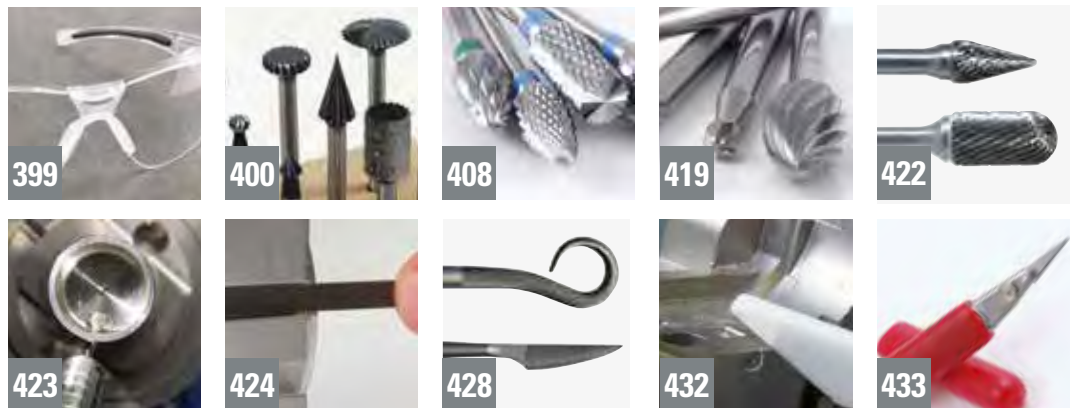


- 1
- 2
- 3
- 4
- 5
- 6
- 7

Chipping tools





- 398 Milling tools**

Accessories for milling | Engraver's milling cutters HSS | Carbide milling cutters | Milling burs made of ceramic | Milling cutters for processing aluminium
Ultrafine milling cutters | AlCrN-coated carbide milling cutters | Counterclockwise milling cutters | Microdrills | Circular saw blades | Reverse deburrer
- 424 Filing tools**

Steel needle files | Steel ruffle files | Emery files
- 432 Deburring tools**

Hand deburrers | Reverse deburrers | Deburring knife | Mini-deburrers | Universal-deburrers | Triangular scrapers | Deburrer-Sets

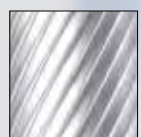
Milling tools

- 400** Engraver's milling cutters in HSS
- 402** Milling cutters, shank Ø 1.6 mm
- 404** Milling cutters, shank Ø 2.35 mm
- 407** Milling cutters, shank Ø 3.0 mm

- 419** Milling cutters, shank Ø 6.0 mm
- 423** Circular saw blades
- 423** 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 job milling cutters:



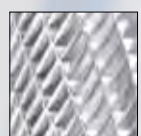
Normal cut
Even cutting performance with high stock removal



Fine cut
For delicate surfaces on tough materials



Special-G cut
For hard to chip materials, i.e. nickel, titanium, stainless steels



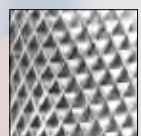
Criss-cross cut
Very good chipping with smaller chips



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-pieces 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



Price from

Order No. 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!

Price from

Order No. 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























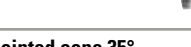
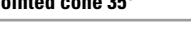







Order No.	Price
0 580 526	

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

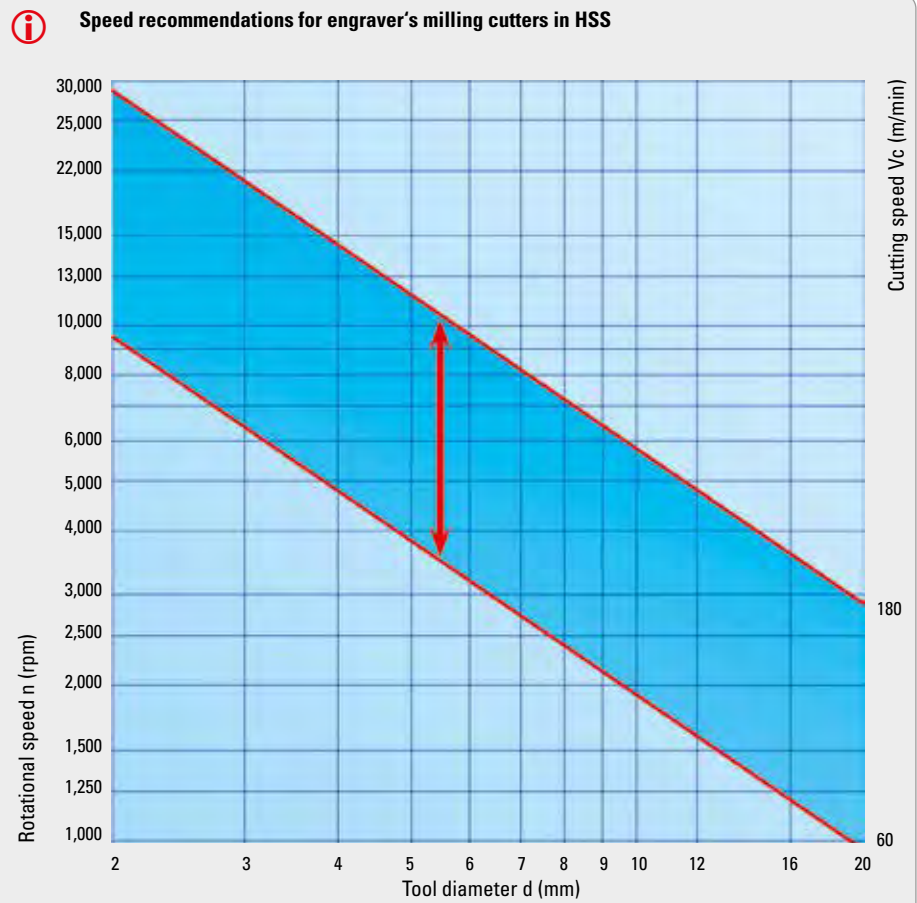
	Head dimensions	Angle	Radius	Shank diameter x total length	Order No.	Price from	
						1 piece	10 pieces
Engraver's milling cutters in HSS, shank Ø 3 mm							
cylinder							
	Ø 6 x 10 mm			Ø 3 x 42 mm	0 500 114		
	Ø 7 x 10 mm			Ø 3 x 42 mm	0 500 113		
sphere							
	Ø 1.6 x 1.5 mm			Ø 3 x 38 mm	0 500 148		
	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 8 x 14 mm	35		Ø 3 x 46 mm	0 500 147		

Engraver's milling cutters in HSS shank \varnothing 3 mm






	Head dimensions	Angle	Radius	Shank diameter x total length	Order No.	Price from	
						1 piece	10 pieces
pointed cone 70°							
	\varnothing 4 x 2.8 mm	70		\varnothing 3 x 40 mm	0 500 127		
	\varnothing 6 x 4.2 mm	70		\varnothing 3 x 41 mm	0 500 129		
	\varnothing 8 x 5.5 mm	70		\varnothing 3 x 43 mm	0 500 131		
conical point 70° cyl.							
	\varnothing 6 x 6 mm	70		\varnothing 3 x 43 mm	0 500 137		
	\varnothing 8 x 8 mm	70		\varnothing 3 x 45 mm	0 500 139		

matching set




		Price from
		Order No.
		1 set
Set: Engraver's milling cutters, HSS		
Content:	10 pieces	0 500 101




Carbide milling cutters/finishers shank Ø 1.6 mm

	Head dimensions	Shank diameter 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	
rounded cylinder						
	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	
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, twisted	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, twisted	5 pieces	0 502 203	
pear						
	Ø 0.8 x 3.0 mm	Ø 1.6 x 19 mm	standard	5 pieces	0 502 376	
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, twisted	5 pieces	0 502 261	
	Ø 1.2 x 3.5 mm	Ø 1.6 x 19 mm	fine, twisted	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, twisted	5 pieces	0 502 233	
	Ø 1.8 x 3.8 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	0 502 230	
football						
	Ø 1.2 x 3.1 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	0 502 224	
	Ø 1.4 x 3.1 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	0 502 235	
	Ø 1.8 x 3.5 mm	Ø 1.6 x 19 mm	fine, twisted	5 pieces	0 502 236	
	Ø 2.3 x 4.2 mm	Ø 1.6 x 19 mm	fine, twisted	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	
cone with safety point						
	Ø 1.0 x 4.2 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	0 502 273	
	Ø 1.4 x 6.0 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	0 502 220	
Detail 	Ø 1.4 x 9.0 mm	Ø 1.6 x 19 mm	fine, straight	5 pieces	0 502 221	

Carbide milling cutters/finishers shank Ø 1.6 mm

	Head dimensions	Shank diameter x total length	Cut	Packing quantity	Order No.	Price from 1 piece
cone, round						
	Ø 1.0 x 4.2 mm	Ø 1.6 x 19 mm	standard	5 pieces	0 502 206	
	Ø 1.6 x 4.5 mm	Ø 1.6 x 19 mm	standard	5 pieces	0 502 271-1	
torpedo						
	Ø 1.0 x 6.0 mm	Ø 1.6 x 19 mm	fine, twisted	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, twisted	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, twisted	5 pieces	0 502 245	

 *matching set*

	Order No.	Price from 1 set
Set of carbide milling cutters/finishers		
	Content: 12 pieces	0 502 200-1

The perfect complement




High speed handpieces J 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
0 009 901-1	,

Carbide milling cutters with titanium nitride coating

	Head dimensions	Shank diameter 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	









Working Ø of the tool	Max. perm. speed	Recommended speed	Working Ø of the tool	Max. perm. speed	Recommended speed
0,7 – 1,0 mm	450.000 rpm	100.000 – 200.000 rpm	2,9 – 3,1 mm	140.000 rpm	30.000 – 95.000 rpm
1,2 – 1,4 mm	450.000 rpm	70.000 – 220.000 rpm	3,3 – 4,0 mm	120.000 rpm	25.000 – 75.000 rpm
1,6 – 1,8 mm	450.000 rpm	55.000 – 160.000 rpm	4,2 – 5,0 mm	95.000 rpm	15.000 – 60.000 rpm
2,1 – 2,3 mm	300.000 rpm	40.000 – 120.000 rpm	5,5 – 7,0 mm	60.000 rpm	12.000 – 40.000 rpm
2,5 – 2,7 mm	160.000 rpm	35.000 – 110.000 rpm	8,0 – 10 mm	45.000 rpm	10.000 – 20.000 rpm


Milling burs made of ceramic shank Ø 2.35 mm

Made from high performance ceramics, the cutters are available in a range of shapes with coarse, medium, fine and very 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 to 30,000 rpm, speed max.: 35,000 rpm

	Head dimensions	Shank diameter x total length	Cut	Order No.	Price from	
					1 piece	5 pieces
Milling burs made of ceramic, shank Ø 2.35 mm						
cylinder – end mill						
	Ø 6 x 13 mm	Ø 2.35 x 45 mm	double cut, very fine	0 529 037		
	Ø 6 x 13 mm	Ø 2.35 x 45 mm	double cut, fine	0 529 038		
	Ø 6 x 13 mm	Ø 2.35 x 45 mm	double cut, medium	0 529 039		
sphere						
	Ø 3 mm	Ø 2.35 x 45 mm	double cut, medium	0 529 052		
	Ø 3 mm	Ø 2.35 x 45 mm	double cut, coarse	0 529 051		
	Ø 4 mm	Ø 2.35 x 45 mm	double cut, medium	0 529 053		
	Ø 5 mm	Ø 2.35 x 45 mm	double cut, medium	0 529 054		
	Ø 6 mm	Ø 2.35 x 45 mm	double cut, very fine	0 529 056		
	Ø 6 mm	Ø 2.35 x 45 mm	double cut, medium	0 529 055		
round cone						
	Ø 6 x 14 mm	Ø 2.35 x 52 mm	double cut, fine	0 529 013		
	Ø 6 x 14 mm	Ø 2.35 x 52 mm	double cut, medium	0 529 014		
	Ø 6 x 14 mm	Ø 2.35 x 52 mm	double cut, coarse	0 529 015		
pointed cone						
	Ø 1.6 x 8 mm	Ø 2.35 x 45 mm	double cut, coarse	0 529 069		
	Ø 2.3 x 17 mm	Ø 2.35 x 45 mm	double cut, medium	0 529 067		
	Ø 2.3 x 17 mm	Ø 2.35 x 45 mm	double cut, coarse	0 529 068		
rounded arch						
	Ø 6 x 14 mm	Ø 2.35 x 52 mm	double cut, fine	0 529 023		
	Ø 6 x 14 mm	Ø 2.35 x 52 mm	double cut, medium	0 529 024		
	Ø 6 x 14 mm	Ø 2.35 x 52 mm	double cut, coarse	0 529 025		
torpedo						
	Ø 2.3 x 13 mm	Ø 2.35 x 38 mm	double cut, fine	0 529 043		
	Ø 2.3 x 13 mm	Ø 2.35 x 38 mm	double cut, medium	0 529 044		
	Ø 2.3 x 13 mm	Ø 2.35 x 38 mm	double cut, coarse	0 529 045		

matching set

	Order No.	Price from
		1 set
Set of ceramic milling cutters		
	The set contains the three 'rounded arch' burrs listed above	0 529 005

Milling burs made of ceramic shank Ø 2.35 mm

Examples of applications for ceramic burs



Application: foam







Application: plastic



Application: rubber

Carbide milling cutters shank Ø 2.35 mm

	Head dimensions	Shank diameter 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 mm	Ø 2.35 x 44.5 mm	normal	standard	0 517 600			
	Ø 1.0 mm	Ø 2.35 x 44.5 mm	normal	standard	0 517 601			
	Ø 1.2 mm	Ø 2.35 x 44.5 mm	normal	standard	0 517 602			
	Ø 1.4 mm	Ø 2.35 x 44.5 mm	normal	standard	0 517 603			
	Ø 1.6 mm	Ø 2.35 x 44.5 mm	normal	standard	0 517 604			
	Ø 1.8 mm	Ø 2.35 x 44.5 mm	normal	standard	0 517 605			
	Ø 2.1 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/ rotational speed (rpm) m/min								
	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
 stainless steels, titanium, high-alloy steels, nickel
 aluminium, plastics, non-ferrous metals

V = 350 – 700 m/min
 V = 450 – 800 m/min
 V = 500 – 900 m/min






Carbide milling cutters shank Ø 3 mm

	Head dimensions	Type	Shank diameter 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 \varnothing 3 mm

	Head dimensions	Type	Shank diameter x total length	Cut	Design	Order No.	Price from			
							1 piece	5 pieces	100 pieces	
rounded cylinder										
	\varnothing 1 x 4 mm		\varnothing 3 x 38 mm	normal	solid carb.	0 517 348				
	\varnothing 1.5 x 4 mm		\varnothing 3 x 38 mm	normal	solid carb.	0 517 349				
	\varnothing 2 x 4 mm		\varnothing 3 x 38 mm	normal	solid carb.	0 517 360				
	\varnothing 2 x 10 mm		\varnothing 3 x 40 mm	fine	solid carb.	0 501 331				
	\varnothing 2.5 x 11 mm			\varnothing 3 x 38 mm	special-G	solid carb.	0 501 411			
				\varnothing 3 x 38 mm	double cut	solid carb.	0 503 441			
				\varnothing 3 x 38 mm	fine	solid carb.	0 501 334			
	\varnothing 3 x 14 mm			\varnothing 3 x 38 mm	double cut	solid carb.	0 503 442			
				\varnothing 3 x 38 mm	normal	solid carb.	0 503 205			
				\varnothing 3 x 38 mm	fine	solid carb.	0 501 332			
			\varnothing 3 x 38 mm	special-G	solid carb.	0 501 412				
			\varnothing 3 x 50 mm	double cut	solid carb.	0 503 452				
			\varnothing 3 x 75 mm	double cut	solid carb.	0 503 462				
			\varnothing 3 x 75 mm	normal	solid carb.	0 503 036				
\varnothing 4 x 12.7 mm			\varnothing 3 x 38 mm	double cut	standard	0 503 553				
\varnothing 5 x 12.7 mm			\varnothing 3 x 38 mm	double cut	solid carb.	0 503 552				
		\varnothing 6 x 13 mm		\varnothing 3 x 43 mm	fine	standard	0 501 333			
	\varnothing 6.3 x 12.7 mm		\varnothing 3 x 50 mm	double cut	standard	0 503 551				
				\varnothing 3 x 50 mm	normal	standard	0 503 102			
sphere										
	\varnothing 0.9 x 0.75 mm		\varnothing 3 x 45 mm	normal	standard	0 517 121				
	\varnothing 1 x 0.8 mm		\varnothing 3 x 38 mm	normal	solid carb.	0 517 354				
				\varnothing 3 x 45 mm	normal	standard	0 517 122			
	\varnothing 1.2 x 1 mm		\varnothing 3 x 45 mm	normal	standard	0 517 123				
	\varnothing 1.4 x 1.2 mm		\varnothing 3 x 45 mm	normal	standard	0 517 124				
	\varnothing 1.5 x 1.3 mm		\varnothing 3 x 38 mm	normal	solid carb.	0 517 355				
	\varnothing 1.6 x 1.4 mm		\varnothing 3 x 45 mm	normal	standard	0 517 125				
	\varnothing 1.8 x 1.6 mm		\varnothing 3 x 45 mm	normal	standard	0 517 126				
	\varnothing 2 x 1.7 mm		\varnothing 3 x 38 mm	normal	solid carb.	0 517 352				
	\varnothing 2.1 x 1.9 mm		\varnothing 3 x 45 mm	normal	standard	0 517 127				
	\varnothing 2.5 x 2.3 mm		\varnothing 3 x 38 mm	double cut	solid carb.	0 507 441				
				\varnothing 3 x 38 mm	fine	solid carb.	0 501 304			
				\varnothing 3 x 45 mm	normal	standard	0 517 129			
	\varnothing 3 x 2.5 mm			\varnothing 3 x 38 mm	double cut	solid carb.	0 507 442			
				\varnothing 3 x 38 mm	normal	solid carb.	0 503 211			
				\varnothing 3 x 38 mm	fine	solid carb.	0 501 301			
				\varnothing 3 x 38 mm	special-G	solid carb.	0 501 416			
				\varnothing 3 x 50 mm	double cut	solid carb.	0 507 452			
				\varnothing 3 x 75 mm	double cut	solid carb.	0 507 462			
		\varnothing 3.1 x 2.6 mm		\varnothing 3 x 45 mm	normal	standard	0 517 130			
\varnothing 4 x 3 mm			\varnothing 3 x 34 mm	fine	solid carb.	0 501 302				
\varnothing 4 x 3.5 mm			\varnothing 3 x 45 mm	normal	standard	0 517 131				
\varnothing 4 x 3.7 mm			\varnothing 3 x 38 mm	double cut	standard	0 507 443				
\varnothing 5 x 4 mm			\varnothing 3 x 35 mm	fine	solid carb.	0 501 319				
\varnothing 5 x 4.5 mm				\varnothing 3 x 38 mm	double cut	solid carb.	0 507 552			
				\varnothing 3 x 45 mm	normal	standard	0 517 132			
\varnothing 6 x 5 mm			\varnothing 3 x 35 mm	fine	standard	0 501 303				
\varnothing 6.3 x 5 mm				\varnothing 3 x 44 mm	double cut	standard	0 507 551			
				\varnothing 3 x 44 mm	normal	standard	0 503 103			

Carbide milling cutters shank Ø 3 mm

	Head dimensions	Type	Shank diameter 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 / 17°		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 11 mm / 14°		Ø 3 x 38 mm	fine	solid carb.	0 501 322			
	Ø 3 x 11 mm / 14°		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 4.75 x 12.7 mm / 16°		Ø 3 x 50 mm	double cut	solid carb.	0 508 552-1			
	Ø 5 x 12.7 mm / 16°		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 \varnothing 3 mm

	Head dimensions	Type	Shank diameter x total length	Cut	Design	Order No.	Price from		
							1 piece	5 pieces	100 pieces
countersunk 60°									
	\varnothing 3 x 2.6 mm / 60°	teething on both sides	\varnothing 3 x 38 mm	fine	solid carb.	0 501 328			
			\varnothing 3 x 38 mm	double cut	solid carb.	0 511 442			
	\varnothing 5 x 4.3 mm / 60°		\varnothing 3 x 37 mm	fine	standard	0 501 382			
countersunk 90°									
	\varnothing 3 x 1.5 mm / 90°	teething on both sides	\varnothing 3 x 38 mm	fine	solid carb.	0 501 327			
			\varnothing 3 x 38 mm	double cut	solid carb.	0 510 442			
	\varnothing 4 x 2 mm / 90°		\varnothing 3 x 34 mm	fine	solid carb.	0 501 384			
	\varnothing 5 x 2.5 mm / 90°		\varnothing 3 x 35 mm	fine	standard	0 501 385			
	\varnothing 6 x 3 mm / 90°		\varnothing 3 x 36 mm	fine	standard	0 501 386			
round cone									
	\varnothing 3 x 9.5 mm / 8°		\varnothing 3 x 38 mm	double cut	solid carb.	0 509 441			
			\varnothing 3 x 38 mm	normal	solid carb.	0 503 277			
			\varnothing 3 x 38 mm	fine	solid carb.	0 501 361			
	\varnothing 3 x 12.7 mm / 8°		\varnothing 3 x 38 mm	double cut	solid carb.	0 509 442			
	\varnothing 3 x 12.7 mm / 8°		\varnothing 3 x 38 mm	normal	solid carb.	0 503 208			
	\varnothing 3 x 12.7 mm / 8°		\varnothing 3 x 38 mm	fine	solid carb.	0 501 362			
			\varnothing 3 x 50 mm	double cut	solid carb.	0 509 452			
			\varnothing 3 x 75 mm	double cut	solid carb.	0 509 462			
	\varnothing 5 x 12.7 mm / 14°		\varnothing 3 x 38 mm	double cut	solid carb.	0 509 443			
			\varnothing 3 x 38 mm	normal	solid carb.	0 503 278			
trapeze									
	\varnothing 2.5 x 3 mm / 10°		\varnothing 3 x 38 mm	double cut	solid carb.	0 513 441			
			\varnothing 3 x 38 mm	normal	solid carb.	0 503 301			
			\varnothing 3 x 38 mm	fine	solid carb.	0 501 371			
	\varnothing 3 x 4 mm / 10°		\varnothing 3 x 38 mm	double cut	solid carb.	0 513 442			
			\varnothing 3 x 38 mm	fine	solid carb.	0 501 372			
	\varnothing 3 x 7 mm / 10°	end cut	\varnothing 3 x 40 mm	double cut	solid carb.	0 513 443			
	\varnothing 4.75 x 6.3 mm / 10°		\varnothing 3 x 44 mm	double cut	solid carb.	0 513 552-1			
	\varnothing 6.3 x 6 mm / 10°		\varnothing 3 x 44 mm	double cut	standard	0 513 551			
drop									
	\varnothing 1.5 x 4 mm		\varnothing 3 x 38 mm	normal	solid carb.	0 517 362			
	\varnothing 3 x 5.5 mm		\varnothing 3 x 38 mm	double cut	solid carb.	0 506 441			
			\varnothing 3 x 38 mm	normal	solid carb.	0 503 206			
			\varnothing 3 x 38 mm	fine	solid carb.	0 501 356			
			\varnothing 3 x 38 mm	special-G	solid carb.	0 501 421			
			\varnothing 3 x 50 mm	double cut	solid carb.	0 506 451			
			\varnothing 3 x 75 mm	double cut	solid carb.	0 506 461			
	\varnothing 4.75 x 7.0 mm		\varnothing 3 x 45 mm	double cut	solid carb.	0 506 552-1			
	\varnothing 6.3 x 9.5 mm		\varnothing 3 x 47 mm	double cut	standard	0 506 551			
flame									
	\varnothing 3 x 6.3 mm		\varnothing 3 x 38 mm	double cut	solid carb.	0 512 441			
			\varnothing 3 x 38 mm	normal	solid carb.	0 503 022			
			\varnothing 3 x 50 mm	double cut	solid carb.	0 512 451			
			\varnothing 3 x 75 mm	double cut	solid carb.	0 512 461			
	\varnothing 5 x 9.5 mm		\varnothing 3 x 38 mm	double cut	solid carb.	0 512 442			

Carbide milling cutters shank Ø 3 mm

 1
2
3
4
5
6
7

	Head dimensions	Type	Shank diameter 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 4,75 x 12,7 mm		Ø 3 x 50 mm	double cut	VHM	0 504 552-1			
	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

		Price from
	Order No.	1 set
	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 tothing 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 tothing 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




















Carbide 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 diameter 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			
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 45 mm	coarse	standard	0 526 064			
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			



matching set

Order No.	Price from	
	1 set	5 sets
Set of milling cutters for processing aluminium, shank Ø 3 mm	0 526 080	

Content:

- 1 milling cutter, cylinder, end cut, Ø 3 x 14 mm (order no. 0 526 063)
- 1 milling cutter, rounded cylinder, Ø 3 x 14 mm (order no. 0 526 065)
- 1 milling cutter, sphere, Ø 3 mm (order no. 0 526 067)
- 1 milling cutter, drop, Ø 3 x 6 mm (order no. 0 526 070)
- 1 milling cutter, tree, Ø 3 x 14 mm (order no. 0 526 072)
- 1 milling cutter, tree with pointed end, Ø 3 x 14 mm (order no. 0 526 074)
- 1 milling cutter, round cone, Ø 3 x 14 mm (order no. 0 526 076)
- 1 milling cutter, pointed cone, Ø 3 x 11 mm (order no. 0 526 078)



Carbide 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 workpieces.
























	Head dimensions	Shank diameter 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	solid carb.	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	solid carb.	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	solid carb.	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	solid carb.	0 528 063			
	⤵ Ø 6.3 x 12.7 mm	Ø 3 x 45 mm	INOX	standard	0 528 066			

⤵ matching set

		Price from
		Order No. 1 set
Set of carbide milling cutters INOX		
	Content: 8 pieces	0 528 000

Ultrafine carbide milling cutters shank Ø 3 mm

	Head dimensions	Shank diameter 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			
round cone								
	Ø 3 x 14 mm	Ø 3 x 38 mm	ultrafine	solid carb.	0 527 564			
	Ø 5 x 12.7 mm	Ø 3 x 38 mm	ultrafine	solid carb.	0 527 565			
	Ø 6.3 x 15.8 mm	Ø 3 x 38 mm	ultrafine	standard	0 527 558			
pointed cone								
	Ø 3 x 11 mm / 14°	Ø 3 x 50 mm	ultrafine	solid carb.	0 527 555			
flame								
	Ø 6 x 13 mm	Ø 3 x 38 mm	ultrafine	standard	0 527 546			
rounded arch								
	Ø 3 x 8 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			

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.



matching set

	Price from
Order No.	1 set
Set of carbide milling cutters, ultrafine cut, shank Ø 3 mm	



contents:

- 1 milling cutter, cylinder, Ø 2 x 11 mm (order no. 0 527 510)
- 1 milling cutter, cylinder, Ø 3 x 14 mm (order no. 0 527 511)
- 1 milling cutter, rounded cylinder, Ø 2 x 11 mm (order no. 0 527 520)
- 1 milling cutter, rounded cylinder, Ø 3 x 14 mm (order no. 0 527 521)
- 1 milling cutter, ball, Ø 2 mm (order no. 0 527 530)
- 1 milling cutter, ball, Ø 3 mm (order no. 0 527 531)
- 1 milling cutter, ball, Ø 4 mm (order no. 0 527 532)
- 1 milling cutter, tree shape, Ø 3 x 6 mm (order no. 0 527 540)
- 1 milling cutter, tree shape, Ø 3 x 14 mm (order no. 0 527 541)
- 1 milling cutter, tree shape with pointed end, Ø 3 x 14 mm (order no. 0 527 550)










0 527 560

AlCrN-coated carbide milling cutters shank Ø 3 mm

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 diameter x total length	Cut	Design	Order No.	Price from		
						1 piece	5 pieces	100 pieces
AlCrN-coated carbide milling cutters								
cylinder – end mill								
	▣ Ø 3 x 14 mm	Ø 3 x 38 mm	double cut	solid carb.	0 501 720			
	Ø 6.3 x 12.7 mm	Ø 3 x 50 mm	double cut	standard	0 501 723			
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			
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 6.3 x 5.5 mm	Ø 3 x 44 mm	double cut	standard	0 501 744			
round cone								
	Ø 1 x 4.2 mm	Ø 3 x 45 mm	double cut	solid carb.	0 501 774			
	Ø 1.6 x 8 mm	Ø 3 x 45 mm	double cut	VHM	0 501 775			
flame								
	▣ Ø 3 x 6.3 mm	Ø 3 x 38 mm	double cut	solid carb.	0 501 770			
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			
torpedo								
	Ø 3,0 x 16 mm	Ø 3 x 45 mm	double cut	VHM	0 501 726			
drop								
	Ø 3 x 5.5 mm	Ø 3 x 38 mm	double cut	solid carb.	0 501 780			
	Ø 6.3 x 9.5 mm	Ø 3 x 48 mm	double cut	standard	0 501 782			



matching set

	Price from
Order No.	1 set
Set of carbide milling cutters, AlCrN-coated, shank Ø 3 mm	



Content:

- 1 milling cutter, cylinder, Ø 3 x 14 mm (order no. 0 501 720)
- 1 milling cutter, rounded cylinder, Ø 3 x 14 mm (order no. 0 501 730)
- 1 milling cutter, ball, Ø 3 mm (order no. 0 501 740)
- 1 milling cutter, tree shape, Ø 3 x 12,7 mm (order no. 0 501 750)
- 1 milling cutter, tree shape with pointed end, Ø 3 x 12,7 mm (order no. 0 501 760)
- 1 milling cutter, flame-shaped, Ø 3 x 6,3 mm (order no. 0 501 770)

0 501 710

Carbide milling cutters for counterclockwise cutting

shank \varnothing 3 mm




NEW! ■

Cutting counterclockwise

With the ENESKAmicro systems, which can be set to reverse rotation, the newly developed milling cutters are optimally utilized.

The counterclockwise cut ensures that the chips fly away from the user!

In addition, the milling cutters are provided with a dual-coating combination. They are coated with a hard material layer of AlTiCrN, which counteracts abrasive wear, and on top of that, there is a sliding layer of zirconium nitride, which offers advantages when processing non-ferrous soft metals.

	Head dimensions	Shank diameter x total length	Cut	Design	Order No.	Price from		
						1 piece	5 pieces	100 pieces
Carbide milling cutters, counterclockwise cutting								
rounded cylinder								
	\varnothing 3 x 14 mm	\varnothing 3 x 38 mm	normal	solid carb.	0 503 205-LI			
round cone								
	\varnothing 3 x 14 mm	\varnothing 3 x 38 mm	normal	solid carb.	0 503 208-LI			
rounded arch								
	\varnothing 3 x 14 mm	\varnothing 3 x 38 mm	normal	solid carb.	0 503 231-LI			



ENESKAmicro: rotation left, counterclockwise



Innovation: Counterclockwise cut milling

Milling cutters with reverse rotation **do not throw the chips towards the user, but away from body and face!**


These burrs have an appropriate cutting design for counter-clockwise rotation. Ideal for use with the ENESKAmicro systems, which enable a change in the direction of rotation.



Special cutter grinding for counter-clockwise rotation with 2-fold coating AlTiCrN (hard) and zirconium nitride (sliding layer)

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.

	Nominal Ø x clamping groove length D x SL	Projection length L1	Shank diameter 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		

Carbide milling cutters shank Ø 6 mm



	Head dimensions	Angle	Shank diameter 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	solid carb.	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 9.5 x 8 mm		Ø 6 x 52 mm	extra coarse	standard	0 526 022			
	Ø 9.5 x 8 mm		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 12.7 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 diameter 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 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 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			
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	0 500 500
	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)	
	Cross toothing cut set, shank Ø 6 mm, head Ø 8 and 9.5 mm	0 500 600
	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)	



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 diameter 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 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 carbide milling cutters, ultrafine cut, shank Ø 6 mm		



contents:

- 1 milling cutter, cylinder, Ø 6 x 18 mm (order no. 0 527 514)
- 1 milling cutter, rounded cylinder, Ø 6 x 18 mm (order no. 0 527 524)
- 1 milling cutter, ball, Ø 10 mm (order no. 0 527 534)
- 1 milling cutter, tree shape with pointed end, Ø 6 x 18 mm (order no. 0 527 552)
- 1 milling cutter, tree shape with pointed end, Ø 12,7 x 30 mm (order no. 0 527 553)
- 1 milling cutter, pointed cone, Ø 12,7 x 22 mm (order no. 0 527 584)

0 527 570



The perfect complement

Rotating tool holder



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	

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 diameter 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 JOKO 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.



425 Steel needle files

429 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	10 pieces
Steel needle files, shank Ø 3 mm, total length 85 mm								
triangular								
	3.5 x 3.5 mm	57 mm	Ø 3	85 mm	00 coarse	0 400 042		
		57 mm	Ø 3	85 mm	1 medium		0 400 043	
flat								
	5 x 1.5 mm	57 mm	Ø 3	85 mm	00 coarse	0 400 012		
		57 mm	Ø 3	85 mm	1 medium		0 400 013	
square								
	2.5 x 2.5 mm	57 mm	Ø 3	85 mm	00 coarse	0 400 052		
		57 mm	Ø 3	85 mm	1 medium		0 400 053	
round								
	Ø 3 mm	57 mm	Ø 3	85 mm	00 coarse	0 400 032		
		57 mm	Ø 3	85 mm	1 medium		0 400 033	
halfround								
	5 x 2 mm	57 mm	Ø 3	85 mm	00 coarse	0 400 022		
		57 mm	Ø 3	85 mm	1 medium		0 400 023	

Accessories / spare parts

	Order No.	Price from	
		1 piece	10 pieces
File handle made of plastic			
	suitable for Ø 3 mm shanks	0 400 892	
File holder made of plastic			
	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	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	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		
							12 pieces	1 piece	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	1 medium	0 400 521			
		78 mm	Ø 3 mm	160 mm	2 fine	0 400 522			
		78 mm	Ø 3 mm	160 mm	0 coarse	0 400 520			
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	10 pieces
File holder made of plastic			







with clamping lever for files up to 150 mm length, tension area Ø 2.5 – 4 mm

0 400 894-0


Steel Riffle 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	10 pieces
Steel Riffle 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	

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	

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	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
Emery escapement file set			
	Set consisting of 6 escapement files	G10, very fine	0 572 221

Accessories / spare parts






	Order No.	Price from
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	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 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



All about lapping!

Lapping machines | Spraying units | Lapping discs | Lapping powders |
Lapping liquids | Measuring tools | Training courses

Diamond lapping suspension joke Magic Star, PKD and Eco-Lap, 350 ml

The tried and trusted quality product! The diamond lapping suspensions joke Magic Star WS and OS can be used without additional fluid. In doing so, they achieve a very high stock removal – the lubricant film is finer than the diamond grit and the viscosity very low – the grit grains are therefore able to roll unhindered. The cutting action of the diamond grits thus develops its full effect.



Do you have any questions?

Please speak to **Fatih Yasar**

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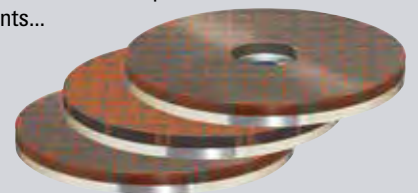
Extract from the joke lapping range

The EL 380 polishing lapping machine was specially developed for processing small workpieces and individual parts in small batches. This variant has been used successfully in laboratories and research institutes for many years. The large production machines EL 600 to EL 1200 were designed for series production. All machines offer infinitely variable speed control as standard. A pneumatic pressure device is available as an accessory.



Bi-composite polishing lapping discs





Bi-composite polishing lapping discs consist of two different materials in a synthetic resin bond. Water- and oil-soluble diamond liquids are used as lapping agents...



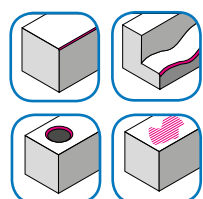
Cast iron lapping discs

The lapping disc forms the lapping tool in conjunction with the lapping medium. Cast discs have proven to be advantageous in practice and guarantee maximum precision, flatness and surface quality during processing.

Deburring tools



		Order No.	Price from	
			1 piece	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

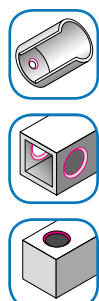




	Packing quantity	Order No.	Price from
			1 pack
Spare blades for hand deburrer MF 400	5 piece	0 401 998	

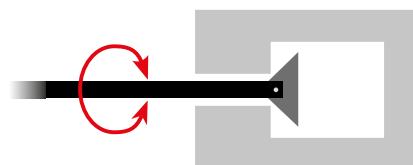


		Order No.	Price from
			1 piece
Reverse deburrer RC 1000		bore Ø 3 – 5.5 mm, workpiece thickness up to 18 mm	0 402 003
Reverse deburrer RC 2000		bore Ø 5 – 10 mm, workpiece thickness up to 24 mm	0 402 005

Accessories / spare parts



	Order No.	Price from	
		1 piece	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 piece	0 402 009	



	Order No.	Price from 1 piece
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Mini deburrer FT10001	fixed HSS blade S150 with handle, for extra-fine deburring work (the blade is non-replaceable)	0 413 961
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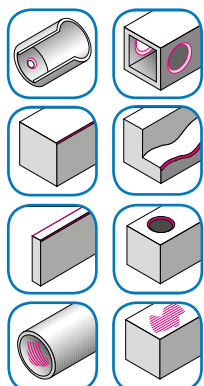
Mini triangular scraper FT11001	fixed HSS blade D50 with handle	0 413 962
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Mini hole deburring head FT12001	with rotatably-mounted Ø 3.2 mm counterbore in handle	0 413 963
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↓ matching set



	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

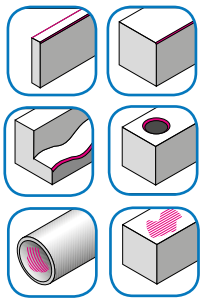
	Order No.	Price from 1 piece	5 pieces
 	Handle NG-3		
		0 413 923	
	Telescopic holder, type C		
	suitable for the countersink attachments C12, C20 and C30	0 413 924	
	Countersink attachment 90°, type C12 for 1–12 mm bore diameter		
	suitable for telescopic receptacle type C	0 413 925	
	Countersink attachment 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

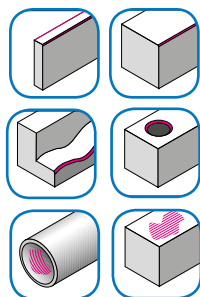





	Dimensions	Order No.	Price from 1 piece	5 pieces
Universal handle				
 for receiving deburring tools, needle files, etc. Flexible collet with a clamping range of between 2.2 and 4.5 mm.		0 413 939		
Spare double blade T80				
 HSS, 4.2 x 80 mm, 60°, hardness 62–64 HRC	4,2 x 80 mm	0 413 953		

	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

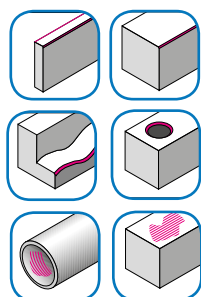


	Packing quantity	Order No.	1 piece	5 pieces	1 pack	5 packs
Handle NG-3						
		0 413 923				
Blade holder suitable for blades of Ø 2.5 mm						
 with clamping screw (Ø 3 mm) for fixing the blade		0 413 918				
Replacement blades						
 D50, triangular, Ø 2.5 x 50 mm, hardness 62–64 HRC	10 pieces	0 413 951				



Deburring tools


4

		Order No.	Price from	
			1 piece	5 pieces
Triangular scraper, adjustable with aluminium handle				
	incl. double blade (Ø 4.2 x 80 mm)	0 413 913		



Accessories / spare parts

	Dimensions	Order No.	Price from	
			1 piece	5 pieces
Aluminium universal handle				
	12 mm hexagonal, variable tool receptacle	0 413 913-2		
Spare double blade T80				
	HSS, 4.2 x 80 mm, 60°, hardness 62–64 HRC	0 413 953		

		Order No.	Price from	
			1 set	5 sets
Set with accessories				
	Content: handle, 10 blades and telescopic receptacle (adjustable from 30 to 115 mm)	0 413 914		



Deburring tools

Deburrer sets



	Order No.	Price from	
		1 set	5 sets

Deburring set in storage case

0 413 934

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