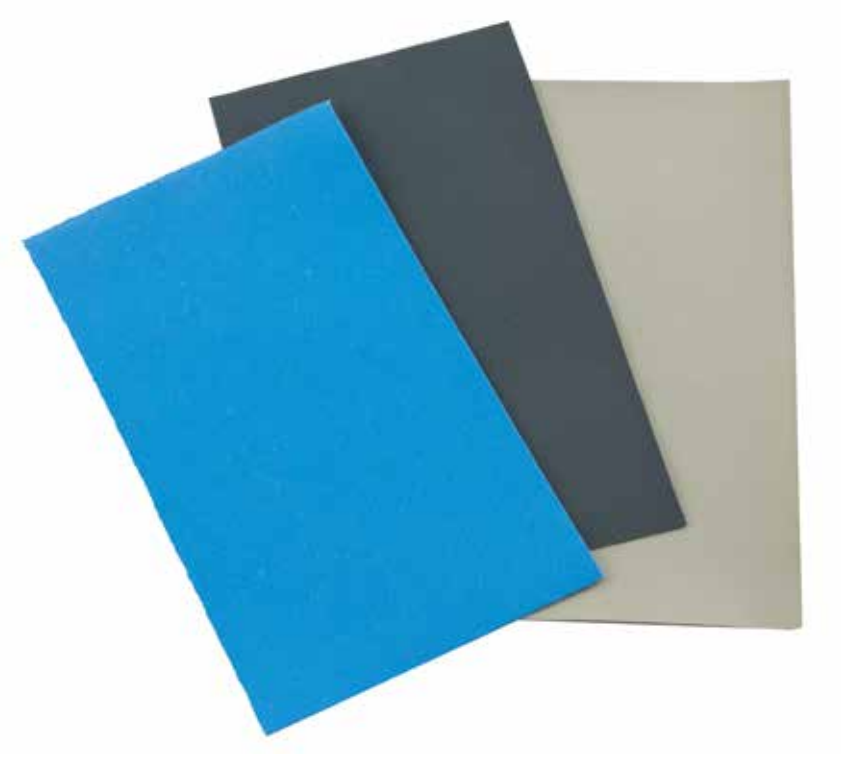


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Polishing cloths
super-flexible
NEW!

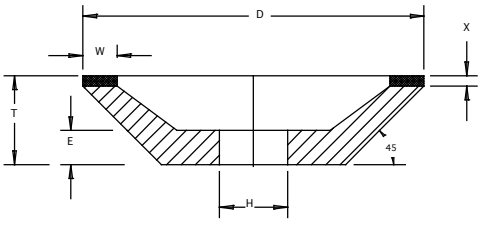
Super-flexible diamond-impregnated polishing cloth for polishing all surface contours.
Perfect for cutting and creating own tools.

	Dimensions	Type	Colour	Packing quantity	Order No.	Price from 1 set	Price from 1 pack
Set flexible diamond polishing cloths							
	280 x 150 mm	one cloth of any grain size		3 pieces	**0 404 500**		
Flexible diamond polishing cloths							
	280 x 150 mm	K 2400 / 10 µm	blue	3 pieces	**0 404 501**		
	280 x 150 mm	K 4000 / 5 µm	black	3 pieces	**0 404 502**		
	280 x 150 mm	K 12000 / 2 µm	grey	3 pieces	**0 404 503**		



Diamond cup grinding wheels
resin bonding

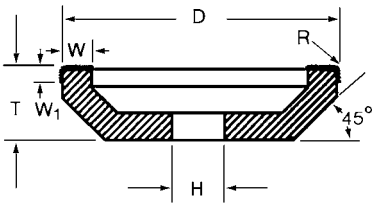
	Dimensions	Coating dimensions	Drilling dimension	Bottom dimension E	Concentration	Grit size	Type	Order No.	Price from 1 piece
Diamond cup grinding wheel, resin bonding									
	Ø 100 x 26 mm	5 x 2 mm	20 mm	10 mm	C 50	D 181	12 A2-45°	**0 561 522**	
		5 x 2 mm	20 mm	10 mm	C 50	D 126	12 A2-45°	**0 561 523**	
		5 x 2 mm	20 mm	10 mm	C 50	D 91	12 A2-45°	**0 561 524**	
		5 x 2 mm	20 mm	10 mm	C 50	D 64	12 A2-45°	**0 561 525**	
		10 x 2 mm	20 mm	10 mm	C 50	D 181	12 A2-45°	**0 561 526**	
		10 x 2 mm	20 mm	10 mm	C 50	D 126	12 A2-45°	**0 561 527**	
		10 x 2 mm	20 mm	10 mm	C 50	D 91	12 A2-45°	**0 561 528**	
		10 x 2 mm	20 mm	10 mm	C 50	D 64	12 A2-45°	**0 561 529**	



Other grinding wheels on request!
We can also offer you grinding wheels with boron nitride coating or other shapes, dimensions and grit sizes. Please discuss your requirements with
Stefan Spiegel:
Tel. +49 (0) 22 04 / 8 39-0
s.spiegel@joke.de

Diamond cup grinding wheels
galvanic bonding

	Dimensions	Coating dimensions	Drilling dimension	Grit size	Type	Order No.	Price from 1 piece
Diamond cup grinding wheel, galvanic bonding							
	Ø 100 x 25 mm	10 x 4 mm	20 mm	D 91	12 A2-45°	**0 561 385**	
		10 x 4 mm	20 mm	D 126	12 A2-45°	**0 561 384**	
		10 x 4 mm	20 mm	D 181	12 A2-45°	**0 561 383**	
	Ø 100 x 26 mm	5 x 5 mm	20 mm	D 91	12 A2-45°	**0 561 382**	
		5 x 5 mm	20 mm	D 126	12 A2-45°	**0 561 381**	
		5 x 5 mm	20 mm	D 181	12 A2-45°	**0 561 380**	



Cleaning stone

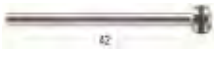
	Order No.	Price from 1 piece
Cleaning stone		
 In order to keep the cutting surface of the abrasive discs clean and sharp, they should be regularly dressed with a cleaning stone. For resin and metal bonded abrasive discs.	**0 560 699**	

Plastic-diamond cut-off discs
joke Dia Disc

Thin, highly flexible plastic discs filled with natural diamonds. The discs can be used on both sides for polishing zirconium, glass, titanium, stone and all steels. Ideal for narrow slots. Can be used with fluid or diamond paste. **Max. speed: 5,000 rpm**

	Dimensions	Drilling dimension	Blade thickness	Grit size	Colour	Rotation speed max.	Order No.	Price from 1 piece	Price from 5 pieces
Plastic-diamond cut-off discs joke Dia-Disc									
	Ø 22 x 0.25 mm	1.8 mm	0.25 mm	30 µm	green	5,000 1/min	**0 571 098**		
		1.8 mm	0.25 mm	9 µm	blue	5,000 1/min	**0 571 099**		

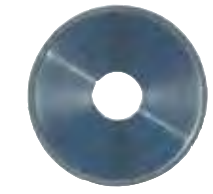
Accessories / spare parts

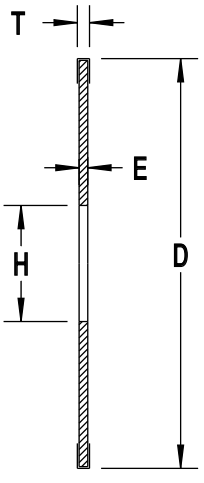
	for bore dimensions	Shank dimensions	Type	Max. disc size	Order No.	Price from 1 piece	Price from 10 pieces
CRATEX® grinding wheel holder							
	Ø 1.5 – 1.8 mm	Ø 2.35 x 40/28 mm	21	Ø 38 x 4.5 mm	**0 545 275**		
		Ø 3 x 42 mm	22	Ø 38 x 4.5 mm	**0 545 276**		
		Ø 3 x 40/30 mm	24	Ø 38 x 3 mm	**0 545 278**		

Cut-off disc receptacles
with carbide metal shank

	for bore dimensions	Head dimensions	Shank dimensions	Type	Order No.	Price from 1 piece
Cut-off disc receptacles with carbide metal shank						
	3 mm	Ø 9 mm	Ø 3 x 45 mm	TA3	**0 561 941**	
		Ø 9 mm	Ø 6 x 45 mm	TA3	**0 561 940**	
	5 mm	Ø 9 mm	Ø 3 x 45 mm	TA5	**0 561 946**	
		Ø 9 mm	Ø 6 x 45 mm	TA5	**0 561 945**	
	6 mm	Ø 12 mm	Ø 3 x 45 mm	TA6	**0 561 942**	
		Ø 12 mm	Ø 6 x 45 mm	TA6	**0 561 943**	
	8 mm	Ø 12 mm	Ø 3 x 45 mm	TA8	**0 561 947**	
		Ø 12 mm	Ø 6 x 45 mm	TA8	**0 561 948**	
		Ø 24 mm	Ø 6 x 45 mm	TA8-G	**0 561 948-1**	
	10 mm	Ø 24 mm	Ø 6 x 45 mm	TA10	**0 561 949**	
	13 mm	Ø 24 mm	Ø 6 x 45 mm	TA13	**0 561 944**	

Diamond cut-off discs
with closed rim





	Dimensions	Drilling dimension	Blade thickness	Grit size	Matching receptacles	Order No.	Price from 1 piece	Price from 5 pieces
Diamond cut-off discs, galvanic bonding								
	Ø 16 x 0.3 mm	3 mm	0.1 mm	D 76	TA3	**0 561 623**		
	Ø 16 x 0.4 mm	3 mm	0.2 mm	D 76	TA3	**0 561 624**		
	Ø 16 x 0.5 mm	3 mm	0.2 mm	D 107	TA3	**0 561 625**		
	Ø 16 x 0.6 mm	3 mm	0.3 mm	D 107	TA3	**0 561 626**		
	Ø 16 x 0.7 mm	3 mm	0.4 mm	D 107	TA3	**0 561 627**		
	Ø 20 x 0.85 mm	5 mm	0.5 mm	D 126	TA5	**0 561 641**		
	Ø 20 x 0.95 mm	5 mm	0.5 mm	D 181	TA5	**0 561 642**		
	Ø 20 x 1.35 mm	5 mm	1.0 mm	D 126	TA5	**0 561 643**		
	Ø 20 x 1.45 mm	5 mm	1.0 mm	D 181	TA5	**0 561 644**		
	Ø 30 x 0.7 mm	6 mm	0.3 mm	D 126	TA6	**0 561 651**		
	Ø 30 x 0.8 mm	6 mm	0.3 mm	D 181	TA6	**0 561 650**		
	Ø 30 x 0.9 mm	6 mm	0.5 mm	D 126	TA6	**0 561 653**		
	Ø 30 x 1.0 mm	6 mm	0.5 mm	D 181	TA6	**0 561 652**		
	Ø 30 x 1.4 mm	6 mm	1.0 mm	D 126	TA6	**0 561 655**		
	Ø 30 x 1.5 mm	6 mm	1.0 mm	D 181	TA6	**0 561 654**		
	Ø 32 x 1.45 mm	8 mm	1.0 mm	D 181	TA8	**0 561 617**		
	Ø 32 x 1.75 mm	8 mm	1.0 mm	D 356	TA8	**0 561 618**		
	Ø 40 x 0.85 mm	10 mm	0.5 mm	D 126	TA10	**0 561 656**		
	Ø 40 x 1.35 mm	10 mm	1.0 mm	D 126	TA10	**0 561 658**		
	Ø 50 x 0.85 mm	13 mm	0.5 mm	D 126	TA13	**0 561 661**		
	Ø 50 x 1.35 mm	13 mm	1.0 mm	D 126	TA13	**0 561 665**		
	Ø 65 x 0.9 mm	8 mm	0.5 mm	D 126	TA8-G	**0 561 670**		
	Ø 65 x 1.0 mm	8 mm	0.5 mm	D 181	TA8-G	**0 561 669**		
	Ø 100 x 0.9 mm	22 mm	0.5 mm	D 126	-	**0 561 691**		
	Ø 100 x 1.0 mm	22 mm	0.5 mm	D 181	-	**0 561 690**		
	Ø 100 x 1.4 mm	22 mm	1.0 mm	D 126	-	**0 561 694**		
	Ø 100 x 1.5 mm	22 mm	1.0 mm	D 181	-	**0 561 693**		
	Ø 125 x 1.4 mm	22 mm	1.0 mm	D 126	-	**0 561 703**		
	Ø 125 x 1.5 mm	22 mm	1.0 mm	D 181	-	**0 561 702**		
	Ø 150 x 1.4 mm	22 mm	1.0 mm	D 126	-	**0 561 712**		

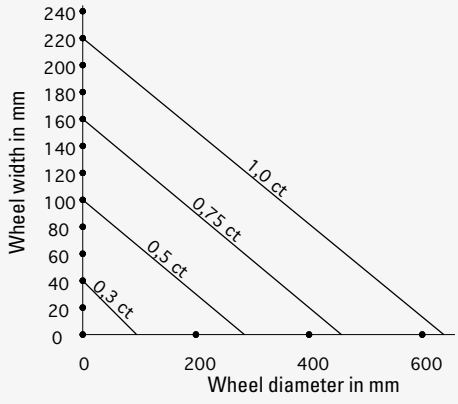
Other dimensions and grit sizes on request!
Please consult **Stefan Spiegel:**
Tel. +49 (0) 22 04 / 8 39-0
s.spiegel@joke.de

Diamond dressers
Diamond single-stone dressers

Diamond single-stone dressers
The single diamonds have at least three working points (quality 03). They have a block-shaped, firmly textured crystal shape with inclusions.

The following aspects should be noted when dressing:
- Dressing sideways forward feed 0.05 - 0.2 mm / revolution
- Adequate continuous cooling
- Always protect the diamond against blows and impacts
- Max. feed motion 0.03 mm
- Place something under the centre of the disc at an angle of inclination of 5 - 15°

Choice of single-stone dresser in relation to the grinding wheel size

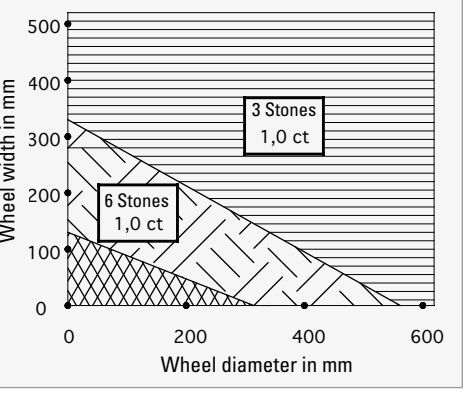


	Design	Total length	Diamond weight	Order No.	Price from 1 piece	Price from 5 pieces
Diamond single-stone dressers						
	Ø 8 x 30 mm	30 mm	0.3 ct	**0 562 124**		
		30 mm	0.5 ct	**0 562 130**		
	Ø 8 x 80 mm	80 mm	0.3 ct	**0 562 184**		
		80 mm	0.5 ct	**0 562 190**		
		80 mm	1 ct	**0 562 194**		
	Ø 10 x 50 mm	50 mm	0.3 ct	**0 562 154**		
		50 mm	0.5 ct	**0 562 160**		
		50 mm	0.75 ct	**0 562 167**		
	MK 0	31.5 mm	0.5 ct	**0 562 010**		
		31.5 mm	0.75 ct	**0 562 017**		
		31.5 mm	1 ct	**0 562 018**		
	MK 1	49 mm	0.5 ct	**0 562 040**		
		49 mm	0.75 ct	**0 562 047**		
		49 mm	1 ct	**0 562 048**		

Diamond dressers
Diamond multiple-stone dressers

Diamond multiple-stone dressers
Multi stone dressers are normally used for large, very wide grinding wheels. Since a large diamond surface is used in the multiple-stone dresser, the load is optimally distributed.

Choice of a multiple-stone dresser in relation to the grinding wheel size.



	Design	Total length	Diamond distribution	Diamond weight	Order No.	Price from 1 piece	Price from 5 pieces
Diamond multiple-stone dressers							
	MK 0	31.5 mm	1 layer - 3 stones	1 ct	**0 562 270**		
		31.5 mm	1 layer - 6 stones	1 ct	**0 562 273**		
	MK 1	51 mm	1 layer - 3 stones	1 ct	**0 562 271**		
		51 mm	1 layer - 6 stones	1 ct	**0 562 274**		
	Ø 8 x 90 mm	90 mm	1 layer - 3 stones	1 ct	**0 562 272**		
		90 mm	1 layer - 6 stones	1 ct	**0 562 275**		

Diamond multi-grit dressers

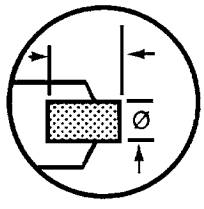
Diamond multi-grit dressers
Multi-grit dressers can be used until completely worn out. The diamond disc is interspersed throughout with diamond grit. Due to the low planing forces, these dressers are predominately used for narrow, sharp-edged and pointed wheels.

		Order No.	Price from 1 piece	Price from 5 pieces
Diamond multiple-grit manual dresser				
	For dressing grinding points and grinding wheels, usable diamond area Ø 5 x 5 mm, total length 120 mm	**0 540 990**		

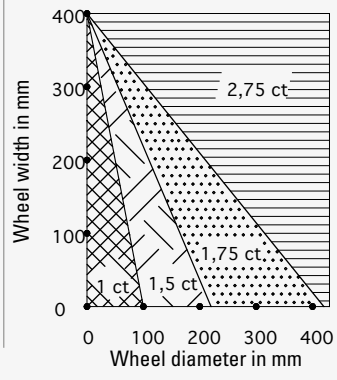
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Diamond dressers
Diamond multi-grit dressers

Diamond multi-grit dressers
Multi-grit dressers can be used until completely worn out. The diamond disc is interspersed throughout with diamond grit. Due to the low planing forces, these dressers are predominately used for narrow, sharp-edged and pointed wheels.



Choice of single-stone dresser in relation to the grinding wheel size



	Design	Total length	Grit size of grinding wheel to be dressed	Diamond weight	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond multi-grit dressers								
	MK 0	40 mm	180-400	1 ct	D 213	**0 562 305**		
		40 mm	46-120	1 ct	D 851	**0 562 301**		
	MK 1	60 mm	180-400	1.75 ct	D 213	**0 562 315**		
		60 mm	46-120	2.75 ct	D 851	**0 562 312**		
	Ø 8 x 100 mm	100 mm	180-400	1 ct	D 213	**0 562 365**		
		100 mm	46-120	1.4 ct	D 851	**0 562 362**		
	Ø 12 x 150 mm	150 mm	180-400	2.75 ct	D 213	**0 562 386**		
		150 mm	46-120	2.75 ct	D 851	**0 562 382**		

		Order No.	Price from 1 piece
Diamond dresser, galvanic			
	For dressing and shaping grinding points, dimensions: 25 x 6 x 12, total length 116 mm	**0 560 999**	



Diamond abrasive sheets
joke Dia-Speed

Thickness 0.7 – 1.1 mm. Highly flexible, diamond-coated abrasive sheets. Only to be used wet in order to avoid overheating and separation of the diamond layer. Furthermore, coolants improve the chip clearance and consequently result in better surface finishing with less wear. Thanks to the high abrasive power of the diamonds, Dia-Speed abrasive sheets can also be used with low contact pressure. Applications: carbide metal, ceramic, glass, hardened steels, stone.

	Dimensions	Bonding	Grit size	Colour	Order No.	Price from 1 piece
Diamond abrasive sheet joke Dia-Speed, self-adhesive						
	75 x 75 mm	metal	D 126	black	**0 403 412**	
		metal	D 76	red	**0 403 413**	
		metal	D 46	yellow	**0 403 414**	
		metal	D 20	white	**0 403 415**	
		resin	D 15	yellow	**0 403 416**	
		resin	D 7	blue	**0 403 417**	
		resin	D 3	orange	**0 403 418**	

Flexible diamond files

Flexible diamond files with galvanic coating, applied in spots. PCB material serves as a base. For processing hard materials with short chips.

	Dimensions	Coating dimensions	Total length	Grit size	Order No.	Price from 1 piece
Flexible diamond file						
flat						
	13 x 1.8 mm	13 x 80 mm	170 mm	D 46	**0 404 351**	
		13 x 80 mm	170 mm	D 76	**0 404 352**	
		13 x 80 mm	170 mm	D 126	**0 404 353**	

matching set

		Order No.	Price from 1 set
Flexible diamond file set (3 pieces)			
	The set contains one file of each grit size.	**0 404 350**	

Diamond strips

Flexible strips with galvanic coating and synthetic backing. High stock removal with a fine grinding pattern.

	Dimensions	Grit size	Order No.	Price from 1 piece
Diamond strips				
	80 x 30 mm	D 46	**0 401 871**	
		D 76	**0 401 872**	

Diamond-coated PET strips
PET and metal

Strip thickness 75 µm. Highly flexible abrasive film for use in tool and mould building. Particularly suited to high gloss polishing. The sheets are waterproofed and are characterised by very high tensile strength and heat resistance. Can be cut to any desired dimension. Applications: carbide metal, ceramic, glass, hardened steels, jewellery, stone.

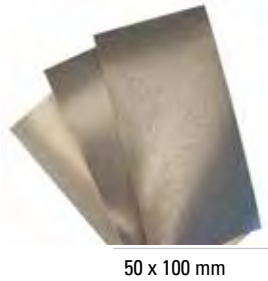
	Dimensions	Grit size	Colour	Order No.	Price from 1 piece	Price from 5 pieces
Diamond-coated PET strips, self-adhesive						
	25 x 150 mm	60 µm	yellow	**0 403 461**		
		45 µm	green	**0 403 462**		
		30 µm	light green	**0 403 463**		
		15 µm	orange	**0 403 464**		
		9 µm	turquoise	**0 403 465**		
		6 µm	olive	**0 403 466**		
		3 µm	pink	**0 403 467**		

matching set

	Order No.	Price from 1 set	Price from 5 set
Set of Diamond-coated PET strips			
The set contains one sheet of each grit size.	**0 403 468**		

Diamond-coated PET strips
PET and metal

Strip thickness 0.25 – 0.4 mm. Diamond-coated metal foils with a galvanic bond that achieve very high stock removal. The foils are flexible and can be cut to size with scissors. Applications: carbide metal, ceramic, glass, hardened steels, fibreglass, jewellery, stone.

	Dimensions	Bonding	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Diamond-coated metal foils, self-adhesive						
	10 x 100 mm	galvanic	#120 / D126	**0 403 471**		
		galvanic	#150 / D91	**0 403 472**		
		galvanic	#200 / D76	**0 403 473**		
		galvanic	#300 / D46	**0 403 474**		
		galvanic	#400 / D30	**0 403 475**		
		galvanic	#600 / D20	**0 403 476**		
		galvanic	#800 / D15	**0 403 477**		
		galvanic	#1200 / D10	**0 403 478**		
		galvanic	#1800 / D7	**0 403 479**		
	50 x 100 mm	galvanic	#120 / D126	**0 403 481**		
		galvanic	#150 / D91	**0 403 482**		
		galvanic	#200 / D76	**0 403 483**		
		galvanic	#300 / D46	**0 403 484**		
		galvanic	#400 / D30	**0 403 485**		
		galvanic	#600 / D20	**0 403 486**		
		galvanic	#800 / D15	**0 403 487**		
		galvanic	#1200 / D10	**0 403 488**		
		galvanic	#1800 / D7	**0 403 489**		



For service
beyond the call of duty.

- **You have an aim, but not yet a solution.**
  - We can develop the complete tool on your behalf – starting with the design drafting stage, including manufacture of the blank, to coating.
- **You already know your requirements, but are still not aware of the best possible, most economical solution.**
  - You provide us with your drawing (or even just a sketch) and we will deal with the rest, right down to the ready-to-use tool.
- **You already have a blank of the tool, or even a worn tool.**
  - We will rework the tool on your behalf and apply the necessary coating.

Notes on manufacture of the carriers (blanks)

Material:
Blanks should preferably be made of low alloyed or unalloyed chromium-free steels, e.g. C 60, C 45, ST 37, which guarantees optimum bonding between the galvanic layer and blank. Prerequisite: fine turning, milling or grinding are adequate machining operations for surfaces to be coated.

Selection of the grit size:
It is advisable to select the grit size as coarse as the desired surface quality allows. We recommend 126 as a medium grit for general grinding of metals and hard materials. Grits > 356 should preferably not be used.

Coarser diamond grits in the range of D 181 to D 602 can be used in plastic and rubber finishing. Fine and extremely fine grits can be used for special applications.

Recoating of worn tools:
Tools with galvanic bonding, like any other tools, are subject to natural wear and tear. Since the service life of a tool considerably affects the productivity of the working process and the price of the product to be manufactured, extending tool service life is a decisive factor.

This is why our tools can be recoated several times. This is of value primarily when on the one hand, the proportion of expenditure for design and/or manufacture of the carrier has incurred a considerable percentage of the costs or when appropriately high numbers of the same tools exist.

The prerequisite in this case is merely that the carrier remains free of defects in terms of true running and geometrical shape. Dressing of a damaged carrier after the coating is lost is worthwhile only in exceptional cases, since in most cases, the requisite expenditure for repairs approximates that of a newly manufactured product.

Thickness of the abrasive coating:
For a tolerated dimension in the coated area, account must be taken of the coating thickness when manufacturing the blank. Please contact our Product Manager **Stefan Spiegel** on all issues regarding **(special) diamond tools**:

Tel. **+49 (0) 22 04 / 8 39-0**
Mail **s.spiegel@joke.de**



Diamond and CBN
special tools



Diamond and boron nitride (CBN) special tools with galvanic coating
Diamond and CBN belong to the group of „super-hard" cutting materials owing to their hardness and resistance to wear. Galvanic bonded tools are used both in wet and dry grinding. In the case of the galvanic bonded abrasives, the diamond or CBN grit is applied to the base in a nickel layer. The grits are between 40 and 60 % embedded as standard and a high chip space volume and aggressive stock removal results from the high grit projection. The embedding depth can be further reduced for processing rubber in order to achieve a cooler cut.

The range of grit sizes for manufacturing special tools ranges from D 15 (ultrafine) to D 601 (very coarse).

Whether a diamond or CBN coating is used depends on the material to be processed. Diamond is employed for carbide metal, rubber, fibreglass reinforced plastic (FRP), carbon fibre reinforced plastic (CFR), ferrite, glass and porcelain, whereas CBN is used for HSS and annealed and hardened steels.



Diamond files

365 **Diamond machine files**

369 **Diamond hand files**

377 **Diamond slot files**

378 **Conical diamond files**

Diamond files are the universal tools for mould builders and toolmakers. They are rapid and precise in stock removal and hard-wearing and are therefore economical to use. Optimally usable on case hardening and tenacious unhardened steels, for example during elimination of hardness distortion or burr formation on cutting, moulding and punching tools. Diamond-coated files are also used for processing of carbide metal, ceramic, glass fibre-reinforced plastics, carbon fibre-reinforced plastics, carbide metal green products, ferrites and many more.

Owing to the diamond grits projecting from the bond, optimum results can already be obtained with light contact pressure. Grit sizes of D30 (very fine) to D252 (very coarse) are available. You have a choice between diamond files for use in hand-filing machines or for manual use. The range is rounded off by conically shaped diamond files, likewise for machine and manual use. Now completely new in the range: the joke diamond slot files allow work in even the narrowest gaps.

Diamond machine riffle files JLB
shank Ø 3 mm, total length 65 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond machine riffle files JLB, shank Ø 3 mm, galvanic bonding								
crossing								
	4 x 2 mm	25 mm	65 mm	D 107	JLB	**0 403 276-1**		
triangular								
	2.5 x 2.5 mm	25 mm	65 mm	D 107	JLB	**0 403 274-1**		
flat								
	3.2 x 1.4 mm	25 mm	65 mm	D 107	JLB	**0 403 268-1**		
	6 x 1.3 mm	25 mm	65 mm	D 107	JLB	**0 403 269-1**		
flat, angled								
	3.2 x 1.4 mm	25 mm	65 mm	D 107	JLB	**0 403 278-1**		
flat, bent								
	3.2 x 1.4 mm	25 mm	65 mm	D 107	JLB	**0 403 275-1**		
flat, cropped								
	3.2 x 1.4 mm	25 mm	65 mm	D 107	JLB	**0 403 271-1**		
round								
	Ø 3 mm	25 mm	65 mm	D 107	JLB	**0 403 273-1**		
round, bent								
	Ø 3 mm	25 mm	65 mm	D 107	JLB	**0 403 272-1**		
semicircular, offset								
	Ø 3 mm	25 mm	65 mm	D 107	JLB	**0 403 277-1**		

matching set

	Grit size	Order No.	Price from 1 set
Diamond machine file set JLB, 10 pieces			
	D 107	**0 403 270-1**	



Diamond machine files DJA
shank Ø 3 mm, total length 50 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond machine files DJA, shank Ø 3 mm, galvanic bonding								
triangular								
	2 x 2 mm	15 mm	50 mm	D 64	DJA T 2 S	**0 402 416-1**		
		15 mm	50 mm	D 91	DJA T 2 S	**0 402 417-1**		
		15 mm	50 mm	D 126	DJA T 2 S	**0 402 418-1**		
flat								
	2 x 1 mm	15 mm	50 mm	D 64	DJA 2 x 1 S	**0 402 016-1**		
		15 mm	50 mm	D 91	DJA 2 x 1 S	**0 402 017-1**		
		15 mm	50 mm	D 126	DJA 2 x 1 S	**0 402 018-1**		
		15 mm	50 mm	D 151	DJA 2 x 1 S	**0 402 019-1**		
	3 x 1 mm	15 mm	50 mm	D 64	DJA 3 x 1 S	**0 402 026-1**		
		15 mm	50 mm	D 91	DJA 3 x 1 S	**0 402 027-1**		
		15 mm	50 mm	D 126	DJA 3 x 1 S	**0 402 028-1**		
		15 mm	50 mm	D 151	DJA 3 x 1 S	**0 402 029-1**		
	4 x 1 mm	15 mm	50 mm	D 64	DJA 4 x 1 S	**0 402 036-1**		
		15 mm	50 mm	D 91	DJA 4 x 1 S	**0 402 037-1**		
		15 mm	50 mm	D 126	DJA 4 x 1 S	**0 402 038-1**		
		15 mm	50 mm	D 151	DJA 4 x 1 S	**0 402 039-1**		
	5 x 2 mm	15 mm	50 mm	D 64	DJA 5 x 2 S	**0 402 046-1**		
		15 mm	50 mm	D 91	DJA 5 x 2 S	**0 402 047-1**		
		15 mm	50 mm	D 126	DJA 5 x 2 S	**0 402 048-1**		
		15 mm	50 mm	D 151	DJA 5 x 2 S	**0 402 049-1**		
flat, safe-sided file								
	2 x 1 mm	15 mm	50 mm	D 64	DJA 2 x 1	**0 402 011-1**		
		15 mm	50 mm	D 151	DJA 2 x 1	**0 402 012-1**		
	3 x 1 mm	15 mm	50 mm	D 64	DJA 3 x 1	**0 402 021-1**		
		15 mm	50 mm	D 151	DJA 3 x 1	**0 402 022-1**		
	5 x 2 mm	15 mm	50 mm	D 64	DJA 5 x 2	**0 402 041-1**		
		15 mm	50 mm	D 151	DJA 5 x 2	**0 402 042-1**		
flat, safe-sided file, edge-cutting								
	0.5 x 4 mm	15 mm	50 mm	D 64	DJA 0,5 x 4	**0 402 111-1**		
		15 mm	50 mm	D 151	DJA 0,5 x 4	**0 402 112-1**		
	1 x 4 mm	15 mm	50 mm	D 64	DJA 1 x 4	**0 402 131-1**		
		15 mm	50 mm	D 151	DJA 1 x 4	**0 402 132-1**		
round								
	Ø 1 mm	15 mm	50 mm	D 64	DJA 1	**0 402 211-1**		
		15 mm	50 mm	D 91	DJA 1	**0 402 216-1**		
		15 mm	50 mm	D 126	DJA 1	**0 402 217-1**		
	Ø 2 mm	15 mm	50 mm	D 64	DJA 2	**0 402 221-1**		
		15 mm	50 mm	D 91	DJA 2	**0 402 226-1**		
		15 mm	50 mm	D 126	DJA 2	**0 402 227-1**		
	Ø 3 mm	15 mm	50 mm	D 64	DJA 3	**0 402 231-1**		
		15 mm	50 mm	D 91	DJA 3	**0 402 236-1**		
		15 mm	50 mm	D 126	DJA 3	**0 402 237-1**		

Other shapes, dimensions and grit sizes available at short notice!

Please consult **Stefan Spiegel:**
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Diamond machine files DJE
shank Ø 3 mm, total length 85 mm

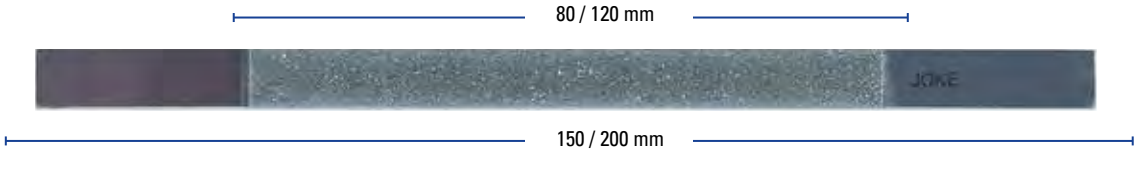
	Dimensions	Coating dimensions	Shank dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond machine files DJE, shank Ø 3 mm, galvanic bonding									
flat, safe-sided file									
	5 x 1.5 mm	45 mm	Ø 3 mm	85 mm	D 30	DJE 1	**0 402 610**		
		45 mm	Ø 3 mm	85 mm	D 91	DJE 1	**0 402 616**		
		45 mm	Ø 3 mm	85 mm	D 126	DJE 1	**0 402 612**		
		45 mm	Ø 3 mm	85 mm	D 181	DJE 1	**0 402 613**		
round									
	Ø 3 mm	45 mm	Ø 3 mm	85 mm	D 30	DJE 2	**0 402 620**		
		45 mm	Ø 3 mm	85 mm	D 91	DJE 2	**0 402 626**		
		45 mm	Ø 3 mm	85 mm	D 126	DJE 2	**0 402 622**		
		45 mm	Ø 3 mm	85 mm	D 181	DJE 2	**0 402 623**		

Diamond machine files DJA and DJE are partially coated, especially convenient if adjacent surfaces are not to be processed!

flat | flat, safe-sided file | flat, file, only edges coated

Diamond machine files DLM
total length 150 / 200 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond machine files DLM, galvanic bonding								
flat								
	9 x 3.2 mm	80 mm	150 mm	D 91	DLM 13	**0 404 031**		
		80 mm	150 mm	D 126	DLM 13	**0 404 032**		
	11 x 3.8 mm	120 mm	200 mm	D 91	DLM 16	**0 404 041**		
		120 mm	200 mm	D 126	DLM 16	**0 404 042**		



Other shapes, dimensions and grit sizes available at short notice!

Diamond machine files DLGB
shank Ø 5 mm, total length 180 mm

	Dimensions	Coating dimensions	Shank dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond machine files DLGB, shank Ø 5 mm, galvanic bonding									
flat									
	10 x 2.5 mm	90 mm	Ø 5 mm	180 mm	D 91	DLGB	**0 403 510**		
		90 mm	Ø 5 mm	180 mm	D 126	DLGB	**0 403 511**		
		90 mm	Ø 5 mm	180 mm	D 181	DLGB	**0 403 512**		

matching set

		Grit size	Order No.	Price from 1 set	Price from 5 set
Diamond machine file set DLGB, 5 pieces					
	The sets consist of the following files respectively: 1 x flat 10 x 2.5 mm 1 x round Ø 5.5 mm 1 x triangular 6 mm 1 x square 4.5 mm 1 x semi-circular 8.5 x 3 mm	D 91	**0 403 500**		
		D 126	**0 403 501**		
		D 181	**0 403 502**		

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Diamond hand files DIPROFIL® DBH
shank Ø 3 mm, total length 140 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond hand files DIPROFIL® DBH, shank Ø 3 mm, galvanic bonding								
flat								
	6 x 1.5 mm	70 mm	140 mm	D 46	DBH-1	**0 403 011-1**		
		70 mm	140 mm	D 76	DBH-1	**0 403 012-1**		
		70 mm	140 mm	D 126	DBH-1	**0 403 013-1**		
flat, rounded								
	6 x 1.5 mm	70 mm	140 mm	D 46	DBH-10	**0 403 121-1**		
		70 mm	140 mm	D 76	DBH-10	**0 403 122-1**		
		70 mm	140 mm	D 126	DBH-10	**0 403 123-1**		
triangular								
	3.5 mm	70 mm	140 mm	D 46	DBH-5	**0 403 031-1**		
		70 mm	140 mm	D 76	DBH-5	**0 403 032-1**		
		70 mm	140 mm	D 126	DBH-5	**0 403 033-1**		
square								
	2.5 x 2.5 mm	70 mm	140 mm	D 46	DBH-6	**0 403 041-1**		
		70 mm	140 mm	D 76	DBH-6	**0 403 042-1**		
		70 mm	140 mm	D 126	DBH-6	**0 403 043-1**		
halfround								
	5 x 2 mm	70 mm	140 mm	D 46	DBH-3	**0 403 051-1**		
		70 mm	140 mm	D 76	DBH-3	**0 403 052-1**		
		70 mm	140 mm	D 126	DBH-3	**0 403 053-1**		
round								
	Ø 3 mm	70 mm	140 mm	D 46	DBH-2	**0 403 061-1**		
		70 mm	140 mm	D 76	DBH-2	**0 403 062-1**		
		70 mm	140 mm	D 126	DBH-2	**0 403 063-1**		
knife								
	1.7 x 6 mm	70 mm	140 mm	D 46	DBH-9	**0 403 071-1**		
		70 mm	140 mm	D 76	DBH-9	**0 403 072-1**		
		70 mm	140 mm	D 126	DBH-9	**0 403 073-1**		
crossing								
	5 x 2 mm	70 mm	140 mm	D 46	DBH-4	**0 403 091-1**		
		70 mm	140 mm	D 76	DBH-4	**0 403 092-1**		
		70 mm	140 mm	D 126	DBH-4	**0 403 093-1**		
beret								
	6 x 2 mm	70 mm	140 mm	D 46	DBH-7	**0 403 101-1**		
		70 mm	140 mm	D 76	DBH-7	**0 403 102-1**		
		70 mm	140 mm	D 126	DBH-7	**0 403 103-1**		

matching set

	Grit size	Order No.	Price from 1 set
Diamond hand files set DIPROFIL® DBH, 10 pieces			
	D 46	**0 403 001-1**	
	D 76	**0 403 002-1**	
	D 126	**0 403 003-1**	

Diamond hand files DLH
shank Ø 3 mm, total length 140 mm

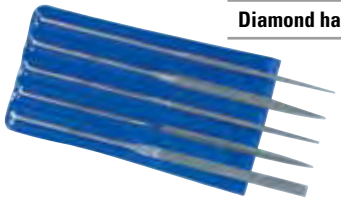
	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond hand files DLH, shank Ø 3 mm, galvanic bonding								
crossing								
	5 x 2.3 mm	70 mm	140 mm	D 126	DLH 92	**0 403 092**		
triangular								
	3.5 mm	70 mm	140 mm	D 91	DLH 32	**0 403 031**		
	3.5 mm	70 mm	140 mm	D 126	DLH 32	**0 403 032**		
	3.5 mm	70 mm	140 mm	D 181	DLH 32	**0 403 033**		
flat								
	5 x 1.5 mm	70 mm	140 mm	D 91	DLH 12	**0 403 011**		
	5 x 1.5 mm	70 mm	140 mm	D 126	DLH 12	**0 403 012**		
	5 x 1.5 mm	70 mm	140 mm	D 181	DLH 12	**0 403 013**		
square								
	2.5 x 2.5 mm	70 mm	140 mm	D 91	DLH 42	**0 403 041**		
	2.5 x 2.5 mm	70 mm	140 mm	D 126	DLH 42	**0 403 042**		
	2.5 x 2.5 mm	70 mm	140 mm	D 181	DLH 42	**0 403 043**		
round								
	Ø 3 mm	70 mm	140 mm	D 91	DLH 62	**0 403 061**		
	Ø 3 mm	70 mm	140 mm	D 126	DLH 62	**0 403 062**		
	Ø 3 mm	70 mm	140 mm	D 181	DLH 62	**0 403 063**		
halfround								
	5.5 x 2 mm	70 mm	140 mm	D 91	DLH 52	**0 403 051**		
	5.5 x 2 mm	70 mm	140 mm	D 126	DLH 52	**0 403 052**		
	5.5 x 2 mm	70 mm	140 mm	D 181	DLH 52	**0 403 053**		

Accessories / spare parts

		Order No.	Price from 10 pieces	Price from 1 piece	Price from 5 pieces
Universal handle					
	for receiving deburring tools, needle files, etc. Flexible collet with a clamping range of between 2.2 and 4.5 mm.	**0 413 939**			
Plastic handle, red					
	with clamping lever for files up to 150 mm length, tension area Ø 2.5 – 4 mm	**0 400 894-0**			
Plastic handle					
	suitable for Ø 3 mm shanks	**0 400 892**			

Diamond hand files DIPROFIL® DLD
shank Ø 3 mm, total length 140 mm

matching set



	Grit size	Order No.	Price from 1 set
Diamond hand files set DLH, 5 pieces			
	D 91	**0 403 001**	
	D 126	**0 403 002**	
	D 181	**0 403 003**	

Diamond hand files DIPROFIL® DLD
shank Ø 3 mm, total length 140 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	5 pieces
Diamond hand files DIPROFIL® DLD, shank Ø 3 mm, galvanic bonding								
flat								
	2 x 1.2 mm	20 mm	140 mm	D 107	DLD-1	**0 403 280**		
square								
	2.5 x 2.5 mm	20 mm	140 mm	D 107	DLD-2	**0 403 281**		
flat								
	3 x 1.5 mm	20 mm	140 mm	D 107	DLD-3	**0 403 282**		
triangular								
	3 x 3 mm	20 mm	140 mm	D 107	DLD-4	**0 403 283**		
halfround								
	5 x 2 mm	20 mm	140 mm	D 107	DLD-5	**0 403 284**		
flat, angled								
	3.2 x 1.5 mm	20 mm	140 mm	D 107	DLD-6	**0 403 285**		
crossing								
	4 x 2.2 mm	20 mm	140 mm	D 107	DLD-7	**0 403 286**		
round, bent								
	Ø 2.5 mm	15 mm	140 mm	D 107	DLD-8	**0 403 287**		
knife								
	5 x 1.5 mm	20 mm	140 mm	D 107	DLD-9	**0 403 288**		
round								
	Ø 2.5 mm	20 mm	140 mm	D 107	DLD-10	**0 403 289**		



matching set

	Grit size	Order No.	Price from 1 set
Diamond hand files set DIPROFIL® DLD, 10 pieces			
	D 107	**0 403 290**	

Diamond hand files DLK
shank 2.2 x 2.2 mm, total length 140 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond hand files DLK, shank Ø 2.2 x 2.2 mm, galvanic bonding								
flat								
	4 x 1.3 mm	40 mm	140 mm	D 15	DLK 1	**0 402 888**		
		40 mm	140 mm	D 30	DLK 1	**0 402 813**		
		40 mm	140 mm	D 54	DLK 1	**0 402 814**		
		40 mm	140 mm	D 91	DLK 1	**0 402 811**		
		40 mm	140 mm	D 126	DLK 1	**0 402 812**		
triangular								
	3.2 x 3.2 mm	40 mm	140 mm	D 15	DLK 2	**0 402 827**		
		40 mm	140 mm	D 30	DLK 2	**0 402 823**		
		40 mm	140 mm	D 54	DLK 2	**0 402 824**		
		40 mm	140 mm	D 91	DLK 2	**0 402 821**		
		40 mm	140 mm	D 126	DLK 2	**0 402 822**		
square								
	1.8 x 1.8 mm	40 mm	140 mm	D 15	DLK 3	**0 402 836**		
		40 mm	140 mm	D 30	DLK 3	**0 402 833**		
		40 mm	140 mm	D 54	DLK 3	**0 402 834**		
		40 mm	140 mm	D 91	DLK 3	**0 402 831**		
		40 mm	140 mm	D 126	DLK 3	**0 402 832**		
halfround								
	4.1 x 1.8 mm	40 mm	140 mm	D 15	DLK 4	**0 402 847**		
		40 mm	140 mm	D 30	DLK 4	**0 402 843**		
		40 mm	140 mm	D 54	DLK 4	**0 402 844**		
		40 mm	140 mm	D 91	DLK 4	**0 402 841**		
		40 mm	140 mm	D 126	DLK 4	**0 402 842**		
round								
	Ø 1.6 mm	40 mm	140 mm	D 15	DLK 5	**0 402 856**		
		40 mm	140 mm	D 30	DLK 5	**0 402 853**		
		40 mm	140 mm	D 54	DLK 5	**0 402 854**		
		40 mm	140 mm	D 91	DLK 5	**0 402 851**		
		40 mm	140 mm	D 126	DLK 5	**0 402 852**		

matching set

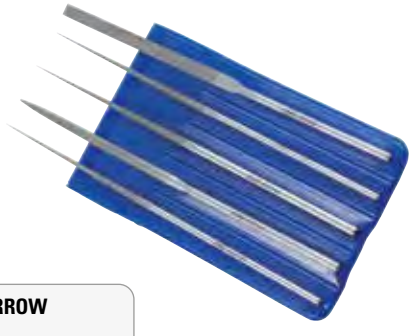
	Grit size	Order No.	Price from 1 set	Price from 5 set
Diamond hand files set DLK, 5 pieces				
	D 15	**0 402 803-1**		
	D 30	**0 402 803**		
	D 91	**0 402 801**		
	D 54	**0 402 804**		
	D 126	**0 402 802**		

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Diamond hand files DXS
shank Ø 2-3 mm, total length 140 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	5 pieces	10 pieces
Diamond hand files DXS, shank-Ø 2-3 mm, galvanic bonding									
flat									
	5.1 x 0.9 mm	70 mm	140 mm	D 54	DXS	**0 403 181**			
		70 mm	140 mm	D 91	DXS	**0 403 182**			
		70 mm	140 mm	D 126	DXS	**0 403 183**			
triangular									
	2.7 mm	70 mm	140 mm	D 54	DXS	**0 403 184**			
		70 mm	140 mm	D 91	DXS	**0 403 185**			
		70 mm	140 mm	D 126	DXS	**0 403 186**			
square									
	2.9 mm	70 mm	140 mm	D 54	DXS	**0 403 187**			
		70 mm	140 mm	D 91	DXS	**0 403 188**			
		70 mm	140 mm	D 126	DXS	**0 403 189**			
halfround									
	3.8 x 1.5 mm	70 mm	140 mm	D 54	DXS	**0 403 190**			
		70 mm	140 mm	D 91	DXS	**0 403 191**			
		70 mm	140 mm	D 126	DXS	**0 403 192**			
round									
	Ø 2.8 mm	70 mm	140 mm	D 54	DXS	**0 403 193**			
		70 mm	140 mm	D 91	DXS	**0 403 194**			
		70 mm	140 mm	D 126	DXS	**0 403 195**			

matching set

	Grit size	Order No.	Price from 1 set
Diamond hand files set DXS, 5 pieces			
	D 54	**0 403 196**	
	D 91	**0 403 197**	
	D 126	**0 403 198**	

DXS = EXTRA NARROW

Flat files are ideal for working on components where access is difficult. When there is barely space for a sheet in between, these extra flat files with diamond coating are ideal. They allow you to reach slots or corners that you would previously never dared to imagine.

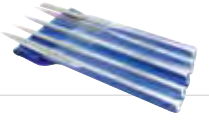
Diamond hand files DLG
shank 6 x 6 mm, total length 215 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond hand files DLG, shank Ø 6 x 6 mm, galvanic bonding								
triangular								
	10 mm	110 mm	215 mm	D 91	DLG	**0 402 921**		
		110 mm	215 mm	D 126	DLG	**0 402 922**		
		110 mm	215 mm	D 181	DLG	**0 402 923**		
flat								
	10 x 3 mm	110 mm	215 mm	D 91	DLG	**0 402 911**		
		110 mm	215 mm	D 126	DLG	**0 402 912**		
		110 mm	215 mm	D 181	DLG	**0 402 913**		
square								
	6.1 mm	110 mm	215 mm	D 91	DLG	**0 402 931**		
		110 mm	215 mm	D 126	DLG	**0 402 932**		
		110 mm	215 mm	D 181	DLG	**0 402 933**		
round								
	Ø 6.8 mm	110 mm	215 mm	D 91	DLG	**0 402 951**		
		110 mm	215 mm	D 126	DLG	**0 402 952**		
		110 mm	215 mm	D 181	DLG	**0 402 953**		
halfround								
	12.5 x 4 mm	110 mm	215 mm	D 91	DLG	**0 402 941**		
		110 mm	215 mm	D 126	DLG	**0 402 942**		
		110 mm	215 mm	D 181	DLG	**0 402 943**		

Accessories / spare parts

	Order No.	Price from 1 piece
File holder, with spring-loaded rotary knob tensioning, for DLG diamond files		
	**0 402 908**	

matching set

		Grit size	Order No.	Price from 1 set
Diamond hand files set DLG, 5 pieces				
	content: 5 pieces	D 91	**0 402 901**	
		D 126	**0 402 902**	
		D 181	**0 402 903**	

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Diamond workshop files DWF-K
coating length 160 mm, total length 200 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond workshop files DWF-K, galvanic bonding								
triangular								
	14 mm	160 mm	200 mm	D 126	DWF-K	**0 404 411-1**		
flat								
	5 x 20 mm	160 mm	200 mm	D 126	DWF-K	**0 404 401-1**		
square								
	8 mm	160 mm	200 mm	D 126	DWF-K	**0 404 421-1**		
round								
	Ø 8 mm	160 mm	200 mm	D 126	DWF-K	**0 404 441-1**		
halfround								
	Ø 6 x 21 mm	160 mm	200 mm	D 126	DWF-K	**0 404 431-1**		



Diamond workshop files DWF
coating length 180 mm, total length 220 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond workshop files DWF, galvanic bonding								
flat								
	5 x 20 mm	180 mm	220 mm	D 126	DWF	**0 404 401**		
		180 mm	220 mm	D 181	DWF	**0 404 402**		



Diamond riffle hand files, riffle files DLR
total length 150 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond riffle hand files DLR, galvanic bonding								
crossing								
	3.8 x 1.7 mm	2 x 25 mm	150 mm	D 91	DLR 16	**0 403 211**		
		2 x 25 mm	150 mm	D 126	DLR 16	**0 403 212**		
		2 x 25 mm	150 mm	D 181	DLR 16	**0 403 213**		
triangular								
	2.9 mm	2 x 25 mm	150 mm	D 91	DLR 22	**0 403 241**		
		2 x 25 mm	150 mm	D 126	DLR 22	**0 403 242**		
		2 x 25 mm	150 mm	D 181	DLR 22	**0 403 243**		
flat								
	2.5 x 1.8 mm	2 x 25 mm	150 mm	D 91	DLR 18	**0 403 221**		
		2 x 25 mm	150 mm	D 126	DLR 18	**0 403 222**		
		2 x 25 mm	150 mm	D 181	DLR 18	**0 403 223**		
square								
	2.6 x 2.6 mm	2 x 25 mm	150 mm	D 91	DLR 20	**0 403 231**		
		2 x 25 mm	150 mm	D 126	DLR 20	**0 403 232**		
		2 x 25 mm	150 mm	D 181	DLR 20	**0 403 233**		
square, flat								
	2 x 2 mm	2 x 25 mm	150 mm	D 91	DLR 20-1	**0 403 231-1**		
		2 x 25 mm	150 mm	D 126	DLR 20-1	**0 403 232-1**		
		2 x 25 mm	150 mm	D 181	DLR 20-1	**0 403 233-1**		
round								
	Ø 2.2 mm	2 x 25 mm	150 mm	D 91	DLR 26	**0 403 261**		
		2 x 25 mm	150 mm	D 126	DLR 26	**0 403 262**		
		2 x 25 mm	150 mm	D 181	DLR 26	**0 403 263**		
round, bent								
	Ø 2.5 mm	2 x 25 mm	150 mm	D 91	DLR 23	**0 403 251**		
		2 x 25 mm	150 mm	D 126	DLR 23	**0 403 252**		
		2 x 25 mm	150 mm	D 181	DLR 23	**0 403 253**		

Accessories / spare parts

	Order No.	Price from 1 piece
File holder for riffle files up to 150 mm length		
	**0 400 890**	

Diamond slot files DSF
total length 140-180 mm

	Dimensions	Coating dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 5 pieces
Diamond slot file DSF, with wooden haft, galvanic bonding								
flat								
	4 x 0.2 mm	50 mm	140 mm	D 64	DSF	**0 402 140**		
	4 x 0.3 mm	50 mm	140 mm	D 64	DSF	**0 402 141**		
	4 x 0.4 mm	50 mm	140 mm	D 64	DSF	**0 402 142**		
		50 mm	140 mm	D 91	DSF	**0 402 143**		
	4 x 0.5 mm	50 mm	140 mm	D 64	DSF	**0 402 144**		
		50 mm	140 mm	D 91	DSF	**0 402 145**		
	8 x 0.2 mm	50 mm	160 mm	D 64	DSF	**0 402 150**		
	8 x 0.3 mm	50 mm	160 mm	D 64	DSF	**0 402 151**		
	8 x 0.4 mm	50 mm	160 mm	D 64	DSF	**0 402 152**		
		50 mm	160 mm	D 91	DSF	**0 402 153**		
	8 x 0.5 mm	50 mm	160 mm	D 64	DSF	**0 402 154**		
		50 mm	160 mm	D 91	DSF	**0 402 155**		
	13 x 0.2 mm	80 mm	180 mm	D 64	DSF	**0 402 160**		
	13 x 0.3 mm	80 mm	180 mm	D 64	DSF	**0 402 161**		
	13 x 0.4 mm	80 mm	180 mm	D 64	DSF	**0 402 162**		
		80 mm	180 mm	D 126	DSF	**0 402 163**		
	13 x 0.5 mm	80 mm	180 mm	D 64	DSF	**0 402 164**		
		80 mm	180 mm	D 126	DSF	**0 402 165**		



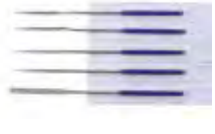
Looking for another size?

No problem! Other widths, grit sizes and thicknesses of between 0.1 and 1 mm are available at short notice!

Please consult **Stefan Spiegel**: **Tel. +49 (0) 22 04 / 8 39 0**
Mail: s.spiegel@joke.de

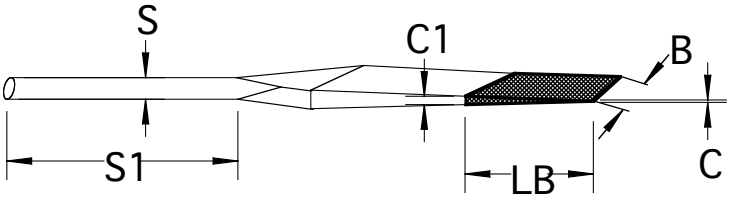
Diamond hand file sets
shank Ø 3 mm

Consisting of 1 piece each:
• **flat file** (6 x 1.4 mm) • **half-round file** (6 x 1.9 mm) • **round file** (Ø 3.4 mm) • **square file** (2.9 mm) • **three-square file** (3.9 mm)

	Coating dimensions	Shank dimensions	Total length	Grit size	Packing quantity	Order No.	Price from 1 set
Diamond hand files set shank Ø 3 mm, 5 pieces							
	50 mm	Ø 3 mm	180 mm	D 126	5 piece	**0 403 010**	
	70 mm	Ø 3 mm	140 mm	D 151	5 piece	**0 403 009**	

Conical diamond machine files DIPROFIL® DLM
shank Ø 3 mm, total length 90 mm

	Coating dimensions	Coating thickness	Shank dimensions	Total length	Grit size	Order No.	Price from 1 piece	Price from 10 pieces
Conical diamond machine files DIPROFIL® DLM								
	2.5 x 30 mm	0.3 / 1.6 mm	Ø 3 x 35 mm	90 mm	D 46	**0 402 541**		
		0.3 / 1.6 mm	Ø 3 x 35 mm	90 mm	D 30	**0 402 565**		
		0.3 / 1.6 mm	Ø 3 x 35 mm	90 mm	D 76	**0 402 566**		
		0.3 / 1.6 mm	Ø 3 x 35 mm	90 mm	D 107	**0 402 542**		
	4 x 30 mm	0.3 / 1.4 mm	Ø 3 x 40 mm	90 mm	D 46	**0 402 543**		
		0.3 / 1.4 mm	Ø 3 x 40 mm	90 mm	D 30	**0 402 568**		
		0.3 / 1.4 mm	Ø 3 x 40 mm	90 mm	D 76	**0 402 569**		
		0.3 / 1.4 mm	Ø 3 x 40 mm	90 mm	D 107	**0 402 544**		
	6 x 30 mm	0.3 / 1.6 mm	Ø 3 x 35 mm	90 mm	D 46	**0 402 545**		
		0.3 / 1.6 mm	Ø 3 x 35 mm	90 mm	D 30	**0 402 575**		
		0.3 / 1.6 mm	Ø 3 x 35 mm	90 mm	D 76	**0 402 576**		
		0.3 / 1.6 mm	Ø 3 x 35 mm	90 mm	D 107	**0 402 546**		



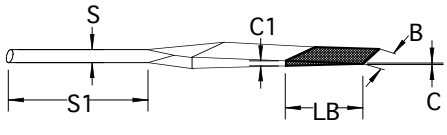
matching set

	Grit size	Order No.	Price from 1 set
Conical diamond machine file set DIPROFIL® DLM, 6 pieces			
	D 46 / D 107	**0 402 540**	
	D 30 / D 46	**0 402 570**	
	D 76 / D 107	**0 402 580**	

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Conical diamond machine files DLSF
shank Ø 3 mm, total length 56 / 72 mm

	Coating dimensions	Coating thickness	Shank dimensions	Total length	Grit size	Order No.	Price from 1 piece	Price from 10 pieces
Conical diamond machine files DLSF, shank Ø 3 mm								
	3 x 15 mm	0.5 / 0.9 mm	Ø 3 x 20 mm	72 mm	# 200	**0 403 724**		
		0.5 / 0.9 mm	Ø 3 x 20 mm	72 mm	# 400	**0 403 725**		
		0.5 / 0.9 mm	Ø 3 x 20 mm	72 mm	# 600	**0 403 726**		
		0.5 / 1.3 mm	Ø 3 x 20 mm	56 mm	# 200	**0 403 721**		
		0.5 / 1.3 mm	Ø 3 x 20 mm	56 mm	# 400	**0 403 722**		
		0.5 / 1.3 mm	Ø 3 x 20 mm	56 mm	# 600	**0 403 723**		
	6 x 15 mm	0.5 / 0.9 mm	Ø 3 x 18 mm	72 mm	# 200	**0 403 730**		
		0.5 / 0.9 mm	Ø 3 x 18 mm	72 mm	# 400	**0 403 731**		
		0.5 / 0.9 mm	Ø 3 x 18 mm	72 mm	# 600	**0 403 732**		
		0.5 / 1.3 mm	Ø 3 x 18 mm	56 mm	# 200	**0 403 727**		
		0.5 / 1.3 mm	Ø 3 x 18 mm	56 mm	# 400	**0 403 728**		
		0.5 / 1.3 mm	Ø 3 x 18 mm	56 mm	# 600	**0 403 729**		

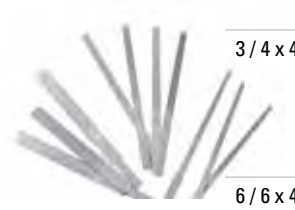


matching set

	Order No.	Price from 1 set
Conical diamond machine files DLSF, 12 pieces		
	0 403 720	



Conical diamond machine files DLC
shank Ø 4 x 1 x 15 mm, total length 73 mm

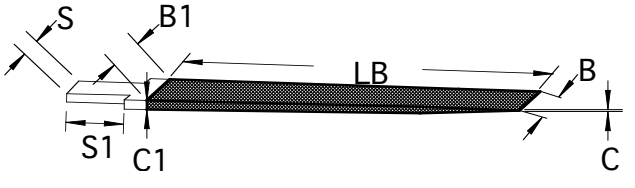
	Coating dimensions	Coating thickness	Shank dimensions	Total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Conical diamond machine files DLC, shank 4 x 1 x 15 mm								
	2 / 3 x 40 mm	0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 200	**0 403 671**		
		0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 400	**0 403 672**		
		0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 600	**0 403 673**		
	3 / 4 x 40 mm	0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 120	**0 403 674**		
		0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 200	**0 403 675**		
		0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 400	**0 403 676**		
		0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 600	**0 403 677**		
	6 / 6 x 40 mm	0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 200	**0 403 678**		
		0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 400	**0 403 679**		
		0.5 / 1 mm	4 x 1 x 15 mm	73 mm	# 600	**0 403 680**		

Accessories / spare parts

	Order No.	Price from 1 piece
File holder for conical diamond files DLP and DLC		
	**0 403 690**	

matching set

	Order No.	Price from 1 set
Conical diamond machine file set DLC, 10 pieces		
	**0 403 670**	





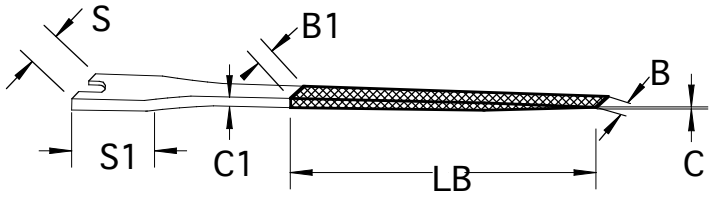
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Conical diamond machine files DLFL
shank Ø 8 x 1 x 20 mm, total length 60 / 70 / 90 mm

	Coating dimensions	Coating thickness	Shank dimensions	Total length	Grit size	Order No.	Price from 1 piece	Price from 5 pieces
Conical diamond machine files DLFL, shank 8 x 1 x 20 mm								
	2/4 x 25 mm	0.5 / 1 mm	8 x 1 x 20 mm	60 mm	# 200	**0 403 642**		
		0.5 / 1 mm	8 x 1 x 20 mm	60 mm	# 400	**0 403 643**		
		0.5 / 1 mm	8 x 1 x 20 mm	60 mm	# 600	**0 403 644**		
	4/4 x 25 mm	0.5 / 1 mm	8 x 1 x 20 mm	60 mm	# 200	**0 403 646**		
		0.5 / 1 mm	8 x 1 x 20 mm	60 mm	# 400	**0 403 647**		
		0.5 / 1 mm	8 x 1 x 20 mm	60 mm	# 600	**0 403 648**		
	6/6 x 40 mm	0.5 / 1 mm	8 x 1 x 20 mm	70 mm	# 200	**0 403 650**		
		0.5 / 1 mm	8 x 1 x 20 mm	70 mm	# 400	**0 403 651**		
		0.5 / 1 mm	8 x 1 x 20 mm	70 mm	# 600	**0 403 652**		
	8/8 x 60 mm	0.5 / 1 mm	8 x 1 x 20 mm	90 mm	# 200	**0 403 658**		
		0.5 / 1 mm	8 x 1 x 20 mm	90 mm	# 400	**0 403 659**		
		0.5 / 1 mm	8 x 1 x 20 mm	90 mm	# 600	**0 403 660**		

Accessories / spare parts

	Dimensions	Order No.	Price from 1 piece
File holder for conical diamond files			
	Ø 11 x 120 mm	**0 403 640**	



Conical diamond hand files DJM
shank Ø 3 mm, total length 130 mm

	Coating dimensions	Coating thickness	Shank dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 10 pieces
Conical diamond hand files DJM, shank Ø 3 mm									
	2.5 x 30 mm	0.5 / 1.6 mm	Ø 3 x 75 mm	130 mm	D 30	DJM	**0 402 593**		
		0.5 / 1.6 mm	Ø 3 x 75 mm	130 mm	D 54	DJM	**0 402 592**		
		0.5 / 1.6 mm	Ø 3 x 75 mm	130 mm	D 91	DJM	**0 402 591**		
	4 x 30 mm	0.5 / 1.6 mm	Ø 3 x 75 mm	130 mm	D 30	DJM	**0 402 596**		
		0.5 / 1.6 mm	Ø 3 x 75 mm	130 mm	D 54	DJM	**0 402 595**		
		0.5 / 1.6 mm	Ø 3 x 75 mm	130 mm	D 91	DJM	**0 402 594**		
	6 x 30 mm	0.5 / 1.3 mm	Ø 3 x 75 mm	130 mm	D 30	DJM	**0 402 599**		
		0.5 / 1.3 mm	Ø 3 x 75 mm	130 mm	D 54	DJM	**0 402 598**		
		0.5 / 1.3 mm	Ø 3 x 75 mm	130 mm	D 91	DJM	**0 402 597**		

Accessories / spare parts

	Dimensions	Colour	Order No.	Price from 1 piece
plastic covering for hand files				
	Ø 5 x 55 mm	yellow	**0 403 006**	
	Ø 5 x 55 mm	black	**0 403 007**	
	Ø 5 x 55 mm	blue	**0 403 008**	

matching set

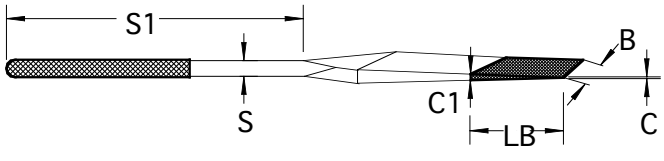
	Order No.	Price from 1 set
Conical diamond hand file set DJM, 10 pieces		
The set contains 9 diamond hand files DJM and a mini diamond file DLK, grit size D 54, Barett	**0 402 590**	



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Conical diamond hand files DLP
shank Ø 3 mm, total length 130 mm

	Coating dimensions	Coating thickness	Shank dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 10 pieces
Conical diamond hand files DLP, with plastic covering, shank Ø 3 mm									
 conical round files	Ø 0.2 / 3 x 50 mm	0.2 / 3 mm	Ø 3 x 90 mm	130 mm	# 200	DLP	**0 403 549-2**		
		0.2 / 3 mm	Ø 3 x 90 mm	130 mm	# 400	DLP	**0 403 549-1**		
		0.2 / 3 mm	Ø 3 x 90 mm	130 mm	# 600	DLP	**0 403 549**		
	2 x 30 mm	0.5 / 1.9 mm	Ø 3 x 78 mm	130 mm	# 200	DLP	**0 403 540**		
		0.5 / 1.9 mm	Ø 3 x 78 mm	130 mm	# 400	DLP	**0 403 541**		
		0.5 / 1.9 mm	Ø 3 x 78 mm	130 mm	# 600	DLP	**0 403 542**		
	4 x 30 mm	0.5 / 1.3 mm	Ø 3 x 74 mm	130 mm	# 200	DLP	**0 403 543**		
		0.5 / 1.3 mm	Ø 3 x 74 mm	130 mm	# 400	DLP	**0 403 544**		
		0.5 / 1.3 mm	Ø 3 x 74 mm	130 mm	# 600	DLP	**0 403 545**		
	6 x 30 mm	0.5 / 1.3 mm	Ø 3 x 74 mm	130 mm	# 200	DLP	**0 403 546**		
		0.5 / 1.3 mm	Ø 3 x 74 mm	130 mm	# 400	DLP	**0 403 547**		
		0.5 / 1.3 mm	Ø 3 x 74 mm	130 mm	# 600	DLP	**0 403 548**		



matching set

	Order No.	Price from 1 set
Conical diamond hand file set DLP, 10 pieces		
	**0 403 550**	

Accessories / spare parts

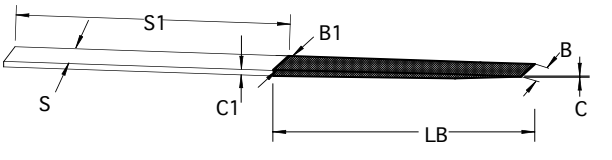
	Order No.	Price from 1 piece
File holder for conical diamond files DLP and DLC		
	**0 403 690**	

Conical diamond hand files DLV
shank 4 / 6 / 8 mm, total length 170 mm

	Coating dimensions	Coating thickness	Shank dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 10 pieces
Conical diamond hand files DLV, shank 4 / 6 / 8 x 120 mm									
	2 / 3 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	# 230	DLV	**0 403 741**		
		0.5 / 2 mm	4 x 120 mm	170 mm	# 400	DLV	**0 403 742**		
		0.5 / 2 mm	4 x 120 mm	170 mm	# 600	DLV	**0 403 743**		
	3 / 4 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	# 230	DLV	**0 403 744**		
		0.5 / 2 mm	4 x 120 mm	170 mm	# 400	DLV	**0 403 745**		
		0.5 / 2 mm	4 x 120 mm	170 mm	# 600	DLV	**0 403 746**		
	6 / 6 x 50 mm	0.5 / 2.5 mm	6 x 120 mm	170 mm	# 230	DLV	**0 403 747**		
		0.5 / 2.5 mm	6 x 120 mm	170 mm	# 400	DLV	**0 403 748**		
		0.5 / 2.5 mm	6 x 120 mm	170 mm	# 600	DLV	**0 403 749**		
	8 / 8 x 50 mm	0.5 / 2.5 mm	8 x 120 mm	170 mm	# 230	DLV	**0 403 750**		
		0.5 / 2.5 mm	8 x 120 mm	170 mm	# 400	DLV	**0 403 751**		
		0.5 / 2.5 mm	8 x 120 mm	170 mm	# 600	DLV	**0 403 752**		

matching set

	Order No.	Price from 1 set
Conical diamond hand file set DLV, 12 pieces		
	**0 403 740**	





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Conical diamond hand files DIPROFIL® DLS
shank Ø 4 / 6 / 8 mm, total length 170 mm

	Coating dimensions	Coating thickness	Shank dimensions	Total length	Grit size	Type	Order No.	Price from 1 piece	Price from 10 pieces
Conical diamond hand files DIPROFIL® DLS, shank 4 / 6 / 8 mm									
	2 / 3 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	D 30	DLS	**0 403 151-30**		
	2 / 3 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	D 46	DLS	**0 403 151-3**		
	2 / 3 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	D 76	DLS	**0 403 151**		
	2 / 3 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	D 107	DLS	**0 403 151-2**		
	3 / 4 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	D 30	DLS	**0 403 152-30**		
	3 / 4 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	D 46	DLS	**0 403 152**		
	3 / 4 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	D 76	DLS	**0 403 153**		
	3 / 4 x 50 mm	0.5 / 2 mm	4 x 120 mm	170 mm	D 107	DLS	**0 403 154**		
	6 / 6 x 50 mm	0.5 / 2.4 mm	6 x 120 mm	170 mm	D 30	DLS	**0 403 155-30**		
	6 / 6 x 50 mm	0.5 / 2.4 mm	6 x 120 mm	170 mm	D 46	DLS	**0 403 155**		
	6 / 6 x 50 mm	0.5 / 2.4 mm	6 x 120 mm	170 mm	D 76	DLS	**0 403 156**		
	6 / 6 x 50 mm	0.5 / 2.4 mm	6 x 120 mm	170 mm	D 107	DLS	**0 403 157**		
	8 / 8 x 50 mm	0.5 / 2.4 mm	8 x 120 mm	170 mm	D 30	DLS	**0 403 158-30**		
	8 / 8 x 50 mm	0.5 / 2.4 mm	8 x 120 mm	170 mm	D 46	DLS	**0 403 158**		
	8 / 8 x 50 mm	0.5 / 2.4 mm	8 x 120 mm	170 mm	D 76	DLS	**0 403 159**		
	8 / 8 x 50 mm	0.5 / 2.4 mm	8 x 120 mm	170 mm	D 107	DLS	**0 403 160**		

matching set

		Grit size	Order No.	Price from 1 set
Conical diamond hand file set DIPROFIL® DLS, 10 pieces				
	The set contains 10 conical diamond hand files: grit size 46: 0 403 152, 0 403 155, 0 403 158 grit size 76: 0 403 151, 0 403 153, 0 403 156, 0 403 159 grit size 107: 0 403 154, 0 403 157, 0 403 160	D 46, D 76, D 107	**0 403 150**	
Conical diamond hand file set DIPROFIL® DLS-F, 10 pieces				
	The set contains 10 conical diamond hand files: grit size 30: 0 403 151-30, 0 403 152-30, 0 403 155-30, 0 403 158-30 grit size 46: 0 403 151-3, 0 403 152, 0 403 155, 0 403 158 grit size 76: 0 403 151, 0 403 153	D 30, D 46, D 76	**0 403 150-1**	

Chipping tools
Overview



Accessories for milling



Engraver's milling cutters HSS, shank Ø 3 mm



Miniature carbide milling cutters/finishers Ø 1,6 mm



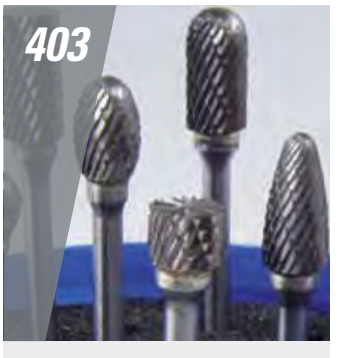
Carbide milling cutters, shank Ø 2,35 mm



Milling cutters for processing aluminium, shank Ø 3 mm



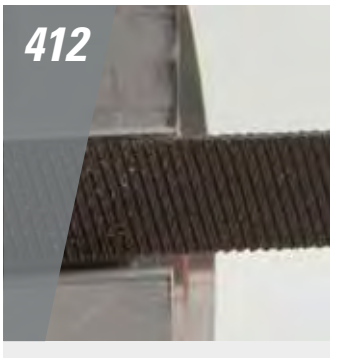
Carbide milling cutters, shank Ø 3 and 6 mm



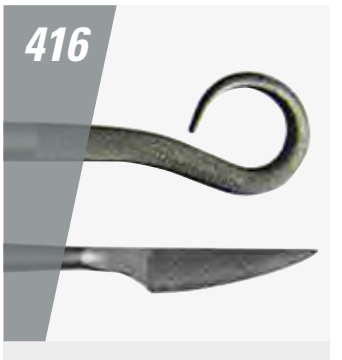
Carbide milling cutters Sets



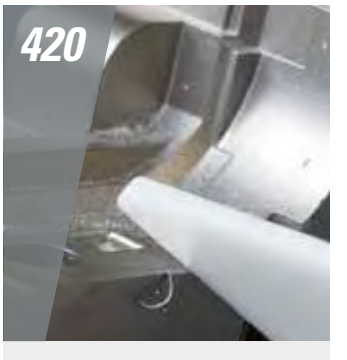
Gravers, solid carbide metal



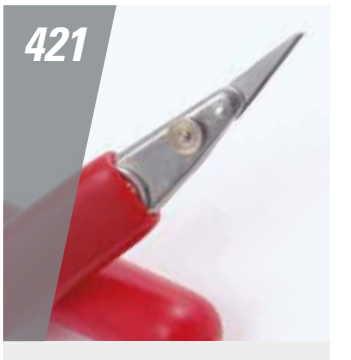
Filing tools



Steel riffle files



Hand deburrers



Deburring knife

388 **Milling tools**
Engraver's milling cutters HSS
Carbide milling cutters
Gravers, solid carbide metal

412 **Filing tools**
Steel needle files
Steel riffle files

420 **Deburring tools**
Hand deburrers
Reverse deburrers
Deburring knife



4

Milling tools

390 **Engraver's milling cutters in HSS**

392 **Milling cutters, shank Ø 1.6 mm**

395 **Milling cutters, shank Ø 2.35 mm**

397 **Milling cutters, shank Ø 3.0 mm**

406 **Milling cutters, shank Ø 6.0 mm**

410 **Circular saw blades**

410 **Gravers**

411 **Solid carbide microdrills**

411 **Reverse deburrer 45°**

If you have always held the opinion that a milling bur is just a piece of carbide available in various shank and head sizes, you should pay particular attention to the following pages.
It is worth checking the milling bur down to its teeth. Ultimately, the type of cut decides what materials it can be best used on (see illustration below).

Cutting types of the joke miling cutters:



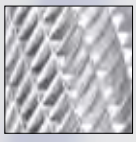
Normal cut
Even cutting performance with high stock removal



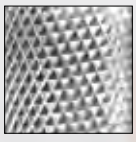
Fine cut
For delicate surfaces on tough materials



Special-G cut
For hard to chip materials, i.e. nickel, titanium, stainless steels



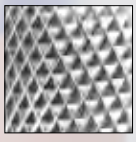
Criss-cross cut
Very good chipping with smaller chips



Ultrafine cut
High stock removal with very fine surface quality up to 65 HRC



INOX cut
Special geometry for working on stainless steel



Diamond cut
For fibreglass reinforced plastics, epoxy resins, phenols



Coarse cut
Wide chip intervals for aluminium, non-ferrous metals and plastics

Protection for the eyes

Protective goggles
- Clear, optically correct, single-piece PC pane
- Scratchproof coating
- Casual design, extremely light (21.5 g)
- Protection against general hazards and flying particles (up to 45 m/sec.)
- Comfort pads on the temple ends
- Soft nose pad





	Order No.	Price from 1 piece
Protective goggles		
	0 203 083-1	

Blowing pen
A must for every workplace!

Possibly the smallest blowing pen in the world. It weighs a mere 20 g and regulates the compressed air perfectly. The small aperture of 3 mm ensures that the air really only goes where it should. A must for every workplace!

		Order No.	Price from 1 piece
Blowing pen			
	For direct connection to a rapid coupling system. Dimensions: Ø12.5 x 108 mm Weight: 20 g	**0 203 200**	

The perfect complement

Cleaning fluid X 73016-A
- Ideal for cleaning moulds and workpieces
- Evaporates rapidly and without leaving residues
- For all metals, glass, ceramics and almost all plastics



Order No.	Price
0 580 521	

The perfect complement

Universal spray joke X 73020
- Five products rolled into one: corrosion protection, cleaning, water repellence, lubrication and preservation
- Cleans surfaces and cares for tools



Order No.	Price
0 580 526	

Engraver's milling cutters in HSS
shank Ø 3 mm

Engraver's milling cutters in HSS
Ideal for fine working on steel, cast steel, alloyed and unalloyed, and on non-ferrous metals with high resistance to cutting.
Cutting speed: Vmax. 60 – 180 m/min

	Head dimensions	Angle	Radius	Shank Ø x total length	Order No.	Price from 1 piece	Price from 10 pieces
Engraver's milling cutters in HSS, shank Ø 3 mm							
cylinder							
	Ø 6 x 10 mm			Ø 3 x 42 mm	**0 500 114**		
	Ø 7 x 10 mm			Ø 3 x 42 mm	**0 500 113**		
sphere							
	Ø 1.6 x 1.5 mm			Ø 3 x 38 mm	**0 500 148**		
	Ø 2.3 x 2.1 mm			Ø 3 x 39 mm	**0 500 149**		
	Ø 3.2 x 3 mm			Ø 3 x 40 mm	**0 500 150**		
	Ø 4 x 3.8 mm			Ø 3 x 41 mm	**0 500 151**		
	Ø 5 x 4.8 mm			Ø 3 x 42 mm	**0 500 152**		
	Ø 6 x 5.6 mm			Ø 3 x 43 mm	**0 500 153**		
	Ø 7 x 6.7 mm			Ø 3 x 44 mm	**0 500 154**		
	Ø 8 x 7.7 mm			Ø 3 x 45 mm	**0 500 155**		
round cone							
	Ø 7 x 10 mm			Ø 3 x 42 mm	**0 500 107**		
flame							
	Ø 7 x 12 mm			Ø 3 x 44 mm	**0 500 115**		
lens							
	Ø 8 x 2 mm			Ø 3 x 39 mm	**0 500 164**		
	Ø 10 x 2.5 mm			Ø 3 x 40 mm	**0 500 165**		
	Ø 12 x 3 mm		14 mm	Ø 3 x 40 mm	**0 500 166**		
	Ø 14 x 3.5 mm		15.5 mm	Ø 3 x 41 mm	**0 500 167**		
wheel, radius							
	Ø 8 x 2 mm		1.1 mm	Ø 3 x 39 mm	**0 500 168**		
	Ø 12 x 2.6 mm		1.4 mm	Ø 3 x 40 mm	**0 500 170**		
	Ø 14 x 3 mm		1.6 mm	Ø 3 x 40 mm	**0 500 171**		
wheel, flat							
	Ø 6 x 1 mm			Ø 3 x 38 mm	**0 500 172**		
	Ø 8 x 1 mm			Ø 3 x 38 mm	**0 500 173**		
	Ø 10 x 1 mm			Ø 3 x 38 mm	**0 500 174**		
pointed cone 35°							
	Ø 1.6 x 2.8 mm	35°		Ø 3 x 40 mm	**0 500 140**		
	Ø 2.3 x 4 mm	35°		Ø 3 x 41 mm	**0 500 141**		
	Ø 3.2 x 5.6 mm	35°		Ø 3 x 43 mm	**0 500 142**		
	Ø 4 x 7 mm	35°		Ø 3 x 44 mm	**0 500 143**		
	Ø 5 x 8.7 mm	35°		Ø 3 x 46 mm	**0 500 144**		
	Ø 6 x 10.5 mm	35°		Ø 3 x 46 mm	**0 500 145**		
	Ø 7 x 12.5 mm	35°		Ø 3 x 46 mm	**0 500 146**		
	Ø 8 x 14 mm	35°		Ø 3 x 46 mm	**0 500 147**		

Engraver's milling cutters in HSS
shank Ø 3 mm

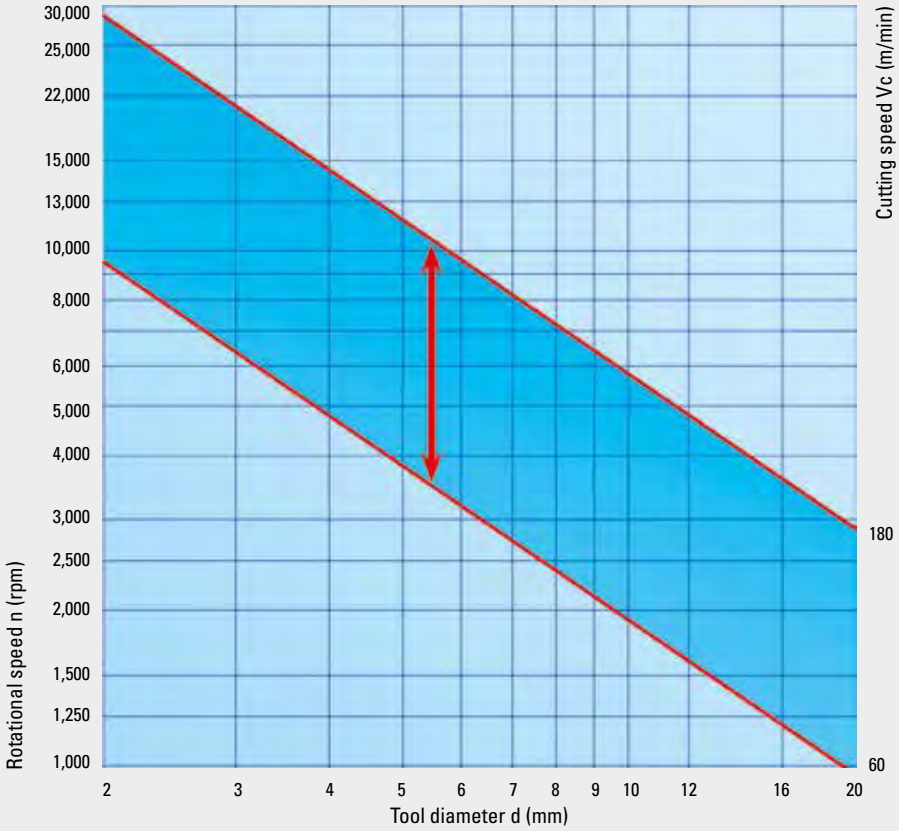
	Head dimensions	Angle	Radius	Shank Ø x total length	Order No.	Price from 1 piece	Price from 10 pieces
pointed cone 70°							
	Ø 4 x 2.8 mm	70°		Ø 3 x 40 mm	**0 500 127**		
	Ø 6 x 4.2 mm	70°		Ø 3 x 41 mm	**0 500 129**		
	Ø 8 x 5.5 mm	70°		Ø 3 x 43 mm	**0 500 131**		
conical point 70° cyl.							
	Ø 6 x 6 mm	70°		Ø 3 x 43 mm	**0 500 137**		
	Ø 8 x 8 mm	70°		Ø 3 x 45 mm	**0 500 139**		

matching set



		Order No.	Price from 1 set
Set of engraver's milling cutters, HSS			
	contents: 15 pieces	**0 500 100**	

Speed recommendations for engraver's milling cutters in HSS



Carbide milling cutters/finishers
shank Ø 1.6 mm

	Head dimensions	Shank Ø x total length	Cut	Packing quantity	Order No.	Price from 1 piece
Carbide milling cutters/finishers, shank Ø 1.6 mm						
cylinder						
	Ø 0.8 x 3.6 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 260-1**	
	Ø 0.9 x 4.0 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 353**	
	Ø 1.2 x 4.5 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 355**	
	Ø 1.4 x 4.5 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 205-1**	
sphere						
	Ø 0.5 x 0.4 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 899**	
	Ø 0.6 x 0.5 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 248**	
	Ø 0.7 x 0.5 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 258**	
	Ø 0.8 x 0.6 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 259**	
	Ø 0.9 x 0.7 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 342**	
	Ø 1.0 x 0.8 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 253**	
	Ø 1.2 x 1.0 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 343**	
	Ø 1.4 x 1.2 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 256**	
	Ø 1.4 x 1.2 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	**0 502 263**	
	Ø 1.6 x 1.3 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 201**	
	Ø 1.6 x 1.3 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 202**	
	Ø 1.8 x 1.4 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 254**	
	Ø 2.1 x 1.8 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 344**	
	Ø 2.3 x 1.8 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 255**	
	Ø 2.3 x 1.8 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 203**	
pointed cone						
	Ø 1.0 x 4.3 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	**0 502 307**	
	Ø 1.4 x 6.2 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	**0 502 303**	
pear						
	Ø 0.8 x 3.0 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 376**	
	Ø 1.2 x 5.0 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	**0 502 391**	
flame						
	Ø 0.9 x 3.6 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 229**	
	Ø 1.0 x 4.5 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 261**	
	Ø 1.2 x 3.5 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 227**	
	Ø 1.2 x 3.7 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 262**	
	Ø 1.2 x 8.0 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	**0 502 275**	
	Ø 1.4 x 3.5 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 233**	
	Ø 1.8 x 3.8 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 230**	
football						
	Ø 1.2 x 3.1 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 224**	
	Ø 1.4 x 3.1 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 235**	
	Ø 1.8 x 3.5 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 236**	
	Ø 2.3 x 4.2 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 231**	
grenade						
	Ø 1.4 x 3.5 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	**0 502 266**	
	Ø 1.6 x 3.5 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	**0 502 268**	

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Carbide milling cutters/finishers
shank Ø 1.6 mm

	Head dimensions	Shank Ø x total length	Cut	Packing quantity	Order No.	Price from 1 piece
cone with safety point						
	Ø 1.4 x 6.0 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 220**	
	Ø 1.4 x 9.0 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 221**	
cone, round						
	Ø 1.0 x 4.2 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 206**	
	Ø 1.2 x 4.1 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 308**	
	Ø 1.6 x 4.1 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 271**	
	Ø 1.8 x 8.0 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 237**	
torpedo						
	Ø 1.0 x 6.0 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 222**	
	Ø 1.2 x 8.0 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	**0 502 981**	
	Ø 1.4 x 10 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 243**	
torpedo, conical						
	Ø 1.4 x 10 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	**0 502 986**	
	Ø 1.6 x 10 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	**0 502 245**	
cylinder, round						
	Ø 0.8 x 4.1 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 924**	
	Ø 1.2 x 4.1 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 926**	
	Ø 1.4 x 4.5 mm	Ø 1.6 x 19 mm	standard	5 pieces	**0 502 204-1**	

matching set

		Order No.	Price from 1 set
Set of carbide milling cutters/finishers			
	contents: 12 pieces	**0 502 200-1**	

The perfect complement

Rotating tool holders



Order No.	Price
0 200 020	

Carbide milling cutters
with titanium nitride coating

	Head dimensions	Shank Ø x total length	Cut	Packing quantity	Order No.	Price from 1 piece
Carbide milling cutters with titanium nitride coating, shank Ø 1.6 mm						
cylinder						
	Ø 1.0 x 4.2 mm	Ø 1.6 x 19 mm	double cut	5 pieces	**0 502 211**	
	Ø 1.2 x 4.2 mm	Ø 1.6 x 19 mm	double cut	5 pieces	**0 502 218**	
cone, round						
	Ø 1.2 x 4.2 mm	Ø 1.6 x 19 mm	double cut	5 pieces	**0 502 214**	
cylinder, round						
	Ø 1.0 x 4.2 mm	Ø 1.6 x 19 mm	double cut	5 pieces	**0 502 219**	
	Ø 1.2 x 4.2 mm	Ø 1.6 x 19 mm	double cut	5 pieces	**0 502 213**	

The perfect complement

High speed handpiece P 320
- max. speed 320,000 rpm
- ideal for all filigree tasks (deburring on steel, stainless steel, glass and plastics)
- compact, ergonomic shape
- rapid tool change



Order No.	Price
0 009 900-0	

Working Ø of the tool	Max. perm. speed	Recommended speed
0.7 – 1.0 mm	450,000 1/min	100,000 – 200,000 1/min
1.2 – 1.4 mm	450,000 1/min	70,000 – 220,000 1/min
1.6 – 1.8 mm	450,000 1/min	55,000 – 160,000 1/min
2.1 – 2.3 mm	300,000 1/min	40,000 – 120,000 1/min
2.5 – 2.7 mm	160,000 1/min	35,000 – 110,000 1/min
2.9 – 3.1 mm	140,000 1/min	30,000 – 95,000 1/min
3.3 – 4.0 mm	120,000 1/min	25,000 – 75,000 1/min
4.2 – 5.0 mm	95,000 1/min	15,000 – 60,000 1/min
5.5 – 7.0 mm	60,000 1/min	12,000 – 40,000 1/min
8.0 – 10 mm	45,000 1/min	10,000 – 20,000 1/min

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Milling burs made of ceramic material
shank-Ø 2.35 mm

The cutters made of high-performance ceramics are available in a cylindrical, round conical and tree shape. Each shape is available with coarse, medium and fine teeth. The cutters are characterised by a long service life, very good cutting properties, little heating, no smearing or clogging and very quiet running. Optimally suited for processing plastic, rubber, silicone, foam, plaster and acrylic, etc.

Recommended speed range: 15,000 – 30,000 rpm, max. speed: 40,000 rpm

	Head dimensions	Shank Ø x total length	Cut	Order No.	Price from 1 piece	Price from 5 pieces
Milling burs made of ceramic, shank Ø 2.35 mm						
cylinder						
	Ø 6 x 14 mm	Ø 2.35 x 52 mm	double cut, fine	**0 529 033**		
		Ø 2.35 x 52 mm	double cut, medium	**0 529 034**		
		Ø 2.35 x 52 mm	double cut, coarse	**0 529 035**		
round cone						
	Ø 6 x 14 mm	Ø 2.35 x 52 mm	double cut, fine	**0 529 013**		
		Ø 2.35 x 52 mm	double cut, medium	**0 529 014**		
		Ø 2.35 x 52 mm	double cut, coarse	**0 529 015**		
rounded arch						
	Ø 6 x 14 mm	Ø 2.35 x 52 mm	double cut, fine	**0 529 023**		
		Ø 2.35 x 52 mm	double cut, medium	**0 529 024**		
		Ø 2.35 x 52 mm	double cut, coarse	**0 529 025**		
torpedo						
	Ø 2.3 x 13 mm	Ø 2.35 x 52 mm	double cut, fine	**0 529 043**		
		Ø 2.35 x 52 mm	double cut, medium	**0 529 044**		
		Ø 2.35 x 52 mm	double cut, coarse	**0 529 045**		

matching set

		Order No.	Price from 1 set
Set of ceramic milling cutters			
	contents: 3 pieces	**0 529 005**	

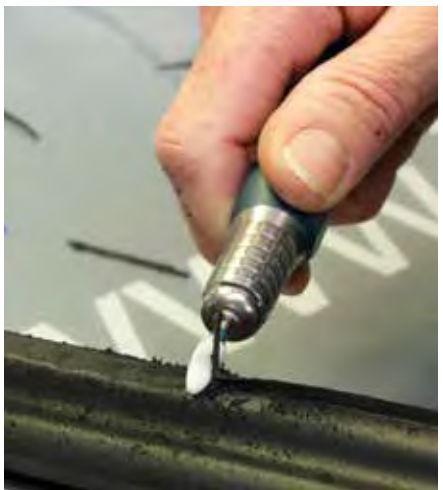
Application: foam



Application: plastic



Application: rubber



Carbide milling cutters
shank Ø 2.35 mm

	Head dimensions	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	10 pieces	100 pieces
Carbide milling cutters								
cylinder								
	Ø 1.0 x 4.1 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 630**			
	Ø 1.4 x 4.5 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 631**			
	Ø 1.6 x 4.5 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 632**			
	Ø 2.1 x 5.1 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 633**			
	Ø 2.3 x 5.4 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 634**			
sphere								
	Ø 0.9 x 0.75 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 600**			
	Ø 1.0 x 0.8 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 601**			
	Ø 1.2 x 1.0 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 602**			
	Ø 1.4 x 1.2 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 603**			
	Ø 1.6 x 1.4 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 604**			
	Ø 1.8 x 1.4 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 605**			
	Ø 2.1 x 1.9 mm	Ø 2.35 x 44.5 mm	normal	standard	**0 517 606**			

Conversion table – metres per minute (m/min) to rotations per minute (rpm)

Cutting edge diameter diameter/ rotational speed (rpm) m/min

m/perc	2 mm	3 mm	6 mm	10 mm	12 mm	16 mm	18 mm	20 mm	25 mm
100	15,920	10,600	5,300	3,180	2,650	1,990	1,770	1,540	1,270
150	23,880	15,910	7,950	4,770	3,980	2,980	2,650	2,390	1,910
200	31,850	21,210	10,600	6,360	5,300	3,980	3,530	3,180	2,540
250	39,800	26,250	13,260	7,950	6,630	4,970	4,420	3,980	3,180
300	47,770	31,820	15,910	9,550	7,950	5,970	5,300	4,770	3,820
350	55,730	37,130	18,560	11,140	9,280	6,,960	6,190	5,570	4,450
400	63,700	42,430	21,210	12,730	10,610	7,960	7,070	6,360	5,090
450	71,650	47,740	23,820	14,320	11,930	8,950	7,960	7,160	5,730
500	79,600	53,040	26,520	15,910	13,260	9,940	8,840	7,950	6,360
550	87,580	58,350	29,170	17,500	14,590	10,940	9,720	8,750	7,000
600	95,540	63,650	31,820	19,090	15,910	11,930	10,610	9,550	7,640
650	103,500	69,000	34,500	20,700	17,250	12,940	11,500	10,350	8,280
700	111,460	74,300	37,150	22,300	18,570	13,930	12,380	11,150	8,900
750	119,420	79,600	39,800	23,880	19,900	14,930	13,270	11,950	9,550
800	127,380	84,900	42,460	25,470	21,230	15,920	14,150	12,740	10,190
850	135,350	90,200	45,110	27,070	22,560	16,920	15,040	13,540	10,830
900	143,310	95,540	47,770	28,660	23,880	17,910	15,920	14,330	11,460

Recommended cutting speeds:	hardened steels, non-hardened steels, cast steel	V = 350 – 700 m/min
	tainless steels, titanium, high-alloy steels, nickel	V = 450 – 800 m/min
	aluminium, plastics, non-ferrous metals	V = 500 – 900 m/min

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Milling cutters INOX
shank Ø 3 mm

The INOX series milling burs have a specially developed geometry for the growing market demand for stainless steel processing.

These new cutters offer genuine advantages owing to their effective milling performance that allows high stock removal on all austenitic, rust- and acid-resistant steels. Up to 100% more cutting performance compared to conventional cross toothing. In addition, the new cutter geometry allows the operator to work more efficiently by reducing heat generation (no annealing colours) at the interface between the cutting edge and the workpiece.



	Head dimensions	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
Carbide milling cutters INOX, shank Ø 3 mm								
cylinder								
	Ø 3 x 14 mm	Ø 3 x 38 mm	INOX	VHM	**0 528 003**			
	Ø 6.3 x 12.7 mm	Ø 3 x 45 mm	INOX	Standard	**0 528 006**			
rounded cylinder								
	Ø 3 x 14 mm	Ø 3 x 38 mm	INOX	VHM	**0 528 023**			
	Ø 6.3 x 12.7 mm	Ø 3 x 44 mm	INOX	Standard	**0 528 026**			
sphere								
	Ø 3 mm	Ø 3 x 38 mm	INOX	VHM	**0 528 043**			
	Ø 6.3 mm	Ø 3 x 38 mm	INOX	Standard	**0 528 046**			
rounded arch								
	Ø 3 x 14 mm	Ø 3 x 38 mm	INOX	VHM	**0 528 063**			
	Ø 6.3 x 12.7 mm	Ø 3 x 45 mm	INOX	Standard	**0 528 066**			

matching set

		Order No.	Price from 1 set
Set of carbide milling cutters INOX			
	contents: 8 pieces	**0 528 000**	

Milling cutters for processing aluminium
shank Ø 3 mm

Milling cutters for processing aluminium
Milling cutters with a coarse cut and a Ø 3 mm shank. For processing non-ferrous metals, aluminium, copper, brass and plastics. Optimally suited for milling work (deburring, welding seam processing, contours, etc.) in mould, machine and model building.



Cutting speed: 400 – 1,000 m/min

	Head dimensions	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
Milling cutters for processing aluminium, shank Ø 3 mm								
cylinder								
	Ø 3 x 14 mm	Ø 3 x 38 mm	coarse	solid carb.	**0 526 061**			
	Ø 6.3 x 12.7 mm	Ø 3 x 38 mm	coarse	standard	**0 526 062**			
rounded cylinder								
	Ø 3 x 14 mm	Ø 3 x 38 mm	coarse	solid carb.	**0 526 065**			
	Ø 6.3 x 12.7 mm	Ø 3 x 38 mm	coarse	standard	**0 526 066**			
sphere								
	Ø 3 mm	Ø 3 x 38 mm	coarse	solid carb.	**0 526 067**			
	Ø 4 mm	Ø 3 x 38 mm	coarse	solid carb.	**0 526 068**			
	Ø 6.3 mm	Ø 3 x 38 mm	coarse	standard	**0 526 069**			
round cone								
	Ø 3 x 14 mm / 8°	Ø 3 x 38 mm	coarse	solid carb.	**0 526 076**			
	Ø 6.3 x 15.8 mm / 22°	Ø 3 x 38 mm	coarse	standard	**0 526 077**			
pointed cone								
	Ø 3 x 11 mm / 14°	Ø 3 x 38 mm	coarse	solid carb.	**0 526 078**			
	Ø 6.3 x 12.7 mm / 22°	Ø 3 x 38 mm	coarse	standard	**0 526 079**			
rounded arch								
	Ø 3 x 14 mm	Ø 3 x 38 mm	coarse	solid carb.	**0 526 072**			
	Ø 6.3 x 12.7 mm	Ø 3 x 38 mm	coarse	standard	**0 526 073**			
tree with pointed end								
	Ø 3 x 14 mm	Ø 3 x 38 mm	coarse	solid carb.	**0 526 074**			
	Ø 6.3 x 12.7 mm	Ø 3 x 38 mm	coarse	standard	**0 526 075**			
drop								
	Ø 3 x 6 mm	Ø 3 x 38 mm	coarse	solid carb.	**0 526 070**			
	Ø 6.3 x 9.5 mm	Ø 3 x 38 mm	coarse	standard	**0 526 071**			
cylinder – end mill								
	Ø 3 x 14 mm	Ø 3 x 38 mm	coarse	solid carb.	**0 526 063**			
	Ø 6.3 x 12.7 mm	Ø 3 x 38 mm	coarse	standard	**0 526 064**			

matching set



		Order No.	Price from 1 set	5 set
Set of milling cutters for processing aluminium				
	contents: 8 pieces	**0 526 080**		

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Carbide milling cutters
shank Ø 3 mm

	Head dimensions	Type	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
Carbide milling cutters, shank Ø 3 mm									
cylinder									
	Ø 1 x 3.9 mm		Ø 3 x 45 mm	normal	standard	**0 517 423**			
	Ø 1 x 4 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 356**			
	Ø 1.5 x 4 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 357**			
	Ø 1.5 x 6 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 501 441**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 346**			
	Ø 2 x 4 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 358**			
	Ø 2.1 x 5.1 mm		Ø 3 x 45 mm	normal	standard	**0 517 428**			
	Ø 2.5 x 11 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 501 442**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 345**			
	Ø 3 x 12 mm		Ø 3 x 38 mm	diamond	solid carb.	**0 501 102**			
	Ø 3 x 12.7 mm		Ø 3 x 38 mm	fine	solid carb.	**0 501 347**			
	Ø 3 x 14 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 501 443**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 097**			
			Ø 3 x 38 mm	special-G	solid carb.	**0 501 401**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 501 453**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 501 463**			
	Ø 4 x 10.7 mm		Ø 3 x 45 mm	normal	standard	**0 517 432**			
	Ø 5 x 12.7 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 501 552**			
	Ø 6.3 x 12.7 mm		Ø 3 x 50 mm	double cut	standard	**0 501 551**			
cylinder – end mill									
	Ø 1.5 x 6 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 501 446**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 201**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 501 800**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 501 801**			
	Ø 1.6 x 5 mm		Ø 3 x 38 mm	diamond	solid carb.	**0 501 110**			
	Ø 2 x 10 mm		Ø 3 x 40 mm	fine	solid carb.	**0 501 341**			
	Ø 2.4 x 9.5 mm		Ø 3 x 38 mm	diamond	solid carb.	**0 501 111**			
	Ø 2.5 x 11 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 501 445**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 348**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 501 802**			
	Ø 3 mm	only end cut, both sides	Ø 3 x 38 mm	normal	solid carb.	**0 502 441**			
	Ø 3 x 12 mm		Ø 3 x 38 mm	diamond	solid carb.	**0 501 112**			
	Ø 3 x 14 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 501 444**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 203**			
			Ø 3 x 38 mm	special-G	solid carb.	**0 501 406**			
			Ø 3 x 43 mm	fine	solid carb.	**0 501 342**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 501 804**			
			Ø 3 x 50 mm	normal	solid carb.	**0 503 047**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 501 805**			
	Ø 6 x 7 mm		Ø 3 x 37 mm	fine	standard	**0 501 343**			
	Ø 6 x 13 mm		Ø 3 x 43 mm	fine	standard	**0 501 344**			
	Ø 6.3 x 4.7 mm		Ø 3 x 43 mm	double cut	standard	**0 502 551**			

Carbide milling cutters
shank Ø 3 mm

	Head dimensions	Type	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
rounded cylinder									
	Ø 1 x 4 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 348**			
	Ø 1.5 x 4 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 349**			
	Ø 2 x 4 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 360**			
	Ø 2 x 10 mm		Ø 3 x 40 mm	fine	solid carb.	**0 501 331**			
	Ø 2.5 x 11 mm		Ø 3 x 38 mm	special-G	solid carb.	**0 501 411**			
			Ø 3 x 38 mm	double cut	solid carb.	**0 503 441**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 334**			
	Ø 3 x 14 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 503 442**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 205**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 332**			
			Ø 3 x 38 mm	special-G	solid carb.	**0 501 412**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 503 452**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 503 462**			
			Ø 3 x 75 mm	normal	solid carb.	**0 503 036**			
	Ø 4 x 12.7 mm		Ø 3 x 38 mm	double cut	standard	**0 503 553**			
			Ø 3 x 38 mm	normal	standard	**0 503 214**			
	Ø 5 x 12.7 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 503 552**			
	Ø 6 x 13 mm		Ø 3 x 43 mm	fine	standard	**0 501 333**			
	Ø 6.3 x 12.7 mm		Ø 3 x 50 mm	double cut	standard	**0 503 551**			
			Ø 3 x 50 mm	normal	standard	**0 503 102**			
sphere									
	Ø 0.9 x 0.75 mm		Ø 3 x 45 mm	normal	standard	**0 517 121**			
	Ø 1 x 0.8 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 354**			
			Ø 3 x 45 mm	normal	standard	**0 517 122**			
	Ø 1.2 x 1 mm		Ø 3 x 45 mm	normal	standard	**0 517 123**			
	Ø 1.4 x 1.2 mm		Ø 3 x 45 mm	normal	standard	**0 517 124**			
	Ø 1.5 x 1.3 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 355**			
	Ø 1.6 x 1.4 mm		Ø 3 x 45 mm	normal	standard	**0 517 125**			
	Ø 1.8 x 1.6 mm		Ø 3 x 45 mm	normal	standard	**0 517 126**			
	Ø 2 x 1.7 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 352**			
	Ø 2.1 x 1.9 mm		Ø 3 x 45 mm	normal	standard	**0 517 127**			
	Ø 2.5 x 2.3 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 507 441**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 304**			
			Ø 3 x 45 mm	normal	standard	**0 517 129**			
	Ø 3 x 2.5 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 507 442**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 211**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 301**			
			Ø 3 x 38 mm	special-G	solid carb.	**0 501 416**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 507 452**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 507 462**			
	Ø 3.1 x 2.6 mm		Ø 3 x 45 mm	normal	standard	**0 517 130**			
	Ø 4 x 3 mm		Ø 3 x 34 mm	fine	solid carb.	**0 501 302**			
	Ø 4 x 3.5 mm		Ø 3 x 45 mm	normal	standard	**0 517 131**			
	Ø 4 x 3.7 mm		Ø 3 x 38 mm	double cut	standard	**0 507 443**			
	Ø 5 x 4.5 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 507 552**			
			Ø 3 x 45 mm	normal	standard	**0 517 132**			
	Ø 6 x 5 mm		Ø 3 x 35 mm	fine	standard	**0 501 303**			
	Ø 6.3 x 5 mm		Ø 3 x 44 mm	double cut	standard	**0 507 551**			
			Ø 3 x 44 mm	normal	standard	**0 503 103**			

Carbide milling cutters
shank Ø 3 mm

	Head dimensions	Type	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
tree with pointed end									
	Ø 1.5 x 4 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 350**			
	Ø 3 x 6 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 505 441**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 351**			
	Ø 3 x 8 mm		Ø 3 x 38 mm	special-G	solid carb.	**0 501 431**			
	Ø 3 x 9.5 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 505 443**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 352**			
	Ø 3 x 12 mm	cut to centre	Ø 3 x 38 mm	double cut	solid carb.	**0 505 444**			
	Ø 3 x 12.7 mm		Ø 3 x 38 mm	fine	solid carb.	**0 501 353**			
			Ø 3 x 38 mm	special-G	solid carb.	**0 501 432**			
		cut to centre	Ø 3 x 50 mm	double cut	solid carb.	**0 505 454**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 505 464**			
	Ø 3 x 13 mm	extra slim tree shape	Ø 3 x 40 mm	fine	solid carb.	**0 501 354**			
	Ø 5 x 12.7 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 505 552**			
	Ø 6.3 x 12.7 mm		Ø 3 x 50 mm	double cut	standard	**0 505 551**			
			Ø 3 x 50 mm	normal	standard	**0 503 105**			
pointed cone									
	Ø 1.5 x 4 mm / 16°		Ø 3 x 38 mm	normal	solid carb.	**0 517 351**			
	Ø 3 x 7 mm / 24°	cut to centre	Ø 3 x 30 mm	fine	solid carb.	**0 501 321**			
	Ø 3 x 9 mm / 12°		Ø 3 x 38 mm	double cut	solid carb.	**0 508 441**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 290**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 324**			
	Ø 3 x 11 mm / 14°	cut to centre	Ø 3 x 38 mm	double cut	solid carb.	**0 508 442**			
			Ø 3 x 38 mm	double cut	solid carb.	**0 508 445**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 291**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 322**			
			Ø 3 x 38 mm	special-G	solid carb.	**0 501 436**			
		cut to centre	Ø 3 x 50 mm	double cut	solid carb.	**0 508 452**			
			Ø 3 x 50 mm	normal	solid carb.	**0 503 298**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 508 462**			
	Ø 3 x 16 mm / 7°	cut to centre	Ø 3 x 38 mm	double cut	solid carb.	**0 508 443**			
			Ø 3 x 38 mm	double cut	solid carb.	**0 508 444**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 209**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 325**			
			Ø 3 x 38 mm	special-G	solid carb.	**0 501 437**			
	Ø 5 x 12.7 mm / 16°		Ø 3 x 38 mm	double cut	solid carb.	**0 508 552**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 292**			
	Ø 6 x 13 mm / 26°		Ø 3 x 43 mm	fine	standard	**0 501 323**			
	Ø 6.3 x 12.7 mm / 22°		Ø 3 x 54 mm	double cut	standard	**0 508 551**			

Carbide milling cutters
shank Ø 3 mm

	Head dimensions	Type	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
countersunk 60°									
	Ø 3 x 2.6 mm / 60°		Ø 3 x 38 mm	fine	solid carb.	**0 501 328**			
		teething on both sides	Ø 3 x 38 mm	double cut	solid carb.	**0 511 442**			
	Ø 5 x 4.3 mm / 60°		Ø 3 x 37 mm	fine	standard	**0 501 382**			
countersunk 90°									
	Ø 3 x 1.5 mm / 90°		Ø 3 x 38 mm	fine	solid carb.	**0 501 327**			
		teething on both sides	Ø 3 x 38 mm	double cut	solid carb.	**0 510 442**			
	Ø 4 x 2 mm / 90°		Ø 3 x 34 mm	fine	solid carb.	**0 501 384**			
	Ø 5 x 2.5 mm / 90°		Ø 3 x 35 mm	fine	standard	**0 501 385**			
	Ø 6 x 3 mm / 90°		Ø 3 x 36 mm	fine	standard	**0 501 386**			
round cone									
	Ø 3 x 9.5 mm / 8°		Ø 3 x 38 mm	double cut	solid carb.	**0 509 441**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 277**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 361**			
	Ø 3 x 12.7 mm / 8°		Ø 3 x 38 mm	double cut	solid carb.	**0 509 442**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 208**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 362**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 509 452**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 509 462**			
	Ø 5 x 12.7 mm / 14°		Ø 3 x 38 mm	double cut	solid carb.	**0 509 443**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 278**			
trapeze									
	Ø 2.5 x 3 mm / 10°		Ø 3 x 38 mm	double cut	solid carb.	**0 513 441**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 301**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 371**			
	Ø 3 x 4 mm / 10°		Ø 3 x 38 mm	double cut	solid carb.	**0 513 442**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 372**			
	Ø 3 x 7 mm / 10°	end cut	Ø 3 x 40 mm	double cut	solid carb.	**0 513 443**			
	Ø 5 x 6.3 mm / 10°		Ø 3 x 38 mm	double cut	solid carb.	**0 513 552**			
	Ø 6.3 x 6 mm / 10°		Ø 3 x 44 mm	double cut	standard	**0 513 551**			
drop									
	Ø 1.5 x 4 mm		Ø 3 x 38 mm	normal	solid carb.	**0 517 362**			
	Ø 3 x 5.5 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 506 441**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 206**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 356**			
			Ø 3 x 38 mm	special-G	solid carb.	**0 501 421**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 506 451**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 506 461**			
	Ø 5 x 7.1 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 506 552**			
	Ø 6.3 x 9.5 mm		Ø 3 x 47 mm	double cut	standard	**0 506 551**			
flame									
	Ø 3 x 6.3 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 512 441**			
			Ø 3 x 38 mm	normal	solid carb.	**0 503 022**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 512 451**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 512 461**			
	Ø 5 x 9.5 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 512 442**			

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Carbide milling cutters
shank Ø 3 mm

	Head dimensions	Type	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
rounded arch									
	Ø 1.5 x 4 mm		Ø 3 x 40 mm	normal	solid carb.	**0 517 361**			
	Ø 3 x 6 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 504 441**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 311**			
	Ø 3 x 12.7 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 504 442**			
			Ø 3 x 38 mm	fine	solid carb.	**0 501 312**			
			Ø 3 x 38 mm	special-G	solid carb.	**0 501 426**			
			Ø 3 x 50 mm	double cut	solid carb.	**0 504 452**			
			Ø 3 x 75 mm	double cut	solid carb.	**0 504 462**			
	Ø 5 x 12.7 mm		Ø 3 x 38 mm	double cut	solid carb.	**0 504 552**			
	Ø 6 x 13 mm		Ø 3 x 43 mm	fine	standard	**0 501 313**			
	Ø 6.3 x 12.7 mm		Ø 3 x 50 mm	double cut	standard	**0 504 551**			

matching set

		Order No.	Price from 1 set
Set of carbide milling cutters			
	**Set of carbide mini milling cutters , shank Ø 3 mm** 10 milling cutters in the shapes cylinder Ø 1 x 4 mm (0 517 356), cylinder Ø 1.5 x 4 mm (0 517 357), rounded cylinder Ø 1 x 4 mm (0 517 348), rounded cylinder Ø 1.5 x 4 mm (0 517 349), sphere Ø 1 x 4 mm (0 517 354), sphere Ø 1.5 x 4 mm (0 517 355), drop Ø 1.5 x 4 mm (0 517 362), tree Ø 1.5 x 4 mm (0 517 361), tree with pointed end Ø 1.5 x 4 mm (0 517 350), pointed cone Ø 1.5 x 4 mm (0 517 351)	**0 517 300**	
	**Cross toothing cut set, shank Ø 3 mm, head Ø 2.5 and 3 mm** 12 milling cutters in the shapes cylinder Ø 2.5 (0 501 442) and 3 mm (0 501 443), rounded cylinder (0 503 442), tree (0 504 442), tree with pointed end (0 505 443), drop (0 506 441), sphere Ø 25 (0 507 441) and 3 mm (0 507 443), pointed cone (0 508 442), rounded cone (0 509 442), flame (0 512 441) and trapezium (0 513 442)	**0 500 400**	
	**Fine cut set, shank Ø 3 mm, head Ø 2.5 and 3 mm** 10 milling cutters in the shapes cylinder (0 501 345), cylinder with end cut (0 501 342), round cylinder (0 501 332), rounded arch (0 501 312), tree with pointed end (0 501 352), drop (0 501 356), sphere (0 501 301), pointed cone (0 501 322), rounded cone (0 501 362) and trapezium (0 501 372)	**0 501 300**	
	**Cross toothing cut set, shank Ø 3 mm, head Ø 6.3 mm** 9 milling cutters in the shapes cylinder (0 501 551), cylinder with end cut (0 502 551), round cylinder (0 503 551), tree (0 504 551), tree with pointed end (0 505 551), drop (0 506 551), sphere (0 507 551), pointed cone (0 508 551) and trapezium (0 513 551)	**0 500 551**	

Ultrafine carbide milling cutters
shank Ø 3 mm

Ultrafine carbide milling cutters
Ultrafine tungsten carbide milling cutters are designed for very fine finishing. They are characterised by efficient stock removal with simultaneously good surface quality. Almost all materials up to a hardness of 65 HRC can be machined. These milling cutters are also optimally suited to applications in which normal grinding points would be suitable, but greater stock removal is required. This product series is frequently used for punching and cutting tools in toolmaking and mould building.

	Head dimensions	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
Ultrafine carbide milling cutters, shank Ø 3 mm								
cylinder								
	Ø 2 x 11 mm	Ø 3 x 38 mm	ultrafine	solid carb.	**0 527 510**			
	Ø 3 x 14 mm	Ø 3 x 38 mm	ultrafine	solid carb.	**0 527 511**			
	Ø 4 x 7 mm	Ø 3 x 39 mm	ultrafine	standard	**0 527 512**			
	Ø 6.3 x 12.7 mm	Ø 3 x 45 mm	ultrafine	standard	**0 527 513**			
rounded cylinder								
	Ø 2 x 11 mm	Ø 3 x 38 mm	ultrafine	solid carb.	**0 527 520**			
	Ø 3 x 14 mm	Ø 3 x 38 mm	ultrafine	solid carb.	**0 527 521**			
	Ø 6.3 x 12.7 mm	Ø 3 x 45 mm	ultrafine	standard	**0 527 522**			
sphere								
	Ø 2 mm	Ø 3 x 38 mm	ultrafine	solid carb.	**0 527 530**			
	Ø 3 mm	Ø 3 x 38 mm	ultrafine	solid carb.	**0 527 531**			
	Ø 4 mm	Ø 3 x 35 mm	ultrafine	standard	**0 527 532**			
	Ø 6.3 mm	Ø 3 x 38 mm	ultrafine	standard	**0 527 533**			
rounded arch								
	Ø 3 x 6 mm	Ø 3 x 38 mm	ultrafine	solid carb.	**0 527 540**			
	Ø 3 x 14 mm	Ø 3 x 38 mm	ultrafine	solid carb.	**0 527 541**			
	Ø 6.3 x 12.7 mm	Ø 3 x 45 mm	ultrafine	standard	**0 527 542**			
tree with pointed end								
	Ø 3 x 14 mm	Ø 3 x 38 mm	ultrafine	solid carb.	**0 527 550**			
	Ø 6.3 x 12.7 mm	Ø 3 x 45 mm	ultrafine	standard	**0 527 551**			

matching set

	Order No.	Price from 1 set
Set of 10 carbide milling cutters, ultrafine cut		
 contents: 10 pieces	**0 527 560**	



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AlCrN-coated carbide milling cutters
for hard materials

AlCrN-coated milling points
AlCrN stands for aluminium chromium nitride and is a coating in which chromium has been replaced with titanium, thus achieving significantly higher performance. The coating thickness of 1 to 4 µm, a hardness of 3500 HV and temperature stability up to 1200 °C convince with strength, resistance and the associated service life when using the milling cutter.

This high-performance coating is ideal for titanium, high-temperature alloys and steels that are difficult to machine.

	Head dimensions	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
AlCrN-coated carbide milling cutters								
rounded cylinder								
	Ø 3 x 12.7 mm	Ø 3 x 38 mm	double cut	solid carb.	**0 501 730**			
	Ø 4 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	**0 501 731**			
	Ø 4.75 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	**0 501 732**			
	Ø 6.3 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	**0 501 733**			
sphere								
	Ø 3 x 2.4 mm	Ø 3 x 38 mm	double cut	solid carb.	**0 501 740**			
	Ø 4 x 3.5 mm	Ø 3 x 42 mm	double cut	standard	**0 501 741**			
	Ø 4.75 x 4 mm	Ø 3 x 42 mm	double cut	standard	**0 501 742**			
		Ø 3 x 82 mm	double cut	standard	**0 501 743**			
	Ø 6.3 x 5.5 mm	Ø 3 x 44 mm	double cut	standard	**0 501 744**			
flame								
	Ø 3 x 6.3 mm	Ø 3 x 38 mm	double cut	solid carb.	**0 501 770**			
	Ø 4.75 x 9.5 mm	Ø 3 x 48 mm	double cut	standard	**0 501 771**			
rounded arch								
	Ø 3 x 12.7 mm	Ø 3 x 38 mm	double cut	solid carb.	**0 501 750**			
	Ø 4.75 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	**0 501 751**			
	Ø 6.3 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	**0 501 752**			
tree with pointed end								
	Ø 3 x 12.7 mm	Ø 3 x 38 mm	double cut	solid carb.	**0 501 760**			
	Ø 4.75 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	**0 501 761**			
	Ø 6.3 x 12.7mm	Ø 3 x 50 mm	double cut	standard	**0 501 762**			
drop								
	Ø 3 x 5.5 mm	Ø 3 x 38 mm	double cut	solid carb.	**0 501 780**			
	Ø 4.75 x 7 mm	Ø 3 x 45 mm	double cut	standard	**0 501 781**			
	Ø 6.3 x 9.5 mm	Ø 3 x 48 mm	double cut	standard	**0 501 782**			
cylinder – end mill								
	Ø 3 x 14 mm	Ø 3 x 38 mm	double cut	solid carb.	**0 501 720**			
	Ø 4 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	**0 501 721**			
	Ø 4.75 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	**0 501 722**			
	Ø 6.3 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	**0 501 723**			

matching set



	Order No.	Price from 1 set
Set of carbide milling cutters, AlCrN-coated		
contents: 6 pieces	**0 501 710**	

Carbide milling cutters
shank Ø 6 mm

	Head dimensions	Angle	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
Carbide milling cutters, shank Ø 6 mm									
cylinder									
	Ø 6 x 12.7 mm		Ø 6 x 162 mm	double cut	standard	**0 501 951**			
	Ø 6 x 16 mm		Ø 6 x 50 mm	double cut	solid carb.	**0 501 501**			
	Ø 6 x 19 mm		Ø 6 x 50 mm	extra coarse	solid carb.	**0 526 001**			
	Ø 8 x 19 mm		Ø 6 x 63 mm	double cut	standard	**0 501 602**			
	Ø 9.5 x 19 mm		Ø 6 x 63 mm	double cut	standard	**0 501 603**			
			Ø 6 x 63 mm	extra coarse	standard	**0 526 002**			
	Ø 12.7 x 25 mm		Ø 6 x 69 mm	double cut	standard	**0 501 705**			
cylinder – end mill									
	Ø 4 x 16 mm		Ø 6 x 50 mm	diamond	solid carb.	**0 501 114**			
	Ø 6 x 16 mm		Ø 6 x 50 mm	double cut	solid carb.	**0 502 501**			
	Ø 6 x 18 mm		Ø 6 x 63 mm	diamond	solid carb.	**0 501 115**			
	Ø 8 x 19 mm		Ø 6 x 63 mm	double cut	standard	**0 502 602**			
	Ø 9.5 x 19 mm		Ø 6 x 63 mm	double cut	standard	**0 502 603**			
	Ø 10 x 20 mm		Ø 6 x 60 mm	double cut	standard	**0 502 605**			
	Ø 12 x 25 mm		Ø 6 x 65 mm	double cut	standard	**0 502 607**			
	Ø 12.7 x 25 mm		Ø 6 x 69 mm	double cut	standard	**0 502 705**			
rounded cylinder									
	Ø 5 x 16 mm		Ø 6 x 50 mm	double cut	VHM	**0 503 500**			
	Ø 6 x 12.7 mm		Ø 6 x 162 mm	double cut	standard	**0 503 951**			
	Ø 6 x 16 mm		Ø 6 x 50 mm	double cut	solid carb.	**0 503 501**			
	Ø 6 x 19 mm		Ø 6 x 50 mm	extra coarse	solid carb.	**0 526 011**			
	Ø 8 x 19 mm		Ø 6 x 65 mm	double cut	standard	**0 503 602**			
	Ø 9.5 x 19 mm		Ø 6 x 63 mm	double cut	standard	**0 503 603**			
			Ø 6 x 63 mm	extra coarse	standard	**0 526 012**			
	Ø 10 x 20 mm		Ø 6 x 60 mm	double cut	standard	**0 503 605**			
	Ø 12.7 x 25 mm		Ø 6 x 69 mm	double cut	standard	**0 503 705**			
			Ø 6 x 69 mm	extra coarse	standard	**0 526 013**			
sphere									
	Ø 5 x 4 mm		Ø 6 x 50 mm	normal	solid carb.	**0 503 109**			
			Ø 6 x 50 mm	double cut	solid carb.	**0 507 514**			
	Ø 6 x 5 mm		Ø 6 x 50 mm	extra coarse	solid carb.	**0 526 021**			
			Ø 6 x 50 mm	double cut	solid carb.	**0 507 501**			
			Ø 6 x 155 mm	double cut	standard	**0 507 951**			
	Ø 8 x 6.4 mm		Ø 6 x 50 mm	double cut	standard	**0 507 602**			
	Ø 9.5 x 8 mm		Ø 6 x 52 mm	double cut	standard	**0 507 603**			
			Ø 6 x 52 mm	extra coarse	standard	**0 526 022**			
			Ø 6 x 158 mm	double cut	standard	**0 507 952**			
	Ø 10 x 9 mm		Ø 6 x 49 mm	normal	standard	**0 503 113**			
			Ø 6 x 49 mm	double cut	standard	**0 507 604**			
	Ø 12 x 10.8 mm		Ø 6 x 51 mm	normal	standard	**0 503 115**			
	Ø 12.7 x 11 mm		Ø 6 x 55 mm	double cut	standard	**0 507 705**			
			Ø 6 x 161 mm	double cut	standard	**0 507 953**			

Carbide milling cutters
shank Ø 6 mm

	Head dimensions	Angle	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
tree with pointed end									
	Ø 6 x 16 mm		Ø 6 x 50 mm	double cut	solid carb.	**0 505 501**			
	Ø 9.5 x 19 mm		Ø 6 x 169 mm	double cut	standard	**0 505 952**			
	Ø 12.7 x 25 mm		Ø 6 x 69 mm	double cut	standard	**0 505 705**			
	Ø 16 x 25 mm		Ø 6 x 69 mm	coarse	standard	**0 505 704**			
pointed cone									
	Ø 6 x 19 mm	14°	Ø 6 x 50 mm	double cut	solid carb.	**0 508 502**			
	Ø 9.5 x 16 mm	28°	Ø 6 x 60 mm	double cut	standard	**0 508 604**			
	Ø 12.7 x 22 mm	28°	Ø 6 x 69 mm	double cut	standard	**0 508 705**			
round cone									
	Ø 6 x 16 mm	14°	Ø 6 x 50 mm	double cut	solid carb.	**0 509 501**			
	Ø 8 x 22 mm	14°	Ø 6 x 69 mm	double cut	standard	**0 509 603**			
	Ø 12.7 x 28 mm	14°	Ø 6 x 76 mm	double cut	standard	**0 509 704**			
trapeze									
	Ø 12.7 x 12.7 mm	28°	Ø 6 x 57 mm	double cut	standard	**0 513 703**			
drop									
	Ø 6 x 9.5 mm		Ø 6 x 50 mm	double cut	solid carb.	**0 506 501**			
			Ø 6 x 159 mm	double cut	standard	**0 506 951**			
	Ø 9.5 x 16 mm		Ø 6 x 60 mm	double cut	standard	**0 506 603**			
			Ø 6 x 60 mm	extra coarse	standard	**0 526 031**			
	Ø 12.7 x 22 mm		Ø 6 x 66 mm	normal	standard	**0 503 219**			
			Ø 6 x 66 mm	double cut	standard	**0 506 705**			
			Ø 6 x 66 mm	extra coarse	standard	**0 526 032**			
flame									
	Ø 8 x 19 mm		Ø 6 x 63 mm	double cut	standard	**0 512 602**			
			Ø 6 x 169 mm	double cut	standard	**0 512 951**			
	Ø 12.7 x 32 mm		Ø 6 x 76 mm	double cut	standard	**0 512 705**			
rounded arch									
	Ø 6 x 12.7 mm		Ø 6 x 163 mm	double cut	solid carb.	**0 504 951**			
	Ø 6 x 16 mm		Ø 6 x 50 mm	double cut	solid carb.	**0 504 501**			
	Ø 6 x 19 mm		Ø 6 x 50 mm	extra coarse	solid carb.	**0 526 041**			
	Ø 9.5 x 19 mm		Ø 6 x 63 mm	double cut	standard	**0 504 603**			
			Ø 6 x 63 mm	extra coarse	standard	**0 526 042**			
	Ø 12.7 x 25 mm		Ø 6 x 69 mm	double cut	standard	**0 504 705**			
			Ø 6 x 75 mm	extra coarse	standard	**0 526 043**			
countersunk 60°									
	Ø 9.5 x 8 mm	60°	Ø 6 x 55 mm	double cut	standard	**0 511 603**			
countersunk 90°									
	Ø 6 x 3 mm	90°	Ø 6 x 50 mm	double cut	solid carb.	**0 510 501**			
	Ø 9.5 x 4.7 mm	90°	Ø 6 x 52 mm	double cut	standard	**0 510 603**			
	Ø 16 x 8 mm	90°	Ø 6 x 57 mm	double cut	standard	**0 510 706**			
	Ø 19 x 9.5 mm	90°	Ø 6 x 58 mm	double cut	standard	**0 510 707**			

Carbide milling cutters
shank Ø 6 mm

matching set

		Order No.	Price from 1 set
Sets of carbide milling cutters			
	**Cross toothing cut set, shank Ø 6 mm, head Ø 6 mm** 6 milling cutters in the shapes: cylinder (0 501 501), rounded cylinder (0 503 501), tree (0 504 501), drop (0 506 501), sphere (0 507 501), rounded cone (0 509 501)	**0 500 500**	
	**Cross toothing cut set, shank Ø 6 mm, head Ø 8 and 9.5 mm** 6 milling cutters in the shapes: cylinder (0 501 603), rounded cylinder (0 503 603), tree (0 504 603), drop (0 506 603), sphere (0 507 603), rounded cone (0 509 603)	**0 500 600**	



Ultrafine carbide milling cutters
shank Ø 6 mm

Ultrafine carbide milling cutters
Ultrafine tungsten carbide milling cutters are designed for very fine finishing. They are characterised by efficient stock removal with simultaneously good surface quality. Almost all materials up to a hardness of 65 HRC can be machined. These milling cutters are also optimally suited to applications in which normal grinding points would be suitable, but greater stock removal is required. This product series is frequently used for punching and cutting tools in toolmaking and mould building.

	Head dimensions	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
Ultrafine carbide milling cutters, shank Ø 6 mm								
cylinder – end mill								
	Ø 6 x 18 mm	Ø 6 x 50 mm	ultrafine	solid carb.	**0 527 514**			
rounded cylinder								
	Ø 6 x 18 mm	Ø 6 x 50 mm	ultrafine	solid carb.	**0 527 524**			
	Ø 12.7 x 25 mm	Ø 6 x 70 mm	ultrafine	standard	**0 527 523**			
sphere								
	Ø 6 mm	Ø 6 x 50 mm	ultrafine	solid carb.	**0 527 535**			
	Ø 10 mm	Ø 6 x 54 mm	ultrafine	standard	**0 527 534**			
rounded arch								
	Ø 6 x 18 mm	Ø 6 x 50 mm	ultrafine	solid carb.	**0 527 543**			
tree with pointed end								
	Ø 6 x 18 mm	Ø 6 x 50 mm	ultrafine	solid carb.	**0 527 552**			
pointed cone								
	Ø 12.7 x 22 mm	Ø 6 x 71 mm	ultrafine	standard	**0 527 584**			
tree with pointed end								
	Ø 12.7 x 30 mm	Ø 6 x 75 mm	ultrafine	standard	**0 527 553**			

matching set

		Order No.	Price from 1 set
Set of 6 carbide milling cutters, ultrafine cut			
	contents: 6 pieces	**0 527 570**	



The perfect complement

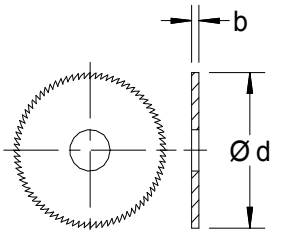
Rotating tool holders



Order No.	Price
0 200 020	

Circular saw blades
Solid carbide metal

Solid carbide circular saw blades
The solid carbide circular saw blades are high quality products with a precision cut and lateral hollow grinding by the mirror-grinding process for slotting and separating. The cutting speed can be increased 3 to 4-fold by using solid carbide circular saw blades in comparison to HSS saw blades. Furthermore, high-strength materials with 800 – 1,200 N/mm² and abrasive materials can be readily processed (e.g. tungsten copper, copper, aluminium, stainless steel, titanium, cast iron, brass, bronze, thermoplastics and duroplastics).



	Nom. Ø x cutting width	Material	Drilling dimension	Design	Order No.	Price from 1 piece
Solid carbide circular saw blades						
	Ø 30 x 0.4 mm	solid carbide	8 mm	80 teeth	**0 500 384**	
	Ø 30 x 0.5 mm	solid carbide	8 mm	80 teeth	**0 500 385**	
	Ø 30 x 0.8 mm	solid carbide	8 mm	64 teeth	**0 500 386**	

Accessories / spare parts

	for bore dimensions	Shank dimensions	Type	Order No.	Price from 1 piece
Cut-off disc receptacles with carbide metal shank					
	8 mm	Ø 3 x 45 mm	TA8	**0 561 947**	
		Ø 6 x 45 mm	TA8	**0 561 948**	

Gravers
Solid carbide metal

Pre-ground – K 10 grade. For processing steel, grey cast iron, non-ferrous metals and plastic. The preworked profiles can be suitably ground with little effort and thus be optimally adapted to the respective application. Typical areas of use include for example, die making and mould building, copy milling and engraving characters, etc. Worn cutting edges can be rendered usable again by simply regrinding. The angles must be adapted to the material to be processed.

	Dimensions	Angle	Order No.	Price from 1 piece	5 pieces
Solid carbide gravers					
rod					
	Ø 3 x 75 mm		**0 517 472**		
	Ø 6 x 75 mm		**0 517 474**		
flat, halved on one side					
	Ø 4 x 40 mm		**0 517 482**		
	Ø 6 x 75 mm		**0 517 483**		
pointed					
	Ø 3 x 40 mm	60°	**0 517 487**		
	Ø 4 x 40 mm	60°	**0 517 488**		
	Ø 6 x 75 mm	60°	**0 517 489**		

Solid carbide microdrills
shank Ø 3 mm

These spiral drills exactly match the spirit of the times and fulfil the high demands of industry. The main advantages of solid carbide drills lie in the short processing times, very minor signs of wear, higher cutting speeds and increased service lives. Furthermore, they are distinguished by high rigidity, very good positioning precision and good centring and guiding characteristics. This becomes particularly apparent in processing abrasive materials such as cast iron, aluminium alloys with a high silicon content, fibreglass-reinforced materials and graphite.

	Nom. Ø x clamping groove length D x SL	Projection length L1	Shank Ø x total length	Order No.	Price from 1 piece
Solid carbide microdrills, TiAlN-coated					
	Ø 0.100 x 1.2 mm	10 mm	3 x 38 mm	**0 510 301**	
	Ø 0.200 x 2.5 mm	10 mm	3 x 38 mm	**0 510 302**	
	Ø 0.300 x 5 mm	11.7 mm	3 x 38 mm	**0 510 303**	
	Ø 0.400 x 7 mm	12.7 mm	3 x 38 mm	**0 510 304**	
	Ø 0.500 x 7 mm	12.7 mm	3 x 38 mm	**0 510 305**	
	Ø 0.600 x 7 mm	12.7 mm	3 x 38 mm	**0 510 306**	
	Ø 0.700 x 8 mm	12.5 mm	3 x 38 mm	**0 510 307**	
	Ø 0.800 x 10 mm	14.4 mm	3 x 38 mm	**0 510 308**	
	Ø 0.900 x 10 mm	14.2 mm	3 x 38 mm	**0 510 309**	
	Ø 1.000 x 10 mm	14 mm	3 x 38 mm	**0 510 310**	
	Ø 1.100 x 10 mm	13.8 mm	3 x 38 mm	**0 510 311**	
	Ø 1.200 x 10 mm	13.6 mm	3 x 38 mm	**0 510 312**	
	Ø 1.300 x 10 mm	13.4 mm	3 x 38 mm	**0 510 313**	
	Ø 1.400 x 10 mm	13.2 mm	3 x 38 mm	**0 510 314**	
	Ø 1.500 x 10 mm	13 mm	3 x 38 mm	**0 510 315**	
	Ø 1.600 x 12 mm	14.9 mm	3 x 38 mm	**0 510 316**	
	Ø 1.700 x 12 mm	14.7 mm	3 x 38 mm	**0 510 317**	
	Ø 1.800 x 12 mm	14.5 mm	3 x 38 mm	**0 510 318**	
	Ø 1.900 x 12 mm	14.3 mm	3 x 38 mm	**0 510 319**	
	Ø 2.000 x 12 mm	14.1 mm	3 x 38 mm	**0 510 320**	
	Ø 2.100 x 12 mm	13.9 mm	3 x 38 mm	**0 510 321**	
	Ø 2.200 x 12 mm	13.7 mm	3 x 38 mm	**0 510 322**	
	Ø 2.400 x 12 mm	13.4 mm	3 x 38 mm	**0 510 324**	
	Ø 2.500 x 12 mm	13.2 mm	3 x 38 mm	**0 510 325**	
	Ø 2.600 x 12 mm	13 mm	3 x 38 mm	**0 510 326**	
	Ø 2.700 x 12 mm	12.8 mm	3 x 38 mm	**0 510 327**	
	Ø 2.800 x 12 mm	12.6 mm	3 x 38 mm	**0 510 328**	
	Ø 2.900 x 12 mm	12.4 mm	3 x 38 mm	**0 510 329**	
	Ø 3.000 x 12 mm	12.3 mm	3 x 38 mm	**0 510 330**	

Reverse deburrer 45°
shank Ø 3 and 6 mm

Hard-to-reach areas when deburring drilling holes are no longer a problem with this carbide reverse deburrer. Its decisive advantages are the defined 45° bevel, its suitability for different drilling hole diameters and the variable bevel width. This simplifies processing and achieves a rapid working result.

	Head dimensions	Angle	Shank Ø x total length	Cut	Design	Order No.	Price from 1 piece	5 pieces	100 pieces
Reverse deburrer 45°									
	Ø 5 mm	45°	Ø 3 x 40 mm	left-hand helical gearing	solid carb.	**0 501 390**			
	Ø 7 mm	45°	Ø 3 x 40 mm	left-hand helical gearing	solid carb.	**0 501 391**			
	Ø 10 mm	45°	Ø 6 x 60 mm	left-hand helical gearing	solid carb.	**0 501 392**			
	Ø 12 mm	45°	Ø 6 x 65 mm	left-hand helical gearing	solid carb.	**0 501 393**			

Filing tools

Steel needle files are used by hand (with an appropriate file handle) or on a hand filing machine. They are excellent for processing the smallest surfaces, openings, shapes, profiles and radii. Steel needle files from joke are extremely precise and sharp-edged and have perfectly carved cuts. The practically oriented file shapes convince by their pointed shapes, sharp edges and long service life.

The steel needle files are mainly used for steel and steel alloys in addition to nonsmearing soft metals. The new emery files are perfectly suited for precise work within the smallest space. They have a very long service life, are unbreakable and are easy to clean, regardless of whether tungsten carbide, titanium, steel or similar materials are being worked.

413 **Steel needle files**

417 **Emery files**

Steel needle files
shank Ø 3 mm, total length 85 mm

	Dimensions	Coating dimensions	Shank dimensions	Total length	Cut	Order No.	Price from 1 piece	Price from 10 pieces
Steel needle files, shank Ø 3 mm, total length 85 mm								
triangular								
	3.5 x 3.5 mm	57 mm	Ø 3 mm	85 mm	00 coarse	**0 400 042**		
		57 mm	Ø 3 mm	85 mm	1 medium	**0 400 043**		
flat								
	5 x 1.5 mm	57 mm	Ø 3 mm	85 mm	00 coarse	**0 400 012**		
		57 mm	Ø 3 mm	85 mm	1 medium	**0 400 013**		
square								
	2.5 x 2.5 mm	57 mm	Ø 3 mm	85 mm	00 coarse	**0 400 052**		
		57 mm	Ø 3 mm	85 mm	1 medium	**0 400 053**		
round								
	Ø 3 mm	57 mm	Ø 3 mm	85 mm	00 coarse	**0 400 032**		
		57 mm	Ø 3 mm	85 mm	1 medium	**0 400 033**		
halfround								
	5 x 2 mm	57 mm	Ø 3 mm	85 mm	00 coarse	**0 400 022**		
		57 mm	Ø 3 mm	85 mm	1 medium	**0 400 023**		

Accessories / spare parts

		Order No.	Price from 1 piece	Price from 10 pieces
Plastic handle				
	suitable for Ø 3 mm shanks	**0 400 892**		
Plastic handle, red				
	with clamping lever for files up to 150 mm length, tension area Ø 2.5 – 4 mm	**0 400 894-0**		

Steel needle files
shank Ø 2 mm, total length 100 mm

	Dimensions	Coating dimensions	Shank dimensions	Total length	Cut	Order No.	Price from 1 piece	Price from 10 pieces
Steel needle files, shank Ø 2 mm								
triangular								
	2.2 x 2.2 mm	47 mm	Ø 2 mm	100 mm	00 coarse	**0 400 342**		
		47 mm	Ø 2 mm	100 mm	1 medium	**0 400 343**		
flat								
	3.3 x 1 mm	47 mm	Ø 2 mm	100 mm	00 coarse	**0 400 312**		
		47 mm	Ø 2 mm	100 mm	1 medium	**0 400 313**		
square								
	1.7 x 1.7 mm	47 mm	Ø 2 mm	100 mm	00 coarse	**0 400 352**		
		47 mm	Ø 2 mm	100 mm	1 medium	**0 400 353**		
round								
	Ø 2 mm	47 mm	Ø 2 mm	100 mm	00 coarse	**0 400 332**		
		47 mm	Ø 2 mm	100 mm	1 medium	**0 400 333**		
halfround								
	3.2 x 1.1 mm	47 mm	Ø 2 mm	100 mm	00 coarse	**0 400 322**		
		47 mm	Ø 2 mm	100 mm	1 medium	**0 400 323**		

Steel needle files
shank Ø 3.5 mm, total length 100 mm

	Dimensions	Coating dimensions	Shank dimensions	Total length	Cut	Order No.	Price from 1 piece	Price from 10 pieces
Steel needle files, shank Ø 3.5 mm								
flat, blunt								
	10 x 2.5 mm	72 mm	Ø 3.5	100 mm	00 coarse	**0 400 412**		
		72 mm	Ø 3.5	100 mm	1 medium	**0 400 413**		

Steel needle files
shank Ø 3 mm, total length 160 mm

	Dimensions	Coating dimensions	Shank dimensions	Total length	Cut	Order No.	Price from 1 piece	Price from 10 pieces
Steel needle files, shank Ø 3 mm								
beret								
	5.5 x 2.2 mm	78 mm	Ø 3 mm	160 mm	0 coarse	**0 400 610**		
		78 mm	Ø 3 mm	160 mm	1 medium	**0 400 611**		
		78 mm	Ø 3 mm	160 mm	2 fine	**0 400 612**		
triangular								
	3.5 x 3.5 mm	78 mm	Ø 3 mm	160 mm	0 coarse	**0 400 580**		
		78 mm	Ø 3 mm	160 mm	1 medium	**0 400 581**		
		78 mm	Ø 3 mm	160 mm	2 fine	**0 400 582**		
flat, pointed								
	5.5 x 1.5 mm	78 mm	Ø 3 mm	160 mm	0 coarse	**0 400 530**		
		78 mm	Ø 3 mm	160 mm	1 medium	**0 400 531**		
		78 mm	Ø 3 mm	160 mm	2 fine	**0 400 532**		
flat, blunt								
	5.5 x 1.5 mm	78 mm	Ø 3 mm	160 mm	0 coarse	**0 400 510**		
		78 mm	Ø 3 mm	160 mm	1 medium	**0 400 511**		
		78 mm	Ø 3 mm	160 mm	2 fine	**0 400 512**		
flat, blunt – round edges								
	5.5 x 1.5 mm	78 mm	Ø 3 mm	160 mm	0 coarse	**0 400 520**		
		78 mm	Ø 3 mm	160 mm	1 medium	**0 400 521**		
		78 mm	Ø 3 mm	160 mm	2 fine	**0 400 522**		
square								
	2.5 x 2.5 mm	78 mm	Ø 3 mm	160 mm	0 coarse	**0 400 590**		
		78 mm	Ø 3 mm	160 mm	1 medium	**0 400 591**		
		78 mm	Ø 3 mm	160 mm	2 fine	**0 400 592**		
round								
	Ø 3.5 mm	78 mm	Ø 3 mm	160 mm	0 coarse	**0 400 600**		
		78 mm	Ø 3 mm	160 mm	1 medium	**0 400 601**		
		78 mm	Ø 3 mm	160 mm	2 fine	**0 400 602**		
halfround								
	5.5 x 2.2 mm	78 mm	Ø 3 mm	160 mm	0 coarse	**0 400 550**		
		78 mm	Ø 3 mm	160 mm	1 medium	**0 400 551**		
		78 mm	Ø 3 mm	160 mm	2 fine	**0 400 552**		

Accessories / spare parts

		Order No.	Price from 1 piece	Price from 10 pieces
Plastic handle, red				
	with clamping lever for files up to 150 mm length, tension area Ø 2.5 – 4 mm	**0 400 894-0**		

Steel Riffler files
shank Ø 3 mm, total length 85 mm

Steel riffle files can be used either by hand with the appropriate file handle or with hand-filing machines. They are mainly used for general milling work, but also for example to remove burrs and milling depths.

	Dimensions	Coating dimensions	Shank dimensions	Total length	Cut	Order No.	Price from 1 piece	Price from 10 pieces
Steel Riffler files, shank Ø 3 mm								
flat, blunt								
	4 x 2 mm	40 mm	Ø 3 mm	85 mm	1 medium	**0 400 113**		
square, pointed								
	3 x 3 mm	40 mm	Ø 3 mm	85 mm	1 medium	**0 400 123**		
round/pointed								
	Ø 3 mm	40 mm	Ø 3 mm	85 mm	1 medium	**0 400 133**		
halfround, crossing								
	4.7 x 2.5 mm	40 mm	Ø 3 mm	85 mm	1 medium	**0 400 143**		

Accessories / spare parts

		Order No.	Price from 1 piece
Blowing pen			
	For direct connection to a rapid coupling system. Dimensions: Ø12.5 x 108 mm Weight: 20 g	**0 203 200**	

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Cleaning fluid X 73016-A
- Ideal for cleaning moulds and workpieces
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- For all metals, glass, ceramics and almost all plastics



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- Cleans surfaces and cares for tools



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Emery files
total length 140 mm

Emery files
The emery files from joke are optimally suited for ultimate finishing. The strength of the tool and the different shapes allow precision work within the smallest space. A diamond coating allows use on carbide metals, titanium, steel or ceramic. They are impact-resistant and do not break like stone (Degussit). Owing to its hard surface, the tool is particularly durable, keeps its shape and does not need any reworking. The corrosion-resistant files can be easily cleaned using ultrasound, petroleum or cleaning compound. The product is Swiss-made quality.



	Dimensions	Coating dimensions	Total length	Grit size	Order No.	Price from 1 piece	Price from 6 pieces
Escapement file, shank Ø 3.5 mm							
beret							
	3.9 x 1.2 mm	50 mm	140 mm	G10, very fine	**0 572 237**		
crossing							
	3.7 x 1.4 mm	50 mm	140 mm	G10, very fine	**0 572 238**		
triangular							
	2.8 mm	50 mm	140 mm	G10, very fine	**0 572 233**		
flat, blunt							
	3.9 x 0.8 mm	50 mm	140 mm	G10, very fine	**0 572 232**		
square							
	1.7 mm	50 mm	140 mm	G10, very fine	**0 572 234**		
round							
	Ø 1.5 mm	50 mm	140 mm	G10, very fine	**0 572 236**		
halfround							
	4 x 1.3 mm	50 mm	140 mm	G10, very fine	**0 572 235**		

matching set

		Grit size	Order No.	Price from 1 set
Emery escapement file set				
	Set consisting of 6 escapement files	G10, very fine	**0 572 221**	

Accessories / spare parts

		Order No.	Price from 1 piece	Price from 5 pieces
Universal handle				
	for receiving deburring tools, needle files, etc. Flexible collet with a clamping range of between 2.2 and 4.5 mm.	**0 413 939**		

Emery files
total length 140 mm

Emery files
The emery files from joke are optimally suited for ultimate finishing. The strength of the tool and the different shapes allow precision work within the smallest space. A diamond coating allows use on carbide metals, titanium, steel or ceramic. They are impact-resistant and do not break like stone (Degussit). Owing to its hard surface, the tool is particularly durable, keeps its shape and does not need any reworking. The corrosion-resistant files can be easily cleaned using ultrasound, petroleum or cleaning compound. The product is Swiss-made quality.

	Dimensions	Coating dimensions	Total length	Grit size	Order No.	Price from 1 piece	Price from 6 pieces
Needle file, shank Ø 3.5 mm							
beret							
	4.7 x 1.4 mm	85 mm	140 mm	G10, very fine	**0 572 230**		
crossing							
	4.4 x 1.8 mm	85 mm	140 mm	G10, very fine	**0 572 231**		
triangular							
	3.5 mm	85 mm	140 mm	G10, very fine	**0 572 226**		
flat, blunt							
	4.8 x 1 mm	85 mm	140 mm	G10, very fine	**0 572 225**		
square							
	2.2 mm	85 mm	140 mm	G10, very fine	**0 572 227**		
round							
	Ø 2.8 mm	85 mm	140 mm	G10, very fine	**0 572 229**		
halfround							
	5.1 x 1.6 mm	85 mm	140 mm	G10, very fine	**0 572 228**		



matching set

		Grit size	Order No.	Price from 1 set
Emery needle file set				
	Set consisting of 6 needle files	G10, very fine	**0 572 220**	

Accessories / spare parts

		Order No.	Price from 1 piece	Price from 5 pieces
Universal handle				
	for receiving deburring tools, needle files, etc. Flexible collet with a clamping range of between 2.2 and 4.5 mm.	**0 413 939**		

ENESKApostpro

The safety postprocessing system for all materials and work steps!

Improve safety standards in post-processing
The ENESKApostpro is a closed post-processing unit, with which all finishing steps from cutting the building board over the support removal to the surface treatment and this with full protection for the user against all risks.



100%
made in Germany

Advantages at a glance

- High standard of safety
- No risk of explosion or deflagration
- No permanent damage due to respirable dust
- No need for additional protective clothing
- Ergonomic working and simple operation
- Many options for connecting various tools – either pneumatic or electric.

further information/ movie: www.joke-technology.com/3d-shop/en/eneskapostpro (QR-Code)





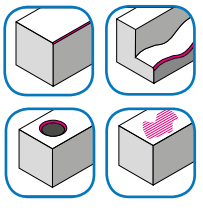




Deburring tools

		Order No.	Price from 1 piece	Price from 5 pieces
Hand deburrer MF 400				
	Blade 20 x 4 x 0.35 mm	**0 401 999**		
Hand deburrer KE 40				
	Blade 40 x 14 x 1.5 mm	**0 402 001**		
Hand deburrer KE 25				
	Blade 25 x 5 x 1.5 mm	**0 402 002**		
Hand deburrer with ceramic blade				
	Ergonomic handle with soft padding	**0 413 921**		

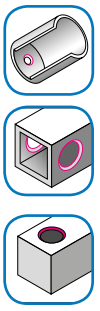
Accessories / spare parts



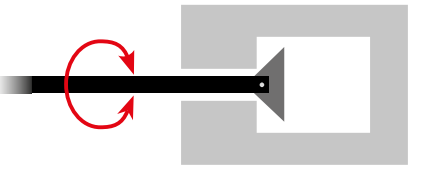
	Packing quantity	Order No.	Price from 1 pack
Spare blades for hand deburrer MF 400			
	5 pieces	**0 401 998**	

		Order No.	Price from 1 piece
Reverse deburrer RC 1000			
	bore Ø 3 – 5.5 mm, workpiece thickness up to 18 mm	**0 402 003**	
Reverse deburrer RC 2000			
	bore Ø 5.5 – 10 mm, workpiece thickness up to 24 mm	**0 402 005**	

Accessories / spare parts



	Order No.	Price from 1 piece	Price from 10 pieces
Spare blade for reverse deburrer RC 1000			
	**0 402 004**		
Spare blade for reverse deburrer RC 2000			
	**0 402 006**		



Deburring tools

- Lies firmly in your hand owing to non-slip plastic casing
- Protective cap to reduce risk of injury
- Knurled screw for easy blade change and absolutely secure hold of blades
- Spare blades in handy dispenser

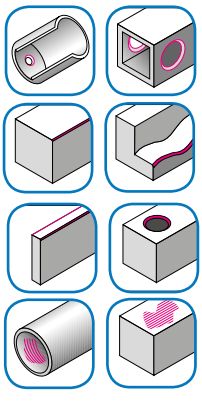
		Order No.	Price from 1 piece
Deburring knife, red, with replaceable blade			
	with rapid-change blade	**0 402 000**	

Accessories / spare parts

	Packing quantity	Order No.	Price from 1 pack
Spare blade dispenser			
	100 pieces	**0 402 009**	

		Order No.	Price from 1 piece
Mini deburrer FT10001			
	fixed HSS blade S150 with handle, for extra-fine deburring work (the blade is non-replaceable)	**0 413 961**	
Mini triangular scraper FT11001			
	fixed HSS blade D50 with handle	**0 413 962**	
Mini hole deburring head FT12001			
	with rotatably-mounted Ø 3.2 mm counterbore in handle	**0 413 963**	

matching set

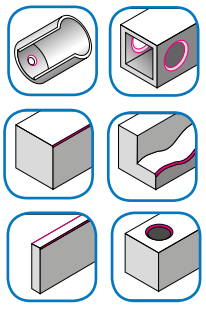


		Order No.	Price from 1 set
Set mini deburrer FT3000, 3 parts			
	Contents of the plastic box: 1 x mini deburrer FT10001 with fixed HSS blade S150 with handle 1 x mini triangular scraper FT11001, with fixed HSS blade D50 in handle 1 x mini hole deburring head FT12001, with rotatably mounted Ø 3.2 mm counterbore in handle (the blades are non-replaceable)	**0 413 964**	

Deburring tools

		Order No.	Price from 1 piece
Universal deburrer with aluminium handle			
	incl. one blade (S 10)	**0 413 916**	

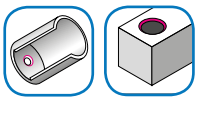
Accessories / spare parts



		Packing quantity	Order No.	Price from 1 pack
Universal deburrer with aluminium handle, matching replacement blades				
	S10 (BS1010), HSS	10 pieces	**0 413 937**	
	S150 (BK3010) for bore Ø 1.5 mm	10 pieces	**0 413 942**	

	Order No.	Price from 1 piece	5 pieces
Hand deburrer, 90° countersink			
for 3–20 mm bore diameter, telescopic receptacle	**0 413 915**		
			

Accessories / spare parts

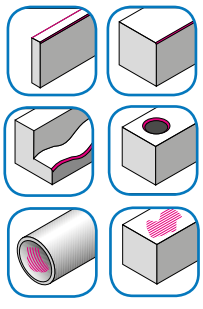


	Order No.	Price from 1 piece	5 pieces
Handle NG-3			
	**0 413 923**		
Telescopic holder, type C			
suitable for the countersink attachments C12, C20 and C30	**0 413 924**		
Countersink attachment 90°, type C12 for 1–12 mm bore diameter			
 suitable for telescopic receptacle type C	**0 413 925**		
Countersink attachment 90°, type C20 for 3–20 mm bore diameter			
	**0 413 926**		
Countersink attachment 90°, type C30 for 3–30 mm bore diameter			
	**0 413 927**		

Deburring tools

	Order No.	Price from 1 piece
Universal handle with triangular scraper		
	**0 413 917**	

Accessories / spare parts

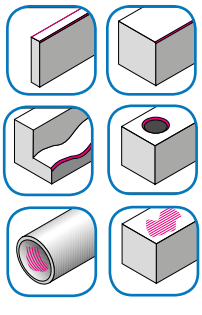


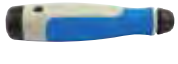
		Dimensions	Order No.	Price from 1 piece	5 pieces
Universal handle					
	for receiving deburring tools, needle files, etc. Flexible collet with a clamping range of between 2.2 and 4.5 mm.		**0 413 939**		
Spare double blade T80					
	HSS, 4.2 x 80 mm, 60°, hardness 62–64 HRC	4,2 x 80 mm	**0 413 953**		

	Order No.	Price from 1 piece	5 pieces
Triangular scraper with telescopic receptacle			
incl. blade (Ø 2.5 x 50 mm)	**0 413 912**		



Accessories / spare parts

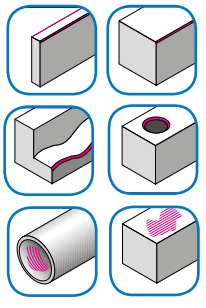


		Packing quantity	Order No.	Price from 1 piece	5 pieces	1 pack	5 packs
Handle NG-3							
			**0 413 923**				
Blade holder suitable for blades of Ø 2.5 mm							
	with clamping screw (Ø 3 mm) for fixing the blade		**0 413 918**				
Replacement blades							
	D50, triangular, Ø 2.5 x 50 mm, hardness 62–64 HRC	10 pieces	**0 413 951**				

Deburring tools

		Order No.	Price from 1 piece	Price from 5 pieces
Triangular scraper, adjustable with aluminium handle				
	incl. double blade (Ø 4.2 x 80 mm)	**0 413 913**		

Accessories / spare parts



		Order No.	Price from 5 pieces	Price from 1 piece
Spare double blade T80				
	HSS, 4.2 x 80 mm, 60°, hardness 62–64 HRC	**0 413 953**		
Aluminium universal handle				
	12 mm hexagonal, variable tool receptacle	**0 413 913-2**		

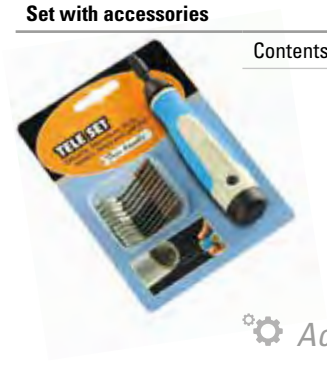
		Order No.	Price from 1 piece	Price from 5 pieces	Price from 10 pieces
High precision plier JGH-SPN-120					
	• for cleanly removing injection points, burrs, etc. • no crushing, clean cut edge owing to specially ground and shaped cutting edges	**0 413 955**			





Deburring tools
Set deburrer

	Order No.	Price from 1 set	5 set
Set with accessories			
Contents: handle, 10 blades and telescopic receptacle (adjustable from 30 to 115 mm)	**0 413 914**		



Accessories / spare parts

		Packing quantity	Order No.	Price from 1 pack
Universal deburrer with aluminium handle, matching replacement blades				
	S10 (BS1010), HSS	10 pieces	**0 413 937**	
	S150 (BK3010) for bore Ø 1.5 mm	10 pieces	**0 413 942**	



	Order No.	Price from 1 set	5 set
Deburring set in storage case			
Set consisting of: 1 x Hand deburrer, specially for deburring longitudinal grooves, (groove width 2.4–11 mm), with handle (order no. 0 413 933) 1 x Hand deburrer, for deburring 2 edges simultaneously (material width 1–8 mm), V-shaped blade, with handle (order no. 0 413 932) 1 x Hand deburrer, triangular scraper with 2.5 x 50 mm blade, telescopic receptacle (order no. 0 413 912) 1 x Hand deburrer, 90° countersink for 3–20 mm bore diameter, telescopic receptacle (order no. 0 413 915) 1 x Hand deburrer for deburring bores 1 x Hand deburrer for brass and cast iron, for interior and exterior (40° and 60° blade) Case dimensions: approx. 270 x 230 x 50 mm	**0 413 934**		



Cleaning systems
Overview

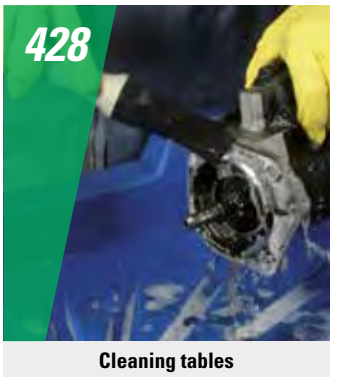
You have the cleaning tasks, we have the appropriate solutions. Our cleaning systems cover the whole spectrum of industrial part cleaning:

Using the joke BioCleaner cleaning tables, you can conduct purely water-based cleaning without solvents. The microorganisms effectively and rapidly degrade the contaminants.

The range also includes the high-performance steam jet cleaners ES 8000 basic, which are ideal for carrying out all preliminary and final cleaning tasks in the watchmaking and jewellery industry and in general workshops. The stainless steel surface of the devices is easy to clean. The pressure vessel is easily filled via the filling trough, fixed water connection or canister with pump.

For ultrasonic cleaning, you have a choice between single-frequency (joke Basic-Clean) and multi-frequency systems (joke Multi-Clean), ranging in size from S to XXXL.

The modular design of the joke Flex-Line devices allows configuration of an ultrasonic cleaning installation exactly according to your requirements. Assemble different components to suit your needs. In addition to the versatility of the devices, we have also compiled a comprehensive selection of matching ultrasonic cleaning products.



Cleaning tables
joke BioCleaner



Steam cleaners
ES 8000 basic



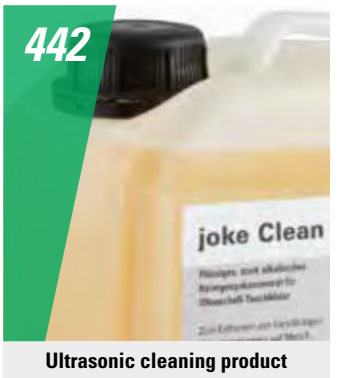
Multi-frequency cleaners
joke Multi-Clean TI-H



Multi-frequency cleaners
joke Multi-Clean Power



Modular cleaning system
joke Flex-Line



Ultrasonic cleaning product
joke Clean

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428 **Solvent-free part cleaning**
Cleaning tables joke BioCleaner

430 **Steam cleaners**
ES 8000 basic

432 **Ultrasonic cleaning**
Basics
Single-frequency cleaners joke Basic-Clean
Multi-frequency cleaners joke Multi-Clean TI-H
Multi-frequency cleaners joke Multi-Clean Power
Modular ultrasonic cleaning system joke Flex-Line
Cleaning products for ultrasonic cleaning



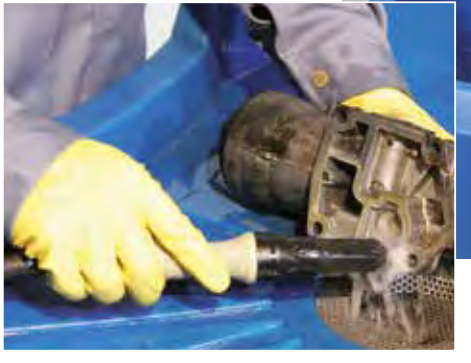
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Cleaning tables
joke BioCleaner

Cleaning tables joke BioCleaner
Cleaning with the new joke BioCleaner cleaning tables is performed completely without the use of solvents. Processing brines, cooling lubricants, corrosion protection products, light greases and other contaminations are optimally removed by water-based means. The natural microorganism ensure that the contaminations are immediately degraded. The particulate debris is separated by the integrated filter system.

- Cleaning on a biological basis without solvents and without cold cleaners
- pH-neutral, therefore less risk of skin irritation
- very good and consistent cleaning performance by an optimum combination of mechanical action, chemistry and nature
- no hazardous substances and/or dangerous goods; this means no restrictions on storage, handling, etc.
- optional fine filter (250 µm) for optimised filtering of the cleaning fluid consequently an extended period of use
- two models: BioCleaner 930 with a high load-bearing capacity for a large working area and BioCleaner 760 with optimum use of working area with a compact construction







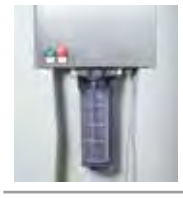


	Cleaning table joke BioCleaner 760	Cleaning table joke BioCleaner 930
Work height	950 mm	950 mm
Working chamber dimensions (W x D x H)	760 x 560 x 20/50 mm	930 x 545 x 250/110 mm
Operating temperature	41 °C	41 °C
Load bearing capacity of work area	100 kg	250 kg
Heating power	0.6 kW in the heating-up phase, on average 0.1 kW	1.0 kW in the heating-up phase, on average 0.1 kW
Pump output	approx. 4 l/min	approx. 4 l/min
Tank volume	80 l	100 l
Dimensions (W x H x D)	890 x 750 x 1,155 mm	1,010 x 785 x 1,140 mm
Supply voltage	230 V, 50/60 Hz	230 V, 50/60 Hz
Weight	45 kg	55 kg
Order No.	**0 958 020**	**0 958 000**
Price		

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Cleaning tables
joke BioCleaner

Accessories / spare parts

		for model	Order No.	Price from 1 set	Price from 1 piece
Filter set (Fineness 250 µm)					
	filters pollutions and improves the life time of the cleaningfluid; with change-able sieve insert (fineness 250 µm), incl. fastening angle and connection (pre-mounted)	BioCleaner 930	**0 958 001**		
		BioCleaner 760	**0 958 020-2**		
Folding lid					
	incl. hinge and fastening material	BioCleaner 930	**0 958 003**		
		BioCleaner 760	**0 958 020-1**		
Cleaning fluid for BioCleaner					
	for de-oiling and degrease of metal and plastic workpie-ces; cleaning on the basis of water (is not subject to solvent regulation!)	200 litres	**0 958 010**		
		20 litres	**0 958 009**		



Optional fine filter (fineness 250 µm) for both models available!

Energy-saving mode

The BioCleaner 930 may be switched to an energy-saving mode with a constant temperature of 30 °C during shutdown periods (nights, weekends). In this mode, the microorganisms remain active, thereby guaranteeing optimum oil and grease degradation.

Steam cleaners
ES 8000 basic

High-performance steam jet cleaner ES 800 basic
This high-performance steam jet cleaner is the right companion wherever material-friendly removal of stubborn soiling is required. They can now be found in many workshop areas and for pre- and final cleaning in the watch and jewellery industry.

Simple operation and convenient handling were the focus of development here. The stainless steel surface is therefore easy to clean; the pressure vessel is simply filled via a filling trough, a fixed water connection or suitable canister. The filling level indicator provides information about the filling level and when the device needs to be refilled. The device also indicates when descaling is required and guides the user through the following steps. All other functions are controlled or activated via a pushbutton/rotary knob. The lock mode for application pauses deactivates the handpiece and foot switch as a safety measure. With automatic switchover to eco mode, the operating pressure is reduced to 3 bar, thereby saving energy.

Scope of supply:
tweezers, sieve, maintenance hose, flushing set, safety screw cap with 3 replacement seals and measuring strips.

Other highlights:
- 3-year guarantee
- choice of 2 pressure ranges: soft from 4 to 6 bars and strong from 6 to 8 bars (adjustable in 0.5 bar increments)
- constant steam availability due to high heating capacity
- optional steam control for wet and dry steam
- optionally only compressed air
- optional use of rigid nozzle and/or flexible handpiece
- tested according to DIN EN 61010-1
- intelligent pump control to avoid work breaks owing to refill cycles



Steam cleaner ES 8000 basic available in different variants.

High-performance steam jet cleaner



Technical data:

Mains voltage:	220 – 240 V
Mains frequency:	50/60 Hz
Max. power consumption:	3,120 watts
Material, housing:	stainless steel
Material, pressure tank:	stainless steel/ aluminium bronze
Weight:	20 kg
Pressure vessel volume:	5 l
Max. filling volume:	3.8 l
Max. working pressure:	8 bars
Steam temperature in pressure tank:	185 °C
Steam temperature at nozzle:	160 °C
Dimensions (W x D x H):	285 x 350 x 520 mm

Design	Order No.	Price from 1 piece
with rigid nozzle and flexible handpiece (1.4 m), pump, 2 x compressed air and foot pedal	**0 668 090**	
with rigid nozzle, pump, compressed air and foot pedal	**0 668 074**	
with flexible handpiece, pump, compressed air and wet steam	**0 668 073**	
with flexible handpiece, pump and compressed air	**0 668 070**	
with rigid nozzle and flexible handpiece (1.7 m), foot pedal	**0 668 071**	
with rigid nozzle and foot pedal	**0 668 072**	
with flexible handpiece (1.7 m)	**0 668 076**	

Steam cleaners
ES 8000 basic

Accessories / spare parts

		Order No.	Price from 1 piece	Price from 1 set
Reservoir with level regulation				
	Only for devices with an integrated pump Volume: 10 litres Hose length: 2 metres	**0 668 075**		
Adapter set				
	8-piece, incl. tongs	**0 668 077**		
Screw-on adapter				
	for the adapter set	**0 668 078**		
Evaporating dish				
		0 668 079		



Ultrasonic cleaning
Basic principles

The term “ultrasound” means vibrations that are beyond the range of frequencies audible to the human ear (above 20 kHz). In liquids, these vibrations create tiny vacuum bubbles, which form and break within a fraction of a second. This breaking (imploding) results in extremely rapid liquid movements, which remove any contaminants from the work-pieces.

Advantages of ultrasonic cleaning

Unlimited cleaning power
The vigorous movement of the cleaning liquid allows cleaning anywhere on the component immersed in the fluid. Even narrow grooves, bores or blind holes, which are impossible or very difficult to reach with other methods, are thoroughly cleaned.

Contact-free cleaning
Cleaning is performed exclusively by liquid movement, i.e. contact-free. The cleaned component is not stressed or damaged, as would be inevitable with other cleaning methods (for example brushing) even if great care is taken. Ultrasound is therefore more gentle than almost all other conventional cleaning methods.

Effortless cleaning
All you need to do is place the dirty parts in the cleaning bath and take them out again after a predetermined time – and all your components will be thoroughly clean. This is achieved without any manual effort, just the power of ultrasound. There is another side-effect working in your favour: because the cleaning process runs automatically, you save plenty of time for other activities.

Ultrasound in all sectors
Ultrasound is therefore an efficient, gentle and labour-saving cleaning method with applications in many different sectors. It was originally used in the field of science and medicine, but is now, due to larger and more powerful units, increasingly applied in the industrial sector, too.

The joke ultrasonic cleaning systems



Single-frequency

joke Basic-Clean
- Useful volume 0.7 to 75 litres
- All units with heating system (also available without)
- Sweep and DeGas as standard
- Cleaning frequency 37 kHz



Multi-frequency

joke Multi-Clean
- Useful volume 3.5 to 16.8 litres
- All units with heating system
- Sweep and DeGas as standard
- Cleaning frequency 25 kHz und 45 kHz



joke Multi-Clean Premium
- Useful volume 22 to 215 litres
- All units with heating system
- Sweep and pulse function as standard
- Cleaning frequency 25 kHz und 45 kHz



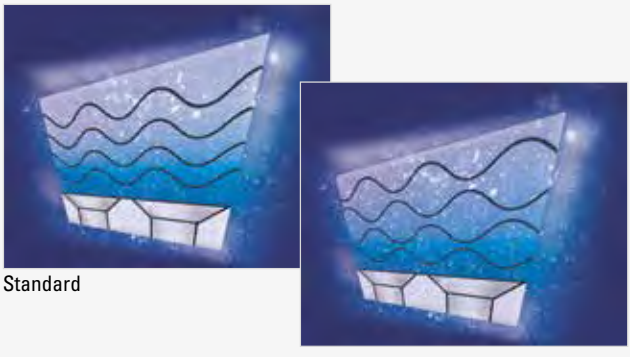
joke Flex-Line 1 / 2
- Useful volume 32 to112 litres
- All units with heating system
- Sweep, DeGas and pulse function as standard
- Cleaning frequency 25 kHz und 45 kHz

Functional description
„Sweep“ and „DeGas“

What is “Sweep“ and “DeGas“?
All our ultrasonic cleaners feature the Sweep and DeGas functions – but what exactly does that mean?

Sweep
When the Sweep function is activated, the ultrasonic bath unleashes its full power. Frequency modulations ensure even distribution of the ultrasonic vibrations in the cleaning fluid.

Pulse
The cleaning performance can be markedly increased by a newly developed use of two slightly different frequencies. Local removal of stubborn contaminants can therefore be achieved before one switches over to “sweep” again for uniform final cleaning. With the new joke Multi-Clean Power devices, the system automatically transfers to “sweep” mode after “pulse” is deactivated, thereby guaranteeing optimum cleaning results.


Standard

with Sweep


DeGas

DeGas
The DeGas function degases the cleaning liquid quickly and efficiently. This is necessary, because gas and air bubbles interfere with the cleaning process. This function is particularly useful each time the liquid is replaced.



Application advice

Ultrasonic cleaning combines many factors, which in turn influence the achievable results. These results are influenced by the parts to be cleaned as well as the cleaning environment. We offer you the chance of a free cleaning trial at our premises. These trials should establish the perfect result for your application. The questionnaire that we have developed (available in PDF format or as a fax form) covers all relevant aspects for this test process.

Please consult us:
Tel. +49 (0) 22 04 / 8 39-0
sales@joke.de

Ultrasonic cleaners
joke Basic-Clean

Ultrasonic cleaners joke Basic-Clean
The new introductory series of joke ultrasonic cleaning units offers fully developed technology, practice-orientated equipment and operator convenience at a fair entry-level price. All units feature cleaning troughs made from cavitation-proof stainless steel and a dry run-safe and electronically controllable heating temperature as well as cleaning time. The auto-start option allows the user to preset a temperature at which the cleaning process is to start automatically. With the Sweep and DeGas functions, these models ensure perfect and effective cleaning.

Further useful characteristics: all units (with the exception of 80 H and 175 H) feature a drain cock for rapid emptying of the troughs. The optional cover can also be used as a drip tray – just turn it over. The collected liquid can thus be reused in the cleaning trough.

Whether you are using ultrasound only occasionally or on a regular basis: the new Basic-Clean units offer modern design, efficiency and quality "Made in Germany".

A single series – two signal shapes!

The signal shape of the ultrasound has been adapted to the trough geometries of the units. The small units work with impulse sound and from 275 H and above, the units work with double half-wavelength sound. Consequently, a 4 to 8-fold value results in this case for the ultrasonic output data!

	joke Basic-Clean 80 H	joke Basic-Clean 175 H	joke Basic-Clean 275 H	joke Basic-Clean 425 H	joke Basic-Clean 575 H	joke Basic-Clean 690 H
Recommended useful volume	0.7 l	1.2 l	1.9 l	3.2 l	4.3 l	5.2 l
Working chamber dimensions (W x D x H)	190 x 85 x 60 mm	151 x 137 x 100 mm	240 x 137 x 100 mm	240 x 137 x 150 mm	300 x 151 x 150 mm	505 x 137 x 100 mm
Device dimensions (W x H x D)	206 x 116 x 178 mm	175 x 180 x 212 mm	300 x 179 x 214 mm	300 x 179 x 264 mm	365 x 186 x 264 mm	568 x 179 x 214 mm
Frequency	37 kHz	37 kHz	37 kHz	37 kHz	37 kHz	37 kHz
Ultrasonic output, effective	30 W	35 W	80 W	140 W	150 W	150 W
Ultrasonic peak output, max.	240 W	280 W	320 W	560 W	600 W	600 W
Drain	–	–	3/8"	3/8"	3/8"	3/8"
Heating power	60 W	60 W	200 W	200 W	400 W	600 W
Power consumption	90 W	95 W	280 W	340 W	550 W	750 W
Supply voltage	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz
Weight [kg]	2 kg	2.1 kg	3.3 kg	4 kg	5.1 kg	5.6 kg
Suitable cover	0 669 003, included in delivery	0 669 013	0 669 023	0 669 033	0 669 043	0 669 053
Suitable baskets	0 669 002	0 669 012	0 669 022	0 669 032	0 669 042	0 669 052
Order No.	**0 669 000**	**0 669 010**	**0 669 020**	**0 669 030**	**0 669 040**	**0 669 050**
Price						

Basket for joke Basic-Clean

Basket dimensions (W x D x H)	177 x 73 x 30 mm	112 x 103 x 50 mm	198 x 106 x 50 mm	190 x 105 x 75 mm	255 x 115 x 75 mm	465 x 106 x 50 mm
for model	Basic-Clean 80 H	Basic-Clean 175 H	Basic-Clean 275 H	Basic-Clean 425 H	Basic-Clean 575 H	Basic-Clean 690 H
Order No.	**0 669 002**	**0 669 012**	**0 669 022**	**0 669 032**	**0 669 042**	**0 669 052**
Price						

Cover

Material	Plastic	Plastic	Plastic	Plastic	Plastic
for model	Basic-Clean 80 H	Basic-Clean 175 H	Basic-Clean 275 H & 425 H	Basic-Clean 575 H	Basic-Clean 690 H & 940 H
Order No.	**0 669 003**	**0 669 013**	**0 669 023**	**0 669 043**	**0 669 053**
Price					

Ultrasonic cleaners
joke Basic-Clean



joke Basic-Clean 940 H	joke Basic-Clean 950 H	joke Basic-Clean 1275 H	joke Basic-Clean 1800 H	joke Basic-Clean 2800 H	joke Basic-Clean 4500 H	joke Basic-Clean 9000 H
7.3 l	7.5 l	9.0 l	12.9 l	20.6 l	35.0 l	75.0 l
505 x 137 x 150 mm	300 x 240 x 150 mm	300 x 240 x 200 mm	327 x 300 x 200 mm	505 x 300 x 200 mm	500 x 300 x 300 mm	600 x 500 x 300 mm
568 x 179 x 264 mm	365 x 278 x 264 mm	365 x 278 x 321 mm	390 x 340 x 321 mm	568 x 340 x 321 mm	615 x 370 x 467 mm	715 x 570 x 467 mm
37 kHz	37 kHz	37 kHz	37 kHz	37 kHz	37 kHz	37 kHz
150 W	150 W	200 W	200 W	300 W	400 W	800 W
600 W	600 W	800 W	800 W	1,200 W	1,600 W	3,200 W
3/8“	3/8“	3/8“	3/8“	3/8“	1/2“	1/2“
600 W	400 W	800 W	800 W	1,200 W	1,600 W	2,000 W
750 W	550 W	1000 W	1000 W	1500 W	2000 W	2800 W
230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz
6.4 kg	5.9 kg	7.5 kg	8.5 kg	11 kg	25 kg	42 kg
0 669 053	0 669 073	0 669 083	0 669 093	0 669 103	0 669 113, Stainless steel	0 669 123, Stainless steel
0 669 062	0 669 072	0 669 082	0 669 092	0 669 102	0 669 112	0 669 122
0 669 060	**0 669 070**	**0 669 080**	**0 669 090**	**0 669 100**	**0 669 110**	**0 669 120**

455 x 106 x 75 mm	255 x 200 x 75 mm	250 x 190 x 115 mm	280 x 250 x 115 mm	455 x 250 x 115 mm	455 x 270 x 194 mm	545 x 450 x 250 mm
Basic-Clean 940 H	Basic-Clean 950 H	Basic-Clean 1275 H	Basic-Clean 1800 H	Basic-Clean 2800 H	Basic-Clean 4500 H	Basic-Clean 9000 H
0 669 062	**0 669 072**	**0 669 082**	**0 669 092**	**0 669 102**	**0 669 112**	**0 669 122**

	Plastic	Plastic	Plastic	Stainless steel	Stainless steel
	Basic-Clean 950 H & 1275 H	Basic-Clean 1800 H	Basic-Clean 2800 H	Basic-Clean 4500 H	Basic-Clean 9000 H
	0 669 073	**0 669 093**	**0 669 103**	**0 669 113**	**0 669 123**

Ultrasonic cleaners
joke Multi-Clean TI-H



Ultrasonic cleaners joke Multi-Clean TI-H
Compact tabletop units with two frequencies for intensive cleaning at 25 kHz and for gentle cleaning at 45 kHz, during which even the finest openings and grooves in the goods to be cleaned are reached. The frequencies can be changed by simple commutation. All units have adjustable onboard heating and likewise a rear drain for simple emptying in addition to a timer function. All devices are equipped with infinitely adjustable ultrasonic output as standard.



	joke Multi-Clean TI-H 5	joke Multi-Clean TI-H 10	joke Multi-Clean TI-H 15	joke Multi-Clean TI-H 20
Recommended useful volume	3.5 l	8.6 l	12.2 l	16.8 l
Working chamber dimensions (W x D x H)	240 x 130 x 150 mm	300 x 240 x 150 mm	300 x 240 x 200 mm	330 x 300 x 200 mm
Device dimensions (W x H x D)	340 x 300 x 370 mm	400 x 415 x 370 mm	400 x 415 x 420 mm	430 x 470 x 420 mm
Frequency	25/45 kHz	25/45 kHz	25/45 kHz	25/45 kHz
Ultrasonic output, effective	100 W	200 W	200 W	250 W
Ultrasonic peak output, max.	400 W	800 W	800 W	1,000 W
Drain	1/2“	1/2“	1/2“	1/2“
Heating power	400 W	800 W	1,000 W	1,400 W
Power consumption	500 W	1000 W	1200 W	1650 W
Supply voltage	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz
Weight [kg]	10.5 kg	14.8 kg	16 kg	20 kg
Suitable cover	0 667 001	0 667 011	0 667 011	0 667 031
Suitable baskets	0 667 003	0 667 013	0 667 023	0 667 033
Order No.	**0 667 000**	**0 667 010**	**0 667 020**	**0 667 030**
Price				

Basket for joke Multi-Clean TI-H				
Basket dimensions (W x D x H)	200 x 100 x 90 mm	260 x 210 x 90 mm	260 x 210 x 135 mm	290 x 270 x 135 mm
for model	TI-H 5	TI-H 10	TI-H 15	TI-H 20
Order No.	**0 667 003**	**0 667 013**	**0 667 023**	**0 667 033**
Price				

Stainless steel cover			
for model	TI-H 5	TI-H 10 & 15	TI-H 20
Order No.	**0 667 001**	**0 667 011**	**0 667 031**
Price			

Ultrasonic cleaners
joke Multi-Clean Power





- Professional units for constant industrial use
- Pulse function for extremely intensive cleaning
- Ultrasonic trough in cavitation-proof stainless steel
- Ergonomic, easy to operate, splashproof

Ultrasonic cleaners
joke Multi-Clean Power

Ultrasonic cleaning device Multi-Clean Power
As the successor to the joke Multi-Clean Premium line, the new "power devices" are convincing in their customary high quality and are thus perfect when it comes to cleaning stubborn soiling and sensitive surfaces. Three different cleaning programs markedly increase your options. In "sweep function", frequency modulations ensure uniform distribution of the ultrasound waves in the cleaning fluid. At 25 kHz, you can free your workpieces intensively from coarse contamination; at 45 kHz, you can clean gently and finely into the tiniest openings and grooves. The "pulse function" increases your peak ultrasound performance, thereby removing particularly stubborn contamination. In the "dynamic function" both "sweep" and "pulse" functions are combined and run automatically in alternation, consequently the results can sometimes be increased by up to 20 %.

Highlights:
- 3 different programs for maximum cleaning performance
- high heating output with temperature control between 30 – 80 °C
- Oscillating tank made of particularly cavitation-proof special stainless steel
- Control panel with protection against projected water

	joke Multi-Clean Power 300	joke Multi-Clean Power 500	joke Multi-Clean Power 600	joke Multi-Clean Power 800
Recommended useful volume	22.0 l	42.0 l	45.0 l	70.0 l
Working chamber dimensions (W x D x H)	300 x 300 x 300 mm	300 x 300 x 500 mm	500 x 330 x 350 mm	500 x 330 x 500 mm
Device dimensions (W x H x D)	500 x 550 x 936 mm	500 x 550 x 936 mm	670 x 580 x 936 mm	670 x 580 x 936 mm
Frequency	25/45 kHz	25/45 kHz	25/45 kHz	25/45 kHz
Ultrasonic output, effective	480 W	540 W	800 W	900 W
Ultrasonic peak output, max.	600 W	600 W	1,000 W	1,000 W
Drain	Ball valve	Ball valve	Ball valve	Ball valve
Heating power	1,400 W	1,400 W	1,400 W	4,200 W
Noise level	< 80 dB(A)	< 80 dB(A)	< 80 dB(A)	< 80 dB(A)
Power consumption	2000 W	2000 W	2400 W	5200 W
Supply voltage	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz	3 x 400 V/N/PE
Weight	40 kg	45 kg	55 kg	61 kg
Suitable cover	0 690 101 0 690 102 Noise protection cover	0 690 101 0 690 102 Noise protection cover	0 690 121 0 690 122 Noise protection cover	0 690 121 0 690 122 Noise protection cover
Suitable baskets	0 690 103	0 690 113	0 690 123	0 690 133
Order No.	**0 690 100**	**0 690 110**	**0 690 120**	**0 690 130**
Price				

Basket

Basket dimensions (W x D x H)	255 x 230 x 170 mm	255 x 230 x 370 mm	400 x 255 x 220 mm	400 x 255 x 370 mm
for model	Multi-Clean Power 300	Multi-Clean Power 500	Multi-Clean Power 600	Multi-Clean Power 800
Order No.	**0 690 103**	**0 690 113**	**0 690 123**	**0 690 133**
Price				

Cover

for model	Multi-Clean Power 300 & 500	Multi-Clean Power 600 & 800
Order No.	**0 690 101**	**0 690 121**
Price		

Noise protection cover

for model	Multi-Clean Power 300 & 500	Multi-Clean Power 600 & 800
Order No.	**0 690 102**	**0 690 122**
Price		

Ultrasonic cleaners
joke Multi-Clean Power



joke Multi-Clean Power 1400	joke Multi-Clean Power 1600	joke Multi-Clean Power 2500
97.0 l	133.0 l	215.0 l
600 x 600 x 350 mm	600 x 600 x 450 mm	750 x 650 x 520 mm
885 x 850 x 936 mm	885 x 850 x 936 mm	1,035 x 900 x 936 mm
25/45 kHz	25/45 kHz	25/45 kHz
1,440 W	1,600 W	1,600 W
1,800 W	2,000 W	2,000 W
Ball valve	Ball valve	Ball valve
5,000 W	7,500 W	7,500 W
< 80 dB(A)	< 80 dB(A)	< 80 dB(A)
6800 W	9500 W	9500 W
3 x 400 V/N/PE	3 x 400 V/N/PE	3 x 400 V/N/PE
87 kg	93 kg	107 kg
0 690 141 0 690 142 Noise protection cover	0 690 141 0 690 142 Noise protection cover	0 690 161 0 690 162 Noise protection cover
0 690 143	0 690 144	0 690 163
0 690 140	**0 690 150**	**0 690 160**

490 x 525 x 210 mm	480 x 525 x 300 mm	630 x 575 x 370 mm
Multi-Clean Power 1400	Multi-Clean Power 1600	Multi-Clean Power 2500
0 690 143	**0 690 144**	**0 690 163**

	Multi-Clean Power 1400 & 1600	Multi-Clean Power 2500
	0 690 141	**0 690 161**

	Multi-Clean Power 1400 & 1600	Multi-Clean Power 2500
	0 690 142	**0 690 162**

Modular ultrasonic cleaning system
joke Flex-Line

Modular ultrasonic cleaning system joke Flex-Line
Built to cope with any cleaning task. Owing to the modular construction, the new joke Flex-Line cleaning devices ofer a wide range of configuration possibilities. Ultrasonic cleaning in modernmultifrequency devices forms the basis of this module line with the joke Flex-Line 1. Equipped with an oscillation unit that already results in a cleansing rinsing effect with its up-and-down movements.The joke Flex-Line 2 includes a rinsing module in addition to the ultrasonic cleaning device. Consequently, in the combination of ultrasound, oscillation and rinsing, a three-stage cleaning process in two chambers results. Maximum cleaning performance guaranteed! The high flexibility of the joke Flex-Line also makes subsequent additions or adaptations to the cleaning process possible at any time.

The structure of the optionally available accessories is also modular. A matching circulating air dryer is available for each size. Likewise, an oil separator, a showering device and a filter-pump unit are available. These components optimise the cleaning result and markedly extend the period of use of the cleaner by optimised filtering.



Flex-Line 1
Cleaning

	joke Flex-Line 1 - 550	joke Flex-Line 1 - 800	joke Flex-Line 1 - 1200
Recommended useful volume	55.0 l	84.0 l	112.0 l
Working chamber dimensions (W x D x H)	296 x 501 x 309 mm	296 x 501 x 459 mm	519 x 600 x 321 mm
Device dimensions (W x H x D)	500 x 940 x 1,200 mm	500 x 940 x 1,500 mm	730 x 1,070 x 1,500 mm
Frequency	25/45 kHz	25/45 kHz	25/45 kHz
Ultrasonic output, effective	600 W	1,000 W	1,800 W
Ultrasonic peak output, max.	2,400 W	4,000 W	7,200 W
Drain	1“	1“	1“
Heating power	3,000 W	5,800 W	7,500 W
Power consumption	3,650 W	6,810 W	9,320 W
Supply voltage	3 x 400 V/N/PE	3 x 400 V/N/PE	3 x 400 V/N/PE
Weight	90 kg	110 kg	200 kg
Suitable cover	0 665 205	0 665 205	0 665 305
Suitable baskets	0 668 102	0 665 206	0 665 306
Order No.	**0 665 101**	**0 665 201**	**0 665 301**
Price			

Basket

Basket dimensions (W x D x H)	244 x 424 x 204 mm	244 x 424 x 340 mm	438 x 524 x 210 mm
for model	Flex-Line 1/2 – 550	Flex-Line 1/2 – 800	Flex-Line 1/2 – 1200
Order No.	**0 668 102**	**0 665 206**	**0 665 306**
Price			

Stainless steel cover

for model	Flex-Line 1/2 – 550 & 800	Flex-Line 1/2 – 1200 & 1600
Order No.	**0 665 205**	**0 665 305**
Price		

Modular ultrasonic cleaning system
joke Flex-Line



Flex-Line 2
Cleaning and rinsing

Advantages through additional rinsing module:

- less moving around when working and drier working environment
- optional showering device: rinsing water refreshment, cleaner surfaces, environment-friendly owing to multiple reuse of water
- optional circulating air dryer as an additional module improves the drying process

We will be pleased to advise you!

You will achieve optimum results following comprehensive advice. Please consult us in order to individually compile the components of the Flex-Line system in the right combination:
Markus Abstoß
Tel. +49 (0) 22 04 / 8 39-0 • m.abstoss@joke.de

	joke Flex-Line 2 - 550	joke Flex-Line 2 - 800	joke Flex-Line 2 - 1200
Recommended useful volume	43.0 l	84.0 l	112.0 l
Working chamber dimensions (W x D x H)	296 x 501 x 309 mm	296 x 501 x 459 mm	296 x 501 x 309 mm
Device dimensions (W x H x D)	1,100 x 940 x 1,200 mm	1,100 x 940 x 1,500 mm	1,450 x 1,070 x 1,500 mm
Frequency	25/45 kHz	25/45 kHz	25/45 kHz
Ultrasonic output, effective	600 W	1,000 W	1,800 W
Ultrasonic peak output, max.	2,400 W	5,800 W	7,200 W
Drain	1“	1“	1“
Heating power	3,000 W	5,800 W	7,500 W
Power consumption	3,650 W	6,810 W	9,320 W
Supply voltage	3 x 400 V/N/PE	3 x 400 V/N/PE	3 x 400 V/N/PE
Weight	180 kg	210 kg	400 kg
Suitable cover	0 665 205	0 665 205	0 665 305
Suitable baskets	0 668 102	0 665 206	0 665 306
Order No.	**0 665 601**	**0 665 701**	**0 665 801**
Price			

Basket

Basket dimensions (W x D x H)	244 x 424 x 204 mm	244 x 424 x 340 mm	438 x 524 x 210 mm
for model	Flex-Line 1/2 – 550	Flex-Line 1/2 – 800	Flex-Line 1/2 – 1200
Order No.	**0 668 102**	**0 665 206**	**0 665 306**
Price			

Stainless steel cover

for model	Flex-Line 1/2 – 550 & 800	Flex-Line 1/2 – 1200 & 1600
Order No.	**0 665 205**	**0 665 305**
Price		

Cleaning products for ultrasonic cleaning
joke Clean

Cleaning products for ultrasonic cleaners
The ultrasound plays an important role in the cleaning process. In addition to the further factors temperature and time, cleaning chemicals are the fourth component. The cleaning media must correspond to the kind of contamination and be compatible with the surface of the cleaning items. Also, not all media are suitable for ultrasonic cleaning.

The cleaned items must be rinsed with water after the ultrasonic cleaning process. To prevent water stains, de-ionised or distilled water (possibly with added corrosion protection) must be used. If such protection cannot be used, corrosion should be prevented by using a rinsing medium that vaporises without leaving residues (e.g. alcohol). Thus, the whole process consists of three stages: cleaning, rinsing, drying.

Cleaning of metals and corrosion
Unalloyed steels are very susceptible to corrosion, particularly after acid ultrasonic cleaning. They require a corrosion protection (at least temporarily) to be added to the cleaning bath and in particular to the aqueous rinsing baths, or a water-displacing rinsing medium (e.g. solvents with added oil).
Another successful measure against corrosion is immediate blowing off after the final rinse.

		Content	Order No.	Price from 1 piece
joke Clean 100 S				
	Suitable for cleaning of non-ferrous metals, aluminium, stainless steel, plastics and also glass. Likewise for passivating of rustproof and chrome-alloyed steels. Brass and copper-based alloys are lightened. Removes greases, oils, oxide layers (e.g. verdigris) in addition to rust and limescale. The passivating effect in case of Cr-based steels is based on the dissolving out of Fe atoms from the surface, so that the relative Cr content in the latter increases.	2.5 l	**0 666 320**	
		10 l	**0 666 321**	
		25 l	**0 666 322**	

		Content	Order No.	Price from 1 piece
joke Clean 110				
	Liquid alkaline cleaning concentrate for the elimination of stubborn soiling from metal, ceramic and plastic surfaces in ultrasonic immersion baths. Excellent suitability for the cleaning of: metal surfaces, many plastic surfaces, rubber surfaces and in particular quartz and silicon wafer cleaning following mechanical processing. Removes metal oxides, quartz deposits and stubborn organic soiling such as: oxidised and gummy oils and fats, waxes, lacquer and paint residues. Not suitable for light metals (Al, Mg and their alloys); plastics must be initially tested for resistance (not suitable for plastics susceptible to tension cracking).	2.5 l	**0 666 103-1**	
		25 l	**0 666 102-1**	

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Cleaning products for ultrasonic cleaning
joke Clean

		Content	Order No.	Price from 1 piece
joke Clean 210				
	Liquid, weakly alkaline cleaning concentrate. Suitable for gentle cleaning of metal and plastic parts. joke Clean 210 delivers excellent cleaning results on steel, non-ferrous heavy, noble and light metals, in addition to nickel, chrome, zinc and nickel-silver surfaces (including material combinations) and on plastics resistant to tension cracking. Mg-, MgZnAl ("electron") alloys and plastics must be tested for resistance before use. This cleaner has an emulsifying effect and eliminates the following substances: aqueous cooling lubricant emulsions, fats and oils, abrasive and polishing compounds. A prior suitability check should be performed for polishing media containing animal fats.	2.5 l	**0 666 113-1**	
		25 l	**0 666 112-1**	

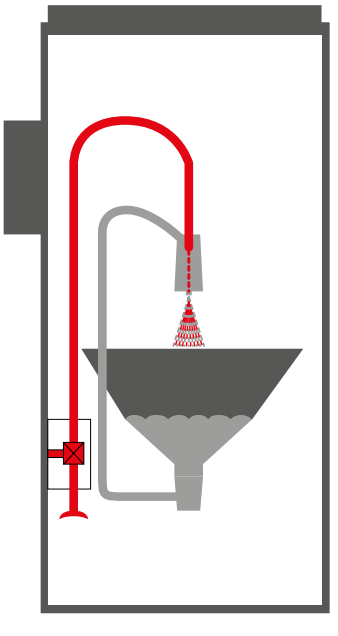
		Content	Order No.	Price from 1 piece
joke Clean 225				
	Liquid, mildly alkaline multipurpose cleaning concentrate for ultrasonic immersion baths. Suitable for metal, glass, ceramic, plastic and rubber surfaces. Light metal alloys of AlSiMg type must be checked initially for resistance. For elimination of oils, fats, combustion residues, soot and other organic contamination and dust. Also suitable for overhaul cleaning (printed circuit boards, protection masks, copiers and printers).	2.5 l	**0 666 123-1**	
		25 l	**0 666 122**	

		Content	Order No.	Price from 1 piece
joke KS				
	Liquid temporary corrosion protection for addition to the cleaning or rinsing bath. For use in immersion baths with or without ultrasound. Corrosion-sensitive metal materials such as steel, grey cast iron and solid carbides are coated with a protective film providing temporary corrosion protection.	1 l	**0 666 201**	
		2.5 l	**0 666 200-1**	

Injection and pressure blasting



Injection blasting



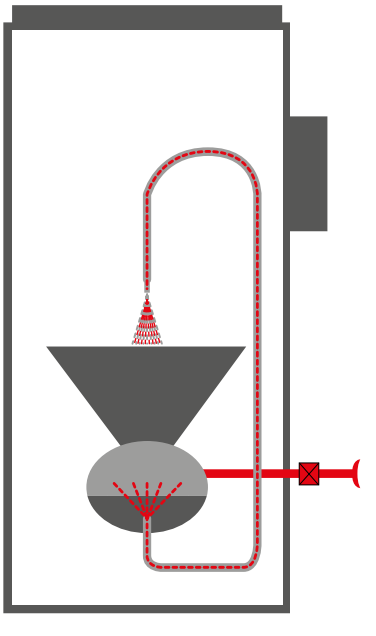
Injection blasting creates a negative pressure within a blasting gun, which sucks in the blasting shot via a separate supply line and guides it into the compressed air. The compressed air then accelerates the blasting shot up to its exit from the blasting nozzle.

Injection blasting is particularly suited to achieving uniform small to medium-sized surfaces. This method allows spot-on application (important for sensitive workpiece geometries).

During **pressure blasting**, the blasting shot is pressurised with compressed air in an enclosed container (pressure tank) from which it is forced through the attached blasting hose with blasting nozzle. Owing to this long acceleration path, the blasting shot achieves a much higher blasting and impact velocity than with injection blasting.

This method is particularly suited for blasting large areas and removing stubborn impurities. Extremely light (i.e. plastic, walnut shells) or heavy (i.e. high-carbon steel grit, metallic blasting shots) blasting media can be used, that do not achieve the required impact velocity or require a long blasting process with the injection method.

Pressure blasting



446 **Injection fine blasting units**
mikromat eco series
mikromat pro series
microblast
microjet

454 **Blasting shots**

Blasting is a surface treatment in which blasting shot is aimed at the workpieces at high velocity. **Compressed air, hydraulic fluid or wheels** are available as carrier energy. The blasting result essentially depends on the type of blasting shot selected, in addition to different machine types and configuration para-meters. (Translation of the German definition according to www.wikipedia.de)

In selecting our blasting systems, we at joke have decided on compressed air as the carrier energy. On the one hand, the risk of possible corrosion in case of non-corrosion-resistant materials is ruled out as a result; above all however, **precise point blastings** are possible using our compressed-air fine blasting systems. For this purpose, we have compiled a selection of blasting units from the **mikromat series** on the following pages.

You will find **injector and pressure blasting systems** (on request) from us that distinctly differ in their performance and are therefore capable of catering for the most diverse applications (refer to the explanation on the left).

We offer you a matching **range of blasting shots** in many different versions.



Fine blasting units
Series “eco”



Fine blasting units “eco” series
The new, budget-priced entry level blasting unit offering professional quality for workshop and factory.
It is highly recommended for deburring, derusting, cleaning, roughening, matting, descaling and removing of lacquer.
This unit offers modern technology with many practical features at an attractive price.

Highlights:
- Compact, space-saving design
- Integrated dust exhaust for perfect visibility during the blasting process
- Blasting shot is processed in a closed loop, i. e. only dust etc. is removed, the blasting shot is recycled
- High-performance filter cartridge (up to 8 m² filter space)
- Large window
- Adjustable blasting pressure via pressure regulator
- Easy exchange of blasting shot thanks to steep funnel
- Grid with high loading capacity
- Integrated safety device
- LED work chamber illumination
- Easy self-installation of the optional equipment, even as retrofitting

	Fine blasting unit mikromat 50 eco
Working chamber dimensions (W x D x H)	approx. 500 x 450 x 470 mm
Device dimensions (W x H x D)	approx. 705 x 760 x 1,520 mm
Load bearing capacity of work area	50 kg
Air consumption	approx. 700 l/min at 7 bars
Compressed-air connection	Rapid-release coupling 1/2“
Compressed-air adjustment range	0.5 – 10 bars
Fan output	approx. 350 m³/h
Filter area	4.0 m²
Lighting	LED
Weight	approx. 85 kg
Supply voltage	230 V / 50–60 Hz Euro plug
Scope of delivery	Blasting nozzle made of hardened steel (Ø 7 mm), safety switch (no blasting shot supply when hood open), pressure controller with water separator, foot switch for starting and stopping the blasting process
Order No.	**0 951 100-8**
Price	

Fine blasting units
Series “eco”



	Fine blasting unit mikromat 1000 eco
Working chamber dimensions (W x D x H)	approx. 1,000 x 900 x 750 mm
Device dimensions (W x H x D)	approx. 1,110 x 1,300 x 1,650 mm
Load bearing capacity of work area	approx. 130 kg
Air consumption	approx. 700 l/min at 7 bars
Compressed-air connection	Rapid-release coupling 1/2“
Compressed-air adjustment range	0.5 – 10 bars
Fan output	approx. 1,000 m³/h
Filter area	8.0 m²
Lighting	LED
Weight	approx. 300 kg
Supply voltage	230/400 V, 5-pin plug
Scope of delivery	Scope of delivery refer to Order No. 0 952 100-8, additionally with an exhaust air duct of an afterfilter system or with an exhaust air connector for connection
Order No.	**0 952 200**
Price	

Fine blasting units
Series “pro”

Fine blasting units Series “pro”
The fine blasting units from the pro series are perfectly prepared ex-works for optional equipment. This allows ideal working conditions. They are state of the art with their LED working chamber lights. We offer every worker ergonomically adaptable working conditions in the form of the “ERGOSIZE” height-adjustable working chamber. Other highlights: fully automatic filter cleaning and frequency-controlled extraction together with the afterfilter system allow minutest quantities of residual dusts with a very low noise level.

Highlights:
- LED lighting
- compact, space-saving design
- High-efficiency filter cartridges with 8 m² filter area
- Large viewing window with easily replaceable elements
- Sensible additional equipment
- Remnants are reduced to a minimum
- also retrofittable with the following accessories: Blow-out gun, blasting gun holder, fine blasting unit microblast-A, afterfilter system and blasting shot and blasting shot control



	Fine blasting unit mikromat 600 pro
Working chamber dimensions (W x D x H)	620 x 500 x 250 mm
Device dimensions (W x H x D)	800 x 850 x 1,650 mm
Load bearing capacity of work area	approx. 100 kg
Air consumption	max. 700 l/min at 7 bars
Compressed-air connection	1/2“ rapid-release coupling
Compressed-air adjustment range	0,5 – 10 bars
Noise level	75–76 dB(A), with afterfilter < 70 dB(A)
Fan output	approx. 1,000 m³/h
Filter area	8.0 m²
Lighting	LED
Weight	approx. 150 kg
Supply voltage	230/400 V, 5-pin plug
Scope of delivery	Blasting nozzle made of hardened steel (Ø 7 mm), safety switch (no blasting shot supply when hood open), pressure controller with water separator, foot switch for starting/stopping the blasting process, exhaust air connector for connection or with an exhaust air duct of an afterfilter system, blasting gun holder
Order No.	**0 952 400**
Price	

Fine blasting units
Series “pro”



similar picture

	Fine blasting unit mikromat 1100 pro
Working chamber dimensions (W x D x H)	approx. 920 x 900 x 750 mm
Device dimensions (W x H x D)	approx. 1,090 x 1,300 x 1,650 mm
Load bearing capacity of work area	approx 130 kg
Air consumption	max. 700 l/min at 7 bars
Compressed-air connection	1/2“ rapid-release coupling
Compressed-air adjustment range	0,5 – 10 bars
Noise level	75–76 dB(A), with afterfilter < 70 dB(A)
Fan output	approx. 1,000 m³/h
Filter area	8.0 m²
Lighting	LED
Weight	approx. 300 kg
Supply voltage	230/400 V, 5-pin plug
Scope of delivery	Scope of deliver, refer to Order No. 0 952 400, but without blasting gun holder
Order No.	**0 952 500**
Price	

Fine blasting units
Matching accessories at a glance

Accessories / spare parts

	Dimensions	mikromat 50 eco	mikromat 1000 eco	mikromat 600 pro	mikromat 1100 pro	Order No.	Price
Blow-out gun							
		x	x	x	x	**0 952 023**	
Blasting gun holder							
		x				**0 952 039**	
			x	x	x	**0 952 112**	
Micro fine blasting unit microblast A							
		x	x	x	x	**0 951 110-1**	
Push-through system							
	150 x 150 mm	x		x		**0 952 113**	
	250 x 250 mm		x		x	**0 952 828**	
Blasting shot accelearation							
				x	x	**0 952 111**	
Mobile design							
				x		**0 952 114**	
Dust bag							
		x	x	x	x	**0 952 037**	
Blasting gun housing							
		x	x	x	x	**0 952 016**	
Air nozzle							
	Ø 2.5 mm	x	x	x	x	**0 952 010-1**	
	Ø 3.5 mm	x	x	x	x	**0 952 010**	
Blasting nozzle							
	Ø 5.0 mm	x	x	x	x	**0 952 011-1**	
	Ø 7.0 mm	x	x	x	x	**0 952 011**	
Boron carbide blasting nozzle							
	Ø 7.0 mm	x	x	x	x	**0 952 018**	
Gloves, pair, size 10							
		x		x		**0 952 024**	
Glove, left only, size 10							
		x		x		**0 952 025**	
Filter cartridge							
	230 x 620 mm	x	x	x	x	**0 952 012**	
Glass pane							
	420 x 205 mm			x		**0 952 034**	
	420 x 320 mm	x	x		x	**0 952 026**	
Plexiglass pane							
	420 x 205 mm			x		**0 952 035**	
	420 x 320 mm	x	x		x	**0 952 027**	

Work chamber height adjustment, frequency control and secondary filter system
for the mikromat 600 pro and 1100 pro fine blasting units

Work chamber height adjustment, frequency control of the fan speed and secondary filter system
These optional equipment variants let you adapt the mikromat series fine blasting units even more closely to your requirements, working conditions and/or spatial circumstances. Other equipment variants are furthermore possible as well as construction of special solutions based on the tried and trusted mikromat systems.

		Suitable for	Order No.	Price from 1 piece
Afterfilter system				
	Using the afterfilter system, the cleaned air can be discharged into the environment at the equipment location, since the residual dust content is reduced to < 2 mg/m³ exhaust air. The afterfilter system is simply installed on the exhaust air nozzle of the blasting unit. This system dispenses with additional exhaust air piping and/or ceiling openings. Furthermore, the afterfilter system also reduces the noise level of the blasting unit.	mikromat 1100 pro mikromat 600 pro	**0 952 002**	
Aspiration frequency control				
	The optional fan frequency control allows modification of aspiration by ca. ± 25%. Modification of output allows optimum adjustment of the aspiration performance to the respective blasting conditions for example, less aspiration when using light blasting shot, in order to avoid sucking the latter out of the blast-ing circuit. Alternatively, an increased aspiration performance will guarantee an optimum view of the blasting process in the chamber with blasting shot that contains dust.	mikromat 1100 pro mikromat 600 pro	**0 952 003**	
Manual filter cleaning				
	For cleaning the filter cartridges by manual operating the pneumatic filter cleaning. The filter cartridges are moved by a roller vibrator in this case. This loosens filter deposits and a free filter area is restored.	mikromat 1000 eco mikromat 1100 pro mikromat 600 pro	**0 952 031**	
Fully automatic filter cleaning				
	For cleaning the filter cartridges by automatic operating the pneumatic filter cleaning. The filter cartridges are moved by a roller vibrator in this case. This loosens filter deposits and a free filter area is restored.	mikromat 1100 pro mikromat 600 pro	**0 952 082**	
Working chamber height adjustment ERGOSIZE				
	Infinitely variable ergonomic adjustment of the work chamber height. 200 mm travel, electrically driven.	mikromat 600 pro	**0 952 110**	
		mikromat 1100 pro	**0 952 132**	

Fine blasting unit
microblast

Micro fine blasting unit microblast Basic
The compact solution for finest blasting jobs. The microblast fine blasting unit allows you to work on finest contours, narrow ribs, slots etc.

Available in two versions:
- The mobile version with carrying straps (order no. 0 951 110) as an open system without its own blasting chamber lends itself to fine work in the field of renovation for stripping wall painting

- With the add-on version (order no. 0 951 110-1), the blasting chamber, extraction and illumination of the large device are used to carry out highly intricate work with the microblast.

		Design	Order No.	Price from 1 piece
Micro fine blasting unit microblast A				
	Dimensions (W x D x H): approx. 110 x 240 x 270 mm Weight: approx. 3 kg Compressed-air range: 3 – 6 bars Application of blasting shot: 150 – 250 µm (GPM) Supplied with: handpiece with 1.2 mm tungsten carbide blasting gun, foot switch, blasting shot container (2 kg), pressure controller, pressure gauge and air filter (Order-No. 0 951 110 with carrier straps)	for connecting with mikromat 50, 600, 1000, 1100	**0 951 110-1**	
Micro fine blasting unit microblast				
	Dimensions (W x D x H): approx. 110 x 240 x 270 mm Weight: approx. 3 kg Compressed-air range: 3 – 6 bars Application of blasting shot: 150 – 250 µm (GPM) Supplied with: handpiece with 1.2 mm tungsten carbide blasting gun, foot switch, blasting shot container (2 kg), pressure controller, pressure gauge and air filter (Order-No. 0 951 110 with carrier straps)	for maximum mobility	**0 951 110**	

Accessories / spare parts

	Size	Order No.	Price from 1 piece
Tungsten carbide blasting gun			
	Ø 0.8 mm	**0 951 112**	
	Ø 1.0 mm	**0 951 113**	
	Ø 1.2 mm	**0 951 114**	
	Ø 1.5 mm	**0 951 147**	



microblast A adapted to mikromat 50 eco
Order no. 0 951 110-1

joke recommendation:

We recommend the following blasting nozzles:

Ø 0.8 mm	glass beads	GPFF 70 – 40 µm
Ø 1.0 mm	glass beads	GPF 110 – 70 µm
Ø 1.2 mm	glass beads	GPM 200 – 100 µm

Tabletop fine blasting device
microjet

Tabletop fine blasting device joke-microjet
The microjet is a blasting device developed for surface treatment of metals. Particularly suitable for removing residues and oxide layers or when using glass beads for polishing the precious metal surfaces

Highlights:
- Depending on equipment, a choice of one, two or three blasting shots is available during work.
- Handpiece can be used with a Ø 0.8, 1 or 1.2 mm fine blasting nozzle.
- Wide viewing window with easily replaceable protective film.
- Steel housing with stove-enamel finish
- Pneumatic foot switch
- Tank with 2 kg capacity (approx. 1 litre)
- Compact, space-saving construction
- Switches for light and external extractor provided.

joke recommendation:

We recommend the following blasting nozzles on Page 452:

Ø 0.8 mm	glass beads	GPFF 70 – 40 µm
Ø 1.0 mm	glass beads	GPF 110 – 70 µm
Ø 1.2 mm	glass beads	GPM 200 – 100 µm

The possibilities are numerous...

The blasting shot containers listed below are supplied as standard. A selection of other blasting shot container combinations is also available.

Please consult us!







Artikel-Bezeichnung	**Tabletop fine blasting device joke-microjet 1, Cabin with 1 blasting cabin**	**Tabletop unit joke-microjet 2, Cabine with 2 blasting shot container**	**Tabletop unit joke-microjet 3, Cabine with 3 blasting shot container**
Device dimensions (W x H x D)	approx. 380 x 570 x 280 mm	approx. 380 x 570 x 280 mm	approx. 380 x 570 x 280 mm
Air consumption	max. 80 l/min at max. 6 bars	max. 80 l/min at max. 6 bars	max. 80 l/min at max. 6 bars
Compressed-air adjustment range	0.5 – 6 bar	0.5 – 6 bar	0.5 – 6 bar
Lighting	9 W (fluorescent tubes in housing)	9 W (fluorescent tubes in housing)	9 W (fluorescent tubes in housing)
Weight	approx. 9 kg	approx. 11 kg	approx. 13 kg
Supply voltage	230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz
Scope of delivery	1 handpiece with Ø 1.2 mm blasting nozzle made of hardened steel, foot switch, 1 container for blasting shot of grit size 150–250 µm, compressed air controller with filter and gloves (installed)	2 handpieces with Ø 1.2 mm blasting nozzle made of hardened steel, foot switch, 1 container respectively for blasting shot of grit size 90–120 µm and 150–250 µm (switchable), compressed air controller with filter and gloves (installed)	3 handpieces with Ø 1.2 mm blasting nozzle made of hardened steel, foot switch, 1 container respectively for blasting shot of grit size 50–80 µm, 90–125 µm and 150–250 µm (switchable), compressed air controller with filter and gloves (installed)
Order No.	**0 951 210**	**0 951 220**	**0 951 223**
Price			

You want to protect the glass from blasting scratches?
You can order a protective film (Order no. 0 951 222) - please contact us!

Suction unit
EUR

		Order No.	Price from 1 piece
Suction unit EUR			
	Dust extractor with paper bag and polyester filter. Suction power continuously adjustable Dimensions (B x H): approx. Ø 360 x 580 mm Weight: approx. 8 kg Noise level: max 71 dB(A) (at 1 m distance) Voltage: 230 V, 50 Hz (s. specification plate)	**0 951 224**	

Blasting shots



Blasting shots
We have the right blasting shot for every application. For almost all blasting shots, you have a choice between the handy 5-litre can and the economical bag containing 25 kg. We carry other blasting shots too in the range in addition to the selection indication on the following pages.

Consult us!

Blasting shots
Plastic granulate with antistatic agent

Applications / Materials:
- Cleaning of Steel and aluminium moulds, GFK-parts, wooden surfaces, copper, bronze, marble, granite etc.
- Paint stripping of powder coated parts, automotive parts, aluminium rims, aircraft parts
- Deburring of zinc die casting and aluminium parts
- Paint preparation of plastic surfaces
- No electrostatic charge

Perfectly suitable for use of pressure blasting systems!

	Grit size	Content	Type	Order No.	Price from 1 piece
Blasting shots plastic granulate with antistatic agent					
	250 - 150 µm	25 kg bag	Premium	**0 955 266**	
	500 - 250 µm	25 kg bag	Premium	**0 955 267**	
	800 - 500 µm	25 kg bag	Premium	**0 955 265**	
	1200 - 800 µm	25 kg bag	Premium	**0 955 268**	
	1500 - 1200 µm	25 kg bag	Premium	**0 955 269**	

Blasting shots
Mixed grits

Improving of surfaces, cleaning, deburring, descaling and preparation of surfaces.

	Grit size	Content	Type	Order No.	Price from 1 piece
Blasting shots mixed grits					
	50 - 40 µm	5 l can	MK 300	**0 955 142**	
	70 - 50 µm	5 l can	MK 245	**0 955 132**	
	110 - 40 µm	5 l can	MK-GPF/SI	**0 955 232**	
	110 - 70 µm	25 kg pail	MK 245/S/G	**0 955 222-1**	
	150 - 75 µm	5 l can	MK 90/150	**0 955 122**	
		25 kg pail	MK 90/150	**0 955 122-1**	
	200 - 100 µm	5 l can	RM K	**0 955 202**	
		25 kg pail	RM K	**0 955 205-1**	
	300 - 150 µm	5 l can	MK 60/90	**0 955 112**	
		25 kg pail	MK 60/90	**0 955 112-1**	
	500 -150 µm	5 l can	MK 40/90	**0 955 102**	
		25 kg pail	MK 40/90	**0 955 102-1**	

Blasting shots
Glass beads

Polishing, decorating, deburring, surface hardening of all materials including non-ferrous and precious metals and plastics.

	Grit size	Content	Type	Order No.	Price from 1 piece
Blasting shots glass beads					
	50 - 0 µm	5 l can	GP/0 - 50	**0 955 352**	
		25 kg bag	GP/0 - 50	**0 955 354**	
	70 - 40 µm	5 l can	GPFF	**0 955 342**	
		25 kg bag	GPFF	**0 955 344**	
	110 - 70 µm	5 l can	GPF	**0 955 332**	
		25 kg bag	GPF	**0 955 334**	
	200 - 100 µm	5 l can	GPM	**0 955 322**	
		25 kg bag	GPM	**0 955 324**	
	400 - 300 µm	5 l can	GPG	**0 955 312**	
		25 kg bag	GPG	**0 955 314**	
	600 - 400 µm	5 l can	GPSG	**0 955 302-1**	
		25 kg bag	GPSG	**0 955 304-1**	

Blasting shots
Hard blasting shot

Cleaning, descaling, deburring of metals, mainly steels – no formation of dust.

	Grit size	Content	Type	Order No.	Price from 1 piece
Hard blasting shot					
	150 - 100 µm	5 l can	HST 120 (round)	**0 955 402**	
		25 kg bag	HST 120 (round)	**0 955 404**	
	200 - 100 µm	5 l can	HST 121 (edged)	**0 955 412**	
		25 kg bag	HST 121 (edged)	**0 955 414**	

Blasting shots
Ruby

For deburring, cleaning and descaling.

	Grit size	Content	Type	Order No.	Price from 1 piece
Blasting shots ruby					
	74 - 53 µm	5 l can	RUB 220	**0 955 522**	
		25 kg bag	RUB 220	**0 955 525-1**	
	100 - 75 µm	5 l can	RUB 150	**0 955 512**	
		25 kg bag	RUB 150	**0 955 515-1**	
	150 - 125 µm	5 l can	RUB 100	**0 955 502**	
		25 kg bag	RUB 100	**0 955 505-1**	

Blasting shots
Silicon carbide

Aggressive shot, high stock removal. Cleaning of hardened surfaces.

	Grit size	Content	Type	Order No.	Price from 1 piece
Blasting shots silicon carbide					
	25 - 21 µm	5 l can	SIC 360	**0 955 932**	
		25 kg bag	SIC 360	**0 955 935**	
	75 - 53 µm	5 l can	SIC 220	**0 955 922**	
		25 kg bag	SIC 220	**0 955 925**	
	90 - 63 µm	5 l can	SIC 180	**0 955 912**	
		25 kg bag	SIC 180	**0 955 915-1**	
	106 - 63 µm	5 l can	SIC 150	**0 955 902**	
		25 kg bag	SIC 150	**0 955 905-1**	

Blasting shots
Ceramic beads

Synthetic, pearl-shaped zirconbased blasting shot. Hardness and density much higher than glass beads, resulting in a significantly longer service life. Ceramic beads are particularly suitable for cleaning, hardening, smoothing, deburring and polishing of various surfaces.

	Grit size	Content	Type	Order No.	Price from 1 piece
Blasting shots ceramic beads					
	125 - 70 µm	5 l can	KPFF	**0 955 380-1**	
		25 kg can	KPFF	**0 955 380**	
	250 - 125 µm	5 l can	KPF	**0 955 381-1**	
		25 kg can	KPF	**0 955 381**	
	425 - 250 µm	5 l can	KPM	**0 955 382-1**	
		25 kg can	KPM	**0 955 382**	

Blasting shots
Corundum

General cleaning jobs, descaling, decorating, matting, good stock removal, medium hard.

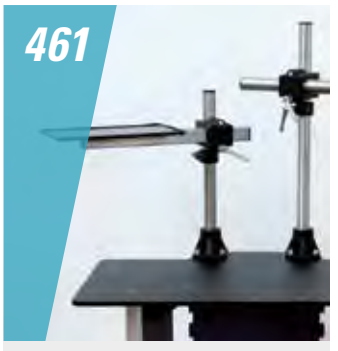
	Grit size	Content	Type	Order No.	Price from 1 piece
Blasting shots corundum					
	75 - 53 µm	5 l can	KOR 220	**0 955 622**	
		25 kg bag	KOR 220	**0 955 625-1**	
	90 - 63 µm	5 l can	KOR 180	**0 955 612**	
		25 kg bag	KOR 180	**0 955 615-1**	
	106 - 63 µm	5 l can	KOR 150	**0 955 602**	
		25 kg bag	KOR 150	**0 955 605-1**	
	150 - 106 µm	25 kg bag	KOR 100	**0 955 875-1**	
	250 - 180 µm	25 kg bag	KOR 70	**0 955 874-1**	
	355 - 250 µm	25 kg bag	KOR 54	**0 955 873-1**	
	425 - 300 µm	25 kg bag	KOR 46	**0 955 872-1**	
	850 - 600 µm	25 kg bag	KOR 24	**0 955 871-1**	
	2000 - 1400 µm	25 kg bag	KOR 12	**0 955 870-1**	

Blasting shots
Walnut shells

Cleaning and deburring of soft metals and plastics, especially duroplastics.

	Grit size	Content	Type	Order No.	Price from 1 piece
Blasting shots walnut shells					
	≤ 300 µm	5 l can	WS 3	**0 955 722**	
		25 kg bag	WS 3	**0 955 725-1**	
	750 - 300 µm	5 l can	WS 2	**0 955 712**	
		25 kg bag	WS 2	**0 955 715-1**	

Workplace systems
Overview

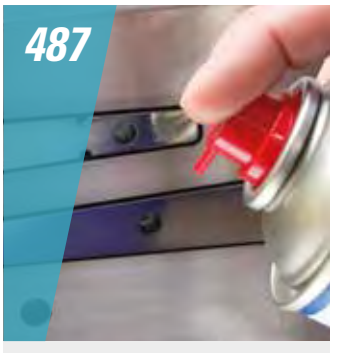

461
Worktable joke Ergo-Work


465
Work chairs

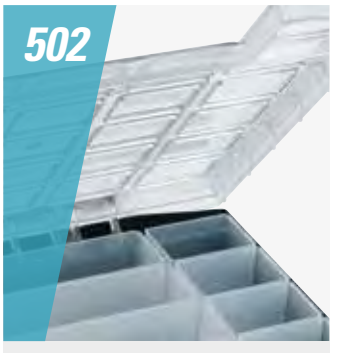

468
Clamping table DS 300


475
Engraving ball

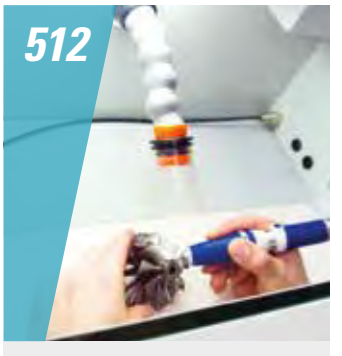

477
LED illuminated magnifying lamp Magic touch

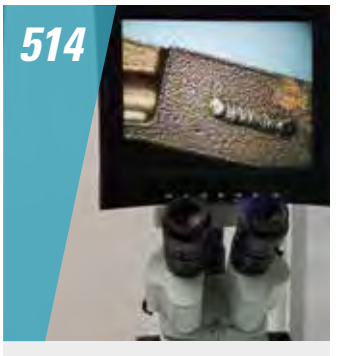

487
Technical sprays


490
Hand, ear, eye and breathing protection


502
Assortment case


506
Suction units

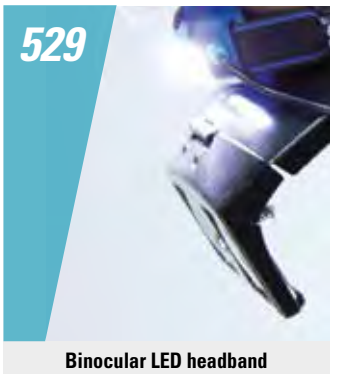

512
Deburring box


514
Stereomicroscopes


523
Digital video camera for stereomicroscopes


524
LED ring light


525
Cold light sources


529
Binocular LED headband magnifying glass


532
Inspection systems 2500

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460 Workshop equipment
Worktable und Stative
Work chairs
Clamping devices
Workplace lighting
Cleaning, polishing & caring
Precision impression
Cutting oils and sprays
Hand, ear, eye and breathing protection
Surface protection
Precision gauge tapes
Assortment case
Suction units
Deburring box

514 Microscopes and control tools
Stereomicroscopes
Digital picture storage
Cold light sources
Magnifying glasses

532 Inspection systems
Inspection systems 2500
WiFi Digital Microscope





Workshop equipment

Ergonomic and convenient work
We would like you to work at modern workplaces. Workplaces that offer you comfort and make your work a good deal easier. Workplaces that adapt to your needs and deliberately avoid damage to health through compliance with ergonomic requirements.

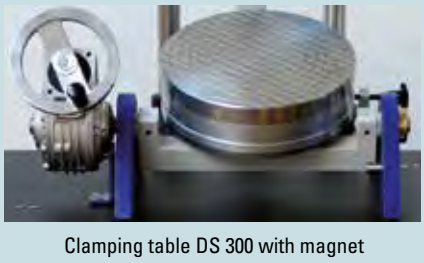
Workplaces made by joke
Our workplaces combine modern ergonomic nowledge with requirements based on practice. Modern worktables and tripods are the result, which although they cannot do the work for you, may nevertheless make it a good deal easier. Working with first-rate “hardware” is ultimately a great deal more enjoyable and your body will thank you for it at any rate.

461 **Worktables, stands**
465 **Work chairs**
466 **Clamping devices**
476 **Workplace lighting**
482 **Workshop supplies**
506 **Suction units**

Worktable
joke Ergo-Work



Clamping table DS 300 with clamping plate Ø 300 mm



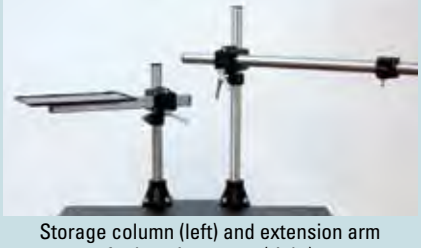
Clamping table DS 300 with magnet



Positioner joke easy-Work with T-slot clamping plate



Basic module (with control cabinet and foot switch)



Storage column (left) and extension arm for hanging motor (right)



Illuminated magnifying glass

Worktable joke Ergo-Work
Basic module

Worktable joke Ergo-Work
Maximum flexibility thanks to the modular system. The joke Ergo-Work worktable can be perfectly adjusted to your requirements – simply choose the accessories you need to create your perfect workplace. The worktable adjustable in height by 355 mm, with a choice of milled aluminium or powder-coated steel tabletop, always forms the basis in this case.

All the optionally available accessories can be attached to this table: from device receptacles for the ENESKA systems and the jokeFlex motor unit to the illuminated magnifying glass to give you the perfect view of your workpiece. Everything travels together with the worktable with millimetre precision to the desired working height. The upwards and downwards movement is controlled by hand or foot switch.

Two rotating and pivoting units are provided for receiving tools: The DS 300 clamping table provides a firm grip for large, heavy workpieces whilst the easy-work rotating and pivoting unit hold (light to medium-weight) workpieces. Furthermore, the worktop can be fitted with a conventional bench vice or another rotating and reversible clamping device.

Highlights:
- perfect working position at all times owing to simple electric height adjustment
- modular system guarantees maximum equipment flexibility
- wide range of matching accessories

Note: the scope of supply does not include accessories, work chair and pivoting unit

		Order No.	Price from 1 piece
Worktable joke Ergo-Work basic modules			
	Dimension (W x H x D): 970 x 1,600 x 680 mm Dim. tabletop (W x H x D): 950 x 500 mm Height adjustment: 695 to 1,050 mm, continuously adjustable Max. load: 200 kg (at the centre of the worktop) Supply voltage: 230 V, 50/60 Hz Connected load: 400 W (excl. accessories) Scope of delivery: Excl. accessories and pivot unit with steel tabletop	**0 200 850**	

Accessories / spare parts

		Order No.	Price from 1 piece
Hand switch			
	to control up and down movement, incl. 1 m cable	**0 200 852**	
Foot switch			
	to control up and down movement by foot, incl. 1 m cable	**0 200 853**	
Socket strip (6 -point)			
		**2 017 751**	

Worktable joke Ergo-Work
Basic module

Accessories / spare parts

		Order No.	Price from 1 piece
Storage table			
	incl. cross clamping unit, height locking, stainless steel tube and tray	**0 200 856**	
Left-/right-hand column for trays			
	incl. attachment base and stainless steel tube 500 mm	**0 200 855**	
Left-/right-hand column for hanging motor			
	incl. attachment base and stainless steel tube 700 mm	**0 200 857**	
Cantilever arm for hanging motor			
	incl. cross clamping unit, height locking, stainless steel tube and receptacle for hanging motor	**0 200 858**	
Illuminated magnifying glass LED Premium			
	Equipment: LED's, energy efficiency class A+ Colour temperature: 4,000 K Mains connection cable: ca. 3 m, earthing plug Material: steel tubing, powder-coated Articulated arm range: 700 mm Light output: LED-light segments switchable in multi stages Lamp cover: shade, matt Joint relief: spring Pivoting range: 60° / 310° Rotation range: 360° magnifying glass Protection class: I Protection: IP 20 Power input: about 12 W Dimensions of lens: 162 x 105 mm Dioptres, lens: 3 Supply voltage: 220 – 240 V / 50/60 Hz Weight: approx. 4.5 kg Colour: RAL 7035 Specific features: light segments can be switched seperately, excelent colour reproduction, RA > 95	**0 200 560-LED**	
Clamping table joke DS 300, without base plate			
	With clamping plate Ø 300 mm with grid holes M10 and receiving holes for magnets Rotation range: 360° manual Pivoting range: 0–100° through gearing mechanism Weight: approx. 28 kg	**0 200 300-1**	

Worktable joke JT

Worktable joke JT 600

Probably one of the fastest and at the same time sturdiest height-adjustable worktables of its kind that appeals by its many accessory options!



- Load-bearing capacity 570 kg
- Electric height adjustment between 715 and 1,215 mm
- Speed of 43 mm/sec.
- Memory control with 3 memory locations
- Ideal for use in the industrial sector and the electronic and pharmaceutical industry
- Electrical connection 230 V / 50 Hz

Optionally available:
- With storage battery
- On castors
- Laboratory version
- ESD version
- As machine base frame without tabletop (load-bearing capacity 620 kg)
- Heavy-duty table (load-bearing capacity 2,400 kg)
- Perforated walls
- Power strips
- Base cabinet



		Order No.	Price from 1 piece
Worktable JT 600 with beech Multiplex tabletop 40 mm			
	Number of lifting jack columns: 4 Lifting system: Electric Operator control element: 6-button display, memory function Load-bearing capacity kg: 570 Max. speed without load: 43 mm/sec. Stroke length: 500 mm Dimensions (W x D): 1,500 x 750 mm	**0 200 848**	
	Number of lifting jack columns: 4 Lifting system: Electric Operator control element: 6-button display, memory function Load-bearing capacity kg: 570 Max. speed without load: 43 mm/sec. Stroke length: 500 mm Dimensions (W x D): 2,000 x 750 mm	**0 200 847**	

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Standing aid

Standing aid
Even if you prefer to stand whilst working instead of sitting down – you still need the necessary support. Our standing aid relieves you during stand-up jobs resulting in enhanced efficiency with fewer inactivity periods due to injuries caused by poor posture.

- Integral foam padding
- Seat inclination 2–15° forwards
- Circular base with PU rim (anti-slip)
- Seat height adjustment by means of a pneumatic safety spring
- optimal as a supplement for your workplace

			Order No.	Price from 1 piece
Standing aid				
	Seat height: Seat surface (W x D): Circular base:	630 – 850 mm 390 x 350 mm Ø 430 mm	**0 200 419**	

Work chairs

Work chairs
The fact that healthy, proper sitting posture is a prerequisite for an ergonomic workplace is no secret in today's working world. Yet only very few companies pay attention to this basic principle.

Our joke work chairs actively contribute to maintaining your health. The contact backrest with adjustable pressure constantly adapts to your sitting position and ensures that your spine is supported in every position. Our contribution to active prevention of back injuries: take a seat, please.

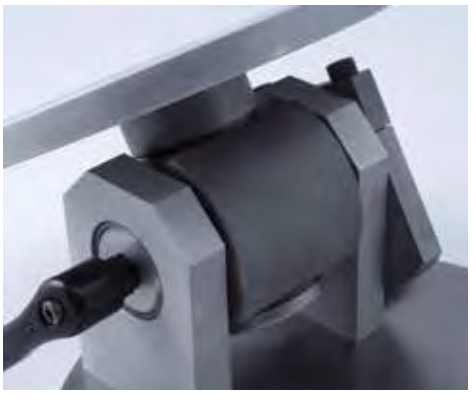
- Adjustable backrest pressure
- Backrest inclination 10° in both directions
- Seat inclination 7° forwards, 4° rearwards
- Integral foam upholstery
- Seat height adjustment by means of a pneumatic safety spring
- Circular base with PU rim (anti-slip) for a secure hold

			Order No.	Price from 1 piece
Work chair joke Standard				
	Seat height: Seat surface (W x D): Circular base:	450 – 630 mm 460 x 435 mm Ø 430 mm	**0 200 413**	
Work chair joke Extra-high				
	Seat height: Seat surface (W x D): Circular base:	630 – 880 mm 460 x 435 mm Ø 560 mm	**0 200 414**	

Positioner joke easy-Work
for attachment to table

Positioner joke easy-Work
Compact and very flexible to use: the small rotating and pivoting unit unit joke easy-Work can be attached quickly and securely to almost any table by means of the drillings, such as the large joke Ergo-Work worktable.

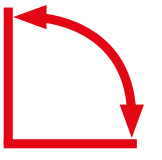
The optionally available T-slot clamping plates ensure make fixing the workpieces child's play. These plates are made from aluminium and are optionally available in square or round shape.







360° rotation range



90° pivot range

		Order No.	Price from 1 piece
joke easy-Work positioner with magnet Ø 125 mm			
	Rotation range: manually through 360° Pivoting range: 0 – 90° manually Dimensions (W x H x D): 200 x 160 x 250 mm Weight: approx. 11 kg Clamping system: Magnet Ø 125 mm	**0 200 872**	

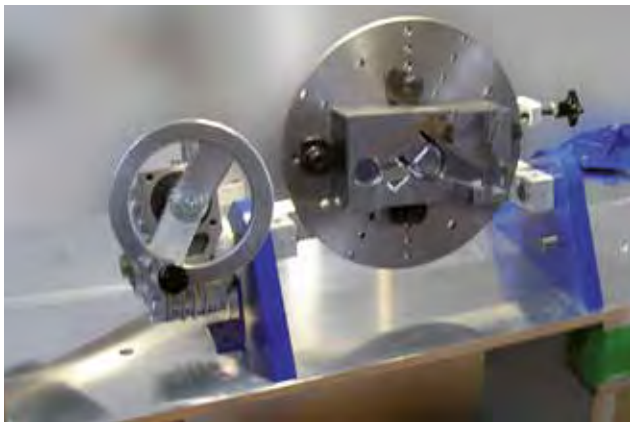


		Order No.	Price from 1 piece
joke easy-Work positioner with T-slot clamping plate, round			
	Rotation range: 360° manual Pivoting range: 0 – 90° manual Dimensions (W x H x D): 250 x 130 x 250 mm Weight: approx. 8 kg Clamping system: T-slot clamping plate, Ø 248 mm	**0 200 873**	

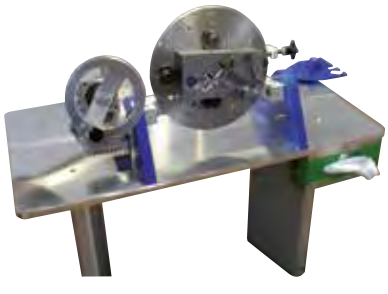


Clamping table
joke DS 300

Clamping table joke DS 300
Workpieces of up to 200 kg can be clamped to the DS 300 clamping table, pivoted within a range of 0 to 100° and rotated by 360° on the turntable. The turntable locking and self-locking pivoting drive ensure a secure hold of the workpiece in any working position. The grid hole clamping plate with M10 tensioning medium can be used to clamp any workpieces easily. A selection of different magnetic chucks is available that can be directly screwed to the table.



	Order No.	Price from 1 piece
Clamping table joke DS 300		
 With Ø 300 mm support plate to hold different magnetic chucks.Grid holes M10 4 x 90° for mechanical clamping without magnetic chucks. Dimensions base plate: 470 x 420 mm Height turntable: approx. 130 mm Weight: 46 kg	**0 200 300**	

	Order No.	Price from 1 piece
Clamping table joke DS 300, without base plate		
 With clamping plate Ø 300 mm with grid holes M10 and receiving holes for magnets Rotation range: 360° manual Pivoting range: 0–100° through gearing mechanism Weight: approx. 28 kg	**0 200 300-1**	

Accessories / spare parts

	Weight [kg]	Dimensions	Clamping force	Pole pitch	Order No.	Price from 1 piece
Round magnets for joke DS 300 clamping table						
	9 kg	Ø 160 x 75 mm	120 N/cm²	6 + 1.5 + 2 +1.5	**0 200 314**	
	13 kg	Ø 200 x 80 mm	120 N/cm²	8 + 5	**0 200 313**	
	20 kg	Ø 250 x 80 mm	120 N/cm²	8 + 5	**0 200 312**	
	29 kg	Ø 300 x 85 mm	120 N/cm²	8 + 5	**0 200 310**	

Clamping table
joke DS 400-E
NEW!

Clamping table joke DS 400-E
The clamping table can be rotated and swivelled, automatically rotated by motor drive and has a sturdy stand with fixing elements.
Speed and direction of rotation are selectable.
Can be used with a clamping plate or magnet.

			Order No.	Price from 1 piece
Clamping table joke DS 400-E				
	Rotation range:	360° via motor	**0 200 301**	
	Rotation speed:	3.7–37 rotations per minute		
	Swivel range:	0–90° via gear		
	Max. load:	50 kg		
	Dimensions:	700 x 530 x 500 mm		
	Weight:	9 kg		
	Power supply CEE:	3 x 440 V 50 Hz		
	Power:	0.37 kW		



Accessories / spare parts

			Order No.	Price from 1 piece
Mounting plate for DS 400-E				
	dimensions: slots: mounting holes:	Ø 400 x 12 mm 10.5 mm M10	**0 200 301-5**	
Foot control for DS 200-E and DS 400-E				
	2-button foot switch Left button: Start/Stop rotation Right key: Change of direction of rotation		**0 200 301-6**	

Clamping table
joke DS 200
NEW!

With 200 mm mounting plate for receiving various magnetic chucks.
Clamping disc with M6 grid holes for mechanical clamping without magnetic chuck.
Incl. 4 stepped jaws and 4 clamps

			Order No.	Price from 1 piece
Clamping table joke DS 200				
	Dimensions base plate: Weight: Rotation range: Swivel range:	250 x 280 mm 9 kg 360° manual 0–100° via gear	**0 200 302**	

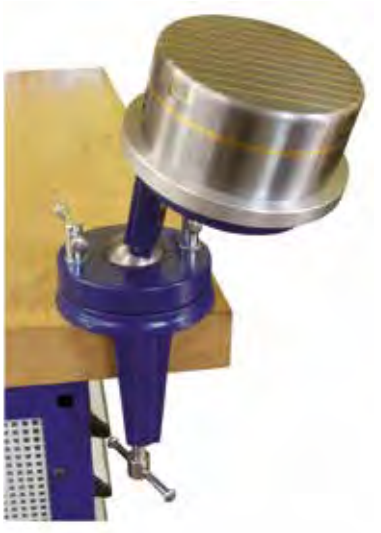
			Order No.	Price from 1 piece
Clamping table joke DS 200-E				
	Dimensions base plate: Weight: Rotation range: Rotation speed: Swivel range:	250 x 280 mm 12 kg 360° via motor 3.7–37 rotations per minute 0–90° via gear	**0 200 303**	

Accessories / spare parts

			Order No.	Price from 1 piece
Foot control for DS 200-E and DS 400-E				
	2-button foot switch Left button: Start/Stop rotation Right key: Change of direction of rotation		**0 200 301-6**	
matching three-jaw chuck Ø 125 mm				
	Clamping: Pitch circle: Number of bores: Total height with jaws: Total height without jaws:	Ø 4–125 mm Ø 108 mm 3 x M8 85 mm 58 mm	**0 200 320-1**	

Positioner
joke Junior

Positioner joke Junior
For flexible polishing of smaller workpieces: the ball joint can be rotated in all directions and fixed with a clamping lever. In addition, the magnet can be rotated by 360° and fixed using a clamping lever.

			Order No.	Price from 1 piece
Positioner joke Junior				
	Freely rotatable ball joint, rotation range magnet: Magnet dimensions: Pivot range:	360° Ø 125 x 48 mm 0–55°	**0 200 049**	

Ball joint vices
JUNIOR

		Design	Order No.	Price from 1 piece
JUNIOR ball joint vices				
	JUNIOR ball joint vice with rippled hardened steel jaws. For clamping to worktops up to 75 mm thick. Jew width: 80 mm Clamping length: 65 mm Clamping depth: 50 mm Inclination: ± 50°	for clamping	**0 200 055**	
		for screwing in position	**0 200 056**	



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Magnetic clamping ball
joke Magic-3D

NEW!

Clamping magnet with 3 directions of movement in X = 360°, Y = 230°, Z = 230°
Fastening of the bracket by integrated 2nd magnet, by 3 screws or 3 pads
Sphere diameter: 50 mm
Clamping surface diameter: 20 mm
Positioning force: 16 N
Weight: only 125 g

	Dimensions	Order No.	Price from 1 piece
Magnetic clamping ball joke Magic 3D			
	Ø 50 mm	**0 200 319**	





Precision grinding and control vices
joke Junior

Ground on all sides for 4-side processing, hardened steel, with prism jaws, draw-down clamping system, accuracy 0.005 mm.

	Jaw widths	Clamping length	Jaw height	Dimensions	Order No.	Price from 1 piece
Precision grinding and control vice						
	25 mm	20 mm	9 mm	29 x 65 mm	**0 200 341**	
	48 mm	70 mm	25 mm	50 x 140 mm	**0 200 342**	
	63 mm	87 mm	32 mm	63 x 175 mm	**0 200 343**	



Magnetic clamping balls
joke Magic-Ball

Magnetic clamping balls joke Magic-Ball
Comfortable and ergonomic 3-dimensional work. Ideal for polishing and welding workplaces. The Magic-Ball magnetic clamping balls bring your workpiece into almost any desired position. Depending on the workpiece geometry and weight, pivoting angles of up to 90° can be set. The balls are enclosed in leather-lined, chemically nickel-plated steel rings that hold them absolutely securely in any position – the sliding adhesion effect makes it possible! The powerful magnetic chuck of the Magic-Ball is activated using the key supplied (partial activation is also possible for optimum positioning of the workpiece). The balls available in four sizes are all of "Made in Germany" quality.



Non-magnetic components are clamped…

using the precision vices also available from us. Fixing of the components upright is therefore also possible.

Further information on page 472

	Dimensions	Clamping force	Pole pitch	Weight	Order No.	Price from 1 piece
Magnetic clamping balls joke Magic-Ball						
	magnet (Ø): 80 mm ball (Ø x H): 128 x 104 mm	80 N/cm²	1.5 + 0.5 mm	ball: 4 kg ring: 1 kg	**0 200 323**	
	magnet (Ø): 100 mm ball (Ø x H): 158 x 129 mm	100 N/cm²	1.5 + 0.5 mm	ball: 7 kg ring: 2 kg	**0 200 324**	
	magnet (Ø): 130 mm ball (Ø x H): 188 x 145 mm	100 N/cm²	1.5 + 0.5 mm	ball: 11 kg ring: 4 kg	**0 200 325**	
	magnet (Ø): 160 mm ball (Ø x H): 218 x 164 mm	100 N/cm²	1.5 + 0.5 mm	ball: 17 kg ring: 5 kg	**0 200 326**	



The magnetic chuck is activated using the key supplied

Vices

		Design	Order No.	Price from 1 piece
Rotating and reversible clamp 1 B				
	For clamping to workbenches up to 80 mm thick. Jaw width: 46 mm Clamping length: 50 mm Clamping depth: 35 mm	with plastic jaws	**0 200 002**	
Rotating and reversible clamp 2 B				
	For clamping to workbenches up to 80 mm thick. Jaw width: 80 mm Clamping length: 100 mm Camping depth: 52 mm	with aluminium jaws	**0 200 015**	

Accessories / spare parts

Design	Order No.	Price from 1 set
Rotating and reversible clamp 1 B		
Replacement plastic jaws, pair	**0 200 030**	
Replacement aluminium jaws, pair	**0 200 031**	
Rotating and reversible clamp 2 B		
Replacement plastic jaws, pair	**0 200 032**	
Replacement aluminium jaws, pair	**0 200 033**	

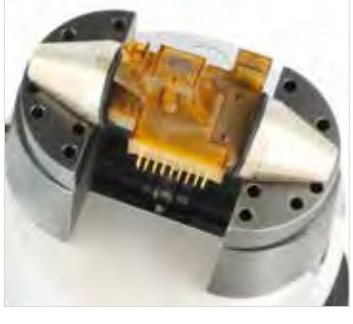
Engraving Ball
unlimited clamping options

Engraving Ball
This engraving ball has a painted, non-reflecting surface. It provides unlimited clamping options for holding tools securely. It also has holes for mounting additional tools. The upper part has an adjustable brake, which allows it to be either fixated or rotated around its own axis. The ball has a stable seating, but can still be swiveled in all directions. The centrally adjustable, self-centering jaws with prisms also enable round workpieces to be clamped.

		Dimensions	Order No.	Price from 1 piece
Engraving Ball				
	The engraving ball has a maximum opening of 85 mm. The wide range of accessories includes: upper part with locking brake, including clamping key, 2 mounting plates, rubber pads, 4 pins and a 30-part set of accessories.	Ø 150 mm	**0 200 329**	



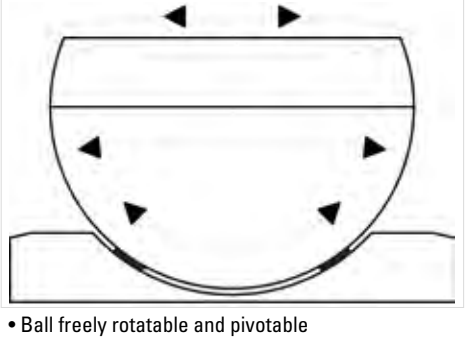
Scope of delivery



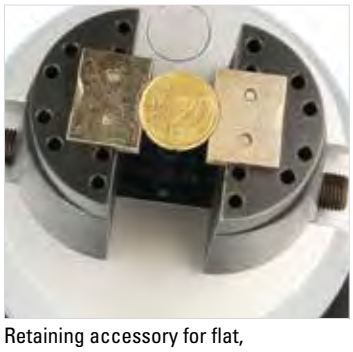
Felt-padded retaining accessory



Mould jaws made of modelling granulate



- Ball freely rotatable and pivotable
- Top section rotatable through 360°



Retaining accessory for flat, round components



Mounting via retaining pins

Illuminated magnifying glass
LED illuminated magnifying glass

LED illuminated magnifying glass
A classic meets high technology. 64 LEDs create a fantastically bright light while saving power and have a very long life. 2.25 x magnification can be achieved with the real glass, 5-dioptre magnifying glass. The flexible, 860 mm-long articulated arm rapidly brings the magnifying glass into any desired working position. We have something else for you in addition to all the technical highlights: the price.

		Order No.	Price from 1 piece
LED illuminated magnifying glass			
	Equipment: 64 LEDs Colour temperature: 6,400 K Material Head: plastic Material articulated arm: steel tubing Articulated arm range: 860 mm Lamp cover: Plastic shade Lens dimensions: Ø 145 mm Lens dioptre: 5 Magnification: 2.25 x Connection: 230 V, 50/60 Hz Weight: 3 kg Clamping range: 0 – 65 mm	**0 200 575**	



64 LEDs for optimum, energy-saving illumination

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Illuminated magnifying glass
Magic touch

LED illuminated magnifying glass Magic touch
More light per watt. 63 innovative LEDs ensure optimal light conditions with minimised energy usage. Next advantage: service life of at least 50,000 working hours. That means six years of light non stop without any maintenance costs. The show-stopper is the operation via the touch sensor integrated in the lamp head. A gentle touch is enough to turn the light on and off. Thanks to the high tech optics, the light is precisely focussed and light loss through scattering is drastically reduced. The plastic lens (Ø 72 mm) has a power of 6 dioptres, which means 2.3x magnification of the viewed objects. The lens has a hard coating to prevent scratches. The highquality lens protection cover shields the lens against damage during work breaks.

The lamp can optionally be fixed directly onto the workplace with a plastic foot and four screws, or attached using the table clamp available as an accessory.

		Order No.	Price from 1 piece
LED illuminated magnifying lamp Magic touch			
	Equipment: 63 LEDs Colour temperature: 4,300 K, neutral white Swan neck: 400 / 233 mm (flexible/fixed) Lamp service life: at least 50,000 h Dimensions of head/lens: Ø 122 / Ø 72 mm Dioptre lens: 6 Connection: 100 – 240 V, 50/60 Hz	**0 200 568**	



Flexible swan neck for perfect positioning above the material to be tested

63 LEDs for as much light per watt



Accessories / spare parts

		Order No.	Price from 1 piece
Magnetic base Ø 85 mm			
	Suitable for LED magnifying glass Magic touch (0 200 568)	**0 200 556**	
Magnetic support plate 90 x 85 mm			
	Suitable for table clamp (0 200 561)	**0 200 542**	
Table clamp			
	clamping range 0 – 65 mm	**0 200 561**	

Illuminated magnifying glass
Panorama

Illuminated magnifying glass Panorama
The light with a panoramic view. Extra wide field of vision thanks to the XXL lens (190 x 157 mm). It therefore offers the widest field of vision of all the illuminated magnifiers in our range. With the 1.75 x enlargement (3 dioptre lens), objects appear 75 % larger under the illuminated magnifying glass. The comfortable distance of 330 mm gives you enough (free) space to work under the illuminated magnifying glass.

The two fluorescent lamps mounted to the left and right of the magnifier offer daylight quality (6,400 K). The scratch-resistant plastic casing is mounted on a steel pipe articulated arm, which can be placed flexibly in any position you wish. Supplied with plastic table clamp: optionally a steel table clamp for a particularly strong hold is available.

- XXL lens for an extra large field of vision
- Day light quality 6,400 K
- Top price/performance ratio
- Flexible fastening possibilities in the workplace



Extra large field of vision thanks to XXL lens

		Order No.	Price from 1 piece
Illuminated magnifying glass Panorama			
	Equipment: 2 x compact fluorescent lamps 9 W Colour temperature: 6,400 K Material Head: plastic Material articulated arm: Steel pipe Articulated arm reach: 880 mm Lamp cover: Plastic shield Lens dimensions (W x D): 190 x 157 mm Dioptre lens: 3 Magnification: 1.75 x Connection: 230 V, 50/60 Hz Weight: 4.9 kg	**0 200 572**	

Accessories / spare parts

		Order No.	Price from 1 piece
Steel table clamp			
	for especially strong hold on the table	**0 200 573**	
Spare fluorescent lamp (6,400 K)			
		**0 200 574**	

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Illuminated magnifying glass
LED Premium

Illuminated magnifying glass LED Premium
This illuminated magnifying glass is characterised by several special features
- A wide range of action – even large workpieces can be observed
- A mobile magnifying glass unit – workpieces can be observed from any angle
- energy-saving, energy efficiency class A+
- separately switched LED-light segments cause a 3D shade effect that are focused on their structure, this focus shows small errors and differences in the surface structure of an object
- A distortion-free field of vision allows optimum work under the magnifying glass
- Screw-fit lamp foot
- Ground lens made of optical glass



		Order No.	Price from 1 piece
Illuminated magnifying glass LED Premium			
	Equipment: LED's, energy efficiency class A+ Colour temperature: 4,000 K Mains connection cable: ca. 3 m, earthing plug Material: steel tubing, powder-coated Articulated arm range: 700 mm Light output: LED-light segments switchable in multi stages Lamp cover: shade, matt Joint relief: spring Pivoting range: 60° / 310° Rotation range: 360° magnifying glass Protection class: I Protection: IP 20 Power input: about 12 W Dimensions of lens: 162 x 105 mm Dioptres, lens: 3 Supply voltage: 220 – 240 V / 50/60 Hz Weight: approx. 4.5 kg Colour: RAL 7035 Specific features: light segments can be switched seperately, excelent colour reproduction, RA > 95	**0 200 560-LED**	

Good to know!

Diopte
denotes the power of refraction of the lens. This value also determines the ratio between the magnification factor and the focal distance.

Focal distance
is the distance between the centre of the magnifying glass and the object observed, at which no distortion occurs.

Magnification factor
is the degree of magnification of the object observed.

How is the magnification calculated?
The following formula can be used to calculate the magnification factor:

$$\frac{\text{No. of diopte}}{4} + 1 = \text{magnifitation factor}$$

The illuminated magnifying glass therefore corresponds to a magnification of:

$$\frac{3}{4} + 1 = 1.75$$

Some further useful tips:

- The focal length and size of the lens decrease with increasing magnification.
- In order to achieve maximum, distortion-free magnification, hold the magnifying glass approx. 25 cm from your eyes.

Accessories / spare parts

		Order No.	Price from 1 piece
Table clamp			
	clamping range 0 – 65 mm	**0 200 561**	
Clip-on magnifying glass			
	for clipping to illuminated magnifying glass, lens 4 dioptres, allowing total magnification to 7 dioptres, dimensions: 162 x 105 mm	**0 200 562**	

Workplace light LJ1
LED version

	Order No.	Price from 1 piece
LED workplace light LJ1		





Detailed view of lamp head and housing.
Wide beam or spotlight infinitely adjustable.

- Light beam continuously adjustable from wide beam (36°) to spotlight (10°)
- Even places that are difficult to reach can be illuminated
- Brighter than a 50 W halogen light with 80 % reduced power consumption
- Flexible, plastic-coated, metal light holder tube (700 mm)
- Switch integrated in light head
- Cooling star and focus made of aluminium (anodised)
- Lamp head and housing made of plastic (oilproof, impactproof, non-inflammable)

0 200 526-7

Technical data:

Equipment:	3 watt-high-power LEDs
Colour temperature:	6,000 K
Luminosity:	50,000 lux (spotlight) 6,000 Lux (wide beam)
Angle of reflection:	10° to 36° infinitely adjustable
Bulb life:	35,000 h
Connection:	110 – 240 V, 50/60 Hz
Protection class:	IP 20
Scope of supply:	Lamp incl. plastic table clamp and magnetic base

Accessories / spare parts

	Order No.	Price from 1 piece
Magnetic base Ø 80 mm		



Suitable for workplace light HJ1 (0 200 533),
workplace light KJ1 (0 200 534),
LED workplace light LJ1 (0 200 526-7)
and LED cold light lamp JS4 (0 200 523)

0 200 535

Workplace light KJ1
Cold light version

	Order No.	Price from 1 piece
Workplace light KJ1 – cold light, 11 W		



- robust 700 mm metal articulated tube (coated) for free mobility of the lamp head with high positional stability
- fluorescent tube (11 W) for soft, low-shadow and dazzle-free light
- rotatable lamp head

0 200 534

Technical data:

Equipment:	1 x fluorescent tube, 11 W
Colour temperature:	3,000 K
Luminosity:	1,150 lux
Bulb life:	approx. 8,000 h
Connection:	230 V, 50/60 Hz
Cable length:	3 m with moulded contoured plug
Protection class:	IP 40
Scope of delivery:	lamp incl. plastic table clamp

Workplace light
LED version
NEW!

	Order No.	Price from 1 piece
LED workplace light		



- flexible light holder tube
- 3-stage adjustable
- with clamp mounting, max. 45 mm clamping range

0 200 524

Technical data:

Equipment:	3-watt LED / 350 lm
Colour temperature:	5,000 K
Connection:	USB, 5V 1A / 5V 2A input

Workplace light HJ1
Halogen version

	Order No.	Price from 1 piece
Workplace light HJ1 – halogen, 20 W		



- robust 600 mm metal articulated tube (coated) for free mobility of the lamp head with high positional stability
- with protective glass cover

0 200 533

Technical data:

Equipment:	1 x halogen bulb, 20 W
Colour temperature:	2,800 K
Luminosity:	3,850 lux
Angle of reflection:	36°
Bulb life:	approx. 2,000 h
Connection:	230 V, 50/60 Hz
Cable length:	3 m with moulded contoured plug
Protection class:	IP 20 (also available in IP 54!)
Scope of delivery:	lamp incl. plastic table clamp and protective glass cover

Also available as spotlight with 10° beam angle!

Modeling granules
easily applicable

The plastic already becomes soft and ductile at 60 °C. Add the granulate to warm water at max. 65 °C. As soon as the granulate has become completely transparent, it can be removed from the water and shaped with the hand. Once completely cooled, the plastic is hard but not brittle.

		Order No.	Price from 1 piece
Modeling granules			
	Content: 1 kg	**0 960 071**	



Raw granulate



Mould jaws



Mobile phone holder



Moulding



Drilling device



Tool handles

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Precision impression silicone
Provil Novo Light CD 2

Precision impression silicone
Provil Novo Light CD 2
Work in narrow slots or bore holes is already tricky enough in itself. Yet how can you expect to assess the results if you can hardly see anything during processing?
Very simply: with Provil Novo Light CD 2 precision impression silicone.

Behind the somewhat unwieldy name is a very free-flowing silicone that reaches practically everywhere. A precise and fine impression (impression accuracy: < 0.1 µm) of even the most difficult geometrical shapes is achieved, even overhead.

The application system guarantees an absolutely constant mixing ratio for safe, error-free use: the silicone is evenly expelled from both chambers of the double cartridge by means of a mixing gun and through the mixing canula and is directly applied to the object. Mixing canula attachments can be used in addition for minute cavities.

The advantages at a glance:
- Exact replicas with maximum impression accuracy (< 0.1 µm)
- Extremely simple use without prior knowledge owing to the application system
- No heat generation during use (therefore no influence on the surface characteristics)
- Limited time expenditure + economical
- No hazardous substances, no health and safety risk





		Order No.	Price from 1 piece
Provil Novo Light CD 2 precision impression silicone			
	2 x double cartridges (50 ml respectively) incl. 12 mixing canulas	**0 960 041**	

matching set

		Order No.	Price from 1 set
Starter set, Provil Novo Light CD 2 precision impression silicone			
	2 x silicone incl. mixing gun, mixing canulas (12 pcs.) and attachments (8 pcs.)	**0 960 040**	

Accessories / spare parts

		Packing quantity	Order No.	Price from 1 piece	Price from 1 pack
Mixing gun					
	suitable for Provil Novo Light CD 2 double cartridge		**0 960 042**		
Mixing canula attachments (8 pieces)					
	narrow/curved, for filling very fine slots	8 pieces	**0 960 043**		
Replacement mixing canulas (12 pieces)					
	Replacement mixing canulas for Provil Novo Light CD 2 double cartridge	12 pieces	**0 960 044**		

Cutting oils and pastes, separating agents and sprays

Universal cutting oil Solis Ambo N3S
- Mineral oil-free, chlorine-free, skin-friendly
- Based on sustainable raw materials
- Excellent for drilling, thread cutting, reaming, groove broaching, tapping, turning and milling
- For all alloyed and non-alloyed steels, chrome nickel, titanium, manganese, copper and its alloys



	Content	Order No.	Price from 1 piece
Universal cutting oil Solis Ambo N3S			
	500 ml spray bottle	**0 960 400**	

Thread cutting paste Solis Pina V4G
- The paste for extremely difficult working processes in which liquid oils do not provide any satisfactory results
- Chlorine-free and odourless
- Excellent for drilling, thread cutting, reaming, groove broaching, tapping, turning and milling
- For rust-free and heat-resistant alloys, molybdenum, manganese, chrome nickel steel, VA and titanium



	Content	Order No.	Price from 1 piece
Thread cutting paste Solis Pina V4G			
	750 g can	**0 960 403**	

Cutting oil foam Solis Ambo N4G
- Foam with very good adhesive properties for economical processing
- Mineral oil-free, chlorine-free, skin-friendly
- Excellent for drilling, thread cutting, reaming, groove broaching, tapping, turning and milling
- For all alloyed and non-alloyed steels, chrome nickel, titanium, manganese, copper and its alloys



	Content	Order No.	Price from 1 piece
Cutting oil foam Solis Ambo N4G			
	400 ml aerosol	**0 960 401**	

High performance cutting oil Solis Ambo M5S
- Increased viscosity for difficult machining tasks
- Chlorine-free
- Excellent for drilling, thread cutting, reaming, groove broaching, tapping, turning and milling
- For all alloyed and non-alloyed steels, chrome nickel, titanium, manganese, copper and its alloys



	Content	Order No.	Price from 1 piece
High performance cutting oil Solis Ambo M5S			
	500 ml spray bottle	**0 960 402**	

Cutting oils and pastes, separating agents and sprays

Universal oil BALLISTOL
Uniquely versatile and environment-friendly at the same time. This oil cares, lubricates, disinfects, protects against rust, creeps into the minutest corners, has a very low friction coefficient and does not resinify. With all these superb qualities, the oil is fully biodegradable, food-grade, skin-friendly and completely harmless. Use in industry, trade, hobby and soon with you too.



	Content	Order No.	Price from 1 piece
Universal oil BALLISTOL			
	200 ml aerosol	**0 960 601**	

Universal cleaner Luxan Clean Uni
- Highly concentrated water-based cleaner
- Dilutable up to 1:40
- Dissolves heavy soiling in seconds
- For removing oil, grease and protein soiling
- For machines and surfaces made of metal, plastic, ceramic and many more



	Content	Order No.	Price from 1 piece
Universal cleaner Luxan Clean Uni			
	500 ml hand sprayer	**0 960 404**	

Spray bottles
for decanting cleaners and other liquids

Spray bottles
for transferring cleaners and other liquids from large containers. Particularly suitable for diamond fluids or lapping fluids such as diamond suspensions soluble in oil or water.



	Order No.	Price from 1 piece
Pump spray bottle, 250 ml		
	0 580 455	
Spray bottle, 100 ml		
	0 580 515-2	

Food safe cleaning fluid joke
NSF-H1
NEW!

joke NSF-H1
The spray cleaner for foodstuffs is the optimally effective cleanser for machines, units and tools in the food, pharmaceutical and fodder industries. It facilitates pore-deep cleaning of tools and also serves as a residue-free, evaporating lubricant for rubber articles (RIM-LUBE). The combination of evaporating ingredients allows a short-term sliding effect, and so prevents later position changes or movement of the rubber parts. Propellant gas: carbonic acid

Areas of application
- Metal surfaces on which the use of critical cleaning products is undesirable
- Cleaning of machines, work surfaces and tools in the food processing industry, leisure and domestic sectors
- Cleaning moulds and tools used for processing plastics

Properties:
- Removes dirt, oils, hard grease residues, etc.
- Strong removal effect and best cleaning effect
- Approved according to NSF-H1

	Content	Order No.	Price from 1 piece	Price from 12 pieces
Food safe cleaning fluid joke NSF-H1				
	500 ml aerosol	**0 580 531**		







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Sprays

Cleaning fluid X 73016-A
For all metals, glass, ceramic and many plastics. Use: cleaning moulds, cleaning machine components, pretreatment of glue points, pretreatment for lacquering. The spray cleaner rapidly evaporates and works without leaving residues. Unlike during use ofsolvent, no residual layer is left behind. Even removes resinated lubricants. Thermoplastics such as PVC, Plexiglas, polystyrene and simple paint strokes can be dissolved.

	Content	Order No.	Price from 1 piece	12 pieces	5 pieces
Cleaning fluid X 73016-A					
	500 ml aerosol	**0 580 521**			
	5 l container	**0 580 522**			
	28 l container	**0 580 523-1**			



Sprays

Cleaning fluid X 73020
Finds applications in industry and workshop areas. Owing to its special formula, the spray combines corrosion protection, cleaning, water repellence, lubrication and preservation in a single product. The spray dissolves rust, repels moisture, eliminates squeaking noises, cleans soiled surfaces, protects and cares for all tools and can also do farmuch more. A genuine all-round performer that no workplace should be without.

	Content	Order No.	Price from 1 piece	Price from 12 pieces
Cleaning fluid joke X 73020				
	400 ml aerosol	**0 580 526**		





Corrosion protection X 73030
With a composition based on synthetic wax and special additives, this spray offers both temporary corrosion protection and preservation of uncoated bright metals. Adheres to all metal surfaces, leaving behind a tacky, flexible protective film, free of silicone or silicone-based products. Seawater-resistant and therefore also suitable for corrosion protection during shipping by sea for example. Ideal for preserving stock items (injection moulds, etc.) and precision components, tools, etc.

	Content	Order No.	Price from 1 piece	Price from 12 pieces
Corrosion protection X 73030				
	400 ml aerosol	**0 580 525**		





Sprays

Aluminium grinding spray X 73050
The low degree of hardness of aluminium and other non-ferrous metals can lead to clogging of the pores of the processing tool. The simple use of this aluminium grinding spray prevents this and leads to improved stock removal (by up to 350 %!). At the same time, the spray cools the material and reduces the shearing forces during processing. Suitable for use with all grinding media on a base, such as abrasive discs, sleeves, strips etc.

	Content	Order No.	Price from 1 piece	Price from 12 pieces
Aluminium grinding spray X 73050				
	400 ml aerosol	**0 580 529**		





Diamond compound cleaner joke Magic
This cleaner which is universally usable for all diamond compounds cleans the workpieces without leaving streaks after polishing. Can also be used for cleaning lapped workpieces. The spray is oil and silicone-free and therefore has a very discreet odour. Simple handling with simultaneously high cleaning power make the cleaner indispensable for any polisher.

	Content	Order No.	Price from 1 piece	Price from 12 pieces
Diamond compound cleaner joke Magic				
	500 ml aerosol	**0 590 610**		





Protection for the ears

Headband earplugs
These earplugs are securely held inposition by the plastic headband – evenin case of rapid or jerky movements.They sit comfortably and pleasantly in the ears and the surrounding volume is reduced by 24 decibels (dB).

	Order No.	Price from 1 piece
Headband earplugs		
	**0 960 723**	

Super-Fit earplugs incl. box
These tiny earplugs fit so well in your ears that you will probably hardly notice them. In contrast, the astonishing ability to understand speech will be all the more apparent, even though the surrounding volume is reduced by 30 decibels (dB). Supplied with a practical storage box (incl. belt clip) and safety cord.

	Order No.	Price from 1 piece
Super-Fit earplugs incl. box		
	**0 960 724**	

Protection for the eyes

Protective goggles
- Clear, optically correct, single-piece PC pane
- Scratchproof coating
- Casual design, extremely light (21.5 g)
- Protection against general hazards and flying particles (up to 45 m/sec.)
- Comfort pads on the temple ends
- Soft nose pad

	Order No.	Price from 1 piece
Protective goggles		
	**0 203 083-1**	

Protection for the eyes
Protective goggles with progressive lenses

Protective goggles JK 16 with progressive lenses
Finally a pair of protective goggles with progressive lenses – that is what the JK 16 from joke offers, making them a good alternative to the "second pair of spectacles" for age-related long-sightedness.

The JK 16 is available in 6 strengths for optimum compensation of visual impairment. With 1.0 to 3.5 dioptres, the spectacles offer maximum wearing comfort coupled with optimum protection.

Special features:
- Progressive lenses certified according to EN166 FT.
- Closed side protection with ventilation slots and treatment of the lenses with an antifog coating permanently guarantee a clear view.
- The temples are variable in angle and adjustable in length for optimum wearing comfort.
- These protective goggles weigh a mere 44 g for a strength of +2.5 dioptres and offer overall the optimum prerequisites for fatigue-free work.

Scope of delivery:
- Microfibre case
- Spectacle cord (according to EN166)

	Maximum correction in the bottom part of the lenses	Moderate correction in the centre of the lenses	Minimal correction in the top part of the lenses	Order No.	Price from 1 piece
Protective goggles JK 16 with progressive lenses					
	1.0 dioptres	1.0 dioptres	0.3 dioptres	**0 960 750**	
	1.5 dioptres	1.2 dioptres	0.7 dioptres	**0 960 751**	
	2.0 dioptres	1.4 dioptres	0.7 dioptres	**0 960 752**	
	2.5 dioptres	1.9 dioptres	1.2 dioptres	**0 960 753**	
	3.0 dioptres	2.3 dioptres	1.4 dioptres	**0 960 754**	
	3.5 dioptres	2.8 dioptres	1.9 dioptres	**0 960 755**	



Hand protection

	Size	Packing quantity	Order No.	Price from 1 pair
Tubular knitted cotton gloves with micro-nubs				
	10	12 pairs	**0 960 704**	

Tubular knitted cotton gloves with micro-nubs
- Ultrafine cotton with micro-nubs
- Very thin and breathable
- Lint-free
- Good grip owing to vinyl micro-nubs
- Readily adapts to the hand
- Non-reversible

Material, LINER: 100 % cotton with vinyl nubs

	Size	Packing quantity	Order No.	Price from 1 pair
Maxi-Hit all-round gloves				
	7	12 pairs	**0 960 701-7**	
	8	12 pairs	**0 960 701-8**	
	9	12 pairs	**0 960 701-9**	
	10	12 pairs	**0 960 701**	

Maxi-Hit all-round gloves
- Nitrile Foam Technology (NFT) makes these gloves an “all-rounder”:
- Abrasion-resistant, pleasant, flexible and breathable
- Liquid repellent
- Hard wearing and sensitive
- Back of hand made of Spandex liner for high stretchability and rapid drying

Material, LINER: 96 % nylon, 4 % elastane with (NFT) nitrile coating

	Size	Packing quantity	Order No.	Price from 1 pair
Gloves with PU fingertips				
	10	12 pairs	**0 960 703**	

Gloves with PU fingertips
- Fingertips with PU coating on fine nylon liner
- Pleasant to wear
- Grip only in the fingertips
- Exact fit
- Lint-free
- Welded in pairs

Material, LINER: 100 % nylon with PU coating

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Hand protection

Nitrile disposable gloves
Non-powdered gloves in a practical dispensing box (contains 100). Both materials offer extremely good sense of touch combined with flexibility and wearing comfort. The nitrile gloves are not only antiallergic, but also markedly more robust (puncture and tear-resistant) than those made of latex. They furthermore offer protection against solvents, bacteria, paints, alkalis, acids, oils, greases and many chemicals.

	Size	Packing quantity	Order No.	Price from 1 pack
Nitrile disposable gloves				
	L	100 pieces	**0 960 706**	
	XL	100 pieces	**0 960 707**	

	Size	Packing quantity	Order No.	Price from 1 pair
Ultra Lite PU Hyflex gloves				
	9	12 pairs	**0 960 702-9**	
	10	12 pairs	**0 960 702**	

Ultra Lite PU Hyflex gloves
- Hard wearing fine knitted nylon with supersoft PU coating
- Maximum wearing comfort and sense of touch
- Lint-free and breathable
- Super sensitive and highly flexible
- Exact fit and adaptability
- No fingerprints
- Several times reusable

Material, LINER: 100 % nylon with PU coating

	Size	Packing quantity	Order No.	Price from 1 pair
Nubbed thermal assembly gloves				
	8	12 pairs	**0 960 705-8**	
	9	12 pairs	**0 960 705**	
	10	12 pairs	**0 960 705-10**	

Nubbed thermal assembly gloves
- Heat-resistant up to 150 °C
- Abrasion-resistant, sensitive, breathable
- Highly adaptable fit owing to stretchability

Material, LINER: 100 % polyacryl liner with foam nitrile

Waste bags

	Capacity	Content	Order No.	Price from 1 piece
Waste bags				
	70 l	1 roll (25 bags)	**0 960 458**	
	120 l	1 roll (25 bags)	**0 960 459**	

Waste bags
- Extra strong and tear-resistant
- draw-string
- Two sizes (70 and 120 litres)

Hand protection

NEW!

		Dimensions	Order No.	Price from 1 piece
joke hand and finger protection				
	• Self-adhesive, does not stick to skin or hair, no residues • Wash-proof and antiallergic, 100% cotton and pure latex • Breathable and air permeable, protection against finger prints • No size difficulty, such as with finger stalls and gloves • Non-slip, allows maximum “sensitivity of touch” This cotton tape is used in many industries, such as the packaging and assembly industries, jewellery industry, as well as manufacturing technology, production of electronic and electrical devices. The tape is ideally suitable for wrapping round handles and grips Roll width: 2.54 cm Roll length: 9 m / stretched Colour: blue	25 x 9000 mm	**0 960 650**	





Hand care

Sandexon ULTRA hand washing cream
Beige-brown, medium paste consistency, lemon-scented. This cream easily lathers, dissolves rapidly in water, does not smear and does not block drains. Yet it seemingly effortlessly removes even heavy soiling from your skin while at the same time protecting against recontamination. Incidentally, guaranteed free of sand or sawdust among the ingredients – but with skin-friendly synthetic scrubbing agents instead. Owing to its excellent cleaning power, Sandexon ULTRA can be used very sparingly.

Content	Order No.	Price from 1 piece
Sandexon ULTRA hand washing cream		
500 ml pot	**0 960 731**	
Sandexon ULTRA hand washing liquid		
2 l bottle	**0 960 732**	





Accessories / spare parts

	Order No.	Price from 1 piece
Dispensing pump		
	**0 960 733**	
Wall holder		
	0 960 734	

Industrial paper

Industrial paper

This high-quality blue paper towelling absorbs almost anything, particularly readily and effectively dirt, oils and greases ... highly absorbent and tear-resistant. Supplied on a roll of 1,000 sheets (roll length 360 m). Matching floor stands and wall holders as accessories.

	Order No.	Price from 1 piece
Industrial paper roll, 3-layer		
	0 960 450	



Accessories / spare parts

	Order No.	Price from 1 piece
Floor stands		
made of metal, blue lacquered Dimensions: 460 x 900 x 440 mm (W x H x D)	**0 960 456**	
Wall holder		
made of metal, blue lacquered Dimensions: 500 x 312 x 230 mm (W x H x D)	**0 960 457**	





Rotating tool holder
brings tidiness to your workplace

		Order No.	Price from 1 piece
Rotating tool holder			
	Rotating tool holder from joke: everything within easy reach Every desired tool is always at hand. Eliminates tiresome searching for the right implement. The rotating tool holder allows accommodation of more than 10 tool units. All the essential utensils for surface finishing (or other working stages) are in one place. The following items are avaible overall: • 92 receptacles for tools with a Ø 3 mm or 1/8“ shank • 13 receptacles for tools with a Ø 6 mm or 1/4“ shank • 7 receptacles for different drills • internal receptacle for tools, Ø 70 x 75 mm deep • Dimensions: Ø 165 mm x 102 mm	**0 200 020**	

Surface protection

Surface protection film
The simplest way of protecting scratch and dirt-sensitive surfaces during further processing, transport or storage. This film is fixed to the workpiece like an adhesive tape and can be detached again, above all absolutely without leaving residues. Suitable for steel, copper, anodised aluminium and glass, etc. Heat-resistant between –20 °C and +60 °C.

	Width	Total length	Thickness	Order No.	Price from 1 piece
Surface protection film					
	250 mm	100 m	50 µm	**0 960 380**	



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Hand cleansing cloths

Hand cleansing cloths
For mobile hand cleansing; also for cleaning tools and surfaces, without aggressive solvents and alcohol.

- Highly efficient
- effective cleaning of contamination by oils, lubricating greases, wet paints, adhesive, ink, petrol, etc.
- Simple to use, ideal when out and about and wherever no water is available.
- Large cloths (25 cm x 25 cm) in a resealable bucket
- Provided with an abrasive cloth side for improved cleaning performance.

	Content	Order No.	Price from 1 piece	Price from 5 pieces
Hand cleansing cloths				
	70 cloths	**0 960 735**		

Universal liquid-absorbent mat

Universal liquid-absorbent mat
It mops everything up. Your workplace should no longer be without this mat if you work with oils, lubricants and chemicals. In this way, you can simply and effectively protect floors and working surfaces for example during cleaning, machine repairs and lining tool drawers, etc.

The highly absorbent mat can absorb a tidy 0.86 litres per cloth. It consists of polypropylene and fine fibre layers; a PE film on the back protects against soaking through. Important: the mats are absolutely lint-free.

Application areas: workshops, laboratories, hobby (car, motorcycle), household (oil heating, lawnmower, chainsaw ...).

	Dimensions	Packing quantity	Order No.	Price from 1 pack
Universal liquid-absorbent mat				
	430 x 480 mm	10 pieces	**0 960 500**	

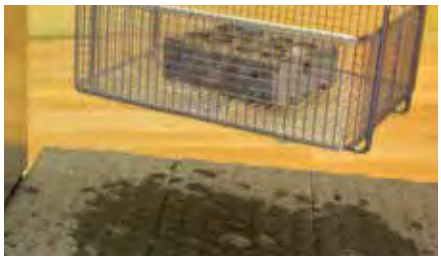
Machine leaks



Use of sprays



Ultrasonic cleaning



Polishing wool

If it is good for human skin, it cannot fail to be right for technical surfaces. Cotton wool is a universal cleaning aid. A choice between cotton and viscose (rayon) in addition to a "50/50 blend" of both is available. Rayon very rapidly absorbs liquid, whereas cotton stores it longer and offers better cohesion of the fibres. Cotton wool pads (100 % cotton) are available in addition to the loose cotton wool balls.

	Design	Material	Content	Order No.	Price from 1 pack
Polishing wool					
	Cotton wool	50 % viscose / 50 % cotton	100 g in the bag	**0 960 010**	
		100 % cotton	100 g in the bag	**0 960 011**	
		100 % viscose	180 g in the bag	**0 960 013-1**	
	Cotton wool pads	100 % cotton	40 pieces in the bag	**0 960 015**	

Polishing cloths Kleenex

High quality 3-ply cloth for wiping after polishing and for applying joke Magic very fine polishing suspension (similar illustration).

	Design	Content	Colour	Dimensions	Order No.	Price from 1 piece
Polishing cloths Kleenex						
	3-ply	72 cloths	white	20 x 20 cm	**0 590 602**	



Cleaning stick

The lint-free cleaning sticks are highly absorbent and owing to their pointed shape, ideal for use in model and mould making as well as in areas such as optics, laser and microtechnology. The rods have a very dense and firm head made of highest-quality cotton. They are therefore super absorbent, suitable for solvents and retain their shape when wet. Perfect for all cleaning tasks in hard-to-reach areas or for precise application of liquids (e. g. adhesives, resins, alcohols).

		Packing quantity	Order No.	Price from 1 pack
Cleaning stick				
	Sharp head on both sides, Ø 5 x 13 mm, hard, head and stick made of cotton	100 pieces	**0 960 003**	







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Cleaning wires

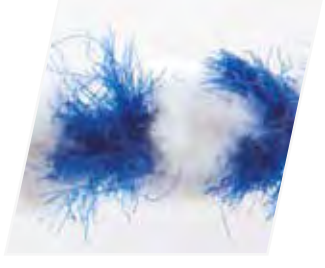
Flexible and firm at the same time. Particularly suitable for detaching and removing simple soiling in the drilling holes. Trimming made of soft cotton, with and without incorporated bristles (for maximum cleaning power). The wires are resistant against cleaning media and can be used both wet and dry. Available in long (150 mm) and longer (300 mm), conically wound respectively.

	Material	Dimensions	Packing quantity	Order No.	Price from 1 pack
Cleaning wires					
	Cotton wool without bristles	Ø 4/5 x 150 mm	80 pieces	**0 960 005**	
	Cotton wool with bristles	Ø 4/5 x 150 mm	80 pieces	**0 960 006**	
		Ø 3.5/5.5 x 300 mm	50 pieces	**0 960 007**	



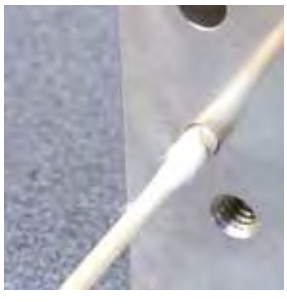
Cotton wool without bristles

Cotton wool with bristles



Cotton buds

Familiar in principle to any child. The joke cotton buds have a very dense and firm cotton wool head trimming (small and large version available). With their long wooden shanks, they are markedly superior to PP sticks, since more rigid and resistant to cleaners. Furthermore, their diameter also fits in the collets of our handpieces. Use wet or dry for cleaning and with compound for polishing.



	Design	Dimensions	Packing quantity	Order No.	Price from 1 pack
Cotton buds on wooden sticks					
	small head (Ø approx. 4 – 5.5 mm)	Ø 2.3 x 150 mm	100 pieces	**0 960 001**	
	large head (Ø approx. 10 – 12 mm)	Ø 3 x 200 mm	50 pieces	**0 960 002**	



Precision gauge tapes
individual and as assortments with sheet sections

Precision gauge tapes and reference sheets
The precision gauge tapes and reference sheets are used for example when dressing moulds and tools, compensating tolerances and readjusting the bearing play of guides and cutting blades, adjustment of devices, etc., etc.

The tapes are supplied in hardened springband steel (material no. 1.1274) or Cr-Ni steel.

In addition to this standard selection, we supply you on request and at short notice tapes and cut sections in widths of up to 300 mm made of different materials such as C steel, stainless Cr-Ni steel and brass.

	Thickness	Width	Total length	Material	Order No.	Price from 1 piece
Precision gauge tape						
	0.005 mm	12.7 mm	5 m	1.4310	**0 960 300**	
	0.01 mm	12.7 mm	5 m	1.4310	**0 960 301**	
	0.02 mm	12.7 mm	5 m	1.4310	**0 960 302**	
	0.03 mm	12.7 mm	5 m	1.1274	**0 960 303**	
	0.04 mm	12.7 mm	5 m	1.1274	**0 960 304**	
	0.05 mm	12.7 mm	5 m	1.1274	**0 960 305**	
	0.06 mm	12.7 mm	5 m	1.1274	**0 960 306**	
	0.07 mm	12.7 mm	5 m	1.1274	**0 960 307**	
	0.08 mm	12.7 mm	5 m	1.1274	**0 960 308**	
	0.09 mm	12.7 mm	5 m	1.1274	**0 960 309**	
	0.10 mm	12.7 mm	5 m	1.1274	**0 960 310**	
	0.12 mm	12.7 mm	5 m	1.1274	**0 960 311**	
	0.15 mm	12.7 mm	5 m	1.1274	**0 960 312**	
	0.18 mm	12.7 mm	5 m	1.1274	**0 960 313**	
	0.20 mm	12.7 mm	5 m	1.1274	**0 960 314**	
	0.25 mm	12.7 mm	5 m	1.1274	**0 960 315**	
	0.30 mm	12.7 mm	5 m	1.1274	**0 960 316**	
	0.40 mm	12.7 mm	5 m	1.1274	**0 960 318**	
	0.45 mm	12.7 mm	5 m	1.1274	**0 960 319**	
	0.50 mm	12.7 mm	5 m	1.1274	**0 960 320**	
	0.60 mm	12.7 mm	5 m	1.1274	**0 960 321**	
	0.70 mm	12.7 mm	5 m	1.1274	**0 960 322**	
	0.80 mm	12.7 mm	5 m	1.1274	**0 960 323**	
	0.90 mm	12.7 mm	5 m	1.1274	**0 960 324**	
	1.00 mm	12.7 mm	5 m	1.1274	**0 960 325**	



Precision gauge tapes
individual and as assortments with sheet sections

NEW!

	Thickness	Width	Total length	Material	Packing quantity	Order No.	Price from 1 pack
Precision underlay foils							
	0.01 mm	50 mm	300 mm	1.4310	10 pieces	**0 960 291**	
	0.02 mm	50 mm	300 mm	1.4310	10 pieces	**0 960 386**	
	0.03 mm	50 mm	300 mm	1.1274	10 pieces	**0 960 357**	
	0.04 mm	50 mm	300 mm	1.4310	10 pieces	**0 960 290**	
	0.05 mm	50 mm	300 mm	1.4310	10 pieces	**0 960 387**	
	0.07 mm	50 mm	300 mm	1.1274	10 pieces	**0 960 266**	
	0.08 mm	50 mm	300 mm	1.1274	10 pieces	**0 960 388**	
	0.09 mm	50 mm	300 mm	1.1274	10 pieces	**0 960 265**	
	0.1 mm	50 mm	300 mm	1.4310	10 pieces	**0 960 389**	
	0.2 mm	50 mm	300 mm	1.4310	10 pieces	**0 960 391**	
	0.3 mm	50 mm	300 mm	1.4310	10 pieces	**0 960 275**	
	0.4 mm	50 mm	300 mm	1.4310	10 pieces	**0 960 395**	
	0.5 mm	50 mm	300 mm	1.4310	10 pieces	**0 960 276**	
	1.0 mm	50 mm	300 mm	1.1274	10 pieces	**0 960 264**	

matching set

	Order No.	Price from 1 set
Reference sheet assortment, sheets 25 x 300 mm, contents: 21 pieces		
Contains 1 sheet each in the following thicknesses (in mm): 0.01 / 0.02 / 0.03 / 0.04 / 0.05 / 0.06 / 0.07 / 0.08 / 0.09 / 0.10 / 0.15 / 0.20 / 0.25 / 0.30 /0.40 / 0.50 / 0.60 / 0.70 / 0.80 / 0.90 / 1.00	**0 960 330**	
Reference sheet assortment, sheets 50 x 300 mm, contents: 25 pieces		
Contains 1 sheet each in the following thicknesses (in mm): 0.01 / 0.02 / 0.03 / 0.04 / 0.05 / 0.06 / 0.07 / 0.08 / 0.09 / 0.10 / 0.12 / 0.15 / 0.18 / 0.20 /0.25 / 0.30 / 0.35 / 0.40 / 0.45 / 0.50 / 0.60 / 0.70 / 0.80 / 0.90 / 1.00	**0 960 331**	

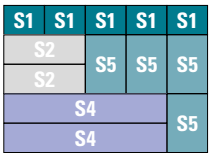
Accessories / spare parts

		Order No.	Price from 1 piece
Tin snips, straight (1 piece)			
	for cutting thin sheeting Length: 170 mm, cutting edge length: 50 mm	**0 960 326**	

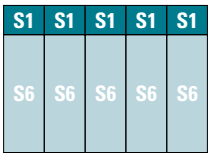
Assortment case
Raaco boxxser

Raaco boxxser assortment case
This handy case with a carrying handle and clever one-hand locking system can be divided using differently sized inserts. The inserts can be purchased individually or in six different set combinations. A grid in the lid and base of the case prevents the inserts from slipping.

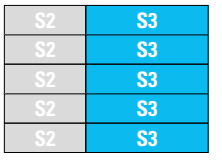
Set A



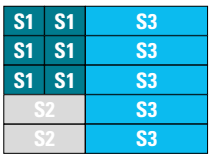
Set B



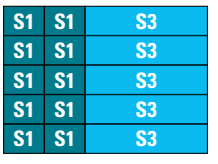
Set C



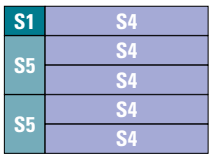
Set D

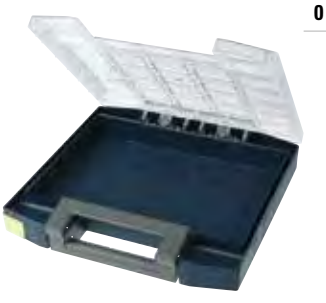


Set E



Set F



	Order No.	Price from 1 piece
Assortment case		
	**0 960 200**	

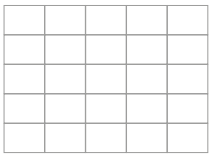
Case inserts set (without case!)

		Type	Packing quantity	Order No.	Price from 1 set
Case inserts set					
	5 x S1, 2 x S2, 2 x S4, 4 x S5	A	13 pieces	**0 960 230**	
	5 x S1, 5 x S6	B	10 pieces	**0 960 231**	
	5 x S2, 5 x S3	C	10 pieces	**0 960 232**	
	6 x S1, 2 x S2, 5 x S3	D	13 pieces	**0 960 233**	
	10 x S1, 5 x S3	E	15 pieces	**0 960 234**	
	1 x S1, 5 x S4, 2 x S5	F	7 pieces	**0 960 235**	

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Assortment case
Raaco boxxser

Accessories / spare parts



The case can be subdivided internally with inserts by means of a grid system (5 x 5 fields). Each grid has a dimension of 39 x 54 mm (D x W).

Overall internal case dimensions:

Depth: 5 x 39 mm (195 mm)

Width: 5 x 54 mm (270 mm)

	Type	Dimensions	Order No.	Price from 1 piece
Case inserts				
	S1	47 x 54 x 39 mm	**0 960 221**	
	S2	47 x 108 x 39 mm	**0 960 222**	
	S3	47 x 162 x 39 mm	**0 960 223**	
	S4	47 x 216 x 39 mm	**0 960 224**	
	S5	47 x 54 x 78 mm	**0 960 225**	
	S6	47 x 54 x 156 mm	**0 960 226**	





Illustration incl. optional inserts

Hard-wearing: the assortment case can take some punishment

Assortment case

Drawer cabinet
High-quality cabinet for neat storage and sorting of small components. Available with 28 drawers or alternatively with 24 extra deep drawers for large components. The drawers can be additionally subdivided by partitions and clearly labelled.

		Order No.	Price from 1 piece
Cabinet (28 drawers)			
	24 drawers T1 (36 x 67 x 136 mm) 3 drawers T2 (64 x 91 x 136 mm) 1 drawerT3 (64 x 279 x 136 mm) Dimensions (H x W x D) 417 x 306 x 150 mm	**0 960 240**	

Accessories / spare parts

	Dimensions	Packing quantity	Order No.	Price from 1 set
Partitions, crossways for T1 (48 pieces)				
	35 x 64 x 2 mm	48 pieces	**0 960 241**	
Labels for T1 (48 pieces)				
	10 x 64 x 1 mm	48 pieces	**0 960 242**	

		Order No.	Price from 1 piece
Cabinet, extra deep (24 drawers)			
	24 drawers T4 (53 x 80 x 225 mm) Dimensions (H x W x D) 435 x 357 x 255 mm	**0 960 250**	

Accessories / spare parts

	Dimensions	Packing quantity	Order No.	Price from 1 set
Partitions, crossways for T4 (36 pieces)				
	45 x 75 x 3 mm	36 pieces	**0 960 251**	
Labels for T4 (24 pieces)				
	15 x 75 x 1 mm	48 pieces	**0 960 252**	

compressed-air aerosol
refillable

Compressed air aerosol
Using this refillable aerosol, most liquid materials can be processed (ideal for spray-on oils, cleaners or cooling lubricants). This saves you a good deal of packaging waste and various different active substances can be economically refilled from large containers. Handling is child´s play: the material is filled into the aerosol from above and charging with compressed air is performed through the base valve by means of the matching compressed air service station (optimum operating pressure 5–10 bars). Only the pure active ingredient and no compressed air is sprayed during use!



		Order No.	Price from 1 piece
Compressed-air aerosol			
	Filling quantity: 400 ml, refillable from above, compressed-air filling viabase valve and the matching compressed-air service station, supplied incl. 2 valves and 4 spray heads	**0 960 610**	

Accessories / spare parts

		Order No.	Price from 1 piece	1 set
Compressed-air service station				
	for direct connection to the compressed-air network by means of a push-fit nipple, hose length approx. 0.5 m. For filling, the compressed-air aerosol is pushed into the service station. After the filling operation (approx. 8–10 seconds), the valve closes automatically. The service station can remain on the compressed-air network.	**0 960 611**		
Spray head valve set				
	consisting of four different spray heads and a ball valve with a suction tube	**0 960 615**		

Suction unit

joke Suction units

… Laser emissions, dust and fine particles, solvents, adhesive vapour, solder vapour/ welding vapour …

at least one of these or some other pollutions also occur daily in your working environment. You should do something about them in order to avoid damage to health.

With a suction unit from joke, you create the optimum conditions for "good air" at the workplace – even if you ever "let it fly".

With us, you have a choice between two suction systems:

- **JF Compact** with favourably priced entrylevel products
- **AFD Premium** as a highly efficient system with comprehensive equipment details (high filter capacity, filter monitoring, serial interface for remote control)

Both systems can be configured with two filter modules. Suspended matter filter for dusts/fine particles and all particles that arise in mechanical processing sequences.

The activated charcoal filter is used wherever solvents, adhesive vapours, soldering vapour, smoke and similar gaseous pollutions arise. It eliminates or reduces them to a minimum.

Owing to the high density of the filters used, a very high level of separation of the particles and contaminants to be aspirated is achieved. The filters can be combined as individual modules and are easy to replace. Consequently, if replacement is required, you only actually need to change the saturated filter, whereas the remainder can continue to be used.

The turbine cooling (bypass cooling) inside the devices ensures very long services lives of the turbine units, even during constant use. The modular construction allows effective adaptation to individual requirements.

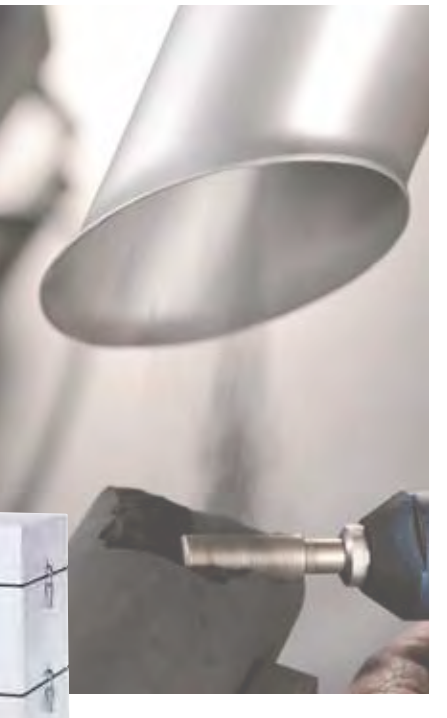
Suction arm for mounting on device

JF 5 Compact
Order No. 0 200 185

JF 10 Compact
Order No. 0 200 242-3

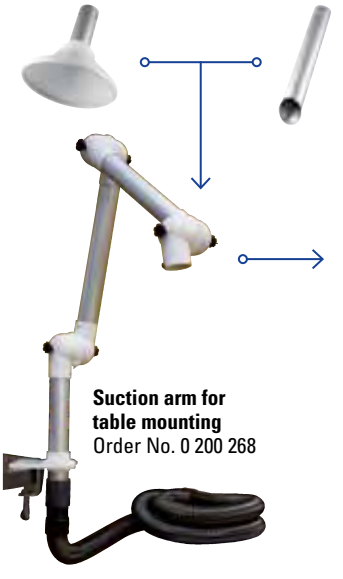
AFD Premium
Order No. 0 200 266





Suction hood
Order No. 0 200 248

Suction tube
Order No. 0 200 243



Suction arm for table mounting
Order No. 0 200 268



Suction unit

JF 5 Compact
Order No. 0 200 225

JF 10 Compact
Order No. 0 200 230-3

AFD Premium
Order No. 0 200 250-1

Things to know about contaminants at the workplace and use of suction units

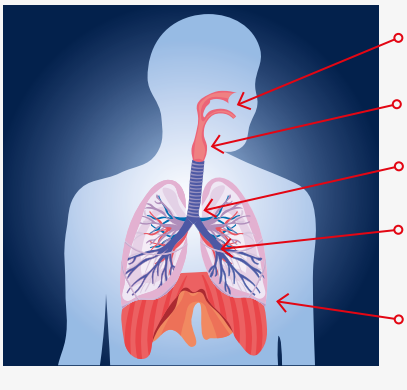
Aerolsols consist of a large number of dust and smoke particles of different diameters. They occur during production processes such as milling, drilling, laser work, cutting, soldering and engraving, etc. The particle size is indicated in micrometres (µm = 10^{-6} m). Contamination of the respiratory tracts depending on the particle size is shown in the diagram opposite.

Maintenance intervals of the filters

With a properly dimensioned unit, the following intervals result for the individual filter types, depending on the contamination:

- Z-line filter: 4 – 8 months
- suspended matter filters: 4 – 8 months
- activated charcoal filters: 6 – 12 months

Without a change of filter, no protection of your health exists!



Designed by Alvaro_cabrera/Freepik

Suction units
joke AFD Premium

		Design	Order No.	Price from 1 piece
Suction unit joke AFD Premium				
	Suction device with initial filter equipment and filter monitoring, continuously adjustable, operating hour counter, 4 castors for mobile use, without accessories System with W3 certification and HEPA H13 filter Technical data: Suction capacity, free-blowing: 320 m³/h Suction capacity, effective: 50 – 250 m³/h Max. compression: 20,000 Pa Motor: constant running Connection: 100 – 240 V, 50/60 Hz Motor output: 1.1 kW Noise level: approx. 62 dB(A) Weight: approx. 40 kg (0200 250-1) approx. 55 kg (0200 250-ZA) Dimensions (W x H x D): 350 x 785 x 350 mm (with activated charcoal filter: 350 x 1,050 x 350 mm) Colour: RAL 7035 Suction connectors: 3 (rear) Suction connectors for arm: 1 (top) Filter equipment: Suspended matter filter H 13 2.4 m² + z-line filter (Order No. 0 200 250-1), activated charcoal filter + suspended matter filter + z-line filter (Order No. 0 200 250-ZA)	with suspended matter filter	**0 200 250-1**	
		with activated charcoal filter	**0 200 250-ZA**	

System with W3 certification and HEPA-H13 Filter

Accessories / spare parts

		Order No.	Price from 1 piece
Suspended matter filter, 300 x 300 x 78 mm			
		**0 200 246**	
Z-line filter, 300 x 300 x 145 mm			
	for units built before 2017	**0 200 245-N**	
Z-line-filter plus, 300 x 300 x 225 mm			
	for units built after 2017	**0 200 245-3**	
Activated charcoal filter, 295 x 295 x 20 mm			
		**0 200 240-1**	
Suction arm for mounting on device			
	850 mm long, 3 articulations, with damper cap, anodised aluminium tubes	**0 200 266**	

Suction units
joke JF 10 Compact

		Design	Order No.	Price from 1 piece
Suction unit joke JF 10 Compact				
	Suction device with initial filter equipment, infinitely adjustable, operating hour counter, 4 castors for mobile use, not including accessories Technical data: Suction output, free blowing: 250 m³/h Effective suction output: 20 – 200 m³/h Max. compression: 6,000 Pa Motor: continuous running Connection: 120 – 230 V, 50/60 Hz Motor output: 0.65 kW Sound level: approx. < 62 dB(A) Weight: approx. 24 kg Dimensions (W x H x D): 300 x 510 x 300 mm Colour: RAL 7035 Suction connectors: 2 (rear) Suction connector for arm: 1 (top) Filter (0 200 230-3): Prefilter F5 + suspended particle filter H 13 Filter (0 200 230-ZA1): Prefilter F5 + suspended particle filter H 13 + activated charcoal filter	with suspended matter filter	**0 200 230-3**	
		with activated charcoal filter	**0 200 230-ZA1**	

Accessories / spare parts

	Order No.	Price from 1 piece
Suspended matter filter H 13, 250 x 250 x 190 mm		
	**0 200 271**	
Filter mats F5, 230 x 230 x 230 mm (pack: 20 pieces)		
	**0 200 257**	
Combination filter suspended matter/activated charcoal, 250 x 250 x 190 mm		
	**0 200 240-4**	
Suction arm for mounting on device		
 850 mm long, 3 joints, without throttle valve, anodised aluminium tubes	**0 200 242-3**	

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Suction units
joke JF 5 Compact

		Design	Order No.	Price from 1 piece
Suction unit joke JF 5 Compact				
	Suction device with initial filter equipment, continuously adjustable, operating hour counter, 4 device feets, without accessories Technical data: Suction capacity, free-blowing: 130 m³/h Suction capacity, effective: 20 – 100 m³/h Max. compression: 1,900 Pa Motor: constant running Connection: 90 – 264 V, 50/60 Hz Motor output: 0.05 kW Noise level: approx. 58 dB(A) Weight: approx. 17 kg Dimensions (W x H x D): 300 x 315 x 300 mm Colour: RAL 7035 Suction connectors: 2 (rear) Suction connectors for arm: optional Filter equipment: combination filter: suspended matter/activated-charcoal filter (Order No. 0 200 227)	with combined filter	**0 200 225**	

Accessories / spare parts

		Order No.	Price from 1 piece	1 set
Lid JF 5 with suction arm flex NW50				
	Black, 900 mm, 2 articulations	**0 200 185**		
Flat shield kit with table holder				
	system 50, transparent, 330 x 240 mm, without suction hose	**0 200 152**		
Hose set				
	length 2.5 m, incl. connecting sleeve	**0 200 153**		

An electronic display opens up new possibilities!



- Filter monitoring
- Turbine monitoring
- Fault messages
- Speed control by tip function
- Clear and user-friendly visualisation of all data on a colour display

Suction units
Accessories

		Order No.	Price from 1 piece
Suction arm for table mounting			
	850 mm long, 3 joints, with throttle valve, anodised aluminium tubes, incl. table bracket and 2.5 m hose	**0 200 268**	
Welding nozzle for suction arm			
	310 mm long, anodised aluminium	**0 200 243**	
Suction shield for suction arm			
	Ø 200 mm	**0 200 248**	
Connecting hose NW 44			
	2.5 m incl. 2 connecting sleeves	**0 200 247**	
Connecting hose NW 44/NW50			
	2.5 m incl. connecting sleeve	**0 200 247-3**	

Suction units
Accessories

		Order No.	Price from 1 piece
Suction funnel			
	incl. receptacle for LED protective pane • For tabletop thickness up to 60 mm • Suction opening 100 x 80 mm • Connection for rectangular tube 80 x 30 mm	**0 200 514**	
Suction duct			
	Rectangular tube 80 x 30 mm for suction funnel • Length 500 mm • For mounting under table • Suction connectors Ø 37/41mm	**0 200 515**	
Reducing sleeve 50/63 to 40/50			
	For connecting to the suction duct on connecting hose NW 44	**0 200 251-3**	
LED protective pane			
	Optimum protection for your work • ESG protective pane • SMD-LED lighting (daylight white) • Extraction via suction funnel • Bright and shadow-free illumination • incl. table stand Technical data: Colour temperature: 6,000 K Luminosity: 2,500 Lux (brighter than two 60 W incandescent bulbs) Nominal voltage: AC 100–240 V, 50/60 Hz Operating voltage: 12 V Power consumption: 8 watts Dimensions, protective pane: height 205 mm, width 160 mm, thickness 4 mm	**0 200 510**	



Deburring box
JK19

NEW!



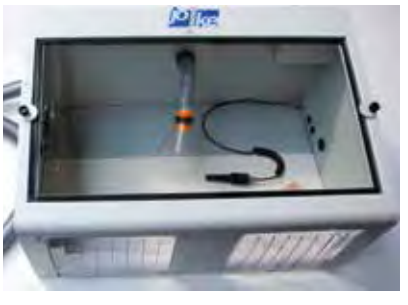
		Order No.	Price from 1 piece
Deburring box JK19			
	Deburring box JK 19 for connection to an extraction system With integrated lighting, air gun and access openings with vertical blinds. Large working area with small external dimensions. Technical data: Dimensions (W x D x H): 600 x 400 x 300 mm Supply voltage: 230 V, 50 Hz Exhaust air connector: rear Weight: 15 kg	**0 200 894**	



Fig. Magnifying glass attachment

Deburring box
JK15

Deburring box JK 15
The compact, semi-closed unit is designed for use during deburring, polishing and grinding work tasks on small workpieces. The deburring box is used among modellers and mould builders, jewellers, dental technicians, laboratory technicians, etc.

The lighted work chamber illuminated by a pivotable LED light has a compressed-air nozzle with variable air volume , which is adjustable by means of a ball joint. The air nozzle ensures that dust and dirt are directed away from the workpiece towards the suction nozzle.
The unit has a connection for 4-mm compressed-air lines and a 4 mm to 6 mm adapter is also included in the scope of delivery.

At the rear, a suction unit can be connected to the exhaust air connector (Ø 57 mm) via a hose.

The polycarbonate shields can be folded open for easy cleaning of the box. The system is rounded off by the folding magnifier, a removable collecting tray and the padded armrests.

	Order No.	Price from 1 piece
Deburring box JK15		
 with integrated LED lighting, padded armrests, air nozzle and magnifying glass attachment Technical data: Air nozzle: Air flow and position adjustable Air connection: Ø 4 / 6 mm at rear Magnifying glass: 2.5 x Ø 125 mm / 10 x Ø 25 mm Exhaust air connector: Ø 57 mm at rear Dimensions (W x D x H): 270 x 250 x 290 mm Supply voltage: 230 V, 50/60 Hz Weight: 5 kg	**0 200 896**	

Accessories / spare parts

	Order No.	Price from 1 piece
Additional magnifying glass, with vacuum suction cup		
 for all smooth surfaces magnifying glass: 2.5 x Ø 125 mm / 10 x Ø 25 mm suction cup: 55 mm	**0 200 894-1**	
LED spotlight		
 Super-bright LED spotlight Very flexible due to magnetic base and swiveling possibility • Daylight quality • 200 lumens • 7 watts • 100/240 V, 50/60 Hz	**0 200 894-2**	
Flexible reducing sleeve		
 clamping range 48-73mm / 35-60mm	**0 200 891**	

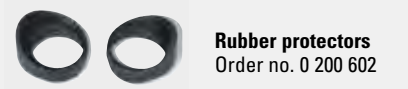
Microscopes and test devices

515 Stereomicroscopes
523 Digital picture storage
525 Cold light sources
528 Magnifying glasses



Stereomicroscopes
System overview SM-200 • SM-101 • SM-50

Stereomicroscope SM-200



Rubber protectors
Order no. 0 200 602



Eyepiece 25 x
Order no. 0 200 610

Eyepiece 10 x
Order no. 0 200 609



SM-200
standard version
Order no. 0 200 600



LED ring light
Order no. 200 621

LED ring light with segment switching
Order no. 200 623



SM-200 standard version
with camera barrel
Order no. 0 200 600-1



Lens 2,0 x
Order no. 0 200 612

Lens 0,5 x
Order no. 0 200 611



Digital video camera
Order no. 0 200 631-2
Order no. 0 200 631-6

Stereomicroscope SM-101

NEW !



Digital
video camera
Order no. 0 200 631-2
Order no. 0 200 631-6





C mount adapter
0,5 x for SM 101
Order no. 0 200 663



Lens 0,5 x
Order no. 0 200 663-5

SM-101
standard version
Order no. 0 200 665-3

Stereomicroscope SM-500



Digital
video camera
Order no. 0 200 631-2
Order no. 0 200 631-6

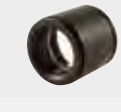


CCD adapter
Order no. 0 200 686



Beamsplitter
Order no. 0 200 685





Lens 0,5 x
Order no. 0 200 681
Order no. 0 200 682

SM-500
standard version
Order no. 0 200 680

Stereomicroscopes
SM-101 • SM-200

Stereomicroscopes
Our stereomicroscopes are used to visually magnify workpieces or their surfaces for observation and inspection. Furthermore, tasks such as microwelding or polishing work can be monitored and checked in terms of quality directly at the workpiece. You have a choice between the introductory model SM-101 and the thousand times over tried and trusted top model SM-200 with versatile possibilities.

The structure of the stereomicroscopes with two eyepieces and one lens allows three-dimensional representation of the surface observed. Consequently, differences in height on the observation level can in particular be plastically detected.

Stereomicroscope SM-200
The stereomicroscope universally rotatable, pivotable and movable on columns can also be optimally erected over large workpieces without having to align the workpiece accordingly. The inspection area can be evenly illuminated by means of a ring light attachable to the lens. The working distance is increased to 160 mm when using a 0.5 x lens, which allows working under the microscope.

The optimum magnification for the respective view can be configured using eyepieces and lenses with different magnifying factors.





SM-200 with camera barrel

Stereomicroscope SM-101
The little brother of the large microscope SM-200 is already equipped as standard with a camera barrel. Otherwise this microscope offers sophisticated technology too at an introductory price. No illumination is included in the scope of supply in the standard version. Suitable LED ring lights or cold light sources from our range can be optionally installed.

The ideal basis for a digital image archiving environment: it is possible to switch over as desired from a stereo view through the eyepieces to camera deployment. In this case, the object is only still visible in one eyepiece. By substituting the glass plate supplied for the black/white working plate, it is also possible to observe objects with the transmitted light method.

Visible field Ø and working distance depending on the magnification

Microscope equipment	Magnification SM-101	Magnification SM-200	Visible field Ø	Working distance
Eyepiece 10 x and lens 0.5 x	3.5 - 22 x	3.25 - 22.5 x	Ø 8 - 54 mm	160 mm
Eyepiece 25 x and lens 0.5 x	8.75 - 56.25 x	8.125 - 56.25 x	Ø 5.3 - 30 mm	
Eyepiece 10 x and lens 0 x	7 - 45 x	6.5 - 45 x	Ø 4 - 27 mm	90 mm
Eyepiece 10 x and lens 2 x	14 - 90 x	13 - 90 x	Ø 2.6 - 18 mm	
Eyepiece 25 x and lens 0 x	17.5 - 112.5 x	16.25 - 112.5 x	Ø 2 - 13 mm	25 mm
Eyepiece 25 x and lens 2 x	35 - 225 x	32.5 - 225 x	Ø 1.3 -7 mm	

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Stereomicroscopes
SM-101 • SM-200
NEW!





	Stereomicroscope SM-101 with camera barrel
Design	with trinocular connection
Foot plate dimensions	285 x 238 mm
Dioptres	–5 to +5 dpt
Magnification	7 to 45 x
Working distance	approx. 100 mm (165 mm with 0.5x lens)
Dimensions	285 x 238 mm
Weight	5.5 kg
Scope of delivery	Basic device with 0.7 to 4.5x magnification (continuously adjustable), 2 x eyepiece with 10 x magnification, without lighting
Order No.	**0 200 665-3**
Price	

Accessories / spare parts

		Order No.	Price from 1 piece
C-Mount Adapter			
	0.5x for microscop 101 (0 200 665-3) Trinocular	**0 200 663**	
Objectiv			
	0.5x for microscop 101 (0 200 665-3) Trinocular	**0 200 663-5**	

Stereomicroscopes
SM-101 • SM-200



	Stereomicroscope SM-200, standard
Foot plate dimensions	253 x 253 mm
Dioptres	–3 to +3 dpt
Magnification	3,25 to 225 x
Working distance	approx. 30 to 150 mm
Dimensions	253 x 253 mm
Weight	25 kg
Travel	vert. 430 mm, horiz. 420 mm
Fine adjustment	vert. 66 mm, horiz. 57 mm
Scope of delivery	Basic device with 0.65 to 4.5 x magnification(continuously adjustable), 2 x eyepieces with 10 x magnification,lens protection cap, ring light (LED)
Order No.	**0 200 600**
Price	

Accessories / spare parts

	Packing quantity	Order No.	Price from 1 set	Price from 1 piece
Rubber protectors				
	2 pieces	**0 200 602**		
Eyepiece 10 x				
	2 pieces	**0 200 609**		
Eyepiece 25 x				
	2 pieces	**0 200 610**		
Objectiv 0.5 x				
		0 200 611		
Objectiv 2.0 x				
		0 200 612		

Stereomicroscopes
SM-101 • SM-200



	Stereomicroscope SM-200 with camera barrel
Foot plate dimensions	253 x 253 mm
Dioptres	–3 to +3 dpt
Magnification	3,25 to 225 x
Working distance	approx. 30 to 150 mm
Dimensions	253 x 253 mm
Weight	25 kg
Travel	vert. 430 mm, horiz. 420 mm
Fine adjustment	vert. 66 mm, horiz. 57 mm
Scope of delivery	Basic device with 0.65 to 4.5 x magnification(continuously adjustable), 2 x eyepieces with 10 x magnification,lens protection cap, ring light (LED)
Order No.	**0 200 600-1**
Price	

Accessories / spare parts

	Packing quantity	Order No.	Price from 1 set	Price from 1 piece
Rubber protectors				
	2 pieces	**0 200 602**		
Eyepiece 10 x				
	2 pieces	**0 200 609**		
Eyepiece 25 x				
	2 pieces	**0 200 610**		
Objectiv 0.5 x				
		0 200 611		
Objectiv 2.0 x				
		0 200 612		

Premium stereo microscope
SM-500

The binocular stereo zoom microscope SM-500 operates according to the CMO (Common Main Objective) principle, that is to say, 2 eyepieces jointly use a single lens, thereby achieving high optical quality. Equipped with an ergonomic stand including LED lighting. With a planachromatically corrected lens, it produces high-quality, best-resolution images for your high-tech applications. Its versatility and reliability make it suitable for use in industrial research & development in the workshop and laboratory. The stereo microscope SM-500 has a large zoom ratio of 1:10 and an 8 to 80x magnification range.
First-rate optics offer the proper basis for ideal stereo viewing.

		Order No.	Price from 1 piece
Premium Stereo microscope SM-500			
	Magnification: 8 to 80 x Working distance: 78 mm (126 mm with a 0.5x lens) Travel: vert. 105 mm Fine adjustment: vert. 1.5 mm per Turn: Diopter –3 to +3 dpt Lighting: Incident and transmitted LED lighting Scope of delivery: 20° binocular head, 1-x plan apochromatic objective, 2 x eyepiece with 10-x magnification, large ergonomic stand incl. LED lighting	**0 200 680**	

Accessories / spare parts

		Order No.	Price from 1 piece
Achromatic lens 0.5x for stereo microscope SM-500			
	Working distance ca. 126 mm	**0 200 681**	
Planachromatic lens 0.5x for stereo microscope SM-500			
	Working distance ca. 126 mm	**0 200 682**	
Photo tube for stereo microscope SM-500			
		**0 200 685**	
CCD adapter 1.0x for stereo microscope SM-500			
		**0 200 686**	

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Stereomicroscope LCD
LCD 100

Stereomicroscope LCD 100
The stereomicroscope is used to visually magnify workpieces or their surfaces for observation and inspection. Furthermore, tasks such as microwelding or polishing work can be monitored and checked in terms of quality directly at the workpiece.

The structure of the stereomicroscope with two eyepieces and one lens allows three-dimensional representation of the surface observed. Consequently, differences in height on the observation level can in particular be plastically detected.

The optimum magnification for the respective view can be configured using eyepieces and lenses with different magnifying factors.

	Order No.	Price from 1 piece
Stereomicroscope LCD 100, 8" LCD screen, incl. incident and reflected light, LED		



Technical data:		Order No.	Price from 1 piece
Basic device, magnification (infinitely adjustable):	0.7 to 4.5x	**0 200 665-2**	
Travel:	vertical 150 mm		
Fine adjustment:	vertical 50 mm		
Optical magnification:	7 to 45 x (with 10 x eyepiece)		
Working distance:	approx. 100 mm		
Visible test surface:	max. Ø 28 mm		
Eyepiece diopter:	–5 to +5 dpt		
8" LCD screen:	800 x 600 pixels		
CCD camera:	1/3" CCD camera 480 TV lines		
Illumination:	Incident and transmitted LED lighting		
Weight:	5 kg		
Scope of delivery:	Basic unit with 0.7 to 4.5x magnification (infinitely variable), 2 x eyepieces with 10x magnification, 8" LCD monitor		

Accessories / spare parts

		Packing quantity	Order No.	Price from 1 piece	1 set
USB converter for stereomicroscope LCD 100, 8" LCD screen					
	For saving images via a USB connection to the PC.		**0 200 673**		
Rubber protectors					
		2 pieces	**0 200 674**		
Lens 0.5x					
			**0 200 669**		

Stereomicroscope, view 0° straight
with switchable magnetic base and flex arm

Stereomicroscope with switchable magnetic base and flex arm
The stand is equipped with a switchable magnetic base. Its high magnetic clamping force of 800 N guarantees a secure hold. The large working distance allows comfortable work under the microscope. The 3-axis flex arm allows setting to any desired position.

		Order No.	Price from 1 piece
Stereomicroscope with switchable magnetic base and flex arm			
Magnification:	10/20x	**0 200 601-0**	
Eyepiece:	10x		
View:	0°		
Working distance:	approx. 155/115 mm		
Magnetic base (W x L x H):	50 x 60 x 55 mm		
Magnetic force:	800 N		
Flex arm length L1/L2:	133/113 mm		
Scope of delivery:	including lens 1x and lens 2x		



Digital video camera
for stereomicroscopes

Digital image archiving
The stereomicroscopes with a camera barrel are prepared for use with digital cameras.

Using the set of digital video camera and software, you can either cleanly archive the images or additionally process, measure and analyse etc. the latter using the special software. The camera is fitted to the camera barrel of the microscope using the C-mount adapter. The camera can also be installed on conventional microscopes without barrel using the adapter likewise supplied. It is installed in this case in front of the eyepieces of the microscope.

Both cameras can be connected to a PC via USB. The HD camera also enables you to observe brilliant images live on the screen via HDMI or save them on an SD card.

	Order No.	Price from 1 piece
Digital USB-2 camera with software		
	**0 200 631-2**	

Live transfer of your microscope results to your PC.

Technical data:
Resolution: 5 megapixels (2,048 x 1,536 px)
Connection: USB 2.0

Scope of delivery:
- Image processing software
- USB cable
- 1/2" CMOS for installing the camera on microscopes using a C-mount adapter
- incl. 2 eyepiece adapter Ø 30 and Ø 30.5 mm
- Objectiv 0.45 x 5 fps (2,592 x 1,944 px) – 38 fps (640 x 480 px)
- Calibration measuring plate

	Order No.	Price from 1 piece
Multiple HDMI/USB/SD-card microscope camera, HD-Ultra		
	**0 200 631-6**	

- Live via HDMI (1980 x 1080) 60 images per second
- Live via USB/PC (1980 x 1080) 30 images per second
- SD card recording format 1980 x 1080, video HD 980 x 1080

Scope of supply:
- USB and HDMI cable
- Stand-alone system, work without computer assistance possible
- PC software
- Onboard software / mouse control
- Calibration measuring plate



LED ring lights
for stereomicroscopes

LED ring lights for stereomicroscopes
When working under a stereomicroscope, a good ring light is virtually part of the basic equipment, in order to guarantee correct illumination of the workplace and above all the object being viewed. Up to now, either neon lights or the professional variant cold lights have been used for this purpose.
Thanks to ultra modern LED technology, there is now a great alternative: the new LED ring lights from joke. Owing to their LED's, these are not only brighter and more precise in illumination, they are also more economical and "live" longer.
Two versions of the LED ring lights are available. One with 48 LED's and adjustable luminous intensity. The other version has 60 LED's, switchable in 4 segments, with adjustable luminosity (not in segmental operation).

The ring lights are delivered completely ready to use with everything that you need to mount them on the microscope.



Use of the LED ring light with segmental switching on the SM-200 stereomicroscope.

		Order No.	Price from 1 piece
Ring light (48 LED's)			
Working distance:	50 – 150 mm	**0 200 621**	
Internal:	Ø 60 mm		
Colour temperature:	6,000 K		
Luminous intensity (adjustable):	12.000 Lux at 80 mm distance		
Bulb life:	> 100,000 h		
Connection:	100 – 240 V, 50/60 Hz		
Output voltage:	24 V, DC, 250 mA		
Material:	Housing made of robust plastic		
Scope of delivery:	Power supply unit and connection cable		



Model 1: ring light with 48 LED's.

		Order No.	Price from 1 piece
Ring light (60 LED's), individually switchable in 4 segments			
Working distance:	50 – 150 mm	**0 200 623**	
Internal Ø:	60 mm		
Colour temperature:	6.500 K		
Luminous intensity (adjustable):	16.000 lux at 100 mm distance		
Bulb life:	> 100,000 h		
Connection:	100 – 240 V, 50/60 Hz		
Output voltage:	12 V, DC, 400 mA		
Material:	Housing made of aluminium		
Scope of delivery:	Power supply unit and connection cable		



Model 2: ring light with 60 LED's individually switchable in four segments (15 LED's respectively).

Cold light source
LED

Cold light source LED
Light source with two independent swan-necked guides equipped with 2 x 3 watts, white 6,500 K power LEDs
- Each LED guide with a swan neck is equipped with a 3D lens focusing head, and has a length of 56 cm
- The light source version does not require a light-bulb change, unlike halogen light sources, has as a longer service life, and low electricity consumption
- The light source generates white light, and when dimmed there is no colour temperature change



			Order No.	Price from 1 piece
Cold light source LED				
	Colour temperature:	6,500 K	**0 200 750-2**	
	Light flux:	25,000 lux		
	Operating voltage:	100 to 240 V AC / 5 V DC (50/60 Hz) automatic switching		
	Dimensions (W x D x H):	106 mm x 140 mm x 70 mm		
	Weight:	1.5 kg		

Cold light source
P 100 W

Cold light source P 100 W
Powerful cold light source 100 watts of luminous power. Longlife illuminants as accessories are optionally available.

In this model, the brightness can be continuously adjusted by a rotary switch. The cold light sources are optionally available without, with a single swan-necked or double swan-necked light guide.

		Design	Order No.	Price from 1 piece
Cold light source P 100 W				
	Lamp: Halogen 100 W, 12 V Colour temperature: 3,200 K Bulb life: approx. 50 h Light brightness: by rotary switch Cooling: by fan Dimensions (W x H x D): approx. 110 x 155 x 240 mm Connection voltage: 230 V, 50/60 Hz Fuse: 1 A, slow blow Protection class: IP 20 Weight without light guide: approx. 4 kg Weight with light guide: approx. 4.4 kg	without swan-necked light guide	**0 200 710**	



Accessories / spare parts

		Order No.	Price from 1 piece
Single swan-necked light guide, 53 cm			
	self-sustaining	**0 200 730**	
Double swan-necked light guide, 53 cm			
	self-sustaining	**0 200 720**	
Double swan-necked light guide, 70 cm			
	self-sustaining	**0 200 741**	
XXL Flexlight for cold light sources			
	For direct connection to our cold light sources. Delivery includes magnetic base for positioning on the workpiece in addition to two XXL swan necks (800 mm each) and flexible fibreglass supply lead (2,000 mm). Cold light source not included in scope of supply. Suitable light source: 0 200 745 and 0 200 710	**0 200 778**	
Focusing attachment			
	suitable for all Ø 10 mm swan necks	**0 200 737**	
Lens, aspherical			
	Lens, aspherical. Matched to the focusing attachment 0 200 737, the lens enables the light to be more strongly focused and concentrated on the object to be illuminated.	**0 200 739**	
Illuminant, halogen 100 W			
		0 200 721	
Illuminant, halogen 100 W, "Longlife" (approx. 1,500 h)			
	Lamp service life approx. 1,500 h, colour temperature 3,050 K	**0 200 725**	

Cold light source
Power-LED

			Design	Order No.	Price from 1 piece
Cold light source LED, 30 W Power LED					
	Lamp: Colour temperature: Bulb life: Light brightness: Cooling: Connection voltage: Fuse: Protection class:	Power-LED 30 W 6,500 K approx. 25,000 h by rotary switch by fan 100 – 240 V, 50/60 Hz 1.25 A, slow-blow IP 20	without swan-necked light guide	**0 200 745**	
	Swan-necked light not in delivery				

Accessories / spare parts

			Order No.	Price from 1 piece
Single swan-necked light guide, 53 cm				
	self-sustaining		**0 200 730**	
Double swan-necked light guide, 53 cm				
	self-sustaining		**0 200 720**	
Double swan-necked light guide, 70 cm				
	self-sustaining		**0 200 741**	
XXL Flexlight for cold light sources				
	For direct connection to our cold light sources. Delivery includes magnetic base for positioning on the workpiece in addition to two XXL swan necks (800 mm each) and flexible fibreglass supply lead (2,000 mm). Cold light source not included in scope of supply. Suitable light source:	0 200 745 and 0 200 710	**0 200 778**	
Focusing attachment				
	suitable for all Ø 10 mm swan necks		**0 200 737**	
Lens, aspherical				
	Lens, aspherical. Matched to the focusing attachment 0 200 737, the lens enables the light to be more strongly focused and concentrated on the object to be illuminated.		**0 200 739**	

Magnifying spectacles
MD 2011

Magnifying spectacles MD 2011
Ergonomical, practical and good best sums up the magnifying spectacles MD 2011. They are extremely simple to use, not complicated adjustment to the wearer's own eyes is required. This is made possible by the wide pupillary distance (PD) range. The wide focussing range also allows good optical image quality. Owing to the adjustable sidepiece ends, the magnifying spectacles MD 2011 always fit perfectly without slipping. Also suitable for spectacle wearers, since the diopter compensation can be adjusted independently for the right and left side.

Applications:
- Model and mould building
- Quality control
- Watchmakers
- Restoration work
- Soldering workplaces

etc.

			Order No.	Price from 1 piece
Magnifying spectacles MD 2011				
	Magnification:	2 x	**0 203 124**	
	Working distance:	ca. 400 mm		
	PD range:	60 – 68 mm (PD = pupillary distance)		
	Visual field:	10°, Ø 150 mm at 400 mm distance		
	Diopter compensation:	± 3 dpt (right/left can be separately adjusted)		
	Weight:	49 g		

			Order No.	Price from 1 piece
LED spotlight for magnifying spectacles MD 2011, incl. power supply				
	Dimensions lamp:	32 x 20 x 34 mm, weight 11 g	**0 203 121**	
	Dimensions battery housing:	90 x 55 x 40 mm, weight 60 g, without batteries		
	Lighting intensity:	3200 lx in 250 mm, 1200 lx in 400 mm		
	Light duration:	approx. 8 hours in normal mode, 14 hours in ecomode		
	Cable length:	1 m		
	Batteries:	3 x AA		
LED spotlight with clip for spectacle wearers, incl. power supply				
			0 203 122	



LED spotlight with clip for spectacle wearers
(Order no. 0 203 122)





LED spotlight (Order no. 0 203 121)
Spectacles not included in scope of supply!

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Binocular
LED headband magnifying glass

Binocular LED headband magnifying glass
This magnifying glass with a triple LED unit illuminates the entire working area very uniformly.
The very light but nevertheless robust metal frame contains prismatic, metal-mounted silicate glass lenses. The optics are scratchproof, resistant to most chemicals and solvents and are characterised by a very high depth of field. Like the optics, the housing is also resistant to chemicals and solvents.

The magnifying glass can be easily worn over glasses.

		Order No.	Price from 1 set
Binocular LED headband magnifying glass set			
	Triple LED unit (colour temperature 6,000 K) for optimum illumination of the working area. Magnification: 2 x, 2.5 x and 3 x Working distance: 220, 170 und 130 mm Weight: approx. 140 g Scope of supply: headband magnifying glass with LED, 3 exchangeable lenses as a set in a case	**0 200 569**	

Visor-type magnifying glass

Visor-type magnifying glass
Good things are sometimes as simple as this – and good value at the same time. This magnifying glass sits on your head like a baseball cap, leaving your hands free to do the work. The degree of magnification can be increased from 2 x to 3 x by simply adding another lens. When it is not needed, you can fold up the entire visor made of durable plastic, keeping the magnifying glass directly on your head for its next use.

		Order No.	Price from 1 piece
Visor-type magnifying glass			
	Magnification range: 2 x or 3 x with additional fold-up additional lens Working distance: 450/340 mm Weight: approx. 100 g	**0 200 590**	

Fold-away precision magnifying glass
with leather storage case

LED precision magnifying glass
The handy magnifying glass with integrated LED ring lighting. The 6 LED's illuminate the working area without casting a shadow; the optics consisting of 3 glass lenses guarantee corrected colour errors and provide distortion-free images. Power supply by 3 x LR927 round cell batteries.

	Lens	Magnification	Scope of delivery	Order No.	Price from 1 piece
LED precision magnifying glass					
	Ø 21 mm glass	10 x	magnifying glass, batteries, case	**0 200 538**	
	Ø 21 mm glass	20 x	magnifying glass, batteries, case	**0 200 528**	

Accessories / spare parts

	Order No.	Price from 1 piece
Battery LR 927		
	0 200 539	







Watchmaker's magnifying glass

Watchmaker's magnifying glass
What's good enough for watchmakers is good enough for you: plastic casing, silicate glass lens. Available in three versions: 5 x / 7 x / 15 x magnification

	Ø lens	Magnification	Order No.	Price from 1 piece
Watchmaker's magnifying glass (Plastic frame)				
	Ø 16.3 mm	15 x	**0 200 582**	
	Ø 30 mm	5 x	**0 200 580**	
		7 x	**0 200 581**	
		10 x	**0 200 582-10**	

Hand-held LED magnifiers

LED hand-held illuminated magnifying glass
The mobile hand-held illuminated magnifying glass with the latest lighting technology and ergonomic shape. Optimum illumination is achieved with the 2-stage boost switch and a light colour of 4,500 K. Includes batteries and microfibre bags for storage and cleaning.

	Ø lens	Magnification	Order No.	Price from 1 piece
Hand-held LED magnifiers				
	Ø 22.8 mm	15 x	**0 200 589**	
	Ø 30 mm	8 x	**0 200 588**	

Inspection light sticks
Boride® Rib-Light

Inspection light sticks Boride® Rib-Light
The ideal lamp to light up hard to access places (ribs, bridges etc.). Handy like a ball point pen, you can be sure to find room in any shirt pocket. One push of the button is enough and the rib-lights deliver a very bright, precise light thanks to the LED technology. The lamps are available with and without swan necks.

		Design	Order No.	Price from 1 piece
Inspection light sticks Boride® Rib-Light				
	available with and without swan neck (190 mm long), stick length 155 mm, Ø 9 mm, white LED	with swan neck, white LED	**0 200 595**	
		without swan neck, white LED	**0 200 597**	

Inspection devices

533 Inspektion system

538 WiFi/USB camera





Inspection system 2500
System overview





Illuminated magnifying glass head
10 x magnification, incl. lamp
Order no. 0 203 154

Spare lamp
Order no. 0 203 155

Spare contact disc
Order no. 0 203 156



Light head, LED
incl. lamp
Order no. 0 203 159

Spare lamp
Order no. 0 203 162



Inspection funnel
Order no. 0 203 165



Mirror attachment 90°
Ø 5 mm, 25 mm long
Order no. 0 203 075



Mirror attachment 90°
Ø 6 mm, 50 mm long
Order no. 0 203 076



Light probe Ø 6 x 110 mm incl. mirror
110 mm long, incl. lamp
Order no. 0 203 157

Spare lamp
Order no. 0 203 158

Battery handle with click coupling,
without batteries
Order no. 0 203 176



Spare battery
Order no. 2 012 125

Inspection system 2500
Light head

Inspection system 2500
The modular system offers you a wide range of inspection possibilities. Simply changing the inspection heads using the automatic click coupling provides you the right equipment for any application. The robust metal handle is supplied by 2 batteries. The 2.5-volt system is equipped with a high-power xenon light or high quality LED technology. The devices are used for observing surfaces, bores and cavities, etc.

		Order No.	Price from 1 piece
Battery handle for 2 batterys			
	• with click-on connection • Ø 29 x 146 mm • 2.5 V • without batteries	**0 203 176**	

		Order No.	Price from 1 piece
Illuminated magnifying glass with 10 x magnification			
	• click-on connection • xenon/halogen bulb • 2.5 V • focus adjustment –6 up to +3.5 dpt • large contact disk (Ø 25 mm) with scale setting for the measurement • uniform, intensive illumination	**0 203 154**	

Accessories / spare parts





		Order No.	Price from 1 piece
Spare lamp			
	Spare lamp 2.5 V, for light head 10 x, System 2500	**0 203 155**	
Spare contact disc			
	Spare contact disc (Ø 25 mm) with scaling for measurement	**0 203 156**	

		Order No.	Price from 1 piece
Light probe Ø 6 x 110 mm incl. mirror			
	• click coupling • xenon • 2.5 V	**0 203 157**	

Accessories / spare parts

		Order No.	Price from 1 piece
Spare lamp 2.5 V, for light probe Ø 6 x 110 mm			
		**0 203 158**	

Inspection system 2500
Light head

		Order No.	Price from 1 piece
Light head			
	• click-on connection • LED bulb • illuminance approx. 8,000 Lux • lifetime approx. 100,000 h • pivoting magnifying glass with 3-fold magnification • direction of vision 0° and 90° with mirror attachment (see accessories)	**0 203 159**	

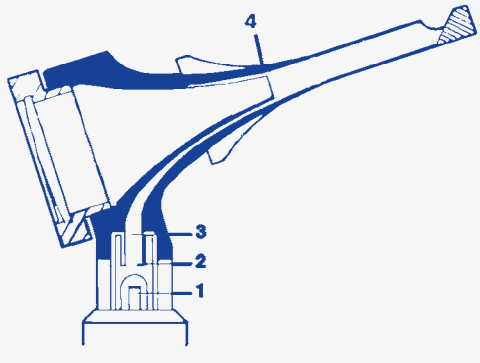
Accessories / spare parts

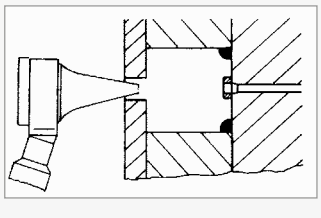
	Dimensions	Packing quantity	Order No.	Price from 1 piece	1 pack
Spare lamp for light head (2.5 V)					
			0 203 162		
Inspection funnel, 10 pieces					
	5 x Ø 2.5 x 35 mm and 5 x Ø 4 x 30 mm	10 pieces	**0 203 165**		
Mirror attachment 90° for light head					
	Ø 5 x 25 mm		**0 203 075**		
	Ø 6 x 50 mm		**0 203 076**		

Functional principle

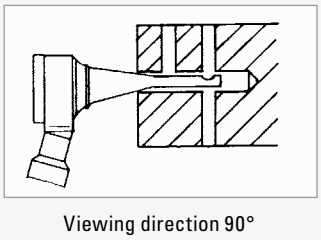
The light of a lens bulb ❶ is projected onto the end surface ❷ f a bundle of optical fibres ❸. Consisting of several thousand optical fibres. The fibres are arranged in a circle at the light emission point ❹.

In this way a uniform and shadowless coaxial illumination of the field of view is generated.





Viewing direction 0°



Viewing direction 90°

Light head Mini
lightweight, practical and universally usable

		Order No.	Price from 1 set
Set Light head, Mini 2.5 V, LED, F.O. fibre optics			
	• Fibre optic LED high power illumination • LED lamp life approx. 50,000 h • Illuminance approx. 18,000 lux (distance 15 cm) • Pivotable magnifying glass with 3 x magnification • Viewing direction 0° or 90° with mirror attachment Scope of supply: Light attachment, battery handle for 2 x mignon type AA, without batteries, inspection funnel, pieces:10 x Ø 2.5 x 35 mm and 10 x Ø 4 x 30 mm	**0 203 150**	

Accessories / spare parts

	Dimensions	Packing quantity	Order No.	Price from 1 piece	1 pack
Spare lamp for light head (2.5 V)					
			0 203 151		
Inspection funnel, 10 pieces					
	5 x Ø 2.5 x 35 mm and 5 x Ø 4 x 30 mm	10 pieces	**0 203 165**		
Mirror attachment 90° for light head					
	Ø 5 x 25 mm		**0 203 075**		
	Ø 6 x 50 mm		**0 203 076**		

Cold light lamp Mini 3000
lightweight, practical and universally usable

Cold light source Mini 3000
A lightweight, practical and universally usable instrument for visual control with outstanding illumination.
- Light rod length 100 mm
- Ø 2.5 mm probes

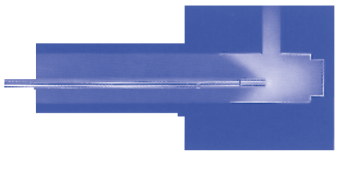
Applications:
- Inspecting blind holes
- Narrow slots in mould making
- Controlling injection moulding tools incorporated in the machine
- General testing

		Design	Order No.	Price from 1 piece
Cold light lamp Mini 3000				
	incl. battery handle and 2 AA batteries	Ø 2.5 x 100 mm	**0 203 030-5**	
		Ø 5 x 100 mm	**0 203 031-5**	

Accessories / spare parts

		Dimensions	Order No.	Price from 1 piece
Spare lamp 2.5 V, XHL®				
	suitable for Order No. 0 203 030-5 and 0 203 031-5		**0 203 030-1**	
Glass mirror, clip-on				
	suitable for Order No. 0 203 031-5	Ø 25 mm	**0 203 088**	
		Ø 16 mm	**0 203 038**	
Steel mirror, clip-on				
	suitable for Order No. 0 203 031-5	Ø 8 mm	**0 203 093**	
		Ø 12 mm	**0 203 066**	









USB / WiFi Digital Microscope
for iPhone / iPad / Android and PC

Simple installation – intuitive versatile use

Two clicks are all you need to connect the WiFi microscope to a smartphone or tablet (iOS, Android and Windows Mobile). Images and videos of the surfaces and details to be inspected can then be produced using an App. The device is used to monitor components in electronics and fine mechanics, such as PCBs or circuit boards, in toolmaking and mould building, in the textile industry and in medicine. In the case of videos, the findings can be immediately recorded on the PC via USB using the integrated microphone and the result can then be sent to colleagues by email or saved on the company network – diagnosis and quality assurance can be as easy as that. The images can be processed directly on the screen and archived using the software contained in the scope of delivery.

		Order No.	Price from 1 piece
WiFi / USB digital microscope for iPhone / iPad / Android / PC			
	Magnification: 12 – 65 x Resolution: 5 megapixels, max. 2,592 x 1,944 pixels Weight: 100 g Scope of delivery: Microscope with LED lighting, USB cable, rechargeable lithium battery, external DC 5V, 1.5 A adapter, installation CD	**0 200 687**	

Accessories / spare parts

		Order No.	Price from 1 piece
Mounting for WIFI microscope, with switchable magnetic foot and flexible arm			
	Flexible arm with 3 joints. Can be flexibly positioned by means of a switchable magnetic foot. This even allows work against the force of gravity. Max. retention force of the magnet approx. 80 kg. Total height 340 mm	**0 200 690**	



