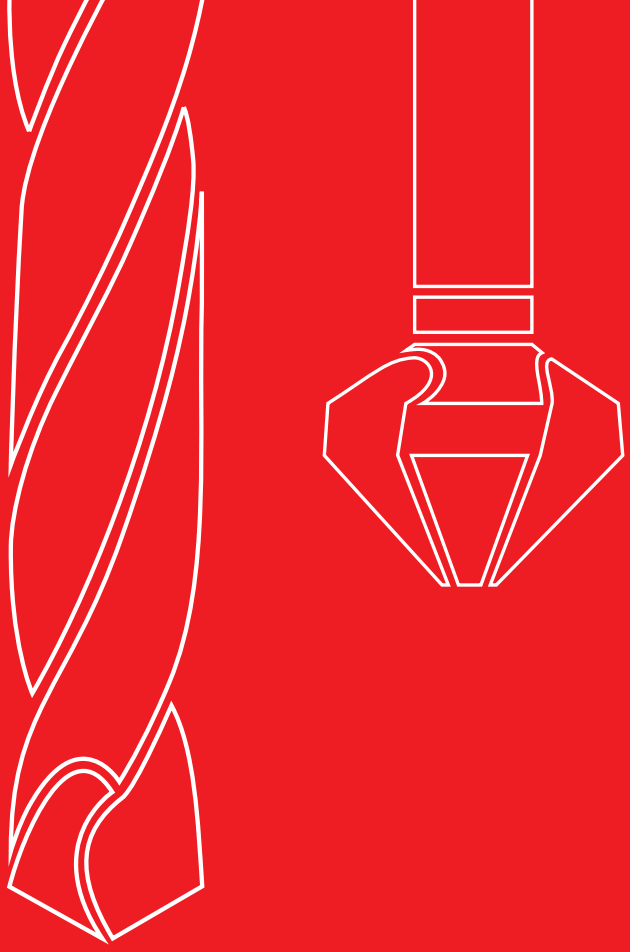
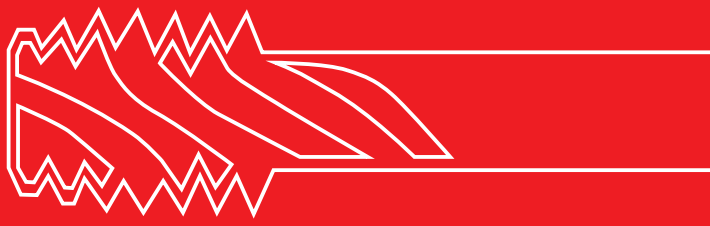


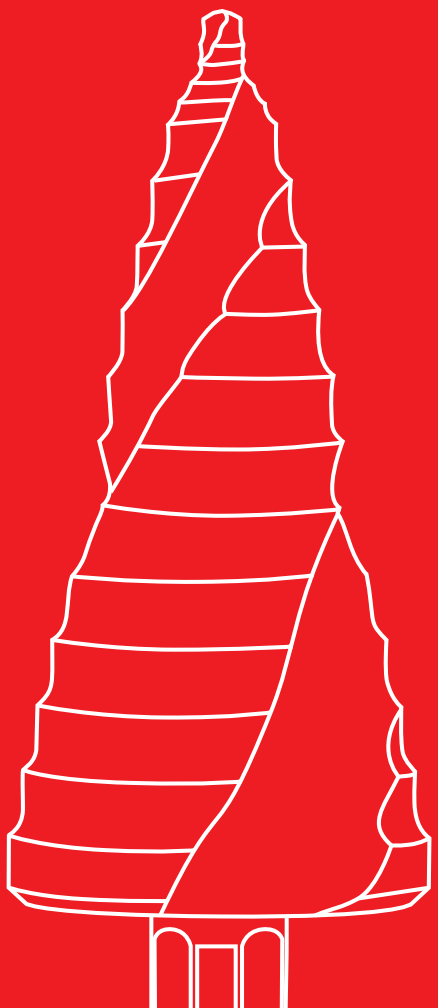
RUKO

FASCINATION FOR PRECISION

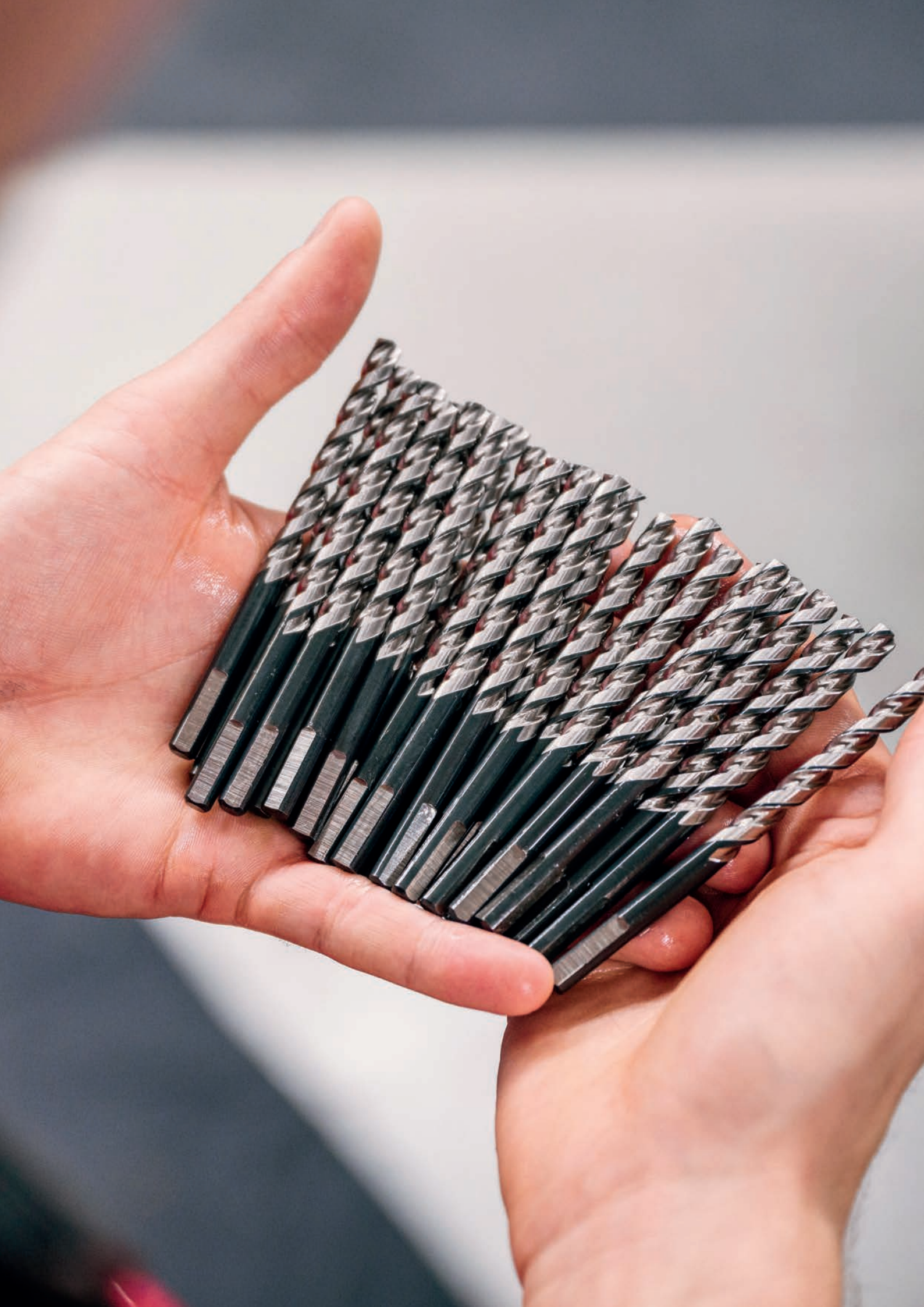


TOOLS FOR METAL CUTTING

MAIN CATALOG



A craftsman does not want an 8 mm drill.
He wants a precise 8 mm hole in the workpiece.



RUKO precision tools

Our passion and unbridled love to detail is in every single one of them

Work processes are changing, the time frames for the realization of projects are becoming ever tighter and the expectations of clients for a perfect and error-free result are constantly growing.

Meeting the increasing challenges in trade and industry with the right tools forms the basis for every RUKO development.

Whether working with hand-held tools or in series production on stationary systems – every drill, every countersink, every threading tool and every burr is at the end of the process chain and makes a decisive contribution to the quality of the work result achieved.

We focus exclusively on the use of high-speed steel (HSS) or even higher quality alloys. We manufacture on state-of-the-art production facilities and evaluate according to high quality standards. We rely on a team that works meticulously and with Swabian ingenuity to improve tools in terms of wear resistance, work efficiency and precision in manual and stationary use.

This passion and attention to detail are both the root and the driving force behind every innovation and the consistent optimization of existing products.

For tools that are perfectly tailored to the trade and industry.

And for tools that bear the name RUKO Präzisionswerkzeuge – Made in Germany.

ULTIMATECUT©

Or how to perfect perfect tools

Invented to make your work a little better every day, the ULTIMATECUT premium line guarantees perfect work results in industry and professional trades.

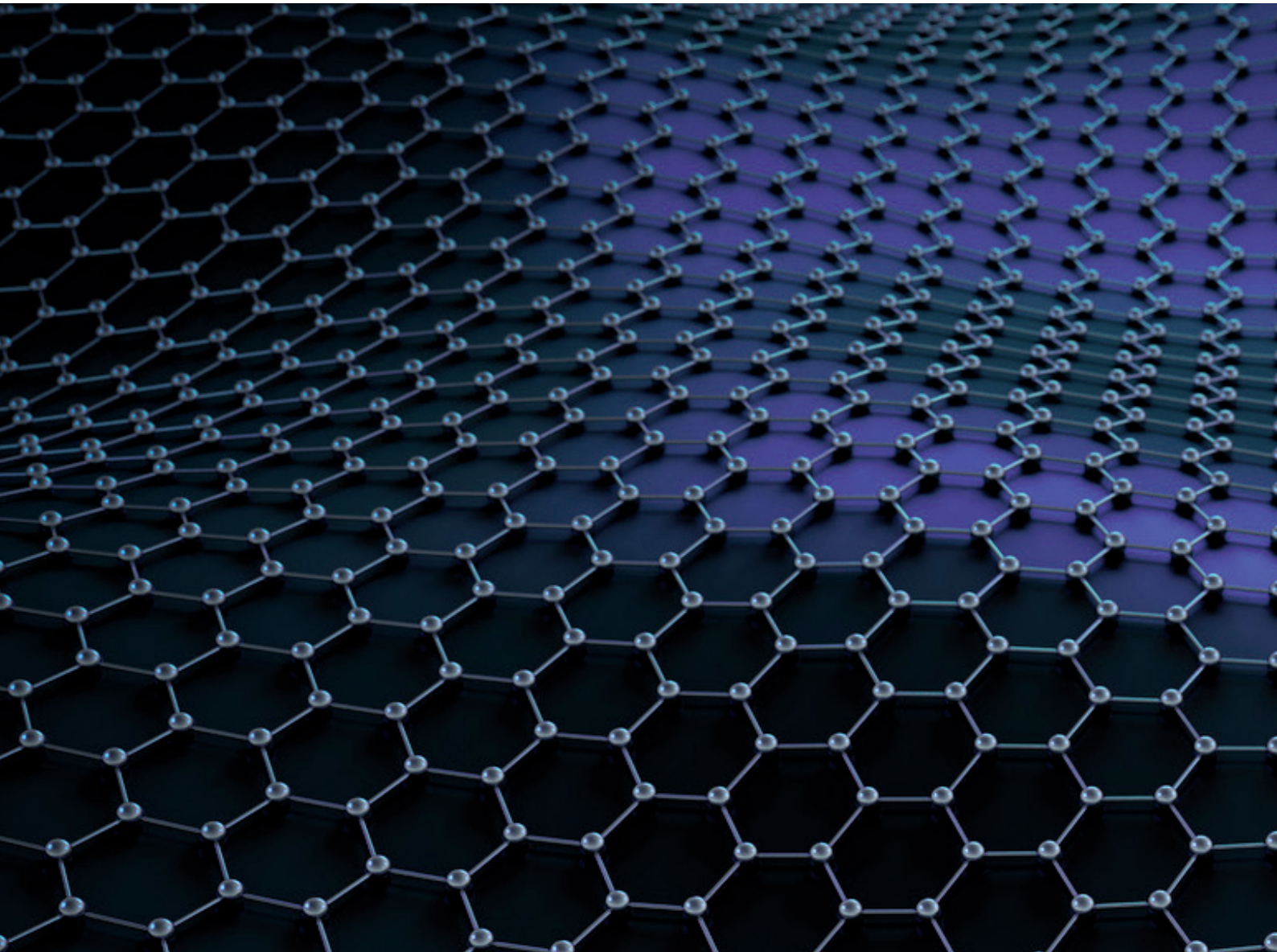
Twist drills, step drills, countersinks – with innovative FLOWSTEP® tip, specially developed FLOWSTEP® cutting geometry and countersinking with four instead of three cutting edges.

For more efficiency and less rework. For more speed with up to three times faster work results. With high wear resistance for significantly more tool use.

Tuning for drilling, sinking and cutting

RUKO's own coating

Best of the best: Our RUnaTEC coating impresses with absolute top values: In the areas of friction loss, nano-hardness, the ability to work at extremely high cutting speeds up to a maximum of 1,100 degrees Celcius and a tool life that is up to 16 times longer than uncoated cutting tools.



Coated tools may be recognizable at first glance, but they are far more than just cosmetics.

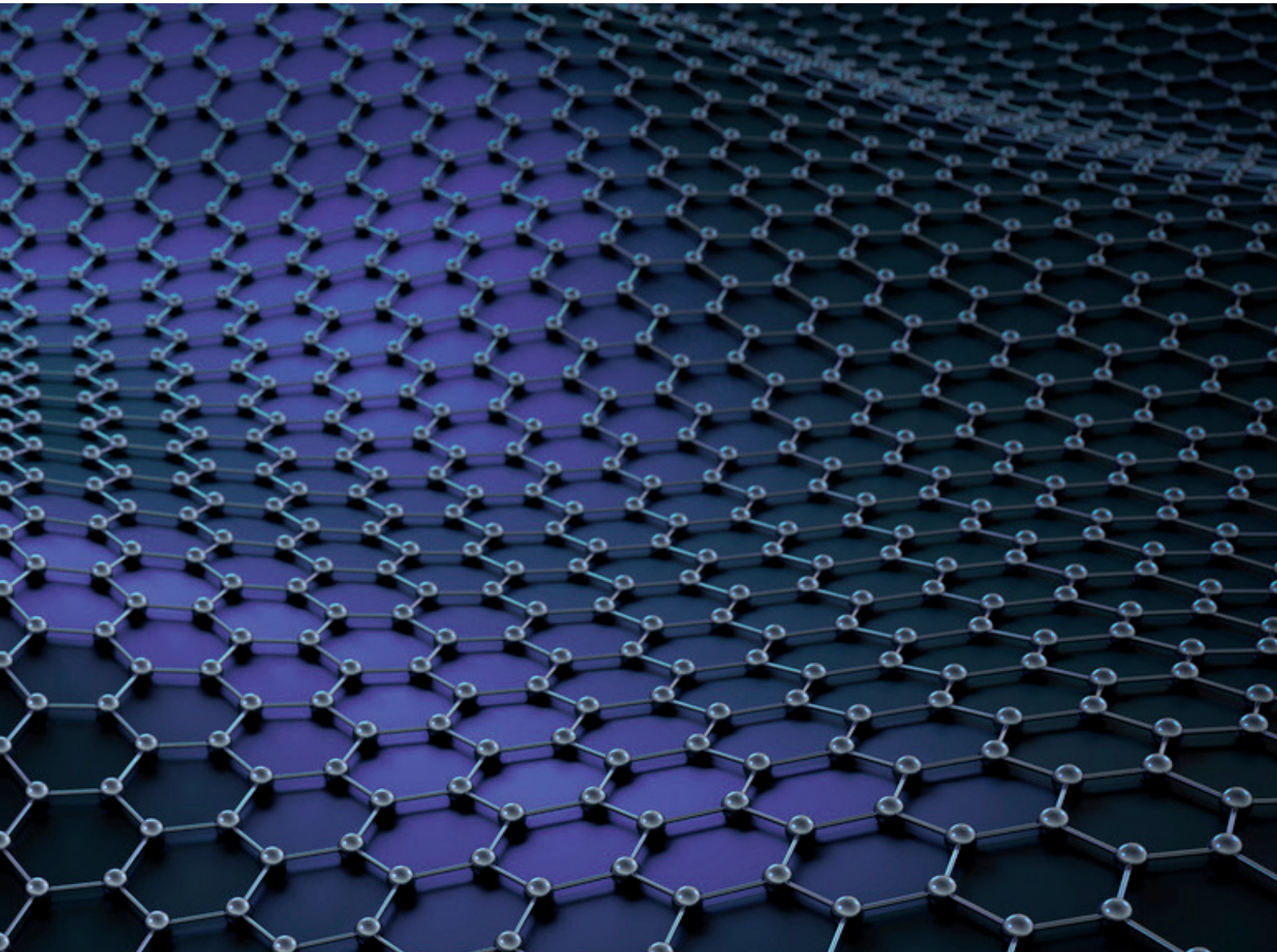
This is because, as in motor racing, the aim of coatings is to maximize the performance and durability of each tool.

This includes, for example, a significant reduction in friction, the ability to drill faster and more precise holes at higher cutting speeds, but also to guarantee consistently high machining quality over the entire service life of the tool thanks to even wear.

Another advantage is that the tools need to be replaced less frequently, resulting in less downtime and more efficient machining.

And to stay with racing - in the perfect combination of cutting speed, nano-hardness and extremely low friction losses, the in-house developed RUKO nano Technology, RUnaTEC for short, takes pole position among all the coatings on offer.

All in all, it is a clever investment that pays for itself in real racing speed thanks to the savings in tool costs, shorter machining times and reduced downtimes.



RUKO application color guide system

The origin of the RUKO application color guidance system is based on the three major application fields of metal, concrete and wood.
The metal application field consists of structural steel, stainless steel and high strength steel. The other areas include concrete and wood; collectively providing the five primary application groups within the RUKO application color guide system.

e.g. structural steel, steel (N/mm2) < 900

e.g. stainless steel V2A, steel (N/mm2) < 1100

e.g. steel (N/mm2) < 1300, Titanium alloyed

e.g. stone, concrete

e.g. softwood, chipboard

Steel characteristics

HSS Heavy-duty high speed steel for drilling holes in easy-to-machine materials with a strength of up to 900 N/mm².

HSSE Co5 Heavy-duty high speed steel with 5 % cobalt content. High ductility and heat resistance, for drilling holes in difficult-to-machine materials with a strength of up to 1,100 N/mm².

HSSE Co8 Heavy-duty high speed steel with 8 % cobalt content. Extremely high ductility and outstanding heat resistance, for drilling holes in high strength materials, austenitic steel, for hot working etc. with a strength of up to 1,100 N/mm².

TC HM Solid tungsten carbide. Particularly suitable for drilling work in high strength steel at high cutting speeds.

	Standard			Chemical composite in %								
Description	DIN	EN	AISI	C	Cr	Mo	V	TiC TAC	W	Wc	Co	Hardness
HSS	1.3343	ENHS 6-5-2	M 2	0,90	4,1	5,0	1,8	-	6,4	-	-	780-800 HV10
HSSE-Co 5	1.3243	ENHS 6-5-2-5	M 35	0,92	4,1	5,0	1,9	-	6,4	-	4,8	820-920 HV10
HSSE-Co 8	1.3247	ENHS 2-10-1-8	M 42	1,10	3,9	9,2	1,2	-	1,4	-	7,8	850-960 HV10
TC	K20	-	-	-	-	-	-	2,0	-	92,0	6,0	15500 HV30

Coatings

TiN The titanium nitride coating is a universally usable standard coating. It offers a 300 to 400 % longer tool life compared to uncoated tools. Cooling is recommended.

TiCN The titanium carbon nitride coating offers high strength and good ductility. It has a very low friction coefficient. Suitable for drilling high strength steel. Cooling is required.

TiAlN The titanium aluminium nitride coating offers high heat and oxidation resistance. Suitable for drilling hard materials without cooling.

AlTiN The aluminium titanium nitride coating offers very high heat and oxidation resistance. Extremely well suited for drilling hard materials without cooling.

RUna TEC RUKO's own RUnaTEC coating offers extremely high wear resistance and hot hardness. It is suitable for normal and high-performance machining. The result is an optimal, smooth surface as well as no material welding. The RUnaTEC coating can also be used for dry machining.

LONG LIFE The products labeled Long Life have additional wear resistance and a longer service life thanks to their coated surface.

Description	Colour	Nano hardness up to [GPa]	Coat thickness [µm]	coefficient of friction	Max. application temperature [°C]
TiN	gold-yellow	24	1-7	0.55	600
TiCN	red-copper	32	1-4	0.2	400
TiAlN	purple-black	30	1-4	0.6	700
AlTiN	blue-black	38	1-4	0.7	900
RUnaTEC	purple-blue	45	1-4	0.45	1,200

Chapter index

01

TWIST DRILLS

ULTIMATECUT©
Twist drill with FLOWSTEP® tip

RUKO FLOWSTEP® tip

Precise centering = no slipping when positioning.
Time saving due to faster drilling = more holes drilled in the same time.
Power-saving drilling = more holes without a break.

RUKO 3-surface shaft

No slipping in the drill chuck, therefore optimum power transmission.

No more retensioning in the drill chuck, making work simple and uncomplicated.

RUKO black bevel

The black bevel increases wear resistance and at the same time reduces cold welding at the groove edges.

Overview of symbols

01

Drill types

N

Type N
Helix angle: 20 – 30°
Profile of flute: normal
Core: normal
Point angle: 118 – 130°

TL 3000

Type TL 3000
Helix angle: 40°
Profile of flute: wide with rounded rear edges
Core: thick
Point angle: 130°
Point cut: shape C

UTL 3000

Type UTL 3000
Helix angle: 40°
Profile of flute: wide with rounded rear edges
Core: very thick
Point angle: 130°
Point cut: shape U

UNI

Type UNI
Helix angle: 40°
Profile of flute: wide, for better chip removal
Core: normal
Centre angle: 135°
Point cut: shape C

VA

Type VA
Helix angle: 36°
Profile of flute: normal
Core: thickened
Point angle: 130°
Point cut: shape C

KV

Type KV
Helix angle: 25 – 30°
Profile of flute: normal
Core: normal
Point angle: 130°
Point cut: Form C

FT

Type FLOWSTEP®
Helix angle: 20 – 30°
Profile of flute: normal
Core: normal
Stepped tip type FLOWSTEP® tip

DIN standards

DIN 333 Centre drills 60° shape A and R

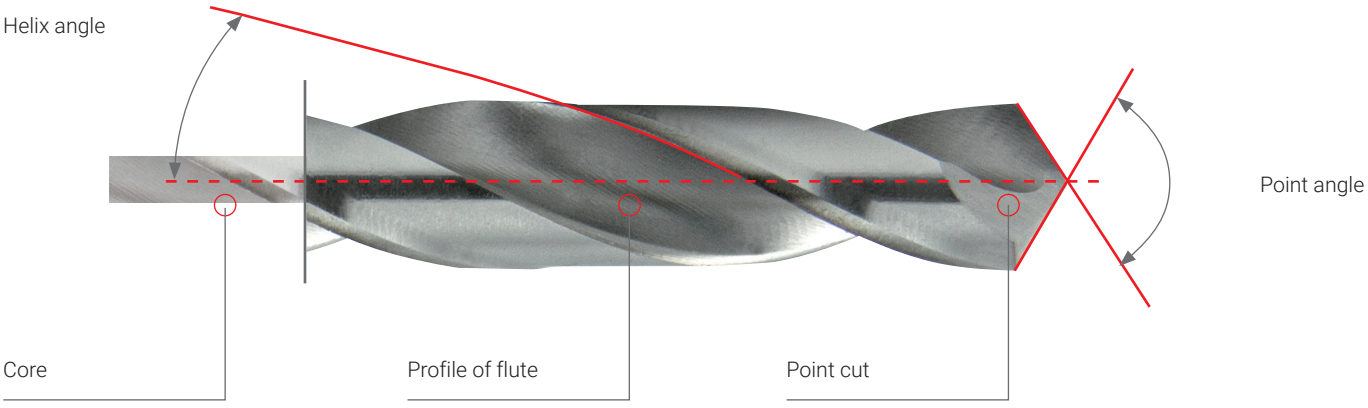
DIN 345 Twist drills with morse taper shank

DIN 338 Short twist drills with straight shank

DIN 1869 Extra long twist drills with straight shank

DIN 340 Long twist drills with straight shank

DIN 1897 Extra short twist drills with straight shank



Point grinding and pointing according to DIN 1412

Shape N: Helical point normal ground
Application: For all normal drilling work in steel, non-ferrous metal and plastic. The point angles depend on the ease with which the materials can be cut.
Advantages: Powerful main cut, resistant to impact and lateral forces. Simple manual grinding possible.
Disadvantages: Broad cutting edge requires considerable pressure.

Shape A: Cut chisel edge
Application: For all normal drilling work using drills with a strong core, for drilling into solid materials with larger drill diameters.
Advantages: Good centering when starting to drill, as the length of the chisel edge is reduced to 1/10 of the drill diameter, and fewer pressure is required.
Disadvantages: Additional regrinding work.

Shape B: Cut chisel edge with corrected major cutting edge
Application: For r drilling high-density steel, for manganese steel with over 10 % Mn, for hard spring steel and for drilling out.
Advantages: Resistant to impact, one-way load and lateral forces. Does not catch in thin workpieces.
Disadvantages: High pressure required, tendency to slip, extra work involved in regrinding.

Shape C: Split point
Application: For high pressure required, tendency to slip, extra work involved in regrinding.
Advantages: Good centering, little pressure required. Chip spreading improves chip removal.
Disadvantages: Perfect grinding only possible by machine.

Shape D: Ground for grey cast iron
Application: For drilling grey cast iron, malleable cast iron and forgings.
Advantages: Wear on cutting corners is reduced by extended major cutting edges, resistant to impact, good heat conductivity, all giving improved tool life.
Disadvantages: Perfect regrinding only possible by machine.

Shape E: Centre point
Application: For drilling sheet-metal and soft materials, for blind holes with flat bottoms.
Advantages: Good centering, minimal formation of burrs when through-drilling, precise drilling in thin sheets and pipes, does not catch. Available in diameters of Ø 2.5 mm upwards.
Disadvantages: Sensitive to impact and one-way loading. Can only be ground to perfection by machine.

Other bevelling and sharpening

Shape U: Special ground
Applications: For drills with sturdy profiles suitable for use in automated processing, with narrow grooves and strong cores.
Advantages: extremely good self-centering behaviour when maximum cutting valuminiumes are employed. Concave cutting produces short metal chips.
Disadvantages: Extra work involved in regrinding.

The right answer for every job

Some say, a twist drill is a twist drill.

For us, it's the right tool for each application.

Cutting-edge technology

★★★★★

259 xxx

Premium with industry standard

★★★★

281 xxx

228 xxx

Standard for professional work

★★★

215 xxx

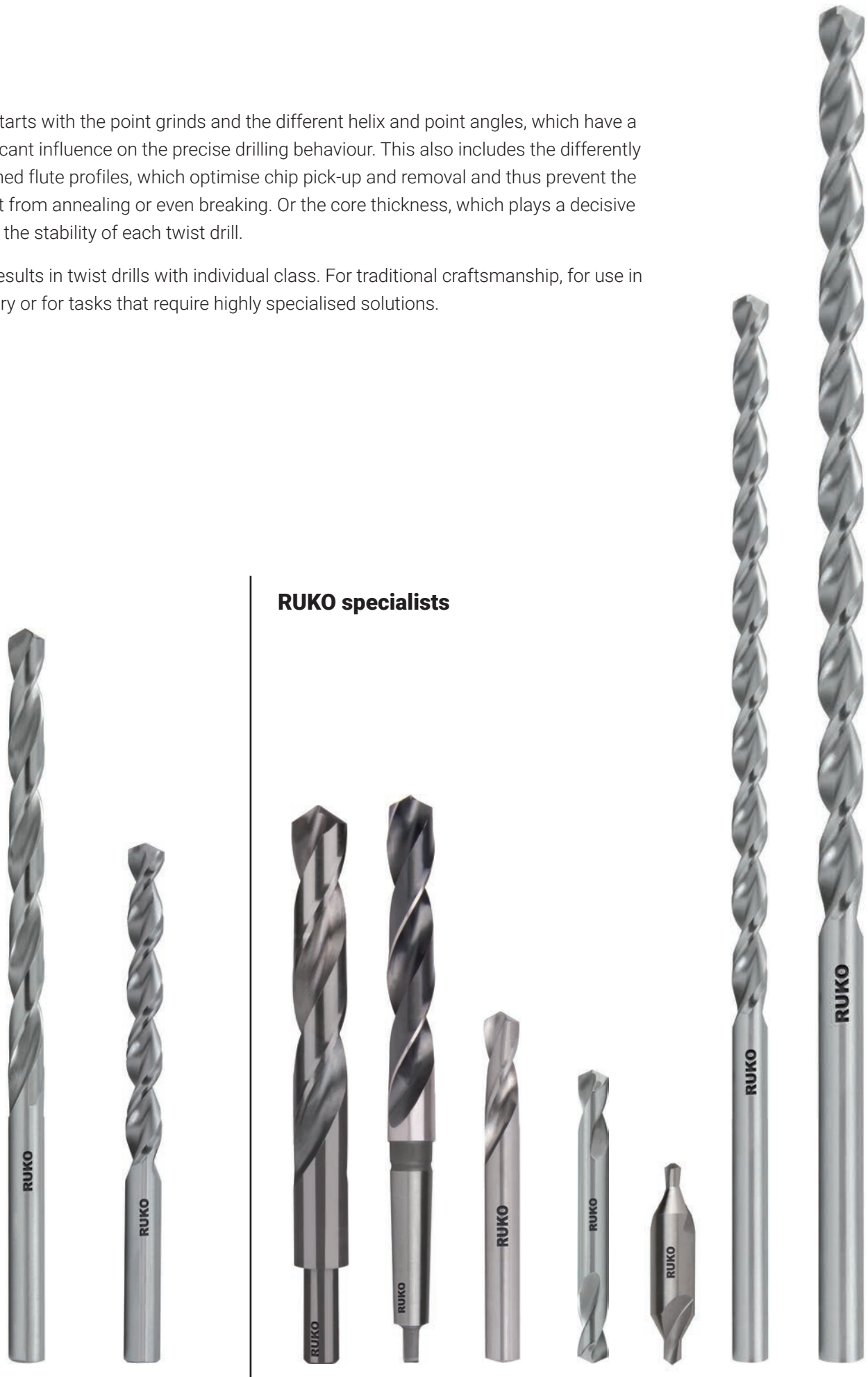
214 xxx

201 xxx

This starts with the point grinds and the different helix and point angles, which have a significant influence on the precise drilling behaviour. This also includes the differently designed flute profiles, which optimise chip pick-up and removal and thus prevent the drill bit from annealing or even breaking. Or the core thickness, which plays a decisive role in the stability of each twist drill.

This results in twist drills with individual class. For traditional craftsmanship, for use in industry or for tasks that require highly specialised solutions.

RUKO specialists



203 xxx | 258 xxx | 200 xxx | 204 xxx | 202 xxx | 252 xxx | 217 xxx | 254 xxx | 255 xxx

Type and applications overview

01

	Material	Surface	DIN	Type	Point cut	Point angle	Spiral angle	Shank	Ø mm	Item no.	Page/s
 NEW ULTIMATECUT©	HSS	Blank	DIN 338	FT	FLOW STEP TIP ≥ Ø 3.0 mm	FLOW STEP TIP	25-30°	≥ Ø 3.5 mm	1,0 – 13,0	259 xxx	23
	HSSE Co5	Bronze	DIN 338	FT	FLOW STEP TIP ≥ Ø 3.0 mm	FLOW STEP TIP	25-30°	≥ Ø 3.5 mm			22
	HSSE Co8	Blank	DIN 338	VA	C ≥ Ø 2.0 mm	130°	36°		1,0 – 16,0	281 xxx	26 – 28
	HSSE Co8	TiAlN	DIN 338	VA	C ≥ Ø 2,0 mm	130°	36°				
	HSSE Co5	Bronze	DIN 338	VA	C ≥ Ø 2,0 mm	130°	36°		1,0 – 20,0	215 xxx	30 – 32
									1/16 – 1/2 Inch	215 8xx	33
	HSSE Co5	VAP Bonze	DIN 338	UNI	C ≥ Ø 2,0 mm	135°	40°	≥ Ø 4.0 mm	1,0 – 13,0	228 xxx	34
	HSS	Blank	DIN 338	TL 3000	C ≥ Ø 2,0 mm	130°	40°		1,0 – 16,0	258 xxx	36 – 37
	HSS	TiAlN	DIN 338	TL 3000	C ≥ Ø 2,0 mm	130°	40°				
	HSS	Blank	DIN 338	N	C ≥ Ø 2,0 mm	118°	25-30°		0,3 – 20,0	214 xxx	38 – 41
	HSS	TiN	DIN 338	N	C ≥ Ø 2,0 mm	118°	25-30°		0,3 – 16,0	250 xxx T	
	HSS	Blank	DIN 338	N	C ≥ Ø 2,0 mm	118°	25-30°		1/16 – 1/2 Inch	214 8xx	42
	HSS	TiN	DIN 338	N	C ≥ Ø 2,0 mm	118°	25-30°		1/16 – 1/2 Inch	250 8xx T	43
	HSS	TiN	DIN 338	N	C ≥ Ø 2,0 mm	118°	25-30°		1,0 – 13,0	2501 xxx	44
	HSS	Blank	DIN 338	N	N	118°	25-30°		1,0 – 13,0	214 xxx Li	45
	HSS-R	VAP	DIN 338	N	N	118°	25-30°		0,3 – 20,0	201 xxx	46 – 48
	HSS-R	VAP	DIN 338	N	N	118°	25-30°		10,5 – 25,0	200 xxx	49
	HSS	Blank	DIN 338	N	C	118°	25-30°		10,5 – 20,0	200 4 xxx	
	HSSE Co5	Bronze	DIN 338	N	C	130°	25-30°		10,5 – 20,0	200 5 xxx	
	HSS	Blank	DIN 340	N	N	118°	25-30°		2,5 – 13,0	203 xxx	50
	HSS	Blank	DIN 1869	TL 3000	C	130°	40°		2,0 – 13,0	254 xxx	51
									3,0 – 13,0	255 xxx	

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
●			●	○	○	●	○
●	●		●	○	○	●	○
○	●	●	●	○	●	●	○
○	●	●	●	●	●	●	○
●	●		●	○	○		○
●	●		●	○	○		○
●			●	○	○	●	○
●	●		●	●	○	●	○
●			●	○	○	●	○
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●	●		●	○	○	●	○
●	●	●	●	●	●	●	○
●	○		●	○			○
●	○		●	○			○

● Main application ○ Other application

Type and applications overview

	Material	Surface	DIN	Type	Point cut	Point angle	Spiral angle	Shank	Ø mm	Item no.	Page/s
	HSS	VAP Blank	DIN 345	N	A	118°	20-30°		10,0 – 60,0	204 xxx	52 – 53
	HSSE Co5	Blank	DIN 345	N	A	118°	20-30°		10,0 – 30,0		
	HSSE Co5	Blank	DIN 1897	N	C ≥ Ø 2,5 mm	130°	20-30°		2,0 – 13,0	202 xxx E	54
	HSS	Blank	DIN 1897	N	N	118°	25-30°			202 xxx	55
	HSS	TiN	DIN 1897	N	N	118°	25-30°			202 xxx T	
	HSS	Blank		KV	C ≥ Ø 3,0 mm	130°	25-30°		2,5 – 6,5	252 xxx	56
	HSS	Blank	DIN 333	A		60°	40°		0,8 – 6,3	217 xxx	56

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
●			●	○		●	○
●	●		●	○	○	●	○
●	●		●	○	○	●	○
●			●	○	○	●	○
●			●	○	○		○
●			●	○	○	●	○
●			●	○	○	●	○

● Main application ○ Other application

NEW | HSSE Co5 | DIN 338 | FLOW STEP TIP ≥ Ø 3.0 mm | ≥ Ø 3.5 mm | 5 x D | h8

ULTIMATECUT twist drill DIN 338 type FLOWSTEP®, HSSE-Co 5

HSSE Co5 | INOX | STEEL | ALU | Cu Ni Ms Zn | PVC | PLEXIGLAS® | WOOD | BRONZE | CAST IRON

FLOWSTEP® tip
- Perfect centering, avoiding slipping even on round surfaces such as pipe and tube.
- Easy and smooth drilling process, without jamming in the material.
- Extremely fast and energy-saving drilling.
- Time savings of up to 50%.
- Significantly longer tool life - up to 5x more holes possible.
- Optimal performance in hand-held (cordless) power tool drill machines.

! FLOWSTEP® tip from ø 3.00, as from a technical application point of view there is no benefit in sizes smaller than ø 3.00.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSSE-Co 5	
1.00	34.0	12.0	259 010 E	10
1.50	40.0	18.0	259 015 E	10
2.00	49.0	24.0	259 020 E	10
2.50	57.0	30.0	259 025 E	10
3.00	61.0	33.0	259 030 E	10
3.30	65.0	36.0	259 033 E	10
3.50	70.0	39.0	259 035 E	10
4.00	75.0	43.0	259 040 E	10
4.20	75.0	43.0	259 042 E	10
4.50	80.0	47.0	259 045 E	10
5.00	86.0	52.0	259 050 E	10
5.50	93.0	57.0	259 055 E	5
6.00	93.0	57.0	259 060 E	5
6.50	101.0	63.0	259 065 E	5
6.80	109.0	69.0	259 068 E	5

Ø mm	L1 mm	L2 mm	HSSE-Co 5	
7.00	109.0	69.0	259 070 E	5
7.50	109.0	69.0	259 075 E	5
8.00	117.0	75.0	259 080 E	5
8.50	117.0	75.0	259 085 E	1
9.00	125.0	81.0	259 090 E	1
9.50	125.0	81.0	259 095 E	1
10.00	133.0	87.0	259 100 E	1
10.20	133.0	87.0	259 102 E	1
10.50	133.0	87.0	259 105 E	1
11.00	142.0	94.0	259 110 E	1
11.50	142.0	94.0	259 115 E	1
12.00	151.0	101.0	259 120 E	1
12.50	151.0	101.0	259 125 E	1
13.00	151.0	101.0	259 130 E	1

		HSSE-Co 5
19 tlg./pcs.	Twist drill set DIN 338 type FLOWSTEP® Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	259 214 ERO
25 tlg./pcs.	Twist drill set DIN 338 type FLOWSTEP® Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	259 215 ERO

ULTIMATECUT twist drill DIN 338 type FLOWSTEP®, HSS

FLOWSTEP® tip
- Perfect centering, avoiding slipping even on round surfaces such as pipe and tube.
- Easy and smooth drilling process, without jamming in the material.
- Extremely fast and energy-saving drilling.
- Time savings of up to 50%.
- Significantly longer tool life - up to 5x more holes possible.
- Optimal performance in hand-held (cordless) power tool drill machines.

! FLOWSTEP® tip from ø 3.00, as from a technical application point of view there is no benefit in sizes smaller than ø 3.00.

Packaging: plastic tube

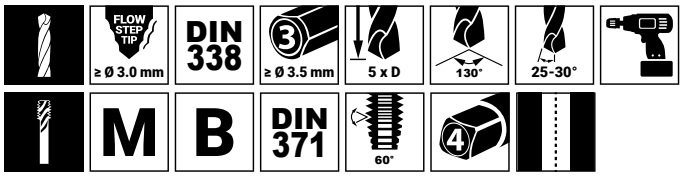
Ø mm	L1 mm	L2 mm	HSS	
1.00	34.0	12.0	259 010	10
1.50	40.0	18.0	259 015	10
2.00	49.0	24.0	259 020	10
2.50	57.0	30.0	259 025	10
3.00	61.0	33.0	259 030	10
3.30	65.0	36.0	259 033	10
3.50	70.0	39.0	259 035	10
4.00	75.0	43.0	259 040	10
4.20	75.0	43.0	259 042	10
4.50	80.0	47.0	259 045	10
5.00	86.0	52.0	259 050	10
5.50	93.0	57.0	259 055	5
6.00	93.0	57.0	259 060	5
6.50	101.0	63.0	259 065	5
6.80	109.0	69.0	259 068	5

Ø mm	L1 mm	L2 mm	HSS	
7.00	109.0	69.0	259 070	5
7.50	109.0	69.0	259 075	5
8.00	117.0	75.0	259 080	5
8.50	117.0	75.0	259 085	1
9.00	125.0	81.0	259 090	1
9.50	125.0	81.0	259 095	1
10.00	133.0	87.0	259 100	1
10.20	133.0	87.0	259 102	1
10.50	133.0	87.0	259 105	1
11.00	142.0	94.0	259 110	1
11.50	142.0	94.0	259 115	1
12.00	151.0	101.0	259 120	1
12.50	151.0	101.0	259 125	1
13.00	151.0	101.0	259 130	1

		HSS
19 tlg./pcs.	Twist drill set DIN 338 type FLOWSTEP® Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	259 214 RO
25 tlg./pcs.	Twist drill set DIN 338 type FLOWSTEP® Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	259 215 RO

Main application Other application

NEW

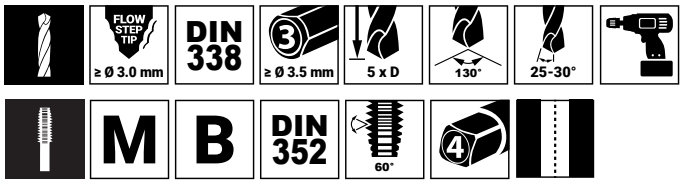


ULTIMATECUT twist drill DIN 338 type FLOWSTEP® + machine tap M DIN 371 / 376 form B

		HSS
14 tlg./pcs.	Machine tap set 7 ULTIMATECUT twist drills DIN 338 type FLOWSTEP® Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm + 7 Machine taps M DIN 371 / 376 Form B with peel cut M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12	259 048 RO

		HSSE-Co 5
14 tlg./pcs.	Machine tap set 7 ULTIMATECUT twist drills DIN 338 type FLOWSTEP® Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm + 7 Machine taps M DIN 371 / 376 Form B with peel cut M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12	259 048 ERO

NEW



ULTIMATECUT twist drill DIN 338 type FLOWSTEP® + single-cut tap M ≈ DIN 352 HSS

		HSS
15 tlg./pcs.	Single-cut tap set 7 ULTIMATECUT twist drills DIN 338 type FLOWSTEP® HSS Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm + 7 single-cut taps M ≈ DIN 352 HSS, M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12	259 004 RO

HSSE Co8 | DIN 338 | VA | 5 x D | ≥ Ø 2.0 mm | 130° | 36° | h8

Twist drill DIN 338 type VA, HSSE-Co 8

Powerful special drill that should ideally be used for titanium base alloys as well as stainless, acid-resistant and heat-resistant austenitic steels. It is also suitable for high strength steels with low ductility. Under certain conditions, these drills can be used for special alloys such as hastelloy, inconel and nimonic etc

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSSE-Co 8		HSSE-Co 8 TiAlN	
1.00	34.0	12.0	281 010 E	10	281 010 EF	10
1.10	36.0	14.0	281 011 E	10	281 011 EF	10
1.20	38.0	16.0	281 012 E	10	281 012 EF	10
1.30	38.0	16.0	281 013 E	10	281 013 EF	10
1.40	40.0	18.0	281 014 E	10	281 014 EF	10
1.50	40.0	18.0	281 015 E	10	281 015 EF	10
1.60	43.0	20.0	281 016 E	10	281 016 EF	10
1.70	43.0	20.0	281 017 E	10	281 017 EF	10
1.80	46.0	22.0	281 018 E	10	281 018 EF	10
1.90	46.0	22.0	281 019 E	10	281 019 EF	10
2.00	49.0	24.0	281 020 E	10	281 020 EF	10
2.10	49.0	24.0	281 021 E	10	281 021 EF	10
2.20	53.0	27.0	281 022 E	10	281 022 EF	10
2.30	53.0	27.0	281 023 E	10	281 023 EF	10
2.40	57.0	30.0	281 024 E	10	281 024 EF	10
2.50	57.0	30.0	281 025 E	10	281 025 EF	10
2.60	57.0	30.0	281 026 E	10	281 026 EF	10
2.70	61.0	33.0	281 027 E	10	281 027 EF	10
2.80	61.0	33.0	281 028 E	10	281 028 EF	10
2.90	61.0	33.0	281 029 E	10	281 029 EF	10
3.00	61.0	33.0	281 030 E	10	281 030 EF	10
3.10	65.0	36.0	281 031 E	10	281 031 EF	10
3.20	65.0	36.0	281 032 E	10	281 032 EF	10
3.30	65.0	36.0	281 033 E	10	281 033 EF	10
3.40	70.0	39.0	281 034 E	10	281 034 EF	10
3.50	70.0	39.0	281 035 E	10	281 035 EF	10
3.60	70.0	39.0	281 036 E	10	281 036 EF	10
3.70	70.0	39.0	281 037 E	10	281 037 EF	10
3.80	75.0	43.0	281 038 E	10	281 038 EF	10
3.90	75.0	43.0	281 039 E	10	281 039 EF	10
4.00	75.0	43.0	281 040 E	10	281 040 EF	10
4.10	75.0	43.0	281 041 E	10	281 041 EF	10
4.20	75.0	43.0	281 042 E	10	281 042 EF	10
4.30	80.0	47.0	281 043 E	10	281 043 EF	10
4.40	80.0	47.0	281 044 E	10	281 044 EF	10
4.50	80.0	47.0	281 045 E	10	281 045 EF	10
4.60	80.0	47.0	281 046 E	10	281 046 EF	10
4.70	80.0	47.0	281 047 E	10	281 047 EF	10
4.80	86.0	52.0	281 048 E	10	281 048 EF	10
4.90	86.0	52.0	281 049 E	10	281 049 EF	10

Ø mm	L1 mm	L2 mm	HSSE-Co 8		HSSE-Co 8 TiAlN	
5.00	86.0	52.0	281 050 E	10	281 050 EF	10
5.10	86.0	52.0	281 051 E	10	281 051 EF	10
5.20	86.0	52.0	281 052 E	10	281 052 EF	10
5.30	86.0	52.0	281 053 E	10	281 053 EF	10
5.40	93.0	57.0	281 054 E	10	281 054 EF	10
5.50	93.0	57.0	281 055 E	10	281 055 EF	10
5.60	93.0	57.0	281 056 E	10	281 056 EF	10
5.70	93.0	57.0	281 057 E	10	281 057 EF	10
5.80	93.0	57.0	281 058 E	10	281 058 EF	10
5.90	93.0	57.0	281 059 E	10	281 059 EF	10
6.00	93.0	57.0	281 060 E	10	281 060 EF	10
6.10	101.0	63.0	281 061 E	10	281 061 EF	10
6.20	101.0	63.0	281 062 E	10	281 062 EF	10
6.30	101.0	63.0	281 063 E	10	281 063 EF	10
6.40	101.0	63.0	281 064 E	10	281 064 EF	10
6.50	101.0	63.0	281 065 E	10	281 065 EF	10
6.60	101.0	63.0	281 066 E	10	281 066 EF	10
6.70	101.0	63.0	281 067 E	10	281 067 EF	10
6.80	109.0	69.0	281 068 E	10	281 068 EF	10
6.90	109.0	69.0	281 069 E	10	281 069 EF	10
7.00	109.0	69.0	281 070 E	10	281 070 EF	10
7.10	109.0	69.0	281 071 E	10	281 071 EF	10
7.20	109.0	69.0	281 072 E	10	281 072 EF	10
7.30	109.0	69.0	281 073 E	10	281 073 EF	10
7.40	109.0	69.0	281 074 E	10	281 074 EF	10
7.50	109.0	69.0	281 075 E	10	281 075 EF	10
7.60	117.0	75.0	281 076 E	10	281 076 EF	10
7.70	117.0	75.0	281 077 E	10	281 077 EF	10
7.80	117.0	75.0	281 078 E	10	281 078 EF	10
7.90	117.0	75.0	281 079 E	10	281 079 EF	10
8.00	117.0	75.0	281 080 E	10	281 080 EF	10
8.10	117.0	75.0	281 081 E	10	281 081 EF	10
8.20	117.0	75.0	281 082 E	10	281 082 EF	10
8.30	117.0	75.0	281 083 E	10	281 083 EF	10
8.40	117.0	75.0	281 084 E	10	281 084 EF	10
8.50	117.0	75.0	281 085 E	10	281 085 EF	10
8.60	125.0	81.0	281 086 E	10	281 086 EF	10
8.70	125.0	81.0	281 087 E	10	281 087 EF	10
8.80	125.0	81.0	281 088 E	10	281 088 EF	10
8.90	125.0	81.0	281 089 E	10	281 089 EF	10
9.00	125.0	81.0	281 090 E	10	281 090 EF	10
9.10	125.0	81.0	281 091 E	10	281 091 EF	10
9.20	125.0	81.0	281 092 E	10	281 092 EF	10
9.30	125.0	81.0	281 093 E	10	281 093 EF	10
9.40	125.0	81.0	281 094 E	10	281 094 EF	10
9.50	125.0	81.0	281 095 E	10	281 095 EF	10
9.60	133.0	87.0	281 096 E	10	281 096 EF	10
9.70	133.0	87.0	281 097 E	10	281 097 EF	10
9.80	133.0	87.0	281 098 E	10	281 098 EF	10
9.90	133.0	87.0	281 099 E	10	281 099 EF	10
10.00	133.0	87.0	281 100 E	10	281 100 EF	10
10.20	133.0	87.0	281 102 E	10	281 102 EF	10
10.50	133.0	87.0	281 105 E	5	281 105 EF	5
11.00	142.0	94.0	281 110 E	5	281 110 EF	5
11.50	142.0	94.0	281 115 E	5	281 115 EF	5
12.00	151.0	101.0	281 120 E	5	281 120 EF	5
12.50	151.0	101.0	281 125 E	5	281 125 EF	5
13.00	151.0	101.0	281 130 E	5	281 130 EF	5
13.50	160.0	108.0	281 135 E	5	281 135 EF	5
14.00	160.0	108.0	281 140 E	5	281 140 EF	5
14.50	169.0	114.0	281 145 E	5	281 145 EF	5
15.00	169.0	114.0	281 150 E	5	281 150 EF	5
15.50	178.0	120.0	281 155 E	5	281 155 EF	5
16.00	178.0	120.0	281 160 E	5	281 160 EF	5

		HSSE-Co 8	HSSE-Co 8 TiAlN
19 tlg./pcs.	Twist drill set DIN 338 type VA Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	281 214 ERO	281 214 EFRO
25 tlg./pcs.	Twist drill set DIN 338 type VA Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	281 215 ERO	281 215 EFRO

281 214 ERO

281 214 EFRO

281 215 EFRO

Coolants and lubricants

RUKO coolants and lubricants have an excellent release and cooling effect. They produce a high surface quality and increase tool life even with hard and brittle materials.

You will find the coolants and lubricants to match our range coolants and lubricants in our chapter 14, page 303.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HSSE Co5 | Bronze | DIN 338 | VA | 5 x D | ≥ Ø 2.0 mm | 130° | 36° | h8

Twist drill DIN 338 type VA, HSSE-Co 5

HSSE Co5 | INOX | STEEL | ALU | Cu Ni Mn Zn | PVC | PLEXIGLAS® | WOOD | BRONZE | CAST IRON

Powerful right-hand cutting high-performance drill with distinctive heat resistance.
Ideal for drilling high-strength stainless, acid-resistant and heat-resistant steel

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSSE-Co 5	
1.00	34.0	12.0	215 010	10
1.10	36.0	14.0	215 011	10
1.20	38.0	16.0	215 012	10
1.25	38.0	16.0	215 0125	10
1.30	38.0	16.0	215 013	10
1.40	40.0	18.0	215 014	10
1.50	40.0	18.0	215 015	10
1.60	43.0	20.0	215 016	10
1.70	43.0	20.0	215 017	10
1.75	46.0	22.0	215 0175	10
1.80	46.0	22.0	215 018	10
1.90	46.0	22.0	215 019	10
2.00	49.0	24.0	215 020	10
2.10	49.0	24.0	215 021	10
2.20	53.0	27.0	215 022	10
2.25	53.0	27.0	215 0225	10
2.30	53.0	27.0	215 023	10
2.40	57.0	30.0	215 024	10
2.50	57.0	30.0	215 025	10
2.60	57.0	30.0	215 026	10
2.70	61.0	33.0	215 027	10
2.75	61.0	33.0	215 0275	10
2.80	61.0	33.0	215 028	10
2.90	61.0	33.0	215 029	10
3.00	61.0	33.0	215 030	10
3.10	65.0	36.0	215 031	10
3.20	65.0	36.0	215 032	10
3.25	65.0	36.0	215 0325	10
3.30	65.0	36.0	215 033	10
3.40	70.0	39.0	215 034	10
3.50	70.0	39.0	215 035	10
3.60	70.0	39.0	215 036	10
3.70	70.0	39.0	215 037	10
3.75	70.0	39.0	215 0375	10
3.80	75.0	43.0	215 038	10
3.90	75.0	43.0	215 039	10
4.00	75.0	43.0	215 040	10
4.10	75.0	43.0	215 041	10
4.20	75.0	43.0	215 042	10
4.25	75.0	43.0	215 0425	10

Ø mm	L1 mm	L2 mm	HSSE-Co 5	
4.30	80.0	47.0	215 043	10
4.40	80.0	47.0	215 044	10
4.50	80.0	47.0	215 045	10
4.60	80.0	47.0	215 046	10
4.70	80.0	47.0	215 047	10
4.75	80.0	47.0	215 0475	10
4.80	86.0	52.0	215 048	10
4.90	86.0	52.0	215 049	10
5.00	86.0	52.0	215 050	10
5.10	86.0	52.0	215 051	10
5.20	86.0	52.0	215 052	10
5.25	86.0	52.0	215 0525	10
5.30	86.0	52.0	215 053	10
5.40	93.0	57.0	215 054	10
5.50	93.0	57.0	215 055	10
5.60	93.0	57.0	215 056	10
5.70	93.0	57.0	215 057	10
5.75	93.0	57.0	215 0575	10
5.80	93.0	57.0	215 058	10
5.90	93.0	57.0	215 059	10
6.00	93.0	57.0	215 060	10
6.10	101.0	63.0	215 061	10
6.20	101.0	63.0	215 062	10
6.25	101.0	63.0	215 0625	10
6.30	101.0	63.0	215 063	10
6.40	101.0	63.0	215 064	10
6.50	101.0	63.0	215 065	10
6.60	101.0	63.0	215 066	10
6.70	101.0	63.0	215 067	10
6.75	101.0	63.0	215 0675	10
6.80	109.0	69.0	215 068	10
6.90	109.0	69.0	215 069	10
7.00	109.0	69.0	215 070	10
7.10	109.0	69.0	215 071	10
7.20	109.0	69.0	215 072	10
7.25	109.0	69.0	215 0725	10
7.30	109.0	69.0	215 073	10
7.40	109.0	69.0	215 074	10
7.50	109.0	69.0	215 075	10
7.60	117.0	75.0	215 076	10

Ø mm	L1 mm	L2 mm	HSSE-Co 5	
7.70	117.0	75.0	215 077	10
7.75	117.0	75.0	215 0775	10
7.80	117.0	75.0	215 078	10
7.90	117.0	75.0	215 079	10
8.00	117.0	75.0	215 080	10
8.10	117.0	75.0	215 081	10
8.20	117.0	75.0	215 082	10
8.25	117.0	75.0	215 0825	10
8.30	117.0	75.0	215 083	10
8.40	117.0	75.0	215 084	10
8.50	117.0	75.0	215 085	10
8.60	125.0	81.0	215 086	10
8.70	125.0	81.0	215 087	10
8.75	125.0	81.0	215 0875	10
8.80	125.0	81.0	215 088	10
8.90	125.0	81.0	215 089	10
9.00	125.0	81.0	215 090	10
9.10	125.0	81.0	215 091	10
9.20	125.0	81.0	215 092	10
9.25	125.0	81.0	215 0925	10
9.30	125.0	81.0	215 093	10
9.40	125.0	81.0	215 094	10
9.50	125.0	81.0	215 095	10
9.60	133.0	87.0	215 096	10
9.70	133.0	87.0	215 097	10
9.75	133.0	87.0	215 0975	10
9.80	133.0	87.0	215 098	10
9.90	133.0	87.0	215 099	10
10.00	133.0	87.0	215 100	10
10.10	133.0	87.0	215 101	10
10.20	133.0	87.0	215 102	10
10.30	133.0	87.0	215 103	10
10.40	133.0	87.0	215 104	10
10.50	133.0	87.0	215 105	5
10.60	133.0	87.0	215 106	5
10.70	142.0	94.0	215 107	5
10.80	142.0	94.0	215 108	5

Ø mm	L1 mm	L2 mm	HSSE-Co 5	
10.90	142.0	94.0	215 109	5
11.00	142.0	94.0	215 110	5
11.10	142.0	94.0	215 111	5
11.20	142.0	94.0	215 112	5
11.30	142.0	94.0	215 113	5
11.40	142.0	94.0	215 114	5
11.50	142.0	94.0	215 115	5
11.60	142.0	94.0	215 116	5
11.70	142.0	94.0	215 117	5
11.80	142.0	94.0	215 118	5
11.90	151.0	101.0	215 119	5
12.00	151.0	101.0	215 120	5
12.10	151.0	101.0	215 121	5
12.20	151.0	101.0	215 122	5
12.30	151.0	101.0	215 123	5
12.40	151.0	101.0	215 124	5
12.50	151.0	101.0	215 125	5
12.60	151.0	101.0	215 126	5
12.70	151.0	101.0	215 127	5
12.80	151.0	101.0	215 128	5
12.90	151.0	101.0	215 129	5
13.00	151.0	101.0	215 130	5
13.50	160.0	108.0	215 135	5
14.00	160.0	108.0	215 140	5
14.50	169.0	114.0	215 145	5
15.00	169.0	114.0	215 150	5
15.50	178.0	120.0	215 155	5
16.00	178.0	120.0	215 160	5
16.50	184.0	125.0	215 165	1
17.00	184.0	125.0	215 170	1
17.50	191.0	130.0	215 175	1
18.00	191.0	130.0	215 180	1
18.50	198.0	135.0	215 185	1
19.00	198.0	135.0	215 190	1
19.50	205.0	140.0	215 195	1
20.00	205.0	140.0	215 210	1

		HSSE-Co 5
19 tlg./pcs.	Twist drill set DIN 338 type VA Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	215 214 RO
24 tlg./pcs.	Twist drill set DIN 338 type VA Ø 1.0 mm to 10.5 mm x 0.5 mm increasing + 3.3 / 4.2 / 6.8 / 10.2 mm	215 216 RO
25 tlg./pcs.	Twist drill set DIN 338 type VA Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	215 215 RO
41 tlg./pcs.	Twist drill set DIN 338 type VA Ø 6.0 mm to 10.0 mm x 0.1 mm increasing	215 218 RO
50 tlg./pcs.	Twist drill set DIN 338 type VA Ø 1.0 mm to 5.9 mm x 0.1 mm increasing	215 217 RO

215 214 RO

215 216 RO

215 218 RO

215 217 RO

Main application Other application

		HSSE-Co 5
91 tlg./pcs.	Twist drill set in workbench stand Ø 1.0 mm to 10.0 mm x 0.1 mm increasing	215 223
170 tlg./pcs.	Twist drill set in magazine 10 pieces each Ø 1.0 - 8.0 mm x 0.5 mm increasing 5 pieces each Ø 8.5 - 10.0 mm x 0.5 mm increasing	215 200 RO
570 tlg./pcs.	Drill cabinet, equipped 50 pieces each Ø 1.0 - 2.5 mm x 0.5 mm increasing 30 pieces each Ø 3.0 - 5.5 mm x 0.5 mm increasing 20 pieces each Ø 6.0 - 7.5 mm x 0.5 mm increasing 10 pieces each Ø 8.0 - 13.0 mm x 0.5 mm increasing	215 208
	Drill cabinet empty Dimensions: H1: 23.0 cm. L1: 37.0 cm. D1: 9.5 cm. T2: 20.0 cm Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	205 208 L
	Drill cabinet empty Dimensions: H1: 46.5 cm. L1: 39.0 cm. D1: 9.5 cm. T2: 20.0 cm Ø 1.0 mm to 10.0 mm x 0.1 mm increasing Ø 10.5 mm to 13.0 mm x 0.5 mm increasing	205 2081 L

215 223

215 200 RO

205 208 L

HSSE Co5 | Bronze | DIN 338 | VA | 5 x D | ≥ Ø 2.0 mm | 130° | 36° | h8

Twist drill DIN 338 type VA, HSSE-Co 5 – *inch dimensions*

Inch Size

HSSE Co5 | INOX | STEEL | ALU | Cu Ni Mn Zn | PVC | PLEXIGLAS | WOOD | BRONZE | CAST IRON

Powerful right-hand cutting high-performance drill with distinctive heat resistance and reinforced drill core. Ideal for drilling high-strength stainless, acid-resistant and heat-resistant steel.

Packaging: plastic tube

Ø inch	Ø mm	L1 inch	L2 inch	HSSE-Co 5	
1/16	1,59	1 7/8	7/8	215 801	10
5/64	1,98	2	1	215 802	10
3/32	2,38	2 1/4	1 1/4	215 803	10
7/64	2,78	2 5/8	1 1/2	215 804	10
1/8	3,18	2 3/4	1 5/8	215 805	10
9/64	3,57	2 7/8	1 3/4	215 806	10
5/32	3,97	3 1/8	2	215 807	10
11/64	4,37	3 1/4	2 1/8	215 808	10
3/16	4,76	3 1/2	2 5/16	215 809	10
13/64	5,16	3 5/8	2 7/16	215 810	10
7/32	5,56	3 3/4	2 1/2	215 811	10
15/64	5,95	3 7/8	2 5/8	215 812	10
1/4	6,35	4	2 3/4	215 813	10
17/64	6,75	4 1/8	2 7/8	215 814	10
9/32	7,14	4 1/4	2 15/16	215 815	10

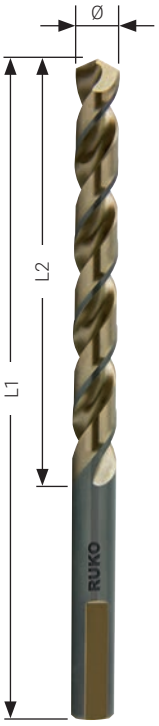
Ø inch	Ø mm	L1 inch	L2 inch	HSSE-Co 5	
19/64	7,54	4 3/8	3 1/16	215 816	10
5/16	7,94	4 1/2	3 3/16	215 817	10
21/64	8,33	4 5/8	3 5/16	215 818	10
11/32	8,73	4 3/4	3 7/16	215 819	10
23/64	9,13	4 7/8	3 1/2	215 820	10
3/8	9,53	5	3 5/8	215 821	10
25/64	9,92	5 1/8	3 3/4	215 822	10
13/32	10,32	5 1/4	3 7/8	215 823	10
27/64	10,72	5 3/8	3 15/16	215 824	5
7/16	11,11	5 1/2	4 1/16	215 825	5
29/64	11,51	5 5/8	4 3/16	215 826	5
15/32	11,91	5 3/4	4 5/16	215 827	5
31/64	12,30	5 7/8	4 3/8	215 828	5
1/2	12,70	6	4 1/2	215 829	5

		HSSE-Co 5
21 tlg./pcs.	Twist drill set DIN 338 type VA Ø 1/16" to 3/8" x 1/64" increasing	215 850 RO
29 tlg./pcs.	Twist drill set DIN 338 type VA Ø 1/16" to 1/2" x 1/64" increasing	215 851 RO

215 850 RO

HSSE Co5 | VAP Bonze | DIN 338 | UNI | 5 x D | ≥ Ø 2.0 mm | 135° | 40° | h8 | ≥ Ø 4.0 mm

Twist drill DIN 338 type UNI, HSSE-Co 5



HSSE Co5 | INOX | STEEL | ALU | Cu Ni Ms Zn | PVC | PLEXIGLAS® | WOOD | BRONZE | CAST IRON

- The trihedral shank ensures excellent fixation in the drill chuck with little effort.
- The shank also ensures optimum power transmission. No spinning of the drill bit!
- The 135° high-performance cutting edge ensures very high centering accuracy, especially for hand-held applications with the cordless drill driver. The cutting edge prevents slipping when drilling curved surfaces.
- Increased battery life by reducing cutting forces.
- The black bevel increases wear resistance and prevents cold welding and built-up edges.
- The 40° helix angle enables perfect and fast chip evacuation and ensures high cutting speeds with increased stability and accuracy.

Application tip

This high-performance twist drill was specially developed for portable use in drills and cordless drill drivers.
(Best performance up to 5.0 mm material thickness).

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSSE-Co 5	
1.00	34.0	12.0	228 010	10
1.50	40.0	18.0	228 015	10
2.00	49.0	24.0	228 020	10
2.50	57.0	30.0	228 025	10
3.00	61.0	33.0	228 030	10
3.30	65.0	36.0	228 033	10
3.50	70.0	39.0	228 035	10
4.00	75.0	43.0	228 040	10
4.20	75.0	43.0	228 042	10
4.50	80.0	47.0	228 045	10
5.00	86.0	52.0	228 050	10
5.50	93.0	57.0	228 055	10
6.00	93.0	57.0	228 060	10
6.50	101.0	63.0	228 065	10
6.80	109.0	69.0	228 068	10

Ø mm	L1 mm	L2 mm	HSSE-Co 5	
7.00	109.0	69.0	228 070	10
7.50	109.0	69.0	228 075	10
8.00	117.0	75.0	228 080	10
8.50	117.0	75.0	228 085	10
9.00	125.0	81.0	228 090	10
9.50	125.0	81.0	228 095	10
10.00	133.0	87.0	228 100	10
10.20	133.0	87.0	228 102	10
10.50	133.0	87.0	228 105	5
11.00	142.0	94.0	228 110	5
11.50	142.0	94.0	228 115	5
12.00	151.0	101.0	228 120	5
12.50	151.0	101.0	228 125	5
13.00	151.0	101.0	228 130	5

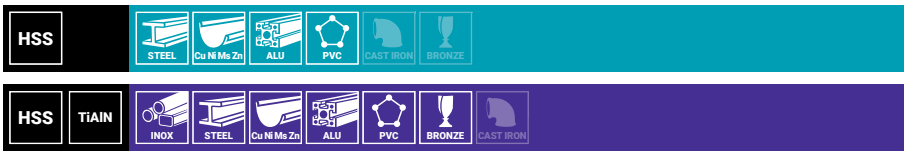
		HSSE-Co 5
19 tlg./pcs.	Twist drill set DIN 338 type UNI Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	228 214 RO
25 tlg./pcs.	Twist drill set DIN 338 type UNI Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	228 215 RO

228 214 RO


RUKO

HSS | DIN 338 | TL 3000 | 5 x D | ≥ Ø 2.0 mm | 130° | 40° | h8

Twist drill DIN 338 TL 3000, HSS



Highly stable multirange drill with outstanding heat resistance, a reinforced drill core and a parabolic flute for ideal chip removal. Ideal for drilling medium and long-chipping materials. Thanks to its thick core and the special flute with a rounded rear edge, this drill is best suited for high-performance use. It covers types N, H and W for a wide range of applications.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSS TiAlN		HSS	
1.00	34.0	12.0	258 010 F	10	258 010	10
1.50	40.0	18.0	258 015 F	10	258 015	10
2.00	49.0	24.0	258 020 F	10	258 020	10
2.50	57.0	30.0	258 025 F	10	258 025	10
3.00	61.0	33.0	258 030 F	10	258 030	10
3.30	65.0	36.0	258 033 F	10	258 033	10
3.50	70.0	39.0	258 035 F	10	258 035	10
4.00	75.0	43.0	258 040 F	10	258 040	10
4.20	75.0	43.0	258 042 F	10	258 042	10
4.50	80.0	47.0	258 045 F	10	258 045	10
5.00	86.0	52.0	258 050 F	10	258 050	10
5.50	93.0	57.0	258 055 F	10	258 055	10
6.00	93.0	57.0	258 060 F	10	258 060	10
6.50	101.0	63.0	258 065 F	10	258 065	10
6.80	109.0	69.0	258 068 F	10	258 068	10
7.00	109.0	69.0	258 070 F	10	258 070	10
7.50	109.0	69.0	258 075 F	10	258 075	10
8.00	117.0	75.0	258 080 F	10	258 080	10
8.50	117.0	75.0	258 085 F	10	258 085	10
9.00	125.0	81.0	258 090 F	10	258 090	10
9.50	125.0	81.0	258 095 F	10	258 095	10
10.00	133.0	87.0	258 100 F	10	258 100	10
10.20	133.0	87.0	258 102 F	10	258 102	10
10.50	133.0	87.0	258 105 F	5	258 105	5
11.00	142.0	94.0	258 110 F	5	258 110	5
11.50	142.0	94.0	258 115 F	5	258 115	5
12.00	151.0	101.0	258 120 F	5	258 120	5
12.50	151.0	101.0	258 125 F	5	258 125	5
13.00	151.0	101.0	258 130 F	5	258 130	5
13.50	160.0	108.0	258 135 F	5	258 135	5
14.00	160.0	108.0	258 140 F	5	258 140	5
14.50	169.0	114.0	258 145 F	5	258 145	5
15.00	169.0	114.0	258 150 F	5	258 150	5
15.50	178.0	120.0	258 155 F	5	258 155	5
16.00	178.0	120.0	258 160 F	5	258 160	5

		HSS TiAlN	HSS
19 tlg./pcs.	Twist drill set DIN 338 TL 3000, HSS Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	258 214 FRO	258 214 RO
25 tlg./pcs.	Twist drill set DIN 338 TL 3000, HSS Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	258 215 FRO	258 215 RO

258 214 RO

258 214 FRO

258 215 RO

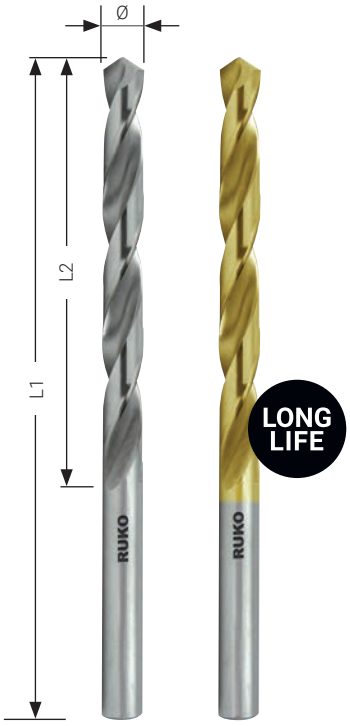
258 215 FRO

HSS | DIN 338 | N | 5 x D | ≥ Ø 2.0 mm | 118° | 25-30° | h8

Twist drill DIN 338 type N, HSS + TiN

HSS: STEEL, Cu Ni Ms Zn, ALU, PVC, CAST IRON, BRONZE

HSS TiN: STEEL, Cu Ni Ms Zn, PVC, INOX, CAST IRON, BRONZE



High-performance ground standard twist drill made from high speed steel. The fully ground twist drill has a precise concentricity. Thanks to the split point, this drill has good centering properties and requires little pressure.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSS		HSS TiN	
0.30	19.0	3.0	214 003	10	250 003 T	10
0.40	20.0	5.0	214 004	10	250 004 T	10
0.50	22.0	6.0	214 005	10	250 005 T	10
0.60	24.0	7.0	214 006	10	250 006 T	10
0.70	28.0	9.0	214 007	10	250 007 T	10
0.80	30.0	10.0	214 008	10	250 008 T	10
0.90	32.0	11.0	214 009	10	250 009 T	10
1.00	34.0	12.0	214 010	10	250 010 T	10
1.10	36.0	14.0	214 011	10	250 011 T	10
1.20	38.0	16.0	214 012	10	250 012 T	10
1.25	38.0	16.0	214 0125	10	250 0125 T	10
1.30	38.0	16.0	214 013	10	250 013 T	10
1.40	40.0	18.0	214 014	10	250 014 T	10
1.50	40.0	18.0	214 015	10	250 015 T	10
1.60	43.0	20.0	214 016	10	250 016 T	10
1.70	43.0	20.0	214 017	10	250 017 T	10
1.75	46.0	20.0	214 0175	10	250 0175 T	10
1.80	46.0	22.0	214 018	10	250 018 T	10
1.90	46.0	22.0	214 019	10	250 019 T	10
2.00	49.0	24.0	214 020	10	250 020 T	10
2.10	49.0	24.0	214 021	10	250 021 T	10
2.20	53.0	27.0	214 022	10	250 022 T	10
2.25	53.0	27.0	214 0225	10	250 0225 T	10
2.30	53.0	27.0	214 023	10	250 023 T	10
2.40	57.0	30.0	214 024	10	250 024 T	10
2.50	57.0	30.0	214 025	10	250 025 T	10
2.60	57.0	30.0	214 026	10	250 026 T	10
2.70	61.0	33.0	214 027	10	250 027 T	10
2.75	61.0	33.0	214 0275	10	250 0275 T	10
2.80	61.0	33.0	214 028	10	250 028 T	10
2.90	61.0	33.0	214 029	10	250 029 T	10
3.00	61.0	33.0	214 030	10	250 030 T	10
3.10	65.0	36.0	214 031	10	250 031 T	10
3.20	65.0	36.0	214 032	10	250 032 T	10
3.25	65.0	36.0	214 0325	10	250 0325 T	10
3.30	65.0	36.0	214 033	10	250 033 T	10
3.40	70.0	39.0	214 034	10	250 034 T	10
3.50	70.0	39.0	214 035	10	250 035 T	10
3.60	70.0	39.0	214 036	10	250 036 T	10
3.70	70.0	39.0	214 037	10	250 037 T	10

Ø mm	L1 mm	L2 mm	HSS		HSS TiN	
3.75	70.0	39.0	214 0375	10	250 0375 T	10
3.80	75.0	43.0	214 038	10	250 038 T	10
3.90	75.0	43.0	214 039	10	250 039 T	10
4.00	75.0	43.0	214 040	10	250 040 T	10
4.10	75.0	43.0	214 041	10	250 041 T	10
4.20	75.0	43.0	214 042	10	250 042 T	10
4.25	75.0	43.0	214 0425	10	250 0425 T	10
4.30	80.0	47.0	214 043	10	250 043 T	10
4.40	80.0	47.0	214 044	10	250 044 T	10
4.50	80.0	47.0	214 045	10	250 045 T	10
4.60	80.0	47.0	214 046	10	250 046 T	10
4.70	80.0	47.0	214 047	10	250 047 T	10
4.75	80.0	47.0	214 0475	10	250 0475 T	10
4.80	86.0	52.0	214 048	10	250 048 T	10
4.90	86.0	52.0	214 049	10	250 049 T	10
5.00	86.0	52.0	214 050	10	250 050 T	10
5.10	86.0	52.0	214 051	10	250 051 T	10
5.20	86.0	52.0	214 052	10	250 052 T	10
5.25	86.0	52.0	214 0525	10	250 0525 T	10
5.30	86.0	52.0	214 053	10	250 053 T	10
5.40	93.0	57.0	214 054	10	250 054 T	10
5.50	93.0	57.0	214 055	10	250 055 T	10
5.60	93.0	57.0	214 056	10	250 056 T	10
5.70	93.0	57.0	214 057	10	250 057 T	10
5.75	93.0	57.0	214 0575	10	250 0575 T	10
5.80	93.0	57.0	214 058	10	250 058 T	10
5.90	93.0	57.0	214 059	10	250 059 T	10
6.00	93.0	57.0	214 060	10	250 060 T	10
6.10	101.0	63.0	214 061	10	250 061 T	10
6.20	101.0	63.0	214 062	10	250 062 T	10
6.25	101.0	63.0	214 0625	10	250 0625 T	10
6.30	101.0	63.0	214 063	10	250 063 T	10
6.40	101.0	63.0	214 064	10	250 064 T	10
6.50	101.0	63.0	214 065	10	250 065 T	10
6.60	101.0	63.0	214 066	10	250 066 T	10
6.70	101.0	63.0	214 067	10	250 067 T	10
6.75	101.0	63.0	214 0675	10	250 0675 T	10
6.80	109.0	69.0	214 068	10	250 068 T	10
6.90	109.0	69.0	214 069	10	250 069 T	10
7.00	109.0	69.0	214 070	10	250 070 T	10
7.10	109.0	69.0	214 071	10	250 071 T	10
7.20	109.0	69.0	214 072	10	250 072 T	10
7.25	109.0	69.0	214 0725	10	250 0725 T	10
7.30	109.0	69.0	214 073	10	250 073 T	10
7.40	109.0	69.0	214 074	10	250 074 T	10
7.50	109.0	69.0	214 075	10	250 075 T	10
7.60	117.0	75.0	214 076	10	250 076 T	10
7.70	117.0	75.0	214 077	10	250 077 T	10
7.75	117.0	75.0	214 0775	10	250 0775 T	10
7.80	117.0	75.0	214 078	10	250 078 T	10
7.90	117.0	75.0	214 079	10	250 079 T	10
8.00	117.0	75.0	214 080	10	250 080 T	10
8.10	117.0	75.0	214 081	10	250 081 T	10
8.20	117.0	75.0	214 082	10	250 082 T	10
8.25	117.0	75.0	214 0825	10	250 0825 T	10
8.30	117.0	75.0	214 083	10	250 083 T	10
8.40	117.0	75.0	214 084	10	250 084 T	10
8.50	117.0	75.0	214 085	10	250 085 T	10
8.60	125.0	81.0	214 086	10	250 086 T	10
8.70	125.0	81.0	214 087	10	250 087 T	10
8.75	125.0	81.0	214 0875	10	250 0875 T	10
8.80	125.0	81.0	214 088	10	250 088 T	10
8.90	125.0	81.0	214 089	10	250 089 T	10
9.00	125.0	81.0	214 090	10	250 090 T	10
9.10	125.0	81.0	214 091	10	250 091 T	10
9.20	125.0	81.0	214 092	10	250 092 T	10
9.25	125.0	81.0	214 0925	10	250 0925 T	10
9.30	125.0	81.0	214 093	10	250 093 T	10
9.40	125.0	81.0	214 094	10	250 094 T	10
9.50	125.0	81.0	214 095	10	250 095 T	10
9.60	133.0	87.0	214 096	10	250 096 T	10
9.70	133.0	87.0	214 097	10	250 097 T	10
9.75	133.0	87.0	214 0975	10	250 0975 T	10
9.80	133.0	87.0	214 098	10	250 098 T	10

Ø mm	L1 mm	L2 mm	HSS		HSS TiN	
9.90	133.0	87.0	214 099	10	250 099 T	10
10.00	133.0	87.0	214 100	10	250 100 T	10
10.10	133.0	87.0	214 101	10	250 101 T	10
10.20	133.0	87.0	214 102	10	250 102 T	10
10.30	133.0	87.0	214 103	10	250 103 T	10
10.40	133.0	87.0	214 104	10	250 104 T	10
10.50	133.0	87.0	214 105	5	250 105 T	5
10.60	133.0	87.0	214 106	5	250 106 T	5
10.70	142.0	94.0	214 107	5	250 107 T	5
10.80	142.0	94.0	214 108	5	250 108 T	5
10.90	142.0	94.0	214 109	5	250 109 T	5
11.00	142.0	94.0	214 110	5	250 110 T	5
11.10	142.0	94.0	214 111	5	250 111 T	5
11.20	142.0	94.0	214 112	5	250 112 T	5
11.30	142.0	94.0	214 113	5	250 113 T	5
11.40	142.0	94.0	214 114	5	250 114 T	5
11.50	142.0	94.0	214 115	5	250 115 T	5
11.60	142.0	94.0	214 116	5	250 116 T	5
11.70	142.0	94.0	214 117	5	250 117 T	5
11.80	142.0	94.0	214 118	5	250 118 T	5
11.90	151.0	101.0	214 119	5	250 119 T	5
12.00	151.0	101.0	214 120	5	250 120 T	5
12.10	151.0	101.0	214 121	5	250 121 T	5
12.20	151.0	101.0	214 122	5	250 122 T	5
12.30	151.0	101.0	214 123	5	250 123 T	5
12.40	151.0	101.0	214 124	5	250 124 T	5
12.50	151.0	101.0	214 125	5	250 125 T	5
12.60	151.0	101.0	214 126	5	250 126 T	5
12.70	151.0	101.0	214 127	5	250 127 T	5
12.80	151.0	101.0	214 128	5	250 128 T	5
12.90	151.0	101.0	214 129	5	250 129 T	5
13.00	151.0	101.0	214 130	5	250 130 T	5
13.50	160.0	108.0	214 135	5	250 135 T	5
14.00	160.0	108.0	214 140	5	250 140 T	5
14.50	169.0	114.0	214 145	5	250 145 T	5
15.00	169.0	114.0	214 150	5	250 150 T	5
15.50	178.0	120.0	214 155	5	250 155 T	5
16.00	178.0	120.0	214 160	5	250 160 T	5
16.50	184.0	125.0	214 165	1		
17.00	184.0	125.0	214 170	1		
17.50	191.0	130.0	214 175	1		
18.00	191.0	130.0	214 180	1		
18.50	198.0	135.0	214 185	1		
19.00	198.0	135.0	214 190	1		
19.50	205.0	140.0	214 195	1		
20.00	205.0	140.0	214 201	1		

		HSS
19 tlg./pcs.	Twist drill DIN 338 type N. HSS Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	214 214 RO
24 tlg./pcs.	Twist drill DIN 338 type N. HSS Ø 1.0 mm to 10.5 mm x 0.5 mm increasing + 3.3 / 4.2 / 6.8 / 10.2 mm	214 216 RO
25 tlg./pcs.	Twist drill DIN 338 type N. HSS Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	214 215 RO
41 tlg./pcs.	Twist drill DIN 338 type N. HSS Ø 6.0 mm to 10.0 mm x 0.1 mm increasing	214 218 RO
50 tlg./pcs.	Twist drill DIN 338 type N. HSS Ø 1.0 mm to 5.9 mm x 0.1 mm increasing	214 217 RO

214 214 RO

		HSS TiN
19 tlg./pcs.	Twist drill DIN 338 type N. HSS-TiN Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	250 214 TRO
25 tlg./pcs.	Twist drill DIN 338 type N. HSS-TiN Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	250 215 TRO

250 214 TRO

		HSS
91 tlg./pcs.	Twist drill set in workbench stand Ø 1.0 mm to 10.0 mm x 0.1 mm increasing	214 223
170 tlg./pcs.	Twist drill set in magazine 10 pieces each Ø 1.0 - 8.0 mm x 0.5 mm increasing 5 pieces each Ø 8.5 - 10.0 mm x 0.5 mm increasing	214 200 RO
570 tlg./pcs.	Drill cabinet, equipped 50 pieces each Ø 1.0 - 2.5 mm x 0.5 mm increasing 30 pieces each Ø 3.0 - 5.5 mm x 0.5 mm increasing 20 pieces each Ø 6.0 - 7.5 mm x 0.5 mm increasing 10 pieces each Ø 8.0 - 13.0 mm x 0.5 mm increasing	214 208


214 223

214 200 RO


214 208
(Equipment not shown)

HSS | DIN 338 | N | 5 x D | ≥ Ø 2.0 mm | 118° | 25-30° | h8

Twist drill DIN 338 type N, HSS – *inch dimensions*

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE

Inch Size

High-performance ground standard twist drill made from high speed steel.
The fully ground twist drill has a precise concentricity. Thanks to the split point, this drill has good centering properties and requires little pressure.

Packaging: plastic tube

Ø inch	Ø mm	L1 inch	L2 inch	HSS	
1/16	1,59	1 7/8	7/8	214 801	10
5/64	1,98	2	1	214 802	10
3/32	2,38	2 1/4	1 1/4	214 803	10
7/64	2,78	2 5/8	1 1/2	214 804	10
1/8	3,18	2 3/4	1 5/8	214 805	10
9/64	3,57	2 7/8	1 3/4	214 806	10
5/32	3,97	3 1/8	2	214 807	10
11/64	4,37	3 1/4	2 1/8	214 808	10
3/16	4,76	3 1/2	2 5/16	214 809	10
13/64	5,16	3 5/8	2 7/16	214 810	10
7/32	5,56	3 3/4	2 1/2	214 811	10
15/64	5,95	3 7/8	2 5/8	214 812	10
1/4	6,35	4	2 3/4	214 813	10
17/64	6,75	4 1/8	2 7/8	214 814	10
9/32	7,14	4 1/4	2 15/16	214 815	10

Ø inch	Ø mm	L1 inch	L2 inch	HSS	
19/64	7,54	4 3/8	3 1/16	214 816	10
5/16	7,94	4 1/2	3 3/16	214 817	10
21/64	8,33	4 5/8	3 5/16	214 818	10
11/32	8,73	4 3/4	3 7/16	214 819	10
23/64	9,13	4 7/8	3 1/2	214 820	10
3/8	9,53	5	3 5/8	214 821	10
25/64	9,92	5 1/8	3 3/4	214 822	10
13/32	10,32	5 1/4	3 7/8	214 823	10
27/64	10,72	5 3/8	3 15/16	214 824	5
7/16	11,11	5 1/2	4 1/16	214 825	5
29/64	11,51	5 5/8	4 3/16	214 826	5
15/32	11,91	5 3/4	4 5/16	214 827	5
31/64	12,30	5 7/8	4 3/8	214 828	5
1/2	12,70	6	4 1/2	214 829	5

		HSS
21 tlg./pcs.	Twist drill set DIN 338 type N Ø 1/16" to 3/8" x 1/64" increasing	214 850 RO
29 tlg./pcs.	Twist drill set DIN 338 type N Ø 1/16" to 1/2" x 1/64" increasing	214 851 RO

214 850 RO

HSS | DIN 338 | N | 5 x D | ≥ Ø 2.0 mm | 118° | 25-30° | h8

Twist drill DIN 338 type N, HSS TiN – *inch dimensions*

HSS | TiN | STEEL | Cu Ni Ms Zn | PVC | INOX | CAST IRON | BRONZE

LONG LIFE

Inch Size

High-performance ground standard twist drill made from high speed steel.
The fully ground twist drill has a precise concentricity. Thanks to the split point, this drill has good centering properties and requires little pressure.

Packaging: plastic tube

Ø inch	Ø mm	L1 inch	L2 inch	HSS TiN	
1/16	1,59	1 7/8	7/8	250 801 T	10
5/64	1,98	2	1	250 802 T	10
3/32	2,38	2 1/4	1 1/4	250 803 T	10
7/64	2,78	2 5/8	1 1/2	250 804 T	10
1/8	3,18	2 3/4	1 5/8	250 805 T	10
9/64	3,57	2 7/8	1 3/4	250 806 T	10
5/32	3,97	3 1/8	2	250 807 T	10
11/64	4,37	3 1/4	2 1/8	250 808 T	10
3/16	4,76	3 1/2	2 5/16	250 809 T	10
13/64	5,16	3 5/8	2 7/16	250 810 T	10
7/32	5,56	3 3/4	2 1/2	250 811 T	10
15/64	5,95	3 7/8	2 5/8	250 812 T	10
1/4	6,35	4	2 3/4	250 813 T	10
17/64	6,75	4 1/8	2 7/8	250 814 T	10
9/32	7,14	4 1/4	2 15/16	250 815 T	10

Ø inch	Ø mm	L1 inch	L2 inch	HSS TiN	
19/64	7,54	4 3/8	3 1/16	250 816 T	10
5/16	7,94	4 1/2	3 3/16	250 817 T	10
21/64	8,33	4 5/8	3 5/16	250 818 T	10
11/32	8,73	4 3/4	3 7/16	250 819 T	10
23/64	9,13	4 7/8	3 1/2	250 820 T	10
3/8	9,53	5	3 5/8	250 821 T	10
25/64	9,92	5 1/8	3 3/4	250 822 T	10
13/32	10,32	5 1/4	3 7/8	250 823 T	10
27/64	10,72	5 3/8	3 15/16	250 824 T	5
7/16	11,11	5 1/2	4 1/16	250 825 T	5
29/64	11,51	5 5/8	4 3/16	250 826 T	5
15/32	11,91	5 3/4	4 5/16	250 827 T	5
31/64	12,30	5 7/8	4 3/8	250 828 T	5
1/2	12,70	6	4 1/2	250 829 T	5

		HSS TiN
21 tlg./pcs.	Twist drill set DIN 338 type N, HSS-TiN Ø 1/16" to 3/8" x 1/64" increasing	250 850 TRO
29 tlg./pcs.	Spiralbohrer-Satz DIN 338 Typ N, HSS-TiN Ø 1/16" bis 1/2" x 1/64" increasing	250 851 TRO

LONG LIFE

250 850 TRO

Main application | Other application

HSS | DIN 338 | N | 5 x D | ≥ Ø 2.0 mm | 118° | 25-30° | h8

Twist drill DIN 338 type N, HSS-G with TiN tip coating

HSS | TiN | STEEL | Cu Ni Mg Zn | PVC | PLEXIGLAS | INOX | BRONZE | CAST IRON

High-performance ground standard twist drill made from high speed steel. The fully ground twist drill has a precise concentricity. Thanks to the split point, this drill has good centring properties and requires little pressure.

The titanium nitride coating is a universally usable standard coating. It has a 300-400 % longer service life than non-coated materials. Cooling is recommended.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSS TiN	
1,00	34,0	12,0	2501 010 T	10
1,50	40,0	18,0	2501 015 T	10
1,60	43,0	20,0	2501 016 T	10
2,00	49,0	24,0	2501 020 T	10
2,10	49,0	24,0	2501 021 T	10
2,50	57,0	30,0	2501 025 T	10
3,00	61,0	33,0	2501 030 T	10
3,30	65,0	36,0	2501 033 T	10
3,50	70,0	39,0	2501 035 T	10
4,00	75,0	43,0	2501 040 T	10
4,20	75,0	43,0	2501 042 T	10
4,50	80,0	47,0	2501 045 T	10
5,00	86,0	52,0	2501 050 T	10
5,50	93,0	57,0	2501 055 T	10
6,00	93,0	57,0	2501 060 T	10
6,50	101,0	63,0	2501 065 T	10

Ø mm	L1 mm	L2 mm	HSS TiN	
6,80	109,0	69,0	2501 068 T	10
7,00	109,0	69,0	2501 070 T	10
7,50	109,0	69,0	2501 075 T	10
8,00	117,0	75,0	2501 080 T	10
8,50	117,0	75,0	2501 085 T	10
9,00	125,0	81,0	2501 090 T	10
9,50	125,0	81,0	2501 095 T	10
10,00	133,0	87,0	2501 100 T	10
10,20	133,0	87,0	2501 102 T	10
10,50	133,0	87,0	2501 105 T	5
11,00	142,0	94,0	2501 110 T	5
11,50	142,0	94,0	2501 115 T	5
12,00	151,0	101,0	2501 120 T	5
12,50	151,0	101,0	2501 125 T	5
13,00	151,0	101,0	2501 130 T	5

		HSS TiN
19 tlg./pcs.	Twist drill set DIN 338 type N Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	2501 214 TRO
25 tlg./pcs.	Twist drill set DIN 338 type N Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	2501 215 TRO

2501 214 TRO

HSS | DIN 338 | N | 5 x D | ≥ Ø 2.0 mm | 118° | 25-30° | h8

Twist drill DIN 338 type N, HSS – *left-hand cutting*

HSS | STEEL | ALU | Cu Ni Ms Zn | PVC | PLEXIGLAS | WOOD | BRONZE | CAST IRON

High-performance, ground twist drill made from high-speed steel. The fully ground twist drill has precise concentricity.

Application tip

This left-hand cutting twist drill was specially developed for portable use in power drills and cordless drill drivers. For drilling out broken screws and bolts.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSS	
1.00	34.0	12.0	214 010 Li	10
1.50	40.0	18.0	214 015 Li	10
2.00	49.0	24.0	214 020 Li	10
2.50	57.0	30.0	214 025 Li	10
3.00	61.0	33.0	214 030 Li	10
3.20	65.0	36.0	214 032 Li	10
3.50	70.0	39.0	214 035 Li	10
4.00	75.0	43.0	214 040 Li	10
4.20	75.0	43.0	214 042 Li	10
4.50	80.0	47.0	214 045 Li	10
4.80	86.0	52.0	214 048 Li	10
5.00	86.0	52.0	214 050 Li	10
5.50	93.0	57.0	214 055 Li	10
6.00	93.0	57.0	214 060 Li	10

Ø mm	L1 mm	L2 mm	HSS	
6.50	101.0	63.0	214 065 Li	10
7.00	109.0	69.0	214 070 Li	10
7.50	109.0	69.0	214 075 Li	10
8.00	117.0	75.0	214 080 Li	10
8.50	117.0	75.0	214 085 Li	10
9.00	125.0	81.0	214 090 Li	10
9.50	125.0	81.0	214 095 Li	10
10.00	133.0	87.0	214 100 Li	10
10.50	133.0	87.0	214 105 Li	5
11.00	142.0	94.0	214 110 Li	5
11.50	142.0	94.0	214 115 Li	5
12.00	151.0	101.0	214 120 Li	5
12.50	151.0	101.0	214 125 Li	5
13.00	151.0	101.0	214 130 Li	5

		HSS
19 tlg./pcs.	Twist drill set DIN 338 type N Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	214 214 LiRO
25 tlg./pcs.	Twist drill set DIN 338 type N Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	214 215 LiRO

Main application Other application

HSS-R | VAP | DIN 338 | N | 5 x D | N | 118° | 25-30° | h8

Twist drill DIN 338 type N, HSS-R

HSS-R | STEEL | Cu Ni Mn Zn | ALU | PVC | CAST IRON | BRONZE

High-performance ground standard twist drill made from high speed steel. The fully ground twist drill has a precise concentricity. Thanks to the split point, this drill has good centring properties and requires little pressure.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSS-R	
0.30	19.0	3.0	201 003	10
0.40	20.0	5.0	201 004	10
0.50	22.0	6.0	201 005	10
0.60	24.0	7.0	201 006	10
0.70	28.0	9.0	201 007	10
0.80	30.0	10.0	201 008	10
0.90	32.0	11.0	201 009	10
1.00	34.0	12.0	201 010	10
1.10	36.0	14.0	201 011	10
1.20	38.0	16.0	201 012	10
1.25	38.0	16.0	201 0125	10
1.30	38.0	16.0	201 013	10
1.40	40.0	18.0	201 014	10
1.50	40.0	18.0	201 015	10
1.60	43.0	20.0	201 016	10
1.70	43.0	20.0	201 017	10
1.75	46.0	20.0	201 0175	10
1.80	46.0	22.0	201 018	10
1.90	46.0	22.0	201 019	10
2.00	49.0	24.0	201 020	10
2.10	49.0	24.0	201 021	10
2.20	53.0	27.0	201 022	10
2.25	53.0	27.0	201 0225	10
2.30	53.0	27.0	201 023	10
2.40	57.0	30.0	201 024	10
2.50	57.0	30.0	201 025	10
2.60	57.0	30.0	201 026	10
2.70	61.0	33.0	201 027	10
2.75	61.0	33.0	201 0275	10
2.80	61.0	33.0	201 028	10
2.90	61.0	33.0	201 029	10
3.00	61.0	33.0	201 030	10
3.10	65.0	36.0	201 031	10
3.20	65.0	36.0	201 032	10
3.25	65.0	36.0	201 0325	10
3.30	65.0	36.0	201 033	10
3.40	70.0	39.0	201 034	10
3.50	70.0	39.0	201 035	10
3.60	70.0	39.0	201 036	10
3.70	70.0	39.0	201 037	10

Ø mm	L1 mm	L2 mm	HSS-R	
3.75	70.0	39.0	201 0375	10
3.80	75.0	43.0	201 038	10
3.90	75.0	43.0	201 039	10
4.00	75.0	43.0	201 040	10
4.10	75.0	43.0	201 041	10
4.20	75.0	43.0	201 042	10
4.25	75.0	43.0	201 0425	10
4.30	80.0	47.0	201 043	10
4.40	80.0	47.0	201 044	10
4.50	80.0	47.0	201 045	10
4.60	80.0	47.0	201 046	10
4.70	80.0	47.0	201 047	10
4.75	80.0	47.0	201 0475	10
4.80	86.0	52.0	201 048	10
4.90	86.0	52.0	201 049	10
5.00	86.0	52.0	201 050	10
5.10	86.0	52.0	201 051	10
5.20	86.0	52.0	201 052	10
5.25	86.0	52.0	201 0525	10
5.30	86.0	52.0	201 053	10
5.40	93.0	57.0	201 054	10
5.50	93.0	57.0	201 055	10
5.60	93.0	57.0	201 056	10
5.70	93.0	57.0	201 057	10
5.75	93.0	57.0	201 0575	10
5.80	93.0	57.0	201 058	10
5.90	93.0	57.0	201 059	10
6.00	93.0	57.0	201 060	10
6.10	101.0	63.0	201 061	10
6.20	101.0	63.0	201 062	10
6.25	101.0	63.0	201 0625	10
6.30	101.0	63.0	201 063	10
6.40	101.0	63.0	201 064	10
6.50	101.0	63.0	201 065	10
6.60	101.0	63.0	201 066	10
6.70	101.0	63.0	201 067	10
6.75	101.0	63.0	201 0675	10
6.80	109.0	69.0	201 068	10
6.90	109.0	69.0	201 069	10
7.00	109.0	69.0	201 070	10

Ø mm	L1 mm	L2 mm	HSS-R	
7.10	109.0	69.0	201 071	10
7.20	109.0	69.0	201 072	10
7.25	109.0	69.0	201 0725	10
7.30	109.0	69.0	201 073	10
7.40	109.0	69.0	201 074	10
7.50	109.0	69.0	201 075	10
7.60	117.0	75.0	201 076	10
7.70	117.0	75.0	201 077	10
7.75	117.0	75.0	201 0775	10
7.80	117.0	75.0	201 078	10
7.90	117.0	75.0	201 079	10
8.00	117.0	75.0	201 080	10
8.10	117.0	75.0	201 081	10
8.20	117.0	75.0	201 082	10
8.25	117.0	75.0	201 0825	10
8.30	117.0	75.0	201 083	10
8.40	117.0	75.0	201 084	10
8.50	117.0	75.0	201 085	10
8.60	125.0	81.0	201 086	10
8.70	125.0	81.0	201 087	10
8.75	125.0	81.0	201 0875	10
8.80	125.0	81.0	201 088	10
8.90	125.0	81.0	201 089	10
9.00	125.0	81.0	201 090	10
9.10	125.0	81.0	201 091	10
9.20	125.0	81.0	201 092	10
9.25	125.0	81.0	201 0925	10
9.30	125.0	81.0	201 093	10
9.40	125.0	81.0	201 094	10
9.50	125.0	81.0	201 095	10
9.60	133.0	87.0	201 096	10
9.70	133.0	87.0	201 097	10
9.75	133.0	87.0	201 0975	10
9.80	133.0	87.0	201 098	10
9.90	133.0	87.0	201 099	10
10.00	133.0	87.0	201 100	10
10.10	133.0	87.0	201 101	10
10.20	133.0	87.0	201 102	10
10.30	133.0	87.0	201 103	10
10.40	133.0	87.0	201 104	10

Ø mm	L1 mm	L2 mm	HSS-R	
10.50	133.0	87.0	201 105	5
10.60	133.0	87.0	201 106	5
10.70	142.0	94.0	201 107	5
10.80	142.0	94.0	201 108	5
10.90	142.0	94.0	201 109	5
11.00	142.0	94.0	201 110	5
11.10	142.0	94.0	201 111	5
11.20	142.0	94.0	201 112	5
11.30	142.0	94.0	201 113	5
11.40	142.0	94.0	201 114	5
11.50	142.0	94.0	201 115	5
11.60	142.0	94.0	201 116	5
11.70	142.0	94.0	201 117	5
11.80	142.0	94.0	201 118	5
11.90	151.0	101.0	201 119	5
12.00	151.0	101.0	201 120	5
12.10	151.0	101.0	201 121	5
12.20	151.0	101.0	201 122	5
12.30	151.0	101.0	201 123	5
12.40	151.0	101.0	201 124	5
12.50	151.0	101.0	201 125	5
12.60	151.0	101.0	201 126	5
12.70	151.0	101.0	201 127	5
12.80	151.0	101.0	201 128	5
12.90	151.0	101.0	201 129	5
13.00	151.0	101.0	201 130	5
13.50	160.0	108.0	201 135	5
14.00	160.0	108.0	201 140	5
14.50	169.0	114.0	201 145	5
15.00	169.0	114.0	201 150	5
15.50	178.0	120.0	201 155	5
16.00	178.0	120.0	201 160	5
16.50	184.0	125.0	201 165	1
17.00	184.0	125.0	201 170	1
17.50	191.0	130.0	201 175	1
18.00	191.0	130.0	201 180	1
18.50	198.0	135.0	201 185	1
19.00	198.0	135.0	201 190	1
19.50	205.0	140.0	201 195	1
20.00	205.0	140.0	201 200	1

		HSS-R
19 tlg./pcs.	Twist drill DIN 338 type N. HSS-R Ø 1.0 mm to 10.0 mm x 0.5 mm increasing	205 212 RO
24 tlg./pcs.	Twist drill DIN 338 type N. HSS-R Ø 1.0 mm to 10.5 mm x 0.5 mm increasing + 3.3 / 4.2 / 6.8 / 10.2 mm	205 216 RO
25 tlg./pcs.	Twist drill DIN 338 type N. HSS-R Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	205 213 RO
41 tlg./pcs.	Twist drill DIN 338 type N. HSS-R Ø 6.0 mm to 10.0 mm x 0.1 mm increasing	205 218 RO
50 tlg./pcs.	Twist drill DIN 338 type N. HSS-R Ø 1.0 mm to 5.9 mm x 0.1 mm increasing	205 217 RO

205 212 RO

205 213 RO

205 218 RO

205 217 RO

		HSS-R
91 tlg./pcs.	Twist drill set in workbench stand Ø 1.0 mm to 10.0 mm x 0.1 mm increasing	205 223
570 tlg./pcs.	Drill bit cabinet, equipped 50 pieces each Ø 1.0 - 2.5 mm x 0.5 mm increasing 30 pieces each Ø 3.0 - 5.5 mm x 0.5 mm increasing 20 pieces each Ø 6.0 - 7.5 mm x 0.5 mm increasing 10 pieces each Ø 8.0 - 13.0 mm x 0.5 mm increasing	205 208
	Drill cabinet empty Dimensions: H1: 23.0 cm. L1: 37.0 cm. D1: 9.5 cm. T2: 20.0 cm Ø 1.0 mm to 13.0 mm x 0.5 mm increasing	205 208 L
	Drill cabinet empty Dimensions: H1: 46.5 cm. L1: 39.0 cm. D1: 9.5 cm. T2: 20.0 cm Ø 1.0 mm to 10.0 mm x 0.1 mm increasing Ø 10.5 mm to 13.0 mm x 0.5 mm increasing	205 2081 L

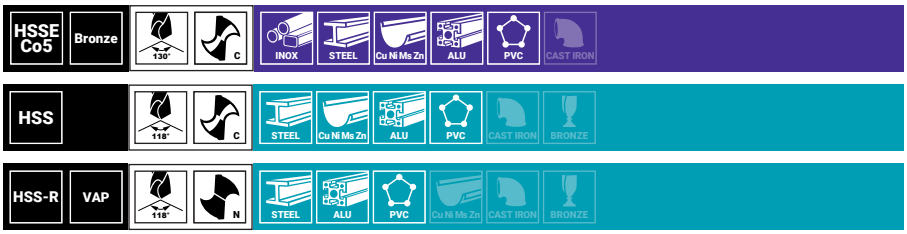

205 223


205 208 L


205 2081 L

DIN 338 | N | 5 x D | 25-30° | h8

Twist drill DIN 338 type N with reduced shank



Ideal for drilling larger drill diameters.
Suitable for all standard drills with a chuck up to 13.0 mm.

Ø1 mm	L1 mm	Ø2 mm	L2 mm	HSSE-Co 5		HSS		HSS-R	
10.50	133.0	10.0	30.0	200 5 105	1	200 4 105	1	200 105	1
11.00	142.0	10.0	30.0	200 5 110	1	200 4 110	1	200 110	1
11.50	142.0	10.0	30.0	200 5 115	1	200 4 115	1	200 115	1
12.00	151.0	10.0	30.0	200 5 120	1	200 4 120	1	200 120	1
12.50	151.0	10.0	30.0	200 5 125	1	200 4 125	1	200 125	1
13.00	151.0	10.0	30.0	200 5 130	1	200 4 130	1	200 130	1
13.50	160.0	10.0	30.0	200 5 135	1	200 4 135	1	200 135	1
14.00	160.0	10.0	30.0	200 5 140	1	200 4 140	1	200 140	1
14.50	169.0	10.0	30.0	200 5 145	1	200 4 145	1	200 145	1
15.00	169.0	10.0	30.0	200 5 150	1	200 4 150	1	200 150	1
15.50	178.0	10.0	30.0	200 5 155	1	200 4 155	1	200 155	1
16.00	178.0	10.0	30.0	200 5 160	1	200 4 160	1	200 160	1
16.50	184.0	13.0	35.0	200 5 165	1	200 4 165	1	200 165	1
17.00	184.0	13.0	35.0	200 5 170	1	200 4 170	1	200 170	1
17.50	191.0	13.0	35.0	200 5 175	1	200 4 175	1	200 175	1
18.00	191.0	13.0	35.0	200 5 180	1	200 4 180	1	200 180	1
18.50	198.0	13.0	35.0	200 5 185	1	200 4 185	1	200 185	1
19.00	198.0	13.0	35.0	200 5 190	1	200 4 190	1	200 190	1
19.50	205.0	13.0	35.0	200 5 195	1	200 4 195	1	200 195	1
20.00	205.0	13.0	35.0	200 5 200	1	200 4 200	1	200 200	1
22.00	205.0	13.0	35.0					200 220	1
24.00	205.0	13.0	35.0					200 240	1
25.00	205.0	13.0	35.0					200 250	1

		HSS
10 tlg./pcs.	Twist drill set DIN 338 type N, HSS with reduced shank Ø 14.0 | 15.0 | 15.5 | 16.0 | 17.0 | 17.5 | 18.0 | 19.0 | 19.5 | 20.0 mm	2004 201

Main application Other application

Twist drill DIN 340 type N, HSS-G

High-performance ground standard twist drill made from high speed steel.
The fully ground twist drill has a precise concentricity.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSS	
2.50	95.0	62.0	203 025	10
3.00	100.0	66.0	203 030	10
3.30	106.0	69.0	203 033	10
3.50	112.0	73.0	203 035	10
4.00	119.0	78.0	203 040	10
4.20	119.0	78.0	203 042	10
4.50	126.0	82.0	203 045	10
5.00	132.0	87.0	203 050	10
5.50	139.0	91.0	203 055	10
6.00	139.0	91.0	203 060	10
6.50	148.0	97.0	203 065	10
6.80	156.0	102.0	203 068	10
7.00	156.0	102.0	203 070	10
7.50	156.0	102.0	203 075	10
7.80	165.0	109.0	203 078	10
8.00	165.0	109.0	203 080	10
8.50	165.0	109.0	203 085	10
9.00	175.0	115.0	203 090	10
9.50	175.0	115.0	203 095	10
10.00	184.0	121.0	203 100	10
10.50	184.0	121.0	203 105	5
11.00	195.0	128.0	203 110	5
11.50	195.0	128.0	203 115	5
12.00	205.0	134.0	203 120	5
12.50	205.0	134.0	203 125	5
13.00	205.0	134.0	203 130	5

HSS | DIN 1869 | TL 3000 | 15 x D | C | 130° | 40° | h8

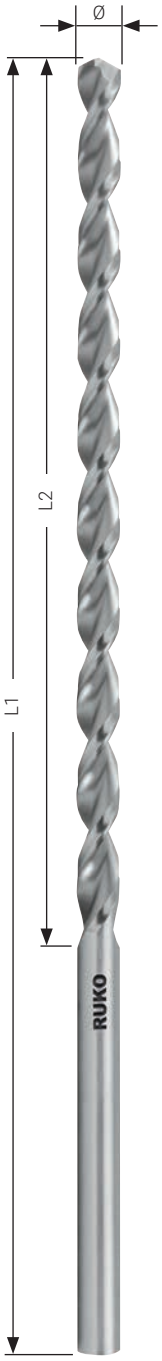
Twist drill DIN 1869 TL 3000, HSS – *extra long*

HSS | STEEL | Cu Ni Mg Zn | ALU | PVC | CAST IRON | BRONZE

Stable special drill. Ideally suitable for deep holes under difficult conditions, e.g. bad chipping materials. Suitable for all usual drilling work in all normal materials.

High rotational precision. For drilling deep holes please use small feed and remove chips frequently.

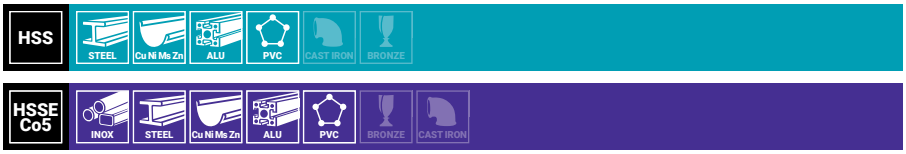
Packaging: plastic tube



Ø mm	L1 mm	L2 mm	HSS	
2.00	125.0	85.0	254 020	1
2.50	140.0	95.0	254 025	1
3.00	150.0	100.0	254 030	1
3.20	155.0	105.0	254 032	1
3.30	155.0	105.0	254 033	1
3.50	165.0	115.0	254 035	1
4.00	175.0	120.0	254 040	1
4.20	175.0	120.0	254 042	1
4.50	185.0	125.0	254 045	1
5.00	195.0	135.0	254 050	1
5.50	205.0	140.0	254 055	1
6.00	205.0	140.0	254 060	1
6.50	215.0	150.0	254 065	1
7.00	225.0	155.0	254 070	1
7.50	225.0	155.0	254 075	1
8.00	240.0	165.0	254 080	1
8.50	240.0	165.0	254 085	1
9.00	250.0	175.0	254 090	1
9.50	250.0	175.0	254 095	1
10.00	265.0	185.0	254 100	1
10.50	265.0	185.0	254 105	1
11.00	280.0	195.0	254 110	1
11.50	280.0	195.0	254 115	1
12.00	295.0	205.0	254 120	1
12.50	295.0	205.0	254 125	1
13.00	295.0	205.0	254 130	1

Ø mm	L1 mm	L2 mm	HSS	
3.00	190.0	130.0	255 030	1
3.20	200.0	135.0	255 032	1
3.30	200.0	135.0	255 033	1
3.50	210.0	145.0	255 035	1
4.00	220.0	150.0	255 040	1
4.20	220.0	150.0	255 042	1
4.50	235.0	160.0	255 045	1
5.00	245.0	170.0	255 050	1
5.50	260.0	180.0	255 055	1
6.00	260.0	180.0	255 060	1
6.50	275.0	190.0	255 065	1
7.00	290.0	200.0	255 070	1
7.50	290.0	200.0	255 075	1
8.00	305.0	210.0	255 080	1
8.50	305.0	210.0	255 085	1
9.00	320.0	220.0	255 090	1
9.50	320.0	220.0	255 095	1
10.00	340.0	235.0	255 100	1
10.50	340.0	235.0	255 105	1
11.00	365.0	250.0	255 110	1
11.50	365.0	250.0	255 115	1
12.00	375.0	260.0	255 120	1
12.50	375.0	260.0	255 125	1
13.00	375.0	260.0	255 130	1

Twist drill DIN 345 type N, HSS + HSSE-Co 5



Highly efficient standard drill with morse taper.
For drilling steel, cast steel and cast iron – alloyed and unalloyed. Highly secure against fracture.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	Morse cone	HSSE-Co 5		HSS	
10.00	168.0	87.0	1	204 100 E	1	204 100	1
10.50	168.0	87.0	1	204 105 E	1	204 105	1
11.00	175.0	94.0	1	204 110 E	1	204 110	1
11.50	175.0	94.0	1	204 115 E	1	204 115	1
12.00	182.0	101.0	1	204 120 E	1	204 120	1
12.50	182.0	101.0	1	204 125 E	1	204 125	1
13.00	182.0	101.0	1	204 130 E	1	204 130	1
13.50	189.0	108.0	1	204 135 E	1	204 135	1
14.00	189.0	108.0	1	204 140 E	1	204 140	1
14.50	212.0	114.0	2	204 145 E	1	204 145	1
15.00	212.0	114.0	2	204 150 E	1	204 150	1
15.50	218.0	120.0	2	204 155 E	1	204 155	1
16.00	218.0	120.0	2	204 160 E	1	204 160	1
16.50	223.0	125.0	2	204 165 E	1	204 165	1
17.00	223.0	125.0	2	204 170 E	1	204 170	1
17.50	228.0	130.0	2	204 175 E	1	204 175	1
18.00	228.0	130.0	2	204 180 E	1	204 180	1
18.50	233.0	135.0	2	204 185 E	1	204 185	1
19.00	233.0	135.0	2	204 190 E	1	204 190	1
19.50	238.0	140.0	2	204 195 E	1	204 195	1
20.00	238.0	140.0	2	204 200 E	1	204 200	1
20.50	243.0	145.0	2	204 205 E	1	204 205	1
21.00	243.0	145.0	2	204 210 E	1	204 210	1
21.50	248.0	150.0	2	204 215 E	1	204 215	1
22.00	248.0	150.0	2	204 220 E	1	204 220	1
22.50	253.0	155.0	2	204 225 E	1	204 225	1
23.00	253.0	155.0	2	204 230 E	1	204 230	1
23.50	276.0	155.0	3	204 235 E	1	204 235	1
24.00	281.0	160.0	3	204 240 E	1	204 240	1
24.50	281.0	160.0	3	204 245 E	1	204 245	1
25.00	281.0	160.0	3	204 250 E	1	204 250	1
25.50	286.0	165.0	3	204 255 E	1	204 255	1
26.00	286.0	165.0	3	204 260 E	1	204 260	1
26.50	286.0	165.0	3	204 265 E	1	204 265	1
27.00	291.0	170.0	3	204 270 E	1	204 270	1
27.50	291.0	170.0	3	204 275 E	1	204 275	1
28.00	291.0	170.0	3	204 280 E	1	204 280	1
28.50	296.0	175.0	3	204 285 E	1	204 285	1
29.00	296.0	175.0	3	204 290 E	1	204 290	1
29.50	296.0	175.0	3	204 295 E	1	204 295	1
30.00	296.0	175.0	3	204 300 E	1	204 300	1

Ø mm	L1 mm	L2 mm	Morse cone	HSSE-Co 5		HSS	
30.50	301.0	180.0	3	–		204 305	1
31.00	301.0	180.0	3	–		204 310	1
31.50	301.0	180.0	3	–		204 315	1
32.00	334.0	185.0	4	–		204 320	1
32.50	334.0	185.0	4	–		204 325	1
33.00	334.0	185.0	4	–		204 330	1
33.50	334.0	185.0	4	–		204 335	1
34.00	339.0	190.0	4	–		204 340	1
34.50	339.0	190.0	4	–		204 345	1
35.00	339.0	190.0	4	–		204 350	1
35.50	339.0	190.0	4	–		204 355	1
36.00	344.0	195.0	4	–		204 360	1
36.50	344.0	195.0	4	–		204 365	1
37.00	344.0	195.0	4	–		204 370	1
37.50	344.0	195.0	4	–		204 375	1
38.00	349.0	200.0	4	–		204 380	1
38.50	349.0	200.0	4	–		204 385	1
39.00	349.0	200.0	4	–		204 390	1
39.50	349.0	200.0	4	–		204 395	1
40.00	349.0	200.0	4	–		204 400	1
40.50	354.0	205.0	4	–		204 405	1
41.00	354.0	205.0	4	–		204 410	1
41.50	354.0	205.0	4	–		204 415	1
42.00	354.0	205.0	4	–		204 420	1
42.50	354.0	205.0	4	–		204 425	1
43.00	359.0	210.0	4	–		204 430	1
43.50	359.0	210.0	4	–		204 435	1
44.00	359.0	210.0	4	–		204 440	1
44.50	359.0	210.0	4	–		204 445	1
45.00	359.0	210.0	4	–		204 450	1
45.50	364.0	215.0	4	–		204 455	1
46.00	364.0	215.0	4	–		204 460	1
46.50	364.0	215.0	4	–		204 465	1
47.00	364.0	215.0	4	–		204 470	1
47.50	364.0	215.0	4	–		204 475	1
48.00	369.0	220.0	4	–		204 480	1
48.50	369.0	220.0	4	–		204 485	1
49.00	369.0	220.0	4	–		204 490	1
49.50	369.0	220.0	4	–		204 495	1
50.00	369.0	220.0	4	–		204 500	1
51.00	412.0	225.0	5	–		204 510	1
52.00	412.0	225.0	5	–		204 520	1
53.00	412.0	225.0	5	–		204 530	1
54.00	417.0	230.0	5	–		204 540	1
55.00	417.0	230.0	5	–		204 550	1
56.00	417.0	230.0	5	–		204 560	1
57.00	422.0	235.0	5	–		204 570	1
58.00	422.0	235.0	5	–		204 580	1
59.00	422.0	235.0	5	–		204 590	1
60.00	422.0	235.0	5	–		204 600	1

Twist drill DIN 1897 type N, HSSE-Co 5 – *short*

Short and stable twist drill with distinctive heat resistance. Ideally suited for assembly work with thin-walled materials such as sheet steels, flat steels and profile steel in bodyshell construction. Use in hand-held drilling machines, with automatic machines and with turret lathes.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSSE-Co 5	
2.00	38.0	12.0	202 020 E	10
2.50	43.0	14.0	202 025 E	10
3.00	46.0	16.0	202 030 E	10
3.10	49.0	18.0	202 031 E	10
3.20	49.0	18.0	202 032 E	10
3.25	49.0	18.0	202 0325 E	10
3.30	49.0	18.0	202 033 E	10
3.50	52.0	20.0	202 035 E	10
3.60	52.0	20.0	202 036 E	10
4.00	55.0	22.0	202 040 E	10
4.10	55.0	22.0	202 041 E	10
4.20	55.0	22.0	202 042 E	10
4.50	58.0	24.0	202 045 E	10
4.80	62.0	26.0	202 048 E	10
4.90	62.0	26.0	202 049 E	10
5.00	62.0	26.0	202 050 E	10
5.10	62.0	26.0	202 051 E	10
5.20	62.0	26.0	202 052 E	10
5.50	66.0	28.0	202 055 E	10
5.70	66.0	28.0	202 057 E	10
5.80	66.0	28.0	202 058 E	10
5.90	66.0	28.0	202 059 E	10
6.00	66.0	28.0	202 060 E	10
6.30	70.0	31.0	202 063 E	10
6.50	70.0	31.0	202 065 E	10
6.80	74.0	34.0	202 068 E	10
7.00	74.0	34.0	202 070 E	10
7.50	74.0	34.0	202 075 E	10
8.00	79.0	37.0	202 080 E	10
8.50	79.0	37.0	202 085 E	10
9.00	84.0	40.0	202 090 E	10
9.50	84.0	40.0	202 095 E	10
10.00	89.0	43.0	202 100 E	10
10.50	89.0	43.0	202 105 E	5
11.00	95.0	47.0	202 110 E	5
11.50	95.0	47.0	202 115 E	5
12.00	102.0	51.0	202 120 E	5
12.50	102.0	51.0	202 125 E	5
13.00	102.0	51.0	202 130 E	5

Special sizes are also available on request.

HSS | DIN 1897 | N | 3 x D | N | 118° | 25-30° | h8

Twist drill DIN 1897 type N, HSS – *short*

HSS: STEEL | Cu Ni Mg Zn | ALU | PVC | CAST IRON | BRONZE

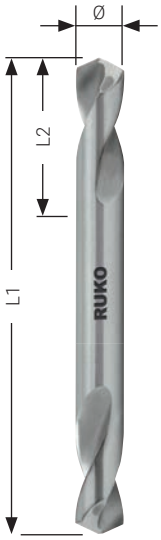
HSS TiN: STEEL | Cu Ni Mg Zn | PVC | INOX | CAST IRON | BRONZE

Short and stable twist drill with distinctive heat resistance. Ideally suited for assembly work with thin-walled materials such as sheet steels, flat steels and profile steel in bodyshell construction. Use in hand-held drilling machines, with automatic machines and with turret lathes.

Packaging: plastic tube

Ø mm	L1 mm	L2 mm	HSS		HSS TiN	
2.00	38.0	12.0	202 020	10	202 020 T	10
2.50	43.0	14.0	202 025	10	202 025 T	10
3.00	46.0	16.0	202 030	10	202 030 T	10
3.30	49.0	18.0	202 033	10	202 033 T	10
3.50	52.0	20.0	202 035	10	202 035 T	10
4.00	55.0	22.0	202 040	10	202 040 T	10
4.20	55.0	22.0	202 042	10	202 042 T	10
4.50	58.0	24.0	202 045	10	202 045 T	10
5.00	62.0	26.0	202 050	10	202 050 T	10
5.50	66.0	28.0	202 055	10	202 055 T	10
5.00	86.0	52.0	202 050	10	202 050 F	10
5.50	93.0	57.0	202 055	10	202 055 F	10
6.00	66.0	28.0	202 060	10	202 060 T	10
6.50	70.0	31.0	202 065	10	202 065 T	10
6.80	74.0	34.0	202 068	10	202 068 T	10
7.00	74.0	34.0	202 070	10	202 070 T	10
7.50	74.0	34.0	202 075	10	202 075 T	10
8.00	79.0	37.0	202 080	10	202 080 T	10
8.50	79.0	37.0	202 085	10	202 085 T	10
9.00	84.0	40.0	202 090	10	202 090 T	10
9.50	84.0	40.0	202 095	10	202 095 T	10
10.00	89.0	43.0	202 100	10	202 100 T	10
10.20	89.0	43.0	202 102	10	202 102 T	10
10.50	89.0	43.0	202 105	5	202 105 T	5
11.00	95.0	47.0	202 110	5	202 110 T	5
11.50	95.0	47.0	202 115	5	202 115 T	5
12.00	102.0	51.0	202 120	5	202 120 T	5
12.50	102.0	51.0	202 125	5	202 125 T	5
13.00	102.0	51.0	202 130	5	202 130 T	5

Double end drill type KV, HSS



HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE

Extra short and stable standard drill. Shorter than DIN 1897. Ideally suitable for assembly work in thin-walled materials such as sheet steels, flat steels and profile steels. High security against fracture. For use in hand-held drilling machines. Usable at both ends.
Advantages DIN 1412 C: good centering, little pressure required. Chip distribution improves chip removal.

Packaging: plastic tube

Ø1 mm	L1 mm	L2 mm	HSS	
2.50	43.0	10.0	252 025	10
2.80	46.0	11.0	252 028	10
3.00	46.0	11.0	252 030	10
3.10	49.0	11.0	252 031	10
3.20	49.0	11.0	252 032	10
3.25	49.0	11.0	252 0325	10
3.30	49.0	11.0	252 033	10
3.40	52.0	14.0	252 034	10
3.50	52.0	14.0	252 035	10
4.00	55.0	14.0	252 040	10
4.10	55.0	14.0	252 041	10

Ø1 mm	L1 mm	L2 mm	HSS	
4.20	55.0	14.0	252 042	10
4.30	58.0	17.0	252 043	10
4.50	58.0	17.0	252 045	10
4.80	62.0	17.0	252 048	10
4.90	62.0	17.0	252 049	10
5.00	62.0	17.0	252 050	10
5.10	62.0	17.0	252 051	10
5.20	62.0	17.0	252 052	10
5.50	66.0	20.0	252 055	10
6.00	66.0	20.0	252 060	10
6.50	70.0	20.0	252 065	10

Centre drill DIN 333, HSS

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE

Centre drills for making centre holes according to shape A.

Packaging: plastic tube

Ø1 mm	L1 mm	L2 mm	HSS	
0.80	20.0	3.15	217 008	1
1.00	31.5	3.15	217 010	1
1.60	35.5	4.00	217 016	1
2.00	40.0	5.00	217 020	1
2.50	45.0	6.30	217 025	1
3.15	50.0	8.00	217 315	1
4.00	56.0	10.00	217 040	1
5.00	63.0	12.50	217 050	1
6.30	71.0	16.00	217 063	1

Use of the drills and cutting conditions

Material	Recommended application		Cooling	Cutting speed v [m/min]	Drill diameter d [mm]				
					2	4	6	9	12
	Main suggestion	Other suggestion			Feed rate f [mm/rotation				
Free cutting steel 350-500 N/mm2	214 ...	258 ... / 202 ...	E	30-40	0,05	0,1	0,125	0,16	0,2
Free cutting steel 500-900 N/mm2	214 ...	228 ... / 202 ...	E	25-30	0,04	0,08	0,1	0,125	0,16
Structural steel up to 500 N/mm2	214 ...	258 ... / 202 ...	E	30-40	0,04	0,08	0,1	0,125	0,16
Structural steel 500-900 N/mm2	214 ...	228 ... / 202 ...	E	20-25	0,032	0,063	0,08	0,1	0,125
Plain carbon case hardening steel up to 600 N/mm2	214 ...	258 ... / 202 ...	E	25-35	0,05	0,1	0,125	0,16	0,2
Alloyed case hardening steel 500-900 N/mm2	214 ...	228 ... / 202 ...	E	20-25	0,4	0,08	0,1	0,125	0,16
Alloyed case hardening steel 900-1000 N/mm2	281 ... E	202 ... E	E, O	10-15	0,025	0,05	0,063	0,08	0,1
Nitriding steel 700-900 N/mm2	281 ... E	228 ... / 202 ... E	E	15-20	0,032	0,063	0,08	0,1	0,125
Heat treated nitriding steel 800-1250 N/mm2	281 ... E	228 ...	E, O	8-12	0,025	0,05	0,063	0,08	0,1
Mild steel for heat treatment 500-750 N/mm2	214 ...	228 ... / 202 ...	E	25-35	0,04	0,08	0,1	0,125	0,16
Plain carbon steel for heat treatment 700-1000 N/mm2	281 ... E	228 ...	E	15-20	0,04	0,08	0,1	0,125	0,16
Alloyed steel heat treatment 900-1250 N/mm2	281 ... E	228 ...	E, O	10-15	0,032	0,063	0,08	0,1	0,125
Maganese steel with content over 10 % Mn	281 ... E	202 ... E	E, O	3-6	0,2	0,04	0,063	0,08	0,1
Plain carbon tool steel 700-900 N/mm2	281 ... E	228 ... / 202 ... E	E	14-18	0,032	0,063	0,08	0,1	0,12
Alloyed tool steel 850-1250 N/mm2	281 ... E	228 ...	E, O	8-12	0,025	0,05	0,063	0,08	0,1
Heat resistant steel 450-600 N/mm2	281 ... E	281 ... EF	O	15-20	0,032	0,063	0,08	0,1	0,125
Stainless steel	215 ...	281 ... E	E, O	6-10	0,02	0,032	0,05	0,08	0,1
Alloys hastelloy, inconel, nimonic	281 ... E	281 ... EF	O	3-6	0,02	0,04	0,063	0,08	0,125
Grey cast iron HB 180-240	214 ...	228 ...	E, DL	30-40	0,05	0,1	0,125	0,16	0,2
Grey cast iron HB 240-300	214 ...	228 ...	E, DL	20-30	0,05	0,1	0,125	0,16	0,2
Malleable cast iron HB 180-240	214 ...	228 ...	DL	20-30	0,05	0,1	0,125	0,16	0,2
Aluminium	258 ... F	258 ...	E	50-80	0,05	0,1	0,125	0,16	0,2
Aluminium alloys with content up to 10 % Si and 180 N/mm2	258 ... F	258 ...	E	40-65	0,063	0,1255	0,16	0,2	0,25
Aluminium alloys with content up to 10 % Si and 150-250 N/mm2	214 ...	202 ...	E	30-50	0,063	0,1255	0,16	0,2	0,25
Copper 200-400 N/mm2	258 ... F	228 ...	E, O	30-40	0,05	0,1	0,125	0,16	0,2
Fragile brass with short chip 350-550 N/mm2	281 ... E	281 ... EF	E, O	60-80	0,063	0,1255	0,16	0,2	0,25
Tough brass with long chip 250-550 N/mm2	258 ... F	258 ... F	E, O	30-50	0,063	0,1	0,125	0,16	0,2
Bronze 200-500 N/mm^2	258 ... F	258 ... F	E, O	20-40	0,05	0,08	0,125	0,16	0,2
Bronze 500-800 N/mm^2	214 ...	258 ...	E, O	15-30	0,05	0,08	0,125	0,16	0,2
Magnesium alloys-electron	281 ... E	281 ... EF	-	60-100	0,08	0,125	0,016	0,02	0,25
Zinc, zinc alloys	214 ...	258 ...	E	35-45	0,05	0,1	0,125	0,16	0,2
Titanium alloys up to 700 N/mm2	281 ... E	281 ... EF	O	3-6	0,03	0,05	0,063	0,08	0,1
Titanium alloys 700-1000 N/mm2	281 ... E	281 ... EF	O	3-6	0,02	0,04	0,05	0,063	0,08
Silver	214 ...	258 ...	E	30-40	0,05	0,08	0,1	0,125	0,16
Duroplastics	281 ... E	281 ... EF	DL	10-20	0,04	0,08	0,1	0,125	0,16
Thermoplastics	258 ... F	258 ... F	W, DL	20-40	0,05	0,1	0,125	0,16	0,2
Laminated materials (paper, wood) across layer	258 ... F	258 ... F	DL	15-25	0,05	0,08	0,125	0,16	0,2

E = emulsion / O = cutting oil / CA = compressed air / W = water

Main application Other application

Speed table for twist drills

Material	Cutting speed Vc m/min	Coolant
High carbon struc. steel < 700 N/mm²	30 - 35	cutting spray
High carbon struc. steel > 700 N/mm²	20 - 25	cutting spray
Alloyed steel < 1000 N/mm²	20 - 25	cutting spray
Cast iron < 250 N/mm²	15 - 25	compressed air
Cast iron > 250 N/mm²	10 - 20	compressed air
CuZn alloy brittle	60 - 100	compressed air

Material	Cutting speed Vc m/min	Coolant
CuZn alloy tough	35 - 60	compressed air
Al alloy 11% Si	30 - 50	cutting spray
Thermoplastics	20 - 40	water
Duroplastics with inorganic filling	15 - 25	compressed air
Duroplastics with organic filling	15 - 35	compressed air

Drills Ø mm	Cutting speed Vc = m/min															
	4	6	8	10	12	15	18	20	25	30	35	40	50	60	80	100
	r.p.m.															
1.0	1274	1911	2548	3185	3822	4777	5732	6369	7962	9554	11146	12739	15924	19108	25478	31847
1.5	849	1274	1699	2123	2548	3185	3822	4246	5308	6369	7431	8493	10616	12739	16985	21231
2.0	637	955	1274	1592	1911	2389	2866	3185	3981	4777	5573	6369	7962	9554	12739	15924
2.5	510	764	1019	1274	1529	1911	2293	2548	3185	3822	4459	5096	6369	7643	10191	12739
3.0	425	637	849	1062	1274	1592	1911	2123	2654	3185	3715	4246	5308	6369	8493	10616
3.5	364	546	728	910	1092	1365	1638	1820	2275	2730	3185	3640	4550	5460	7279	9099
4.0	318	478	637	796	955	1194	1433	1592	1990	2389	2787	3185	3981	4777	6369	7962
4.5	283	425	566	708	849	1062	1274	1415	1769	2123	2477	2831	3539	4246	5662	7077
5.0	255	382	510	637	764	955	1146	1274	1592	1911	2229	2548	3185	3822	5096	6369
5.5	232	347	463	579	695	869	1042	1158	1448	1737	2027	2316	2895	3474	4632	5790
6.0	212	318	425	531	637	796	955	1062	1327	1592	1858	2123	2654	3185	4246	5308
6.5	196	294	392	490	588	735	882	980	1225	1470	1715	1960	2450	2940	3920	4900
7.0	182	273	364	455	546	682	819	910	1137	1365	1592	1820	2275	2730	3640	4550
7.5	170	255	340	425	510	637	764	849	1062	1274	1486	1699	2123	2548	3397	4246
8.0	159	239	318	398	478	597	717	796	995	1194	1393	1592	1990	2389	3185	3981
8.5	150	225	300	375	450	562	674	749	937	1124	1311	1499	1873	2248	2997	3747
9.0	142	212	283	354	425	531	637	708	885	1062	1238	1415	1769	2123	2831	3539
9.5	134	201	268	335	402	503	603	670	838	1006	1173	1341	1676	2011	2682	3352
10.0	127	191	255	318	382	478	573	637	796	955	1115	1274	1592	1911	2548	3185
11.0	116	174	232	290	347	434	521	579	724	869	1013	1158	1448	1737	2316	2895
12.0	106	159	212	265	318	398	478	531	663	796	929	1062	1327	1592	2123	2654
13.0	98	147	196	245	294	367	441	490	612	735	857	980	1225	1470	1960	2450
14.0	91	136	182	227	273	341	409	455	569	682	796	910	1137	1365	1820	2275
15.0	85	127	170	212	255	318	382	425	531	637	743	849	1062	1274	1699	2123
16.0	80	119	159	199	239	299	358	398	498	597	697	796	995	1194	1592	1990
17.0	75	112	150	187	225	281	337	375	468	562	656	749	937	1124	1499	1873
18.0	71	106	142	177	212	265	318	354	442	531	619	708	885	1062	1415	1769
19.0	67	101	134	168	201	251	302	335	419	503	587	670	838	1006	1341	1676
20.0	64	96	127	159	191	239	287	318	398	478	557	637	796	955	1274	1592
21.0	61	91	121	152	182	227	273	303	379	455	531	607	758	910	1213	1517
22.0	58	87	116	145	174	217	261	290	362	434	507	579	724	869	1158	1448
23.0	55	83	111	138	166	208	249	277	346	415	485	554	692	831	1108	1385
24.0	53	80	106	133	159	199	239	265	332	398	464	531	663	796	1062	1327
25.0	51	76	102	127	153	191	229	255	318	382	446	510	637	764	1019	1274
26.0	49	73	98	122	147	184	220	245	306	367	429	490	612	735	980	1225
27.0	47	71	94	118	142	177	212	236	295	354	413	472	590	708	944	1180
28.0	45	68	91	114	136	171	205	227	284	341	398	455	569	682	910	1137
29.0	44	66	88	110	132	165	198	220	275	329	384	439	549	659	879	1098
30.0	42	64	85	106	127	159	191	212	265	318	372	425	531	637	849	1062
31.0	41	62	82	103	123	154	185	205	257	308	360	411	514	616	822	1027
32.0	40	60	80	100	119	149	179	199	249	299	348	398	498	597	796	995
33.0	39	58	77	97	116	145	174	193	241	290	338	386	483	579	772	965
34.0	37	56	75	94	112	141	169	187	234	281	328	375	468	562	749	937
35.0	36	55	73	91	109	136	164	182	227	273	318	364	455	546	728	910
36.0	35	53	71	88	106	133	159	177	221	265	310	354	442	531	708	885
37.0	34	52	69	86	103	129	155	172	215	258	301	344	430	516	689	861
38.0	34	50	67	84	101	126	151	168	210	251	293	335	419	503	670	838
39.0	33	49	65	82	98	122	147	163	204	245	286	327	408	490	653	817
40.0	32	48	64	80	96	119	143	159	199	239	279	318	398	478	637	796
41.0	31	47	62	78	93	117	140	155	194	233	272	311	388	466	621	777
42.0	30	45	61	76	91	114	136	152	190	227	265	303	379	455	607	758
43.0	30	44	59	74	89	111	133	148	185	222	259	296	370	444	593	741
44.0	29	43	58	72	87	109	130	145	181	217	253	290	362	434	579	724
45.0	28	42	57	71	85	106	127	142	177	212	248	283	354	425	566	708
46.0	28	42	55	69	83	104	125	138	173	208	242	277	346	415	554	692
47.0	27	41	54	68	81	102	122	136	169	203	237	271	339	407	542	678
48.0	27	40	53	66	80	100	119	133	166	199	232	265	332	398	531	663
49.0	26	39	52	65	78	97	117	130	162	195	227	260	325	390	520	650
50.0	25	38	51	64	76	96	115	127	159	191	223	255	318	382	510	637

Speed table for twist drills

Material	Cutting speed Vc m/min	Coolant
High carbon struc. steel < 700 N/mm²	30 - 35	cutting spray
High carbon struc. steel > 700 N/mm²	20 - 25	cutting spray
Alloyed steel < 1000 N/mm²	20 - 25	cutting spray
Cast iron < 250 N/mm²	15 - 25	compressed air
Cast iron > 250 N/mm²	10 - 20	compressed air
CuZn alloy brittle	60 - 100	compressed air

Material	Cutting speed Vc m/min	Coolant
CuZn alloy tough	35 - 60	compressed air
Al alloy 11% Si	30 - 50	cutting spray
Thermoplastics	20 - 40	water
Duroplastics with inorganic filling	15 - 25	compressed air
Duroplastics with organic filling	15 - 35	compressed air

Drills Ø inch	Cutting speed Vc = m/min															
	4	6	8	10	12	15	18	20	25	30	35	40	50	60	80	100
	Speed rpm															
1/16	800	1190	1590	1990	2390	2990	3580	3980	4980	5970	6970	7960	9950	11940	15920	19900
5/64	640	960	1270	1590	1910	2390	2870	3180	3980	4780	5570	6370	7960	9550	12740	15920
3/32	530	800	1060	1330	1590	1990	2390	2650	3320	3980	4640	5310	6630	7960	10620	13270
7/64	450	680	910	1140	1360	1710	2050	2270	2840	3410	3980	4550	5690	6820	9100	11370
1/8	400	600	800	1000	1190	1490	1790	1990	2490	2990	3480	3980	4980	5970	7960	9950
9/64	350	530	710	880	1060	1330	1590	1770	2210	2650	3100	3540	4420	5310	7080	8850
5/32	320	480	640	800	960	1190	1430	1590	1990	2390	2790	3180	3980	4780	6370	7960
11/64	290	430	580	720	870	1090	1300	1450	1810	2170	2530	2900	3620	4340	5790	7240
3/16	270	400	530	660	800	1000	1190	1330	1660	1990	2320	2650	3320	3980	5310	6630
13/64	240	370	490	610	730	920	1100	1220	1530	1840	2140	2450	3060	3670	4900	6120
7/32	230	340	450	570	680	850	1020	1140	1420	1710	1990	2270	2840	3410	4550	5690
15/64	210	320	420	530	640	800	960	1060	1330	1590	1860	2120	2650	3180	4250	5310
1/4	200	300	400	500	600	750	900	1000	1240	1490	1740	1990	2490	2990	3980	4980
17/64	190	290	380	480	570	710	860	950	1190	1430	1660	1900	2380	2850	3800	4750
9/32	180	270	360	450	540	670	810	900	1120	1350	1570	1790	2240	2690	3590	4490
19/64	170	250	340	420	510	640	760	850	1060	1270	1490	1700	2120	2550	3400	4250
5/16	160	240	320	400	480	600	730	810	1010	1210	1410	1610	2020	2420	3230	4030
21/64	150	230	310	380	460	580	690	770	960	1150	1340	1530	1920	2300	3070	3840
11/32	150	220	290	370	440	550	660	730	920	1100	1280	1460	1830	2200	2930	3660
23/64	140	210	280	350	420	520	630	700	870	1050	1220	1400	1750	2100	2800	3500
3/8	130	200	270	340	400	500	600	670	840	1010	1170	1340	1680	2010	2680	3350
25/64	130	190	260	320	390	480	580	640	800	970	1130	1290	1610	1930	2570	3220
13/32	120	190	250	310	370	460	560	620	770	930	1080	1240	1550	1860	2470	3090
27/64	120	180	240	300	360	450	540	600	740	890	1040	1190	1490	1790	2380	2980
7/16	110	170	230	290	340	430	520	570	720	860	1000	1150	1430	1720	2300	2870
29/64	110	170	220	280	330	420	500	550	690	830	970	1110	1380	1660	2220	2770
15/32	110	160	210	270	320	400	480	540	670	800	940	1070	1340	1610	2140	2680
31/64	110	160	210	260	310	390	470	520	650	780	910	1040	1290	1550	2070	2590
1/2	110	150	200	250	300	380	450	500	630	750	880	1000	1250	1500	2010	2510

02

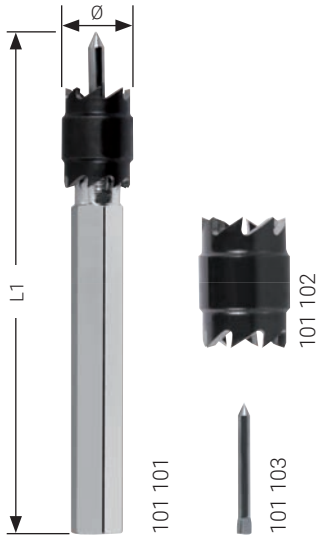
SPECIAL DRILLS

Spot weld miller HSS

HSS | STEEL | ALU | Cu Ni Mn Zn | PVC | BRONZE

For removing spot welds from sheet metal. Exchangeable and double-headed milling crown.
Adjustable milling depth with setting screw. No tearing of the sheet metal.
No deformation of the sheet metal. Efficient and rapid working.

		L1 mm	Ø mm	HSS
1 tlg./pcs.	Spot weld miller, complete	72.0	-	101 101
5 tlg./pcs.	Milling crown	-	9.6	101 102
1 tlg./pcs.	Centering pin	-	2.5	101 103



Packaging: plastic

		HSS
13 tlg./pcs.	Spot weld miller set 1 spot weld miller, complete + 10 milling crowns + 2 centering pins	101 104

Packaging: plastic

		HSS HSSE-Co 5
9 tlg./pcs.	Spot weld miller-special set 1 spot weld miller, complete + 5 milling + 2 centering pins + 1 fast cut HSSE-Co 5 - Ø 8.0 mm	101 104 M

DIN 1897 | 25-30° | h8

Spot weld drill HSSE-Co 5 and carbide

HSSE Co5 — INOX, STEEL, Cu Ni Ms Zn, ALU, PVC, CAST IRON, BRONZE

HSSE Co5 TiCN — INOX, STEEL, Cu Ni Ms Zn, ALU, PVC, CAST IRON, BRONZE

TC HM AlTiN — HIGH STRENGTH STEEL, INOX, STEEL, Cu Ni Ms Zn, ALU, PVC, CAST IRON, BRONZE, TITANIUM

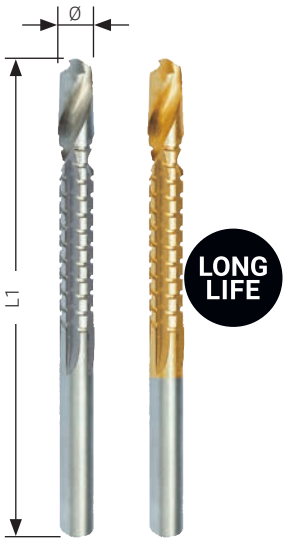
Extra stable special drill for hard materials for use in hand drills. Well suited to achieve clean and burr-free milling of spot welds and thin walled work pieces without need to centre mark. Very high precision. Applications include: sheet steel, sheet brass, sheet aluminium, sheet zinc, sheet copper, plastic sheet.

Packaging: plastic

Ø mm	L1 mm	HSSE-Co 5		HSSE-Co 5 TiCN		HM / TC AlTiN	
6.0	66.0	101 107	1	101 107 TC	1	101 107 HM	1
7.0	74.0	101 111	1	–	1	–	1
8.0	80.0	101 108	1	101 108 TC	1	101 108 HM	1
10.0	88.0	101 114	1	101 114 TC	1	–	1

HSS | N | 118°

Milling drill HSS



HSS — STEEL, Cu Ni Ms Zn, ALU, PVC, CAST IRON, BRONZE

HSS TiN — STEEL, Cu Ni Ms Zn, PVC, INOX, CAST IRON, BRONZE

For drilling and milling contours in wood, sheet metal, plastics and other thin-walled materials. Twist drill at tip with milling cutter with chip breakers afterwards.

Packaging: plastic

Ø mm	L1 mm	HSS		HSS TiN	
6.0	90.0	101 201	1	101 201 T	1
8.0	90.0	101 202	1	101 202 T	1

Main application Other application

Table of cutting speeds for special drills

Material	Cutting speed Vc m/min	Coolant
High carbon struc. steel < 700 N/mm²	30 - 35	cutting spray
High carbon struc. steel > 700 N/mm²	20 - 25	cutting spray
Alloyed steel < 1000 N/mm²	20 - 25	cutting spray
Cast iron < 250 N/mm²	15 - 25	compressed air
Cast iron > 250 N/mm²	10 - 20	compressed air
CuZn alloy brittle	60 - 100	compressed air

Material	Cutting speed Vc m/min	Coolant
CuZn alloy tough	35 - 60	compressed air
Al alloy 11% Si	30 - 50	cutting spray
Thermoplastics	20 - 40	water
Duroplastics with inorganic filling	15 - 25	compressed air
Duroplastics with organic filling	15 - 35	compressed air

Drills Ø mm	Cutting speed Vc = m/min															
	4	6	8	10	12	15	18	20	25	30	35	40	50	60	80	100
	r.p.m.															
1.0	1274	1911	2548	3185	3822	4777	5732	6369	7962	9554	11146	12739	15924	19108	25478	31847
1.5	849	1274	1699	2123	2548	3185	3822	4246	5308	6369	7431	8493	10616	12739	16985	21231
2.0	637	955	1274	1592	1911	2389	2866	3185	3981	4777	5573	6369	7962	9554	12739	15924
2.5	510	764	1019	1274	1529	1911	2293	2548	3185	3822	4459	5096	6369	7643	10191	12739
3.0	425	637	849	1062	1274	1592	1911	2123	2654	3185	3715	4246	5308	6369	8493	10616
3.5	364	546	728	910	1092	1365	1638	1820	2275	2730	3185	3640	4550	5460	7279	9099
4.0	318	478	637	796	955	1194	1433	1592	1990	2389	2787	3185	3981	4777	6369	7962
4.5	283	425	566	708	849	1062	1274	1415	1769	2123	2477	2831	3539	4246	5662	7077
5.0	255	382	510	637	764	955	1146	1274	1592	1911	2229	2548	3185	3822	5096	6369
5.5	232	347	463	579	695	869	1042	1158	1448	1737	2027	2316	2895	3474	4632	5790
6.0	212	318	425	531	637	796	955	1062	1327	1592	1858	2123	2654	3185	4246	5308
6.5	196	294	392	490	588	735	882	980	1225	1470	1715	1960	2450	2940	3920	4900
7.0	182	273	364	455	546	682	819	910	1137	1365	1592	1820	2275	2730	3640	4550
7.5	170	255	340	425	510	637	764	849	1062	1274	1486	1699	2123	2548	3397	4246
8.0	159	239	318	398	478	597	717	796	995	1194	1393	1592	1990	2389	3185	3981
8.5	150	225	300	375	450	562	674	749	937	1124	1311	1499	1873	2248	2997	3747
9.0	142	212	283	354	425	531	637	708	885	1062	1238	1415	1769	2123	2831	3539
9.5	134	201	268	335	402	503	603	670	838	1006	1173	1341	1676	2011	2682	3352
10.0	127	191	255	318	382	478	573	637	796	955	1115	1274	1592	1911	2548	3185
11.0	116	174	232	290	347	434	521	579	724	869	1013	1158	1448	1737	2316	2895
12.0	106	159	212	265	318	398	478	531	663	796	929	1062	1327	1592	2123	2654
13.0	98	147	196	245	294	367	441	490	612	735	857	980	1225	1470	1960	2450
14.0	91	136	182	227	273	341	409	455	569	682	796	910	1137	1365	1820	2275
15.0	85	127	170	212	255	318	382	425	531	637	743	849	1062	1274	1699	2123
16.0	80	119	159	199	239	299	358	398	498	597	697	796	995	1194	1592	1990
17.0	75	112	150	187	225	281	337	375	468	562	656	749	937	1124	1499	1873
18.0	71	106	142	177	212	265	318	354	442	531	619	708	885	1062	1415	1769
19.0	67	101	134	168	201	251	302	335	419	503	587	670	838	1006	1341	1676
20.0	64	96	127	159	191	239	287	318	398	478	557	637	796	955	1274	1592
21.0	61	91	121	152	182	227	273	303	379	455	531	607	758	910	1213	1517
22.0	58	87	116	145	174	217	261	290	362	434	507	579	724	869	1158	1448
23.0	55	83	111	138	166	208	249	277	346	415	485	554	692	831	1108	1385
24.0	53	80	106	133	159	199	239	265	332	398	464	531	663	796	1062	1327
25.0	51	76	102	127	153	191	229	255	318	382	446	510	637	764	1019	1274
26.0	49	73	98	122	147	184	220	245	306	367	429	490	612	735	980	1225
27.0	47	71	94	118	142	177	212	236	295	354	413	472	590	708	944	1180
28.0	45	68	91	114	136	171	205	227	284	341	398	455	569	682	910	1137
29.0	44	66	88	110	132	165	198	220	275	329	384	439	549	659	879	1098
30.0	42	64	85	106	127	159	191	212	265	318	372	425	531	637	849	1062
31.0	41	62	82	103	123	154	185	205	257	308	360	411	514	616	822	1027
32.0	40	60	80	100	119	149	179	199	249	299	348	398	498	597	796	995
33.0	39	58	77	97	116	145	174	193	241	290	338	386	483	579	772	965
34.0	37	56	75	94	112	141	169	187	234	281	328	375	468	562	749	937
35.0	36	55	73	91	109	136	164	182	227	273	318	364	455	546	728	910
36.0	35	53	71	88	106	133	159	177	221	265	310	354	442	531	708	885
37.0	34	52	69	86	103	129	155	172	215	258	301	344	430	516	689	861
38.0	34	50	67	84	101	126	151	168	210	251	293	335	419	503	670	838
39.0	33	49	65	82	98	122	147	163	204	245	286	327	408	490	653	817
40.0	32	48	64	80	96	119	143	159	199	239	279	318	398	478	637	796
41.0	31	47	62	78	93	117	140	155	194	233	272	311	388	466	621	777
42.0	30	45	61	76	91	114	136	152	190	227	265	303	379	455	607	758
43.0	30	44	59	74	89	111	133	148	185	222	259	296	370	444	593	741
44.0	29	43	58	72	87	109	130	145	181	217	253	290	362	434	579	724
45.0	28	42	57	71	85	106	127	142	177	212	248	283	354	425	566	708
46.0	28	42	55	69	83	104	125	138	173	208	242	277	346	415	554	692
47.0	27	41	54	68	81	102	122	136	169	203	237	271	339	407	542	678
48.0	27	40	53	66	80	100	119	133	166	199	232	265	332	398	531	663
49.0	26	39	52	65	78	97	117	130	162	195	227	260	325	390	520	650
50.0	25	38	51	64	76	96	115	127	159	191	223	255	318	382	510	637


GSR-02
BECKHOFF
ARRÊT D'URGENCE
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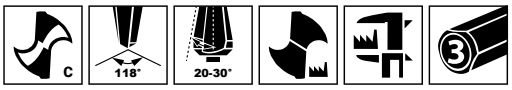
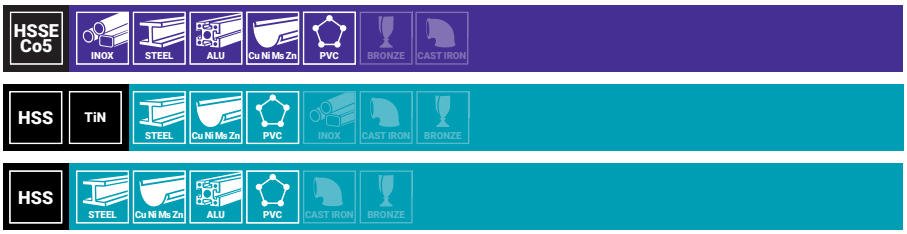
03

TUBE AND SHEET DRILLS



Tube and sheet drill HSS and HSSE-Co 5 with split point



The CBN ground flutes guarantee quiet running and high cutting performance. The cone makes it easier to withdraw the tool from the material.

Packaging: plastic tubes

Size no.	Ø1 - Ø2 mm	L1 mm	Ø3 mm	HSS		HSS TiN		HSSE-Co 5	
1	3.0 - 14.0	58.0	6.0	101 001	1	101 001 T	1	101 001 E	1
2	4.0 - 20.0	71.0	8.0	101 002	1	101 002 T	1	101 002 E	1
3	16.0 - 30.5	76.0	9.0	101 003	1	101 003 T	1	101 003 E	1
4	24.0 - 40.0	89.0	10.0	101 004	1	101 004 T	–	–	–
5	36.0 - 50.0	97.0	12.0	101 005	1	–	–	–	–
6	40.0 - 61.0	103.0	13.0	101 006	1	–	–	–	–
7	5.0 - 25.4	87.0	10.0	101 007	1	–	–	–	–
8	5.0 - 31.0	103.0	9.0	101 008	1	101 008 T	1	101 008 E	1
9	5.0 - 22.5	79.0	8.0	101 022	1	–	–	–	–

		HSS	HSS TiN	HSSE-Co 5
4 tlg./pcs.	Sheet drill set in sizes 1, 2, 3 and 1 tin of cutting paste 20 g	101 020 RO	101 020 TRO	101 020 ERO

101 020 RO

101 020 TRO

101 020 ERO

Tube and sheet drill bit HSS with split point

The CBN ground flutes guarantee quiet running and high cutting performance.
The relief angle on the underside of the tool enables easier removal from the material.

Packaging: plastic tubes

Size no.	Ø1 - Ø2 mm	L1 mm	Ø3 mm	Ø3 inch	HSS	
2	5.0 - 20.0	78.0	6.35 x 27.0	1/4"	101 049 H	1

Product information

1. CBN ground flute
Thanks to the CBN deep-ground flutes, the cutting edges are burr-free and sharp in contrast to the conventional milled flutes. This results in a significantly higher cutting performance and a much longer tool life.

2. Radially adjusted relief produced by CBN grinding
Thanks to the radial CBN relief grinding, the cutting edge is clearly the highest point in the diameter.

3. Flute
The straight or spiral flute offers absolute running smoothness and high cutting performance.
In the spiral flute non-breaking chips in particular are transported away cleanly as with a spiral drill.

4. Cone at the end
The cone at the end of these tube and sheet drills makes it easier to withdraw the tool from the material.

5. CBN ground bit with split point DIN 1412 C
The high-performance drill point with special CBN grinding enables centring and spot drilling even in thin-walled materials.

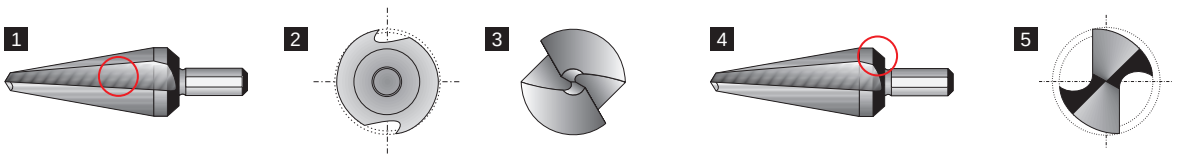
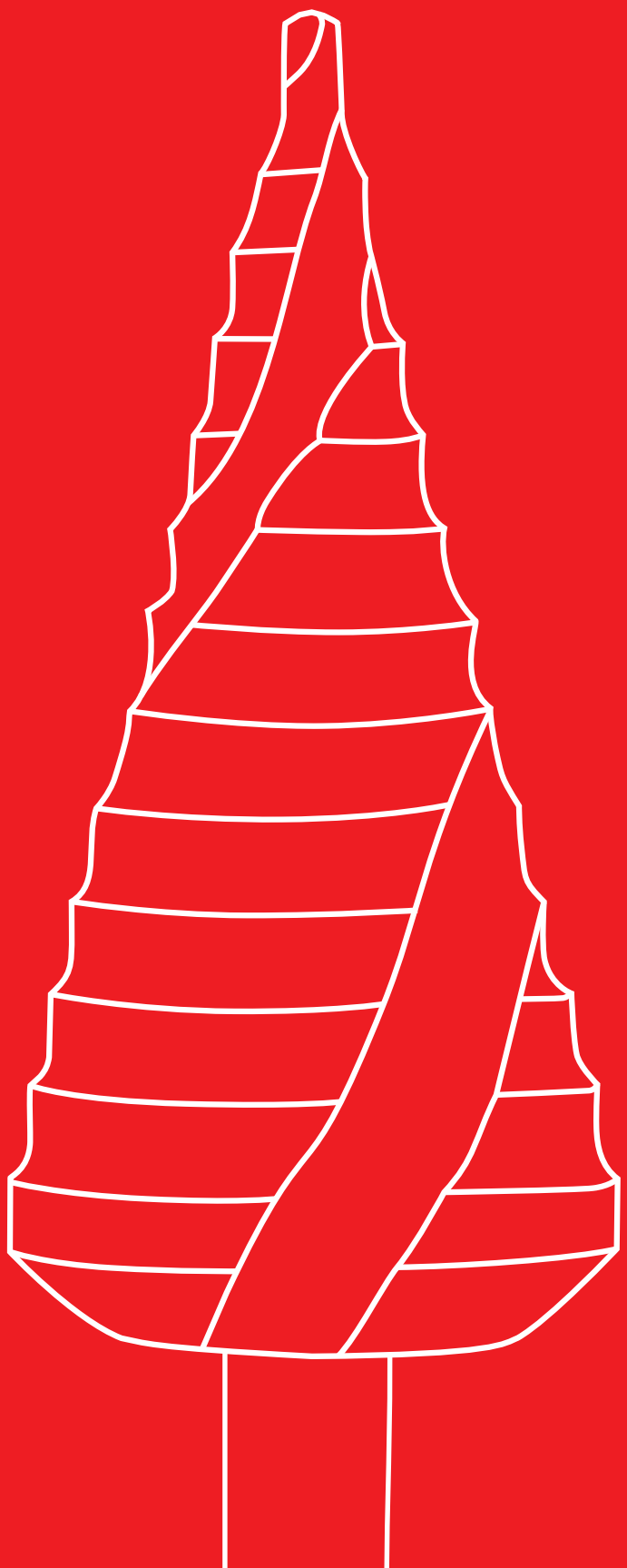


Table of cutting speeds for sheet drills

Material:		High carbon struc. steel up to 700 N/mm²	High carbon struc. steel over 700 N/mm²	Alloyed steel over 1000 N/mm²	Cast iron up to 250 N/mm²	Cast iron over 250 N/mm²	CuZn-alloy brittle	CuZn-alloy tough	Al-alloy up to 11% Si	Thermo-plastics	Duro-plastics
Sheet thickness:		up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0
Vc = m/min		30	20	20	15	10	60	35	30	20	15
Cooling lubricant:		Cutting spray	Cutting spray	Cutting spray	Cutting spray	Air	Air	Air	Cutting spray	Water	Air
Size	Ø mm	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.
No. 1	3.0-14.0	3185-682	2123-455	2123-455	1592-341	1062-227	6369-1365	3715-796	3185-682	2123-455	1592-341
No. 2	4.0-20.0	1911-478	1274-318	1274-318	955-239	637-159	3822- 955	2229-557	1911-478	1274-318	955-239
No. 3	16.0-30.5	597-313	398-209	398-209	299-157	199-104	1194- 627	697-365	597-313	398-209	299-157
No. 4	24.0-40.0	398-239	265-159	265-159	199-119	133- 80	796- 478	464-279	398-239	265-159	199-119
No. 5	36.0-50.0	265-191	177-127	177-127	133- 96	88- 64	531- 382	310-223	265-191	177-127	133- 96
No. 6	40.0-61.0	239-157	159-104	159-104	119- 78	80- 52	478- 313	279-183	239-157	159-104	119- 78
No. 7	5.0-25.4	1911-376	1274-251	1274-251	955-188	637-125	3822- 752	2229-439	1911-376	1274-251	955-188
No. 8	5.0-31.0	1911-308	1274-205	1274-205	955-154	637-103	3822- 616	2229-360	1911-308	1274-205	955-154
No. 9	5.0-22.5	1911-425	1274-283	1274-283	955-212	637-142	3822- 849	2229-495	1911-425	1274-283	955-212



04

STEP DRILLS

ULTIMATECUT©
Step drill with FLOWSTEP® tip

It lets you drill 6x more.
It lets you drill 75% faster.
It lets you center perfectly.

FLOW STEP TIP

C
≥ Ø 2.0 mm

RUKO FLOWSTEP® tip

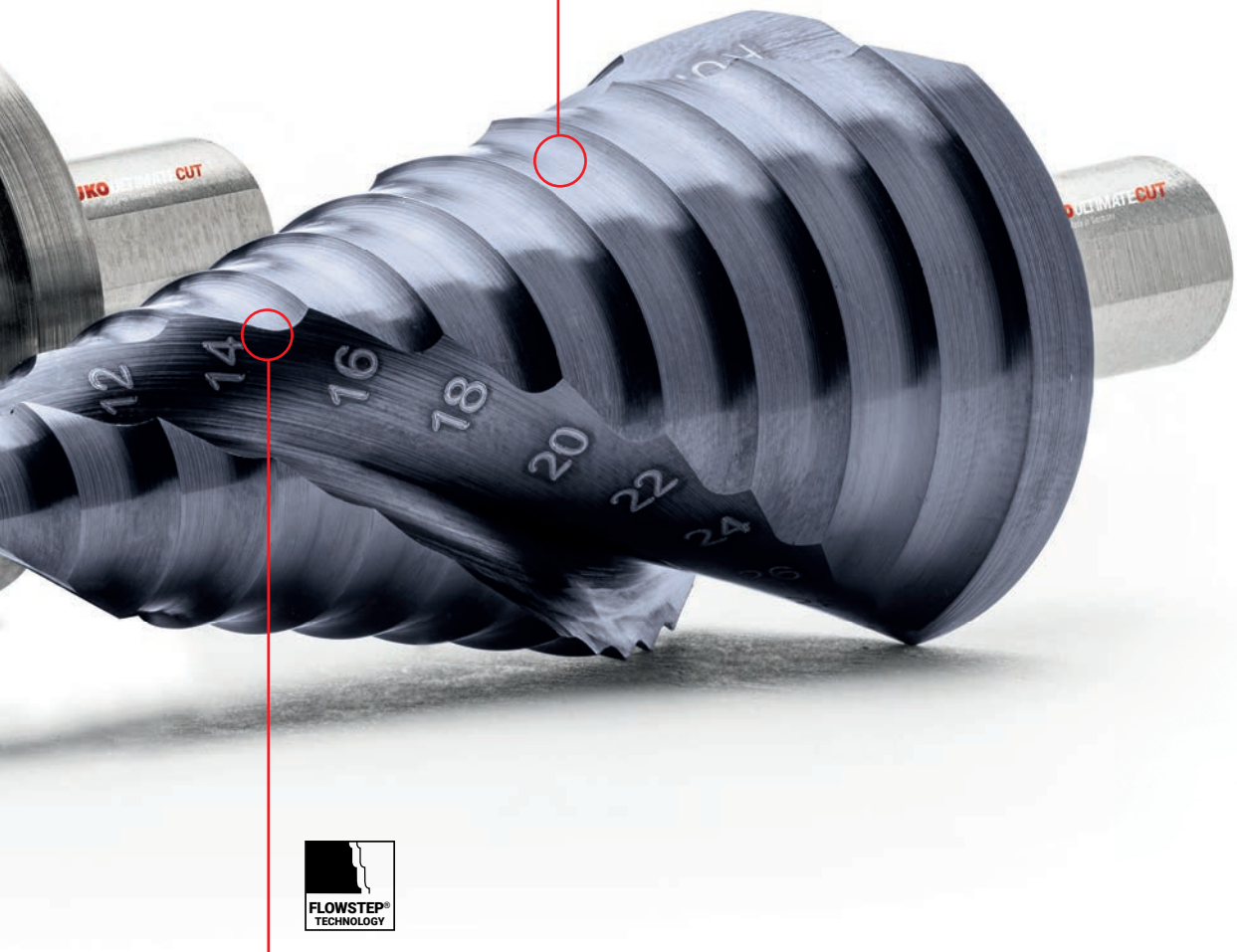
Precise centring = no slipping when drilling.
Time saving due to faster drilling = drill more holes in the same time.
Energy-saving drilling = drill more holes without stopping.

RUna TEC

RUKO RUnaTEC coating

Thanks to RUKO nano Technology (RUnaTEC), very high cutting speeds can be achieved in addition to low cutting speeds, thus significantly accelerating work processes.

Other positive properties are the extremely high wear resistance and the significant reduction in material welding.



FLOWSTEP® TECHNOLOGY

RUKO FLOWSTEP® Technology

Controllable on sensitive materials such as thin-walled sheet metal and acrylic glass. Powerful with tough materials such as stainless steel.

The cutting edge geometry enables a smooth, seamless transition between the different diameters.

Type and applications overview

	Material	Surface	Cutting edges	Material thickness	Point angle	Point cut	Shank	Ø mm	Item no.	Page/s
NEW ULTIMATECUT© 	HSSE Co5	RUna TEC		4 mm				5 – 38	101 6xx EP	80
	HSSE Co5	Blank		4 mm					101 6xx E	
	HSS	RUna TEC		4 mm					101 6xx	81
	HSS	Blank		4 mm					101 6xx P	
ULTIMATECUT© 	HSS	RUna TEC		10 mm				6,0 – 27,0	101 0xx P	94
	HSS	Blank		4 mm	118°	C		4,0 – 40,0	101 xxx	82 – 83
	HSSE Co5	Blank		4 mm	118°	C		4,0 – 32,5	101 xxx E	
	HSS	TiN		4 mm	118°	C		4,0 – 40,0	101 xxx T	
	HSS	TiAlN		4 mm	118°	C		4,0 – 40,0	101 xxx F	
	HSS	TiAlN		3.5 mm	118°	C		6,0 – 18,0	101 068 F-1	83
	HSS	Blank		4 mm	118°	C		4,0 – 12,0	101 xxx H	84
	HSS	TiN		4 mm	118°	C		4,0 – 30,0	101 xxx H	
	HSS	Blank		2 mm	118°	C		4,0 – 30,0	101 06x	84
	HSS	TiN		2 mm	118°	C		4,0 – 30,0	101 06x T	
	HSS	Blank		4 mm	118°	C		3/16 – 1 1/8"	101 70x	85
	HSSE Co5	Blank		4 mm	118°	C		3/16 – 1 1/8"	101 70x E	
	HSS	TiN		4 mm	118°	C		3/16 – 1 1/8"	101 70x T	
	HSS	TiAlN		4 mm	118°	C		3/16 – 1 1/8"	101 70x F	
	HSS	Blank		4 mm	118°			4,0 – 30,0	101 35x	86
	HSS	TiN		4 mm	118°			4,0 – 30,0	101 35x T	

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
●	●	○	●	○	○	●	●
●	●		●	○	○	●	●
●			●	○	○	●	●
●			●			●	●
●	●		●	●	●	○	○
●			●	●	●	○	○
●	●		●	●	●	○	○
●					●	○	○
●	●		●	●	●	○	○
●	●	○	○	●	●	○	○
●				○	●	○	○
●	○	○	○	○	●	○	○
●				○	●	○	○
●	○	○	○	○	●	○	○
●				●	●	○	○
●	●		●	●	●	○	○
●	○		○		●	○	○
●	●	○	○	●	●	○	○
●	●	○	○	●	●	●	○
●				●	●	○	○

● Main application ○ Other application

Type and applications overview

	Material	Surface	Cutting edges	Material thickness	Point angle	Point cut	Shank	Ø mm	Item no.	Page/s
	HSS	Blank		4 mm	118°	C		5,3 – 32,5	101 09x	87
	HSS	TiN		4 mm	118°	C		5,3 – 32,5	101 09x T	
	HSS	TiAlN		4 mm	118°	C		5,3 – 32,5	101 09x F	
	HSS	Blank		4 mm				12,0 – 40,0	101 36x	87
	HSS	VAP			118°			M3 – M12	102 6xx	88
	HSS	VAP			118°				102 6xx	89

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
●				●	●	○	○
●	○		○		●	○	○
●	●	○	○	●	●	○	○
●				●	●	○	○
●			●	○	○	●	●
●			●	○	○	●	●

● Main application ○ Other application

ULTIMATECUT step drill HSSE-Co 5, spiral fluted with FLOWSTEP® tip

HSSE Co5 | RUna TEC | INOX | STEEL | Cu Ni Ms Zn | ALU | PVC | BRONZE | CAST IRON

HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | PVC | BRONZE | CAST IRON

FLOWSTEP® tip
- Perfect centering, avoiding slipping even on round surfaces such as pipe and tube.
- Easy and smooth drilling process, without jamming in the material.
- Extremely fast and energy-saving drilling.
- Time savings of up to 75%.
- Significantly longer tool life - up to 6x more holes possible.
- Optimal performance in hand-held (cordless) power tool drill machines.

Packaging: plastic tube

Size no.	Ø1 - Ø2 mm	L1 mm	Steps	Ø3 mm	HSSE-Co 5		HSSE-Co 5 RUnaTEC	
0/9	5.0 - 12.0	66.0	8	6.0	101 650-9 E	1	101 650-9 EP	1
1	6.0 - 20.0	70.0	8	8.0	101 651 E	1	101 651 EP	1
2	8.0 - 30.0	95.0	12	10.0	101 652 E	1	101 652 EP	1
3	9.0 - 38.0	100.0	11	10.0	101 653 E	1	101 653 EP	1

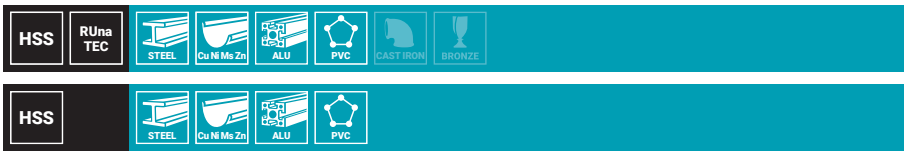
Größe Nr.	Drilling range Ø mm
0/9	5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 mm
1	6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 mm
2	8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 | 24.0 | 26.0 | 28.0 | 30.0 mm
3	9.0 | 13.0 | 16.0 | 19.0 | 21.0 | 23.0 | 26.0 | 29.0 | 32.0 | 35.0 | 38.0 mm

		HSSE-Co 5	HSSE-Co 5 RUnaTEC
3 tlg./pcs.	ULTIMATECUT step drill set with FLOWSTEP® tip spiral fluted, sizes 0/9, 1, 2	101 626 ERO	101 626 EPRO

101 626 ERO

101 626 EPRO

ULTIMATECUT step drill HSS, spiral fluted with FLOWSTEP® tip



FLOWSTEP® tip
- Perfect centering, avoiding slipping even on round surfaces such as pipe and tube.
- Easy and smooth drilling process, without jamming in the material.
- Extremely fast and energy-saving drilling.
- Time savings of up to 75%.
- Significantly longer tool life - up to 6x more holes possible.
- Optimal performance in hand-held (cordless) power tool drill machines.

Packaging: plastic tube

Size no.	Ø1 - Ø2 mm	L1 mm	Steps	Ø3 mm	HSS		HSS RUnaTEC	
0/9	5.0 - 12.0	66.0	8	6.0	101 650-9	1	101 650-9 P	1
1	6.0 - 20.0	70.0	8	8.0	101 651	1	101 651 P	1
2	8.0 - 30.0	95.0	12	10.0	101 652	1	101 652 P	1
3	9.0 - 38.0	1.30	38.0	16.0	101 653	1	101 653 P	1

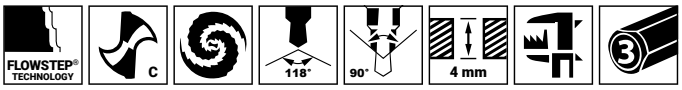
Größe Nr.	Drilling range Ø mm
0/9	5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 mm
1	6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 mm
2	8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 | 24.0 | 26.0 | 28.0 | 30.0 mm
3	9.0 | 13.0 | 16.0 | 19.0 | 21.0 | 23.0 | 26.0 | 29.0 | 32.0 | 35.0 | 38.0 mm

		HSS	HSS RUnaTEC
3 tlg./pcs.	ULTIMATECUT step drill set HSS with FLOWSTEP® tip spiral fluted, sizes 0/9, 1, 2	101 626 RO	101 626 PRO

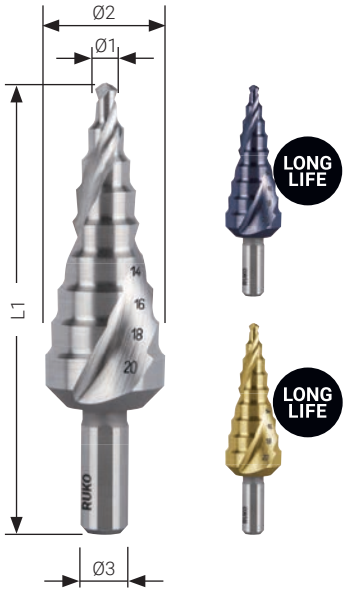
101 626 RO

101 626 PRO

Main application Other application



Step drill HSS and HSSE-Co 5, spiral fluted



The step drill with specially developed FLOWSTEP® technology enables seamless transitions between the different diameters. Each individual step has a specially developed undercut that guides the step drill seamlessly and in a controlled manner to the next step after drilling through each step. This enables a noticeably smoother and quieter drilling process. The deep-ground and spiral-shaped flute offers absolutely smooth running and high cutting performance.

In particular, non-breaking chips are removed cleanly as with a twist drill.
This minimises the formation of built-up edges and cold welding on the cutting edges.
The cone facilitates retraction when drilling through sheet metal.

Packaging: plastic tube

Size no.	Ø1 - Ø2 mm	L1 mm	Steps	Ø3 mm	HSSE-Co 5	HSS TiAlN	HSS TiN	HSS	
0/5	4.0 - 12.0	65.0	5	6.0	–	101 050-5 F	101 050-5 T	101 050-5	1
0/9	4.0 - 12.0	65.0	9	6.0	101 050-9 E	101 050-9 F	101 050-9 T	101 050-9	1
1	4.0 - 20.0	75.0	9	8.0	101 051 E	101 051 F	101 051 T	101 051	1
2	4.0 - 30.0	100.0	14	10.0	101 052 E	101 052 F	101 052 T	101 052	1
3	6.0 - 38.0	100.0	12	10.0	–	101 053 F	101 053 T	101 053	1
4	6.0 - 26.75	75.0	8	10.0	–	101 055 F	101 055 T	101 055	1
5	4.0 - 39.0	107.0	13	10.0	101 056 E	101 056 F	101 056 T	101 056	1
6	6.0 - 32.0	75.0	8	10.0	–	101 057 F	101 057 T	101 057	1
7	5.0 - 28.0	69.0	7	10.0	–	101 058 F	101 058 T	101 058	1
8	6.0 - 30.5	80.0	9	10.0	–	101 098 F	101 098 T	101 098	1
9	6.0 - 37.0	100.0	12	10.0	101 060 E	101 060 F	101 060 T	101 060	1
12	6.0 - 32.0	76.0	9	10.0	–	101 096 F	101 096 T	101 096	1
13	6.0 - 40.0	105.0	16	13.0	–	101 097 F*	101 097 T*	101 097*	1
18	6.5 - 32.5	91.0	12	10.0	101 534 E	–	–	–	1

* straight flute

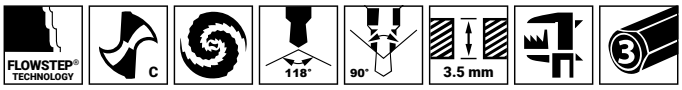
Size no.	Drilling range Ø mm
0/5	4.0 | 6.0 | 8.0 | 10.0 | 12.0 mm
0/9	4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 mm
1	4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 mm
2	4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 | 24.0 | 26.0 | 28.0 | 30.0 mm
3	6.0 | 9.0 | 13.0 | 16.0 | 19.0 | 21.0 | 23.0 | 26.0 | 29.0 | 32.0 | 35.0 | 38.0 mm
4	6.0 | 9.0 | 11.4 (PG7) | 14.0 (PG9) | 17.25 (PG11) | 19.0 (PG13.5) | 21.25 (PG16) | 26.75 mm (PG21)
5	4.0 | 6.0 | 9.0 | 12.0 | 15.0 | 18.0 | 21.0 | 24.0 | 27.0 | 30.0 | 33.0 | 36.0 | 39.0 mm
6	6.0 | 9.0 | 11.2 (R1/8) | 14.5 (R1/4) | 18.2 (R3/8) | 22.3 (R1/2) | 27.9 (R3/4) | 32.0 mm
7	5.0 | 8.8 (G1/8) | 11.8 (G1/4) | 15.3 (G3/8) | 19.0 (G1/2) | 24.5 (G3/4) | 28.0 mm
8	6.0 | 9.0 | 12.5 (PG7) | 15.2 (PG9) | 18.6 (PG11) | 20.4 (PG13.5) | 22.5 (PG16) | 28.3 (PG21) | 30.5 mm
9	6.0 | 9.0 | 12.5 (PG7) | 15.2 (PG9) | 18.6 (PG11) | 20.4 (PG13.5) | 22.5 (PG16) | 26.0 | 28.3 (PG21) | 30.5 | 34.0 | 37.0 mm (PG29)
12	6.0 | 9.0 | 12.0 | 16.0 | 20.0 | 22.5 | 25.0 | 28.5 | 32.0 mm
13	6.0 | 11.0 | 17.0 | 23.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 mm
18	6.5 | 8.5 | 10.5 | 12.7 | 15.2 (PG9) | 16.2 / 18.6 (PG11) | 20.4 (PG13.5) | 22.5 (PG16) | 25.5 | 28.3 (PG21) | 32.5 mm

		HSS	HSSE-Co 5	HSS TiN	HSS TiAlN
3 tlg./pcs.	Step drill set spiral fluted, sizes 0/9, 1, 2	101 026 RO	101 026 ERO	101 026 TRO	101 026 FRO

101 026 RO

101 026 TRO

101 026 FRO



Crash barrier step drill HSS TiAlN, spiral fluted

Specially designed for drilling crash barriers.
For use on material strengths of up to 3,5 mm.
Cooling recommended but not required (increased service life)

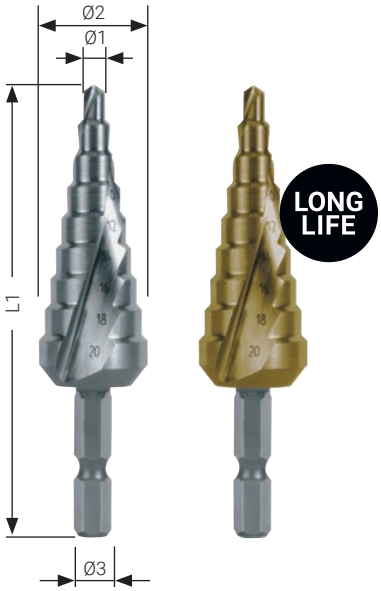
Packaging: plastic tube

Ø1 - Ø2 mm		L1 mm	Steps	Ø3 mm	HSS TiAlN	
6.0 - 18.0	6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 mm	68,0	7	10,0	101 068 F-1	1

Step drill bit HSS, spiral fluted

HSS TiN — STEEL, Cu Ni Ms Zn, PVC, INOX, CAST IRON, BRONZE

HSS — STEEL, Cu Ni Ms Zn, ALU, PVC, CAST IRON, BRONZE



The CBN ground and spiral flutes guarantee quiet running and high cutting performance. Especially the chip flow is optimized, so even long, non-breaking chips will be removed easily. The optimized chip flow protects the cutting edges and reduces built-up edges and cold weld marks. The chamfer on the base of the cone makes withdrawal of the tool from the material simple when through hole drilling.

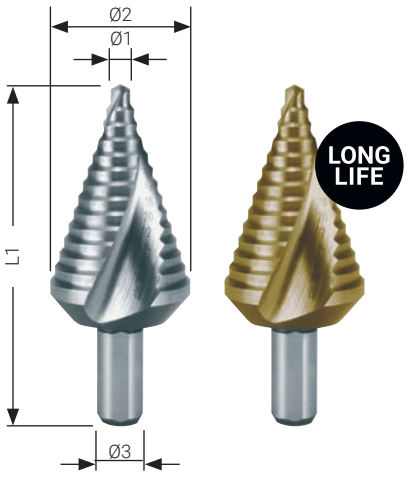
Packaging: plastic tube

Size no.	Ø1 - Ø2 mm	L1 mm	Steps	Ø3 mm	Ø3 inch	HSS TiN	HSS	
0/9	4.0 - 12.0	72.0	9	6.35 x 27.0	1/4"	101 050-9 TH	101 050-9 H	1
1	4.0 - 20.0	81.0	9	6.35 x 27.0	1/4"	101 051 TH	101 051 H	1
2	4.0 - 30.0	105.0	14	6.35 x 27.0	1/4"	101 052 TH	101 052 H	1

Step drill HSS, spiral fluted – *short*

HSS TiN — STEEL

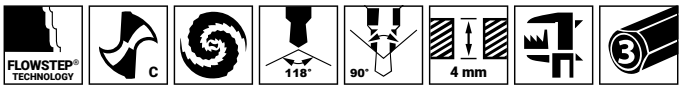
HSS — STEEL



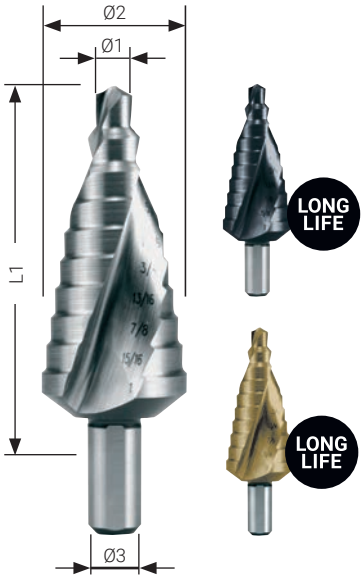
Packaging: plastic tube

Size no.	Ø1 - Ø2 mm	L1 mm	Steps	Ø3 mm	HSS TiN	HSS	
0/9k	4.0 - 12.0	48.0	9	6.0	101 061 T	101 061	1
1k	4.0 - 20.0	58.0	9	8.0	101 062 T	101 062	1
2k	4.0 - 30.0	72.0	14	10.0	101 063 T	101 063	1

Size no.	Drilling range Ø mm
0/9	4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 mm
1	4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 mm
2	4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 | 24.0 | 26.0 | 28.0 | 30.0 mm



Step drill HSS and HSSE-Co 5, spiral fluted – *inch dimensions*



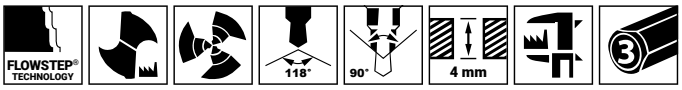
The deep-ground and spiral flute offers absolutely smooth running and high cutting performance. In particular, non-breaking chips are removed cleanly as with a twist drill. This minimises the formation of built-up edges and cold welding on the cutting edges. The cone facilitates retraction when drilling through sheet metal.

Inch Size

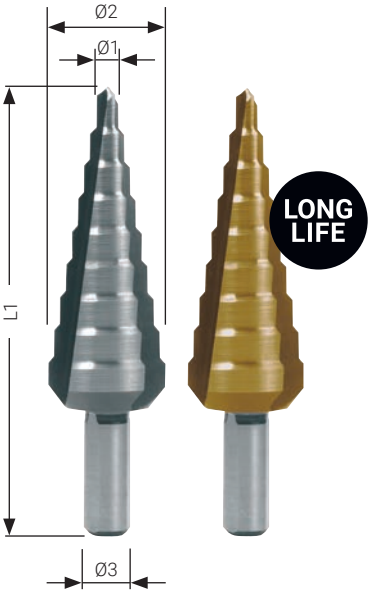
Packaging: plastic tube

Size no.	Ø1 - Ø2 inch	L1 inch	Steps	Ø3 inch	HSSE-Co 5	HSS TiAlN	HSS TiN	HSS	
1	3/16" - 1/2"	3 1/8"	6	1/4"	101 701 E	101 701 F	101 701 T	101 701	1
2	1/8" - 1/2"	3 1/8"	13	1/4"	101 702 E	101 702 F	101 702 T	101 702	1
3	1/4" - 3/4"	2 3/4"	9	3/8"	101 703 E	101 703 F	101 703 T	101 703	1
4	3/16" - 7/8"	3 1/4"	12	3/8"	101 704 E	101 704 F	101 704 T	101 704	1
5	5/16" - 1"	3 1/4"	9	3/8"	101 705 E	101 705 F	101 705 T	101 705	1
6	7/8" - 1 3/8"	3 1/4"	5	3/8"	101 706 E	101 706 F	101 706 T	101 706	1
7	3/8" - 1/2"	1 7/8"	2	1/4"	101 707 E	101 707 F	101 707 T	101 707	1
8	7/8"	2 19/32"	1	3/8"	101 708 E	101 708 F	101 708 T	101 708	1
9	7/8" - 1 1/8"	3 7/64"	2	3/8"	101 709 E	101 709 F	101 709 T	101 709	1

Size no.	Drilling range Ø inch
1	3/16" | 1/4" | 5/16" | 3/8" | 7/16" | 1/2"
2	1/8" | 5/32" | 3/16" | 7/32" | 1/4" | 9/32" | 5/16" | 11/32" | 3/8" | 19/32" | 3/16" | 15/32" | 1/2"
3	1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 9/16" | 5/8" | 11/16" | 3/4"
4	3/16" | 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 9/16" | 5/8" | 11/16" | 3/4" | 13/16" | 7/8"
5	5/16" | 1/2" | 9/16" | 5/8" | 11/16" | 3/4" | 13/16" | 7/8" | 15/16" | 1"
6	7/8" | 1 1/8" | 1 7/32" | 1 1/4" | 1 3/8"
7	3/8" | 1/2"
8	7/8"
9	7/8" | 1 1/8"



Step drill HSS, with 3 cutting edges, straight groove



The deep-ground flutes on step drills with 3 cutting edges ensure absolutely chatter-free work. Due to the lower cutting edge load, a higher feed rate is possible, especially with soft materials such as non-ferrous metals. The cone facilitates retraction when drilling through sheet metal.

Packaging: plastic tube

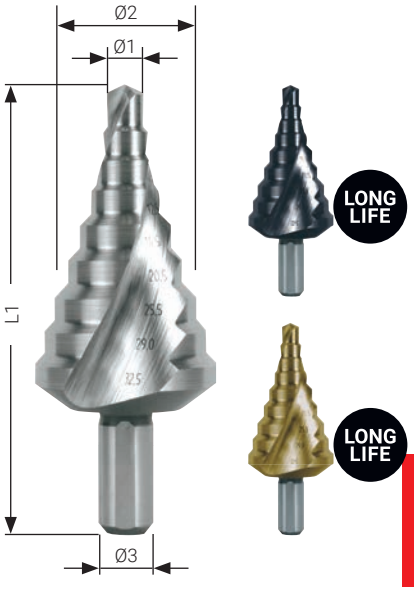
Size no.	Ø1 - Ø2 mm	L1 mm	Steps	Ø3 mm	HSS TiN	HSS	
0/9	4.0 - 12.0	65.0	9	6.0	101 350-9 T	101 350-9	1
1	4.0 - 20.0	75.0	9	8.0	101 351 T	101 351	1
2	4.0 - 30.0	100.0	14	10.0	101 352 T	101 352	1

Size no.	Drilling range Ø mm
0/9	4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 mm
1	4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 mm
2	4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 | 24.0 | 26.0 | 28.0 | 30.0 mm

		HSS TiN	HSS
3 tlg./pcs.	Step drill set with 3 cutting edges, sizes 0/9, 1, 2	101 326 TRO	101 326 RO

101 326 TRO

Step drill HSS, spiral fluted, for metric cable connections



Packaging: plastic tube

Size no.	Measurements	Ø1 - Ø2 mm	L1 mm	Steps	Ø3 mm	HSS TiAlN	HSS TiN	HSS	
14	Core holes	5.3 - 30.5	79.0	9	10.0	101 093 F	101 093 T	101 093	1
15	Through holes	6.5 - 32.5	79.0	9	10.0	101 092 F	101 092 T	101 092	1
16	Core holes	5.3 - 38.5	96.0	11	10.0	101 091 F	101 091 T	101 091	1
17	Through holes	6.5 - 40.5	96.0	11	10.0	101 090 F	101 090 T	101 090	1

14	DIN/EN 60423	5.3 | 7.0 | 9.0 | 10.5 | 14.5 | 18.5 | 23.5 | 27.0 | 30.5
15	DIN/EN 50262	6.5 | 8.5 | 10.5 | 12.5 | 16.5 | 20.5 | 25.5 | 29.0 | 32.5
16	DIN/EN 60423	5.3 | 7.0 | 9.0 | 10.5 | 14.5 | 18.5 | 23.5 | 27.0 | 30.5 | 34.5 | 38.5
17	DIN/EN 50262	6.5 | 8.5 | 10.5 | 12.5 | 16.5 | 20.5 | 25.5 | 29.0 | 32.5 | 36.5 | 40.5

Step drill (reamer) HSS, without tip

Packaging: plastic tube

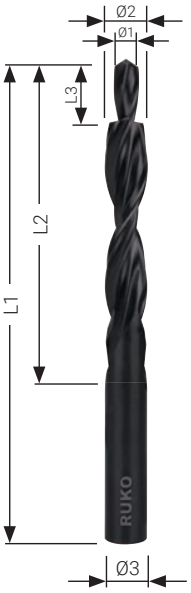
Size no.	Ø1 - Ø2 mm	L1 mm	Steps	Ø3 mm	HSS	
20	12.0 - 20.0	66.0	9	8.0	101 361	1
30	20.0 - 30.0	78.0	11	10.0	101 362	1
40	30.0 - 40.0	78.0	11	10.0	101 363	1

Size no.	Drilling range Ø mm
20	12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 | 18.0 | 19.0 | 20.0 mm
30	20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 | 27.0 | 28.0 | 29.0 | 30.0 mm
40	30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 mm

Subland drill type N HSS

HSS VAP STEEL Cu Ni Ms Zn ALU PVC CAST IRON BRONZE

Enables drilling and sinking combined in one step. Note: adjust the cutting speed according to the big diameter and the feed rate according to the small diameter.



Packaging: plastic tube

90° fine grade for through hole

DIN 8374 90°

For efficient drilling of through holes and screw head counterborings with 90° angle.

For thread	Ø1 mm	Ø2 / Ø3 mm	L3 mm	L2 mm	L1 mm	HSS	
M 3	3.2	6.0	9.0	57.0	93.0	102 601	1
M 4	4.3	8.0	11.0	75.0	117.0	102 602	1
M 5	5.3	10.0	13.0	87.0	133.0	102 603	1
M 6	6.4	11.5	15.0	94.0	142.0	102 604	1
M 8	8.4	15.0	19.0	114.0	169.0	102 605	1
M 10	10.5	19.0	23.0	135.0	198.0	102 606	1

180° medium grade for through hole

DIN 8376 180°

For efficient drilling of through holes and screw head counterborings with 180° angle.

For thread	Ø1 mm	Ø2 / Ø3 mm	L3 mm	L2 mm	L1 mm	HSS	
M 3	3.4	6.0	9.0	57.0	93.0	102 607	1
M 4	4.5	8.0	11.0	75.0	117.0	102 608	1
M 5	5.5	10.0	13.0	87.0	133.0	102 609	1
M 6	6.6	11.0	15.0	94.0	142.0	102 610	1
M 8	9.0	15.0	19.0	114.0	169.0	102 611	1
M 10	11.0	18.0	23.0	130.0	191.0	102 612	1

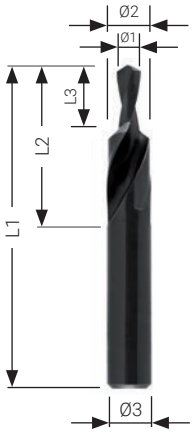
90° for thread core hole

DIN 8378 90°

For efficient drilling of tapping holes and countersinkings with 90° angle.

For thread	Ø1 mm	Ø2 / Ø3 mm	L3 mm	L2 mm	L1 mm	HSS	
M 3	2.5	3.4	8.8	39.0	70.0	102 613	1
M 4	3.3	4.5	11.4	47.0	80.0	102 614	1
M 5	4.2	5.5	13.6	57.0	93.0	102 615	1
M 6	5.0	6.6	16.5	63.0	101.0	102 616	1
M 8	6.8	9.0	21.0	81.0	125.0	102 617	1
M 10	8.5	11.0	25.5	94.0	142.0	102 618	1
M 12	10.2	13.5	30.0	108.0	160.0	102 619	1

Short subland drill type N HSS



HSS VAP STEEL Cu Ni Mo Zn ALU PVC CAST IRON BRONZE

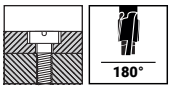
Short and torsion stable drill, suitable for the use on CNC or NC machines. The drilling and countersinking is made in one step. Note: adjust the cutting speed according to the big diameter and the feed rate according to the small diameter.

Packaging: plastic tube

90° fine grade for through hole

For efficient drilling of through holes and screw head counterborings with 90° angle.

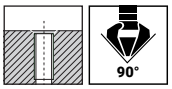
For thread	Ø1 mm	Ø2 / Ø3 mm	L3 mm	L2 mm	L1 mm	HSS	
M 3	3,2	6,0	9,0	28,0	66,0	102 620	1
M 4	4,3	8,0	11,0	37,0	79,0	102 621	1
M 5	5,3	10,0	13,0	43,0	89,0	102 622	1
M 6	6,4	11,5	15,0	47,0	95,0	102 623	1
M 8	8,4	15,0	19,0	56,0	111,0	102 624	1
M 10	10,5	19,0	23,0	64,0	127,0	102 625	1



180° medium grade for through hole

For efficient drilling of through holes and screw head counterborings with 180° angle.

For thread	Ø1 mm	Ø2 / Ø3 mm	L3 mm	L2 mm	L1 mm	HSS	
M 3	3,4	6,0	9,0	28,0	66,0	102 626	1
M 4	4,5	8,0	11,0	37,0	79,0	102 627	1
M 5	5,5	10,0	13,0	43,0	89,0	102 628	1
M 6	6,6	11,0	15,0	47,0	95,0	102 629	1
M 8	9,0	15,0	19,0	56,0	111,0	102 630	1
M 10	11,0	18,0	23,0	62,0	123,0	102 631	1



90° for thread core hole

For efficient drilling of tapping holes and countersinkings with 90° angle.

For thread	Ø1 mm	Ø2 / Ø3 mm	L3 mm	L2 mm	L1 mm	HSS	
M 3	2,5	3,4	8,8	20,0	52,0	102 632	1
M 4	3,3	4,5	11,4	24,0	58,0	102 633	1
M 5	4,2	5,5	13,6	28,0	66,0	102 634	1
M 6	5,0	6,6	16,5	31,0	70,0	102 635	1
M 8	6,8	9,0	21,0	40,0	84,0	102 636	1
M 10	8,5	11,0	25,5	47,0	95,0	102 637	1
M 12	10,2	13,5	30,0	54,0	107,0	102 638	1

Table of cutting speeds for step drills

Material:		High carbon struc. steel up to 700 N/mm²	High carbon struc. steel over 700 N/mm²	Alloyed steel over 1000 N/mm²	Cast iron up to 250 N/mm²	Cast iron over 250 N/mm²	CuZn-alloy brittle	CuZn-alloy tough	Al-alloy up to 11% Si	Thermo-plastics	Duro-plastics
Sheet thickness mm:		up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0	up to 4.0
Vc = m/min		30	20	20	15	10	60	35	30	20	15
Cooling lubricant:		Cutting spray	Cutting spray	Cutting spray	Air	Air	Air	Air	Cutting spray	Water	Air
Size	Ø mm	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m
0/5	4.0 - 12.0	800 - 2400	500 - 1600	500 - 1600	400 - 1200	300 - 800	1600 - 4800	900 - 2800	800 - 2400	500 - 1600	400 - 1200
0/9	4.0 - 12.0	800 - 2400	500 - 1600	500 - 1600	400 - 1200	300 - 800	1600 - 4800	900 - 2800	800 - 2400	500 - 1600	400 - 1200
1	4.0 - 20.0	500 - 2400	300 - 1600	300 - 1600	200 - 1200	200 - 800	1000 - 4800	600 - 2800	500 - 2400	300 - 1600	200 - 1200
2	4.0 - 30.0	300 - 2400	200 - 1600	200 - 1600	200 - 1200	100 - 800	600 - 4800	400 - 2800	300 - 2400	200 - 1600	200 - 1200
3	6.0 - 38.0	300 - 1600	200 - 1100	200 - 1100	100 - 800	100 - 500	500 - 3200	300 - 1900	300 - 1600	200 - 1100	100 - 800
4	6.0 - 26.8	400 - 1600	200 - 1100	200 - 1100	200 - 800	100 - 500	700 - 3200	400 - 1900	400 - 1600	200 - 1100	200 - 800
5	4.0 - 32.0	300 - 2400	200 - 1600	200 - 1600	1200 - 100	100 - 800	600 - 4800	300 - 2800	300 - 2400	200 - 1600	100 - 1200
6	6.0 - 32.0	300 - 1600	200 - 1100	200 - 1100	800 - 100	100 - 500	600 - 3200	300 - 1900	300 - 1600	200 - 1100	100 - 800
7	5.0 - 28.0	300 - 1900	200 - 1300	200 - 1300	200 - 1000	100 - 600	700 - 3800	400 - 2200	300 - 1900	200 - 1300	200 - 1000
8	6.0 - 30.5	300 - 1600	200 - 1100	200 - 1100	200 - 800	100 - 500	600 - 3200	400 - 1900	300 - 1600	200 - 1100	200 - 800
9	6.0 - 37.0	300 - 1600	200 - 1100	200 - 1100	100 - 800	100 - 500	500 - 3200	300 - 1900	300 - 1600	200 - 1100	100 - 800
10	4.8 - 10.7	900 - 2000	600 - 1300	600 - 1300	400 - 1000	300 - 700	1800 - 4000	1000 - 2300	900 - 2000	600 - 1300	400 - 1000
11	6.0 - 25.0	400 - 1600	300 - 1100	300 - 1100	200 - 800	100 - 500	800 - 3200	400 - 1900	400 - 1600	300 - 1100	200 - 800
12	6.0 - 32.0	300 - 1600	200 - 1100	200 - 1100	100 - 800	100 - 500	600 - 3200	300 - 1900	300 - 1600	200 - 1100	100 - 800
13	6.0 - 40.0	200 - 1600	200 - 1100	200 - 1100	100 - 800	100 - 500	500 - 3200	300 - 1900	200 - 1600	200 - 1100	100 - 800
14	5.3 - 30.5	300 - 1800	200 - 1200	200 - 1200	200 - 900	100 - 600	600 - 3600	400 - 2100	300 - 1800	200 - 1200	200 - 900
15	6.5 - 32.5	300 - 1500	200 - 1000	200 - 1000	100 - 700	100 - 500	600 - 2900	300 - 700	300 - 1500	200 - 1000	100 - 700
16	5.3 - 38.5	200 - 1800	200 - 1200	200 - 1200	100 - 900	100 - 600	500 - 3600	300 - 2100	200 - 1800	200 - 1200	100 - 900
17	6.5 - 40.5	200 - 1500	200 - 1000	200 - 1000	100 - 700	100 - 500	500 - 2900	300 - 1700	200 - 1500	200 - 1000	100 - 700
18	6.5 - 32.5	300 - 1500	200 - 1000	200 - 1000	100 - 700	100 - 500	600 - 2900	300 - 1700	300 - 1500	200 - 1000	100 - 700
20	12.0 - 20.0	500 - 800	300 - 500	300 - 500	200 - 400	200 - 300	600 - 1600	600 - 900	500 - 800	300 - 500	200 - 400
30	20.0 - 30.0	300 - 500	200 - 300	200 - 300	200 - 200	100 - 200	600 - 1000	400 - 600	300 - 500	200 - 300	200 - 200
40	30.0 - 40.0	200 - 300	200 - 200	200 - 200	100 - 200	100 - 100	500 - 600	300 - 400	200 - 300	200 - 200	100 - 200

Size	Ø inch	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m	n = r.p.m
1	3/16 - 1/2	800 - 2000	500 - 1300	1300 - 500	400 - 1000	300 - 700	1500 - 4000	900 - 2300	800 - 2000	500 - 1300	400 - 1000
2	1/8 - 1/2	800 - 3000	500 - 2000	2000 - 500	400 - 1500	300 - 1000	1500 - 6000	900 - 3500	800 - 3000	500 - 2000	400 - 1500
3	1/4 - 3/4	500 - 1500	300 - 1000	1000 - 300	300 - 800	200 - 500	1000 - 3000	600 - 1800	500 - 1500	300 - 1000	300 - 800
4	3/16 - 7/8	400 - 2000	300 - 1300	1300 - 300	200 - 1000	100 - 700	900 - 4000	500 - 2300	400 - 2000	300 - 1300	200 - 1000
5	5/16 - 1	400 - 1200	300 - 800	800 - 300	200 - 600	100 - 400	800 - 2400	400 - 1400	400 - 1200	300 - 800	200 - 600
6	7/8 - 1 3/8	300 - 400	200 - 300	300 - 200	100 - 200	100 - 100	500 - 900	300 - 500	300 - 400	200 - 300	100 - 200
7	3/8 - 1/2	800 - 1000	500 - 700	700 - 500	400 - 500	300 - 300	1500 - 2000	900 - 1200	800 - 1000	500 - 700	400 - 500
8	7/8	400	300	300	200	100	900	500	400	300	200
9	7/8 - 1 1/8	300 - 400	200 - 300	300 - 200	200 - 200	100 - 100	700 - 900	400 - 500	300 - 400	200 - 300	200 - 200

Table of application for step drills

Size No.	Drilling range Ø mm													
0/5	for metric hole diameters													
	Ø 4.0	Ø 6.0	Ø 8.0	Ø 10.0	Ø 12.0									
0/9	for metric hole diameters													
	Ø 4.0	Ø 5.0	Ø 6.0	Ø 7.0	Ø 8.0	Ø 9.0	Ø 10.0	Ø 11.0	Ø 12.0					
1	for metric hole diameters													
	Ø 4.0	Ø 6.0	Ø 8.0	Ø 10.0	Ø 12.0	Ø 14.0	Ø 16.0	Ø 18.0	Ø 20.0					
2	for metric hole diameters													
	Ø 4.0	Ø 6.0	Ø 8.0	Ø 10.0	Ø 12.0	Ø 14.0	Ø 16.0	Ø 18.0	Ø 20.0	Ø 22.0	Ø 24.0	Ø 26.0	Ø 28.0	Ø 30.0
3	for metric hole diameters													
	Ø 6.0	Ø 9.0	Ø 13.0	Ø 16.0	Ø 19.0	Ø 21.0	Ø 23.0	Ø 26.0	Ø 29.0	Ø 32.0	Ø 35.0	Ø 38.0		
4	for steel conduit threads (core holes)													
	PG 7 / Ø 11.4		PG 9 / Ø 14.0		PG 11 / Ø 17.25		PG 13.5 / Ø 19.0		PG 16 / Ø 21.25		PG 21 / Ø 26.75			
5	for metric hole diameters													
	Ø 4.0	Ø 6.0	Ø 9.0	Ø 12.0	Ø 15.0	Ø 18.0	Ø 21.0	Ø 24.0	Ø 27.0	Ø 30.0	Ø 33.0	Ø 36.0	Ø 39.0	
6	for pipe threads (external Ø. through holes)													
	R 1/8" / Ø 11.2		R 1/4" / 14.5		R 3/8" / Ø 18.2		R 1/2" / Ø 22.3		R 3/4" / Ø 27.9					
7	for pipe threads (core holes)													
	G 1/8" / Ø 8.8		G 1/4" / 11.8		G 3/8" / Ø 15.3		G 1/2" / Ø 19.0		G 3/4" / Ø 24.5					
8	for steel conduit threads (through holes)													
	PG 7 / Ø 12.5		PG 9 / Ø 15.2		PG 11 / Ø 18.6		PG 13.5 / Ø 20.4		PG 16 / Ø 22.5		PG 21 / Ø 28.3			
9	for steel conduit threads (through holes)													
	PG 7 / Ø 12.5		PG 9 / Ø 15.2		PG 11 / Ø 18.6		PG 13.5 / Ø 20.4		PG 16 / Ø 22.5		PG 21 / Ø 28.3		PG 29 / Ø 37.0	
10	for blind rivets M3 - M4 - M5 - M6 - M8													
	Ø 4.8	Ø 6.4	Ø 7.2	Ø 9.6	Ø 10.65									
11	for metric hole diameters with high steps													
	Ø 6.0	Ø 9.0	Ø 12.0	Ø 16.0	Ø 20.0	Ø 22.5	Ø 25.0							
12	for metric hole diameters with high steps													
	Ø 6.0	Ø 9.0	Ø 12.0	Ø 16.0	Ø 20.0	Ø 22.5	Ø 25.0	Ø 28.5	Ø 32.0					
13	for metric hole diameters and large diameters													
	Ø 6.0 Ø 39.0	Ø 11.0 Ø 40.0	Ø 17.0	Ø 23.0	Ø 29.0	Ø 30.0	Ø 31.0	Ø 32.0	Ø 33.0	Ø 34.0	Ø 35.0	Ø 36.0	Ø 37.0	Ø 38.0
14	for metric cable connections. core holes after DIN/EN 60423													
	M 6 Ø 5.3	M 8 Ø 7.0	M 10 Ø 9.0	M 12 Ø 10.5	M 16 Ø 14.5	M 20 Ø 18.5	M 25 Ø 23.5	M 32 Ø 30.5						
15	for metric cable connections. through holes after DIN/EN 50262													
	M 6 Ø 6.5	M 8 Ø 8.5	M 10 Ø 10.5	M 12 Ø 12.5	M 16 Ø 16.5	M 20 Ø 20.5	M 25 Ø 25.5	M 32 Ø 32.5						
16	for metric cable connections. core holes after DIN/EN 60423													
	M 6 Ø 5.3	M 8 Ø 7.0	M 10 Ø 9.0	M 12 Ø 10.5	M 16 Ø 14.5	M 20 Ø 18.5	M 25 Ø 23.5	M 32 Ø 30.5	M 40 Ø 38.5					
17	for metric cable connections. through holes after DIN/EN 50262													
	M 6 Ø 6.5	M 8 Ø 8.5	M 10 Ø 10.5	M 12 Ø 12.5	M 16 Ø 16.5	M 20 Ø 20.5	M 25 Ø 25.5	M 32 Ø 32.5	M 40 Ø 40.5					
18	for metric cable connections / for steel conduit threads. through holes													
	M 6 Ø 6.5	M 8 Ø 8.5	M 10 Ø 10.5	M 12 / PG 7 Ø 12.7	PG 9 Ø 15.7	M 16 Ø 16.2	PG 11 Ø 18.6	M 20 / PG 13.5 Ø 20.4		PG 16 Ø 22.5	M 25 Ø 25.5	PG 21 Ø 28.3	M 32 Ø 32.5	

ULTIMATECUT©
Multidrill with Turbo tip

It is your 5-in-1 tool.
It lets you drill 75% faster.
It gives you ultimate flexibility.

RUKO Turbo tip

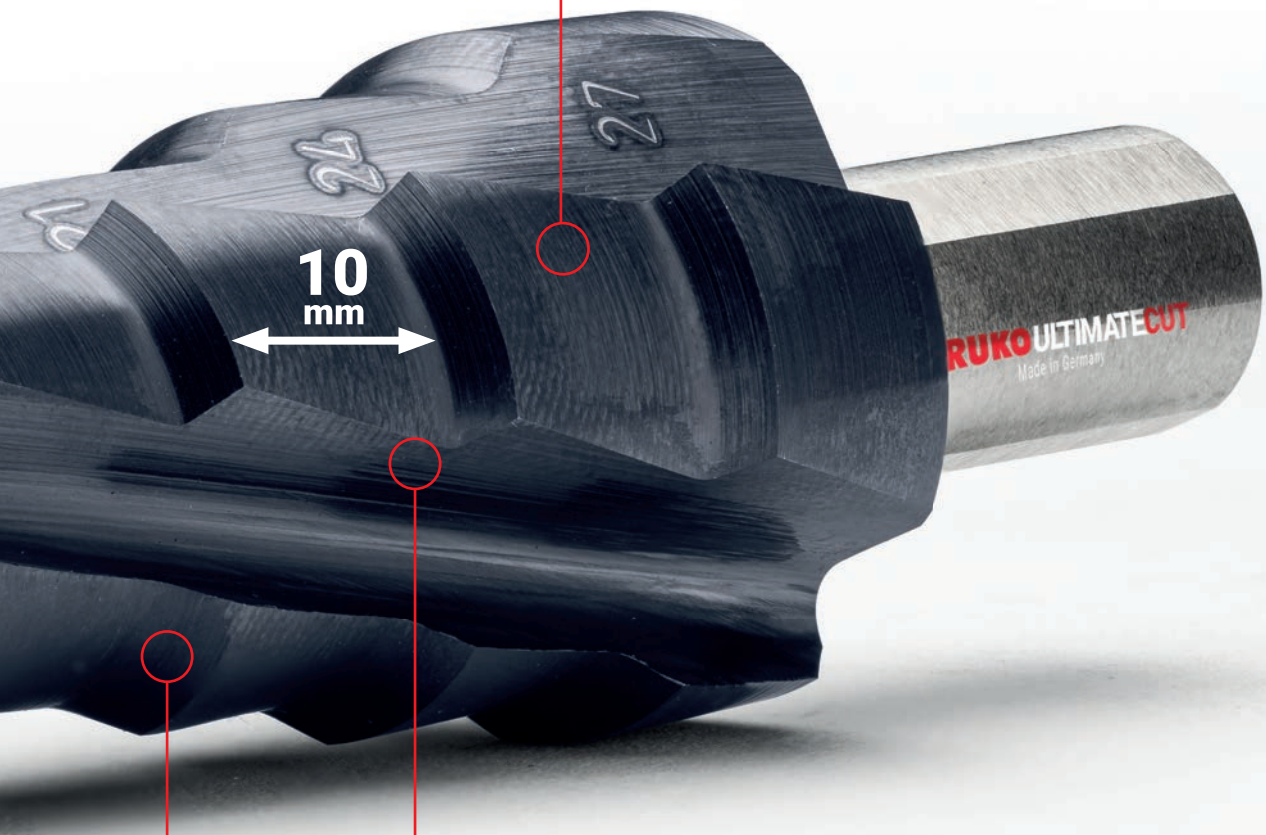
Precise centring = no more centre punching required.
Time saving thanks to faster spot drilling = more holes drilled in the same time.

RUna TEC

RUKO RUnaTEC coating

Thanks to RUKO nano Technology (RUnaTEC), very high cutting speeds can be achieved in addition to low cutting speeds, thus significantly accelerating work processes.

Other positive properties are the extremely high wear resistance and the significant reduction in material welding.



The all-rounder

Where magnetic drills have problems with low adhesive force, the ULTIMATECUT Multidrill offers ultimate flexibility thanks to its use in hand drills.

It can also reach hard-to-access areas such as T-beams.

FLOWSTEP® TECHNOLOGY

RUKO FLOWSTEP® Technology

Controllable on sensitive materials such as thin-walled sheet metal and acrylic glass. Powerful on tough materials such as stainless steel.

The cutting edge geometry enables a smooth, seamless transition between the different diameters.

ULTIMATECUT Multidrill HSS RUnaTEC, spiral fluted with turbo tip

HSS | RUna TEC | STEEL | Cu Ni Mn Zn | ALU | PVC | PLEXIGLAS | WOOD | INOX | BRONZE | CAST IRON

The ULTIMATECUT multidrill revolutionizes the work process and sets new standards in machining time with time savings of up to 75%. The step drill from RUKO achieves this through its revolutionary cutting edge geometry by combining the most diverse applications and tools. This means less tools needed, no tool changes and ultimate flexibility.

Application tip

- Cooling.
- Adjust speed.
- Low speeds for hand drills.
- Follow table of cutting sppeds for ULTIMATECUT step drills.
- Pay attention to total length of drill while drilling.

Packaging: plastic tube

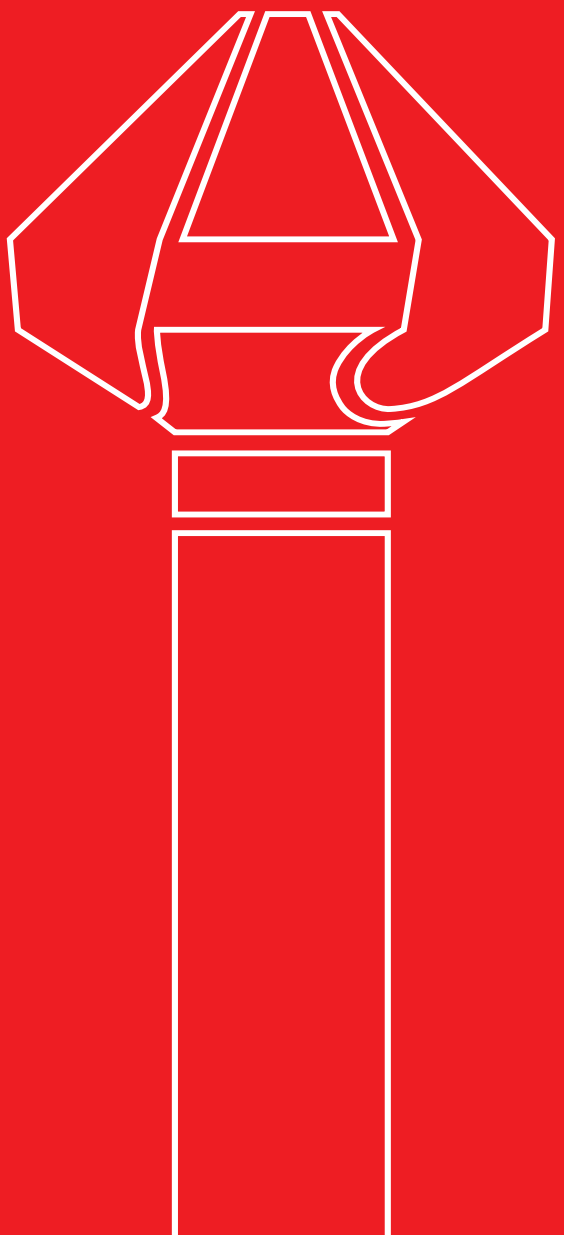
Size no.	Ø1 - Ø2 mm	Drilling range Ø mm	L1 mm	Steps	Ø3 mm	HSS RUnaTEC	
S1	6.0 - 12.0	6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 mm	105,0	7	8,0	101 082 P	1
M2	6.0 - 20.0	6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 mm	120,0	8	10,0	101 083 P	1
L3	6.0 - 27.0	6.0 | 9.0 | 12.0 | 15.0 | 18.0 | 21.0 | 24.0 | 27.0 mm	125,0	8	12,0	101 084 P	1

		HSS RUnaTEC
3 tlg./pcs.	ULTIMATECUT multidrill set, spiral fluted, sizes S1, M2, L3	101 087 PRO

Table of cutting speeds

Material	Application	Working step	Hand drill	Pillar drill manual feed	Pillar drill / CNC machine automatic feed
STEEL, Cu Ni Mn Zn	**Main application**	tapping (drilling through 1st step)	bis 1000 U/min Kühlung empfohlen	up to 1000 rpm cooling recommended	approx. 750 rpm f = 0,1mm/rev cooling necessary
		reaming (from 2nd step)	100-250 U/min Kühlung empfohlen	250- 350 rpm cooling recommended	
INOX	**Other application** (conditionally suitable)	tapping (drilling through 1st step)	bis 600 U/min Kühlung notwendig	up to 600 rpm cooling necessary	approx. 600 rpm f = 0,05mm/rev cooling necessary
		reaming (from 2nd step)	100-200 U/min Kühlung notwendig	200 - 300 rpm cooling necessary	


7
12
15



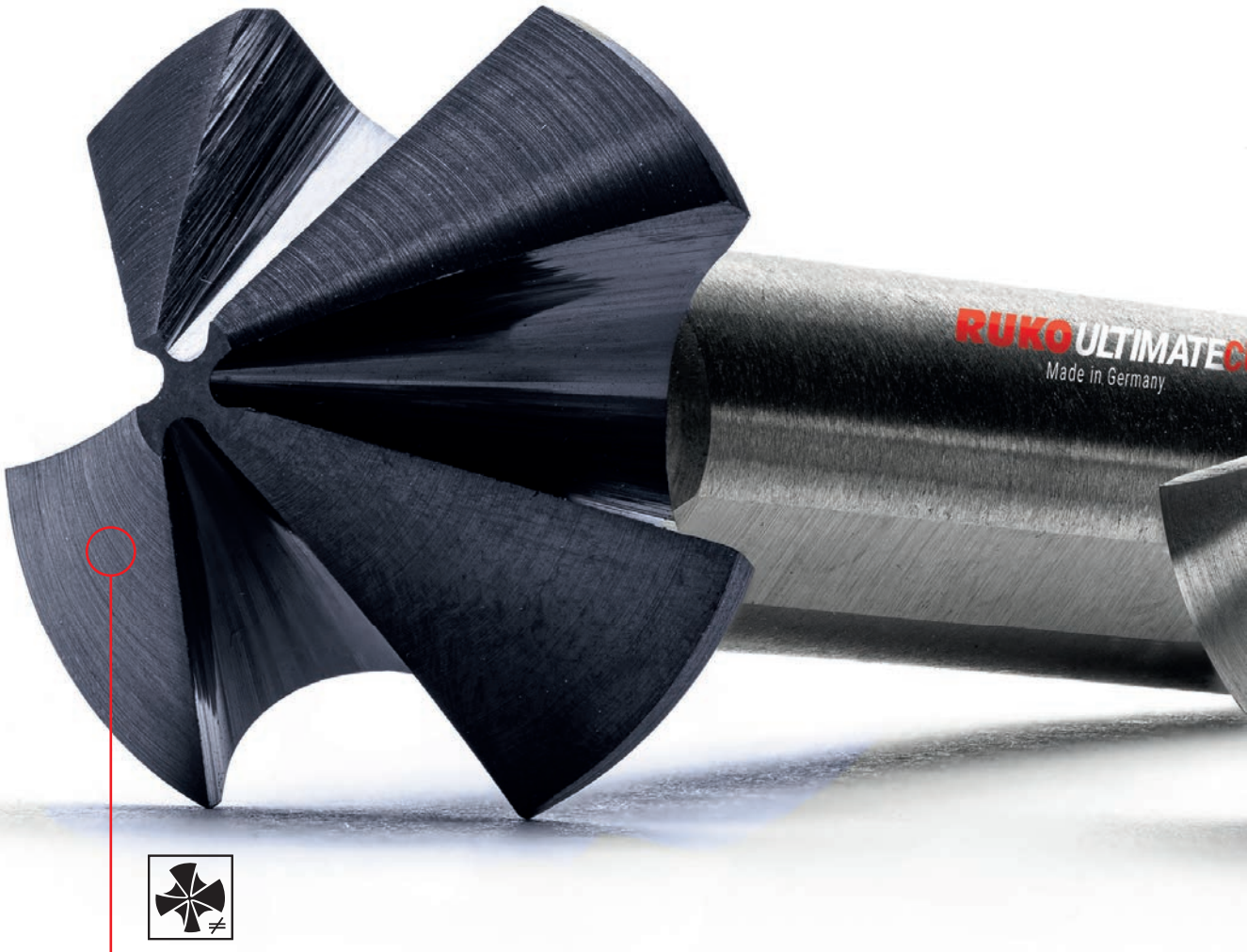
05

SINKERS

Fast. Sharp. Powerful. Sensational.

ULTIMATECUT©
Countersink 4S – with 4 cutting edges

It lets you lower 3x more.
It makes you twice as fast.
It saves you strength.



RUKO 4 cutting edges + unequal division

The distribution of the forces acting on the four cutting edges noticeably reduces the axial and radial forces and guarantees extremely smooth and gentle running of the tool thanks to the unequal spacing.

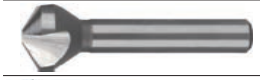
Sinking. Rethought.

For the first time, the newly developed cutting edge technology can even be used for countersinking with a maximum diameter of 40 mm with hand-held screwing and drilling tools.

Incomparable performance

The HSSE-Co 5 variant extends the range of applications to include high-performance machining of stainless steels and demanding Hardox steels.

Type and applications overview

	Material	Surface	DIN	Type	Sinking angle	Cutting edges	Shank	Ø mm	letm no.	Miscellaneous	Page/s
NEW ULTIMATECUT© 	HSS	Blank	DIN 335	C	90°	≠	3	10,4 – 40,0	102 7xx		105
	HSS	RUna TEC	DIN 335	C	90°	≠	3		102 7xx P		
	HSSE Co5	Blank	DIN 335	C	90°	≠	3		102 7xx E		104
	HSSE Co5	RUna TEC	DIN 335	C	90°	≠	3		102 7xx EP		
ULTIMATECUT© 	HSS	Blank	DIN 335	C	90°		3	6,3 – 31,0	102 7xx		107
	HSS	RUna TEC	DIN 335	C	90°		3		102 7xx P		
	HSSE Co5	Blank	DIN 335	C	90°		3		102 7xx E		106
	HSSE Co5	RUna TEC	DIN 335	C	90°		3		102 7xx EP		
	HSS	Blank	DIN 335	C	90°			4,3 – 40,0	102 1xx		108 – 111
	HSS	Blank	DIN 335	C	90°			6,3 – 31,0	102 1xx A	ALU	
	HSSE Co5	Blank	DIN 335	C	90°			4,3 – 31,0	102 1xx E		
	HSS	TiN	DIN 335	C	90°			4,3 – 40,0	102 1xx T		
	HSS	TiAlN	DIN 335	C	90°			4,3 – 40,0	102 1xx F		
	TC HM	Blank	DIN 335	C	90°			6,3 – 31,0	102 26x		
	HSS	Blank	DIN 335	C	90°			6,3 – 25,0	102 2xx		112
	HSS	Blank	DIN 335	D	90°			15,0 – 80,0	102 1xx		113
	HSS	Blank	DIN 334	C	60°			6,3 – 25,0	102 201 - 102 207		113
	HSS	Blank	DIN 334	D	60°			16,0 – 80,0	102 208 - 102 215		114
	HSS	Blank		C	75°			6,3 – 25,0	102 221 - 102 227		114
	HSS	Blank		D	75°			16,5 – 40,0	102 228 - 102 232		115
	HSS	Blank		C	120°			6,3 – 25,0	102 241 - 102 247		115
	HSS	Blank		D	120°			16,5 – 40,0	102 2xx		116

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
●			●			●	○
●	●		●			●	○
●	●	●	●			●	○
●	●	●	●			●	○
●			●	○	○	●	○
●	○		●	○	○	●	○
●	●	○	●	○	○	●	○
●	●	●	●	○	○	●	○
●			●	○	○	●	○
○			○			●	○
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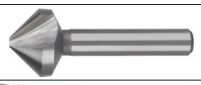
●	●		○	●	●	●	○
●			●	○	○	●	○
●			●	○	○	●	○
●			●	○	○	●	○
●			●	○	○	●	○
●			●	○	○	●	○
●			●	○	○	●	○
●			●	○	○	●	○
●			●	○	○	●	○

● Main application ○ Other application

Type and applications overview

	Material	Surface	DIN	Type	Sinking angle	Cutting edges	Shank	Ø mm	Item no.	Miscellaneous	Page/s
	HSS	Blank		C	90°			6,0 – 50,0	102 5xx		116
	HSS	Blank	DIN 335	C	82°			1/4 – 1 Inch	102 182 - 102 191	Inch Size	117
	HSS	Blank			90°			6,3 – 20,5	W102 31x		118
	HSS	TiN			90°			6,3 – 20,5	W102 31x T		
	HSS	Blank			90°			6,3 – 20,5	102 31x		119
	HSS	TiN			90°			6,3 – 20,5	102 31x T		
	HSS	Blank			90°			12,4 – 25,0	102 14x	with handle	120
	HSS	Blank			90°			2,0 – 25,0	102 30x		121
	HSSE Co5	Blank			90°			1,0 – 25,0	102 30x E		
	HSS	TiN			90°			2,0 – 25,0	102 30x T		
	HSS	Blank			180°			M3 – M12	102 4xx		122 – 123
	HSS	TiN			180°			M3 – M12	102 4xx T		
	HSS	Blank			180°			M10 – M22	102 4xx		124

Application tip

To increase the service life - reduce speed!
Cooling while countersinking!

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
●			●	○	○	●	○
●	●		●	○	●	●	○
●			●	○	○	●	○
●	○		●	○	○		○
●			●	○	○	●	○
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●			●	○	○	●	○
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●			●	○	○	●	○

● Main application ○ Other application

NEW | 90° | ≠ | Ø 6.3 mm | ≥ Ø 8.3 mm

ULTIMATECUT countersink 4S
HSSE-Co 5, similar DIN 335, 90°

HSSE Co5 | RUna TEC | HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Ms Zn | ALU | PVC | PLEXIGLAS® | BRONZE | CAST IRON | TITANIUM

HSSE Co5 | HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Ms Zn | ALU | PVC | PLEXIGLAS® | BRONZE | CAST IRON

The ULTIMATECUT countersink 4S is a high-performance tool that stands for best performance in all disciplines. The ULTIMATECUT countersink 4S can be optimally used in hand-held applications with the cordless screwdriver or a drill, in pillar drilling machines as well as in CNC-controlled machining centres.

! 4 cutting edges for technical reasons from Ø 10.4 mm, smaller dimensions in versions with 3 cutting edges.

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinks as per DIN 74 / BF	HSSE-Co 5 RUnaTEC		HSSE-Co 5	
10.4	2.5	50.0	6.0	M 5	102 874 EP	1	102 874 E	1
12.4	2.8	56.0	8.0	M 6	102 876 EP	1	102 876 E	1
15.0	3.2	60.0	10.0	M 8	102 878 EP	1	102 878 E	1
16.5	3.2	60.0	10.0	M 8	102 879 EP	1	102 879 E	1
19.0	3.5	63.0	10.0	M 10	102 880 EP	1	102 880 E	1
20.5	3.5	63.0	10.0	M 10	102 881 EP	1	102 881 E	1
23.0	3.8	67.0	10.0	M 12	102 882 EP	1	102 882 E	1
25.0	3.8	67.0	10.0	M 12	102 883 EP	1	102 883 E	1
31.0	4.2	71.0	12.0	M 16	102 885 EP	1	102 885 E	1
40.0	5.2	80.0	12.0	-	102 894 EP	1	102 894 E	1

		HSSE-Co 5 RUnaTEC		HSSE-Co 5
6 tlg./pcs.	Countersink set 4S HSSE-Co 5, similar DIN 335, 90° Ø 6.3 | 8.3 | 10.4 | 12.4 | 16.5 | 20.5 mm	102 890 EPRO		102 890 ERO
5 tlg./pcs.	Countersink set 4S HSSE-Co 5, similar DIN 335, 90° Ø 6.3 | 10.4 | 16.5 | 20.5 | 25.0 mm	102 891 EPRO		102 891 ERO

102 890 EPRO

ULTIMATECUT countersink 4S
HSS, similar DIN 335, 90°

The ULTIMATECUT countersink 4S is a high-performance tool that stands for best performance in all disciplines. The ULTIMATECUT countersink 4S can be optimally used in hand-held applications with the cordless screwdriver or a drill, in pillar drilling machines as well as in CNC-controlled machining centers.

! 4 cutting edges for technical reasons from Ø 10.4 mm, smaller dimensions in versions with 3 cutting edges.

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings as per DIN 74	HSS RUnaTEC		HSS	
10.4	2.5	50.0	6.0	M 5	102 874 P	1	102 874	1
12.4	2.8	56.0	8.0	M 6	102 876 P	1	102 876	1
15.0	3.2	60.0	10.0	M 8	102 878 P	1	102 878	1
16.5	3.2	60.0	10.0	M 8	102 879 P	1	102 879	1
19.0	3.5	63.0	10.0	M 10	102 880 P	1	102 880	1
20.5	3.5	63.0	10.0	M 10	102 881 P	1	102 881	1
23.0	3.8	67.0	10.0	M 12	102 882 P	1	102 882	1
25.0	3.8	67.0	10.0	M 12	102 883 P	1	102 883	1
31.0	4.2	71.0	12.0	M 16	102 885 P	1	102 885	1
40.0	5.2	80.0	12.0	-	102 894 P	1	102 894	1

		HSS RUnaTEC		HSS
6 tlg./pcs.	Countersink set 4S HSS, similar DIN 335, 90° Ø 6.3 | 8.3 | 10.4 | 12.4 | 16.5 | 20.5 mm	102 890 PRO		102 890 RO
5 tlg./pcs.	Countersink set 4S HSS, similar DIN 335, 90° Ø 6.3 | 10.4 | 16.5 | 20.5 | 25.0 mm	102 891 PRO		102 891 RO

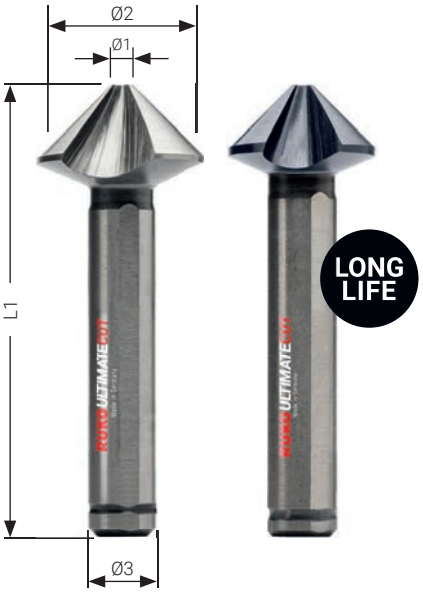
102 891 RO

ULTIMATECUT countersink
HSSE-Co 5, DIN 335, type C, 90°

The ULTIMATECUT countersink is a high-performance tool that stands for the best performance: Up to 30% time savings, twice as many countersinks as with standard countersinks and an optimally smooth countersinking result and that in almost all materials.

The RUKO countersink achieves this thanks to its unique cutting edge geometry, with the specially developed variable relief grinding, transition radii and the extra wide flute.

Also ideal for CNC-controlled machining centers.



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings as per DIN 74	HSSE-Co 5 RUnaTEC		HSSE-Co 5	
6.3	1.5	45.0	5.0	M 3	102 767 EP	1	102 767 E	1
8.3	2.0	50.0	6.0	M 4	102 771 EP	1	102 771 E	1
10.4	2.5	50.0	6.0	M 5	102 774 EP	1	102 774 E	1
12.4	2.8	56.0	8.0	M 6	102 776 EP	1	102 776 E	1
15.0	3.2	60.0	10.0	M 8	102 778 EP	1	102 778 E	1
16.5	3.2	60.0	10.0	M 8	102 779 EP	1	102 779 E	1
19.0	3.5	63.0	10.0	M 10	102 780 EP	1	102 780 E	1
20.5	3.5	63.0	10.0	M 10	102 781 EP	1	102 781 E	1
23.0	3.8	67.0	10.0	M 12	102 782 EP	1	102 782 E	1
25.0	3.8	67.0	10.0	M 12	102 783 EP	1	102 783 E	1
31.0	4.2	71.0	12.0	M 16	102 785 EP	1	102 785 E	1

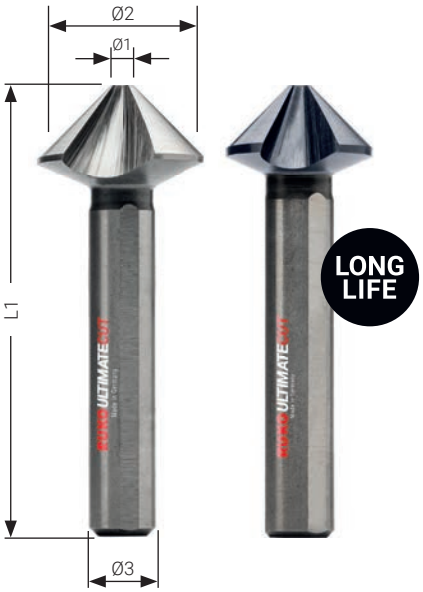
		HSSE-Co 5 RUnaTEC		HSSE-Co 5
6 tlg./pcs.	Countersink set HSSE-Co 5 DIN 335 type C 90° Ø 6.3 | 8.3 | 10.4 | 12.4 | 16.5 | 20.5 mm	102 790 EPRO		102 790 ERO
5 tlg./pcs.	Countersink set HSSE-Co 5 DIN 335 type C 90° Ø 6.3 | 10.4 | 16.5 | 20.5 | 25.0 mm	102 791 EPRO		102 791 ERO

102 790 EPRO

ULTIMATECUT countersink
HSS, DIN 335, type C, 90°

HSS RUnaTEC — STEEL, Cu Ni Ms Zn, ALU, PVC, PLEXIGLAS, WOOD, CAST IRON, BRONZE

HSS — STEEL, ALU, Cu Ni Ms Zn, PVC, PLEXIGLAS, WOOD



The ULTIMATECUT countersink is a high-performance tool that stands for the best performance: Up to 30% time savings, twice as many countersinks as with standard countersinks and an optimally smooth countersinking result and that in almost all materials.

The RUKO countersink achieves this thanks to its unique cutting edge geometry, with the specially developed variable relief grinding, transition radii and the extra wide flute.

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings as per DIN 74	HSS RUnaTEC		HSS	
6.3	1.5	45.0	5.0	M 3	102 767 P	1	102 767	1
8.3	2.0	50.0	6.0	M 4	102 771 P	1	102 771	1
10.4	2.5	50.0	6.0	M 5	102 774 P	1	102 774	1
12.4	2.8	56.0	8.0	M 6	102 776 P	1	102 776	1
15.0	3.2	60.0	10.0	M 8	102 778 P	1	102 778	1
16.5	3.2	60.0	10.0	M 8	102 779 P	1	102 779	1
19.0	3.5	63.0	10.0	M 10	102 780 P	1	102 780	1
20.5	3.5	63.0	10.0	M 10	102 781 P	1	102 781	1
23.0	3.8	67.0	10.0	M 12	102 782 P	1	102 782	1
25.0	3.8	67.0	10.0	M 12	102 783 P	1	102 783	1
31.0	4.2	71.0	12.0	M 16	102 785 P	1	102 785	1

		HSS RUnaTEC		HSS
6 tlg./pcs.	Countersink set HSS DIN 335 type C 90° Ø 6.3 | 8.3 | 10.4 | 12.4 | 16.5 | 20.5 mm	102 790 PRO		102 790 RO
5 tlg./pcs.	Countersink set HSS DIN 335 type C 90° Ø 6.3 | 10.4 | 16.5 | 20.5 | 25.0 mm	102 791 PRO		102 791 RO

102 791 RO

DIN 335 | C | 90°

Countersink
DIN 335 type C 90°

Because of the CBN deep-ground flutes the cutting edges are extremely sharp.
Ideal for burr- and chatter-free deburring and countersinking.
Best results at low cutting speeds.

05

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings DIN 74 AF	Countersinkings DIN 74 BF	HM / TC	HSSE-Co 5	HSS TiAlN	
4.3	1.3	40.0	4.0			–	102 101 E	102 101 F	1
4.8	1.5	40.0	4.0			–	–	102 102 F	1
5.0	1.5	40.0	4.0	M 2.5		–	102 103 E	102 103 F	1
5.3	1.5	40.0	4.0			–	102 104 E	102 104 F	1
5.8	1.5	45.0	5.0			–	–	102 105 F	1
6.0	1.5	45.0	5.0	M 3		–	102 106 E	102 106 F	1
6.3	1.5	45.0	5.0		M 3	102 261	102 107 E	102 107 F	1
7.0	1.8	50.0	6.0	M 3.5		–	–	102 108 F	1
7.3	1.8	50.0	6.0			–	–	102 109 F	1
8.0	2.0	50.0	6.0	M 4		–	102 110 E	102 110 F	1
8.3	2.0	50.0	6.0		M 4	102 262	102 111 E	102 111 F	1
9.4	2.2	50.0	6.0			–	–	102 112 F	1
10.0	2.5	50.0	6.0	M 5		–	102 113 E	102 113 F	1
10.4	2.5	50.0	6.0		M 5	102 263	102 114 E	102 114 F	1
11.5	2.8	56.0	8.0	M 6		–	102 115 E	102 115 F	1
12.4	2.8	56.0	8.0		M 6	102 264	102 116 E	102 116 F	1
13.4	2.9	56.0	8.0			–	–	102 117 F	1
15.0	3.2	60.0	10.0	M 8		–	102 118 E	102 118 F	1
16.5	3.2	60.0	8.0		M 8	–	102 119 E	102 119 F	1
16.5	3.2	60.0	10.0		M 8	102 265	102 119-1 E	102 119-1 F	1
19.0	3.5	63.0	10.0	M 10		–	102 120 E	102 120 F	1
20.5	3.5	63.0	10.0		M 10	102 266	102 121 E	102 121 F	1
23.0	3.8	67.0	10.0	M 12		–	102 122 E	102 122 F	1
25.0	3.8	67.0	10.0		M 12	102 267	102 123 E	102 123 F	1
26.0	3.9	71.0	12.0	M 14		–	–	102 171 F	1
28.0	4.0	71.0	12.0		M 14	–	102 124 E	102 124 F	1
30.0	4.1	71.0	12.0	M 16		–	–	102 172 F	1
31.0	4.2	71.0	12.0		M 16	102 268	102 125 E	102 125 F	1
37.0	4.8	90.0	12.0	M 20	M 20	–	–	102 173 F	1
40.0	10.0	80.0	15.0			–	–	102 174 F	1

		HM / TC	HSSE-Co 5	HSS TiAlN
5 tlg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3 | 10.4 | 16.5 | 20.5 | 25.0 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	–	102 154 ERO	102 154 FRO
6 tlg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3 | 8.3 | 10.4 | 12.4 | 16.5 | 20.5 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	102 152 HMRO	102 152 ERO	102 152 FRO
6 tlg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3 | 10.4 | 16.5 | 20.5 | 25.0 mm (Ø 16.5 mm = shank-Ø 8.0 mm) + 1x cutting paste 40 ml	–	102 142 E	–

102 152 HMRO

102 154 FRO

102 152 ERO

102 142 E

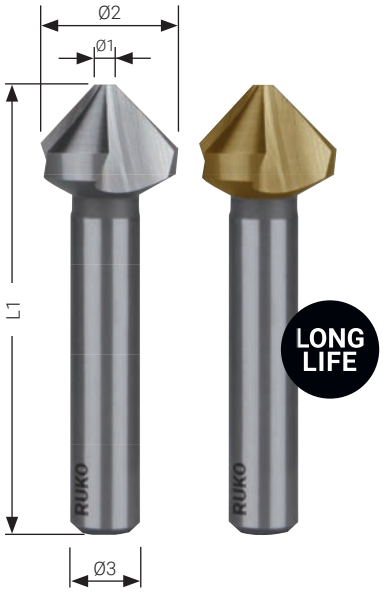
DIN 335 | C | 90°

Countersink
DIN 335 type C 90°

HSS TiN — STEEL, Cu Ni Ms Zn, PVC, INOX, CAST IRON, BRONZE

HSS — STEEL, Cu Ni Ms Zn, ALU, PVC, CAST IRON, BRONZE

HSS ALU — ALU, Cu Ni Ms Zn, ALU, PVC



Because of the CBN deep-ground flutes the cutting edges are extremely sharp.
Ideal for burr- and chatter-free deburring and countersinking.
Best results at low cutting speeds.

05

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings DIN 74 AF	Countersinkings DIN 74 BF	HSS TiN	HSS	HSS ALU	
4.3	1.3	40.0	4.0			102 101 T	102 101	–	1
4.8	1.5	40.0	4.0			102 102 T	102 102	–	1
5.0	1.5	40.0	4.0	M 2.5		102 103 T	102 103	–	1
5.3	1.5	40.0	4.0			102 104 T	102 104	–	1
5.8	1.5	45.0	5.0			102 105 T	102 105	–	1
6.0	1.5	45.0	5.0	M 3		102 106 T	102 106	–	1
6.3	1.5	45.0	5.0		M 3	102 107 T	102 107	102 107 A	1
7.0	1.8	50.0	6.0	M 3.5		102 108 T	102 108	–	1
7.3	1.8	50.0	6.0			102 109 T	102 109	–	1
8.0	2.0	50.0	6.0	M 4		102 110 T	102 110	–	1
8.3	2.0	50.0	6.0		M 4	102 111 T	102 111	102 111 A	1
9.4	2.2	50.0	6.0			102 112 T	102 112	–	1
10.0	2.5	50.0	6.0	M 5		102 113 T	102 113	–	1
10.4	2.5	50.0	6.0		M 5	102 114 T	102 114	102 114 A	1
11.5	2.8	56.0	8.0	M 6		102 115 T	102 115	–	1
12.4	2.8	56.0	8.0		M 6	102 116 T	102 116	102 116 A	1
13.4	2.9	56.0	8.0			102 117 T	102 117	–	1
15.0	3.2	60.0	10.0	M 8		102 118 T	102 118	–	1
16.5	3.2	60.0	8.0		M 8	102 119 T	102 119	102 119 A	1
16.5	3.2	60.0	10.0		M 8	102 119-1 T	102 119-1	102 119-1 A	1
19.0	3.5	63.0	10.0	M 10		102 120 T	102 120	–	1
20.5	3.5	63.0	10.0		M 10	102 121 T	102 121	102 121 A	1
23.0	3.8	67.0	10.0	M 12		102 122 T	102 122	–	1
25.0	3.8	67.0	10.0		M 12	102 123 T	102 123	102 123 A	1
26.0	3.9	71.0	12.0	M 14		102 171 T	102 171	–	1
28.0	4.0	71.0	12.0		M 14	102 124 T	102 124	–	1
30.0	4.1	71.0	12.0	M 16		102 172 T	102 172	–	1
31.0	4.2	71.0	12.0		M 16	102 125 T	102 125	102 125 A	1
37.0	4.8	90.0	12.0			102 173 T	102 173	–	1
40.0	10.0	80.0	15.0			102 174 T	102 174	–	1

		HSS TiN	HSS	HSS for ALU
5 tlg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3 | 10.4 | 16.5 | 20.5 | 25.0 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	102 154 TRO	102 154 RO	102 154 ARO
6 tlg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3 | 8.3 | 10.4 | 12.4 | 16.5 | 20.5 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	102 152 TRO	102 152 RO	102 152 ARO
17 tlg./pcs.	Countersink set DIN 335 type C 90° Ø 4.3 | 5.0 | 6.0 | 6.3 | 7.0 | 8.0 | 8.3 | 10.0 | 10.4 | 11.5 | 12.4 | 15.0 | 16.5 | 19.0 | 20.5 | 23.0 | 25.0 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	–	102 155 RO	–
17 tlg./pcs.	Countersink set in wooden case DIN 335 type C 90° Ø 4.3 | 5.0 | 6.0 | 6.3 | 7.0 | 8.0 | 8.3 | 10.0 | 10.4 | 11.5 | 12.4 | 15.0 | 16.5 | 19.0 | 20.5 | 23.0 | 25.0 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	–	102 155	–
6 tlg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3 | 10.4 | 16.5 | 20.5 | 25.0 mm (Ø 16.5 mm = shank-Ø 8.0 mm) + 1x cutting paste 40 ml	102 142 T	102 142	102 142 A

102 154 RO

102 152 TRO

102 152 ARO

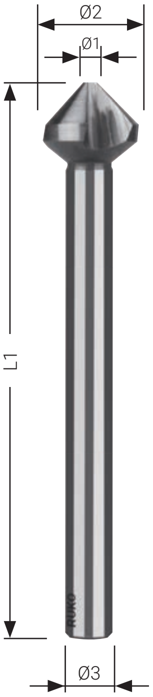
102 142 T

102 155 RO

102 155

DIN 335 | C | 90°

Countersink
DIN 335 type C 90° HSS with long cylindrical shank



HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE

Because of the CBN deep-ground flutes the cutting edges are extremely sharp.
Ideal for burr- and chatter-free deburring and countersinking.
Best results at low cutting speeds.

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings DIN 74 AF	BF	HSS	
6.3	1.5	85.0	5.0	-	M 3	102 271	1
8.3	2.0	85.0	6.0	-	M 4	102 272	1
10.4	2.5	88.0	6.0	-	M 5	102 273	1
12.4	2.8	108.0	8.0	-	M 6	102 274	1
15.0	3.2	110.0	10.0	M 8	-	102 275	1
16.5	3.2	112.0	10.0	-	M 8	102 276	1
20.5	3.5	115.0	10.0	-	M 10	102 277	1
25.0	3.8	118.0	10.0	-	M 12	102 278	1

		HSS
6 tlg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3 | 8.3 | 10.4 | 12.4 | 16.5 | 20.5 mm	102 158 RO

DIN 335 | D | 90°

Countersink
DIN 335 type D 90° HSS

HSS | STEEL | Cu Ni Mo Zn | ALU | PVC | CAST IRON | BRONZE

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings DIN 74 AF	Countersinkings DIN 74 BF	HSS	
15.0	3.2	85.0	MK 1	M 8	-	102 126	1
16.5	3.2	85.0	MK 1	-	M 8	102 127	1
19.0	3.5	100.0	MK 2	M 10	-	102 128	1
20.5	3.5	100.0	MK 2	-	M 10	102 129	1
23.0	3.8	106.0	MK 2	M 12	-	102 130	1
25.0	3.8	106.0	MK 2	-	M 12	102 131	1
26.0	3.8	106.0	MK 2	M 14	-	102 132	1
28.0	4.0	112.0	MK 2	-	M 14	102 133	1
30.0	4.2	112.0	MK 2	M 16	-	102 134	1
31.0	4.2	112.0	MK 2	-	M 16	102 135	1
34.0	4.5	118.0	MK 2	M 18	M 18	102 136	1
37.0	4.8	118.0	MK 2	M 20	M 20	102 137	1
40.0	10.0	140.0	MK 3	-	-	102 138	1
50.0	14.0	150.0	MK 3	-	-	102 139	1
63.0	16.0	180.0	MK 4	-	-	102 140	1
80.0	22.0	190.0	MK 4	-	-	102 141	1

DIN 334 | C | 60°

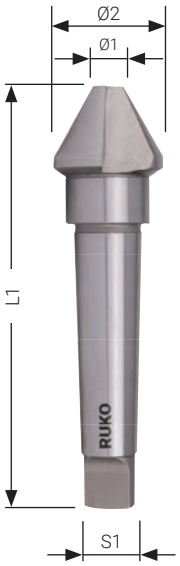
Countersink
DIN 334 type C 60° HSS

HSS | STEEL | Cu Ni Mo Zn | ALU | PVC | CAST IRON | BRONZE

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	HSS	
6.3	1.6	45.0	5.0	102 201	1
8.0	2.0	50.0	6.0	102 202	1
10.0	2.5	50.0	6.0	102 203	1
12.5	3.2	56.0	8.0	102 204	1
16.0	4.0	63.0	10.0	102 205	1
20.0	5.0	67.0	10.0	102 206	1
25.0	6.3	71.0	10.0	102 207	1

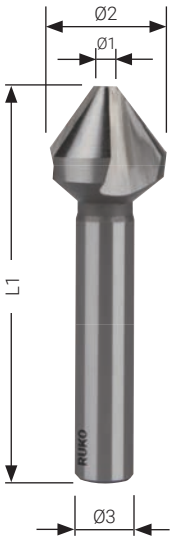
Countersink
DIN 334 type D 60° HSS



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	S1	HSS	
16.0	4.0	90.0	MK 1	102 208	1
20.0	5.0	106.0	MK 2	102 209	1
25.0	6.3	112.0	MK 2	102 210	1
31.5	10.0	118.0	MK 2	102 211	1
40.0	12.5	150.0	MK 3	102 212	1
50.0	16.0	160.0	MK 3	102 213	1
63.0	20.0	190.0	MK 4	102 214	1
80.0	25.0	200.0	MK 4	102 215	1

Countersink
type C 75° HSS



Packaging: plastic tube

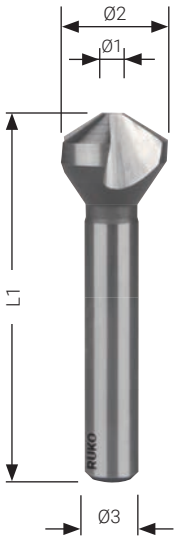
Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	HSS	
6.3	1.6	45.0	5.0	102 221	1
8.3	2.0	50.0	6.0	102 222	1
10.4	2.5	50.0	6.0	102 223	1
12.4	3.2	56.0	8.0	102 224	1
16.5	4.0	63.0	10.0	102 225	1
20.5	5.0	67.0	10.0	102 226	1
25.0	6.3	71.0	10.0	102 227	1

Countersink type D 75° HSS

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	S1	HSS	
16.5	3.5	87.0	MK 1	102 228	1
20.5	4.5	102.0	MK 2	102 229	1
25.0	5.0	109.0	MK 2	102 230	1
31.0	5.0	116.0	MK 2	102 231	1
40.0	10.0	145.0	MK 3	102 232	1

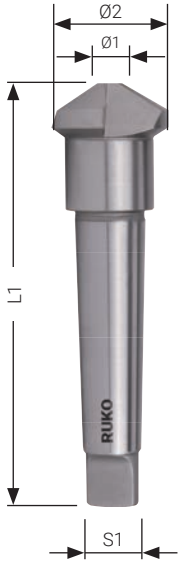
Countersink type C 120° HSS



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	HSS	
6.3	1.5	45.0	5.0	102 241	1
8.3	2.0	50.0	6.0	102 242	1
10.4	2.5	50.0	6.0	102 243	1
12.4	3.0	56.0	8.0	102 244	1
16.5	3.5	63.0	10.0	102 245	1
20.5	4.0	67.0	10.0	102 246	1
25.0	5.0	71.0	10.0	102 247	1

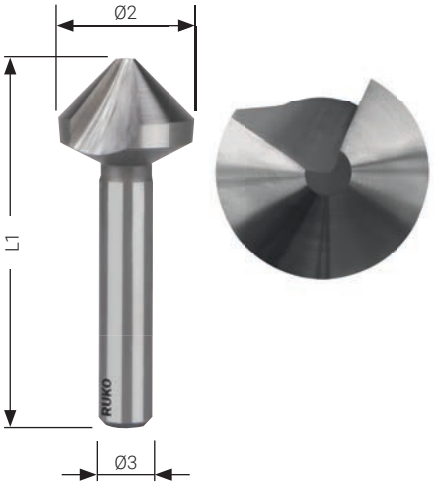
Countersink type D 120° HSS



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	S1	HSS	
16.5	3.5	87.0	MK 1	102 248	1
20.5	4.5	102.0	MK 2	102 249	1
25.0	5.0	109.0	MK 2	102 250	1
31.0	5.0	116.0	MK 2	102 251	1
40.0	10.0	145.0	MK 3	102 252	1

Countersink type C 90° HSS



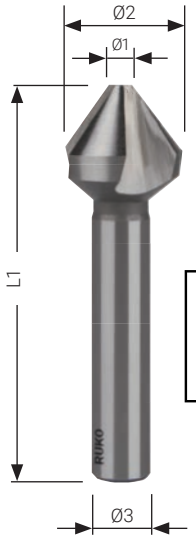
Only countersinking and deburring possible.
Countersink with a blade not recommended for full countersinking.

Packaging: plastic tube

Ø2 mm	L1 mm	Ø3 mm	HSS	
6.0	45.0	5.0	102 521	1
8.0	50.0	6.0	102 522	1
10.0	50.0	6.0	102 523	1
12.0	56.0	8.0	102 524	1
16.0	60.0	10.0	102 525	1
20.0	63.0	10.0	102 526	1
25.0	67.0	10.0	102 527	1
30.0	71.0	12.0	102 528	1
40.0	89.0	15.0	102 529	1
50.0	98.0	15.0	102 530	1

DIN 335 | C | 82°

Countersink
type C 82° HSS – *inch dimensions*



Inch Size

HSS | STEEL | Cu Ni Mo Zn | ALU | PVC | CAST IRON | BRONZE

Because of the CBN deep-ground flutes the cutting edges are extremely sharp.
Ideal for burr- and chatter-free deburring and countersinking.
Best results at low cutting speeds.

05

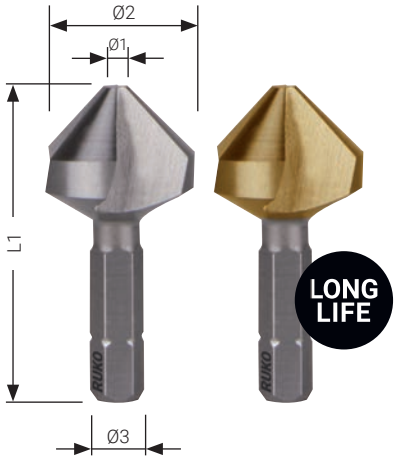
Packaging: plastic tube

Ø2 inch	Ø2 mm	Ø1 inch	Ø3 inch	Ø3 mm	L1 inch	L1 mm	HSS	
1/4	6.4	3/64	3/16	5.0	1 3/4	45.0	102 182	1
5/16	7.9	4/64	1/4	6.0	2"	50.0	102 183	1
3/8	9.5	5/64	1/4	6.0	2"	50.0	102 184	1
1/2	12.7	6/64	5/16	8.0	2 3/16	56.0	102 186	1
5/8	15.9	7/64	3/8	10.0	2 3/8	60.0	102 188	1
3/4	19.1	8/64	3/8	10.0	2 1/2	63.0	102 189	1
7/8	22.2	9/64	3/8	10.0	2 5/8	67.0	102 190	1
1"	25.4	9/64	3/8	10.0	2 5/8	76.0	102 191	1

		HSS
5 tlg./pcs.	Countersink set type C 82° HSS Ø 1/4 | 3/8 | 1/2 | 3/4 | 1 inch	102 193 RO

102 193 RO

Countersink Bit 90°
HSS – *short*



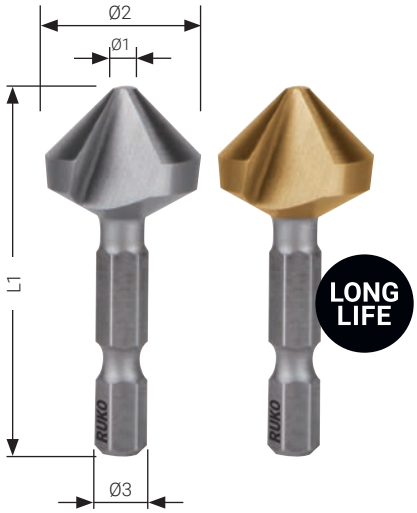
Rapid tool-changing thanks to hexagonal bit holder. Ideal for burr- and chatter-free deburring and countersinking. Applicable for steel, cast iron, non-ferrous and light metals. Best results at low cutting speeds.

05

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 inch	Countersinkings as per DIN 74 / BF	**HSS**		**HSS TiN**	
6.3	1.5	31.0	1/4"	M 3	W 102 313	1	W 102 313 T	1
8.3	2.0	31.0	1/4"	M 4	W 102 314	1	W 102 314 T	1
10.4	2.5	34.0	1/4"	M 5	W 102 315	1	W 102 315 T	1
12.4	2.8	35.0	1/4"	M 6	W 102 316	1	W 102 316 T	1
16.5	3.2	40.0	1/4"	M 8	W 102 317	1	W 102 317 T	1
20.5	3.5	41.0	1/4"	M 10	W 102 318	1	W 102 318 T	1

Countersink Bit 90°
HSS – *long*



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 inch	Countersinkings as per DIN 74 / BF	HSS		HSS TiN	
6.3	1.5	38.0	1/4"	M 3	102 313	1	102 313 T	1
8.3	2.0	38.0	1/4"	M 4	102 314	1	102 314 T	1
10.4	2.5	41.0	1/4"	M 5	102 315	1	102 315 T	1
12.4	2.8	42.0	1/4"	M 6	102 316	1	102 316 T	1
16.5	3.2	47.0	1/4"	M 8	102 317	1	102 317 T	1
20.5	3.5	48.0	1/4"	M 10	102 318	1	102 318 T	1

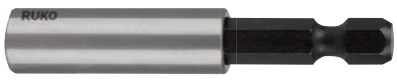
		HSS	HSS TiN
8 tlg./pcs.	Countersink bit set 90° 6 countersink bits Ø 6.3 | 8.3 | 10.4 | 12.4 | 16.5 | 20.5 mm + 1 universal handle with ¼" hexagon socket + 1 cutting paste, 20 ml	102 319 RO	102 319 TRO

102 319 TRO

Magnetic bit holder for 1/4" hexagonal shank tools

Packaging: plastic tube

Magnetic bit holder	270 013	1



Hand deburrer
with countersink

HSS

Packaging: plastic tube

	HSS	
Hand deburrer with countersinker Ø 12.4 mm	102 143	1
Hand deburrer with countersinker Ø 15.0 mm	102 144	1
Hand deburrer with countersinker Ø 16.5 mm	102 145	1
Hand deburrer with countersinker Ø 20.5 mm	102 146	1
Hand deburrer with countersinker Ø 25.0 mm	102 147	1

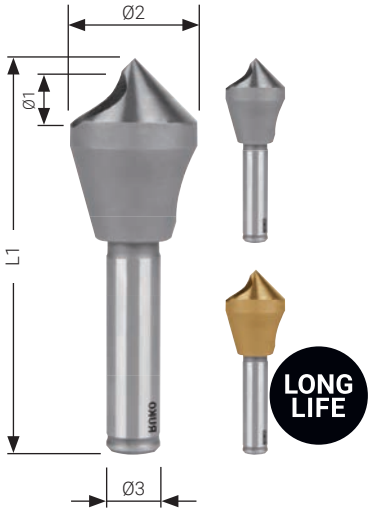
102 143

without countersink

	HSS	
Universal handle for countersinker with 8,0 mm shank Ø	102 148	1
Universal handle for countersinker with 10,0 mm shank Ø	102 149	1
Universal handle for countersinker with 1/4" hexagon socket	102 320	1

102 148

Cross-hole countersink 90°



HSSE Co5 — INOX, STEEL, Cu Ni Mo Zn, ALU, PVC, CAST IRON

HSS — STEEL, Cu Ni Mo Zn, ALU, PVC, CAST IRON, BRONZE

HSS TiN — STEEL, Cu Ni Mo Zn, PVC, INOX, CAST IRON, BRONZE

Peeling cut. Chip removal through the slot prevents chips from clogging the workpiece. Ideal for burr- and chatter-free deburring and countersinking. Applicable for steel, cast iron, non-ferrous and light metals. Best results at low cutting speeds. Countersink with a blade not recommended for full countersinking.

Packaging: plastic tube

Size no.	Ø1 mm	Ø2 mm	Ø3 mm	L1 mm	HSSE-Co 5		HSS		HSS TIN	
1/4	1.0 - 4.0	6.35	6.35	45.0	102 300 E	1	–	1	–	1
2/5	2.0 - 5.0	10.00	6.00	45.0	102 301 E	1	102 301	1	102 301 T	1
5/10	5.0 - 10.0	14.00	8.00	48.0	102 302 E	1	102 302	1	102 302 T	1
10/15	10.0 - 15.0	21.00	10.00	65.0	102 303 E	1	102 303	1	102 303 T	1
15/20	15.0 - 20.0	28.00	12.00	85.0	102 304 E	1	102 304	1	102 304 T	1
20/25	20.0 - 25.0	35.00	12.00	102.0	102 305 E	1	102 305	1	102 305 T	1

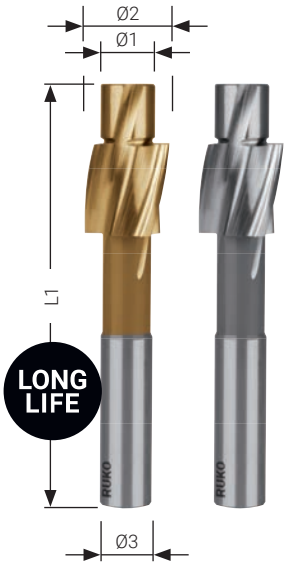
102 312 RO

102 312 TRO

		HSSE-Co 5	HSS	HSS TiN
4 tlg./pcs.	Cross-hole countersink set 90° nominal Ø mm: 2/5 - 5/10 - 10/15 - 15/20	102 312 ERO	102 312 RO	102 312 TRO

DIN 373

Flat countersink DIN 373 HSS with cylindrical shank and fixed guide



For producing countersinkings for cylinderhead screws, thread-cutting screws and thread-furrowing screws. Ideal for burr- and chatter-free deburring and countersinking. Applicable for steel, cast iron, non-ferrous and light metals. Best results at low cutting speeds.

Packaging: plastic tube

05

Fine grade for through hole

For thread	Ø2 mm	L1 mm	Ø3 mm	L1 mm	HSS TiN		HSS	
M 3	6.0	3.2	5.0	71.0	102 401 T	1	102 401	1
M 4	8.0	4.3	5.0	71.0	102 402 T	1	102 402	1
M 5	10.0	5.3	8.0	80.0	102 403 T	1	102 403	1
M 6	11.0	6.4	8.0	80.0	102 404 T	1	102 404	1
M 8	15.0	8.4	12.5	100.0	102 405 T	1	102 405	1
M 10	18.0	10.5	12.5	100.0	102 406 T	1	102 406	1
M 12	20.0	13.0	12.5	100.0	102 407 T	1	102 407	1

Medium grade for through hole

For thread	Ø2 mm	L1 mm	Ø3 mm	L1 mm	HSS TiN		HSS	
M 3	6.0	3.4	5.0	71.0	102 408 T	1	102 408	1
M 4	8.0	4.5	5.0	71.0	102 409 T	1	102 409	1
M 5	10.0	5.5	8.0	80.0	102 410 T	1	102 410	1
M 6	11.0	6.6	8.0	80.0	102 411 T	1	102 411	1
M 8	15.0	9.0	12.5	100.0	102 412 T	1	102 412	1
M 10	18.0	11.0	12.5	100.0	102 413 T	1	102 413	1
M 12	20.0	13.5	12.5	100.0	102 414 T	1	102 414	1

For thread core hole

For thread	Ø2 mm	L1 mm	Ø3 mm	L1 mm	HSS TiN		HSS	
M 3	6.0	2.5	5.0	71.0	102 415 T	1	102 415	1
M 4	8.0	3.3	5.0	71.0	102 416 T	1	102 416	1
M 5	10.0	4.2	8.0	80.0	102 417 T	1	102 417	1
M 6	11.0	5.0	8.0	80.0	102 418 T	1	102 418	1
M 8	15.0	6.8	12.5	100.0	102 419 T	1	102 419	1
M 10	18.0	8.5	12.5	100.0	102 420 T	1	102 420	1
M 12	20.0	10.2	12.5	100.0	102 421 T	1	102 421	1

Application tip

Flat countersink in particular should be used at the lowest possible cutting speed.
For this reason, a low speed is often recommended when using flat countersinks in order to avoid chatter marks.

		HSS TiN		HSS
6 tlg./pcs.	Flat countersink set with fixed guide for through hole, fine grade for threads: M 3 - M 4 - M 5 - M 6 - M 8 - M 10	102 450 TRO		102 450 RO
6 tlg./pcs.	Flat countersink set with fixed guide for through hole, medium grade for threads: M 3 - M 4 - M 5 - M 6 - M 8 - M 10	102 451 TRO		102 451 RO
6 tlg./pcs.	Flat countersink set with fixed guide for thread core hole for threads: M 3 - M 4 - M 5 - M 6 - M 8 - M 10	102 452 TRO		102 452 RO

102 450 TRO

102 451 RO

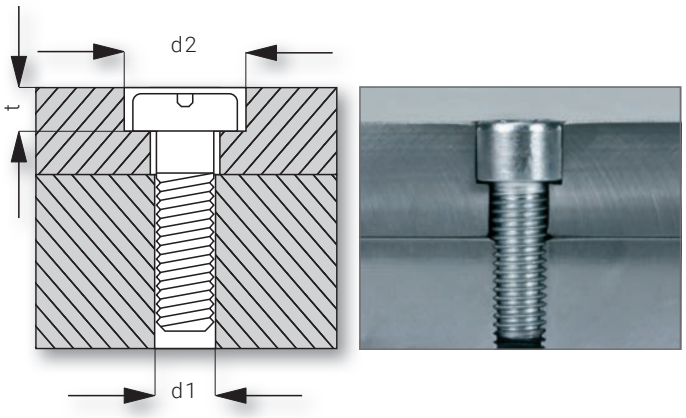
102 450 RO

Countersinkings as per DIN 74, Sheet 2

Countersinkings, type H
for cylinder-head screws as per DIN 84 and DIN 7984
for thread-cutting screws as per DIN 7513, Type B
for thread-furrowing screws as per DIN 7500, Type B

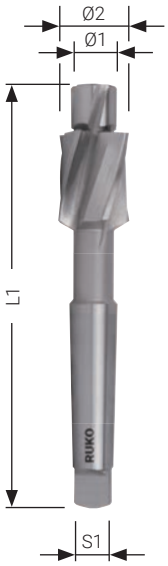
Countersinkings, type J
for cylinder-head screws as per DIN 6912

Countersinkings, type K
for cylinder-head screws as per DIN 912



For thread	d1 fine H 12 mm	d1 medium H 13 mm	d1 core hole mm	d2 H 13 mm	t type H mm	t type J mm	t type K mm	Tolerance for t mm
M 3	3,2	3,4	2,5	6,0	2,4	–	3,4	0 + 0,1
M 4	4,3	4,5	3,3	8,0	3,2	3,4	4,6	0 + 0,4
M 5	5,3	5,5	4,2	10,0	4,0	4,2	5,7	0 + 0,4
M 6	6,4	6,6	5,0	11,0	4,7	4,8	6,8	0 + 0,4
M 8	8,4	9,0	6,8	15,0	6,0	6,0	6,0	0 + 0,4
M 10	10,5	11,0	8,5	18,0	7,0	7,5	11,0	0 + 0,4
M 12	13,0	13,5	10,2	20,0	8,0	8,5	13,0	0 + 0,4
M 14	15,0	15,5	12,0	24,0	9,0	9,5	15,0	0 + 0,4
M 16	17,0	17,5	14,0	26,0	10,5	11,5	17,5	0 + 0,4
M 18	19,0	20,0	15,5	30,0	11,5	12,5	19,5	0 + 0,4
M 20	21,0	22,0	17,5	33,0	12,5	13,5	21,5	0 + 0,4
M 22	23,0	24,0	19,5	36,0	13,5	14,5	23,5	0 + 0,4

Flat countersink HSS with morse taper and fixed guide and fixed guide



HSS | STEEL | Cu Ni Mn Zn | ALU | PVC | CAST IRON | BRONZE

For producing countersinkings for cylinderhead screws, thread-cutting screws and thread-furrowing screws. Ideal for burr- and chatter-free deburring and countersinking. Applicable for steel, cast iron, non-ferrous and light metals. Best results at low cutting speeds.

Packaging: plastic tube

Fine grade for through hole

For thread	Ø2 mm	Ø1 mm	S1	L1 mm	HSS	
M 10	18.0	10.5	MK 2	150.0	102 422	1
M 12	20.0	13.0	MK 2	150.0	102 423	1
M 14	24.0	15.0	MK 2	160.0	102 424	1
M 16	26.0	17.0	MK 3	190.0	102 425	1
M 18	30.0	19.0	MK 3	190.0	102 426	1
M 20	33.0	21.0	MK 3	190.0	102 427	1
M 22	36.0	23.0	MK 3	205.0	102 428	1

Medium grade for through hole

For thread	Ø2 mm	Ø1 mm	S1	L1 mm	HSS	
M 10	18.0	11.0	MK 2	150.0	102 429	1
M 12	20.0	13.5	MK 2	150.0	102 430	1
M 14	24.0	15.5	MK 2	160.0	102 431	1
M 16	26.0	17.5	MK 3	190.0	102 432	1
M 18	30.0	20.0	MK 3	190.0	102 433	1
M 20	33.0	22.0	MK 3	190.0	102 434	1
M 22	36.0	24.0	MK 3	205.0	102 435	1

For thread core hole

For thread	Ø2 mm	Ø1 mm	S1	L1 mm	HSS	
M 10	18.0	8.5	MK 2	150.0	102 436	1
M 12	20.0	10.2	MK 2	150.0	102 437	1
M 14	24.0	12.0	MK 2	160.0	102 438	1
M 16	26.0	14.0	MK 3	190.0	102 439	1
M 18	30.0	15.5	MK 3	190.0	102 440	1
M 20	33.0	17.5	MK 3	190.0	102 441	1
M 22	36.0	19.5	MK 3	205.0	102 442	1

Table of recommended cutting speeds for countersinker

Material:	High carbon struc. steel up to 700 N/mm²	High carbon struc. steel up to 700 N/mm²	Alloyed steel up to 1000 N/mm²	Cast iron up to 250 N/mm²	Cast iron over 250 N/mm²	CuZn alloy brittle	CuZn alloy tough	Aluminium alloy up to 11% Si	Thermo-plastics	Duro-plastics
Vc = m/min	20	15	10	10	8	40	20	20	15	10
Cooling lubricant	Cutting spray	Cutting spray	Cutting spray	Compressed air	Compressed air	Compressed air	Compressed air	Cutting spray	Water	Compressed air
Ø mm	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.
4.3	1481	1111	741	741	593	2963	1481	1481	1111	741
5.0	1274	955	637	637	510	2548	1274	1274	955	637
5.3	1202	901	601	601	481	2404	1202	1202	901	601
5.8	1098	824	549	549	439	2196	1098	1098	824	549
6.0	1062	796	531	531	425	2123	1062	1062	796	531
6.3	1011	758	506	506	404	2022	1011	1011	758	506
7.0	910	682	455	455	364	1820	910	910	682	455
7.3	873	654	436	436	349	1745	873	873	654	436
8.0	796	597	398	398	318	1592	796	796	597	398
8.3	767	576	384	384	307	1535	767	767	576	384
9.4	678	508	339	339	271	1355	678	678	508	339
10.0	637	478	318	318	255	1274	637	637	478	318
10.4	612	459	306	306	245	1225	612	612	459	306
11.5	554	415	277	277	222	1108	554	554	415	277
12.0	531	398	265	265	212	1062	531	531	398	265
12.4	514	385	257	257	205	1027	514	514	385	257
12.5	510	382	255	255	204	1019	510	510	382	255
13.4	475	356	238	238	190	951	475	475	356	238
15.0	425	318	212	212	170	849	425	425	318	212
16.0	398	299	199	199	159	796	398	398	299	199
16.5	386	290	193	193	154	772	386	386	290	193
19.0	335	251	168	168	134	670	335	335	251	168
20.0	318	239	159	159	127	637	318	318	239	159
20.5	311	233	155	155	124	621	311	311	233	155
23.0	277	208	138	138	111	554	277	277	208	138
25.0	255	191	127	127	102	510	255	255	191	127
26.0	245	184	122	122	98	490	245	245	184	122
28.0	227	171	114	114	91	455	227	227	171	114
30.0	212	159	106	106	85	425	212	212	159	106
31.0	205	154	103	103	82	411	205	205	154	103
31.5	202	152	101	101	81	404	202	202	152	101
34.0	187	141	94	94	75	375	187	187	141	94
37.0	172	129	86	86	69	344	172	172	129	86
40.0	159	119	80	80	64	318	159	159	119	80
50.0	127	96	64	64	51	255	127	127	96	64
63.0	101	76	51	51	40	202	101	101	76	51
80.0	80	60	40	40	32	159	80	80	60	40

Countersinkings as per DIN 74 for countersunk screws as per DIN

as per DIN 74	
type AF	type BF
DIN 963 / DIN 964 DIN 965 / DIN 966 DIN 7513 F. u. G. DIN 7516 D. u. E.	DIN 7991 (ISO 10642)

Type A for:
- countersunk screws as per DIN 963 and DIN 965,
- raised countersunk head screws as per DIN 964 and DIN 966,
- thread forming screws type F and G as per DIN 7513 and type D and E as per DIN 7516,
- countersunk tapping screws type K, L, M and N as per DIN 7500,
- wood screws as per DIN 97 and DIN 7997
- oval head wood screws as per DIN 95 DIN 7997

Type B for:
- countersunk screws with hexagon socket DIN 7991

06

THREAD-CUTTING TOOLS

HAND TAPS

Type and applications overview

	Material	DIN	Type	Cutting direction	Thread	Tenacity classes	Nominal dimension	Item no.	Page/s
	HSS	DIN 352			M	800 N/mm²	M 2 – M 52	230 xxx	130
	HSSE Co5	DIN 352			M		M 2 – M 24	230 xxx E	
	HSS	DIN 352		↻	M	800 N/mm²	M 3 – M 20	230 xxx Li	132
	HSS	DIN 2181			MF	800 N/mm²	MF 3 – MF 52	235 xxx	133
	HSS	DIN 5157			G (BSP)	800 N/mm²	G 1/8 – G 2"	236 xxx	135
	HSS	DIN 352			Ww (BSW)	800 N/mm²	1/16 – 2"	246 xxx	136
	HSS	DIN 352			UNC	800 N/mm²	Nr. 2 – 12 1/4 – 2"	246 xxx UNC	137
	HSS	DIN 2181			UNF	800 N/mm²	Nr. 2 – 12 1/4 – 1 1/2"	246 xxx UNF	138
	HSS	DIN 352	B		M	800 N/mm²	M 3 – M 12	231 xxx	142
	HSSE Co5	DIN 352	B		M	1000 N/mm²		231 xxx E	
	HSS		C		NPT	800 N/mm²	1/16 – 2"	231 xxx NPT	143
	HSS	DIN 5157	B		G (BSP)	800 N/mm²	G 1/8 – G 1"	236 2xx	144
	HSS	DIN 22568	B		M	800 N/mm²	M 2 – M 52	237 xxx	131
							M 3 – M 12	238 xxx	
	HSSE Co5	DIN 22568	B		M	1000 N/mm²	M 2 – M 24	237 xxx E	
	HSS	DIN 22568	B	↻	M	800 N/mm²	M 3 – M 20	237 xxx Li	132
	HSS	DIN 22568	B		MF	800 N/mm²	MF 3 – MF 52	239 xxx	134
	HSS	DIN 24231	B		G (BSP)	800 N/mm²	G 1/8 – G 2"	240 xxx	135
	HSS	DIN 22568	B		Ww (BSW)	800 N/mm²	1/16 – 2"	247 xxx	136
	HSS	DIN 22568	B		UNC	800 N/mm²	Nr. 2 – 12 1/4 – 2"	240 xxx UNC	137
	HSS	DIN 22568	B		UNF	800 N/mm²	Nr. 2 – 12 1/4 – 1 1/2"	240 xxx UNF	138
	HSS	DIN 382			M	800 N/mm²	M 3 – M 30	267 xxx	143
	HSS	DIN 382	B		G (BSP)	800 N/mm²	G 1/8 – G 1"	267 6xx	144

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
●				○	○	○	○
●	●		●	○	○	●	○
●				○	○	○	○
●				○	○	○	○
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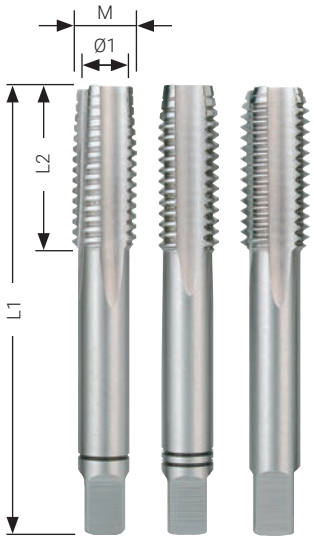
● Main application ○ Other application

M | DIN 352 | 60° | 4 | ISO 2 6H | ISO 13

Hand tap M DIN 352



HSSE Co5 — INOX, STEEL, Cu Ni Ms Zn, ALU, PVC, BRONZE, CAST IRON

HSS — STEEL, Cu Ni Ms Zn, ALU, PVC, CAST IRON, BRONZE

The hand tap consists of high speed steel (HSS). For through threads and bottoming threads in unalloyed and low-alloyed steels. malleable cast iron and non-ferrous metals. The thread is cut in three operation.

Also available individually

Taper tap:	6 - 8-thread chamfer	Item no. 230 ..... **-1**
Second tap:	4 - 5-thread chamfer	Item no. 230 ..... **-2**
Final tap:	2 - 3-thread chamfer	Item no. 230 ..... **-3**

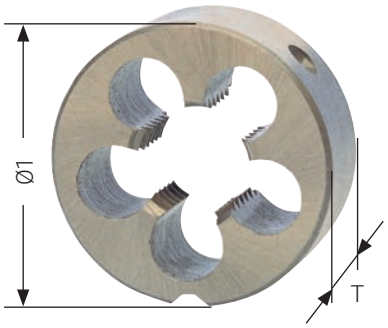
Thread: metric, DIN ISO 13
Flanks: relief-ground

Packaging: plastic
Set consists of 1x taper tap, 1x second tap and 1x final tap

Nominal thread size M	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSSE-Co 5		HSS	
M 2	0.40	1.60	36.0	8.0	230 020 E		230 020	1
M 2.5	0.45	2.10	40.0	8.0	–		230 025	1
M 3	0.50	2.50	40.0	10.0	230 030 E		230 030	1
M 3.5	0.60	2.90	45.0	12.0	–		230 035	1
M 4	0.70	3.30	45.0	12.0	230 040 E		230 040	1
M 4.5	0.75	3.70	50.0	16.0	–		230 045	1
M 5	0.80	4.20	50.0	13.0	230 050 E		230 050	1
M 6	1.00	5.00	56.0	15.0	230 060 E		230 060	1
M 7	1.00	6.00	56.0	16.0	–		230 070	1
M 8	1.25	6.80	56.0	18.0	230 080 E		230 080	1
M 9	1.25	7.80	63.0	22.0	–		230 090	1
M 10	1.50	8.50	70.0	24.0	230 100 E		230 100	1
M 11	1.50	9.50	70.0	24.0	–		230 110	1
M 12	1.75	10.20	75.0	29.0	230 120 E		230 120	1
M 14	2.00	12.00	80.0	30.0	230 140 E		230 140	1
M 15	2.00	13.00	80.0	32.0	–		230 150	1
M 16	2.00	14.00	80.0	32.0	230 160 E		230 160	1
M 18	2.50	15.50	95.0	40.0	230 180 E		230 180	1
M 20	2.50	17.50	95.0	40.0	230 200 E		230 200	1
M 22	2.50	19.50	100.0	40.0	230 220 E		230 220	1
M 24	3.00	21.00	110.0	45.0	230 240 E		230 240	1
M 27	3.00	24.00	110.0	50.0	–		230 270	1
M 30	3.50	26.50	125.0	56.0	–		230 300	1
M 33	3.50	29.50	125.0	56.0	–		230 330	1
M 36	4.00	32.00	150.0	63.0	–		230 360	1
M 39	4.00	35.00	150.0	63.0	–		230 390	1
M 42	4.50	37.50	150.0	63.0	–		230 420	1
M 45	4.50	40.50	160.0	70.0	–		230 450	1
M 48	5.00	43.00	180.0	75.0	–		230 480	1
M 52	5.00	47.00	180.0	75.0	–		230 520	1

M | DIN EN 22568 | 60° | B | ISO 2 6g | ISO 13

Round die M DIN EN 22568



HSSE Co5: INOX, STEEL, Cu Ni Ms Zn, ALU, PVC, BRONZE, CAST IRON

HSS: STEEL, Cu Ni Ms Zn, ALU, PVC, CAST IRON, BRONZE

The round die consists of high speed steel in unalloyed and low-alloyed steels up to a strength of 800 N/mm². The round die consists of 5 % cobalt alloyed high speed steel (HSSE-Co 5) in unalloyed and alloyed steels up to a strength of 1000 N/mm² and non-ferrous metals. The thread is cut in one operation.

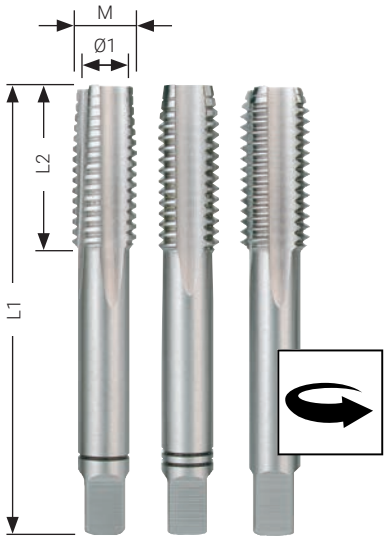
Thread: metric, DIN ISO 13

Packaging: plastic

Nominal thread size M	Pitch mm	Outside Ø1 mm	Thickness T mm	HSSE-Co 5	HSS	HSS	
M 2	0.40	16.0	5.0	237 020 E	237 020	–	1
M 2.5	0.45	16.0	5.0	–	237 025	–	1
M 3	0.50	20.0	5.0	237 030 E	237 030	–	1
M 3	0.50	25.0	9.0	–	–	238 030	1
M 3.5	0.60	20.0	5.0	–	237 035	–	1
M 4	0.70	20.0	5.0	237 040 E	237 040	–	1
M 4	0.70	25.0	9.0		–	238 040	1
M 4.5	0.75	20.0	7.0	–	237 045	–	1
M 5	0.80	20.0	7.0	237 050 E	237 050	–	1
M 5	0.80	25.0	9.0	–	–	238 050	1
M 6	1.00	20.0	7.0	237 060 E	237 060		1
M 6	1.00	25.0	9.0	–	–	238 060	1
M 7	1.00	25.0	9.0	–	237 070	–	1
M 8	1.25	25.0	9.0	237 080 E	237 080	238 080	1
M 9	1.25	25.0	9.0	–	237 090	–	1
M 10	1.50	30.0	11.0	237 100 E	237 100	–	1
M 10	1.50	25.0	9.0	–	–	238 100	1
M 11	1.50	30.0	11.0	–	237 110	–	1
M 12	1.75	38.0	14.0	237 120 E	237 120	–	1
M 12	1.75	25.0	9.0	–	–	238 120	1
M 14	2.00	38.0	14.0	237 140 E	237 140	–	1
M 16	2.00	45.0	18.0	237 160 E	237 160	–	1
M 18	2.50	45.0	18.0	237 180 E	237 180	–	1
M 20	2.50	45.0	18.0	237 200 E	237 200	–	1
M 22	2.50	55.0	22.0	237 220 E	237 220	–	1
M 24	3.00	55.0	22.0	237 240 E	237 240	–	1
M 27	3.00	65.0	25.0	–	237 270	–	1
M 30	3.50	65.0	25.0	–	237 300	–	1
M 33	3.50	65.0	25.0	–	237 330	–	1
M 36	4.00	65.0	25.0	–	237 360	–	1
M 39	4.00	75.0	30.0	–	237 390	–	1
M 42	4.50	75.0	30.0	–	237 420	–	1
M 45	4.50	90.0	36.0	–	237 450	–	1
M 48	5.00	90.0	36.0	–	237 480	–	1
M 52	5.00	90.0	36.0	–	237 520	–	1

M | DIN 352 | 60° | 4 | ISO 2 6H | ISO 13

Hand tap M DIN 352 – *left-hand thread*



HSS | STEEL | Cu Ni Mg Zn | ALU | PVC | CAST IRON | BRONZE

Also available individually

Taper tap:	6 - 8-thread chamfer	Item no. 230 .....Li **-1**
Second tap:	4 - 5-thread chamfer	Item no. 230 .....Li **-2**
Final tap:	2 - 3-thread chamfer	Item no. 230 .....Li **-3**

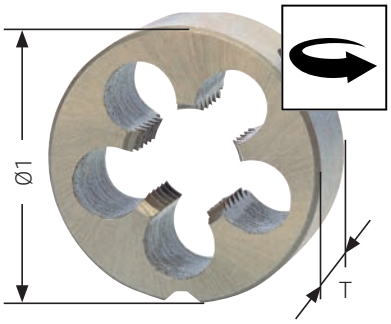
Thread: metric, DIN ISO 13
Flanks: relief-ground

Packaging: plastic
Set consists of 1x taper tap, 1x second tap and 1x final tap

Nominal thread size M	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
M 3	0.50	2.50	40.0	10.0	230 030 Li	1
M 4	0.70	3.30	45.0	12.0	230 040 Li	1
M 5	0.80	4.20	50.0	13.0	230 050 Li	1
M 6	1.00	5.00	56.0	15.0	230 060 Li	1
M 8	1.25	6.80	56.0	18.0	230 080 Li	1
M 10	1.50	8.50	70.0	24.0	230 100 Li	1
M 12	1.75	10.20	75.0	29.0	230 120 Li	1
M 14	2.00	12.00	80.0	30.0	230 140 Li	1
M 16	2.00	14.00	80.0	32.0	230 160 Li	1
M 18	2.50	15.50	95.0	40.0	230 180 Li	1
M 20	2.50	17.50	95.0	40.0	230 200 Li	1

M | DIN EN 22568 | 60° | B | ISO 2 6g | ISO 13

Round die M DIN EN 22568 – *left-hand thread*



HSS | STEEL | Cu Ni Mg Zn | ALU | PVC | CAST IRON | BRONZE

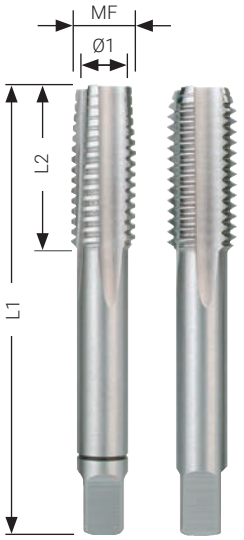
Thread: metric, DIN ISO 13

Packaging: plastic

Nominal thread size M	Pitch mm	Outside Ø1 mm	Thickness T mm	HSS	
M 3	0.50	20.0	5.0	237 030 Li	1
M 4	0.70	20.0	5.0	237 040 Li	1
M 5	0.80	20.0	7.0	237 050 Li	1
M 6	1.00	20.0	7.0	237 060 Li	1
M 7	1.00	25.0	9.0	237 070 Li	1
M 8	1.25	25.0	9.0	237 080 Li	1
M 10	1.50	30.0	11.0	237 100 Li	1
M 12	1.75	38.0	14.0	237 120 Li	1
M 14	2.00	38.0	14.0	237 140 Li	1
M 16	2.00	45.0	18.0	237 160 Li	1
M 18	2.50	45.0	18.0	237 180 Li	1
M 20	2.50	45.0	18.0	237 200 Li	1

MF | DIN 2181 | 60° | 4 | ISO 2 6H | ISO 13

Hand tap MF DIN 2181



HSS | STEEL | Cu Ni Mo Zn | ALU | PVC | CAST IRON | BRONZE

Also available individually
Taper tap: 5 - 6-thread chamfer Item no. 235 .....**-1**
Final tap: 2 - 3-thread chamfer Item no. 235.....**-2**

Thread: metric fine, DIN ISO 13
Flanks: relief-ground

Packaging: plastic
Set consists of 1x taper tap and 1x final tap

Nominal thread size MF	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
MF 3	0.35	2.60	40.0	10.0	235 030	1
MF 4	0.35	3.10	45.0	10.0	235 040	1
MF 4	0.50	3.50	45.0	12.0	235 041	1
MF 5	0.50	4.50	50.0	13.0	235 050	1
MF 5	0.75	4.25	50.0	13.0	235 051	1
MF 6	0.50	5.50	50.0	14.0	235 061	1
MF 6	0.75	5.20	50.0	15.0	235 060	1
MF 7	0.75	6.20	50.0	14.0	235 070	1
MF 8	0.50	7.50	50.0	19.0	235 082	1
MF 8	0.75	7.20	56.0	18.0	235 080	1
MF 8	1.00	7.00	56.0	18.0	235 081	1
MF 9	0.75	8.20	56.0	19.0	235 092	1
MF 9	1.00	8.00	63.0	20.0	235 090	1
MF 10	0.75	9.20	63.0	20.0	235 102	1
MF 10	1.00	9.00	63.0	18.0	235 100	1
MF 10	1.25	8.70	70.0	24.0	235 101	1
MF 11	1.00	9.20	63.0	20.0	235 110	1
MF 11	1.25	9.80	63.0	22.0	235 111	1
MF 12	1.00	11.00	70.0	20.0	235 122	1
MF 12	1.25	10.70	70.0	20.0	235 121	1
MF 12	1.50	10.50	70.0	20.0	235 120	1
MF 13	1.00	12.00	70.0	22.0	235 130	1
MF 13	1.50	11.50	70.0	22.0	235 131	1
MF 14	1.00	13.00	70.0	20.0	235 142	1
MF 14	1.25	12.70	70.0	20.0	235 140	1
MF 14	1.50	12.50	70.0	20.0	235 141	1
MF 15	1.50	13.50	70.0	22.0	235 150	1
MF 16	1.00	15.00	70.0	20.0	235 161	1
MF 16	1.25	14.75	70.0	20.0	235 162	1
MF 16	1.50	14.50	70.0	20.0	235 160	1
MF 18	1.00	17.00	80.0	22.0	235 181	1
MF 18	1.25	16.80	80.0	22.0	235 183	1

Nominal thread size MF	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
MF 18	1.50	16.50	80.0	22.0	235 180	1
MF 18	2.00	16.00	80.0	22.0	235 182	1
MF 20	1.00	19.00	80.0	22.0	235 201	1
MF 20	1.25	18.80	80.0	22.0	235 203	1
MF 20	1.50	18.50	80.0	22.0	235 200	1
MF 20	2.00	18.00	80.0	22.0	235 202	1
MF 22	1.00	21.00	80.0	22.0	235 221	1
MF 22	1.50	20.50	80.0	22.0	235 220	1
MF 22	2.00	20.00	80.0	22.0	235 222	1
MF 24	1.00	23.00	90.0	22.0	235 242	1
MF 24	1.50	22.50	90.0	22.0	235 240	1
MF 24	2.00	22.00	90.0	22.0	235 241	1
MF 25	1.50	23.50	90.0	22.0	235 250	1
MF 26	1.50	24.50	90.0	22.0	235 261	1
MF 26	2.00	24.00	90.0	22.0	235 260	1
MF 27	1.50	25.50	90.0	22.0	235 270	1
MF 27	2.00	25.00	90.0	22.0	235 271	1
MF 28	1.50	26.50	90.0	22.0	235 280	1
MF 28	2.00	26.00	90.0	22.0	235 281	1
MF 30	1.00	29.00	90.0	22.0	235 300	1
MF 30	1.50	28.50	90.0	22.0	235 301	1
MF 30	2.00	28.00	90.0	22.0	235 302	1
MF 32	1.50	30.50	90.0	22.0	235 320	1
MF 35	1.50	33.50	100.0	25.0	235 350	1
MF 38	1.50	36.50	110.0	25.0	235 380	1
MF 40	1.50	38.50	110.0	25.0	235 400	1
MF 42	1.50	40.50	110.0	25.0	235 420	1
MF 45	1.50	43.50	110.0	25.0	235 450	1
MF 48	1.50	46.50	125.0	40.0	235 480	1
MF 50	1.50	48.50	125.0	40.0	235 500	1
MF 52	1.50	50.50	125.0	40.0	235 520	1

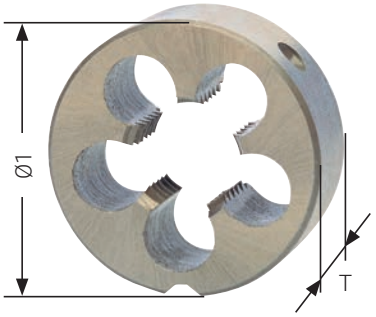
Application tip

After two rotations of the drill turn back 1/3 rotation to break the chip.
Thus the strain on the screw tap decreases.
Lubrication with RUKO cutting oil is recommended.

Main application Other application

MF | DIN 22568 | 60° | B | ISO 2 6g | ISO 13

Round die MF DIN EN 22568



HSS | STEEL | Cu Ni Mg Zn | ALU | PVC | CAST IRON | BRONZE

Thread: metric fine, DIN ISO 13

Packaging: plastic

Nominal thread size MF	Pitch mm	Outside Ø1 mm	Thickness T mm	HSS	
MF 3	0.35	20.0	5.0	239 030	1
MF 4	0.35	20.0	5.0	239 040	1
MF 4	0.50	20.0	5.0	239 041	1
MF 5	0.50	20.0	5.0	239 050	1
MF 5	0.75	20.0	7.0	239 051	1
MF 6	0.50	20.0	5.0	239 061	1
MF 6	0.75	20.0	7.0	239 060	1
MF 7	0.75	25.0	9.0	239 070	1
MF 8	0.50	25.0	9.0	239 082	1
MF 8	0.75	25.0	9.0	239 080	1
MF 8	1.00	25.0	9.0	239 081	1
MF 9	0.75	25.0	9.0	239 090	1
MF 9	1.00	25.0	9.0	239 091	1
MF 10	0.75	30.0	11.0	239 102	1
MF 10	1.00	30.0	11.0	239 100	1
MF 10	1.25	30.0	11.0	239 101	1
MF 11	1.00	30.0	11.0	239 110	1
MF 11	1.25	30.0	11.0	239 111	1
MF 12	1.00	38.0	10.0	239 121	1
MF 12	1.25	38.0	10.0	239 122	1
MF 12	1.50	38.0	10.0	239 120	1
MF 13	1.00	38.0	10.0	239 131	1
MF 13	1.50	38.0	10.0	239 130	1
MF 14	1.00	38.0	10.0	239 142	1
MF 14	1.25	38.0	10.0	239 140	1
MF 14	1.50	38.0	10.0	239 141	1
MF 15	1.50	38.0	10.0	239 150	1
MF 16	1.00	45.0	14.0	239 161	1
MF 16	1.25	45.0	14.0	239 162	1
MF 16	1.50	45.0	14.0	239 160	1
MF 18	1.00	45.0	14.0	239 181	1
MF 18	1.25	45.0	14.0	239 183	1

Nominal thread size MF	Pitch mm	Outside Ø1 mm	Thickness T mm	HSS	
MF 18	1.50	45.0	14.0	239 180	1
MF 18	2.00	45.0	14.0	239 182	1
MF 20	1.00	45.0	14.0	239 201	1
MF 20	1.25	45.0	14.0	239 203	1
MF 20	1.50	45.0	14.0	239 200	1
MF 20	2.00	45.0	14.0	239 202	1
MF 22	1.00	55.0	16.0	239 221	1
MF 22	1.50	55.0	16.0	239 220	1
MF 22	2.00	55.0	16.0	239 222	1
MF 24	1.00	55.0	16.0	239 242	1
MF 24	1.50	55.0	16.0	239 240	1
MF 24	2.00	55.0	16.0	239 241	1
MF 25	1.50	55.0	16.0	239 250	1
MF 26	1.50	55.0	16.0	239 261	1
MF 26	2.00	55.0	16.0	239 262	1
MF 27	1.50	65.0	18.0	239 270	1
MF 27	2.00	65.0	18.0	239 271	1
MF 28	1.50	65.0	18.0	239 281	1
MF 28	2.00	65.0	18.0	239 282	1
MF 30	1.00	65.0	18.0	239 300	1
MF 30	1.50	65.0	18.0	239 301	1
MF 30	2.00	65.0	18.0	239 302	1
MF 32	1.50	65.0	18.0	239 320	1
MF 35	1.50	65.0	18.0	239 350	1
MF 38	1.50	75.0	20.0	239 380	1
MF 40	1.50	75.0	20.0	239 400	1
MF 42	1.50	75.0	20.0	239 420	1
MF 45	1.50	90.0	22.0	239 450	1
MF 48	1.50	90.0	22.0	239 480	1
MF 50	1.50	90.0	22.0	239 500	1
MF 52	1.50	90.0	22.0	239 520	1

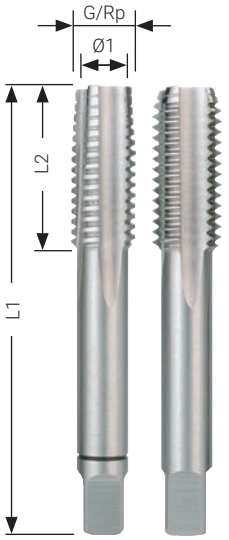
Application tip

It is recommended that the threading dies are turned back briefly now and then so that the chips break and do not clog the threads.
Lubrication with RUKO cutting oil is recommended.

Rp | G (BSP) | DIN 5157 | 55° | 4 | ISO 2 6H | 800 N/mm²

Hand tap G DIN 5157

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE



Also available individually
Taper tap: 5 - 6-thread chamfer Item no. 236 .....**-1**
Final tap: 2 - 3-thread chamfer Item no. 236.....**-2**

Thread: DIN ISO 228 "G" (cylindrical pipe thread)
DIN 2999 "Rp" (Whitworth pipe thread)
Flanks: relief-ground

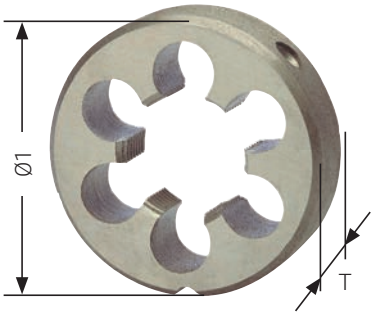
Packaging: plastic
Set consists of 1x taper tap and 1x final tap

Nominal thread size G	Nominal thread size Rp	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
G 1/8"	Rp 1/8"	28	8.80	63.0	18.0	236 018	1
G 1/4"	Rp 1/4"	19	11.80	70.0	20.0	236 014	1
G 3/8"	Rp 3/8"	19	15.25	70.0	20.0	236 038	1
G 1/2"	Rp 1/2"	14	19.00	80.0	22.0	236 012	1
G 5/8"	Rp 5/8"	14	21.00	80.0	22.0	236 058	1
G 3/4"	Rp 3/4"	14	24.50	90.0	22.0	236 034	1
G 7/8"	Rp 7/8"	14	28.25	90.0	22.0	236 078	1
G 1"	Rp 1"	11	30.75	100.0	25.0	236 010	1
G 1 1/8"	Rp 1 1/8"	11	35.30	125.0	40.0	236 118	1
G 1 1/4"	Rp 1 1/4"	11	39.25	125.0	40.0	236 114	1
G 1 3/8"	Rp 1 3/8"	11	41.70	140.0	40.0	236 138	1
G 1 1/2"	Rp 1 1/2"	11	45.25	140.0	40.0	236 112	1
G 1 3/4"	Rp 1 3/4"	11	51.10	140.0	40.0	236 134	1
G 2"	Rp 2"	11	57.00	160.0	40.0	236 020	1

G (BSP) | DIN 24231 | 55° | B | 800 N/mm²

Round die G DIN EN 24231

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE



Thread: DIN ISO 228 "G" (cylindrical pipe thread)

Packaging: plastic

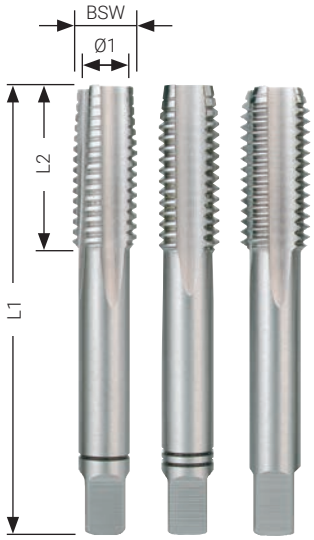
Nominal thread size G	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
G 1/8"	28	30.0	11.0	240 018	1
G 1/4"	19	38.0	10.0	240 014	1
G 3/8"	19	45.0	14.0	240 038	1
G 1/2"	14	45.0	14.0	240 012	1
G 5/8"	14	55.0	16.0	240 058	1
G 3/4"	14	55.0	16.0	240 034	1
G 7/8"	14	65.0	18.0	240 078	1
G 1"	11	65.0	18.0	240 010	1

Nominal thread size G	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
G 1 1/8"	11	75.0	20.0	240 118	1
G 1 1/4"	11	75.0	20.0	240 114	1
G 1 3/8"	11	90.0	22.0	240 138	1
G 1 1/2"	11	90.0	22.0	240 112	1
G 1 5/8"	11	90.0	22.0	240 158	1
G 1 3/4"	11	105.0	22.0	240 134	1
G 2"	11	105.0	22.0	240 020	1

Ww (BSW) | DIN 352 | 55° | 4 | 800 N/mm²

Hand tap BSW ≈ DIN 352

HSS | STEEL | Cu Ni Mg Zn | ALU | PVC | CAST IRON | BRONZE



Also available individually

Taper tap:	5 - 6-thread chamfer	Item no. 246 .....**-1**
Second tap:	4 - 5-thread chamfer	Item no. 246 .....**-2**
Final tap:	2 - 3-thread chamfer	Item no. 246 .....**-3**

Thread: BSW, formerly DIN 11
Flanks: relief-ground

Packaging: plastic
Set consists of 1x taper tap, 1x second tap and 1x final tap

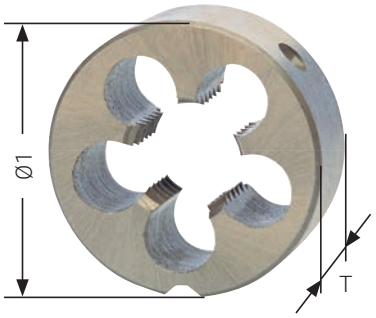
Nominal thread size BSW	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
1/16"	60	1.15	32.0	7.0	246 116	1
3/32"	48	1.80	40.0	8.0	246 332	1
1/8"	40	2.50	40.0	10.0	246 018	1
5/32"	32	3.10	45.0	12.0	246 532	1
3/16"	24	3.60	50.0	13.0	246 316	1
7/32"	24	4.40	50.0	15.0	246 732	1
1/4"	20	5.10	50.0	16.0	246 014	1
5/16"	18	6.50	56.0	18.0	246 516	1
3/8"	16	7.90	70.0	24.0	246 038	1
7/16"	14	9.30	70.0	24.0	246 716	1
1/2"	12	10.50	80.0	30.0	246 012	1
9/16"	12	12.00	80.0	30.0	246 916	1

Nominal thread size BSW	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
5/8"	11	13.50	80.0	32.0	246 058	1
3/4"	10	16.50	95.0	40.0	246 034	1
7/8"	9	19.25	100.0	40.0	246 078	1
1"	8	22.00	110.0	50.0	246 010	1
1 1/8"	7	24.75	125.0	50.0	246 118	1
1 1/4"	7	27.75	125.0	50.0	246 114	1
1 3/8"	6	30.20	150.0	63.0	246 138	1
1 1/2"	6	33.50	150.0	63.0	246 112	1
1 5/8"	5	35.50	150.0	63.0	246 158	1
1 3/4"	5	38.50	160.0	70.0	246 134	1
1 7/8"	4 1/2	41.50	180.0	75.0	246 178	1
2"	4 1/2	44.50	180.0	75.0	246 020	1

Ww (BSW) | DIN EN 22568 | 55° | B | 800 N/mm²

Round die BSW ≈ DIN EN 22568

HSS | STEEL | Cu Ni Mg Zn | ALU | PVC | CAST IRON | BRONZE



Thread: BSW, formerly DIN 11

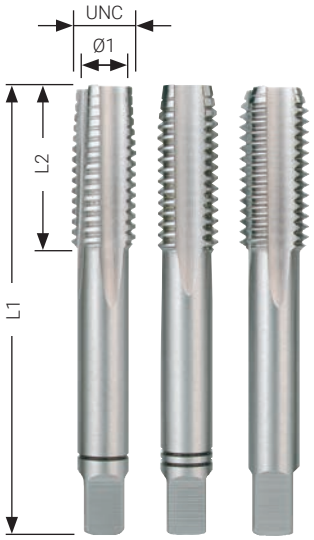
Packaging: plastic

Nominal thread size BSW	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
1/16"	60	16.0	5.0	247 116	1
3/32"	48	16.0	5.0	247 332	1
1/8"	40	20.0	5.0	247 018	1
5/32"	32	20.0	5.0	247 532	1
3/16"	24	20.0	7.0	247 316	1
7/32"	24	20.0	7.0	247 732	1
1/4"	20	25.0	9.0	247 014	1
5/16"	18	25.0	9.0	247 516	1
3/8"	16	30.0	11.0	247 038	1
7/16"	14	30.0	11.0	247 716	1
1/2"	12	38.0	14.0	247 012	1
9/16"	12	38.0	14.0	247 916	1

Nominal thread size BSW	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
5/8"	11	45.0	18.0	247 058	1
3/4"	10	45.0	18.0	247 034	1
7/8"	9	55.0	22.0	247 078	1
1"	8	55.0	22.0	247 010	1
1 1/8"	7	65.0	25.0	247 118	1
1 1/4"	7	65.0	25.0	247 114	1
1 3/8"	6	65.0	25.0	247 138	1
1 1/2"	6	75.0	30.0	247 112	1
1 5/8"	5	75.0	30.0	247 158	1
1 3/4"	5	90.0	36.0	247 134	1
1 7/8"	4 1/2	90.0	36.0	247 178	1
2"	4 1/2	90.0	36.0	247 020	1

UNC | DIN 352 | 60° | 4 | 800 N/mm² | 2B

Hand tap UNC ≈ DIN 352



HSS | STEEL | Cu Ni Mo Zn | ALU | PVC | CAST IRON | BRONZE

Also available individually

Taper tap:	5 - 6-thread chamfer	Item no. 246 .....**UNC1**
Second tap:	4 - 5-thread chamfer	Item no. 246.....**UNC2**
Final tap:	2 - 3-thread chamfer	Item no. 246.....**UNC3**

Thread: American UNC coarse thread
Flanks: relief-ground

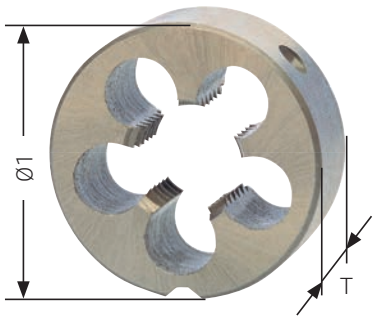
Packaging: plastic
Set consists of 1x taper tap, 1x second tap and 1x final tap

Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
Nr. 2	56	1.8	36.0	11.0	246 020 UNC	1
Nr. 3	48	2.1	36.0	11.0	246 030 UNC	1
Nr. 4	40	2.3	40.0	12.0	246 040 UNC	1
Nr. 5	40	2.6	40.0	12.0	246 050 UNC	1
Nr. 6	32	2.8	45.0	14.0	246 060 UNC	1
Nr. 8	32	3.5	45.0	14.0	246 080 UNC	1
Nr. 10	24	3.9	50.0	16.0	246 100 UNC	1
Nr. 12	24	4.5	50.0	18.0	246 120 UNC	1
1/4"	20	5.1	50.0	19.0	246 014 UNC	1
5/16"	18	6.6	56.0	22.0	246 516 UNC	1
3/8"	16	8.0	70.0	24.0	246 038 UNC	1
7/16"	14	9.4	70.0	24.0	246 716 UNC	1

Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
1/2"	13	10.8	75.0	29.0	246 012 UNC	1
9/16"	12	12.2	80.0	30.0	246 916 UNC	1
5/8"	11	13.5	80.0	32.0	246 058 UNC	1
3/4"	10	16.5	95.0	40.0	246 034 UNC	1
7/8"	9	19.5	100.0	40.0	246 078 UNC	1
1"	8	22.2	110.0	50.0	246 010 UNC	1
1 1/8"	7	25.0	132.0	56.0	246 118 UNC	1
1 1/4"	7	28.0	132.0	56.0	246 114 UNC	1
1 3/8"	6	30.7	150.0	63.0	246 138 UNC	1
1 1/2"	6	34.0	150.0	63.0	246 112 UNC	1
1 3/4"	5	39.5	160.0	70.0	246 134 UNC	1
2"	4 1/2	45.0	190.0	80.0	246 200 UNC	1

UNC | DIN EN 22568 | 60° | B | 800 N/mm² | 2A

Round die UNC ≈ DIN EN 22568



HSS | STEEL | Cu Ni Mo Zn | ALU | PVC | CAST IRON | BRONZE

Thread: American UNC coarse thread

Packaging: plastic

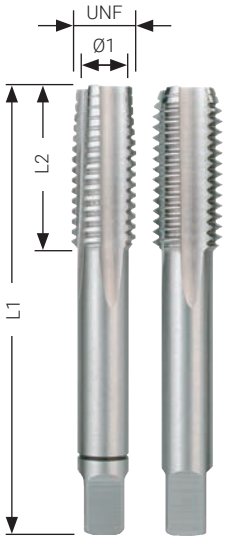
Nominal thread size UNC	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
Nr. 2	56	16.0	5.0	240 020 UNC	1
Nr. 3	48	16.0	5.0	240 030 UNC	1
Nr. 4	40	20.0	5.0	240 040 UNC	1
Nr. 5	40	20.0	5.0	240 050 UNC	1
Nr. 6	32	20.0	7.0	240 060 UNC	1
Nr. 8	32	20.0	7.0	240 080 UNC	1
Nr. 10	24	20.0	7.0	240 100 UNC	1
Nr. 12	24	20.0	7.0	240 120 UNC	1
1/4"	20	20.0	7.0	240 014 UNC	1
5/16"	18	25.0	9.0	240 516 UNC	1
3/8"	16	30.0	11.0	240 038 UNC	1
7/16"	14	30.0	11.0	240 716 UNC	1

Nominal thread size UNC	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
1/2"	13	38.0	14.0	240 012 UNC	1
9/16"	12	38.0	14.0	240 916 UNC	1
5/8"	11	45.0	18.0	240 058 UNC	1
3/4"	10	45.0	18.0	240 034 UNC	1
7/8"	9	55.0	22.0	240 078 UNC	1
1"	8	55.0	22.0	240 010 UNC	1
1 1/8"	7	65.0	25.0	240 118 UNC	1
1 1/4"	7	65.0	25.0	240 114 UNC	1
1 3/8"	6	65.0	25.0	240 138 UNC	1
1 1/2"	6	75.0	30.0	240 112 UNC	1
1 3/4"	5	90.0	36.0	240 134 UNC	1
2"	4.5	90.0	36.0	240 200 UNC	1

UNF | DIN 2181 | 60° | 800 N/mm² | 2B

Hand tap UNF ≈ DIN 2181

HSS | STEEL | Cu Ni Mg Zn | ALU | PVC | CAST IRON | BRONZE



Also available individually
Taper tap: 5 - 6-thread chamfer Item no. 246 .....**UNF1**
Final tap: 2 - 3-thread chamfer Item no. 246.....**UNF2**

Thread: American UNF coarse thread
Flanks: relief-ground

Packaging: plastic
Set consists of 1x taper tap and 1x final tap

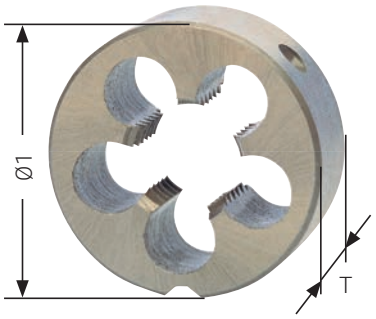
Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
Nr. 2	64	1.85	32.0	10.0	246 020 UNF	1
Nr. 3	56	2.15	32.0	10.0	246 030 UNF	1
Nr. 4	48	2.40	36.0	11.0	246 040 UNF	1
Nr. 5	44	2.70	36.0	11.0	246 050 UNF	1
Nr. 6	40	2.95	40.0	12.0	246 060 UNF	1
Nr. 8	36	3.50	40.0	12.0	246 080 UNF	1
Nr. 10	32	4.10	45.0	14.0	246 100 UNF	1
Nr. 12	28	4.60	50.0	14.0	246 120 UNF	1
1/4"	28	5.50	50.0	18.0	246 014 UNF	1
5/16"	24	6.90	56.0	22.0	246 516 UNF	1
3/8"	24	8.50	63.0	22.0	246 038 UNF	1

Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
7/16"	20	9.90	63.0	22.0	246 716 UNF	1
1/2"	20	11.50	75.0	24.0	246 012 UNF	1
9/16"	18	12.90	80.0	28.0	246 916 UNF	1
5/8"	18	14.50	80.0	28.0	246 058 UNF	1
3/4"	16	17.50	95.0	32.0	246 034 UNF	1
7/8"	14	20.50	100.0	36.0	246 078 UNF	1
1"	12	23.25	110.0	40.0	246 010 UNF	1
1 1/8"	12	22.00	110.0	50.0	246 118 UNF	1
1 1/4"	12	22.00	132.0	56.0	246 114 UNF	1
1 3/8"	12	28.00	132.0	56.0	246 138 UNF	1
1 1/2"	12	32.00	150.0	63.0	246 112 UNF	1

UNF | DIN EN 22568 | 60° | B | 800 N/mm² | 2A

Round die UNF ≈ DIN EN 22568

HSS | STEEL | Cu Ni Mg Zn | ALU | PVC | CAST IRON | BRONZE



Thread: American UNF coarse thread

Packaging: plastic

Nominal thread size UNF	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
Nr. 2	64	16.0	5.0	240 020 UNF	1
Nr. 3	56	16.0	5.0	240 030 UNF	1
Nr. 4	48	16.0	5.0	240 040 UNF	1
Nr. 5	44	20.0	5.0	240 050 UNF	1
Nr. 6	40	20.0	5.0	240 060 UNF	1
Nr. 8	36	20.0	7.0	240 080 UNF	1
Nr. 10	32	20.0	7.0	240 100 UNF	1
Nr. 12	28	20.0	7.0	240 120 UNF	1
1/4"	28	20.0	7.0	240 014 UNF	1
5/16"	24	25.0	9.0	240 516 UNF	1
3/8"	24	30.0	11.0	240 038 UNF	1

Nominal thread size UNF	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
7/16"	20	30.0	11.0	240 716 UNF	1
1/2"	20	38.0	10.0	240 012 UNF	1
9/16"	18	38.0	10.0	240 916 UNF	1
5/8"	18	45.0	14.0	240 058 UNF	1
3/4"	16	45.0	14.0	240 034 UNF	1
7/8"	14	55.0	16.0	240 078 UNF	1
1"	12	55.0	16.0	240 010 UNF	1
1 1/8"	12	65.0	18.0	240 118 UNF	1
1 1/4"	12	65.0	18.0	240 114 UNF	1
1 3/8"	12	65.0	18.0	240 138 UNF	1
1 1/2"	12	75.0	20.0	240 112 UNF	1

Hand tap sets
HSS and HSSE-Co 5

245 001 RO

		HSSE-Co 5	HSS
21 tlg./pcs.	Hand tap set M DIN 352 one three-piece set each of M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 in plastic case	245 001 ERO	245 001 RO
22 tlg./pcs.	Hand tap set M DIN 352 one three-piece set each of M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 1 tap wrench DIN 1814 size 11/2 in steel case	245 002 E	245 002

06

Hand tap and twist drill sets

		HSSE-Co 5
29 tlg./pcs.	Hand tap and twist drill set in steel case Hand taps M DIN 352 one three-piece set each of M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 7 twist drills DIN 338 type VA Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm 1 tap wrench DIN 1814 size 11/2	245 003 E
28 tlg./pcs.	Hand tap and twist drill set in plastic case Hand taps M DIN 352 one three-piece set each of M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 7 twist drills DIN 338 type VA Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm	245 003 ERO
44 tlg./pcs.	Hand tap and twist drill set in tool magazine Hand taps M DIN 352 one three-piece set each of M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 7 twist drills DIN 338 type VA Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm 7 dies M DIN EN 22568 - M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 5 die stocks DIN 225 - 20.0 x 5.0 | 20.0 x 7.0 | 25.0 x 9.0 | 30.0 x 11.0 | 38.0 x 14.0 mm 2 tap wrences DIN 1814 size 1 and size 2 1 screwdriver 1 screw-pitch gauge	245 030 E

Hand tap and twist drill sets

HSS | STEEL | Cu Ni Mn Zn | ALU | BRONZE | CAST IRON | PVC

		HSS
29 tlg./pcs.	Hand tap and twist drill set in steel case Hand taps M DIN 352 one three-piece set each of M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 7 twist drills DIN 338 type N Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm 1 tap wrench DIN 1814 size 11/2	245 003
28 tlg./pcs.	Hand tap and twist drill set in plastic case Hand taps M DIN 352 one three-piece set each of M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 7 twist drills DIN 338 type N Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm	245 003 RO
44 tlg./pcs.	Hand tap and twist drill set in tool magazine Hand taps M DIN 352 one three-piece set each of M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 7 twist drills DIN 338 type N Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm 7 dies M DIN EN 22568 - M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 5 die stocks DIN 225 - 20.0 x 5.0 | 20.0 x 7.0 | 25.0 x 9.0 | 30.0 x 11.0 | 38.0 x 14.0 mm 2 tap wrences DIN 1814 size 1 and size 2 1 screwdriver 1 screw-pitch gauge	245 030

245 003

245 003 RO

245 030

Thread-cutting sets

HSSE Co5 | INOX | STEEL | Cu Ni Mg Zn | ALU | BRONZE | CAST IRON | PVC

HSS | STEEL | Cu Ni Mg Zn | ALU | BRONZE | CAST IRON | PVC

		HSSE-Co 5	HSS
31 tlg./pcs.	DIY thread-cutting toolsset one three-piece set each of hand taps M DIN 352 M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 + 7 dies Ø 25.0 mm ≈ DIN EN 22568 M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 + 1 die stock DIN 225 - 25.0 x 9.0 mm + 1 tap wrench, size 1½ DIN 1814 + 1 screwdriver	245 010 E	245 010
37 tlg./pcs.	Thread-cutting tool set one three-piece set each of hand taps M DIN 352 M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 + 7 dies M DIN EN 22568 M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 + 5 die stocks DIN 225 20.0 x 5.0 | 20.0 x 7.0 | 25.0 x 9.0 | 30.0 x 11.0 | 38.0 x 14.0 mm + 2 tap wrences DIN 1814 size 1 and size 2 + 1 screwdriver + 1 screw-pitch gauge	245 020 E	245 020
54 tlg./pcs.	Thread-cutting tool set one three-piece set each of hand taps M DIN 352 M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 18 | M 20 + 11 dies M DIN EN 22568 M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 18 | M 20 + 6 die stocks DIN 225 20.0 x 5.0 | 20.0 x 7.0 | 25.0 x 9.0 | 30.0 x 11.0 | 38.0 x 14.0 | 45.0 x 18.0 mm + 2 tap wrences DIN 1814 size 1 and size 3 + 1 screwdriver + 1 screw-pitch gauge	245 040 E	245 040
43 tlg./pcs.	Thread-cutting tool set MF (metric fine) one two-piece set each of hand taps MF DIN 2181 MF 3 | MF 4 | MF 5 | MF 6 | MF 8 | MF 10 | MF 12 | MF 14 | MF 16 | MF 18 | MF 20 + 11 dies MF DIN 22568 MF 3 | MF 4 | MF 5 | MF 6 | MF 8 | MF 10 | MF 12 | MF 14 | MF 16 | MF 18 | MF 20 + 6 die stocks DIN 225 20.0 x 5.0 | 20.0 x 7.0 | 25.0 x 9.0 | 30.0 x 11.0 | 38.0 x 10.0 | 45.0 x 14.0 mm + 2 tap wrences DIN 1814 size 1 and size 3 + 1 screwdriver + 1 screw-pitch gauge	–	245 041

245 010 E

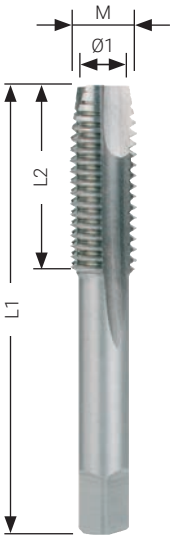
245 020

245 040

Main application Other application

M B DIN 352 60° 4 ISO 2 6H ISO 13

Single-cut tap M ≈ DIN 352



HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | PVC | BRONZE | CAST IRON

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE

The single-cut tap HSS for through threads in unalloyed and low-alloyed steels up to a strength of 800 N/mm². The single-cut tap HSSE-Co 5 for through threads in unalloyed and alloyed steels up to a strength of 1000 N/mm², malleable cast iron and non-ferrous metals. The thread can be cut in one operation by hand or machine.

Thread: metric, DIN ISO 13
Flanks: relief-ground

Packaging: plastic
Set consists of 1x Taper tap, 1x Second tap and 1x Final tap

Nominal thread size M	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSSE-Co 5	HSS	
M 3	0.50	2.50	40.0	10.0	231 030 E	231 030	1
M 4	0.70	3.30	45.0	12.0	231 040 E	231 040	1
M 5	0.80	4.20	50.0	13.0	231 050 E	231 050	1
M 6	1.00	5.00	50.0	15.0	231 060 E	231 060	1
M 8	1.25	6.80	56.0	18.0	231 080 E	231 080	1
M 9	1.25	7.80	67.0	22.0	–	231 090	1
M 10	1.50	8.50	70.0	24.0	231 100 E	231 100	1
M 12	1.75	10.20	75.0	29.0	231 120 E	231 120	1

Single-cut tap + ULTIMATECUT twist drill type FLOWSTEP® set

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE

		HSS
15 tlg./pcs.	Single-cut tap set 7 single-cut taps ≈ DIN 352 HSS, ground M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 + 7 ULTIMATECUT twist drills DIN 338 type FLOWSTEP® HSS Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm + 1 tap wrench, size 1 1/2 DIN 1814	259 004 RO

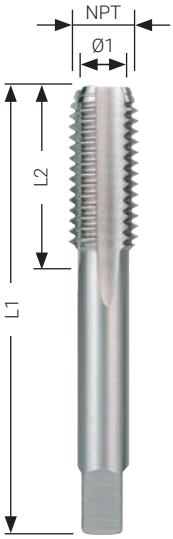
Single-cut tap + twist drill set DIN 338 type N set

		HSS
15 tlg./pcs.	Single-cut tap set 7 single-cut taps ≈ DIN 352 HSS, ground M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 + 7 twist drills DIN 338 type N HSS, ground Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm + 1 tap wrench, size 1 1/2 DIN 1814	245 004 RO

NPT | C | 800 N/mm² | 55° | 4

Single-cut tap NPT

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE



For through threads in unalloyed or low-alloyed steels up to 800 N/mm² strength, malleable cast iron and non-ferrous metals. The thread can be cut in one operation by hand or machine.
Note: pilot drill cylindrically

Thread: American conical pipe thread to ANSI B.1.20.1
Flanks: relief-ground
Cone: 1:16

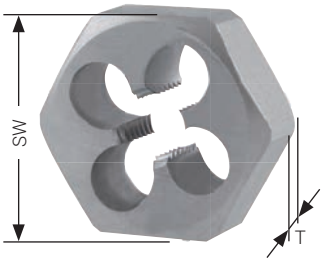
Packaging: plastic

Nominal thread size NPT	Threads per inch	Thread core hole Ø1 mm	Cutting depth mm	L1 mm	L2 mm	HSS	
1/16"	27.0	6.00	12.00	65.0	19.0	231 116 NPT	1
1/8"	27.0	8.25	12.00	65.0	19.0	231 018 NPT	1
1/4"	18.0	10.70	17.50	70.0	25.0	231 014 NPT	1
3/8"	18.0	14.10	17.50	75.0	26.0	231 038 NPT	1
1/2"	14.0	17.40	22.90	80.0	31.0	231 012 NPT	1
3/4"	14.0	22.60	23.00	100.0	33.0	231 034 NPT	1
1"	11.5	28.50	27.40	110.0	38.0	231 010 NPT	1
1 1/4"	11.5	37.00	28.10	125.0	41.0	231 114 NPT	1
1 1/2"	11.5	43.50	28.40	140.0	42.0	231 112 NPT	1
2"	11.5	55.00	28.40	160.0	44.0	231 020 NPT	1

M | DIN 382 | 800 N/mm² | 60° | ISO 2 6g

Hexagonal die nut M DIN 382

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE



Thread: metric, DIN ISO 13

Packaging: plastic

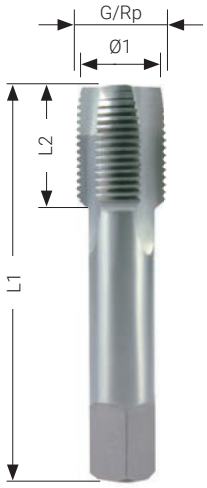
Nominal thread size M	Pitch mm	Outside Ø SW mm	Thickness T mm	HSS	
M 3	0.50	18.0	5.0	267 030	1
M 4	0.70	18.0	5.0	267 040	1
M 5	0.80	18.0	7.0	267 050	1
M 6	1.00	18.0	7.0	267 060	1
M 8	1.25	21.0	9.0	267 080	1
M 10	1.50	27.0	11.0	267 100	1
M 12	1.75	36.0	14.0	267 120	1
M 14	2.00	36.0	14.0	267 140	1

Nominal thread size M	Pitch mm	Outside Ø SW mm	Thickness T mm	HSS	
M 16	2.00	41.0	18.0	267 160	1
M 18	2.50	41.0	18.0	267 180	1
M 20	2.50	41.0	18.0	267 200	1
M 22	2.50	50.0	22.0	267 220	1
M 24	3.00	50.0	22.0	267 240	1
M 27	3.00	60.0	25.0	267 270	1
M 30	3.50	60.0	25.0	267 300	1

Rp | G (BSP) | B | DIN 5157 | 55° | 4 | ISO 2 6H | 800 N/mm²

Single-cut tap G ≈ DIN 5157 HSS, ground

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE



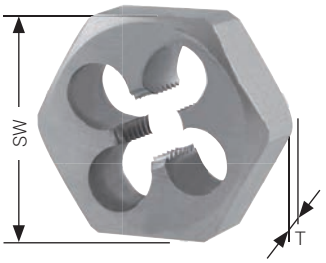
Thread: DIN ISO 228 "G" (cylindrical pipe thread)
DIN 2999 "Rp" (Whitworth pipe thread)
Flanks: relief-ground

Packaging: plastic

Nominal thread size G	Nominal thread size Rp	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
G 1/8"	Rp 1/8"	28	8.6	63.0	20.0	236 218	1
G 1/4"	Rp 1/4"	19	11.5	70.0	22.0	236 214	1
G 3/8"	Rp 3/8"	19	15.0	70.0	22.0	236 238	1
G 1/2"	Rp 1/2"	14	19.0	80.0	22.0	236 212	1
G 3/4"	Rp 3/4"	14	24.5	90.0	22.0	236 234	1
G 1"	Rp 1"	11	30.5	100.0	25.0	236 210	1

G (BSP) | B | DIN 382 | 55° | 800 N/mm²

Hexagonal die nut G DIN 382 HSS, ground



HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE

Thread: DIN ISO 228 "G" (cylindrical pipe thread)

Packaging: plastic

Nominal thread size G	Threads per inch	Outside Ø SW mm	Thickness T mm	HSS	
G 1/8"	28	27.0	11.0	267 618	1
G 1/4"	19	36.0	10.0	267 614	1
G 3/8"	19	41.0	14.0	267 638	1
G 1/2"	14	41.0	14.0	267 612	1
G 3/4"	14	50.0	16.0	267 634	1
G 1"	11	60.0	18.0	267 610	1

Rp | G (BSP) | B | DIN 5157 | 55° | 4 | ISO 2 6H | 800 N/mm²

Sanitary repair thread-cutting set HSS for cylindrical pipe thread

HSS | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

		HSS
13 tlg./pcs.	Sanitary repair thread-cutting tool set 6 single-cut taps G/Rp ≈ DIN 5157 HSS, ground G/Rp 1/8" x 28 | G/Rp 1/4" x 19 | G/Rp 3/8" x 19 | G/Rp 1/2" x 14 | G/Rp 3/4" x 14 | G/Rp 1" x 11 + 6 hexagonal dies G DIN 382 HSS, ground G 1/8" x 28 | G 1/4" x 19 | G 3/8" x 19 | G 1/2" x 14 | G 3/4" x 14 | G 1" x 11 + 1 cutting paste, 40 ml	245 059

Thread-cutting tool sets in wooden case

245 004 RO

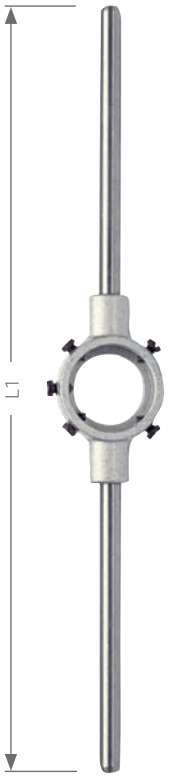
HSS | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

		HSS
28 tlg./pcs.	Thread-cutting tool set one two-piece set each of hand taps G DIN 5157 1/8" | 1/4" | 3/8" | 1/2" | 5/8" | 3/4" | 1" + 7 dies G DIN EN 24231 1/8" | 1/4" | 3/8" | 1/2" | 5/8" | 3/4" | 1" + 5 die stocks DIN 225 30.0 x 11.0 | 38.0 x 10.0 | 45.0 x 14.0 | 55.0 x 16.0 | 65.0 x 18.0 mm + 2 tap wrenches, size 3 and size 5 DIN 1814	245 074
35 tlg./pcs.	Thread-cutting tool set one two-piece set each of hand taps UNF ≈ DIN 2181 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 5/8" | 3/4" | 7/8" | 1" + 9 dies UNF ≈ DIN EN 22568 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 5/8" | 3/4" | 7/8" | 1" + 6 die stocks DIN 225 20.0 x 7.0 | 25.0 x 9.0 | 30.0 x 11.0 | 38.0 x 10.0 | 45.0 x 14.0 | 55.0 x 16.0 mm + 2 tap wrenches, size 2 and size 4 DIN 1814	245 073
44 tlg./pcs.	Thread-cutting tool set one three-piece set each of hand taps UNC ≈ DIN 352 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 5/8" | 3/4" | 7/8" | 1" + 9 dies UNC ≈ DIN EN 22568 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 5/8" | 3/4" | 7/8" | 1" + 6 die stocks DIN 225 20.0 x 7.0 | 25.0 x 9.0 | 30.0 x 11.0 | 38.0 x 10.0 | 45.0 x 18.0 | 55.0 x 22.0 mm + 2 tap wrenches, size 2 and size 4 DIN 1814	245 072

Die stock DIN 225

For closed and slotted taps as per DIN EN 24231.
With steel handles one of which can be unscrewed and five screws for clamping the tap.

Version: die-cast zinc housing



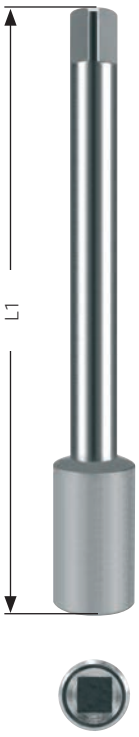
Packaging: plastic

Size	Thickness mm	L1 mm	for tap size M + MF	for tap size Ww	for tap size G	HSS	
16	5.0	160.0	M 1 - M 2.6	1/16 - 3/32	–	242 165	1
20	5.0	175.0	M 3 - M 4	1/8 - 5/32	–	242 205	1
20	7.0	175.0	M 4.5 - M 6	3/16 - 1/4	–	242 207	1
25	9.0	210.0	M 7 - M 9	5/16	1/16	242 259	1
30	11.0	260.0	M 10 - M 11	3/8 - 7/16	1/8	242 3011	1
38	14.0	310.0	M 12 - M 14	1/2 - 9/16	–	242 3814	1
45	18.0	440.0	M 16 - M 20	5/8 - 3/4	–	242 4518	1
55	22.0	495.0	M 22 - M 24	7/8 - 1	–	242 5522	1
65	25.0	630.0	M 27 - M 36	1 1/8 - 1 3/8	–	242 6525	1
75	30.0	700.0	M 38 - M 42	1 1/2 - 1 5/8	–	242 7530	1
90	36.0	900.0	M 45 - M 52	1 3/4 - 2	–	242 9036	1
105	36.0	930.0	M 54 - M 63	2 1/4 - 2 3/4	–	242 10536	1
38	10.0	310.0	MF 12 - MF 14	–	1/4	242 3810	1
45	14.0	440.0	MF 16 - MF 20	–	3/8 - 1/2	242 4514	1
55	16.0	495.0	MF 22 - MF 24	–	5/8 - 3/4	242 5516	1
65	18.0	630.0	MF 27 - MF 36	–	7/8 - 1	242 6518	1
75	20.0	750.0	MF 38 - MF 42	–	1 1/8 - 1 1/4	242 7520	1
90	22.0	900.0	MF 45 - MF 52	–	1 3/8 - 1 5/8	242 9022	1
105	22.0	930.0	MF 54 - MF 63	–	1 3/4 - 2	242 10522	1

Extension sleeve DIN 377

As extension for hand thread-cutting tools.
Inside and outside square of identical size.

Version: hardened and ground
Shank: square as per DIN 10



Packaging: plastic

Square mm	Length mm	for hand tap size M	for hand tap size Ww	for hand tap size G	HSS	
2.1	60.0	M 1 - M 2.6	1/16 - 3/32	–	241 021	1
2.7	80.0	M 3	–	–	241 027	1
3.4	95.0	M 4	5/32	–	241 034	1
4.9	110.0	M 5 - M 8	7/32 - 5/16	–	241 049	1
5.5	115.0	M 9 - M 10	3/8	1/8	241 055	1
7.0	125.0	M 12	1/2	–	241 070	1
9.0	135.0	M 13 - M 16	9/16 - 5/8	1/4	241 090	1
11.0	150.0	M 18	11/16 - 3/4	–	241 110	1
12.0	155.0	M 20	13/16	1/2	241 120	1
14.5	174.0	M 22 - M 24	7/8 - 15/16	5/8	241 145	1
16.0	185.0	M 27 - M 28	1	3/4	241 160	1
18.0	195.0	M 30 - M 32	1 1/8	7/8	241 180	1

Adjustable tap wrench DIN 1814

Ideal for thread-cutting in inaccessible places.
With two-jaw chuck for tensioning square shanks.
With steel handles one of which can be unscrewed.

Version: die-cast zinc housing
Chuck jaws: hardened

Packaging: plastic

Size	L1 mm	for hand tape size M	Ww	G		
0	125.0	M 1 - M 8	1/16 - 5/16	—	241 100	1
1	175.0	M 1 - M 10	1/8 - 3/8	—	241 101	1
1 1/2	175.0	M 1 - M 12	1/8 - 1/2	1/8	241 112	1
2	265.0	M 4 - M 12	3/16 - 5/8	1/8 - 3/8	241 102	1
3	370.0	M 5 - M 20	1/4 - 3/4	1/8 - 1/2	241 103	1
4	480.0	M 11 - M 27	1/2 - 1	1/8 - 3/4	241 104	1
5	700.0	M 13 - M 32	5/8 - 1 1/4	1/4 - 1	241 105	1
6	1000.0	M 18 - M 42	3/4 - 1 1/2	1/4 - 1 1/4	241 106	1
7	1250.0	M 25 - M 52	7/8 - 2	5/8 - 2 1/4	241 107	1

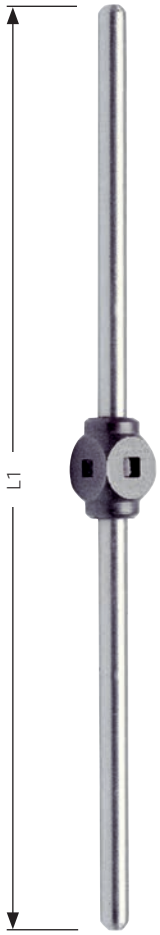
Ball tap wrench

Ideal for rapid fitting of taps.

Version: die-cast zinc housing
Shank: square as per DIN 10

Packaging: plastic

Size	L1 mm	for hand tape size M	Ww	G		
0	200.0	M 1 - M 4	1/16 - 5/32	—	241 200	1
1	200.0	M 3.5 - M 8	5/32 - 5/16	—	241 201	1
2	240.0	M 4 - M 10	5/32 - 3/8	—	241 202	1
3	300.0	M 5 - M 12	7/32 - 1/2	—	241 203	1
4	340.0	M 9 - M 16	3/8 - 5/8	—	241 204	1
5	450.0	M 12 - M 20	1/2 - 13/16	—	241 205	1
6	650.0	M 18 - M 27	11/16 - 1	—	241 206	1



Tap wrench with ratchet

Ideal for thread-cutting in inaccessible places.
With two-jaw chuck for tensioning square shanks.

Version: adjustable left, right, fixed
Shank: sliding cross-handle with grooves at both ends
Surface: chromium-plated

Packaging: plastic

Size	L1 mm	for hand tape size M	Ww	G		
1	85.0	M 3 - M 10	1/8 - 3/8	—	241 001	1
2	100.0	M 5 - M 12	7/32 - 1/2	1/8	241 002	1
10	250.0	M 3 - M 10	1/8 - 3/8	—	241 010	1
20	300.0	M 5 - M 12	7/32 - 1/2	1/8	241 020	1

06

THREAD-CUTTING TOOLS

MACHINE TAPS

Type and applications overview

	Material	Surface	DIN	Type	Thread	Tenacity classes	Blind hole/ Through hole	Nominal thread size	Item no.	Page/s
NEW ULTIMATECUT© 	HSS				M			M 3 – M 10	270 0xx	158
	HSS	RUna TEC			M				270 0xx P	
	HSS	Blank	DIN 371	B	M	800 N/mm²		M 2 – M 10	232 xxx	160
	HSSE Co5	Blank	DIN 371	B	M	1000 N/mm²			232 xxx E	
	HSSE Co5	VAP	DIN 371	B	M	1000 N/mm²			232 xxx VA	
	HSS	TiN	DIN 371	B	M	900 N/mm²			232 xxx T	
	HSSE Co5	TiAlN	DIN 371	B	M	1200 N/mm²			232 xxx EF	
	HSS	Blank	DIN 371	C	M	800 N/mm²		M 2 – M 10	234 xxx	161
	HSSE Co5	Blank	DIN 371	C	M	1000 N/mm²			234 xxx E	
	HSSE Co5	VAP	DIN 371	C	M	1000 N/mm²			234 xxx VA	
	HSS	TiN	DIN 371	C	M	900 N/mm²			234 xxx T	
	HSSE Co5	TiAlN	DIN 371	C	M	1200 N/mm²			234 xxx EF	
	HSS	Blank	DIN 376	B	M	800 N/mm²		M 12 – M 30	232 xxx	162
	HSSE Co5	Blank	DIN 376	B	M	1000 N/mm²		M 3 – M 30	232 xxx E	
	HSSE Co5	VAP	DIN 376	B	M	1000 N/mm²		M 3 – M 30	232 xxx VA	
	HSS	TiN	DIN 376	B	M	900 N/mm²		M 12 – M 30	232 xxx T	
	HSSE Co5	TiAlN	DIN 376	B	M	1200 N/mm²		M 3 – M 30	232 xxx EF	
	HSS	Blank	DIN 376	C	M	800 N/mm²		M 12 – M 30	233 xxx	163
	HSSE Co5	Blank	DIN 376	C	M	1000 N/mm²		M 3 – M 30	233 xxx E	
	HSSE Co5	VAP	DIN 376	C	M	1000 N/mm²		M 3 – M 30	233 xxx VA	
	HSS	TiN	DIN 376	C	M	900 N/mm²		M 12 – M 30	233 xxx T	
	HSSE Co5	TiAlN	DIN 376	C	M	1200 N/mm²		M 3 – M 30	233 xxx EF	
	HSS	Blank	DIN 371	B AZ	M	800 N/mm²		M 3 – M 10	272 xxx	167
	HSS	Blank	DIN 376	B AZ	M	800 N/mm²		M 12 – M 24	272 xxx	

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
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● Main application ○ Other application

Type and applications overview

	Material	Surface	DIN	Type	Thread	Tenacity classes	Blind hole/ Through hole	Nominal thread size	Item no.	Page/s
	HSSE Co5	TiCN	DIN 371	C	M	800 N/mm²		M 3 – M 10	273 xxx ETC	168
	HSSE Co5	TiCN	DIN 376	C	M	1000 N/mm²		M 12 – M 24	273 xxx ETC	
	HSSE Co5	Blank	DIN 5156	B	MF	1000 N/mm²		MF 4 – 30	260 xxx E	169
	HSSE Co5	Blank	DIN 374	C	MF	1000 N/mm²		MF 4 – MF 30	261 xxx E	170
	HSSE Co5	Blank		B	UNC	1000 N/mm²		Nr. 4 – 12 1/4 – 3/8"	265 xxx UNC	171
	HSSE Co5	Blank		B	UNC	1000 N/mm²		7/16 – 1"	265 xxx UNC	
	HSSE Co5	Blank		C	UNC	1000 N/mm²		Nr. 4 – 12 1/4 – 3/8"	266 xxx UNC	172
	HSSE Co5	Blank		C	UNC	1000 N/mm²		7/16 – 1"	266 xxx UNC	
	HSSE Co5	Blank		B	UNF	1000 N/mm²		Nr. 4 – 12 1/4 – 3/8"	265 xxx UNF	173
	HSSE Co5	Blank		B	UNF	1000 N/mm²		7/16 – 1"	265 xxx UNF	
	HSSE Co5	Blank		C	UNF	1200 N/mm²		Nr. 4 – 12 1/4 – 3/8"	266 xxx UNF	174
	HSSE Co5	Blank		C	UNF	1000 N/mm²		7/16 – 1"	266 xxx UNF	
	HSS	Blank	DIN 40430	B	PG	800 N/mm²		PG 7 – 48	264 xxx	175
	HSS	Blank	DIN 357		M	800 N/mm²		M 3 – M 24	243 xxx	
	HSSE Co5	TiAlN	DIN 2174	D	M	1200 N/mm²		M 3 – M 12	271 0xx F	176
	HSS	Blank			M	600 N/mm²		M 3 – M 10	270 0xx	177
	HSS	TiN			M	900 N/mm²			270 0xx T	
	HSS	Blank			M	600 N/mm²		M 3 – M 10	R 270 0xx	178
	HSS	TiN			M	900 N/mm²			R 270 0xx T	

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
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● Main application ○ Other application

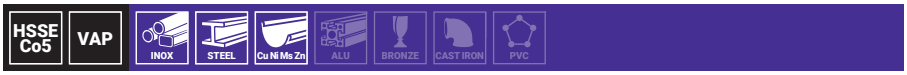
Product information for machine taps

Machine tap made from high-speed steel. For through-hole and blind-hole threads in unalloyed steels up to 800 N/mm² strength. The thread is cut in a single operation.

High-speed steel, primarily known as high-speed steel (HSS), refers to a group of alloyed tool steels with up to 2.06 % carbon content and up to 30 % alloying elements such as tungsten, molybdenum, vanadium, cobalt, nickel and titanium. HSS materials are characterised by high hardness, wear resistance and heat resistance up to 600 °C. HSS tools are less sensitive to impacts and vibrations, which can sometimes quickly lead to breakage in harder cutting materials.

Machine tap made from cobalt-alloyed high-speed steel. Longer tool life is achieved thanks to the higher heat resistance. For through-hole and blind-hole threads, in unalloyed and alloyed steels up to 1,000 N/mm² strength and non-ferrous metals.
The thread is cut in a single operation.

Like high-speed steel with a cobalt alloy of 5%. This heat-resistant material is used for machining materials with higher strength and for long cutting channels with correspondingly high heating. The cobalt content of 5% ensures higher high-temperature strength and greater load-bearing capacity.



Machine tap made from cobalt-alloyed and vaporised high-speed steel. For through-hole and blind-hole threads, in unalloyed and alloyed steels up to 1,000 N/mm² strength, VA metals. The thread is cut in a single operation.

Vaporising' refers to the vapour deposition of a non-metallic oxide layer. Vaporising acts as a separating layer and reduces the occurrence of cold welds. Cold welds are workpiece chips that weld onto the flank of the tap and damage the manufactured thread. The consequences of cold welding are torn and unclean thread flanks.

VAP improves the adhesion of lubricants to the tool surface.

HSS | TiN | STEEL | Cu Ni Ms Zn | BRONZE | CAST IRON | PVC

Machine tap made of high-speed steel with titanium nitride coating. Universal use for a wide range of materials thanks to hard coating. For through-hole and blind-hole threads, in unalloyed and alloyed steels up to 900 N/mm² strength, VA metals.
The thread is cut in a single operation. Note: Cutting speeds from 10 m/min.

The TiN wear protection coating increases the surface hardness to approx. 2,500 HV.
Titanium nitride is a chemical compound of the two elements titanium and nitrogen. TiN is a metallic hard material with a typical golden yellow color.

Advantages: Higher hardness, lower coefficient of friction, longer tool life.

Cooling is not necessary, but is recommended.

HSSE Co5 | TiAlN | HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE | TITANIUM

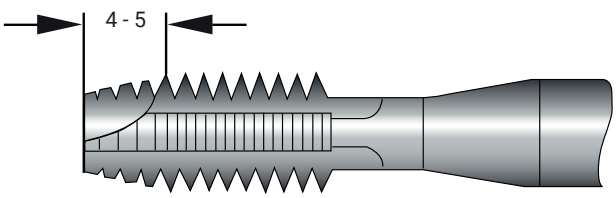
Machine tap made from high-speed steel. For through-hole and blind-hole threads, in unalloyed, low-alloyed, alloyed steels up to 1,200 N/mm² strength and cast iron.
The thread is cut in a single operation.

The TiAlN wear protection coating increases the surface hardness to approx. 3,500 HV. Titanium aluminium nitride is a chemical compound of the three elements titanium, aluminium and nitrogen. TiAlN is a metallic hard material with a typical black-violet color.
Advantages: The TiAlN coating enables dry machining of cutting tools. Higher hardness, very low coefficient of friction, optimum tool life.

Cooling is not necessary.

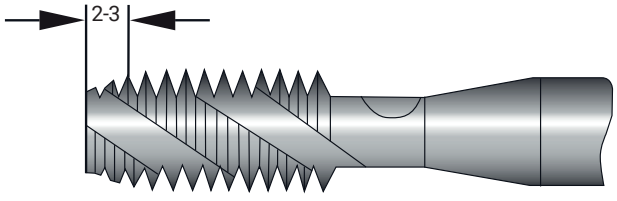
Technical data

B



Type B,
4 - 5 threads with progressive tap

C

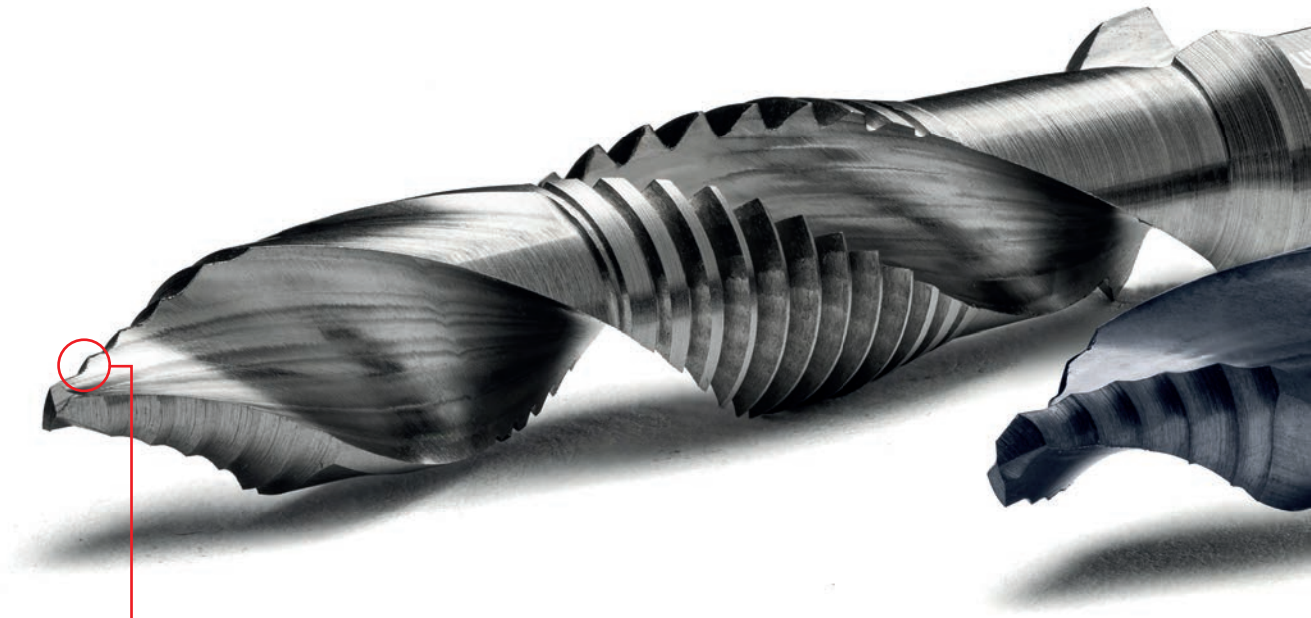


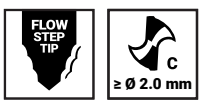
Type C / 35° right-hand spiral flutes,
2 - 3 threads

NEW **ULTIMATECUT©**

Combi machine tap with FLOWSTEP® tip

It stays in use twice as long for you.
It makes you 20% faster.
It saves you energy.





RUKO FLOWSTEP® tip

Precise centering = no slipping when positioning.
Time saving thanks to faster drilling = more holes drilled in the same time.
Power-saving drilling = significantly less drill breakage.

RUKO Bit shank

Quick tool change = efficient working
6 surfaces = even better power transmission and no slipping
1/4" hex shank = extremely flexible use of the shank, compatible with all hand and pillar drilling machines with 3-jaw chuck and all standard bit holders.

RUKO 3-in-1 power - faster, more precise, more power-saving

Drilling, tapping, deburring - without changing tools.
Triple savings - time, costs and weight.

ULTIMATECUT combi machine tap bit for core hole and through-hole threads

HSS — STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE

HSS RUna TEC — STEEL | Cu Ni Ms Zn | ALU | BRONZE | PVC | INOX | CAST IRON

The ULTIMATECUT combi machine tap is ideal for sheet metal working with clockwise/ anticlockwise rotation cordless screwdrivers. The FLOWSTEP® tip enables perfect centering without center punching.

Flanks: relief ground
Shank: 1/4" x 27,0 mm
Max. material thickness: 1 x M (e.g. M 10 = 10 mm material thickness)

! FLOWSTEP® tip from M5, as from a technical application point of view there is no benefit in sizes smaller than M5.

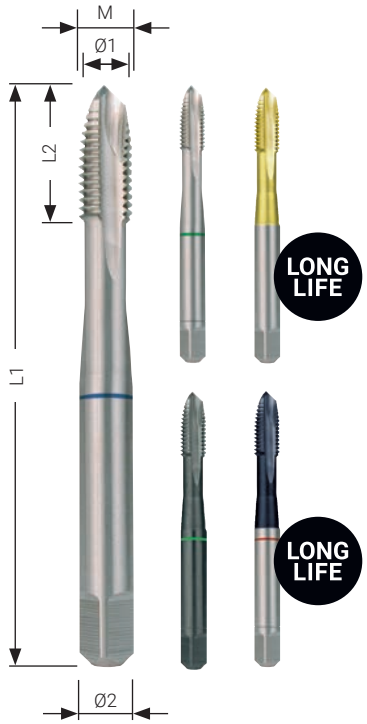
Packaging: plastic

Nominal thread size	Pitch mm	L1 mm	Ø1 mm	HSS	HSS RUnaTEC	
M 3	0.50	51.00	2.5	270 614	270 614 P	1
M 4	0.70	54.00	3.3	270 615	270 615 P	1
M 5	0.80	57.00	4.2	270 616	270 616 P	1
M 6	1.00	63.00	5.0	270 617	270 617 P	1
M 8	1.25	72.00	6.8	270 618	270 618 P	1
M 10	1.50	80.00	8.5	270 619	270 619 P	1

		HSS	HSS RUnaTEC
7 tlg./pcs.	ULTIMATECUT combi machine tap bit set 6 Combi machine taps M 3 | M 4 | M 5 | M 6 | M 8 | M 10 + 1 magnetic bit holder	270 620 RO	270 620 PRO

M B DIN 371 60° 4 ISO 2 6H ISO 13

Machine tap, metric, DIN 371
with reinforced shank for through hole thread



Chamfer: type B, 4 - 5 threads with progressive tap
Thread: metric, DIN ISO 13
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm
M 2	0.40	1.60	45.0	8.0	2.8
M 2.5	0.45	2.05	50.0	9.0	2.8
M 3	0.50	2.50	56.0	11.0	3.5
M 4	0.70	3.30	63.0	13.0	4.5
M 5	0.80	4.20	70.0	16.0	6.0
M 6	1.00	5.00	80.0	19.0	6.0
M 8	1.25	6.80	90.0	22.0	8.0
M 10	1.50	8.50	100.0	24.0	10.0

Ø2 mm	HSSE-Co 5 TiAlN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS	
M 2	232 020 EF	232 020 VA	232 020 E	232 020 T	232 020	1
M 2,5	232 025 EF	232 025 VA	232 025 E	232 025 T	232 025	1
M 3	232 030 EF	232 030 VA	232 030 E	232 030 T	232 030	1
M 4	232 040 EF	232 040 VA	232 040 E	232 040 T	232 040	1
M 5	232 050 EF	232 050 VA	232 050 E	232 050 T	232 050	1
M 6	232 060 EF	232 060 VA	232 060 E	232 060 T	232 060	1
M 8	232 080 EF	232 080 VA	232 080 E	232 080 T	232 080	1
M 10	232 100 EF	232 100 VA	232 100 E	232 100 T	232 100	1

Application tip

To increase the service life, reduce the speed and use RUKO coolants and lubricants.

Machine tap, metric, DIN 371 with reinforced shank and spiral groove 35° for blind hole thread

Chamfer: type C / 35° right-hand spiral flutes, 2 - 3 threads
Thread: metric, DIN ISO 13
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

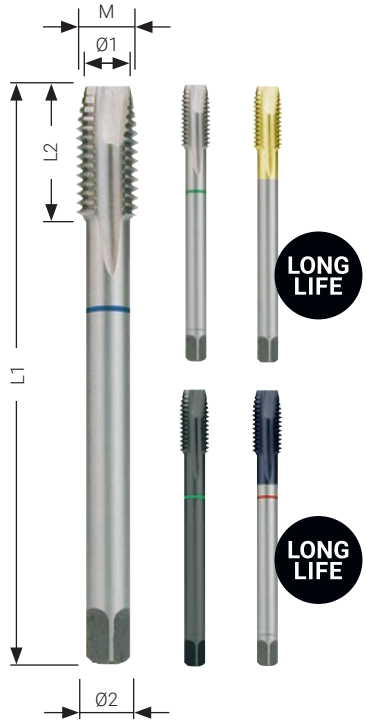
Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm
M 2	0.40	1.60	45.0	8.0	2.8
M 2.5	0.45	2.05	50.0	9.0	2.8
M 3	0.50	2.50	56.0	11.0	3.5
M 4	0.70	3.30	63.0	13.0	4.5
M 5	0.80	4.20	70.0	16.0	6.0
M 6	1.00	5.00	80.0	19.0	6.0
M 8	1.25	6.80	90.0	22.0	8.0
M 10	1.50	8.50	100.0	24.0	10.0

Ø2 mm	HSSE-Co 5 TiAlN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS	
M 2	234 020 EF	234 020 VA	234 020 E	234 020 T	234 020	1
M 2.5	234 025 EF	234 025 VA	234 025 E	234 025 T	234 025	1
M 3	234 030 EF	234 030 VA	234 030 E	234 030 T	234 030	1
M 4	234 040 EF	234 040 VA	234 040 E	234 040 T	234 040	1
M 5	234 050 EF	234 050 VA	234 050 E	234 050 T	234 050	1
M 6	234 060 EF	234 060 VA	234 060 E	234 060 T	234 060	1
M 8	234 080 EF	234 080 VA	234 080 E	234 080 T	234 080	1
M 10	234 100 EF	234 100 VA	234 100 E	234 100 T	234 100	1

M B DIN 376 60° 4 ISO 2 6H ISO 13

Machine tap, metric, DIN 376
with overflow shank for through-hole thread



Chamfer: type B, 4 - 5 threads with progressive tap
Thread: metric, DIN ISO 13
Flanks: relief-ground

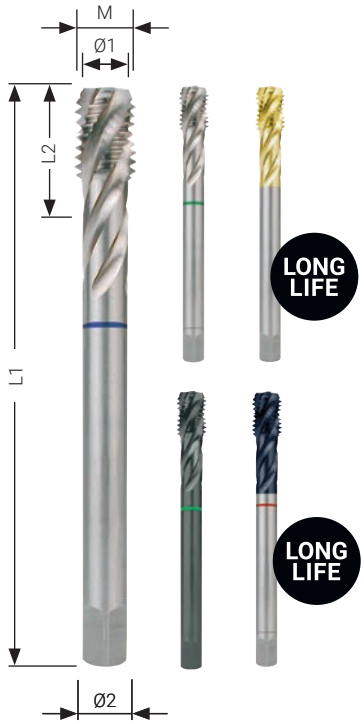
Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm
M 3	0.50	2.50	56.0	11.0	2.2
M 4	0.70	3.30	63.0	13.0	2.8
M 5	0.80	4.20	70.0	16.0	3.5
M 6	1.00	5.00	80.0	19.0	4.5
M 8	1.25	6.80	90.0	22.0	6.0
M 10	1.50	8.50	100.0	24.0	7.0
M 12	1.75	10.20	110.0	28.0	9.0
M 14	2.00	12.00	110.0	30.0	11.0
M 16	2.00	14.00	110.0	32.0	12.0
M 18	2.50	15.50	125.0	34.0	14.0
M 20	2.50	17.50	140.0	34.0	16.0
M 22	2.50	19.50	140.0	34.0	18.0
M 24	3.00	21.00	160.0	38.0	18.0
M 27	3.00	24.00	160.0	38.0	20.0
M 30	3.50	26.50	180.0	45.0	22.0

Ø2 mm	HSSE-Co 5 TiAlN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS	
M 3	232 031 EF	232 031 VA	232 031 E	–	–	1
M 4	232 041 EF	232 041 VA	232 041 E	–	–	1
M 5	232 051 EF	232 051 VA	232 051 E	–	–	1
M 6	232 061 EF	232 061 VA	232 061 E	–	–	1
M 8	232 081 EF	232 081 VA	232 081 E	–	–	1
M 10	232 101 EF	232 101 VA	232 101 E	–	–	1
M 12	232 120 EF	232 120 VA	232 120 E	232 120 T	232 120	1
M 14	232 140 EF	232 140 VA	232 140 E	232 140 T	232 140	1
M 16	232 160 EF	232 160 VA	232 160 E	232 160 T	232 160	1
M 18	232 180 EF	232 180 VA	232 180 E	232 180 T	232 180	1
M 20	232 200 EF	232 200 VA	232 200 E	232 200 T	232 200	1
M 22	232 220 EF	232 220 VA	232 220 E	232 220 T	232 220	1
M 24	232 240 EF	232 240 VA	232 240 E	232 240 T	232 240	1
M 27	232 270 EF	232 270 VA	232 270 E	232 270 T	232 270	1
M 30	232 300 EF	232 300 VA	232 300 E	232 300 T	232 300	1

Machine tap, metric, DIN 376 with overflow shank and spiral groove 35° for blind hole thread



Chamfer: type C / 35° right-hand spiral flutes, 2 - 3 threads
Thread: metric, DIN ISO 13
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm
M 3	0.50	2.50	56.0	11.0	2.2
M 4	0.70	3.30	63.0	13.0	2.8
M 5	0.80	4.20	70.0	16.0	3.5
M 6	1.00	5.00	80.0	19.0	4.5
M 8	1.25	6.80	90.0	22.0	6.0
M 10	1.50	8.50	100.0	24.0	7.0
M 12	1.75	10.20	110.0	28.0	9.0
M 14	2.00	12.00	110.0	30.0	11.0
M 16	2.00	14.00	110.0	32.0	12.0
M 18	2.50	15.50	125.0	34.0	14.0
M 20	2.50	17.50	140.0	34.0	16.0
M 22	2.50	19.50	140.0	34.0	18.0
M 24	3.00	21.00	160.0	38.0	18.0
M 27	3.00	24.00	160.0	38.0	20.0
M 30	3.50	26.50	180.0	45.0	22.0

Ø2 mm	HSSE-Co 5 TiAlN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS	
M 3	233 030 EF	233 030 VA	233 030 E	–	–	1
M 4	233 040 EF	233 040 VA	233 040 E	–	–	1
M 5	233 050 EF	233 050 VA	233 050 E	–	–	1
M 6	233 060 EF	233 060 VA	233 060 E	–	–	1
M 8	233 080 EF	233 080 VA	233 080 E	–	–	1
M 10	233 100 EF	233 100 VA	233 100 E	–	–	1
M 12	233 120 EF	233 120 VA	233 120 E	233 120 T	233 120	1
M 14	233 140 EF	233 140 VA	233 140 E	233 140 T	233 140	1
M 16	233 160 EF	233 160 VA	233 160 E	233 160 T	233 160	1
M 18	233 180 EF	233 180 VA	233 180 E	233 180 T	233 180	1
M 20	233 200 EF	233 200 VA	233 200 E	233 200 T	233 200	1
M 22	233 220 EF	233 220 VA	233 220 E	233 220 T	233 220	1
M 24	233 240 EF	233 240 VA	233 240 E	233 240 T	233 240	1
M 27	233 270 EF	233 270 VA	233 270 E	233 270 T	233 270	1
M 30	233 300 EF	233 300 VA	233 300 E	233 300 T	233 300	1

Main application Other application

Machine tap sets, metric, DIN 371/376

245 057 RO

06

		HSSE-Co 5 TiAlN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS
7 tlg./pcs.	Machine taps M DIN 371 / 376 type B with progressive tap M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12	245 068 RO	245 063 RO	245 061 RO	245 065 RO	245 057 RO
7 tlg./pcs.	Machine taps M DIN 371 / 376 type C / 35° right-hand spiral flutes M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12	245 069 RO	245 064 RO	245 062 RO	245 066 RO	245 058 RO

Machine tap and twist drill set, metric

		HSSE-Co 5
21 tlg./pcs.	Machine taps M DIN 371 / 376 type B with progressive tap M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 Machine taps M DIN 371 / 376 type C / 35° right-hand spiral flutes M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 Twist drills DIN 338 type VA, HSSE-Co 5 Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm	245 054

Machine tap and twist drill sets, metric

HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

		HSSE-Co 5
14 tlg./pcs.	Machine taps M DIN 371 / 376 type B with progressive tap M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 Twist drills DIN 338 type VA, HSSE-Co 5 Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm	245 051 RO
14 tlg./pcs.	Machine taps M DIN 371 / 376 type C / 35° right-hand spiral flutes M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 Twist drills DIN 338 type VA, HSSE-Co 5 Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm	245 052 RO

245 052 RO

Machine tap and twist drill sets, metric

HSS | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

		HSS
14 tlg./pcs.	Machine taps M DIN 371 / 376 type B with progressive tap M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 Twist drills DIN 338 type N, HSS Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm	245 048 RO
14 tlg./pcs.	Machine taps M DIN 371 / 376 type C / 35° right-hand spiral flutes M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 Twist drills DIN 338 type N, HSS Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm	245 049 RO

245 048 RO

Machine tap and ULTIMATECUT twist drill type FLOWSTEP® set

ULTIMATECUT©

HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

		HSSE-Co 5
14 tlg./pcs.	Machine taps M DIN 371 / 376 HSSE-Co 5 type B with progressive tap M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 ULTIMATECUT twist drills DIN 338 type FLOWSTEP® HSSE-Co 5, ground Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm	259 048 ERO

Machine tap and ULTIMATECUT twist drill type FLOWSTEP® set HSS

ULTIMATECUT©

HSS | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

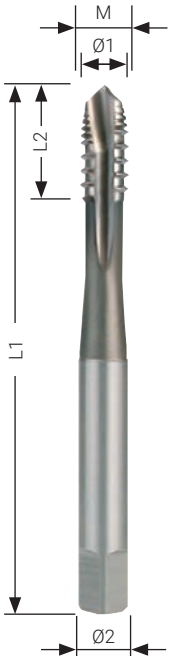
		HSS
14 tlg./pcs.	Machine taps M DIN 371 / 376 HSS type B with progressive tap M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 ULTIMATECUT twist drills DIN 338 type FLOWSTEP® HSS, ground Ø 2.5 | 3.3 | 4.2 | 5.0 | 6.8 | 8.5 | 10.2 mm	259 048 RO

M B AZ DIN 371

Machine tap, metric, DIN 371 with reinforced shank for through-hole threads and interrupted threads

HSS | ALU | BRONZE | PVC | STEEL

Chamfer: type B - AZ approx. 4 - 5 threads with skiving cut and exposed teeth
Thread: metric, DIN ISO 13
Flanks: relief-ground



Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

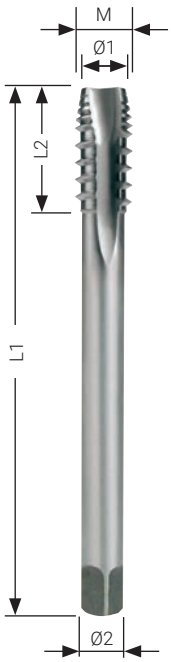
Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSS	
M 3	0.50	2.50	56.0	11.0	3.5	272 030	1
M 4	0.70	3.30	63.0	13.0	4.5	272 040	1
M 5	0.80	4.20	70.0	16.0	6.0	272 050	1
M 6	1.00	5.00	80.0	19.0	6.0	272 060	1
M 8	1.25	6.80	90.0	22.0	8.0	272 080	1
M 10	1.50	8.50	100.0	24.0	10.0	272 100	1

M B AZ DIN 376

Machine tap, metric, DIN 376 with overrunning shank for through hole threads, with interrupted threads

HSS | ALU | BRONZE | PVC | STEEL

Chamfer: type B, 4 - 5 threads with progressive tap and interrupted threads
Thread: metric, DIN ISO 13
Flanks: relief-ground



Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSS	
M 12	1.75	10.20	110.0	28.0	9.0	272 120	1
M 14	2.00	12.00	110.0	30.0	11.0	272 140	1
M 16	2.00	14.00	110.0	32.0	12.0	272 160	1
M 18	2.50	15.50	125.0	34.0	14.0	272 180	1
M 20	2.50	17.50	140.0	34.0	16.0	272 200	1
M 22	2.50	19.50	140.0	34.0	18.0	272 220	1
M 24	3.00	21.00	160.0	38.0	18.0	272 240	1

M | C | DIN 371 | 60° | ISO 2 6H

Machine tap, metric, DIN 371 with reinforced shank reinforced shank for through-hole threads

HSSE Co5 | TiCN | INOX | STEEL | Cu Ni Ms Zn | CAST IRON | PVC | BRONZE | ALU

Chamfer: type C / 2 - 3 threads
Thread: metric, DIN ISO 13
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSSE-Co 5 TiCN	
M 3	0.50	2.50	56.0	11.0	3.5	273 030 ETC	1
M 4	0.70	3.30	63.0	13.0	4.5	273 040 ETC	1
M 5	0.80	4.20	70.0	16.0	6.0	273 050 ETC	1
M 6	1.00	5.00	80.0	19.0	6.0	273 060 ETC	1
M 8	1.25	6.80	90.0	22.0	8.0	273 080 ETC	1
M 10	1.50	8.50	100.0	24.0	10.0	273 100 ETC	1

M | C | DIN 376 | 60° | ISO 2 6H

Machine tap, metric, DIN 376 with overrunning shank overflow shank for through-hole threads

HSSE Co5 | TiCN | INOX | STEEL | Cu Ni Ms Zn | CAST IRON | PVC | BRONZE | ALU

Chamfer: type C / 2 - 3 threads
Thread: metric, DIN ISO 13
Flanks: relief-ground

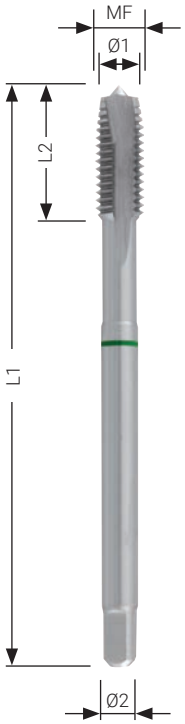
Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSSE-Co 5 TiCN	
M 12	1.75	10.20	110.0	28.0	9.0	273 120 ETC	1
M 14	2.00	12.00	110.0	30.0	11.0	273 140 ETC	1
M 16	2.00	14.00	110.0	32.0	12.0	273 160 ETC	1
M 18	2.50	15.50	125.0	34.0	14.0	273 180 ETC	1
M 20	2.50	17.50	140.0	34.0	16.0	273 200 ETC	1
M 22	2.50	19.50	140.0	34.0	18.0	273 220 ETC	1
M 24	3.00	21.00	160.0	38.0	18.0	273 240 ETC	1

MF B green DIN 374 60° 4 ISO 2 6H

Machine tap, metric fine, DIN 374 with overflow shank for through-hole threads



HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

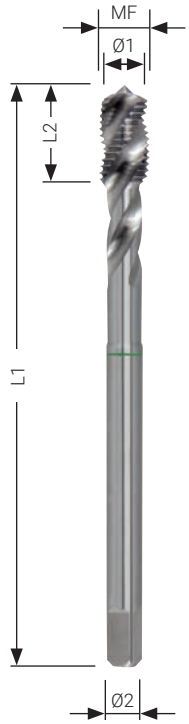
Chamfer: Form B approx. 4 - 5 gears with peel cut
Thread: metric, fine, DIN ISO 13
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size MF	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSSE-Co 5	
MF 4	0.50	3.50	63.0	10.0	2.8	260 041 E	1
MF 5	0.50	4.50	70.0	12.0	3.5	260 050 E	1
MF 6	0.75	5.20	80.0	14.0	4.5	260 060 E	1
MF 8	1.00	7.00	90.0	22.0	6.0	260 081 E	1
MF 10	1.00	9.00	90.0	20.0	7.0	260 100 E	1
MF 10	1.25	8.80	100.0	24.0	7.0	260 101 E	1
MF 12	1.00	11.00	100.0	20.0	9.0	260 122 E	1
MF 12	1.25	10.80	100.0	22.0	9.0	260 121 E	1
MF 12	1.50	10.50	100.0	22.0	9.0	260 120 E	1
MF 14	1.00	13.00	100.0	20.0	11.0	260 142 E	1
MF 14	1.25	12.80	100.0	22.0	11.0	260 143 E	1
MF 14	1.50	12.50	100.0	22.0	11.0	260 141 E	1
MF 16	1.00	15.00	100.0	20.0	12.0	260 161 E	1
MF 16	1.50	14.50	100.0	22.0	12.0	260 160 E	1
MF 18	1.00	17.00	110.0	25.0	14.0	260 181 E	1
MF 18	1.50	16.50	110.0	25.0	14.0	260 180 E	1
MF 18	2.00	16.00	125.0	34.0	14.0	260 182 E	1
MF 20	1.00	19.00	125.0	25.0	16.0	260 201 E	1
MF 20	1.50	18.50	125.0	25.0	16.0	260 200 E	1
MF 20	2.00	18.00	140.0	34.0	16.0	260 202 E	1
MF 22	1.50	20.50	125.0	25.0	18.0	260 220 E	1
MF 22	2.00	20.00	140.0	34.0	18.0	260 222 E	1
MF 24	1.00	23.00	140.0	28.0	18.0	260 242 E	1
MF 24	1.50	22.50	140.0	28.0	18.0	260 240 E	1
MF 24	2.00	22.00	140.0	28.0	18.0	260 241 E	1
MF 28	1.50	26.50	140.0	28.0	20.0	260 281 E	1
MF 28	2.00	26.00	140.0	28.0	20.0	260 282 E	1
MF 30	1.50	28.50	150.0	28.0	22.0	260 301 E	1
MF 30	2.00	28.00	150.0	28.0	22.0	260 302 E	1

Machine tap, metric fine, DIN 374 with overflow shank and right-hand spiral flutes 35° for blind hole thread



HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

Chamfer: type C / 35° RSP approx. 2 - 3 gears
Thread: metric, fine, DIN ISO 13
Flanks: relief-ground

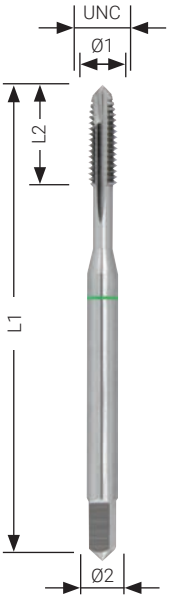
Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size MF	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSSE-Co 5	
MF 4	0.50	3.50	63.0	10.0	2.8	261 041 E	1
MF 5	0.50	4.50	70.0	12.0	3.5	261 050 E	1
MF 6	0.75	5.20	80.0	14.0	4.5	261 060 E	1
MF 8	1.00	7.00	90.0	22.0	6.0	261 081 E	1
MF 10	1.00	9.00	90.0	20.0	7.0	261 100 E	1
MF 10	1.25	8.80	100.0	24.0	7.0	261 101 E	1
MF 12	1.00	11.00	100.0	20.0	9.0	261 122 E	1
MF 12	1.25	10.80	100.0	22.0	9.0	261 121 E	1
MF 12	1.50	10.50	100.0	22.0	9.0	261 120 E	1
MF 14	1.00	13.00	100.0	20.0	11.0	261 142 E	1
MF 14	1.25	12.80	100.0	22.0	11.0	261 143 E	1
MF 14	1.50	12.50	100.0	22.0	11.0	261 141 E	1
MF 16	1.00	15.00	100.0	20.0	12.0	261 161 E	1
MF 16	1.50	14.50	100.0	22.0	12.0	261 160 E	1
MF 18	1.00	17.00	110.0	25.0	14.0	261 181 E	1
MF 18	1.50	16.50	110.0	25.0	14.0	261 180 E	1
MF 18	2.00	16.00	125.0	34.0	14.0	261 182 E	1
MF 20	1.00	19.00	125.0	25.0	16.0	261 201 E	1
MF 20	1.50	18.50	125.0	25.0	16.0	261 200 E	1
MF 20	2.00	18.00	140.0	34.0	16.0	261 202 E	1
MF 22	1.50	20.50	125.0	25.0	18.0	261 220 E	1
MF 22	2.00	20.00	140.0	34.0	18.0	261 222 E	1
MF 24	1.00	23.00	140.0	28.0	18.0	261 242 E	1
MF 24	1.50	22.50	140.0	28.0	18.0	261 240 E	1
MF 24	2.00	22.00	140.0	28.0	18.0	261 241 E	1
MF 28	1.50	26.50	140.0	28.0	20.0	261 281 E	1
MF 28	2.00	26.00	140.0	28.0	20.0	261 282 E	1
MF 30	1.50	28.50	150.0	28.0	22.0	261 301 E	1
MF 30	2.00	28.00	150.0	28.0	22.0	261 302 E	1

UNC B green 60° 4 2B

Machine tap UNC with reinforced shank shank for through hole threads



HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

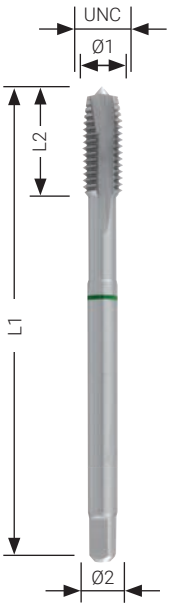
Chamfer: type B, approx. 4 - 5 gears with peel cut
Thread: American UNC coarse thread
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
Nr. 4	40	2.3	56.0	11.0	3.5	265 040 UNC	1
Nr. 5	40	2.6	56.0	11.0	3.5	265 050 UNC	1
Nr. 6	32	2.8	56.0	13.0	4.0	265 060 UNC	1
Nr. 8	32	3.5	63.0	13.0	4.5	265 080 UNC	1
Nr. 10	24	3.8	70.0	16.0	6.0	265 100 UNC	1
Nr. 12	24	4.5	70.0	16.0	6.0	265 120 UNC	1
1/4"	20	5.1	80.0	17.0	7.0	265 014 UNC	1
5/16"	18	6.5	90.0	20.0	8.0	265 516 UNC	1
3/8"	16	8.0	100.0	22.0	9.0	265 038 UNC	1

Machine tap UNC with overflow shank for through-hole threads



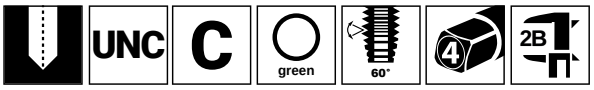
HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

Chamfer: type B, approx. 4 - 5 gears with peel cut
Thread: American UNC coarse thread
Flanks: relief-ground

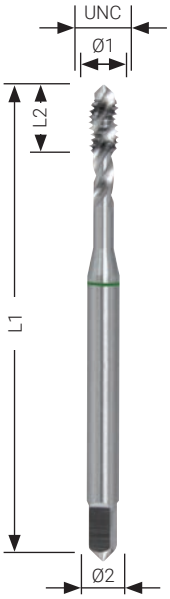
Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
7/16"	14	9.3	100.0	22.0	8.0	265 716 UNC	1
1/2"	13	10.8	110.0	25.0	9.0	265 012 UNC	1
9/16"	12	12.2	110.0	26.0	11.0	265 916 UNC	1
5/8"	11	13.5	110.0	27.0	12.0	265 058 UNC	1
3/4"	10	16.5	125.0	30.0	14.0	265 034 UNC	1
7/8"	9	19.3	140.0	32.0	18.0	265 078 UNC	1
1"	8	22.2	160.0	36.0	18.0	265 010 UNC	1



Machine tap UNC with reinforced shank and spiral flute 35° for blind hole thread



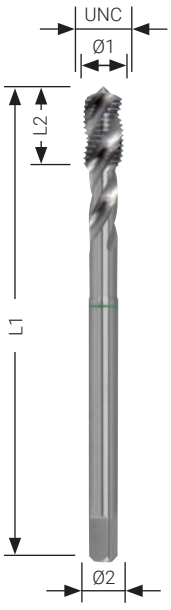
Chamfer: type C / 35° RSP approx. 2 - 3 gears
Thread: American UNC coarse thread
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
Nr. 4	40	2.3	56.0	7.0	3.5	266 040 UNC	1
Nr. 5	40	2.6	56.0	7.0	3.5	266 050 UNC	1
Nr. 6	32	2.8	56.0	8.0	4.0	266 060 UNC	1
Nr. 8	32	3.5	63.0	8.0	4.5	266 080 UNC	1
Nr. 10	24	3.8	70.0	10.0	6.0	266 100 UNC	1
Nr. 12	24	4.5	70.0	10.0	6.0	266 120 UNC	1
1/4"	20	5.1	80.0	13.0	7.0	266 014 UNC	1
5/16"	18	6.5	90.0	14.0	8.0	266 516 UNC	1
3/8"	16	8.0	100.0	16.0	10.0	266 038 UNC	1

Machine tap UNC with overflow shank and spiral flute 35° for blind hole thread



Chamfer: type C /35° RSP approx. 2 - 3 gears
Thread: American UNC coarse thread
Flanks: relief-ground

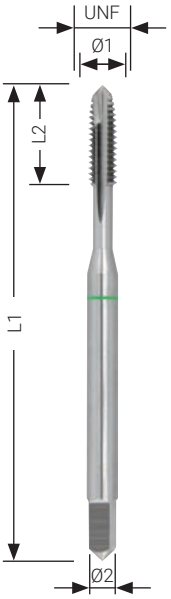
Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
7/16"	14	9.3	100.0	17.0	8.0	266 716 UNC	1
1/2"	13	10.8	110.0	20.0	9.0	266 012 UNC	1
9/16"	12	12.2	110.0	20.0	11.0	266 916 UNC	1
5/8"	11	13.5	110.0	22.0	12.0	266 058 UNC	1
3/4"	10	16.5	125.0	25.0	14.0	266 034 UNC	1
7/8"	9	19.3	140.0	27.0	18.0	266 078 UNC	1
1"	8	22.2	160.0	30.0	18.0	266 010 UNC	1

UNF | B | green | 60° | 4 | 2B

Machine tap UNF
with reinforced shank for through hole threads



HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

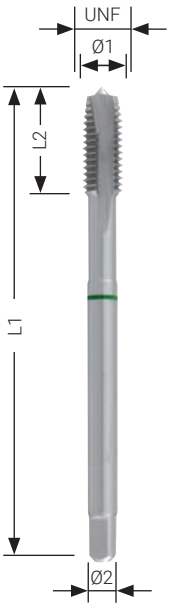
Chamfer: type B, approx. 4 - 5 courses with peel cut
Thread: American UNF fine thread
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
Nr. 4	48	2.40	56.0	11.0	3.5	265 040 UNF	1
Nr. 5	44	2.70	56.0	11.0	3.5	265 050 UNF	1
Nr. 6	40	2.95	56.0	13.0	4.0	265 060 UNF	1
Nr. 8	36	3.50	63.0	13.0	4.5	265 080 UNF	1
Nr. 10	32	4.10	70.0	16.0	6.0	265 100 UNF	1
Nr. 12	28	4.60	70.0	16.0	6.0	265 120 UNF	1
1/4"	28	5.50	80.0	17.0	7.0	265 014 UNF	1
5/16"	24	6.60	90.0	17.0	8.0	265 516 UNF	1
3/8"	24	8.50	100.0	18.0	10.0	265 038 UNF	1

Machine tap UNF
with overflow shank for through hole threads



HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

Chamfer: type B, approx. 4 - 5 courses with peel cut
Thread: American UNF fine thread
Flanks: relief-ground

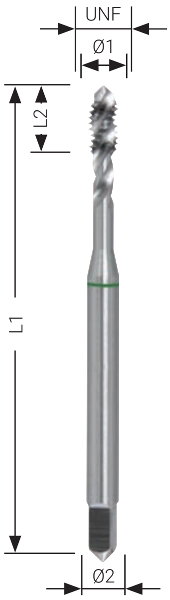
Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
7/16"	20	9.90	100.0	22.0	8.0	265 716 UNF	1
1/2"	20	11.50	100.0	22.0	9.0	265 012 UNF	1
9/16"	18	12.90	100.0	22.0	11.0	265 916 UNF	1
5/8"	18	14.50	100.0	22.0	12.0	265 058 UNF	1
3/4"	16	17.50	110.0	25.0	14.0	265 034 UNF	1
7/8"	14	20.50	140.0	26.0	18.0	265 078 UNF	1
1"	12	23.25	150.0	28.0	18.0	265 010 UNF	1

Machine tap UNF with reinforced shank and spiral flute 35° for blind hole thread

HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC



Chamfer: type C / 35° RSP approx. 2 - 3 gears
Thread: American UNF fine thread
Flanks: relief-ground

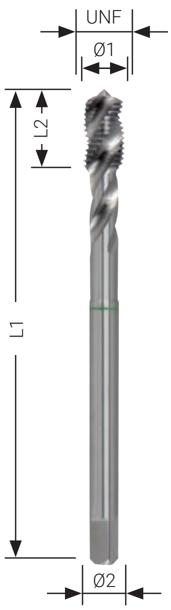
Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
Nr. 4	48	2.40	56.0	5.5	3.5	266 040 UNF	1
Nr. 5	44	2.70	56.0	6.0	3.5	266 050 UNF	1
Nr. 6	40	2.95	56.0	7.0	4.0	266 060 UNF	1
Nr. 8	36	3.50	63.0	7.5	4.5	266 080 UNF	1
Nr. 10	32	4.10	70.0	8.0	6.0	266 100 UNF	1
Nr. 12	28	4.60	70.0	9.0	6.0	266 120 UNF	1
1/4	28	5.50	80.0	10.0	7.0	266 014 UNF	1
5/16	24	6.90	90.0	10.0	8.0	266 516 UNF	1
3/8	24	8.50	100.0	10.0	10.0	266 038 UNF	1

Machine tap UNF with overflow shank and spiral flute 35° for blind hole thread

HSSE Co5 | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC



Chamfer: type C / 35° RSP approx. 2 - 3 gears
Thread: American UNF fine thread
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
7/16"	20	9.90	100.0	13.0	8.0	266 716 UNF	1
1/2"	20	11.50	100.0	13.0	9.0	266 012 UNF	1
9/16"	18	12.90	100.0	15.0	11.0	266 916 UNF	1
5/8"	18	14.50	100.0	15.0	12.0	266 058 UNF	1
3/4"	16	17.50	110.0	17.0	14.0	266 034 UNF	1
7/8"	14	20.50	140.0	17.0	18.0	266 078 UNF	1
1"	12	23.25	150.0	20.0	18.0	266 010 UNF	1

PG | B | blue | DIN 40430 | 60° | 4

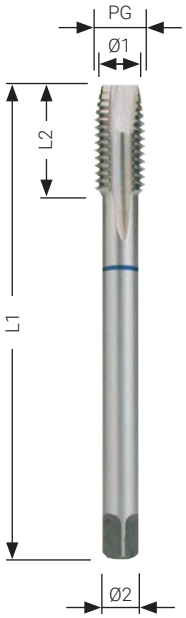
Machine tap PG DIN 40430 with overflow shank overflow shank, for through hole threads

HSS | STEEL | Cu Ni Mg Zn | PVC | ALU | BRONZE | CAST IRON

Chamfer: type B - AZ approx. 4 - 5 gears with peel cut and exposed teeth
Thread: DIN 40 430 steel conduit thread
Flanks: relief-ground

Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic



Nominal thread size PG	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSS	
PG 7	20	11.35	70.0	22.0	9.0	264 007	1
PG 9	18	13.95	70.0	22.0	12.0	264 009	1
PG 11	18	17.35	80.0	22.0	14.0	264 011	1
PG 13.5	18	19.15	80.0	22.0	16.0	264 135	1
PG 16	18	21.25	80.0	22.0	18.0	264 016	1
PG 21	16	26.95	90.0	22.0	22.0	264 021	1
PG 29	16	35.60	100.0	25.0	28.0	264 029	1
PG 36	16	45.60	140.0	40.0	36.0	264 036	1
PG 42	16	52.60	140.0	40.0	40.0	264 042	1
PG 48	16	57.90	160.0	40.0	45.0	264 048	1

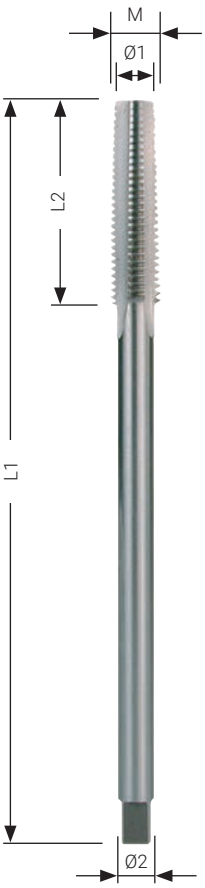
M | DIN 357 | 60° | 4 | ISO 2 6H

Nut tap, metric, DIN 357 for holding several cut nuts – *long*

HSS | STEEL | Cu Ni Mg Zn | PVC | ALU | BRONZE | CAST IRON

Chamfer: 2/3 of the thread length
Thread: metric, DIN ISO 13
Flanks: relief-ground

Packaging: plastic



Nominal thread size M	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSS	
M 3	0.50	2.5	70.0	22.0	2.2	243 030	1
M 4	0.70	3.3	90.0	25.0	2.8	243 040	1
M 5	0.80	4.2	100.0	28.0	3.5	243 050	1
M 6	1.00	5.0	110.0	32.0	4.5	243 060	1
M 8	1.25	6.8	125.0	40.0	6.0	243 080	1
M 10	1.50	8.5	140.0	45.0	7.0	243 100	1
M 12	1.75	10.2	180.0	50.0	9.0	243 120	1
M 14	2.00	12.0	200.0	56.0	11.0	243 140	1
M 16	2.00	14.0	200.0	63.0	12.0	243 160	1
M 18	2.50	15.5	220.0	63.0	14.0	243 180	1
M 20	2.50	17.5	250.0	70.0	16.0	243 200	1
M 22	2.50	19.5	280.0	80.0	18.0	243 220	1
M 24	3.00	21.0	280.0	80.0	18.0	243 240	1

M D DIN 2174 60° ISO 2 6H ISO 13

Thread former DIN 2174 with reinforced shank for through hole threads and blind hole threads

HSSE Co5 TiAlN | INOX | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC | TITANIUM

The forming tap consists of cobalt alloyed high speed steel with titanium aluminium nitride coating.
Applications: for non-alloyed and alloyed steels up to a strength of 1000 N/mm², V2A and non-ferrous metals.

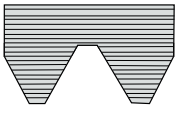
Chamfer: type D, 4 - 6 threads
Thread: metric, DIN ISO 13
Flanks: relief-ground

Packaging: plastic

Nominal thread size M	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	Shank Ø2 mm	HSSE-Co 5 TiAlN	
M 3	0,50	2,80	56,0	11,0	3,5	271 003 F	1
M 4	0,70	3,70	63,0	13,0	4,5	271 004 F	1
M 5	0,80	4,65	70,0	16,0	6,0	271 005 F	1
M 6	1,00	5,55	80,0	19,0	6,0	271 006 F	1
M 8	1,25	7,45	90,0	22,0	8,0	271 008 F	1
M 10	1,50	9,35	100,0	24,0	10,0	271 010 F	1
M 12	1,75	11,20	110,0	28,0	9,0	271 012 F	1

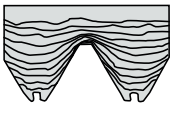
Difference between thread cutting and thread forming

The difference lies in the fact that thread forming without cutting does not interrupt the grain flow in the material. The deformation results in very rigid threads.
Consistent accuracy is guaranteed even at high productivity.



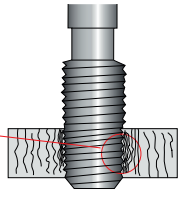
Thread cutting

Fibre course
during thread cutting



Thread forming

Fibre flow
during thread moulding



Combi machine tap bit for core hole and through hole threads – *long*

HSS TiN | STEEL | Cu Ni Ms Zn | ALU | BRONZE | CAST IRON | PVC

HSS | STEEL | Cu Ni Ms Zn | ALU | PVC | CAST IRON | BRONZE

The combi tap is ideal for sheet metal processing with clockwise/anticlockwise rotation in cordless drills. The thread is cut in a single operation without changing tools. A twist drill is placed in front of the thread.

Flanks: relief-ground
Shank: 6,35 x 27,0 mm
Max. material thickness: 1 x M (e.g. M 10 = 10 mm material thickness)

Packaging: plastic

Nominal thread size M	Pitch mm	L1 mm	Ø1 mm	HSS TiN	HSS	
M 3	0.50	51.0	2.5	270 014 T	270 014	1
M 4	0.70	54.0	3.3	270 015 T	270 015	1
M 5	0.80	57.0	4.2	270 016 T	270 016	1
M 6	1.00	60.0	5.0	270 017 T	270 017	1
M 8	1.25	68.0	6.8	270 018 T	270 018	1
M 10	1.50	75.0	8.5	270 019 T	270 019	1

270 020 TRO

		HSS TiN	HSS
7 tlg./pcs.	Combi machine tap bit set - *long* 6 combi machine taps bit M 3 | M 4 | M 5 | M 6 | M 8 | M 10 + 1 magnetic bit holder	270 020 TRO	270 020 RO

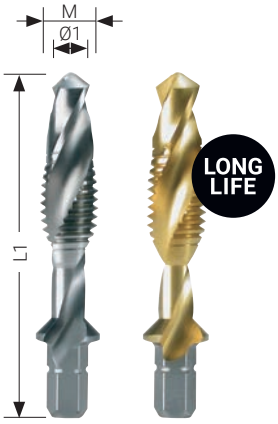
Magnetic bit holder for 1/4" hexagonal shank tools

Packaging: plastic

Magnetic bit holder	270 013	1

Main application Other application

Combi machine tap bit for core hole and through hole threads – *short*



The combi tap is ideal for sheet metal processing with clockwise/anticlockwise rotation in cordless drills. The thread is cut in a single operation without changing tools. A twist drill is placed in front of the thread.

Flanks: relief-ground
Shank: 6,35 x 27,0 mm
Max. Material thickness: 1 x M (e.g. M 10 = 10 mm material thickness)

Packaging: plastic

Nominal thread size M	Pitch mm	L1 mm	Ø1 mm	HSS TiN	HSS	
M 3	0.50	36.0	2.5	R 270 014 T	R 270 014	1
M 4	0.70	39.0	3.3	R 270 015 T	R 270 015	1
M 5	0.80	41.0	4.2	R 270 016 T	R 270 016	1
M 6	1.00	44.0	5.0	R 270 017 T	R 270 017	1
M 8	1.25	51.0	6.8	R 270 018 T	R 270 018	1
M 10	1.50	59.0	8.5	R 270 019 T	R 270 019	1

		HSS TiN	HSS
7 tlg./pcs.	Combi machine tap bit set - *short* 6 combi machine taps bit M 3 | M 4 | M 5 | M 6 | M 8 | M 10 + 1 hexagon magnetic holder	R 270 021 TRO	R 270 020 RO

R 270 020 RO

Application tip

In one operation:
✓ Hole drilling with twist drill
✓ Thread cutting
✓ Deburring threads
✓ Clean the thread (on the return)

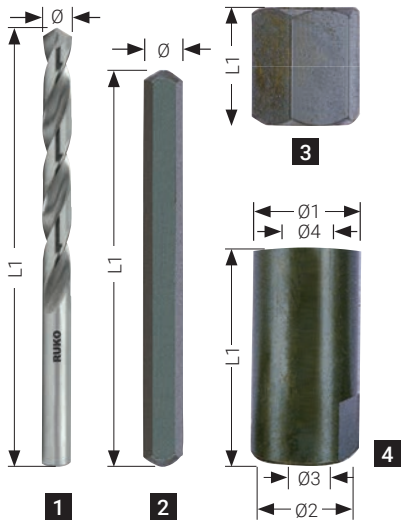
HSS | DIN 338 | N | 5 x D | ≥ Ø 2.0 mm | 118° | 25-30° | h8

1 Twist drill DIN 338 type N

Ground design, precisely matched to the drill bushes

Packaging: plastic

Ø mm	Ø inch	for stud size	L1 mm	HSS	
3.2	1/8"	1 - 4	65.0	214 032	1
4.8	3/16"	5 - 7	86.0	214 048	1
6.4	1/4"	8	101.0	214 064	1
8.0	5/16"	9	117.0	214 080	1
8.7	11/32"	10	125.0	214 087	1



2 Stud

made of special steel profile, hardened, gunmetal finish

Size	For threads	Ø mm	Ø inch	L1 mm		
1	M 5 - M 6	3.2	1/8"	60.0	244 001	1
2	M 7 - M 8	4.8	3/16"	70.0	244 002	1
3	M 9 - M 10	6.4	1/4"	78.0	244 003	1
4	M 12	8.0	5/16"	83.0	244 004	1
5	M 14 - M 16	8.7	11/32"	94.0	244 005	1

3 Extractor nut

with special inside profile, hardened, gunmetal finish

Size	For stud size	Spanner width mm	L1 mm		
1	1	10.0	16.0	244 032	1
2	2	11.0	16.0	244 046	1
3	3	13.0	16.0	244 064	1
4	4	14.0	16.0	244 080	1
5	5	17.0	16.0	244 087	1

4 Drilling jig

Stepped, hardened, burnished, for recessed screw remnants (Ø 1 + Ø 2), for protruding screw remnants (Ø 4)

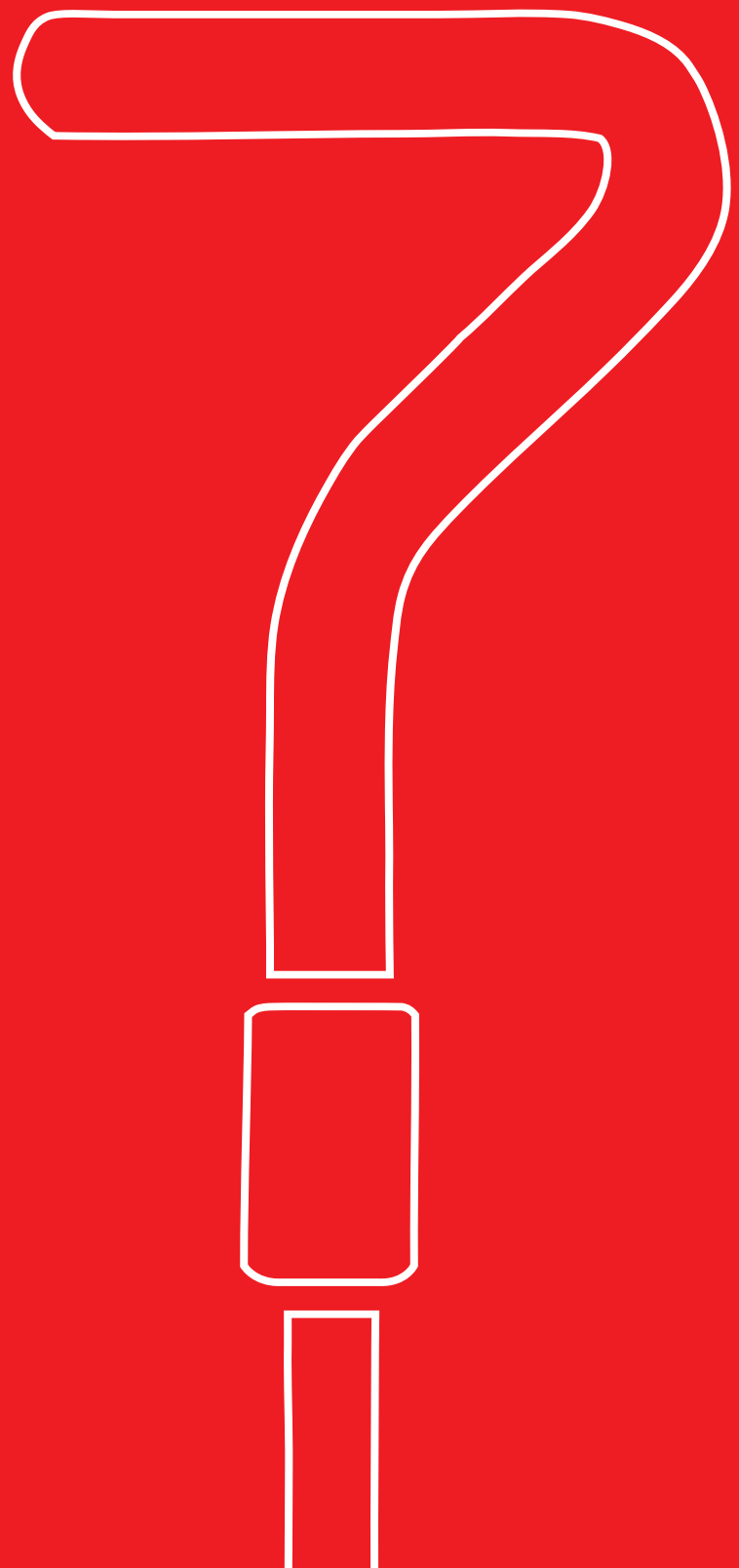
Size	Ø 1 mm	Ø 2 mm	Ø 3 mm	Ø 4 mm	Ø 3 inch	Ø 4 inch	Spanner width mm	L1 mm		
1	7.0	6.0	3.2	5.0	1/8"	3/16"	6.0	30.0	244 101	1
2	8.0	7.0	3.2	6.0	1/8"	–	7.0	30.0	244 102	1
3	9.0	–	3.2	7.0	1/8"	1/4"	8.0	30.0	244 103	1
4	10.0	–	3.2	8.0	1/8"	5/16"	9.0	30.0	244 104	1
5	11.0	–	4.8	8.0	3/16"	5/16"	9.0	30.0	244 105	1
6	12.0	–	4.8	9.0	3/16"	–	10.0	30.0	244 106	1
7	13.0	–	4.8	10.0	3/16"	1/8"	11.0	30.0	244 107	1
8	14.0	–	6.4	11.0	1/4"	7/16"	12.0	30.0	244 108	1
9	15.0	–	8.0	12.0	5/16"	–	13.0	30.0	244 109	1
10	17.0	16.0	8.7	14.0	11/32"	–	14.0	30.0	244 110	1

Thread-extractor set

25 tlg./pcs.	Thread-extractor set 5 twist drills, 5 studs, 5 extractor nuts and 10 drilling jigs	244 151

244 151

Main application | Other application



07

THREAD REPAIR TOOLS

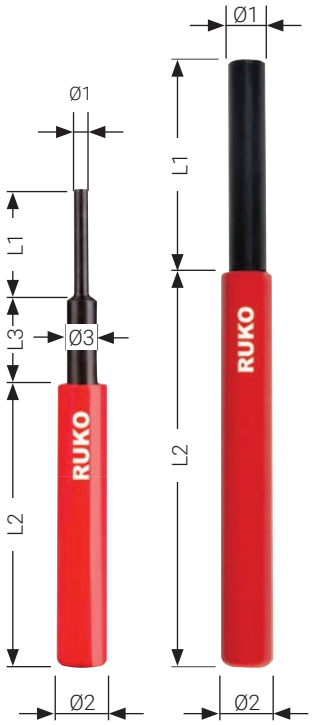
Thread inserts

Standard design, stainless steel and free running.

Thread reinforcement for materials with low shearing strenght, e.g. aluminium alloys and magnesium alloys as well as to repair enables worn and damaged threads.

Packaging: plastic

Nominal thread size	Pitch mm	Height = factor x Ø		
M 3	0.50	1.0	244 303	50
M 4	0.70	1.0	244 304	50
M 5	0.80	1.0	244 305	50
M 6	1.00	1.0	244 306	50
M 8	1.25	1.0	244 308	50
M 10	1.50	1.0	244 310	50
M 12	1.75	1.0	244 312	25
M 14	2.00	1.0	244 314	25
MF 14	1.25	1.0	244 315	25
M 3	0.50	1.5	244 403	50
M 4	0.70	1.5	244 404	50
M 5	0.80	1.5	244 405	50
M 6	1.00	1.5	244 406	50
M 8	1.25	1.5	244 408	50
M 10	1.50	1.5	244 410	50
M 12	1.75	1.5	244 412	25
M 14	2.00	1.5	244 414	25
MF 14	1.25	1.5	244 415	25
M 3	0.50	2.0	244 503	50
M 4	0.70	2.0	244 504	50
M 5	0.80	2.0	244 505	50
M 6	1.00	2.0	244 506	50
M 8	1.25	2.0	244 508	50
M 10	1.50	2.0	244 510	50
M 12	1.75	2.0	244 512	25
M 14	2.00	2.0	244 514	25
MF 14	1.25	2.0	244 515	25



Pin-breaker

Nominal thread size	Ø1 mm	Ø2 mm	Ø3 mm	L1 mm	L2 mm	L3 mm		
M 3	2.0	9.8	6.0	15.0	75.0	25.0	244 163	1
M 4	2.7	9.8	6.0	20.0	75.0	20.0	244 164	1
M 5	3.5	9.8	-	22.0	75.0	18.0	244 165	1
M 6	4.6	9.8	-	22.0	75.0	18.0	244 166	1
M 8	6.0	9.8	-	40.0	75.0	-	244 168	1
M 10	7.5	9.8	-	40.0	75.0	-	244 170	1
M 12	9.0	12.2	-	40.0	75.0	-	244 172	1
M 14	10.0	14.5	-	40.0	80.0	-	244 174	1

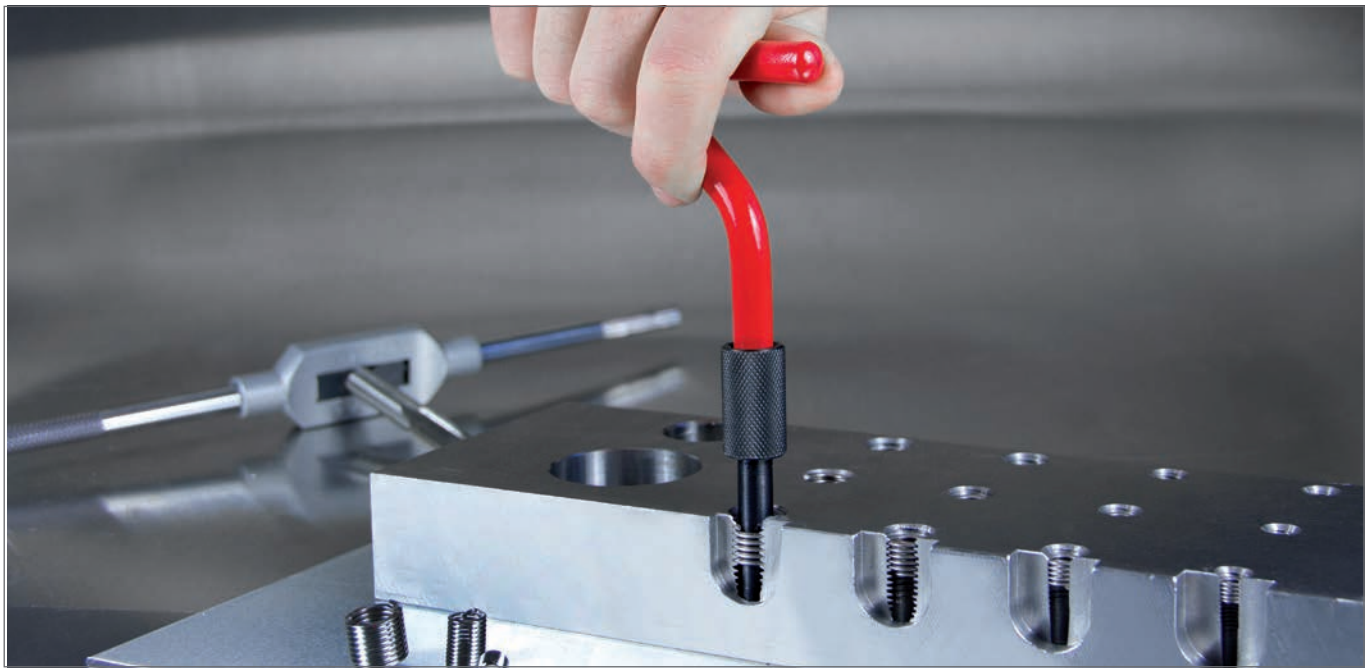
Fitting-tools

Nominal thread size	Ø mm	L1 mm		
M 3	2.0	60.0	244 183	1
M 4	2.8	60.0	244 184	1
M 5	3.5	60.0	244 185	1
M 6	4.8	60.0	244 186	1
M 8	6.0	80.0	244 188	1
M 10	7.5	80.0	244 190	1
M 12	9.5	80.0	244 192	1
M 14	11.2	80.0	244 194	1

ProCoil thread repair assortment

Picture shows ProCoil thread repair kit 86-piece (244 208).
See table for other versions.

86 tlg./pcs.	Assortment M 5 - M 12 5 twist drills HSS Ø 5.2 | 6.2 | 8.3 | 10.3 | 12.4 mm + 5 single-cut taps DIN 352 HSS - M 5 | M 6 | M 8 | M 10 | M 12 + 5 fitting tools M 5 | M 6 | M 8 | M 10 | M 12 + 5 pin-breakers Ø 3.5 - 4.6 - 6.0 - 7.5 - 9.0 mm + 60 inserts M 5 - M 10 - each 5 x Ø 1.0 / 1.5 / 2.0: Height = 1.0 x Ø + 6 inserts M 12 - each 2 x Ø 1.0 / 1.5 / 2.0: Height = 1.0 x Ø	244 208
77 tlg./pcs.	Assortment M 6 - M 14 for spark plug threads 5 twist drills HSS Ø 6.2 | 8.3 | 10.3 | 12.4 | 14.5 mm + 5 single-cut taps DIN 352 HSS - M 6 | M 8 | M 10 | M 12 | MF 14 + 5 fitting tools M 6 | M 8 | M 10 | M 12 | MF 14 + 5 pin-breakers Ø 4.6 | 6.0 | 7.5 | 9.0 | 10.0 mm + 45 inserts M 6 - M 10 - each 5 x Ø 1.0 / 1.5 / 2.0: Height = 1.0 x Ø + 12 inserts M 12 - MF 14 - each 2 x Ø 1.0 / 1.5 / 2.0: Height = 1.0 x Ø	244 209



ProCoil thread repair sets

Picture shows 19-piece thread repair kit (244 206).
See table for other versions.

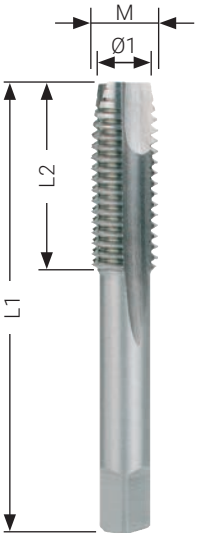
19 tlg./pcs.	Set M 3	1 twist drill Ø 3.1 mm + 1 single-cut tap DIN 352 HSS for thread M 3 x 0.5 + 1 fitting tool M 3 + 1 pin-Breaker Ø 2.0 mm + each 5 inserts Height = 1.0 x Ø / Height = 1.5 x Ø / Height = 2.0 x Ø	244 200
19 tlg./pcs.	Set M 4	1 twist drill Ø 4.1 mm + 1 single-cut tap DIN 352 HSS for thread M 4 x 0.7 + 1 fitting tool M 4 + 1 pin-Breaker Ø 2.7 mm + each 5 inserts Height = 1.0 x Ø / Height = 1.5 x Ø / Height = 2.0 x Ø	244 201
19 tlg./pcs.	Set M 5	1 twist drill Ø 5.2 mm + 1 single-cut tap DIN 352 HSS for thread M 5 x 0.8 + 1 fitting tool M 5 + 1 pin-Breaker Ø 3.5 mm + each 5 inserts Height = 1.0 x Ø / Height = 1.5 x Ø / Height = 2.0 x Ø	244 202
19 tlg./pcs.	Set M 6	1 twist drill Ø 6.2 mm + 1 single-cut tap DIN 352 HSS for thread M 6 x 1.0 + 1 fitting tool M 6 + 1 pin-Breaker Ø 4.6 mm + each 5 inserts Height = 1.0 x Ø / Height = 1.5 x Ø / Height = 2.0 x Ø	244 203
19 tlg./pcs.	Set M 8	1 twist drill Ø 8.3 mm + 1 single-cut tap DIN 352 HSS for thread M 8 x 1.25 + 1 fitting tool M 8 + 1 pin-Breaker Ø 6.0 mm + each 5 inserts Height = 1.0 x Ø / Height = 1.5 x Ø / Height = 2.0 x Ø	244 204
19 tlg./pcs.	Set M 10	1 twist drill Ø 10.3 mm + 1 single-cut tap DIN 352 HSS for thread M 10 x 1.5 + 1 fitting tool M 10 + 1 pin-Breaker Ø 7.5 mm + each 5 inserts Height = 1.0 x Ø / Height = 1.5 x Ø / Height = 2.0 x Ø	244 205
19 tlg./pcs.	Set M 12	1 twist drill Ø 12.4 mm + 1 single-cut tap DIN 352 HSS for thread M 12 x 1.75 + 1 fitting tool M 12 + 1 pin-Breaker Ø 9.0 mm + each 5 inserts Height = 1.0 x Ø / Height = 1.5 x Ø / Height = 2.0 x Ø	244 206
19 tlg./pcs.	Set M 14	1 twist drill Ø 14.5 mm + 1 single-cut tap DIN 352 HSS for thread M 14 x 2.0 + 1 fitting tool M 14 + 1 pin-Breaker Ø 10.0 mm + each 5 inserts Height = 1.0 x Ø / Height = 1.5 x Ø / Height = 2.0 x Ø	244 207

Twist drill DIN 338 type N HSS-G

High-performance, ground twist drill made from high-speed steel.
The fully ground twist drill has increased concentricity.
Areas of application: for steel, alloyed and unalloyed cast steel (up to 900 N/mm² strength), grey cast iron, malleable cast iron, ductile cast iron and die cast iron, sintered iron, nickel silver, graphite, short-chipping aluminium alloys, brass and bronze.

Packaging: plastic tube

For thread	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
M 3	3.10	65.0	36.0	214 031	10
M 4	4.10	75.0	43.0	214 041	10
M 5	5.20	86.0	52.0	214 052	10
M 6	6.20	101.0	63.0	214 062	10
M 8	8.30	117.0	75.0	214 083	10
M 10	10.30	133.0	87.0	214 103	10
M 12	12.40	151.0	101.0	214 124	5
M 14 + MF 14	14.50	169.0	114.0	214 145	5



Single-cut tap HSS for ProCoil

The single-cut tap HSS for through threads in unalloyed and low-alloyed steels up to a strength of 800 N/mm², malleable cast iron and non-ferrous metals. The thread can be cut in one operation by hand or machine.

Packaging: plastic tube

For thread	Thread core hole Ø1 mm	M mm	L1 mm	L2 mm	HSS	
M 3	3.10	3.6	53.0	13.0	244 603	1
M 4	4.10	4.9	58.0	16.0	244 604	1
M 5	5.20	6.0	66.0	19.0	244 605	1
M 6	6.20	7.3	72.0	22.0	244 606	1
M 8	8.30	9.6	80.0	24.0	244 608	1
M 10	10.30	11.9	89.0	29.0	244 610	1
M 12	12.40	14.3	95.0	30.0	244 612	1
M 14	14.50	16.6	102.0	32.0	244 614	1
MF 14	14.50	15.6	102.0	32.0	244 615	1

08

CORE DRILLING TECHNOLOGY

CORE DRILLS

Type and applications overview

	Material	Surface	Drilling depth	Shank	Ejector pin	RUKO Magnetic drilling machine	Ø mm	Item no.	Page/s
	HSS	Blank	30 mm		–	A10 RU25 RU40	10,0 – 15,0	108 121x	192
	HSS	Blank	55 mm		108 305		12,0 – 60,0	108 51xx	193
	HSSE Co5	Blank	55 mm					108 5xx E	
	HSS	TiAlN	55 mm					108 5xx F	
	HSS	Blank	30 mm		108 304		12,0 – 60,0	108 2xx	194 – 195
	HSSE Co5	Blank	30 mm					108 2xx E	
	HSS	TiAlN	30 mm					108 2xx F	
	HSS	Blank	110 mm		108 2000		20,0 – 32,0	108 20xx	196
	HSS	TiAlN	110 mm					108 20xx F	
	HSSE Co5	Blank	55 mm		108 306		12,0 – 60,0	108 9xx E	197
	TC HM	Blank	50 mm		108 305		12,0 – 50,0	108 7xx	198
	TC HM	Blank	50 mm		108 305		12,0 – 32,0	108 11xx	199
	TC HM	Blank	50 mm		108 305		33,0 – 80,0	108 11xx	200
	TC HM	Blank	50 mm		108 110		12,0 – 80,0	108 0xx	201
	TC HM	Blank	30 mm		108 1510		19,0 – 36,0	108 15xx	202

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
●			●	○	○	●	○
●			●	○	○	●	○
●	●	○	●	○	○	●	○
●	●	○	●	○	○	●	○
●			●	○	○	●	○
●	●	○	●	○	○	●	○
●	●	○	●	○	○	●	○
●			●	○	○	●	○
●	●	○	●	○	○	●	○
●	●	○	●	○	○	●	○
●	●	●	●	●	○	●	○
●	●	●	●	●	○	●	○
●	●	●	●	●	○	●	○
●	●	●	●	●		●	○
●	●	●	●	●	○	●	○

● Main application ○ Other application

Solid drills with Weldon shank (3/4")

Can be used in all pillar and magnetic drilling machines with Morse taper in conjunction with RUKO holders no. 108 302-1, 108 303-1, 108 315, 108 316, RUKO EasyLock no. 108 312-1, 108 313-1, 108 314 or with direct Weldon shank holders such as RUKO magnetic drilling machine A10.

Handling of solid drills with Weldon shank

- Slide the solid drill bit into the holder and tighten the hexagon socket screws.
- Ensure that the "Solid 3S" solid drill bit is seated properly in the holder.
- With the EasyLock quick-release holder, the solid drill bit is automatically locked in place.
- Drill to size immediately, no need for centre punching and pre-drilling.
- The cutting geometry of the solid drill bit enables fast chip removal upwards.
- Observe the speed table and use coolant.

Core drills with Weldon shank (3/4")

Can be used in all pillar and magnetic drilling machines with Morse taper in conjunction with RUKO holders no. 108 302-1, 108 303-1, 108 315, 108 316, RUKO EasyLock no. 108 312-1, 108 313-1, 108 314 or with direct Weldon shank holders such as RUKO magnetic drilling machine A10.

Handling core drills with Weldon shank

- Insert the ejector pin into the core drill.
- Push the core drill into the holder and tighten the hexagon socket screws.
- Ensure that the core drill is seated properly in the holder.
- The core drill is automatically locked in place with the EasyLock quick-release holder.
- Drill to size immediately, no need for centre punching and pre-drilling.
- The cutting geometry of the core drill enables fast chip removal upwards.
- The spring-loaded ejector pin helps to release the cut-out pieces.
- Observe the speed table and use coolant.

Core drills HSS with Quick IN shank

Can be used in all pillar and magnetic drilling machines in conjunction with the Quick IN system holder, e.g. Fein KBM 32 Q.

Handling core drills with Quick IN shank

- Insert the ejector pin into the core drill.
- Clamp the core drill into the Quick IN holder.
- Drill to size immediately, no need for centre punching and pre-drilling.
- The cutting edge geometry of the core drill enables rapid chip removal upwards.
- The spring-loaded ejector pin helps to release the cut-out pieces.
- Observe the speed table and use coolant.

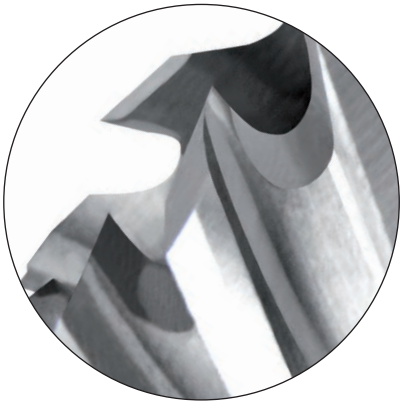
Core drills with threaded retainer

Can be used in all pillar and magnetic drilling machines with Morse taper in conjunction with RUKO holder no. 108 102-1, 108 103-1, 108 104, 108 105 or with direct threaded holder such as Fein KBM 542 / KBM 65.

Handling of core drills with thread holder

- Screw the core drill onto the holder.
- Drill to size immediately, no need for centre punching and pre-drilling.
- The cutting edge geometry of the core drill enables fast chip removal upwards.
- The spring-loaded ejector pin helps to release the cut-out pieces.
- Observe the speed table and use coolant.

Further development of the cutting edge geometry



Further development of the cutting edge geometry has resulted in significantly improved cutting behaviour, which has a positive effect on cutting performance and tool life.

1. Optimised cutting edge geometry for increased cutting performance and reduced cutting forces.
2. The rake angles are designed for universal use in various types of steel.
3. Improved chip evacuation thanks to U-shaped relief. The special geometry of the chip evacuation reduces the thermal load on the HSS core drill, as the heat generated during machining is largely dissipated with the chip.
4. Reduction of friction between the HSS core drill and the workpiece thanks to optimised, spiral-shaped guide chamfers.

Smaller cutting volume – This is why core drills are the better alternative for large diameters

RUKO core drills will save costs and time. As core drills only cut the width of the teeth and as twist drills cut the entire diameter of the hole, core drills are many times faster (see diagram). Centering and pilot drilling are not necessary anymore.

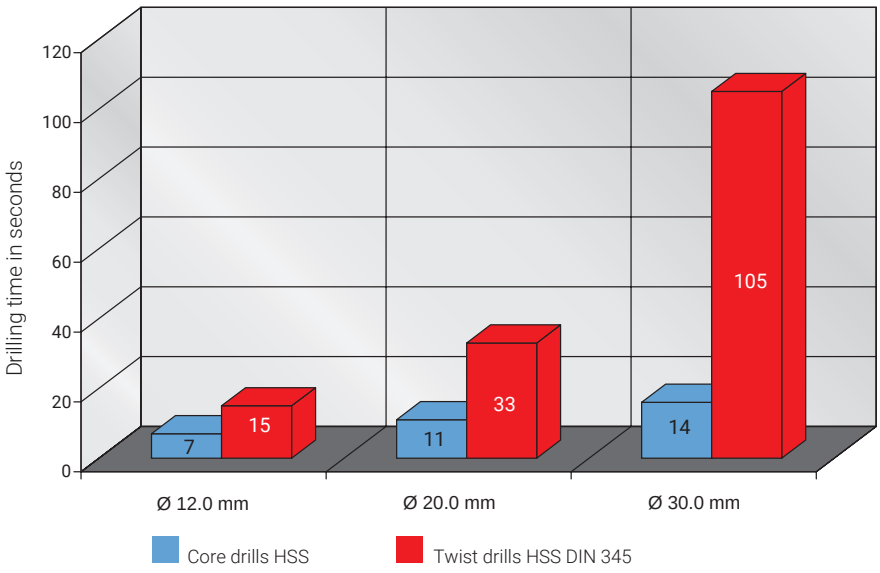
Unlike twist drills, core drills only cut the tooth width and the drill core is ejected:

Cutting volume
core drill

Cutting volume
twist drill

In addition to the lower energy requirement, the core drills work with less wear and tear, resulting in a longer service life.

Comparison of cutting times core drills HSS vs. twist drills HSS DIN 345



Work piece: steel girder
Material: construction steel S235JR
Cutting depth: 12,0 mm

Machine: RUKO Magnetic drilling machine Cutting with twist drills has been made without pilot drilling directly into the material. No cooling or lubrication has been used.

Solid drill "Solid 3S" with Weldon shank (3/4"), CBN ground and 3 cutting edges, 30.0 mm

The spiral-fluted 3-flute geometry ensures extremely high stability of the solid drill bit "Solid 3S" and thus prevents the risk of breakage of the cutting edges due to overstressing or jamming of the chips. The high stability significantly increases the service life of the "Solid 3S". This reduces operating costs. The "Solid 3S" enables precise spot drilling without centre punching and scribing. The solid drill bit is easier to regrind than core drills of the same diameter.

Packaging: plastic tube

Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	HSS	
10.0	19.0	64.0	30.0	108 1210	1
11.0	19.0	64.0	30.0	108 1211	1
12.0	19.0	64.0	30.0	108 1212	1
13.0	19.0	64.0	30.0	108 1213	1
14.0	19.0	64.0	30.0	108 1214	1
15.0	19.0	64.0	30.0	108 1215	1

		HSS
6 tlg./pcs.	Core drill set "Solid 3S" HSS Ø 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 mm	108 830

Application tip

The risk of breakage of the solid drill bit up to Ø 15.0 mm is significantly compared to core drills of the same diameter. Cooling required.

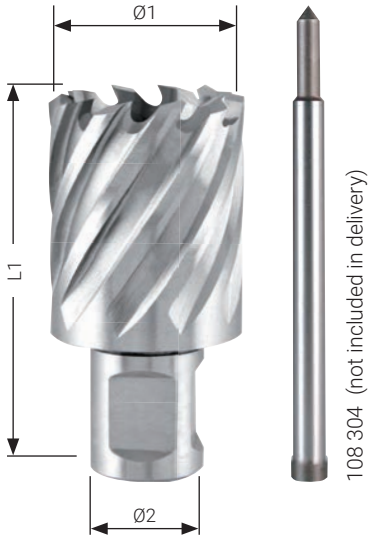
Core drill HSS and HSSE-Co 5 with Weldon shank (3/4"), 55.0 mm

Ejector pin: Item no. 108 305 (Ø 6.35 x 102.0 mm)

Packaging: plastic tube

Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	HSSE-Co 5	HSS TiAlN	HSS	
12.0	19.0	88.0	55.0	108 512 E	108 512 F	108 512	1
13.0	19.0	88.0	55.0	108 513 E	108 513 F	108 513	1
14.0	19.0	88.0	55.0	108 514 E	108 514 F	108 514	1
15.0	19.0	88.0	55.0	108 515 E	108 515 F	108 515	1
16.0	19.0	88.0	55.0	108 516 E	108 516 F	108 516	1
17.0	19.0	88.0	55.0	108 517 E	108 517 F	108 517	1
18.0	19.0	88.0	55.0	108 518 E	108 518 F	108 518	1
19.0	19.0	88.0	55.0	108 519 E	108 519 F	108 519	1
20.0	19.0	88.0	55.0	108 520 E	108 520 F	108 520	1
21.0	19.0	88.0	55.0	108 521 E	108 521 F	108 521	1
22.0	19.0	88.0	55.0	108 522 E	108 522 F	108 522	1
23.0	19.0	88.0	55.0	108 523 E	108 523 F	108 523	1
24.0	19.0	88.0	55.0	108 524 E	108 524 F	108 524	1
25.0	19.0	88.0	55.0	108 525 E	108 525 F	108 525	1
26.0	19.0	88.0	55.0	108 526 E	108 526 F	108 526	1
27.0	19.0	88.0	55.0	108 527 E	108 527 F	108 527	1
28.0	19.0	88.0	55.0	108 528 E	108 528 F	108 528	1
29.0	19.0	88.0	55.0	108 529 E	108 529 F	108 529	1
30.0	19.0	88.0	55.0	108 555 E	108 555 F	108 555	1
31.0	19.0	88.0	55.0	108 531 E	108 531 F	108 531	1
32.0	19.0	88.0	55.0	108 532 E	108 532 F	108 532	1
33.0	19.0	88.0	55.0	108 533 E	108 533 F	108 533	1
34.0	19.0	88.0	55.0	108 534 E	108 534 F	108 534	1
35.0	19.0	88.0	55.0	108 535 E	108 535 F	108 535	1
36.0	19.0	88.0	55.0	108 536 E	108 536 F	108 536	1
37.0	19.0	88.0	55.0	108 537 E	108 537 F	108 537	1
38.0	19.0	88.0	55.0	108 538 E	108 538 F	108 538	1
39.0	19.0	88.0	55.0	108 539 E	108 539 F	108 539	1
40.0	19.0	88.0	55.0	108 540 E	108 540 F	108 540	1
41.0	19.0	88.0	55.0	108 541 E	108 541 F	108 541	1
42.0	19.0	88.0	55.0	108 542 E	108 542 F	108 542	1
43.0	19.0	88.0	55.0	108 543 E	108 543 F	108 543	1
44.0	19.0	88.0	55.0	108 544 E	108 544 F	108 544	1
45.0	19.0	88.0	55.0	108 545 E	108 545 F	108 545	1
46.0	19.0	88.0	55.0	108 546 E	108 546 F	108 546	1
47.0	19.0	88.0	55.0	108 547 E	108 547 F	108 547	1
48.0	19.0	88.0	55.0	108 548 E	108 548 F	108 548	1
49.0	19.0	88.0	55.0	108 549 E	108 549 F	108 549	1
50.0	19.0	88.0	55.0	108 550 E	108 550 F	108 550	1
51.0	19.0	88.0	55.0	108 551 E	108 551 F	108 551	1
52.0	19.0	88.0	55.0	108 552 E	108 552 F	108 552	1
53.0	19.0	88.0	55.0	108 553 E	108 553 F	108 553	1
54.0	19.0	88.0	55.0	108 554 E	108 554 F	108 554	1
55.0	19.0	88.0	55.0	108 555 E	108 555 F	108 555	1
56.0	19.0	88.0	55.0	108 556 E	108 556 F	108 556	1
57.0	19.0	88.0	55.0	108 557 E	108 557 F	108 557	1
58.0	19.0	88.0	55.0	108 558 E	108 558 F	108 558	1
59.0	19.0	88.0	55.0	108 559 E	108 559 F	108 559	1
60.0	19.0	88.0	55.0	108 560 E	108 560 F	108 560	1

Core drills HSS and HSSE-Co 5 with Weldon shank (3/4"), 30.0 mm



Ejector pin: Item no. 108 304 (Ø 6.35 x 77.0 mm)

Packaging: plastic tube

Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	HSSE-Co 5	HSS TiAlN	HSS	
12.0	19.0	63.0	30.0	108 212 E	108 212 F	108 212	1
13.0	19.0	63.0	30.0	108 213 E	108 213 F	108 213	1
14.0	19.0	63.0	30.0	108 214 E	108 214 F	108 214	1
15.0	19.0	63.0	30.0	108 215 E	108 215 F	108 215	1
16.0	19.0	63.0	30.0	108 216 E	108 216 F	108 216	1
17.0	19.0	63.0	30.0	108 217 E	108 217 F	108 217	1
18.0	19.0	63.0	30.0	108 218 E	108 218 F	108 218	1
19.0	19.0	63.0	30.0	108 219 E	108 219 F	108 219	1
20.0	19.0	63.0	30.0	108 220 E	108 220 F	108 220	1
21.0	19.0	63.0	30.0	108 221 E	108 221 F	108 221	1
22.0	19.0	63.0	30.0	108 222 E	108 222 F	108 222	1
23.0	19.0	63.0	30.0	108 223 E	108 223 F	108 223	1
24.0	19.0	63.0	30.0	108 224 E	108 224 F	108 224	1
25.0	19.0	63.0	30.0	108 225 E	108 225 F	108 225	1
26.0	19.0	63.0	30.0	108 226 E	108 226 F	108 226	1
27.0	19.0	63.0	30.0	108 227 E	108 227 F	108 227	1
28.0	19.0	63.0	30.0	108 228 E	108 228 F	108 228	1
29.0	19.0	63.0	30.0	108 229 E	108 229 F	108 229	1
30.0	19.0	63.0	30.0	108 230 E	108 230 F	108 230	1
31.0	19.0	63.0	30.0	108 231 E	108 231 F	108 231	1
32.0	19.0	63.0	30.0	108 232 E	108 232 F	108 232	1
33.0	19.0	63.0	30.0	108 233 E	108 233 F	108 233	1
34.0	19.0	63.0	30.0	108 234 E	108 234 F	108 234	1
35.0	19.0	63.0	30.0	108 235 E	108 235 F	108 235	1
36.0	19.0	63.0	30.0	108 236 E	108 236 F	108 236	1
37.0	19.0	63.0	30.0	108 237 E	108 237 F	108 237	1
38.0	19.0	63.0	30.0	108 238 E	108 238 F	108 238	1
39.0	19.0	63.0	30.0	108 239 E	108 239 F	108 239	1
40.0	19.0	63.0	30.0	108 240 E	108 240 F	108 240	1
41.0	19.0	63.0	30.0	108 241 E	108 241 F	108 241	1
42.0	19.0	63.0	30.0	108 242 E	108 242 F	108 242	1
43.0	19.0	63.0	30.0	108 243 E	108 243 F	108 243	1
44.0	19.0	63.0	30.0	108 244 E	108 244 F	108 244	1
45.0	19.0	63.0	30.0	108 245 E	108 245 F	108 245	1
46.0	19.0	63.0	30.0	108 246 E	108 246 F	108 246	1
47.0	19.0	63.0	30.0	108 247 E	108 247 F	108 247	1
48.0	19.0	63.0	30.0	108 248 E	108 248 F	108 248	1
49.0	19.0	63.0	30.0	108 249 E	108 249 F	108 249	1
50.0	19.0	63.0	30.0	108 250 E	108 250 F	108 250	1
51.0	19.0	63.0	30.0	108 251 E	108 251 F	108 251	1
52.0	19.0	63.0	30.0	108 252 E	108 252 F	108 252	1
53.0	19.0	63.0	30.0	108 253 E	108 253 F	108 253	1
54.0	19.0	63.0	30.0	108 254 E	108 254 F	108 254	1
55.0	19.0	63.0	30.0	108 255 E	108 255 F	108 255	1
56.0	19.0	63.0	30.0	108 256 E	108 256 F	108 256	1
57.0	19.0	63.0	30.0	108 257 E	108 257 F	108 257	1
58.0	19.0	63.0	30.0	108 258 E	108 258 F	108 258	1
59.0	19.0	63.0	30.0	108 259 E	108 259 F	108 259	1
60.0	19.0	63.0	30.0	108 260 E	108 260 F	108 260	1

		HSSE-Co 5	HSS
10 tlg./pcs.	Core drill set Ø 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 | 24.0 | 26.0 mm + 1 cutting paste 40 ml | Item no. 101 021 + 1 ejector pin Ø 6.35 x 77.0 mm | Item no. 108 304	108 810 E	108 810

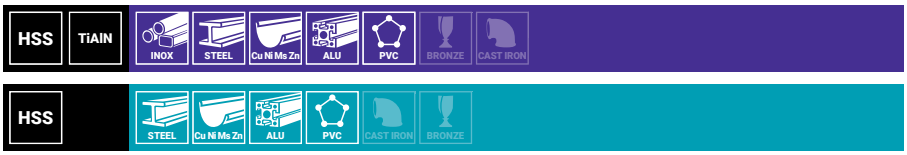
108 810 E

		HSS TiAlN	HSS
7 tlg./pcs.	Core drill set Ø 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 mm + 1 jector pin Ø 6.35 x 77.0 mm | Item no. 108 304	108 820 F	108 820
7 tlg./pcs.	Core drill set 2x Ø 14.0 mm | 2x Ø 18.0 mm | 2x Ø 22.0 mm + 1 jector pin Ø 6.35 x 77.0 mm | Item no. 108 304	108 840 F	108 840

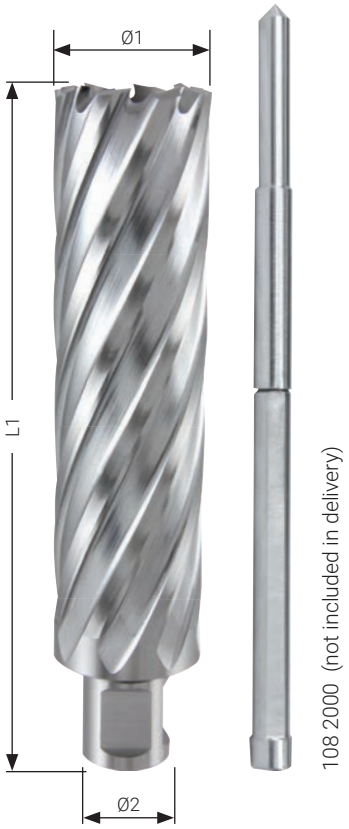
108 840 F

108 840

HSS core drill with Weldon shank (3/4"), 110.0 mm *– extra long*



Ejector pin: Item no. 108 2000 (Ø 8.0 x 155.0 mm)



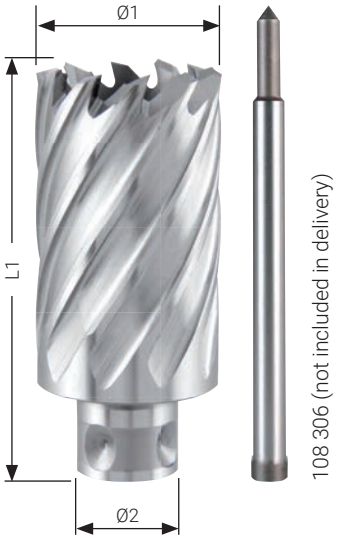
Packaging: plastic tube

Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	HSS TiAlN	HSS	
20.0	19.0	145.0	110.0	108 2020 F	108 2020	1
21.0	19.0	145.0	110.0	108 2021 F	108 2021	1
22.0	19.0	145.0	110.0	108 2022 F	108 2022	1
24.0	19.0	145.0	110.0	108 2024 F	108 2024	1
25.0	19.0	145.0	110.0	108 2025 F	108 2025	1
26.0	19.0	145.0	110.0	108 2026 F	108 2026	1
28.0	19.0	145.0	110.0	108 2028 F	108 2028	1
30.0	19.0	145.0	110.0	108 2030 F	108 2030	1
32.0	19.0	145.0	110.0	108 2032 F	108 2032	1

Application tip

Move core drill out of the hole, remove the chips in the borehole.
Repeat this procedure several times.
Reduces the risk of breakage and increases the service life of the core drill.

Core drill HSSE-Co 5 with Quick IN shank, 35.0 mm



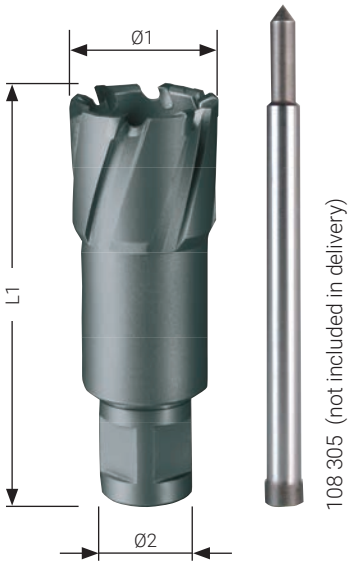
Ejector pin: Item no. 108 306 (Ø 6.35 x 87.0 mm)
Machine no.: with Quick IN-adapter

Packaging: plastic tube

Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	HSSE-Co 5	
12.0	18.0	77.0	35.0	108 912 E	1
13.0	18.0	77.0	35.0	108 913 E	1
14.0	18.0	77.0	35.0	108 914 E	1
15.0	18.0	77.0	35.0	108 915 E	1
16.0	18.0	77.0	35.0	108 916 E	1
17.0	18.0	77.0	35.0	108 917 E	1
18.0	18.0	77.0	35.0	108 918 E	1
19.0	18.0	77.0	35.0	108 919 E	1
20.0	18.0	77.0	35.0	108 920 E	1
21.0	18.0	77.0	35.0	108 921 E	1
22.0	18.0	77.0	35.0	108 922 E	1
23.0	18.0	77.0	35.0	108 923 E	1
24.0	18.0	77.0	35.0	108 924 E	1
25.0	18.0	77.0	35.0	108 925 E	1
26.0	18.0	77.0	35.0	108 926 E	1
27.0	18.0	77.0	35.0	108 927 E	1
28.0	18.0	77.0	35.0	108 928 E	1
29.0	18.0	77.0	35.0	108 929 E	1
30.0	18.0	77.0	35.0	108 930 E	1
32.0	18.0	77.0	35.0	108 932 E	1
35.0	18.0	77.0	35.0	108 935 E	1
36.0	18.0	77.0	35.0	108 936 E	1
40.0	18.0	77.0	35.0	108 940 E	1
45.0	18.0	77.0	35.0	108 945 E	1
50.0	18.0	77.0	35.0	108 950 E	1
55.0	18.0	77.0	35.0	108 955 E	1
60.0	18.0	77.0	35.0	108 960 E	1

		HSSE-Co 5
10 tlg./pcs.	Core drill set Ø 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 | 24.0 | 26.0 mm + 1 cutting paste 40 ml | Item no. 101 021 + 1 ejector pin Ø 6.35 x 87.0 mm | Item no. 108 306	108 811 E

Core drill with tungsten carbide cutting edges and Weldon shank (3/4"), 50.0 mm



Suitable for Hardox / Weldox 400 steel

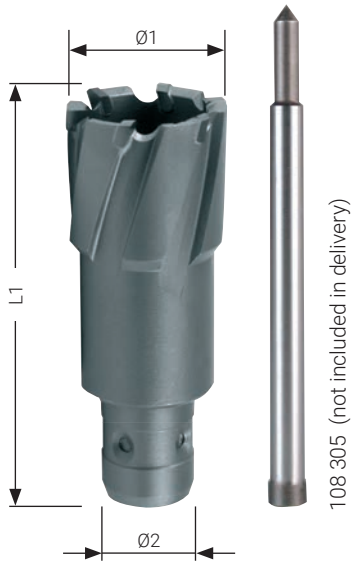
Ejector pin: Ø 12.0 up to Ø 17.0 mm | Item no. 108 305 (Ø 6.35 x 102.0 mm)
Ø 18.0 up to Ø 50.0 mm | Item no. 108 701 (Ø 8.0 x 112.0 mm)

Packaging: plastic tube

Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	TC / HM	
12.0	19.0	84.0	50.0	108 712	1
13.0	19.0	84.0	50.0	108 713	1
14.0	19.0	84.0	50.0	108 714	1
15.0	19.0	84.0	50.0	108 715	1
16.0	19.0	84.0	50.0	108 716	1
17.0	19.0	84.0	50.0	108 717	1
18.0	19.0	84.0	50.0	108 718	1
19.0	19.0	84.0	50.0	108 719	1
20.0	19.0	84.0	50.0	108 720	1
21.0	19.0	84.0	50.0	108 721	1
22.0	19.0	84.0	50.0	108 722	1
23.0	19.0	84.0	50.0	108 723	1
24.0	19.0	84.0	50.0	108 724	1
25.0	19.0	84.0	50.0	108 725	1
26.0	19.0	84.0	50.0	108 726	1
27.0	19.0	84.0	50.0	108 727	1
28.0	19.0	84.0	50.0	108 728	1
29.0	19.0	84.0	50.0	108 729	1
30.0	19.0	84.0	50.0	108 730	1
31.0	19.0	84.0	50.0	108 731	1
32.0	19.0	84.0	50.0	108 732	1
33.0	19.0	84.0	50.0	108 733	1
34.0	19.0	84.0	50.0	108 734	1
35.0	19.0	84.0	50.0	108 735	1
36.0	19.0	84.0	50.0	108 736	1
37.0	19.0	84.0	50.0	108 737	1
38.0	19.0	84.0	50.0	108 738	1
39.0	19.0	84.0	50.0	108 739	1
40.0	19.0	84.0	50.0	108 740	1
41.0	19.0	84.0	50.0	108 741	1
42.0	19.0	84.0	50.0	108 742	1
43.0	19.0	84.0	50.0	108 743	1
44.0	19.0	84.0	50.0	108 744	1
45.0	19.0	84.0	50.0	108 745	1
46.0	19.0	84.0	50.0	108 746	1
47.0	19.0	84.0	50.0	108 747	1
48.0	19.0	84.0	50.0	108 748	1
49.0	19.0	84.0	50.0	108 749	1
50.0	19.0	84.0	50.0	108 750	1

Core drill with tungsten carbide cutting edges and Quick IN shank, 50.0 mm

With fixed shaft.
Machine no.: with Quick IN-adapter
Ejector pin: Item no. 108 305 (Ø 6.35 x 102.0 mm)



Packaging: plastic tube

Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	TC / HM	
12.0	18.0	83.0	50.0	108 1112	1
13.0	18.0	83.0	50.0	108 1113	1
14.0	18.0	83.0	50.0	108 1114	1
15.0	18.0	83.0	50.0	108 1115	1
16.0	18.0	83.0	50.0	108 1116	1
17.0	18.0	83.0	50.0	108 1117	1
18.0	18.0	83.0	50.0	108 1118	1
18.0	18.0	83.0	50.0	108 1118	1
20.0	18.0	83.0	50.0	108 1120	1
21.0	18.0	83.0	50.0	108 1121	1
22.0	18.0	83.0	50.0	108 1122	1
23.0	18.0	83.0	50.0	108 1123	1
24.0	18.0	83.0	50.0	108 1124	1
25.0	18.0	83.0	50.0	108 1125	1
26.0	18.0	83.0	50.0	108 1126	1
27.0	18.0	83.0	50.0	108 1127	1
28.0	18.0	83.0	50.0	108 1128	1
29.0	18.0	83.0	50.0	108 1129	1
30.0	18.0	83.0	50.0	108 1130	1
31.0	18.0	83.0	50.0	108 1131	1
32.0	18.0	83.0	50.0	108 1132	1

High performance cutting oil spray

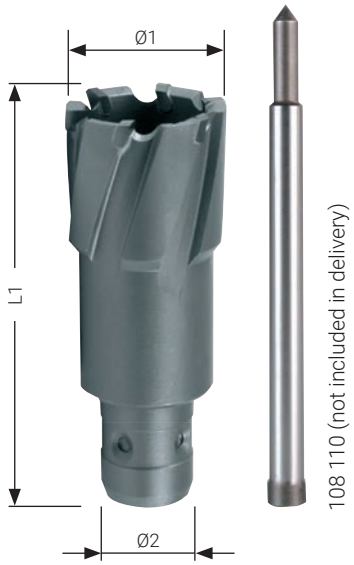
RUKO coolants and lubricants have an excellent release and cooling effect. They produce a high surface quality and increase tool life even with hard and brittle materials. hard and brittle materials.

1 tlg./pcs.	High-performance cutting oil spray, 300 ml 100% pure active ingredient - without propellant gas	101 012

Core drill with carbide cutting edges and Quick IN shank, 50.0 mm

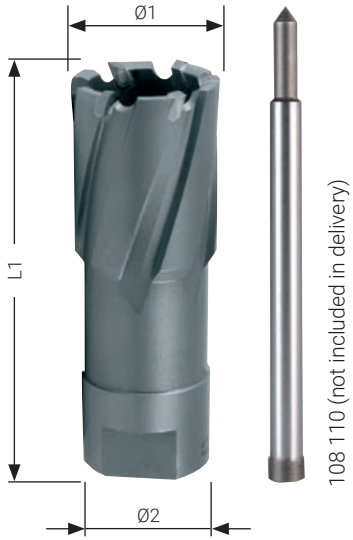
Including Quick IN shank adapter, item no. 108 111
Machine: with Quick IN system holder
Ejector pin: Ø 33.0 to Ø 80.0 mm | Item no. 108 110 (Ø 6.35 x 123.0 mm)

Packaging: plastic tube



Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	TC / HM	
33.0	18.0	112.0	50.0	108 1133	1
34.0	18.0	112.0	50.0	108 1134	1
35.0	18.0	112.0	50.0	108 1135	1
36.0	18.0	112.0	50.0	108 1136	1
37.0	18.0	112.0	50.0	108 1137	1
38.0	18.0	112.0	50.0	108 1138	1
39.0	18.0	112.0	50.0	108 1139	1
40.0	18.0	112.0	50.0	108 1140	1
41.0	18.0	112.0	50.0	108 1141	1
42.0	18.0	112.0	50.0	108 1142	1
43.0	18.0	112.0	50.0	108 1143	1
44.0	18.0	112.0	50.0	108 1144	1
45.0	18.0	112.0	50.0	108 1145	1
46.0	18.0	112.0	50.0	108 1146	1
47.0	18.0	112.0	50.0	108 1147	1
48.0	18.0	112.0	50.0	108 1148	1
49.0	18.0	112.0	50.0	108 1149	1
50.0	18.0	112.0	50.0	108 1150	1
51.0	18.0	112.0	50.0	108 1151	1
52.0	18.0	112.0	50.0	108 1152	1
53.0	18.0	112.0	50.0	108 1153	1
54.0	18.0	112.0	50.0	108 1154	1
55.0	18.0	112.0	50.0	108 1155	1
60.0	18.0	112.0	50.0	108 1160	1
61.0	18.0	112.0	50.0	108 1161	1
63.0	18.0	112.0	50.0	108 1163	1
65.0	18.0	112.0	50.0	108 1165	1
68.0	18.0	112.0	50.0	108 1168	1
70.0	18.0	112.0	50.0	108 1170	1
71.0	18.0	112.0	50.0	108 1171	1
75.0	18.0	112.0	50.0	108 1175	1
80.0	18.0	112.0	50.0	108 1180	1

Core drill with carbide cutting edges and threaded retainer, 50.0 mm



Ejector pin: Item no. 108 110 (Ø 6,35 x 123,0 mm)
Adapter: thread M18 x 6 P1,5

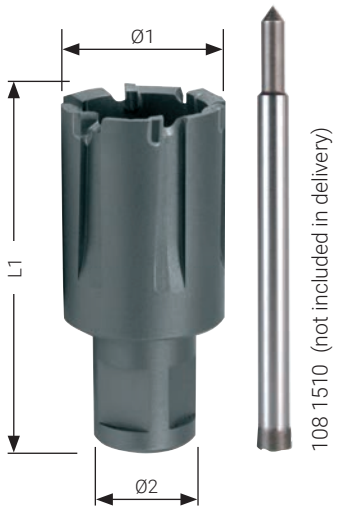
Packaging: plastic tube

Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	TC / HM	
12.0	MT 2 / 3	84.0	50.0	108 012	1
13.0	MT 2 / 3	84.0	50.0	108 013	1
14.0	MT 2 / 3	84.0	50.0	108 014	1
15.0	MT 2 / 3	84.0	50.0	108 015	1
16.0	MT 2 / 3	84.0	50.0	108 016	1
17.0	MT 2 / 3	84.0	50.0	108 017	1
18.0	MT 2 / 3	84.0	50.0	108 018	1
19.0	MT 2 / 3	84.0	50.0	108 019	1
20.0	MT 2 / 3	84.0	50.0	108 020	1
21.0	MT 2 / 3	84.0	50.0	108 021	1
22.0	MT 2 / 3	84.0	50.0	108 022	1
23.0	MT 2 / 3	84.0	50.0	108 023	1
24.0	MT 2 / 3	84.0	50.0	108 024	1
25.0	MT 2 / 3	84.0	50.0	108 025	1
26.0	MT 2 / 3	84.0	50.0	108 026	1
27.0	MT 2 / 3	84.0	50.0	108 027	1
28.0	MT 2 / 3	84.0	50.0	108 028	1
29.0	MT 2 / 3	84.0	50.0	108 029	1
30.0	MT 2 / 3	84.0	50.0	108 030	1
31.0	MT 2 / 3	84.0	50.0	108 031	1
32.0	MT 2 / 3	84.0	50.0	108 032	1
33.0	MT 2 / 3	84.0	50.0	108 033	1
34.0	MT 2 / 3	84.0	50.0	108 034	1
35.0	MT 2 / 3	84.0	50.0	108 035	1
36.0	MT 2 / 3	84.0	50.0	108 036	1
37.0	MT 2 / 3	84.0	50.0	108 037	1
38.0	MT 2 / 3	84.0	50.0	108 038	1
39.0	MT 2 / 3	84.0	50.0	108 039	1
40.0	MT 2 / 3	84.0	50.0	108 040	1
41.0	MT 2 / 3	84.0	50.0	108 041	1
42.0	MT 2 / 3	84.0	50.0	108 042	1
43.0	MT 2 / 3	84.0	50.0	108 043	1
44.0	MT 2 / 3	84.0	50.0	108 044	1
45.0	MT 2 / 3	84.0	50.0	108 045	1
46.0	MT 2 / 3	84.0	50.0	108 046	1
47.0	MT 2 / 3	84.0	50.0	108 047	1
48.0	MT 2 / 3	84.0	50.0	108 048	1
49.0	MT 2 / 3	84.0	50.0	108 049	1
50.0	MT 2 / 3	84.0	50.0	108 050	1
51.0	MT 2 / 3	84.0	50.0	108 051	1
52.0	MT 2 / 3	84.0	50.0	108 052	1
53.0	MT 2 / 3	84.0	50.0	108 053	1
54.0	MT 2 / 3	84.0	50.0	108 054	1
55.0	MT 2 / 3	84.0	50.0	108 055	1
60.0	MT 2 / 3	84.0	50.0	108 060	1
61.0	MT 2 / 3	84.0	50.0	108 061	1
63.0	MT 2 / 3	84.0	50.0	108 063	1
65.0	MT 2 / 3	84.0	50.0	108 065	1
68.0	MT 2 / 3	84.0	50.0	108 068	1
70.0	MT 2 / 3	84.0	50.0	108 070	1
71.0	MT 2 / 3	84.0	50.0	108 071	1
75.0	MT 2 / 3	84.0	50.0	108 075	1
80.0	MT 2 / 3	84.0	50.0	108 080	1

Core drill with carbide cutting edges and Weldon shank (3/4") for railway tracks, 30.0 mm

Can be used on all track drilling machines. The cutting geometry has been specially optimized for heavy duty chip removal from railway tracks, thus makes efficient use possible.

Ejector pin: Item no. 108 1510 (Ø 8.0 x 81.0 mm)



Packaging: plastic tube

Ø1 mm	Ø2 mm	L1 mm	Cutting depth mm	TC / HM	
19.0	19.0	63.0	30.0	108 1519	1
20.0	19.0	63.0	30.0	108 1520	1
21.0	19.0	63.0	30.0	108 1521	1
22.0	19.0	63.0	30.0	108 1522	1
23.0	19.0	63.0	30.0	108 1523	1
24.0	19.0	63.0	30.0	108 1524	1
25.0	19.0	63.0	30.0	108 1525	1
26.0	19.0	63.0	30.0	108 1526	1
26.5	19.0	63.0	30.0	108 15265	1
27.0	19.0	63.0	30.0	108 1527	1
27.5	19.0	63.0	30.0	108 15275	1
28.0	19.0	63.0	30.0	108 1528	1
29.0	19.0	63.0	30.0	108 1529	1
30.0	19.0	63.0	30.0	108 1530	1
31.0	19.0	63.0	30.0	108 1531	1
32.0	19.0	63.0	30.0	108 1532	1
33.0	19.0	63.0	30.0	108 1533	1
34.0	19.0	63.0	30.0	108 1534	1
36.0	19.0	63.0	30.0	108 1536	1

Ejector pin for HSS core drills

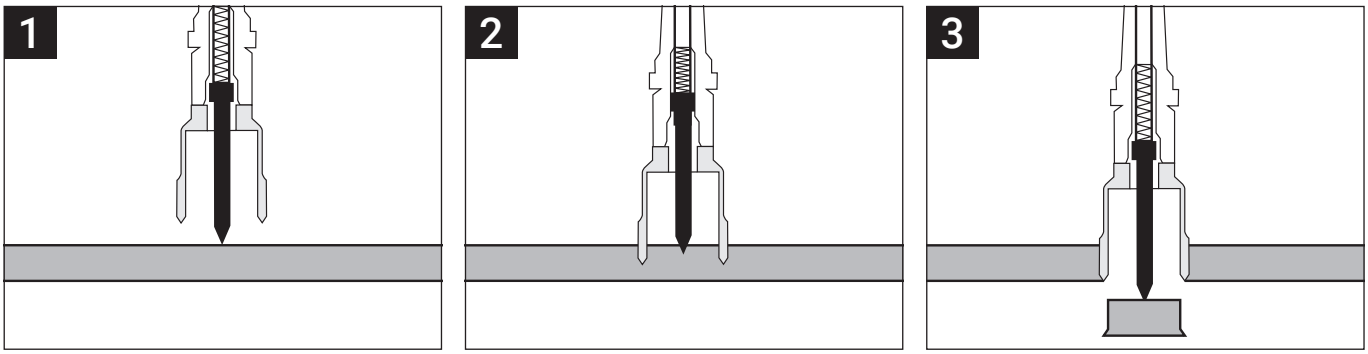
Packaging: plastic tube

	Core drills cutting depth mm	HSS	
Ejector pin Ø 6.35 x 77.0 mm for core drill HSS with Weldon shank	30.0	108 304	1
Ejector pin Ø 6.35 x 87.0 mm for HSS / carbide core drills with Quick IN shank	35.0 / 50.0	108 306	1
Ejector pin Ø 6.35 x 102.0 mm for core drill HSS / HM with Weldon shank	55.0	108 305	1
Ejector pin Ø 8.0 x 155.0 mm for core drill HSS with Weldon shank	110.0	108 2000	1

Ejector pin for HM core drills

Packaging: plastic tube

	Core drills cutting depth mm	HSS	
Ejector pin Ø 8,0 x 81,0 mm for core drills TC with Weldon shank for railway tracks	30.0	108 1510	1
Ejector pin Ø 6,35 x 87,0 mm for core drills HSS / TC with Quick IN shank	35.0 / 50.0	108 306	1
Ejector pin Ø 8,0 x 112,0 mm for core drills TC with Weldon shank	50.0	108 701	1
Ejector pin Ø 6,35 x 123,0 mm for core drills TC with Weldon- and Quick IN shank	50.0 + adapter	108 110	1
Ejector pin Ø 6,35 x 102,0 mm for core drills HSS / TC with Weldon shank	55.0	108 305	1



1 **Centring:**
Position the ejector pin in the centre of the centre punch. The machine is now in the correct drilling position.
Please switch on the magnet now.

2 **Coolant supply:**
The cutting oil is discharged via the ejector pin by means of the automatic internal lubrication system and delivered to the cutting edges in optimum doses.

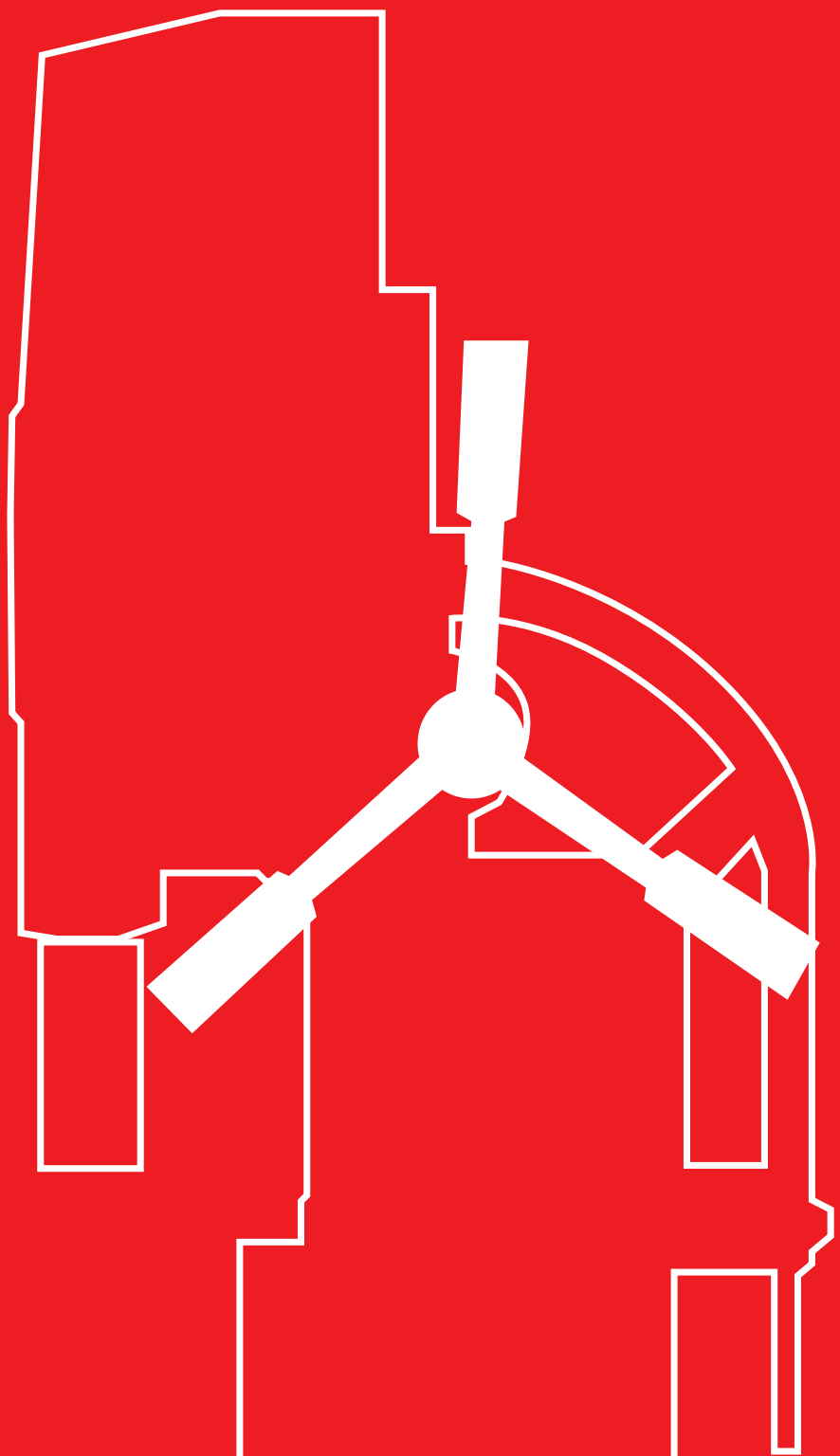
3 **Ejecting:**
In the final phase of drilling, the drill core is pressed out of the drill hole by the spring-loaded ejector pin.

Speed guide values for HSS core drills

Material:		High carbon struc. steel up to 700 N/mm²	Alloyed steel up to 1000 N/mm²	Cast iron over 250 N/mm²	CuZn-alloy brittle	CuZn-alloy tough	Aluminium alloy up to 11% Si	Thermo-plastics	Duro-plastics
Vc = m/min		30	20	10	60	35	30	20	15
Coolant:		Cutting spray	Cutting spray	Compressed air	Compressed air	Compressed air	Cutting spray	Water	Compressed air
Ø mm	Ø inch	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.
12.0	15/32	796	531	265	1592	929	796	531	398
13.0	33/64	735	490	245	1470	857	735	490	367
14.0	35/64	682	455	227	1365	796	682	455	341
15.0	19/32	637	425	212	1274	743	637	425	318
16.0	5/8	597	398	199	1194	697	597	398	299
17.0	43/64	562	375	187	1124	656	562	375	281
18.0	45/64	531	354	177	1062	619	531	354	265
19.0	3/4	503	335	168	1006	587	503	335	251
20.0	25/32	478	318	159	955	557	478	318	239
21.0	53/64	455	303	152	910	531	455	303	227
22.0	7/8	434	290	145	869	507	434	290	217
23.0	29/32	415	277	138	831	485	415	277	208
24.0	15/16	398	265	133	796	464	398	265	199
25.0	63/64	382	255	127	764	446	382	255	191
26.0	1 1/32	367	245	122	735	429	367	245	184
27.0	1 1/16	354	236	118	708	413	354	236	177
28.0	1 3/32	341	227	114	682	398	341	227	171
29.0	1 9/64	329	220	110	659	384	329	220	165
30.0	1 3/16	318	212	106	637	372	318	212	159
31.0	1 7/32	308	205	103	616	360	308	205	154
32.0	1 17/64	299	199	100	597	348	299	199	149
33.0	1 19/64	290	193	97	579	338	290	193	145
34.0	1 11/32	281	187	94	562	328	281	187	141
35.0	1 3/8	273	182	91	546	318	273	182	136
36.0	1 27/64	265	177	88	531	310	265	177	133
37.0	1 29/64	258	172	86	516	301	258	172	129
38.0	1 1/2	251	168	84	503	293	251	168	126
39.0	1 17/32	245	163	82	490	286	245	163	122
40.0	1 37/64	239	159	80	478	279	239	159	119
41.0	1 39/64	233	155	78	466	272	233	155	117
42.0	1 21/32	227	152	76	455	265	227	152	114
43.0	1 11/16	222	148	74	444	259	222	148	111
44.0	1 47/64	217	145	72	434	253	217	145	109
45.0	1 25/32	212	142	71	425	248	212	142	106
46.0	1 13/16	208	138	69	415	242	208	138	104
47.0	1 55/64	203	136	68	407	237	203	136	102
48.0	1 57/64	199	133	66	398	232	199	133	100
49.0	1 15/16	195	130	65	390	227	195	130	97
50.0	1 31/32	191	127	64	382	223	191	127	96
51.0	2	187	125	62	375	219	187	125	94
52.0	2 3/64	184	122	61	367	214	184	122	92
53.0	2 3/32	180	120	60	361	210	180	120	90
54.0	2 1/8	177	118	59	354	206	177	118	88
55.0	2 5/32	174	116	58	347	203	174	116	87
60.0	2 3/8	159	106	53	318	186	159	106	80

Speed guide values for core drills with tungsten carbide cutting edges

Material:		High carbon struc. steel up to 700 N/mm²	Alloyed steel up to 1000 N/mm²	Cast iron over 250 N/mm²	CuZn-alloy brittle	CuZn-alloy tough	Aluminium alloy up to 11% Si	Thermo-plastics	Duro-plastics
Vc = m/min		50	35	40	60	40	60	45	40
Coolant:		Cutting spray	Cutting spray	Compressed air	Compressed air	Compressed air	Cutting spray	Water	Compressed air
Ø mm	Ø inch	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.
12.0	15/32	1327	929	1062	1592	265	1592	1194	1062
13.0	33/64	1225	857	980	1470	245	1470	1102	980
14.0	35/64	1137	796	910	1365	227	1365	1024	910
15.0	19/32	1062	743	849	1274	212	1274	955	849
16.0	5/8	995	697	796	1194	199	1194	896	796
17.0	34/64	937	656	749	1124	187	1124	843	749
18.0	45/64	885	619	708	1062	177	1062	796	708
19.0	3/4	838	587	670	1006	168	1006	754	670
20.0	25/32	796	557	637	955	159	955	717	637
21.0	3/4	758	531	607	910	152	910	682	607
22.0	7/8	724	507	579	869	145	869	651	579
23.0	13/16	692	485	554	831	138	831	623	554
24.0	15/16	663	464	531	796	133	796	597	531
25.0	63/64	637	446	510	764	127	764	573	510
26.0	1 1/32	612	429	490	735	122	735	551	490
27.0	1 1/16	590	413	472	708	118	708	531	472
28.0	1 3/32	569	398	455	682	114	682	512	455
29.0	1 9/64	549	384	439	659	110	659	494	439
30.0	1 3/16	531	372	425	637	106	637	478	425
31.0	1 7/32	514	360	411	616	103	616	462	411
32.0	1 17/64	498	348	398	597	100	597	448	398
33.0	1 19/64	483	338	386	579	97	579	434	386
34.0	1 11/32	468	328	375	562	94	562	422	375
35.0	1 3/8	455	318	364	546	91	546	409	364
36.0	1 27/64	442	310	354	531	88	531	398	354
37.0	1 29/64	430	301	344	516	86	516	387	344
38.0	1 1/2	419	293	335	503	84	503	377	335
39.0	1 17/32	408	286	327	490	82	490	367	327
40.0	1 37/64	398	279	318	478	80	478	358	318
41.0	1 39/64	388	272	311	466	78	466	350	311
42.0	1 21/32	379	265	303	455	76	455	341	303
43.0	1 11/16	370	259	296	444	74	444	333	296
44.0	1 47/64	362	253	290	434	72	434	326	290
45.0	1 25/32	354	248	283	425	71	425	318	283
46.0	1 13/16	346	242	277	415	69	415	312	277
47.0	1 55/64	339	237	271	407	68	407	305	271
48.0	1 57/64	332	232	265	398	66	398	299	265
49.0	1 15/16	325	227	260	390	65	390	292	260
50.0	1 31/32	318	223	255	382	64	382	287	255
51.0	2	312	219	250	375	62	375	281	250
52.0	2 3/64	306	214	245	367	61	367	276	245
53.0	2 3/32	300	210	240	361	60	361	270	240
54.0	2 1/8	295	206	236	354	59	354	265	236
55.0	2 5/32	290	203	232	347	58	347	261	232
60.0	2 3/8	265	186	212	318	53	318	239	212
61.0	2 13/32	261	183	209	313	52	313	235	209
65.0	2 9/16	245	171	196	294	49	294	220	196
68.0	2 43/64	234	164	187	281	47	281	211	187
70.0	2 3/4	227	159	182	273	45	273	205	182
71.0	2 51/64	224	157	179	269	45	269	202	179
75.0	2 61/64	212	149	170	255	42	255	191	170
80.0	3 5/32	199	139	159	239	40	239	179	159
85.0	3 11/32	187	131	150	225	37	225	169	150
90.0	3 35/64	177	124	142	212	35	212	159	142
95.0	3 47/64	168	117	134	201	34	201	151	134
100.0	3 15/16	159	111	127	191	32	191	143	127



08

CORE DRILLING TECHNOLOGY

MAGNETIC DRILLING MACHINES

Pure power – to make every breakthrough a success


RUKO
RU25
MAGNET
MOTOR

A10

Magnetic drilling machine A10

The handy one
- 10.000 N clamping force
- Height-adjustable power unit with double dovetail guide
- Very light and easy to use
- Automatic coolant supply
- Easy readjustment thanks to 50 % reduction in magnetic power when the motor is switched off

Technical data

	Magnetic clamping force: 10.000 N
kw	Total Power consumption: 1.100 Watt
max. min.	Rotation speeds: 700 r.p.m
	Height: 400.0 - 580.0 mm
	Lift: 120.0 / 195.0 mm
	Length and width: 160.0 x 80.0 mm

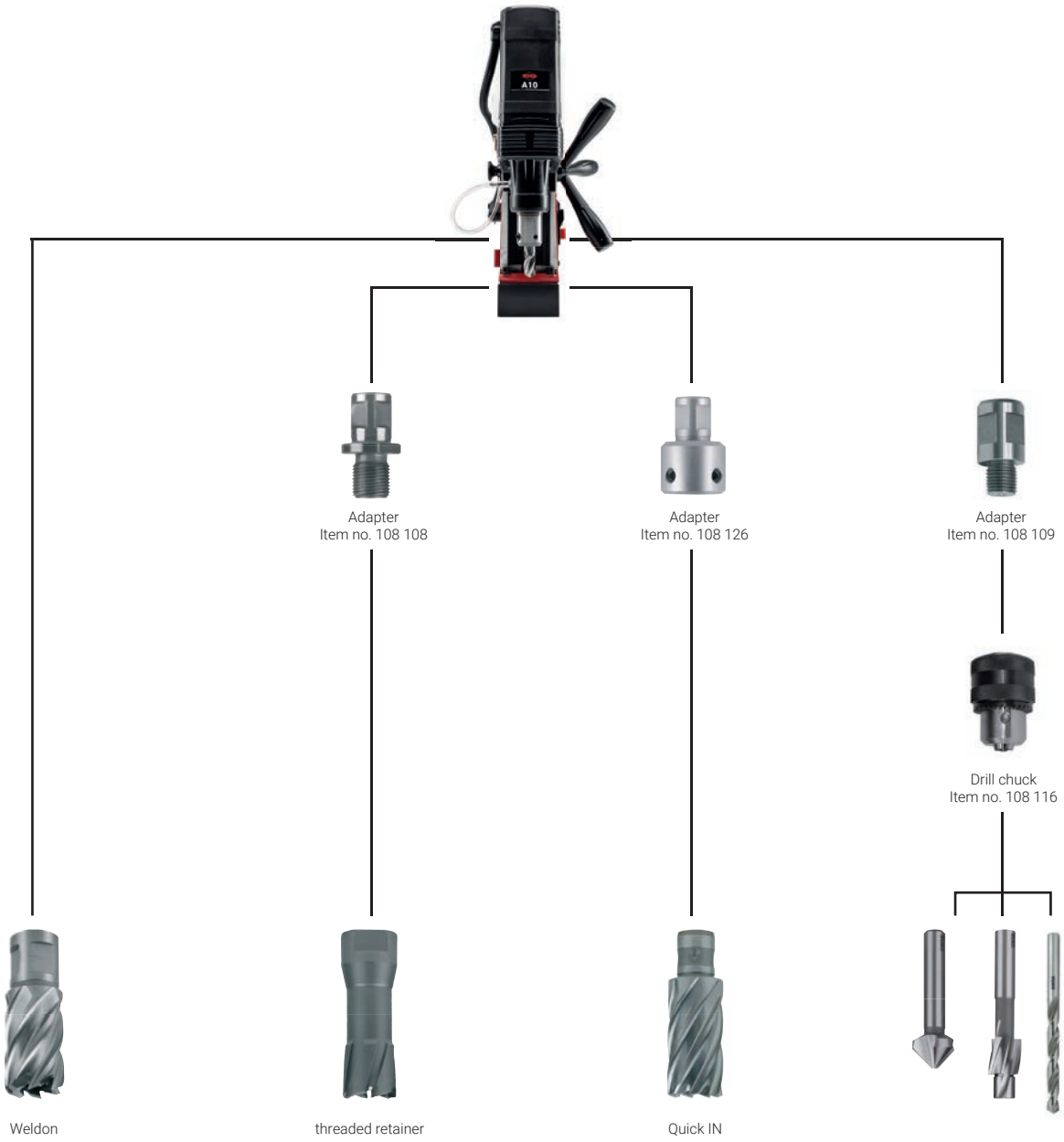
kg	Weight: 10.5 kg
MK 3	Mounting: Weldon shank: 19.0 mm (3/4")
	Drill chuck: Ø 1.0 - 13.0 mm with adapter 108 109
mm	Cutting depth core drills: bis 50.0 mm
	Input voltage: 220 - 240 Volt
	Conformity with: VDE. CEE

	Core drills: Ø 12,0 - 35,0 mm
	Twist drills: DIN 338: max. Ø 13,0 mm
	–
	–

Core drilling machine A10 in tool case

7 tlg./pcs.	1 Arbor holder Weldon 1 Safety belt 3 Allen key 2.5 / 4 / 6 1 Coolant bottle 1 Operating instructions	108 010 A

Use of accessories



RU25

Magnetic drilling machine RU25

The versatile
- 16.000 N clamping force
- Height-adjustable power unit with double dovetail guide
- Right-/left-handed rotation
- 2-speed gearbox
- Speed controller
- High-performance motor
- Light and handy

Technical data

	Magnetic clamping force: 16.000 N
kw	Total Power consumption: 1.200 Watt
max. min.	Rotation speeds r.p.m: 100 - 250 | 180 - 450 r.p.m
	Height: 529.0 - 629.0 mm
	Lift: 170.0 mm
	Length and width: 238.0 x 92.0 mm

kg	Weight: 16.0 kg
MK 3	Recording: Morse taper MK 2
	Drill chuck: 3.0 - 16.0 mm
mm	Cutting depth core drills: bis 55.0 mm
	Input voltage: 220 - 240 Volt
	Conformity with: VDE, CEE

	Core drills: Ø 12.0 - 50.0 mm
	Countersinks: Ø 10.0 - 40.0,0 mm
	Twist drills: DIN 338/1897: max. Ø 16.0 mm DIN 345: max. Ø 20.0 mm
	Thread cutting: M 3 - M 20

Core drilling machine RU25 in tool case

9 tlg./pcs.	1 Allen key 2.5 / 6 1 safety belt 1 drill chuck Ø 1.0 - 16.0 mm 1 holder with MK 2 holder 1 coolant bottle 1 chip hook 1 High-performance cutting oil spray 1 Operating instructions	108 025 RU

Use of accessories

Arbor holder
MT 2
Item no. 108 302

Arbor holder
EasyLock
Item no. 108 312

Arbor holder
MT 2
Item no. 108 102

Thread tap quick-acting
holder MT 2
Item no. 108 163

Spike cone
MT 2
Item no. 108 120

Adapter
Item no. 108 126

Adapter
Item no. 108 108

Thread tap quick-change
insert with and without
safety coupling

Drill chuck
Item no. 108 117

Quick IN

threaded retainer

Weldon

threaded retainer

RU40

Magnetic drilling machine RU40

The powerful o
- 20.000 N clamping force
- Height-adjustable power unit with double dovetail guide
- Right-/left-handed rotation
- 4-speed gearbox
- Speed controller
- High-performance motor
- Standard fine adjustment stabilised
- Displaceability: ± 10 mm
- Pivoting range: ± 30°

Technical data

08

	Magnetic clamping force: 20.000 N
kw	Total Power consumption: 1.800 Watt
max. min.	Rotation speeds r.p.m: 50 – 110 | 75 - 175 U/min 105 – 245 | 165 - 385 U/min
	Height: 642.0 – 702.0 mm
	Lift: 190.0 mm
	Length and width: 238.0 x 92.0 mm

kg	Weight: 22.0 kg
MK 3	Holder: Morse taper MK 3
	Drill chuck: 3.0 – 16.0 mm
mm	Cutting depth core drills: bis 110.0 mm
	Input voltage: 220 – 240 Volt
	Conformity with: VDE. CEE

	Core drills: Ø 12.0 – 80.0 mm
	Countersinks: Ø 10.0 – 55.0 mm
	Twist drills: DIN 338/1897: max. Ø 16.0 mm DIN 345: max. Ø 32.0 mm
	Thread cutting: M 3 – M 30

Core drilling machine RU40 in tool case

9 tlg./pcs.	1 Allen key 2.5 / 6 1 Safety belt 1 Drill chuck Ø 1,0 - 16,0 mm 1 MT 3 arbor holder 1 Coolant bottle 1 High performance cutting oil spray 1 Operating instructions	108 040 RU

Use of accessories

Sleeve to reduce MT 3 down to MT 2
Item no. 108 125

Holder
MK 3, EasyLock
Item no. 108 313-1

Holder
MK 3
Item no. 108 303-1

Holder
EasyLock
Item no. 108 312-1

Holder
MK 2
Item no. 108 302-1

Holder
MK 2
Item no. 108 102

Thread tap
quick-acting holder
MT 3
Item no. 108 160

Spike cone
MT 3
Item no. 108 121

Adapter
Item no. 108 126

Adapter
Item no. 108 108

Quick-change insert
with and without
safety clutch

Drill chuck
Item no. 108 117

Quick IN

Weldon

threaded
retainer

Weldon

threaded
retainer

Overview of RUKO core drilling machines

Comparison of technical data:

A 10 **Item no. 108 010 A**

Magnetic clamping force:	10.000 N
Power consumption:	1.100 Watt
Gears:	1 gear
Rotation speeds r.p.m.:	700 r.p.m
Electrical rotation controller:	–
Right-left-handed rotation:	–
Height:	400.0 – 580.0 mm
Width:	160.0 x 80.0 mm
Weight:	10.5 kg
Lift:	120.0 / 195.0 mm
Adapter:	Weldon shank 19.0 mm (3/4")
Core drills:	12.0 – 35.0 mm
Drill chuck:	3.0 – 16.0 mm
Twist drills DIN 338/1897:	max. Ø 13.0 mm
Twist drills DIN 345:	–
Countersinks:	–
Cutting depth core drills:	max. 50.0 mm
Input voltage:	220 – 240 V
Conformity with:	VDE. CEE
Displaceability:	–
Pivoting range:	–
Thread cutting:	–
Thread tap:	–

Plastic tool case
Arbor holder Weldon
Allen keys 2.5 / 4 / 6
Safety belt
Drill chuck 1.0 – 13.0 mm with adapter 108 109
Coolant bottle
–
–
Operating instructions

RU 25 Item no. 108 025 RU

16.000 N
1.200 Watt
2 gears
100 – 250 I 180 – 450 r.p.m
✓
✓
529.0 – 629.0 mm
238.0 x 92.0 mm
16.0 kg
170.0 mm
Morse taper MT 2
Ø 12.0 - 50.0 mm
1.0 - 16.0 mm
max. Ø 16.0 mm
max. Ø 20.0 mm
Ø 10.0 – 40.0 mm
max. 55.0 mm
220 – 240 V
VDE. CEE
–
–
✓
M 3 – M 20

Plastic tool case
MT 2 arbor holder
Allen keys 2.5 / 6
Safety belt
Drill chuck 3.0 - 16.0 mm
Coolant bottle
Swarf hook
High performance cutting oil spray
Operating instructions

RU 40 Item no. 108 040 RU

20.000 N
1.800 Watt
4 gears
50 – 110 I 75 – 175 I 105 – 245 I 165 – 385 r.p.m
✓
✓
642.0 – 702.0 mm
238.0 x 92.0 mm
22.0 kg
190.0 mm
Morse taper MT 3
Ø 12.0 - 80.0 mm
1.0 - 16.0 mm
max. Ø 16.0 mm
max. Ø 32.0 mm
Ø 10.0 – 55.0 mm
max. 110.0 mm
220 – 240 V
VDE. CEE
+/- 10.0 mm
+/- 30°
✓
M 3 – M 30

Plastic tool case
MT 3 arbor holder
Allen keys 2.5 / 6
Safety belt
Drill chuck 3.0 – 16.0 mm
Coolant bottle
Swarf hook
High performance cutting oil spray
Operating instructions

Arbor holder
for core drills with Weldon shank

Packaging: plastic tube

Arbor holder with MT 2 shank for core drills Ø 10.0 - 60.0 mm	RU 25	108 302-1	1
Arbor holder with MT 3 shank for core drills Ø 10.0 - 100.0 mm	RU 40	108 303-1	1

Arbor holder with EasyLock Quick IN arbor
for core drills with Weldon shank

The EasyLock Quick IN arbor enables a very quick tool change without additional tools.
Can be operated with one hand.

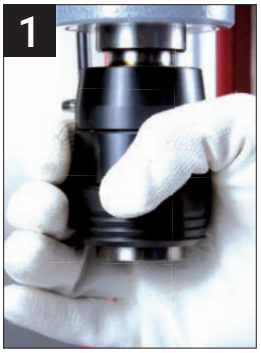
Packaging: plastic tube

Arbor holder with MT 2 shank for core drills Ø 10.0 - 60.0 mm	RU 25	108 312-1	1
Arbor holder with MT 3 shank for core drills Ø 10.0 - 100.0 mm	RU 40	108 313-1	1

08

Application tip

1. Push the ring spanner up until it sits tight.
2. Insert the core drill in the EasyLock. This locks in with a loud “click.”
   The ring spanner snaps down.
3. The core drill is fixed securely in the EasyLock. The machine is now ready for operation.
4. To release the core drill, push the ring spanner up.
5. Caution! The core drill will fall out of the EasyLock.



Arbor holder for thread taps

Packaging: plastic tube

Arbor holder with MT 3 shank for M 27 thread taps	RU 40	108 161	1
Arbor holder with MT 3 shank for M 30 thread taps		108 162	1

Quick-acting arbor holder for quick-change inserts

Packaging: plastic tube

Quick-acting arbor holder with MT 2 shank and -5,0/+10,0 mm length compensation for quick-change inserts	RU 25	108 163	1
Quick-acting arbor holder with MT 3 shank and +/-10,0 mm length compensation for quick-change inserts	RU 40	108 160	1

Quick-change insert *with* safety coupling for through and blind holes

Packaging: plastic tube

For thread tap Ø-shank mm			For thread tap Ø-shank mm		
6.0	108 166	1	11.0	108 171	1
7.0	108 167	1	12.0	108 172	1
8.0	108 168	1	14.0	108 173	1
9.0	108 169	1	16.0	108 174	1
10.0	108 170	1	18.0	108 175	1

Overview of thread tap shaft diameters

Ø-shank mm	DIN 352	DIN 357 / DIN 376	DIN 371	UNC / UNF ≈ DIN 371	DIN 374	UNC / UNF ≈ DIN 376	DIN 5156	DIN 40433
6.0	M 4.5 - M 8	M 8	M 5 / M 6	Nr. 10/12 / 1/4"	MF 8		G 1/8"	PG 7
7.0	M 9 / M 10	M 9 / M 10	M 7		MF 10			
8.0	M 11	M 11	M 8	5/16"		7/16"		
9.0	M 12	M 12	M 9		MF 12	1/2"		PG 9
10.0			M 10	3/8"				
11.0	M 14	M 14			MF 14	9/16"	G 1/4"	PG 11
12.0	M 16	M 16			MF 16	5/8"	G 3/8"	PG 13.5
14.0	M 18	M 18			MF 18	3/4"		
16.0	M 20	M 20			MF 20		G 1/2"	
18.0	M 22 / M 24	M 22 / M 24			MF 22 / MF 24	7/8" / 1"		PG 21

Adapter, drill chuck and accessories for core drilling machines

Packaging: plastic tube

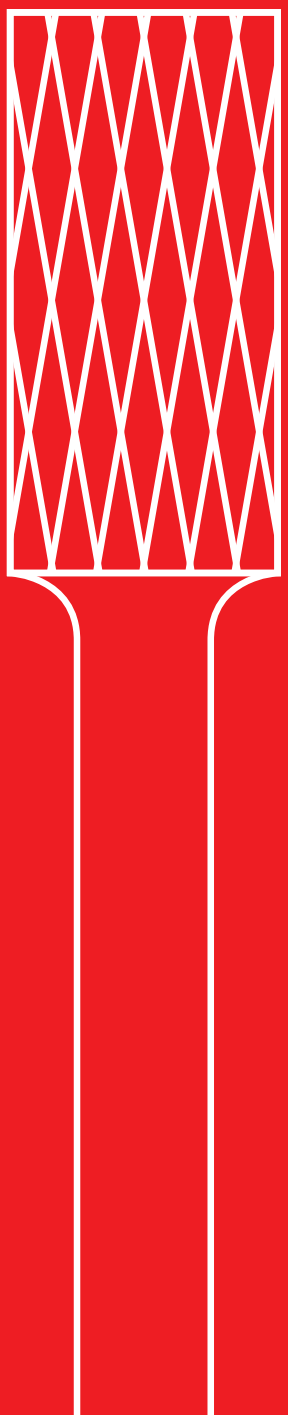
Adapter with Weldon shank 3/4" for core drills with thread retainer M18 x 6 P1,5	A10 RU25 RU40	108 108	1
Adapter with Weldon shank 3/4" for core drills with Quick IN shank	A10 RU25 RU40	108 126	1
Adapter with Quick IN shank for core drills with thread retainer M18 x 6 P1,5	with Quick IN recording	108 111	1
Adapter with Quick IN shank for core drills with Weldon shank 3/4"	with Quick IN recording	108 118	1
Drill chuck with thread retainer 1/2" UNF for clamp field Ø 1.0 - 13.0 mm	A10	108 116	1
Drill chuck with B16 cone for clamp field Ø 3.0 - 16.0 mm	RU25 RU40	108 117	1
Adapter with Weldon shank 1/2" for drill chuck Item no. 108 116	A10	108 109	1
Spike cone with MT 2 shank for drill chuck Item no. 108 117	RU25	108 120	1
Spike cone with MT 3 shank for drill chuck Item no. 108 117	RU40	108 121	1
Sleeve to reduce MT 3 down to MT 2	RU40	108 125	1
Sleeve to reduce MT 3 down to MT 1	RU40	108 124	1

Magnetic chip lifter

The RUKO magnetic chip lifter attracts metal chips thanks to its strong magnet. Pulling back the magnet into its housing simply allows the chips to drop off again. Ideal for removing the chips on core drilling machines and difficult to reach areas.

Packaging: plastic tube

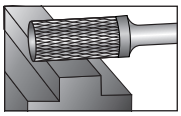
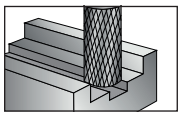
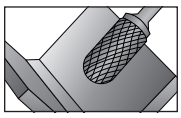
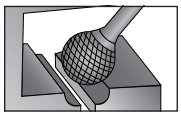
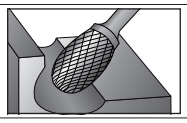
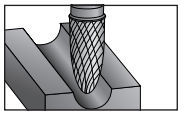
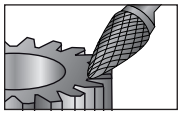
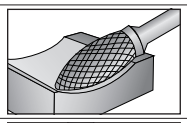
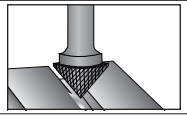
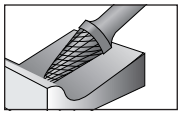
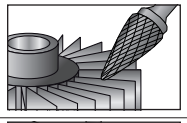
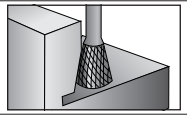
Magnetic chip lifter Length 400.0 mm	108 202	1



09

ROTARY BURRS

Type and applications overview

	Tip	Application	Description	Ø mm	Item no.	Page/s
			Shape A cylinder (ZYA) – *without end toothing*	3,0 – 16,0	116 xxx TC 116 xxx	228
			Shape B cylinder (ZYAS) with end toothing	3,0 – 16,0 6,0 / 12,0	116 xxx TC 116 xxx 116 xxx A	228
			Shape C oval (WRC)	3,0 – 16,0 6,0 / 12,0	116 xxx TC 116 xxx 116 xxx A	229
			Shape D ball type (KUD)	3,0 – 16,0 6,0 / 12,0	116 xxx TC 116 xxx 116 xxx A	229
			Shape E tear drop (TRE)	3,0 – 16,0	116 xxx	230
			Shape F ball nose tree (RBF)	3,0 – 16,0 6,0 / 12,0	116 xxx TC 116 xxx 116 xxx A	230
			Shape G tree (SPG)	3,0 – 16,0 6,0 / 12,0	116 xxx TC 116 xxx 116 xxx A	231
			Shape H flame (FLH)	3,0 – 16,0	116 xxx	231
			Shape K cone 90° (KSK)	3,0 – 16,0	116 xxx	232
			Shape L round cone (KEL)	3,0 – 16,0 6,0 / 10,0 / 12,0	116 xxx 116 xxx A	232
			Shape M cone (SKM)	6,0 – 16 3,0 – 16,0	116 xxx TC 116 xxx	233
			Shape N angle (WKN)	3,0 – 16,0	116 xxx	233

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Brass	Bronze	Cast iron	Aluminium	Plastics
●	●	●	●		●		
●	●	●	●		●		
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● Main application ○ Other application

Type overview

	Description	Speed U/min	Item no.	Page/s
	Pneumatic grinder including connection adapter for deburring and polishing and for weld seam processing *– short*	25.000	116 100 L	236
	Pneumatic grinder including connection adapter for deburring and polishing and for weld seam processing *– 90° angle head*	20.000	116 110 L	237
	Pneumatic grinder including connection adapter for deburring and polishing and for weld seam processing *– 115° angle head*	20.000	116 120 L	238
	Pneumatic grinder including connection adapter for deburring and polishing and for weld seam processing *– long*	25.000	116 130 L	239


PUKO

TC HM | A | ZYA | DIN 8033

Tungsten carbide rotary burr
shape A cylinder (ZYA) – *without end toothing*

TC HM | TiCN | CT4 — STEEL | INOX | STEEL | Cu Ni Mo Zn | CAST IRON | TITANIUM

TC HM | CT4 — STEEL | INOX | STEEL | Cu Ni Mo Zn | CAST IRON | TITANIUM

Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM TiCN, CT 4		TC / HM CT 4	
3.0	14.0	38.0	3.0	–		116 046	1
6.0	18.0	58.0	6.0	116 010 TC	1	116 010	1
8.0	18.0	60.0	6.0	116 011 TC	1	116 011	1
10.0	20.0	60.0	6.0	116 012 TC	1	116 012	1
12.0	25.0	65.0	6.0	116 013 TC	1	116 013	1
16.0	25.0	65.0	6.0	116 014 TC	1	116 014	1

09

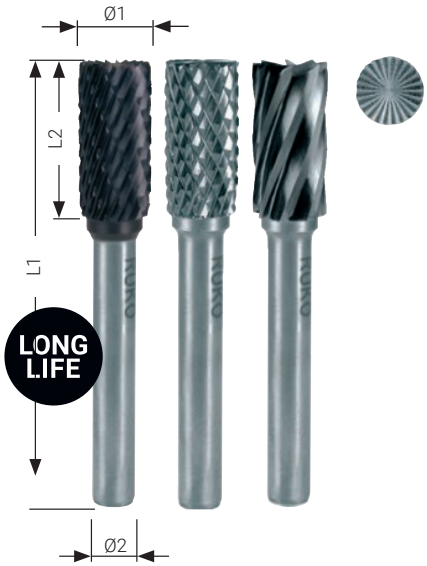
TC HM | B | ZYAS | DIN 8033

Tungsten carbide rotary burr
shape B cylinder (ZYAS) – *with end toothing*

TC HM | TiCN | CT4 — STEEL | INOX | STEEL | Cu Ni Mo Zn | CAST IRON | TITANIUM

TC HM | CT4 — STEEL | INOX | STEEL | Cu Ni Mo Zn | CAST IRON | TITANIUM

TC HM | ALU — ALU | BRONZE | PVC

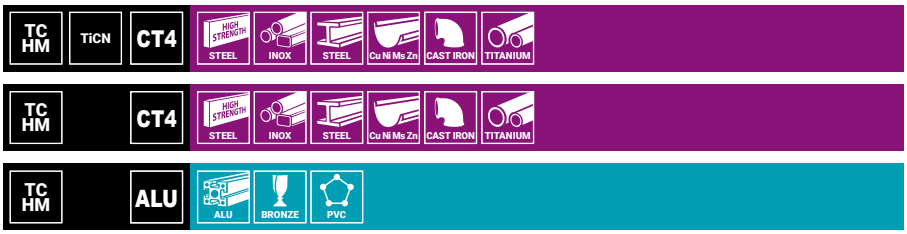


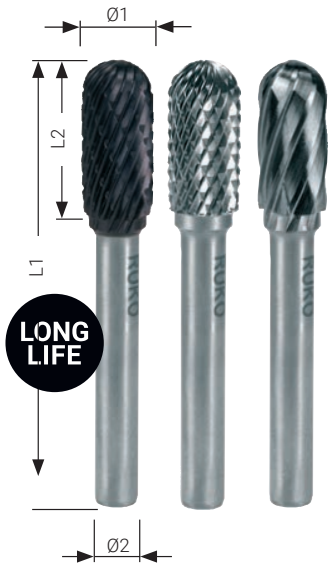
Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM TiCN, CT 4		TC / HM CT 4		TC / HM ALU	
3.0	14.0	38.0	3.0	–		116 047	1	–	
6.0	18.0	58.0	6.0	116 015 TC	1	116 015	1	116 015 A	1
8.0	18.0	60.0	6.0	116 016 TC	1	116 016	1	–	
10.0	20.0	60.0	6.0	116 017 TC	1	116 017	1	–	
12.0	25.0	65.0	6.0	116 018 TC	1	116 018	1	116 018 A	1
16.0	25.0	65.0	6.0	116 019 TC	1	116 019	1	–	

TC HM | C | WRC | DIN 8033

Tungsten carbide rotary burr shape C oval (WRC)



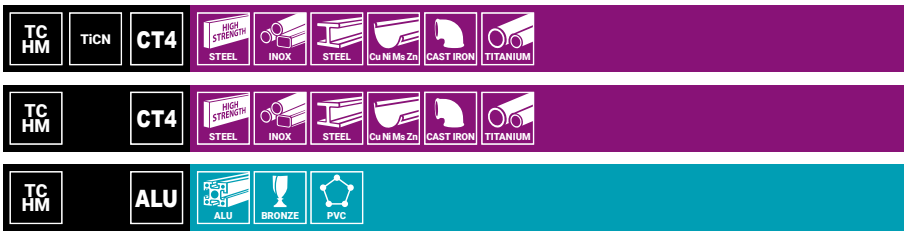


Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM TiCN, CT 4		TC / HM CT 4		TC / HM ALU	
3.0	14.0	43.0	3.0	–		116 048	1	–	
6.0	16.0	56.0	6.0	116 020 TC	1	116 020	1	116 020 A	1
8.0	16.0	56.0	6.0	116 021 TC	1	116 021	1	–	
10.0	20.0	60.0	6.0	116 022 TC	1	116 022	1	–	
12.0	25.0	65.0	6.0	116 023 TC	1	116 023	1	116 023 A	1
16.0	25.0	65.0	6.0	116 024 TC	1	116 024	1	–	

TC HM | D | KUD | DIN 8033

Tungsten carbide rotary burr shape D ball type (KUD)



Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM TiCN, CT 4		TC / HM CT 4		TC / HM ALU	
3.0	2.7	33.0	3.0	–		116 052	1	–	
6.0	5.4	45.0	6.0	116 041 TC	1	116 041	1	116 041 A	1
8.0	7.2	47.0	6.0	116 042 TC	1	116 042	1	–	
10.0	9.0	49.0	6.0	116 043 TC	1	116 043	1	–	
12.0	11.0	51.0	6.0	116 044 TC	1	116 044	1	116 044 A	1
16.0	14.4	54.0	6.0	116 045 TC	1	116 045	1	–	

TC HM | E | TRE | DIN 8033

Tungsten carbide rotary burr shape E tear drop (TRE)

TC HM | CT4 | STEEL | INOX | STEEL | Cu Ni Mo Zn | CAST IRON | TITANIUM

Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM CT 4	
3.0	7.0	37.0	3.0	116 210	1
6.0	10.0	50.0	6.0	116 211	1
8.0	13.0	53.0	6.0	116 212	1
10.0	16.0	56.0	6.0	116 213	1
12.0	20.0	60.0	6.0	116 214	1
16.0	25.0	65.0	6.0	116 215	1

09

TC HM | F | RBF | DIN 8033

Tungsten carbide rotary burr shape F ball nose tree (RBF)

TC HM | TiCN | CT4 | STEEL | INOX | STEEL | Cu Ni Mo Zn | CAST IRON | TITANIUM

TC HM | CT4 | STEEL | INOX | STEEL | Cu Ni Mo Zn | CAST IRON | TITANIUM

TC HM | ALU | ALU | BRONZE | PVC

Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM TiCN, CT 4		TC / HM CT 4		TC / HM ALU	
3.0	7.0	37.0	3.0	–		116 050	1	–	
6.0	18.0	58.0	6.0	116 030 TC	1	116 030	1	116 030 A	1
8.0	18.0	60.0	6.0	116 031 TC	1	116 031	1	–	
10.0	20.0	60.0	6.0	116 032 TC	1	116 032	1	–	
12.0	25.0	65.0	6.0	116 033 TC	1	116 033	1	116 033 A	1
16.0	30.0	70.0	6.0	116 034 TC	1	116 034	1	–	

TC HM | G | SPG | DIN 8033

Tungsten carbide rotary burr shape G tree (SPG)

TC HM | TiCN | CT4 — HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Ms Zn | CAST IRON | TITANIUM

TC HM | CT4 — HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Ms Zn | CAST IRON | TITANIUM

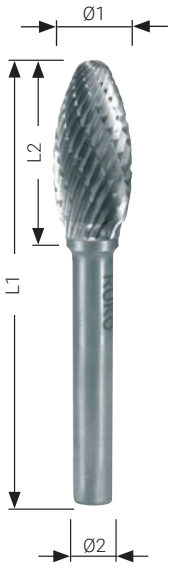
TC HM | ALU — ALU | BRONZE | PVC

Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM TiCN, CT 4		TC / HM CT 4		TC / HM ALU	
3.0	13.0	38.0	3.0	–	1	116 049	1	–	1
6.0	18.0	58.0	6.0	116 025 TC	1	116 025	1	116 025 A	1
8.0	18.0	60.0	6.0	116 026 TC	1	116 026	1	–	1
10.0	20.0	60.0	6.0	116 027 TC	1	116 027	1	–	1
12.0	25.0	65.0	6.0	116 028 TC	1	116 028	1	116 028 A	1
16.0	25.0	70.0	6.0	116 029 TC	1	116 029	1	–	1

TC HM | H | FLH | DIN 8033

Tungsten carbide rotary burr shape H flame (FLH)



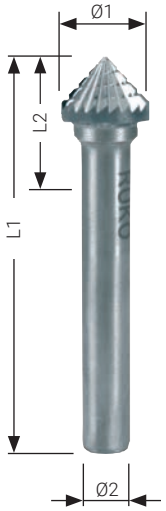
TC HM | CT4 — HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Ms Zn | CAST IRON | TITANIUM

Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM CT 4	
3.0	14.0	38.0	3.0	116 216	1
6.0	13.0	50.0	6.0	116 217	1
8.0	20.0	65.0	6.0	116 218	1
10.0	20.0	65.0	6.0	116 219	1
12.0	30.0	75.0	6.0	116 220	1
16.0	35.0	80.0	6.0	116 221	1

TC HM | K | KSK | DIN 8033

Tungsten carbide rotary burr shape K cone 90° (KSK)



TC HM | CT4 | HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

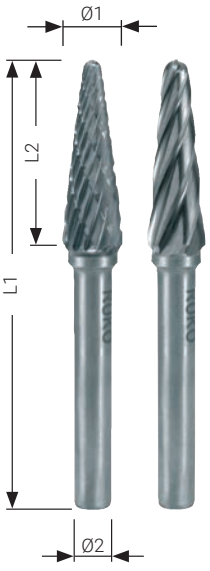
Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM CT 4	
3.0	3.0	38.0	3.0	116 227	1
6.0	5.0	50.0	6.0	116 228	1
10.0	5.0	50.0	6.0	116 229	1
12.0	8.0	53.0	6.0	116 230	1
16.0	8.0	53.0	6.0	116 231	1

09

TC HM | L | KEL | DIN 8033

Tungsten carbide rotary burr shape L round cone (KEL)



TC HM | CT4 | HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

TC HM | ALU | ALU | BRONZE | PVC

Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM CT 4		TC / HM ALU	
3.0	12.0	38.0	3.0	116 232	1	–	
6.0	18.0	52.0	6.0	116 233	1	116 233 A	1
8.0	20.0	60.0	6.0	116 234	1	–	
10.0	20.0	60.0	6.0	116 235	1	116 235 A	1
12.0	30.0	70.0	6.0	116 236	1	116 236 A	1
16.0	30.0	70.0	6.0	116 237	1	–	

TC HM | M | SKM | DIN 8033

Tungsten carbide rotary burr shape M cone (SKM)

TC HM | TiCN | CT4 — HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

TC HM | CT4 — HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM TiCN, CT 4		TC / HM CT 4	
3.0	11.0	41.0	3.0	–		116 051	1
6.0	18.0	58.0	6.0	116 035 TC	1	116 035	1
8.0	20.0	60.0	6.0	116 036 TC	1	116 036	1
10.0	20.0	60.0	6.0	116 037 TC	1	116 037	1
12.0	25.0	65.0	6.0	116 038 TC	1	116 038	1
16.0	25.0	65.0	6.0	116 039 TC	1	116 039	1

TC HM | N | WKN | DIN 8033

Tungsten carbide rotary burr shape N angle (WKN)

TC HM | CT4 — HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

Packaging: plastic tube

Ø mm	L2 mm	L1 mm	L2 mm	TC / HM CT 4	
3.0	7,0	37,0	3,0	116 238	1
6.0	7,0	47,0	6,0	116 239	1
10.0	13,0	53,0	6,0	116 240	1
12.0	13,0	53,0	6,0	116 241	1
16.0	13,0	53,0	6,0	116 242	1

TC HM | DIN 8033

Set of tungsten carbide rotary burrs in a lockable counter display

116 008 TC

TC HM | TiCN | CT4 — STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

TC HM | CT4 — STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

		TC / HM TiCN, CT 4	TC / HM CT 4
35 tlg./pcs.	Tungsten carbide burr module 1x each Ø D1 6.0 mm | 8.0 mm | 10.0 mm | 12.0 mm | 16.0 mm 5 burrs form A cylinder (ZYA) without face serration 5 burrs form B cylinder (ZYAS) with face toothing 5 burrs shape C cylindrical (WRC) 5 burrs shape G pointed arc (SPG) 5 burrs shape F round arch (RBF) 5 shape M pointed cone (SKM) burrs 5 shape D ball burrs (KUD)	116 008 TC	116 008

Set of tungsten carbide rotary burrs

116 003 RO

TC HM | TiCN | CT4 — STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

TC HM | CT4 — STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

TC HM | ALU — ALU | BRONZE | PVC

		TC / HM TiCN. CT 4	TC / HM CT 4	TC / HM ALU
10 tlg./pcs.	Tungsten carbide burr sets 2 x form A cylinder (ZYA) without face gear Ø D1 10.0 / 12.0 mm 2 x form C cylindrical round (WRC) Ø D1 10.0 / 12.0 mm 2 x Form G pointed bend (SPG) Ø D1 10.0 / 12.0 mm 2 x shape F round bend (RBF) Ø D1 10.0 / 12.0 mm 1 x shape M pointed cone (SKM) Ø D1 12.0 mm 1 x shape D ball (KUD) Ø D1 12.0 mm	116 003 TCRO	116 003 RO	
10 tlg./pcs.	Tungsten carbide burr set for aluminium applications 2 x form B cylinder (ZYAS) with face toothing Ø D1 6.0 / 12.0 mm 2 x form C cylindrical round (WRC) Ø D1 6.0 / 12.0 mm 2 x Form G pointed bend (SPG) Ø D1 6.0 / 12.0 mm 2 x Form F round bend (RBF) Ø D1 6.0 / 12.0 mm 2 x shape D ball (KUD) Ø D1 6.0 / 12.0 mm			116 103 ARO

TC HM | DIN 8033

Set of tungsten carbide rotary burrs

TC HM | HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

		TC / HM
3 tlg./pcs.	Set of tungsten carbide rotary burrs TC each 1x Ø 10.0 mm 1x shape B, cylinder (ZYAS) with end toothing 1x shape G, pionted arch (SPG) 1x shape D, cone (KUD)	116 001
10 tlg./pcs.	Set of tungsten carbide rotary burrs TC each 1x Ø 6.0 + Ø 12.0 mm 2x shape B, cylinder (ZYAS) with end toothing 2x shape C, oval (WRC) 2x shape G, pionted arch (SPG) 2x shape F, ball nose tree (RBF) 2x shape D, cone (KUD)	116 002
5 tlg./pcs.	Set of tungsten carbide rotary burrs TC each 1x Ø 10.0 mm 1x shape B, cylinder (ZYAS) with end toothing 1x shape C, oval (WRC) 1x shape G, pionted arch (SPG) 1x shape F, ball nose tree (RBF) 1x shape D, cone (KUD)	116 004
5 tlg./pcs.	Set of tungsten carbide rotary burrs TC each 1x Ø 12.0 mm 1x shape B, cylinder (ZYAS) with end toothing 1x shape C, oval (WRC) 1x shape G, pionted arch (SPG) 1x shape F, ball nose tree (RBF) 1x shape D, cone (KUD)	116 005

116 001

116 002

116 004

116 005

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Speed guide values for carbide burrs – *by diameter*

Cutting speed Vc = m/min	250	300	350	400	450	500	600	900
Ø mm	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.
3.0	27.000	32.000	37.000	44.000	48.000	54.000	64.000	95.000
4.0	20.000	24.000	28.000	32.000	36.000	40.000	48.000	72.000
6.0	13.000	16.000	19.000	21.000	24.000	27.000	32.000	48.000
8.0	10.000	12.000	14.000	16.000	18.000	20.000	24.000	36.000
10.0	8.000	10.000	11.000	13.000	14.000	16.000	19.000	29.000
12.0	7.000	8.000	9.000	11.000	12.000	13.000	16.000	24.000
16.0	5.000	6.000	7.000	8.000	9.000	10.000	12.000	18.000

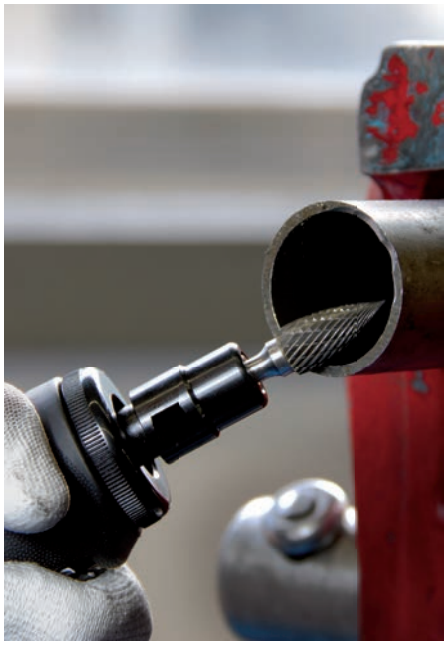
Main application Other application

Pneumatic grinder including connection adapter for deburring, polishing and machining welding seams – *short*

The RUKO pneumatic grinder has a rubberised, non-slip handle, which absorbs vibration and protects the user from slipping off whilst working. The speed can be adjusted by a governor on top of the handle. It has a tool adapter made of hardened steel. The exhaust air is directed backwards through the handle by means of a 360° rotational principle.

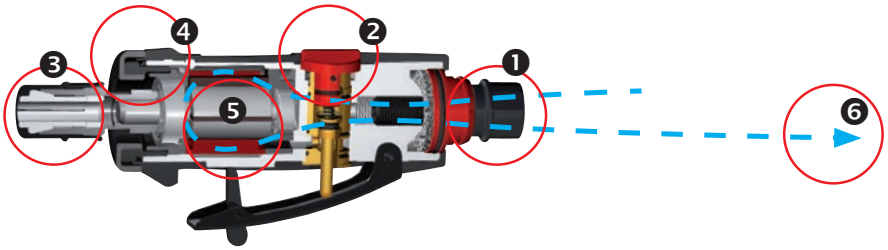
The RUKO pneumatic grinder features an integrated air filter, which protects the motor from dirt that could get into the inside with the compressed air.

2 tlg./pcs.	Pneumatic grinder (short)	116 100 L



25.000 r.p.m	Speed: 25.000 r.p.m
Ø 6 mm	Tool adapter: Ø 6.0 mm
113 l / min	Ø - Average air consumption: 113 L/Min
G 1/4"	Compressed air adapter: G 1/4"
6.2 bar	Air pressure: 6.2 bar

3/8"	Hose size: 3/8"
77 dB(A)	Noise level: 77 dB(A)
157 mm	Total length: 157.0 mm
kg 0.57	Weight: 0.57 kg



1. Air filter
2. Speed control
3. Adapter made of hardened steel
4. Rubberised, non-slip handle
5. Heavy-duty vane motor
6. Exhaust air directed through the handle by means of 360° rotational principle

Pneumatic grinder including connection adapter for deburring, polishing and machining welding seams – *90° angle head*

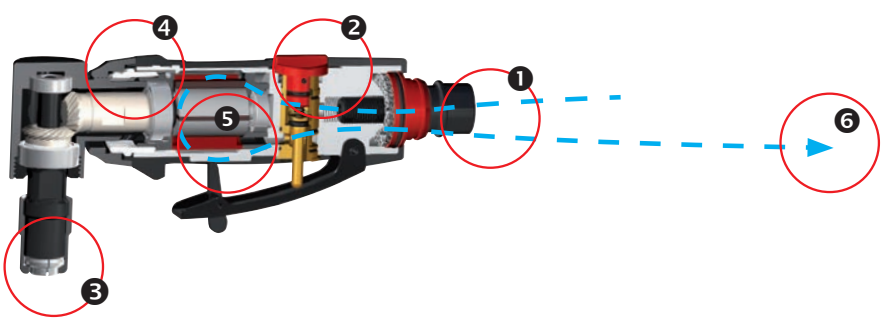
The RUKO pneumatic grinder has a rubberised, non-slip handle, which absorbs vibration and protects the user from slipping off whilst working. The speed can be adjusted by a governor on top of the handle. It has a tool adapter made of hardened steel. The exhaust air is directed backwards through the handle by means of a 360° rotational principle.

The RUKO pneumatic grinder features an integrated air filter, which protects the motor from dirt that could get into the inside with the compressed air. The 90° angle head makes it easier to work in tight and difficult to reach places.

2 tlg./pcs.	Pneumatic grinder (90°)	116 110 L

max. min. 20.000 r.p.m	Speed: 20.000 U/min
Ø 6 mm	Tool adapter: Ø 6.0 mm
113 l / min	Ø - Average air consumption: 113 L/Min
G 1/4"	Compressed air adapter: G 1/4"
6.2 bar	Air pressure: 6.2 bar

3/8"	Hose size: 3/8"
77 dB(A)	Noise level: 77 dB(A)
162 mm	Total length: 162.0 mm
kg 0.60	Weight: 0.60 kg



1. Air filter
2. Speed control
3. Adapter made of hardened steel
4. Rubberised, non-slip handle
5. Heavy-duty vane motor
6. Exhaust air directed through the handle by means of 360° rotational principle

Pneumatic grinder including connection adapter for deburring, polishing and machining welding seams *– 115° angle head*

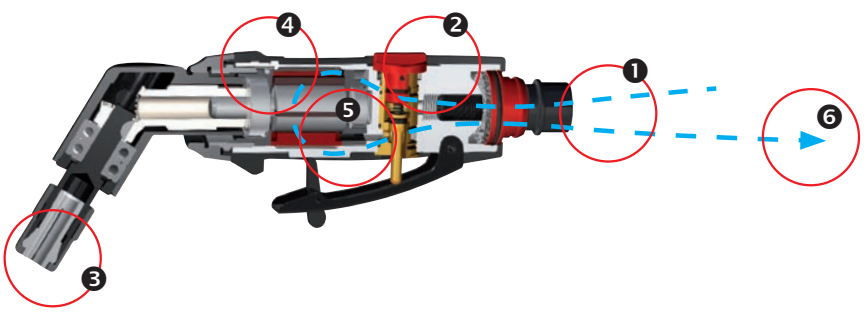
The RUKO pneumatic grinder has a rubberised, non-slip handle, which absorbs vibration and protects the user from slipping off whilst working. The speed can be adjusted by a governor on top of the handle. It has a tool adapter made of hardened steel. The exhaust air is directed backwards through the handle by means of a 360° rotational principle.

The RUKO pneumatic grinder features an integrated air filter, which protects the motor from dirt that could get into the inside with the compressed air. The 115° angle head makes it easier to work in tight and difficult to reach places.

2 tlg./pcs.	Pneumatic grinder (115°)	116 120 L

20.000 r.p.m	Speed: 20.000 U/min
Ø 6 mm	Tool adapter: Ø 6.0 mm
113 l / min	Ø - Average air consumption: 113 L/Min
G 1/4"	Compressed air adapter: G 1/4"
6.2 bar	Air pressure: 6.2 bar

3/8"	Hose size: 3/8"
77 dB(A)	Noise level: 77 dB(A)
201 mm	Total length: 201.0 mm
kg 0.70	Weight: 0.70 kg



1. Air filter
2. Speed control
3. Adapter made of hardened steel
4. Rubberised, non-slip handle
5. Heavy-duty vane motor
6. Exhaust air directed through the handle by means of 360° rotational principle

Pneumatic grinder including connection adapter for deburring, polishing and machining welding seams – *long*

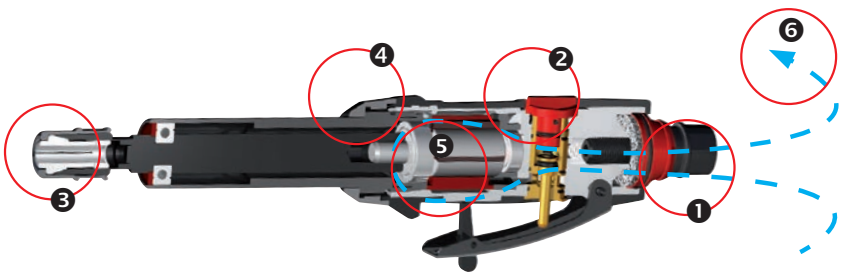
The RUKO pneumatic grinder has a rubberised, non-slip handle, which absorbs vibration and protects the user from slipping off whilst working. The speed can be adjusted by a governor on top of the handle. It has a tool adapter made of hardened steel. The exhaust air is directed backwards through the handle by means of a 360° rotational principle.

The RUKO pneumatic grinder features an integrated air filter, which protects the motor from dirt that could get into the inside with the compressed air. The tool extension makes it possible to work in tight, difficult to reach and deep places.

2 tlg./pcs.	Pneumatic grinder (long)	116 130 L

max. min. 25.000 r.p.m	Speed: 25.000 U/min
Ø 6 mm	Tool adapter: Ø 6.0 mm
113 l / min	Ø - Average air consumption: 113 L/Min
G 1/4"	Compressed air adapter: G 1/4"
6.2 bar	Air pressure: 6.2 bar

3/8"	Hose size: 3/8"
77 dB(A)	Noise level: 77 dB(A)
257 mm	Total length: 257.0 mm
kg 0.90	Weight: 0.90 kg



1. Air filter
2. Speed control
3. Adapter made of hardened steel
4. Rubberised, non-slip handle
5. Heavy-duty vane motor
6. Exhaust air directed through the handle by means of 360° rotational principle

TC HM | DIN 8033

Pneumatic grinder set with coupling plug incl. set of rotary burrs

TC HM | CT4 | HIGH STRENGTH STEEL | INOX | STEEL | Cu Ni Mn Zn | CAST IRON | TITANIUM

		TC / HM CT 4
12 tlg./pcs.	1x Compressed air grinder short 1x Coupling plug for compressed air grinder 1x Set of tungsten carbide rotary burrs in mini-box Item no.116 002	116 100
5 tlg./pcs.	1x Compressed air grinder short 1x Coupling plug for compressed air grinder 1x Set of tungsten carbide rotary burrs in mini-box Item no.116 001	116 113

116 100

Accessories for pneumatic grinder

Packaging: plastic tube

Rotor replacement for compressed air grinder	116 100-1	1
Coupling plug, nominal size 7.2 mm external thread G 1/4"	116 101 L	1
Collet 3.0 mm for compressed air grinder	116 121	1
Collet 1/4" for compressed air grinder	116 119	1

116 101 L

Speed guide values for carbide burrs
– *by material groups*

Material groups			Machining application	Cutting speed
Steel, Cast steel 	Unhardened, untempered steels up to 1200 N/mm² (< 38 HRC)	Structural steels, carbon steels, tool steels, unalloyed steels, case hardening steels, cast steel	Coarse machining = High material removal	250 - 350 m/min
	Hardened, tempered steels up to 1200 N/mm² (> 38 HRC)	Tool steels, heat-treatable steels, alloyed steels, cast steel		250 - 350 m/min
Stainless steel (INOX) 	Rust and acid-resistant steels	Austenitic and ferritic stainless steels	Coarse machining = High material removal	250 - 350 m/min
Nonferrous metals   	Soft nonferrous metals Nonferrous heavy metals	Aluminium alloys, brass, Copper, zinc	Coarse machining = High material removal	600 - 900 m/min
	Hard nonferrous metals	Bronze, titanium/titanium alloys, hard aluminium alloys (high silicon content)		250 - 350 m/min
	Highly heat-resistant Materials	Nickel-based and cobalt-based alloys (engine and turbine construction)		300 - 450 m/min
Cast iron 	Grey cast iron, white cast iron	Cast iron with lamellar graphite, with nodular/spheroidal graphite white malleable (cast) iron black malleable (cast) iron	Coarse machining = High material removal	600 - 900 m/min
Plastics, other materials 	Fibre-reinforced plastics, thermoplastics, hard rubber		Coarse machining = High material removal	500 - 1.100 m/min
			Fine machining = Low material removal	

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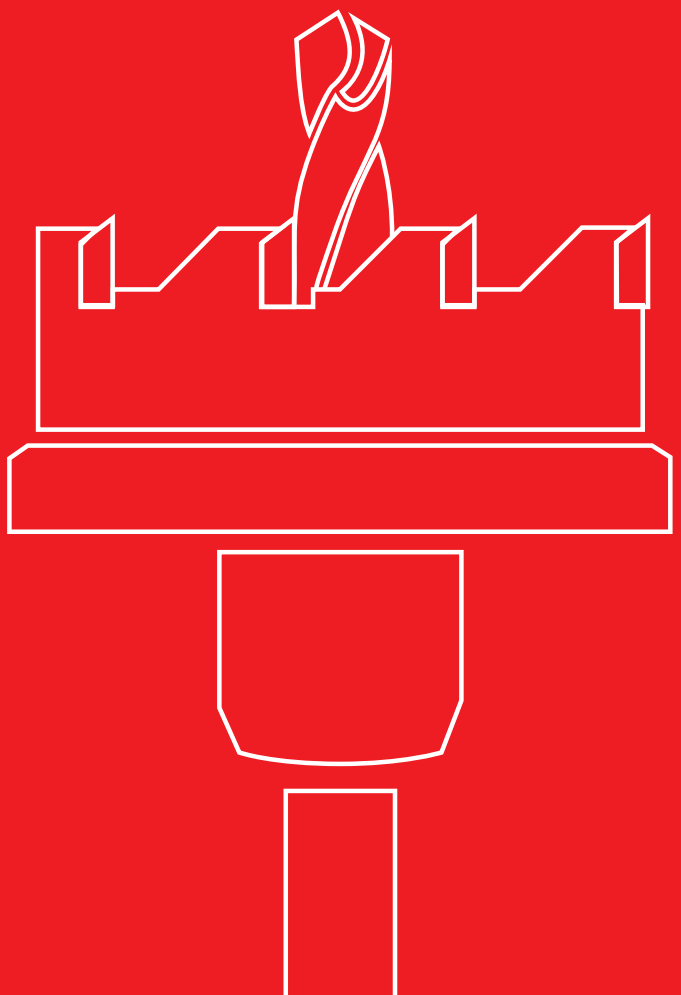
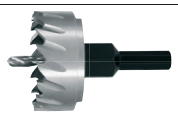
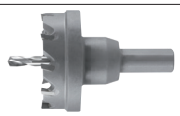


HOLE SAWS

Type and applications overview

	Surface	Cutting edges	Ø tolerance	Cutting depth	Material thickness	Shank	Ø mm	Item no.	Page/s
	Blank	HSS		5 mm	2.5-5 mm		12,0 – 80,0	128 xxx	246
	Blank	TC HM		28 mm	4 mm		15,0 – 100,0	113 xxx	247
	Blank	TC HM		10 mm	4 mm		16,0 – 120,0	105 xxx	248 – 249
		HSSE Co8		38 mm	28 mm		14,0 – 210,0	126 xxx	250
		HSS		38 mm	28 mm		14,0 – 210,0	106 xxx	251

Structural steel < 900 N/mm²	Inox <1100 N/mm²	High strength steel <1300 N/mm²	Aluminium	Brass	Bronze	Plastics	Cast iron
●			●	●	○	○	○
●	●	●	●	●	○	○	●
●	●	●	●	●	○	○	●
●	●		●	●	○	○	
●			●	●	○	○	

10

● Main application ○ Other application

Hole saw HSS

Packaging: cardboard box

Ø1 mm	Ø inch	PG	Tube dimensi-ons inch	Ø2 mm	HSS	
12.0	15/32			8.0	128 012	1
13.0				8.0	128 013	1
14.0	9/16			8.0	128 014	1
15.0				10.0	128 015	1
16.0	5/8	PG 9		10.0	128 016	1
17.0				10.0	128 017	1
18.0				10.0	128 018	1
19.0	3/4		3/8	10.0	128 019	1
20.0				10.0	128 020	1
21.0				10.0	128 021	1
22.0			1/2	10.0	128 022	1
23.0				10.0	128 023	1
24.0	15/16			10.0	128 024	1
25.0				10.0	128 025	1
26.0				10.0	128 026	1
27.0	1 1/16			10.0	128 027	1
28.0	1 3/32			10.0	128 028	1
29.0			3/4	10.0	128 029	1
30.0	1 3/16			10.0	128 030	1
31.0	1 7/32			10.0	128 031	1
32.0	1 1/4			10.0	128 032	1
33.0				10.0	128 033	1
34.0				10.0	128 034	1

Ø1 mm	Ø inch	PG	Tube dimensi-ons inch	Ø2 mm	HSS	
35.0	1 3/8		1	10.0	128 035	1
36.0				10.0	128 036	1
37.0	1 7/16	PG 29		10.0	128 037	1
38.0	1 1/2			10.0	128 038	1
39.0				10.0	128 039	1
40.0	1 9/16			10.0	128 040	1
41.0	1 5/8			10.0	128 041	1
42.0				10.0	128 042	1
43.0	1 11/16			10.0	128 043	1
44.0	1 3/4		1 1/4	10.0	128 044	1
45.0				10.0	128 045	1
46.0				10.0	128 046	1
47.0	1 7/8	PG 36		10.0	128 047	1
48.0				10.0	128 048	1
49.0				10.0	128 049	1
50.0	1 31/32			10.0	128 050	1
55.0				12.0	128 055	1
60.0	2 3/8	PG 48		12.0	128 060	1
65.0				12.0	128 065	1
70.0	2 3/4			12.0	128 070	1
75.0				12.0	128 075	1
80.0				12.0	128 080	1

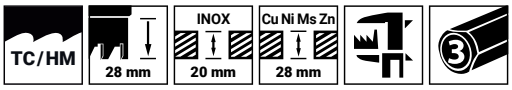
Accessories

Packaging: plastic

Holder including guide drill.

For hole saws Ø mm	Shank Ø mm	suitable for magnetic drilling machine	HSS	
12.0 - 14.0	8.0	A10	128 211	1
15.0 - 34.0	10.0		128 212	1
35.0 - 50.0	10.0	RU25 | RU40	128 213	1
51.0 - 100.0	12.0		128 214	1

	for hole saws Ø mm		
Pilot pin Ø 6,0 x 52.0 mm	12.0 - 100.0	128 215	1
Ejector spring	Ø > 20.0	128 216	1



Tungsten carbide multigrade hole saw

Adapter: thread M 18 x 6 P1,5

Ø 15.0 up to 30.0 mm hole saw MHS and shank in one piece. Complete with pilot pin and wrench.
Ø 31.0 up to 100.0 mm hole saws MHS without arbor.

For tungsten carbide multigrade hole saws Ø 65.0 bis 100.0 mm we recommend to use our morse taper holder item no. 113 203, 108 104, 108 105.

Packaging: plastic tube

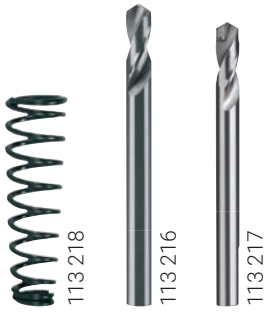
Ø1 mm	Ø inch	Tube dimen-sions inch	Ø2 mm	TC / HM	
15.0	19/32		13.0	113 015	1
16.0	5/8		13.0	113 016	1
17.0	11/16		13.0	113 017	1
18.0	45/64		13.0	113 018	1
19.0	3/4	3/8	13.0	113 019	1
20.0	25/32		13.0	113 020	1
21.0	13/16		13.0	113 021	1
22.0	7/8	1/2	13.0	113 022	1
23.0	29/32		13.0	113 023	1
24.0	15/16		13.0	113 024	1
25.0	1		13.0	113 025	1
26.0	1 1/32		13.0	113 026	1
27.0	1 1/16		13.0	113 027	1
28.0	1 3/32		13.0	113 028	1
29.0	1 1/8	3/4	13.0	113 029	1
30.0	1 3/16		13.0	113 030	1
32.0	1 1/4		13.0 / MT 2/3	113 032	1

Ø1 mm	Ø inch	Tube dimen-sions inch	Ø2 mm	TC / HM	
34.0	1 11/32		13.0 / MT 2/3	113 034	1
35.0	1 3/8	1	13.0 / MT 2/3	113 035	1
36.0	1 1/4		13.0 / MT 2/3	113 036	1
38.0	1 1/2		13.0 / MT 2/3	113 038	1
40.0	1 9/16		13.0 / MT 2/3	113 040	1
42.0	1 21/32		13.0 / MT 2/3	113 042	1
44.0	1 3/4	1 1/4	13.0 / MT 2/3	113 044	1
45.0	-		13.0 / MT 2/3	113 045	1
50.0	1 31/32		13.0 / MT 2/3	113 050	1
55.0	2 11/64		13.0 / MT 2/3	113 055	1
60.0	2 3/8		13.0 / MT 2/3	113 060	1
65.0	2 9/16		13.0 / MT 2/3	113 065	1
68.0	2 11/16		13.0 / MT 2/3	113 068	1
70.0	2 3/4		13.0 / MT 2/3	113 070	1
75.0	2 61/64		13.0 / MT 2/3	113 075	1
80.0	3 5/32		13.0 / MT 2/3	113 080	1
100.0	3 15/16		13.0 / MT 2/3	113 100	1

10

Accessories

Packaging: plastic



	for hole saws Ø mm	TC / HM		HSSE-Co 5	
Pilot pin Ø 6.0 x 80.0 mm	15.0 - 150.0	113 217	1	-	1
Pilot pin Ø 6.0 x 72.0 mm	15.0 - 150.0	-	1	113 216	1

Ejector spring	113 218	1

Main application Other application

Tungsten carbide hole saw, shallow cut

Hole saw and holder made from one piece.
Guide drill included.

Packaging: cardboard box

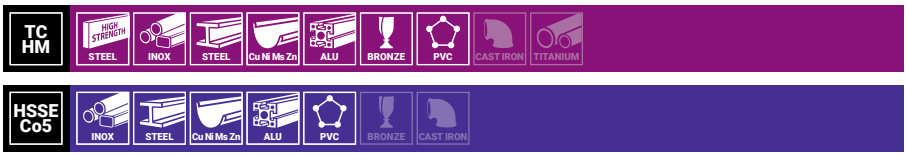
Ø1 mm	Ø inch	M + PG	Tube dimensions inch	Ø2 mm	TC / HM	
16.0	5/8	~ PG 9		10.0	105 016	1
16.5	-	M 16		10.0	105 165	1
17.0	11/16			10.0	105 017	1
18.0	45/64			10.0	105 018	1
18.6	47/64	PG 11		10.0	105 186	1
19.0	3/4		3/8	10.0	105 019	1
20.0	25/32			10.0	105 020	1
20.4	-	M 20 / PG 13.5		10.0	105 204	1
21.0	13/16			10.0	105 021	1
22.0	7/8		1/2	10.0	105 022	1
22.5	-	PG 16		10.0	105 225	1
23.0	29/32			10.0	105 023	1
24.0	15/16			10.0	105 024	1
25.0	1"			10.0	105 025	1
25.5	-	M 25		10.0	105 255	1
26.0	1 1/32			10.0	105 026	1
27.0	1 1/16			10.0	105 027	1
28.0	1 3/32			10.0	105 028	1
28.3	1 1/8	PG 21		10.0	105 283	1
29.0	1 1/8		3/4	10.0	105 029	1
30.0	1 3/16			10.0	105 030	1
32.0	1 1/4			10.0	105 032	1
32.5	-	M 32		10.0	105 325	1
34.0	1 11/32			10.0	105 034	1
35.0	1 3/8		1	10.0	105 035	1
36.0	1 1/4			10.0	105 036	1
37.0	1 7/16	PG 29		10.0	105 037	1
38.0	1 1/2			10.0	105 038	1

Ø1 mm	Ø inch	M + PG	Tube dimensions inch	Ø2 mm	TC / HM	
40.0	1 9/16			10.0	105 040	1
40.5	-	M 40		10.0	105 405	1
41.0	1 5/8			10.0	105 041	1
42.0	1 21/32			10.0	105 042	1
43.0	1 11/16			10.0	105 043	1
44.0	1 3/4		1 1/4	10.0	105 044	1
45.0	1 25/32			10.0	105 045	1
48.0	1 29/32			10.0	105 048	1
50.0	1 31/32			10.0	105 050	1
50.5	-	M 50		10.0	105 505	1
51.0	2		1 1/2	13.0	105 051	1
52.0	2 1/16			13.0	105 052	1
54.0	2 1/8	PG 42		13.0	105 054	1
55.0	2 11/64			13.0	105 055	1
57.0	2 1/4			13.0	105 057	1
60.0	2 3/8	~ PG 48		13.0	105 060	1
63.5	2 1/2	M 63	2	13.0	105 635	1
65.0	2 9/16			13.0	105 065	1
68.0	2 11/16			13.0	105 068	1
70.0	2 3/4			13.0	105 070	1
75.0	2 61/64			13.0	105 075	1
80.0	3 5/32			13.0	105 080	1
85.0	3 11/32			13.0	105 085	1
90.0	3 35/64			13.0	105 090	1
95.0	3 3/4			13.0	105 095	1
100.0	3 15/16			13.0	105 100	1
110.0	4 11/32			13.0	105 110	1
120.0	4 23/32			13.0	105 120	1

		HSSE-Co 5
5 tlg./pcs.	Tungsten carbide hole saw set Ø 20.0 | 22.0 | 25.0 | 32.0 | 35.0 mm + 1 cutting paste 40 ml | item no. 101 021 + 1 pilot drill 6.0 mm HSSE-Co 5 | item no.105 170	105 300
4 tlg./pcs.	Tungsten carbide hole saw set Ø 16.5 | 20.4 | 25.5 | 32.5 mm + 1 cutting paste 40 ml | item no. 101 021 + 1 pilot drill 6.0 mm HSSE-Co 5 | item no.105 170	105 302

Accessories

Packaging: plastic tube



	for hole saws Ø mm	TC / HM		HSSE-Co 5	
Pilot pin Ø 6.0 x 52.0 mm	16.0 - 70.0	105 172	1	105 170	1
Pilot pin Ø 6.0 x 52.0 mm	75.0 - 150.0	105 173	1	105 171	1

Ejector spring	105 174	1

10

Application tip

If possible, do not use automatic feed motion, since otherwise the risk of fracture increases.
Unsuitable for percussion-drill operation, only slight pressure required to start drilling.
Avoid pendulum movements while drilling and use prescribed cooling agents.

Bi-metal hole saw
HSSE-Co 8 with fine toothing

Particularly suitable for cutting metals. For smoother running and less effort. Increased service life due to lower heat generation.

Body: Special steel

Packaging: cardboard box

Best results up to max. 5 mm.

Ø1 mm	Ø inch	M + PG	Pipe dimensions inch	for holder	HSSE-Co 8	
14.0	9/16			A1 / A4 / A5	126 014	1
16.0	5/8	~ PG 9			126 016	
17.0	11/16				126 017	
19.0	3/4	~ PG 11	3/8		126 019	
20.0	25/32				126 020	
21.0	13/16	~ PG 13.5			126 021	
22.0	7/8		1/2		126 022	
24.0	15/16	~ PG 16			126 024	
25.0	1"				126 025	
27.0	1 1/16				126 027	
28.0	1 3/32				126 028	
29.0	1 1/8	~ PG 21	3/4		126 029	
30.0	1 3/16				126 030	
32.0	1 1/4			A2 / A6 / A7	126 032	
33.0	1 5/16				126 033	
35.0	1 3/8		1		126 035	
36.0	1 1/4				126 036	
37.0	1 7/16	PG 29			126 037	
38.0	1 1/2				126 038	
40.0	1 9/16				126 040	
41.0	1 5/8				126 041	
43.0	1 11/16				126 043	
44.0	1 3/4		1 1/4		126 044	
46.0	1 13/16				126 046	
48.0	1 7/8	~ PG 36			126 048	
50.0	1 31/32				126 050	
51.0	2"		1 1/2		126 051	
52.0	2 1/16				126 052	
54.0	2 1/8	PG 42			126 054	
55.0	2 11/64				126 055	
57.0	2 1/4				126 057	
59.0	2 5/16				126 059	
60.0	2 3/8	~ PG 48			126 060	
63.0	2 15/32				126 063	
64.0	2 1/2		2		126 064	
65.0	2 9/16				126 065	
67.0	2 5/8				126 067	
68.0	2 11/16				126 068	
70.0	2 3/4				126 070	
73.0	2 7/8				126 073	
76.0	3"		2 1/2		126 076	
79.0	3 1/8				126 079	
83.0	3 1/4				126 083	
86.0	3 3/8				126 086	
89.0	3 1/2				126 089	
92.0	3 5/8		3		126 092	
95.0	3 3/4				126 095	
98.0	3 7/8				126 098	
102.0	4"				126 102	
105.0	4 1/8		3 1/2		126 105	
108.0	4 1/4				126 108	
111.0	4 3/8				126 111	
114.0	4 1/2		4		126 114	
121.0	4 3/4				126 121	
127.0	5"				126 127	
133.0	5 1/4				126 133	
140.0	5 1/2				126 140	
152.0	6"				126 152	
160.0	6 5/16				126 160	
168.0	6 5/8				126 168	
177.0	6 31/32				126 177	
210.0	8 1/4				126 200	

HSS | Bi Metall | TPI 4-6x | 38 mm

Bi-metal hole saw
HSS with varied toothing

HSS | STEEL | ALU | Cu Ni Ms Zn | PVC | BRONZE | CAST IRON

For a more even cut and less effort. The reduced vibration and heat generation increase the service life up to three times.

Body: Special steel

Packaging: cardboard box

Best results up to max. 5 mm.

Ø1 mm	Ø inch	M + PG	Pipe dimensions inch	for holder	HSS	
14.0	9/16			A1 / A4 / A5	106 014	1
16.0	5/8	~ PG 9			106 016	
17.0	11/16				106 017	
19.0	3/4	~ PG 11	3/8		106 019	
20.0	25/32				106 020	
21.0	13/16	~ PG 13.5			106 021	
22.0	7/8		1/2		106 022	
24.0	15/16	~ PG 16			106 024	
25.0	1"				106 025	
27.0	1 1/16				106 027	
28.0	1 3/32				106 028	
29.0	1 1/8	~ PG 21	3/4		106 029	
30.0	1 3/16				106 030	
32.0	1 1/4			A2 / A6 / A7	106 032	
33.0	1 5/16				106 033	
35.0	1 3/8		1		106 035	
36.0	1 1/4				106 036	
37.0	1 7/16	PG 29			106 037	
38.0	1 1/2				106 038	
40.0	1 9/16				106 040	
41.0	1 5/8				106 041	
43.0	1 11/16				106 043	
44.0	1 3/4		1 1/4		106 044	
46.0	1 13/16				106 046	
48.0	1 7/8	~ PG 36			106 048	
50.0	1 31/32				106 050	
51.0	2"		1 1/2		106 051	
52.0	2 1/16				106 052	
54.0	2 1/8	PG 42			106 054	
55.0	2 11/64				106 055	
57.0	2 1/4				106 057	
59.0	2 5/16				106 059	
60.0	2 3/8	~ PG 48			106 060	
63.0	2 15/32				106 063	
64.0	2 1/2		2		106 064	
65.0	2 9/16				106 065	
67.0	2 5/8				106 067	
68.0	2 11/16				106 068	
70.0	2 3/4				106 070	
73.0	2 7/8				106 073	
76.0	3"		2 1/2		106 076	
79.0	3 1/8				106 079	
83.0	3 1/4				106 083	
86.0	3 3/8				106 086	
89.0	3 1/2				106 089	
92.0	3 5/8		3		106 092	
95.0	3 3/4				106 095	
98.0	3 7/8				106 098	
102.0	4"				106 102	
105.0	4 1/8		3 1/2		106 105	
108.0	4 1/4				106 108	
111.0	4 3/8				106 111	
114.0	4 1/2		4		106 114	
121.0	4 3/4				106 121	
127.0	5"				106 127	
133.0	5 1/4				106 133	
140.0	5 1/2				106 140	
152.0	6"				106 152	
160.0	6 5/16				106 160	
168.0	6 5/8				106 168	
177.0	6 31/32				106 177	
210.0	8 1/4				106 200	

Bi-metal hole saw sets
HSSE-Co 8 fine toothing | HSS varied toothing

HSSE Co8 — INOX | STEEL | Cu Ni Mg Zn | ALU | PVC | BRONZE | CAST IRON

HSS — STEEL | ALU | Cu Ni Mg Zn | PVC | BRONZE | CAST IRON

		HSSE-Co 8	HSS
8 tlg./pcs.	Plumbers 1 Bi-metal hole saw set Ø 19.0 | 22.0 | 29.0 | 38.0 | 44.0 | 57.0 mm + 2 arbor holders A2 + A4	126 301	106 301
11 tlg./pcs.	Plumbers 2 Bi-metal hole saw set Ø 19.0 | 22.0 | 29.0 | 35.0 | 38.0 | 44.0 | 51.0 | 57.0 | 64.0 mm + 2 arbor holders A2 + A4	126 306	106 306
8 tlg./pcs.	Electricians 1 Bi-metal hole saw set Ø 22.0 | 29.0 | 35.0 | 44.0 | 51.0 | 64.0 mm + 2 arbor holders A2 + A4	126 305	106 305
8 tlg./pcs.	Electricians 2 Bi-metal hole saw set Ø 22.0 | 29.0 | 35.0 | 44.0 | 51.0 | 68.0 mm + 2 arbor holders A2 + A4	126 302	106 302
12 tlg./pcs.	Universal Bi-metal hole saw set Ø 19.0 | 22.0 | 25.0 | 29.0 | 35.0 | 38.0 | 44.0 | 51.0 | 57.0 | 64.0 mm + 2 arbor holders A2 + A4	126 303	106 303
12 tlg./pcs.	Super Bi-metal hole saw set Ø 22.0 | 25.0 | 32.0 | 35.0 | 41.0 | 44.0 | 51.0 | 54.0 | 60.0 | 68.0 mm + 2 arbor holders A2 + A4	126 304	106 304
19 tlg./pcs.	Premium Bi-metal hole saw set Ø 16.0 | 19.0 | 21.0 | 24.0 | 25.0 | 29.0 | 32.0 | 37.0 | 40.0 | 48.0 | 51.0 | 54.0 | 60.0 | 73.0 | 83.0 mm + 2 arbor holders A1 + A2 + 1 pilot drill HSS Ø 6.35 mm x 82.0 mm + 1 extension 300.0 mm, arbors for A1 + A2	126 318	106 318

106 306

126 304

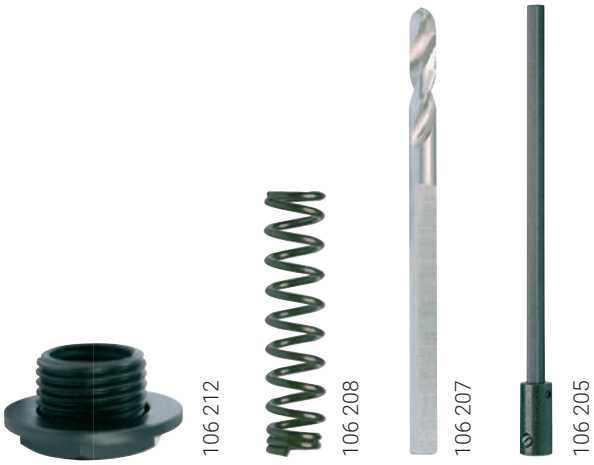
106 318

Arbor holders including pilot drill for bi-metal hole saws HSS and HSSE-Co 8

Packaging: cardboard box

Hole saws Ø mm	Holder type	Shank Ø mm	Shank shape	Thread	HSSE-Co 8	HSS	
14.0 - 30.0	A1	11.0	⬡	1/2" x 20	126 201	106 201	1
32.0 - 210.0	A2	11.0	⬡	5/8" x 18	126 202	106 202	1
14.0 - 30.0	A4	6.0	○	1/2" x 20	126 204	106 204	1
14.0 - 30.0	A5	9.5	⬡	1/2" x 20	126 210	106 210	1
32.0 - 210.0	A6	9.5	⬡	5/8" x 18	126 209	106 209	1
32.0 - 210.0	A7	10.0	SDS-Plus	5/8" x 18	126 211	106 211	1

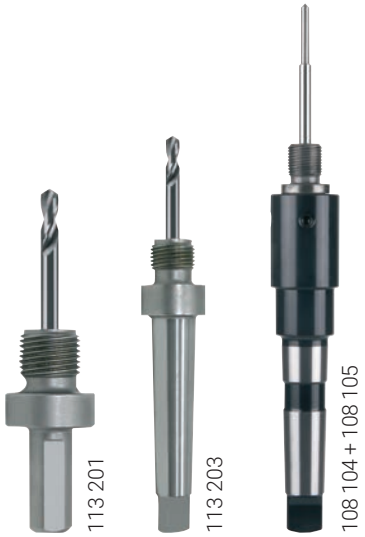
Accessories for bi-metal hole saws HSS and HSSE-Co 8



Packaging: plastic

	Holder type	HSSE-Co 5	HSS	
Adapter to support HSS and HSSE-Co 8 bi-metal hole saws from Ø 32.0 to Ø 210.0 mm	A1 / A4 / A5	–	106 212	1
Pilot drill HSSE-Co 5 ground, Ø 6,35 x 102,0 mm and split point in accordance with DIN 1412 C	A4	126 207	106 207	1
Pilot drill HSSE-Co 5 ground, Ø 6,35 x 82,0 mm and split point in accordance with DIN 1412 C	A1 / A2 / A5 / A6 / A7	126 206	106 206	1
Extension 300.0 mm, Shank shape ⬡ 11.0 mm	A1 / A2	–	106 205	1
Ejector spring	–	–	106 208	1

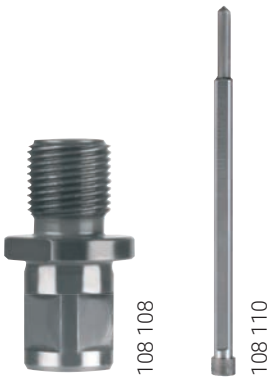
Arbor holders for tungsten carbide multigrade hole saws with threaded retainer M18 x 6 P1,5



Packaging: plastic

	for hole saws MHS Ø mm	Shank	suitable for magnetic drilling machines		
Arbor holder including guide drill item no. 113 216	31.0 - 100.0	Ø 13.0 mm	A10	113 201	1
Arbor holder including guide drill item no. 113 216	31.0 - 100.0	MT 2	RU25	113 203	1
Arbor holder with internal cooling including adapter item no. 108 108 and ejector pin item no. 108 110	31.0 - 100.0	MT 2	RU25	108 104	1
Arbor holder with internal cooling including adapter item no. 108 108 and ejector pin item no. 108 110	31.0 - 100.0	MT 3	RU40	108 105	1

Adapter for tungsten carbide multigrade hole saws with threaded retainer M18 x 6 P1,5



Packaging: plastic

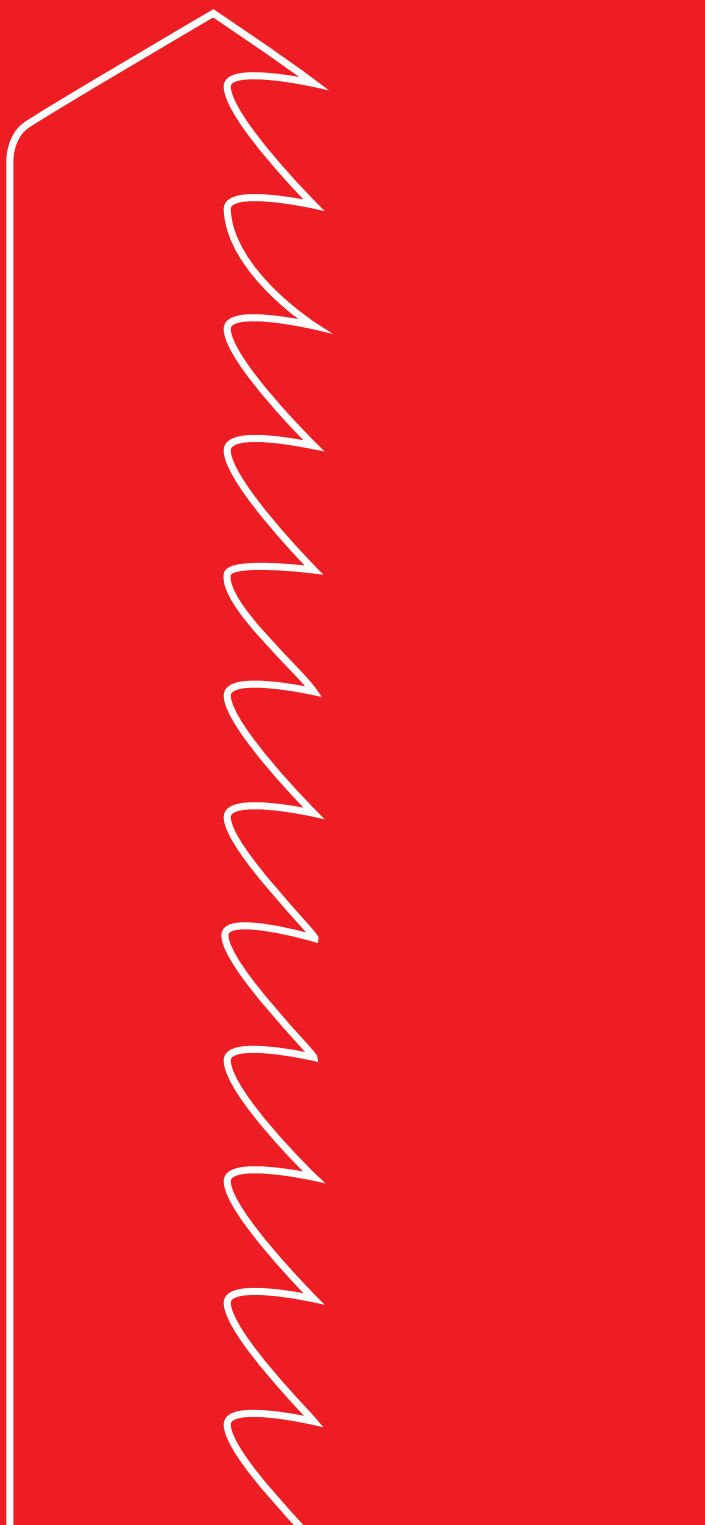
	for hole saws MHS Ø mm		
Adapter with weldon shank 3/4" for multigrade hole saws MHS with threaded retainer M18 x 6 P1,5	31.0 - 100.0	108 108	1
Ejector pin Ø 6.35 x 118.0 mm	31.0 - 100.0	108 110	1

Recommended cutting speeds
– *for tungsten carbide hole saws*

Material:		High carbon struc. steel up to 700 N/mm²	Alloyed steel up to 1000 N/mm²	Cast iron over 250 N/mm²	CuZn alloy	Aluminium alloy up to 11% Si	Thermo-plastics	Duro-plastics	Wood
Vc = m/min		30	20	10	60	35	30	20	15
Coolant:		Cutting spray	Cutting spray	Compressed air	Compressed air	Cutting spray	Water	Compressed air	Compressed air
Ø mm	Ø inch	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.
16.0	5/8	995	697	796	1194	1194	896	796	995
16.5	-	965	676	772	1158	1158	869	772	965
17.0	11/16	937	656	749	1124	1124	843	749	937
18.0	45/64	885	619	708	1062	1062	796	708	885
18.6	47/64	856	599	685	1027	1027	770	685	856
19.0	3/4	838	587	670	1006	1006	754	670	838
20.0	25/32	796	557	637	955	955	717	637	796
20.4	13/16	781	546	624	937	937	703	624	781
21.0	13/16	758	531	607	910	910	682	607	758
22.0	7/8	724	507	579	869	869	651	579	724
22.5	57/64	708	495	566	849	849	637	566	708
23.0	29/32	692	485	554	831	831	623	554	692
24.0	15/16	663	464	531	796	796	597	531	663
25.0	1"	637	446	510	764	764	573	510	637
25.5	-	624	437	500	749	749	562	500	624
26.0	1 1/32	612	429	490	735	735	551	490	612
27.0	1 1/16	590	413	472	708	708	531	472	590
28.0	1 3/32	569	398	455	682	682	512	455	569
28.3	1 1/8	563	394	450	675	675	506	450	563
29.0	-	549	384	439	659	659	494	439	549
30.0	1 3/16	531	372	425	637	637	478	425	531
31.0	1 7/32	514	360	411	616	616	462	411	514
32.0	1 1/4	498	348	398	597	597	448	398	498
32.5	-	490	343	392	588	588	441	392	490
33.0	1 5/16	483	338	386	579	579	434	386	483
34.0	1 11/32	468	328	375	562	562	422	375	468
35.0	1 3/8	455	318	364	546	546	409	364	455
36.0	1 1/4	442	310	354	531	531	398	354	442
37.0	1 7/16	430	301	344	516	516	387	344	430
38.0	1 1/2	419	293	335	503	503	377	335	419
39.0	1 17/32	408	286	327	490	490	367	327	408
40.0	1 9/16	398	279	318	478	478	358	318	398
40.5	1 19/32	393	275	315	472	472	354	315	393
41.0	1 5/8	388	272	311	466	466	350	311	388
42.0	1 21/32	379	265	303	455	455	341	303	379
43.0	1 11/16	370	259	296	444	444	333	296	370
44.0	1 3/4	362	253	290	434	434	326	290	362
45.0	-	354	248	283	425	425	318	283	354
46.0	1 13/16	346	242	277	415	415	312	277	346
47.0	-	339	237	271	407	407	305	271	339
48.0	1 7/8	332	232	265	398	398	299	265	332
49.0	1 15/16	325	227	260	390	390	292	260	325
50.0	1 31/32	318	223	255	382	382	287	255	318
50.5	1 63/64	315	221	252	378	378	284	252	315
51.0	2"	312	219	250	375	375	281	250	312
52.0	2 1/16	306	214	245	367	367	276	245	306
53.0	2 3/32	300	210	240	361	361	270	240	300
54.0	2 1/8	295	206	236	354	354	265	236	295
55.0	2 11/64	290	203	232	347	347	261	232	290
56.0	2 13/64	284	199	227	341	341	256	227	284
57.0	2 1/4	279	196	223	335	335	251	223	279
58.0	2 9/32	275	192	220	329	329	247	220	275
59.0	2 5/16	270	189	216	324	324	243	216	270
60.0	2 3/8	265	186	212	318	318	239	212	265
63.5	2 1/2	251	176	201	301	301	226	201	251
65.0	2 9/16	245	171	196	294	294	220	196	245
70.0	2 3/4	227	159	182	273	273	205	182	227
75.0	2 61/64	212	149	170	255	255	191	170	212
80.0	3 5/32	199	139	159	239	239	179	159	199
85.0	3 11/32	187	131	150	225	225	169	150	187
90.0	3 35/64	177	124	142	212	212	159	142	177
95.0	3 3/4	168	117	134	201	201	151	134	168
100.0	3 15/16	159	111	127	191	191	143	127	159
110.0	4 11/32	145	101	116	174	174	130	116	145
120.0	4 23/32	133	93	106	159	159	119	106	133
130.0	5 1/8	122	86	98	147	147	110	98	122
140.0	5 1/2	114	80	91	136	136	102	91	114
150.0	5 29/32	106	74	85	127	127	96	85	106

Recommended cutting speeds
– *for bi-metal hole saws HSS and HSSE-Co 8*

Material:		High carbon struc. steel up to 700 N/mm²	Alloyed steel up to 1000 N/mm²	Cast iron over 250 N/mm²	CuZn alloy	Aluminium alloy up to 11% Si	Thermo-plastics	Duro-plastics	Wood
Vc = m/min		30	20	10	35	30	20	15	40
Coolant:		Cutting spray	Cutting spray	Compressed air	Compressed air	Cutting spray	Water	Compressed air	Compressed air
Ø mm	Ø inch	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.
14.0	9/16	682	455	227	796	682	455	341	910
16.0	5/8	597	398	199	697	597	398	299	796
17.0	11/16	562	375	187	656	562	375	281	749
19.0	3/4	503	335	168	587	503	335	251	670
21.0	13/16	455	303	152	531	455	303	227	607
22.0	7/8	434	290	145	507	434	290	217	579
24.0	15/16	398	265	133	464	398	265	199	531
25.0	1"	382	255	127	446	382	255	191	510
27.0	1 1/16	354	236	118	413	354	236	177	472
28.0	1 3/32	341	227	114	398	341	227	171	455
29.0	1 1/8	329	220	110	384	329	220	165	439
30.0	1 3/16	318	212	106	372	318	212	159	425
32.0	1 1/4	299	199	100	348	299	199	149	398
33.0	1 5/16	290	193	97	338	290	193	145	386
35.0	1 3/8	273	182	91	318	273	182	136	364
36.0	1 1/4	265	177	88	310	265	177	133	354
37.0	1 7/16	258	172	86	301	258	172	129	344
38.0	1 1/2	251	168	84	293	251	168	126	335
40.0	1 9/16	239	159	80	279	239	159	119	318
41.0	1 5/8	233	155	78	272	233	155	117	311
43.0	1 11/16	222	148	74	259	222	148	111	296
44.0	1 3/4	217	145	72	253	217	145	109	290
46.0	1 13/16	208	138	69	242	208	138	104	277
48.0	1 7/8	199	133	66	232	199	133	100	265
50.0	1 31/32	190	128	64	225	194	129	97	257
51.0	2"	187	125	62	219	187	125	94	250
52.0	2 1/16	184	122	61	214	184	122	92	245
54.0	2 1/8	177	118	59	206	177	118	88	236
57.0	2 1/4	168	112	56	196	168	112	84	223
59.0	2 5/16	162	108	54	189	162	108	81	216
60.0	2 3/8	159	106	53	186	159	106	80	212
63.0	2 15/32	152	101	51	177	152	101	76	202
64.0	2 1/2	149	100	50	174	149	100	75	199
65.0	2 9/16	147	98	49	171	147	98	73	196
67.0	2 5/8	143	95	48	166	143	95	71	190
68.0	2 11/16	141	94	47	164	141	94	70	187
70.0	2 3/4	136	91	45	159	136	91	68	182
73.0	2 7/8	131	87	44	153	131	87	65	175
76.0	3"	126	84	42	147	126	84	63	168
79.0	3 1/8	121	81	40	141	121	81	60	161
83.0	3 1/4	115	77	38	134	115	77	58	153
86.0	3 3/8	111	74	37	130	111	74	56	148
89.0	3 1/2	107	72	36	125	107	72	54	143
92.0	3 5/8	104	69	35	121	104	69	52	138
95.0	3 3/4	101	67	34	117	101	67	50	134
98.0	3 7/8	97	65	32	114	97	65	49	130
102.0	4"	94	62	31	109	94	62	47	125
105.0	4 1/8	91	61	30	106	91	61	45	121
108.0	4 1/4	88	59	29	103	88	59	44	118
111.0	4 3/8	86	57	29	100	86	57	43	115
114.0	4 1/2	84	56	28	98	84	56	42	112
121.0	4 3/4	79	53	26	92	79	53	39	105
127.0	5"	75	50	25	88	75	50	38	100
140.0	5 1/2	68	45	23	80	68	45	34	91
152.0	6"	63	42	21	73	63	42	31	84
160.0	6 5/16	60	40	20	70	60	40	30	80
168.0	6 5/8	57	38	19	66	57	38	28	76
177.0	6 31/32	54	36	18	63	54	36	27	72
210.0	8 1/4	45	30	15	53	45	30	23	61



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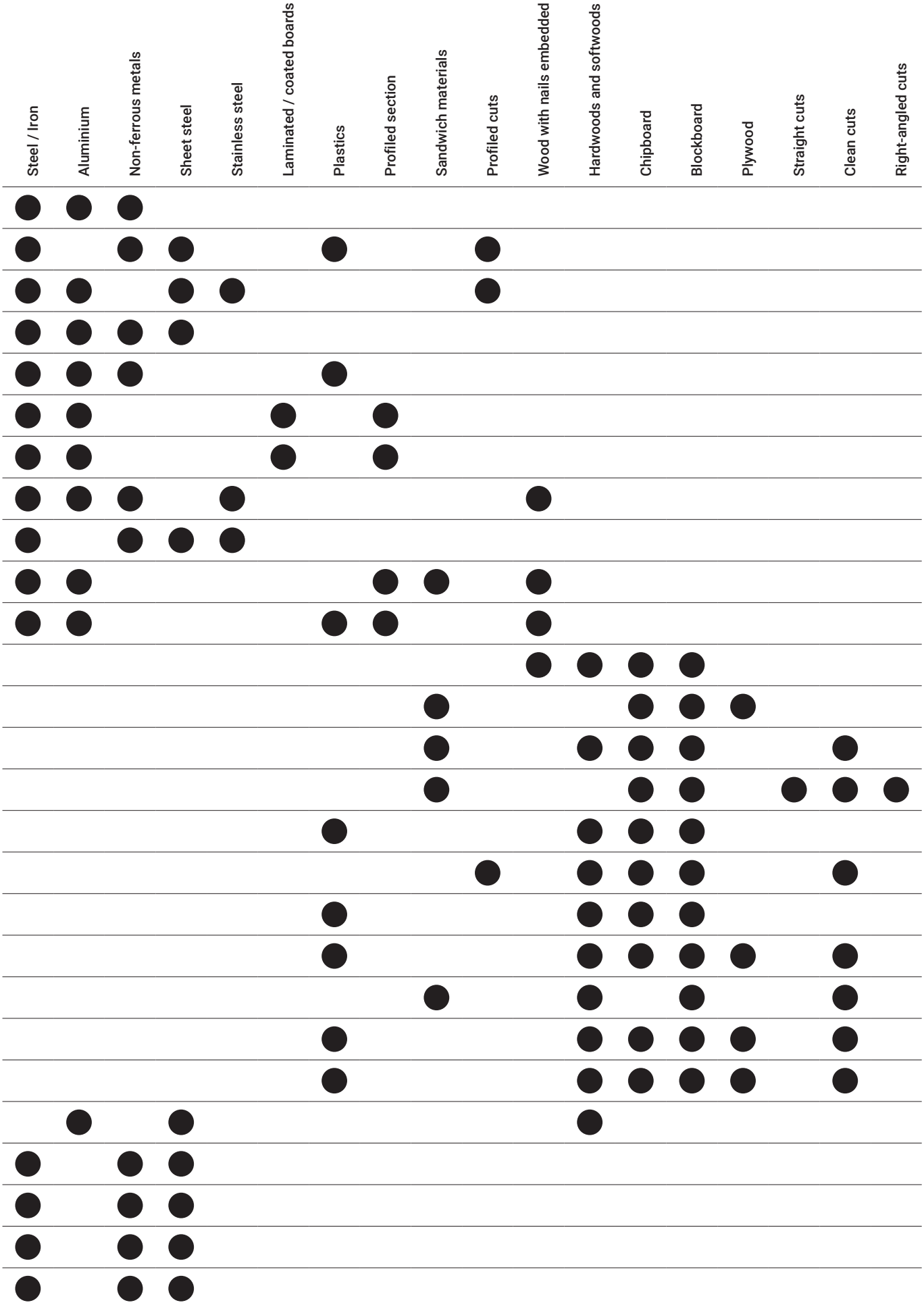
SAWS

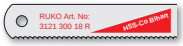
Type and applications overview

	Material	Surface	Miscellaneous	Description	Length mm	Height mm	Thickness mm	Tooth spacingteeth per mm	Tooth spacing teeth per inch	Item no.	Page/s
	HSS	Blank		RUKO 8011	77,0	7,5	1,0	2,0	13 Tpi	321 8011 323 8011	264
	HSS	Blank		RUKO 8009	75,0	6,0	1,0	1,2	21 Tpi	321 8009 323 8009	264
	HSS	Blank		RUKO 8010	77,0	7,7	1,0	1,2	21 Tpi	321 8010 323 8010	264
	HSS	Blank		RUKO 8012	77,0	7,6	1,0	0,7	36 Tpi	321 8012 323 8012	265
	HSS	Blank		RUKO 8013	100,0	7,7	1,0	3,0	8 Tpi	321 8013 323 8013	265
	HSS	Blank		RUKO 8017	132,0	7,7	1,25	2,0	13 Tpi	321 8017 323 8017	265
	HSS	Blank		RUKO 8016	130,0	7,9	1,0	1,2	21 Tpi	321 8016 323 8016	266
	HSS	White	Bi Metall	RUKO 8028	77,0	7,7	1,0	2,0	13 Tpi	321 8028 323 8028	266
	HSS	White	Bi Metall	RUKO 8033	77,0	7,5	1,0	1,2	21 Tpi	321 8033 323 8033	266
	HSS	White	Bi Metall	RUKO 8020	132,0	7,7	1,0	1,8	14 Tpi	321 8020 323 8020	267
	HSS	White	Bi Metall	RUKO 8019	132,0	7,7	1,0	1,1	23 Tpi	321 8019 323 8019	267
	HSS	White	Bi Metall	RUKO 8021	100,0	7,5	1,25	4,0	6 Tpi	321 8021 323 8021	267
	HCS	VAP		RUKO 8005	77,0	7,8	1,0	2,0	13 Tpi	321 8005 323 8005	268
	HCS	Blank		RUKO 8007	100,0	7,9	1,3	4,0	6 Tpi	321 8007 323 8007	268
	HCS	Bronze		RUKO 8002	100,0	7,5	1,5	4,0	6 Tpi	321 8002 323 8002	268
	HCS	VAP		RUKO 8006	100,0	7,9	1,3	4,0	6 Tpi	321 8006 323 8006	269
	HCS	Blank		RUKO 8072	100,0	6,2	1,25	4,0	6 Tpi	321 8072 323 8072	269
	HCS	Blank		RUKO 8070	100,0	7,9	1,2	3,0	8 Tpi	321 8070 323 8070	269
	HCS	Blank		RUKO 8001	100,0	7,9	1,3	2,5	10 Tpi	321 8001 323 8001	270
	HCS	Blank		RUKO 8018	100,0	7,3	1,2	2,7	9 Tpi	321 8018 323 8018	270
	HCS	Blank		RUKO 8023	117,0	7,5	1,2	4,0	6 Tpi	321 8023 323 8023	270
	HCS	Blank		RUKO 8024	130,0	7,9	1,3	4,0	6 Tpi	321 8024 323 8024	271
	HSS	VAP	Bi Metall	RUKO 8814	96,0	12,0	0,65	1,8	14 Tpi	321 8814	272
	HSS	VAP	Bi Metall	RUKO 8824	96,0	12,7	0,6	1,0	25 Tpi	321 8824	272
	HSS	VAP	Bi Metall	RUKO 8832	96,0	11,8	0,65	0,8	32 Tpi	321 8832	272
	HSS	VAP	Bi Metall	RUKO 8811	91,5	12,7	0,6	1,0	25 Tpi	321 8811	273
	HSS	VAP	Bi Metall	RUKO 8812	91,5	12,7	0,6	0,8	32 Tpi	321 8812	273



Main application

Type and applications overview

	Material	Surface	Miscellaneous	Description	Length mm	Height mm	Thickness mm	Tooth spacingteeth per mm	Tooth spacing teeth per inch	Item no.	Page/s
	HSS	White	Bi Metall	RUKO 8915	152,0	18,0	0,9	2,0	14 Tpi	331 89155	274
	HSS	White	Bi Metall	RUKO 8940	152,0	18,0	0,9	1,45-3,4	8-18 Tpi	331 89405	274
	HSS	White	Bi Metall	RUKO 8908	150,0	18,0	0,9	1,4	18 Tpi	331 89085	275
	HSS	White	Bi Metall	RUKO 8906	152,0	18,4	0,9	1,0	24 Tpi	331 89065	275
	HSS	White	Bi Metall	RUKO 8918	203,0	17,8	1,25	1,8-2,6	10-14 Tpi	331 89185	275
	HSS	White	Bi Metall	RUKO 8916	228,0	18,4	0,9	2,0	14 Tpi	331 89165	276
	HSS	White	Bi Metall	RUKO 8913	228,0	18,4	0,9	1,4	18 Tpi	331 89135	276
	HSS	White	Bi Metall	RUKO 8985	152,0	21,0	1,6	4,2	6 Tpi	331 89855	276
	HSS	White	Bi Metall	RUKO 8986	152,0	21,0	1,6	2,54-3,18	8-10 Tpi	331 89865	277
	HSS	White	Bi Metall	RUKO 8989	228,0	21,0	1,6	2,54-3,18	8-10 Tpi	331 89895	277
	HSS	White	Bi Metall	RUKO 8917	152,0	18,0	1,25	4,2	6 Tpi	331 89175	278
	HSS	White	Bi Metall	RUKO 8901	152,0	18,0	0,9	2,5	10 Tpi	331 89015	278
	HSS	White	Bi Metall	RUKO 8943	203,0	18,0	1,25	2,1-4,3	6-12 Tpi	331 89435	278
	HSS	White	Bi Metall	RUKO 8909	203,0	18,0	0,9	2,5	10 Tpi	331 89095	279
	HSS	White	Bi Metall	RUKO 8936	228,0	18,0	1,25	4,25	6 Tpi	331 89365	279
	HSS	White	Bi Metall	RUKO 8945	228,0	18,0	0,9	2,54	10 Tpi	331 89455	279
	HSS	White	Bi Metall	RUKO 8933	228,0	18,0	1,25	1,8-2,6	10-14 Tpi	331 89335	280
	HSS	White	Bi Metall	RUKO 8928	228,0	18,0	0,9	1,8-2,6	10-14 Tpi	33189285	280
	HSS	White	Bi Metall	RUKO 8937	305,0	18,0	1,25	4,2	6 Tpi	33189375	280
	HSS	White	Bi Metall	RUKO 8910	305,0	18,0	0,9	1,8-2,4	10-14 Tpi	331 89105	281
	HSS	White	Bi Metall	RUKO 8929	305,0	18,0	1,25	1,8-2,4	10-14 Tpi	331 89295	281
	HCS	Blank		RUKO 8905	152,0	18,35	1,25	1,8-2,4	10-14 Tpi	331 89055	281
	HCS	Blank		RUKO 8903	152,0	18,35	1,0	4,2	6 Tpi	331 89035	282
	HCS	Blank		RUKO 8924	152,0	18,1	1,25	4,0	6 Tpi	331 89245	282
	HCS	Blank		RUKO 8944	203,0	18,1	1,25	2,4-4,0	6-10 Tpi	331 89445	282
	HCS	Blank		RUKO 8923	225,0	18,0	1,25	8,5	3 Tpi	331 89235	283
	HCS	Blank		RUKO 8922	240,0	18,0	1,6	4,0-6,5	5 Tpi	331 89225	283
	HCS	Blank		RUKO 8904	300,0	18,0	1,25	4,2	6 Tpi	331 89045	283
		Blank	Bi Metall		300,0	13,0	0,65	80-120	18-32 Tpi	3121 300 xx R	284
		Bronze	Bi Metall		300,0	13,0	0,65	80-120	8-12 Tpi	3181 300 xx R	284

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Steel / Iron	Aluminium	Non-ferrous metals	Sheet steel	Stainless steel	Pipe	Plastics	Profiled section	Porous concrete	Pruning	Wood with nails embedded	Hardwoods and softwoods	Chipboard	Blockboard	Plywood	Profiled cuts	Clean cuts	Right-angled cuts
●		●	●	●	●		●										
			●				●										
			●		●		●										
			●		●		●										
			●		●		●										
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●		●					●										

● Main application

T-shank jig-saw blades for power tools by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Blank | STEEL | ALU | Cu Ni Ms Zn

Blades from other manufacturers *
Bosch® T 118 B I Metabo® 23 638
MP.S® 3113 I Wilpu® MG 12 I AEG® 254-064

RUKO 8011 HSS steel

Standard saw blade, wavy set.

Application range:
St 37 to 4.0 mm, stainless steel, non-ferrous metals and aluminium from 3.0 - 10.0 mm, cool with RUKO cutting spray. Cool hard plastics and Plexiglas 3.0 - 8.0 mm, Pertinax and Resitex with water. Asbestos cement 2.0 - 4.0 mm, Eternit up to 10.0 mm, cool with water.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
77,0	7,5	1,0	2,0	13 Tpi	321 8011	5	323 8011	20

HSS | Blank | STEEL | SHEETS | Cu Ni Ms Zn

Blades from other manufacturers *
Bosch® T 218 A I Metabo® 23 647
MP.S® 3112 I Wilpu® MG 21 I AEG® 254-063

RUKO 8009 HSS steel

Standard saw blade, wavy set. Narrow blade suitable for profiled cuts.

Application range:
St 37, non-ferrous metals. Suitable for profiled cuts. Suitable for glass-fibre reinforced plastics up to 4,0 mm thickness, acrylic glass up to 8,0 mm, cooled with water. Pressed materials, hard fabrics, insulation materials up 8,0 mm thickness, cooled with water.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
75,0	6,0	1,0	1,2	21 Tpi	321 8009	5	323 8009	20

HSS | Blank | STEEL | INOX | ALU | SHEETS

Blades from other manufacturers *
Bosch® T 118 A I Metabo® 23 637
MP.S® 3111 I Wilpu® MG 11 I AEG® 254-063

RUKO 8010 HSS steel

Standard saw blade, wavy set. Narrow blade suitable for profiled cuts.

Application range:
St 37, non-ferrous metals, aluminium up to 4,0 mm thick, high-alloyed chromium steel such as stainless and acid-resistant steel sheet up to 2,0 mm. Hard and softwood, insulation material up to 8,0 mm. Suitable for glassfibre reinforced plastics up to 2,0 mm, acrylic glass, pressed materials, hard fabrics, cooled with water.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
77,0	7,7	1,0	1,2	21 Tpi	321 8010	5	323 8010	20

T-shank jig-saw blades for power tools by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Blank | STEEL | SHEETS | ALU | Cu Ni Ms Zn

Blades from other manufacturers *
Bosch® T 118 G I Metabo® 23 636
MP.S® 3110 I Wilpu® MG 107 I AEG® 274-652

RUKO 8012 HSS steel

Standard saw blade, wavy set. For thin sheet steel.

Application range:
Thin-gauged sheet and profiled section less than 1,0 mm. St 37, non-ferrous metals, aluminium up to 2,0 mm. Armoured plastics, acrylic glass, cooled with water.
Thin-gauged hard fabrics, insulation materials, cooled with water.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
77,0	7,6	1,0	0,7	36 Tpi	321 8012	5	323 8012	20

HSS | Blank | STEEL | ALU | PVC | Cu Ni Ms Zn

Blades from other manufacturers *
Bosch® T 127 D I Metabo® 23 639
MP.S® 3118 I Wilpu® K 14 I AEG® 274-315

RUKO 8013 HSS

Standard saw blade, side set.

Application range:
Mild steel 3,0 - 6,0 mm, non-ferrous metals, aluminium and aluminium alloys 3,0 - 15,0 mm, cooled with RUKO cutting spray. Plastics, armoured plastics. Asbestos cement, eternit and hard materials.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
100,0	7,7	1,0	3,0	8 Tpi	321 8013	5	323 8013	20

HSS | Blank | STEEL | PROFILES | ALU | WOOD

Blades from other manufacturers *
Bosch® T 318 B I Metabo® 23 697
MP.S® 3115 I Wilpu® MG 32 bi I AEG® 274-653

RUKO 8017 HSS

Standard saw blade, extra long, wavy set.

Application range:
Profiled section, mild steel, aluminium 2,0 - 10,0 mm, composite materials, sandwich materials up to 70,0 mm. Insulation materials.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
132,0	7,7	1,25	2,0	13 Tpi	321 8017	5	323 8017	20

T-shank jig-saw blades for power tools by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Blank | STEEL | PROFILES | Cu Ni Ms Zn | WOOD

Blades from other manufacturers *
Bosch® T 318 A I Metabo® 23 629
MP.S® 3114 I Wilpu® MG 31 bi I AEG® 274-654

RUKO 8016 HSS

Standard saw blade, extra long, wavy set.

Application range:
Profiles, mild steel and aluminium from 1.5 - 4.0 mm, composites and sandwich materials up to 70.0 mm.
Insulation material.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
130,0	7,9	1,0	1,2	21Tpi	321 8016	5	323 8016	20

HSS | Bi Metall | STEEL | INOX | Cu Ni Ms Zn | WITH NAILS WOOD

Blades from other manufacturers *
Bosch® T 118 BF I Metabo® 23 973
MP.S® 3113 F I Wilpu® MG 12 bi I AEG® 340-012

RUKO 8028 HSS bi-metal

Saw blade wavy set.

Application range:
Mild steel and non-ferrous metals from 3.0 - 10.0 mm material thickness, as well as stainless steel sheets.
Wood with nails. Perspex.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
77,0	7,7	1,0	2,0	13 Tpi	321 8028	5	323 8028	20

HSS | Bi Metall | STEEL | INOX | Cu Ni Ms Zn | SHEETS

Blades from other manufacturers *
Bosch® T 118 AF I Metabo® 23 971
MP.S® 3111 F I Wilpu® MG 11 bi I AEG® 340-011

RUKO 8033 HSS bi-metal

Saw blade wavy set.

Application range:
Mild steel, non-ferrous metals, aluminium and aluminium alloys from 1.5 - 4.0 mm, stainless sheet steel, V2A.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
77,0	7,5	1,0	1,2	21 Tpi	321 8033	5	323 8033	20

T-shank jig-saw blades for power tools by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

Blades from other manufacturers *
Bosch® T 318 BF I Metabo® 23 979
MP.S® 3115 F I Wilpu® MG 32 bi I AEG 274-653

RUKO 8020 HSS bi-metal

Standard saw blade, side set.

Application range:
Profiles and pipes up to Ø 60.0 mm with 3.0 - 10.0 mm wall thickness, non-ferrous metals and V2A steels.
Wood with nails. Perspex and reinforced plastics.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
132,0	7,7	1,0	1,8	14 Tpi	321 8020	5	323 8020	20

Blades from other manufacturers *
Bosch® T 318 AF I Metabo® 23 978
MP.S® 3114 F I Wilpu® MG 31 bi I AEG 274-654

RUKO 8019 HSS bi-metal

Saw blade wavy set.

Application range:
Profiles and tubes up to Ø 65.0 mm with 1.4 - 4.0 mm wall thickness, V2A steels.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
132,0	7,7	1,0	1,1	23 Tpi	321 8019	5	323 8019	20

Blades from other manufacturers *
Bosch® T 144 DF I Metabo® 23 978
MP.S® 3104 F I Wilpu® HGS 14 bi I AEG 373 391

RUKO 8021 HSS bi-metal

Blade sharpened, teeth side set.

Application range:
Hardwood and softwood up to 50.0 mm, rough cut, high cutting performance, suitable for wood with nails.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
100,0	7,5	1,25	4,0	6 Tpi	321 8021	5	323 8021	20

T-shank jig-saw blades for power tools
by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HCS | VAP | SANDWICH | CHIP BOARD WOOD | WOOD | BLOCK BOARD WOOD | PLYWOOD

Blades from other manufacturers *
Bosch® T 119 B I Metabo® 23 631
MP.S® 3108 I Wilpu® HW 12 I AEG® 274-353

RUKO 8005 HCS

Standard saw blade, wavy set.

Application range:
Plywood and wood fibre boards up to 30.0 mm material thickness. Cool insulating materials and perspex up to 6.0 mm with water. Pressed fabric and hard fabric up to 4.0 mm material thickness, cardboard and linoleum up to 6.0 mm material thickness, cool with water.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
77,0	7,8	1,0	2,0	13 Tpi	321 8005	5	323 8005	20

HCS | Blank | SANDWICH | HARD SOFT WOOD | CHIP BOARD WOOD | BLOCK BOARD WOOD

Blades from other manufacturers *
Bosch® T 101 D I Metabo® 23 635
MP.S® 3105 I Wilpu® HGS 24 I AEG® 274-351

RUKO 8007 HCS

Tapered blade, ground teeth.
Fast and rough cut. Narrow blade suitable for profiled cuts.

Application range:
Hardwood, softwood, plywood and fibreboard up to 50.0 mm, clean cut, suitable for grooving.
Various soft plastics up to 30.0 mm, clean cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
100,0	7,9	1,3	4,0	6 Tpi	321 8007	5	323 8007	20

HCS | bronziert | SANDWICH | 90° | CHIP BOARD WOOD | BLOCK BOARD WOOD

Blades from other manufacturers *
Bosch® T 101 DP I Metabo® 23 971
MP.S® 3111 F I Wilpu® MG 11 bi I AEG® 340-011

RUKO 8002 HCS

Tapered blade, ground teeth. Clean and fast cut.

Application range:
Hardwood, softwood, plywood and fibreboard up to 60.0 mm, parallel cuts, clean cut.
Various soft plastics up to 25.0 mm, clean cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
100,0	7,5	1,5	4,0	6 Tpi	321 8002	5	323 8002	20

T-shank jig-saw blades for power tools by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HCS | VAP | HARD SOFT WOOD | CHIP BOARD WOOD | BLOCK BOARD WOOD | PVC

Blades from other manufacturers *
Bosch® T 144 D I Metabo® 23 633
MP.S® 3104 I Wilpu® HGS 14 I AEG® 213-116

RUKO 8006 HCS

Blade sharpened and side set. Fast and rough cut.

Application range:
Hardwood and softwood up to 50.0 mm, fast and rough cut. Polystyrene, polyamide and soft plastics up to 50.0 mm, perspex up to 30.0 mm, cool with water. Hard fabric, insulation material and cardboard.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
100,0	7,9	1,3	4,0	6 Tpi	321 8006	5	323 8006	20

HCS | Blank | HARD SOFT WOOD | CHIP BOARD WOOD | BLOCK BOARD WOOD

Blades from other manufacturers *
Bosch® T 244 D I Metabo® 23 649
MP.S® 3105 I Wilpu® HGS 24 I AEG® 346-078

RUKO 8072 HCS

Blade side set and sharpened. Suitable for profiled cuts.

Application range:
Hardwood and softwood up to 50.0 mm, rough cut, particularly suitable for cutting curves.
Polystyrene, polyamide and soft plastics up to 50.0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
100,0	6,2	1,25	4,0	6 Tpi	321 8072	5	323 8072	20

HCS | Blank | HARD SOFT WOOD | CHIP BOARD WOOD | PVC | BLOCK BOARD WOOD

Blades from other manufacturers *
Bosch® T 111 C I Metabo® 23 632
MP.S® - I Wilpu® HG 13 I AEG® 254-071

RUKO 8070 HCS

Saw blade side set. Rough cut with high cutting performance.

Application range:
Hardwood and softwood up to 50.0 mm, rough cut, high cutting performance.
Polystyrene, polyamide and soft plastics up to 30.0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
100,0	7,9	1,2	3,0	8 Tpi	321 8070	5	323 8070	20

T-shank jig-saw blades for power tools by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HCS | Blank | HARD SOFT WOOD | CHIP BOARD WOOD | BLOCK BOARD WOOD | PVC

Blades from other manufacturers *
Bosch® T 101 B I Metabo® 23 634
MP.S® 3101 I Wilpu® HC 12 I AEG® 254-061

RUKO 8001 HCS

Tapered blade, ground teeth. Clean and fast cut.

Application range:
Hardwood, softwood, plywood and fibreboard up to 50.0 mm material thickness, suitable for grooving.
Various soft plastics up to 20.0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
100,0	7,9	1,3	2,5	10 Tpi	321 8001	5	323 8001	20

HCS | Blank | SANDWICH | HARD SOFT WOOD | BLOCK BOARD WOOD

Blades from other manufacturers *
Bosch® T 101 BR I Metabo® 23 650
MP.S® 3102 I Wilpu® HC 12 R I AEG® 346-079

RUKO 8018 HCS

Tapered blade, ground teeth. Clean cut. Reversed cutting direction.

Application range:
Hardwood, softwood, plywood and wood fibre boards up to 60.0 mm, Formica boards and coated boards.
Soft plastics.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
100,0	7,3	1,2	2,7	9 Tpi	321 8018	5	323 8018	20

HCS | Blank | HARD SOFT WOOD | CHIP BOARD WOOD | BLOCK BOARD WOOD | PVC

Blades from other manufacturers *
Bosch® T 301 D I Metabo® 23 654
MP.S® 3101 L

RUKO 8023 HCS

Tapered blade, ground teeth.

Application range:
Hardwood, softwood, plywood and fibreboard up to 70.0 mm, clean cut, suitable for grooving.
Various soft plastics up to 40.0 mm, clean cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
117,0	7,5	1,2	4,0	6 Tpi	321 8023	5	323 8023	20

T-shank jig-saw blades for power tools by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HCS | Blank | HARD SOFT WOOD | CHIP BOARD WOOD | BLOCK BOARD WOOD | PVC

Blades from other manufacturers *
Bosch® T 301 DL I MP.S® 3104 L
Wilpu® HGS 34

RUKO 8024 HCS

Tapered blade, ground teeth. Very clean and fast cut.

Application range:
Hardwood, softwood, plywood and fibreboard up to 70.0 mm, clean and fast cut, suitable for grooving. Various soft plastics up to 40.0 mm, clean cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch				
130,0	7,9	1,3	4,0	6 Tpi	321 8024	5	323 8024	20

Reference table for RUKO jig-saw blades

Competitive blades may vary from our specifications.

	Bosch®	D+N®	Gematic®	Hawera®	Lenox®	Metabo®	MP.S®	Wilpu®	Atlas Copco® AEG®	Holz-Her®	Festo®
321 8001	T 101 B	3 22 25	10 2255	240 515	F 450 S	23 634	3101	HC 12	254-061	Ho 75 F	S 75/2,5
321 8002	T 101 DP	3 29 40	10 2258	240 516	F 456 S	23 655	3103	HC 14 D	274-351	–	S 75/4
321 8005	T 119 B	3 20 20	10 2249	144 212	F 410 S	23 631	3108	HW 12	274-353	SP 50 G	–
321 8006	T 144 D	3 23 40	10 2270	240 520	F 406 S	23 633	3104	HGS 14	213-116	HW 75 G	S75/4
321 8007	T 101 D	3 22 40	–	240 521	F 416 SC	23 635	3105	HGS 24	274-351	HO 75 G	–
321 8009	T 218 A	3 13 12	10 2104	240 523	F 324 S	23 647	3112	MG 21	254-063	ME 50 M	–
321 8010	T 118 A	3 10 12	–	–	F 318 SC	23 637	3111	MG 11	254-063	AK 50 M	HS 50/1.2
321 8011	T 118 B	3 10 20	10 2107	240 525	F 340 SV	23 638	3113	MG 12	254-064	ME 50 G	HS 50/2
321 8012	T 118 G	3 10 07	10 2101	240 526	–	23 636	3110	MG 107	274-652	ME 50 F	–
321 8013	T 127 D	3 10 30	10 2110	240 528	F 410 S	23 639	3118	K 14	274-315	AL 75 G	HS 75/3
321 8016	T 318 A	3 11 12	10 2113	240 527	F 518 S	23 629	3114	MG 31 bi	274-654	AK 100 M	–
321 8017	T 318 B	3 11 20	10 2116	240 534	F 410 S	23 697	3115	MG 32 bi	274-653	ME 100 G	–
321 8018	T 101 BR	3 26 25	10 2264	240 545	F 450 SR	23 650	3102	HC 12 R	346-079	–	–
321 8019	T 318 AF	3 15 12	–	144 223	F 324 S	23 978	–	MG 31 bi	274-654	HS 105 / 1,2 bi	–
321 8020	T 318 BF	3 15 20	–	144 227	–	23 979	3115 F	MG 32 bi	274-653	HS 105 / 2,0 bi	–
321 8021	T 144 DF	3 33 40	–	144 220	F 456 S	23 976 23 933	3104 F	HGS 14 bi	373 391	–	HS 75/4 bi
321 8023	T 301 D	3 27 40	–	–	F 410 S	23 654	3101 L	–	–	HO 90 G	–
321 8024	T 301 DL	3 40 40	10 2253	144 213	F 686 S	–	3104 L	HGS 34	–	–	–
321 8028	T 118 BF	3 14 20	10 2322	144 225	F 314 S	23 973	3113 F	MG 12 bi	340-012	–	–
321 8033	T 118 AF	3 14 12	10 2319	240 503	F 324 S	23 971	3111 F	MG 11 bi	340-011	–	–
321 8070	T 111 C	3 20 30	–	–	–	23 632	–	HG 13	254-071	HO 75 R	S 75/3
321 8072	T 244 D	3 24 40	–	–	–	23 649	3105	HGS 24	346-078	HW 75 K	S 75/4 K

Jig-saw blades for pneumatic body saws by SIG®, FLEX® and Wieländer+Schill®

HSS | Bi Metall | VAP | Cu Ni Ms Zn | SHEETS | HARD SOFT WOOD

Blades from other manufacturers *
CS 118 BF

RUKO 8814 HSS bi-metal

For thin steel sheet such as car body panels.

Application range:
St 37, non-ferrous metals up to 2,5 mm thickness. Wood, plastics, hard fabrics.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
96,0	12	0,65	1,8	14 Tpi	321 8814	5

HSS | Bi Metall | VAP | STEEL | SHEETS | Cu Ni Ms Zn

Blades from other manufacturers *
CS 118 AF

RUKO 8824 HSS bi-metal

For thin steel sheet such as car body panels.

Application range:
St 37, V2A and non-ferrous metals up to 2.0 mm. Suitable for curved cuts.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
96,0	12,7	0,6	1,0	25 Tpi	321 8824	5

HSS | Bi Metall | VAP | STEEL | SHEETS | Cu Ni Ms Zn

Blades from other manufacturers *
CS 118 6F

RUKO 8832 HSS bi-metal

For thin steel sheet such as car body panels.

Application range:
St 37, V2A and non-ferrous metals up to 1.0 mm. Suitable for curved cuts.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
96,0	11,8	0,65	0,8	32 Tpi	321 8832	5

Jig-saw blades for pneumatic body saws by Ober®, Chicago Pneumatic®, Shinano®, Facom® and Pneutec®

HSS | Bi Metall | VAP | STEEL | SHEETS | Cu Ni Ms Zn

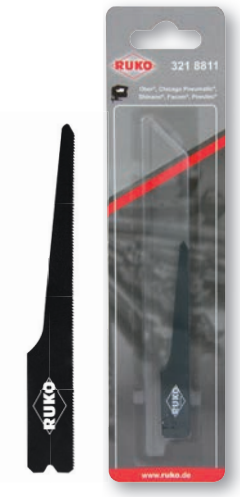
Blades from other manufacturers *
CC 118 AF

RUKO 8811 HSS bi-metal

For thin steel sheet such as car body panels.

Application range:
St 37, V2A and non-ferrous metals up to 2.0 mm. Suitable for curved cuts.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
91,5	12,7	0,6	1,0	25 Tpi	321 8811	5



HSS | Bi Metall | VAP | STEEL | SHEETS | Cu Ni Ms Zn

Blades from other manufacturers *
CC 118 GF

RUKO 8812 HSS bi-metal

For thin steel sheet such as car body panels.

Application range:
St 37, V2A and non-ferrous metals up to 1.0 mm. Suitable for curved cuts.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
91,5	12,7	0,6	0,8	32 Tpi	321 8812	5

HSS | Bi Metall | STEEL | PROFILES | SHEETS | INOX | TUBES | Cu Ni Ms Zn

Blades from other manufacturers *
Bosch® S 922 I Metabo® 31130
MP.S® 4411 I Wilpu® 3013-150 I AEG® 354-789

RUKO 8915 HSS bi-metal

Toothing crossed and milled.

Application range:
Thick sheeting from 3,0 - 8,0 mm material thickness, solid pipes and profiles Ø 10,0 - 100,0 mm, fast cutting.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	18,0	0,9	2,0	14 Tpi	331 89155	5

HSS | Bi Metall | PROFILES | SHEETS

Blades from other manufacturers *
Bosch® S 123 XF I MP.S® 4446

RUKO 8940 HSS bi-metal

Toothing crossed and milled.

Application range:
Thin to thick sheets from 1.0 - 8.0 mm material thickness, thin to thick profiles from Ø 5.0 - 100.0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	18,0	0,9	1,45 - 3,4	8 - 18 Tpi	331 89405	5

Reciprocating blades for power tools
by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Bi Metall | TUBES | PROFILES | SHEETS

Blades from other manufacturers *
Bosch® S 922 EF I Metabo® 31132
MP.S® 4401 I Wilpu® 3014-150 I AEG® 354-792

RUKO 8908 HSS bi-metal

Toothing crossed and milled.

Application range:
Thin sheets from 1.5 - 4.0 mm material thickness, pipes and profiles from Ø 5.0 - 100.0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
150,0	18,0	0,9	1,4	18 Tpi	331 89085	5

HSS | Bi Metall | TUBES | PROFILES | SHEETS

Blades from other manufacturers *
Bosch® S 922 AF I Metabo® 31129
MP.S® 4405 I Wilpu® 3015-150 I AEG® 354-796

RUKO 8906 HSS bi-metal

Toothing crossed and milled.

Application range:
Thin sheets from 0.7 - 3.0 mm material thickness, fine tubes and profiles from Ø 5.0 - 100.0 mm.
Effortless, fine cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	18,4	0,9	1,0	24 Tpi	331 89065	5

HSS | Bi Metall | TUBES | PROFILES | SHEETS

Blades from other manufacturers *
Bosch® S 1025 VF

RUKO 8918 HSS bi-metal

Toothing crossed and milled.

Application range:
Medium to thick sheets from 2.0 - 10.0 mm material thickness, solid pipes and profiles from Ø 10.0 - 150.0 mm.
Effortless, fine cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
203,0	17,8	1,25	1,8 - 2,6	10 - 14 Tpi	331 89185	5

Reciprocating blades for power tools
by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Bi Metall | TUBES | PROFILES | SHEETS | STEEL | Cu Ni Ms Zn

Blades from other manufacturers *
Bosch® S 1122 BF I Metabo® 31135 / 31485
MP.S® 4415 I AEG® 354-790 I Wilpu® 3013-250

RUKO 8916 HSS bi-metal

Toothing crossed and milled.

Application range:
Thick sheets from 3.0 - 8.0 mm material thickness, solid pipes and profiles from Ø 10.0 - 175.0 mm.
Flexible, flush and fast cutting.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
228,0	18,4	0,9	2,0	14 Tpi	331 89165	5

HSS | Bi Metall | TUBES | PROFILES | SHEETS | STEEL

Blades from other manufacturers *
Bosch® S 1122 EF I Metabo® 31133 / 31483
MP.S® 4402 I AEG® 354-793 I Wilpu® 3014-200

RUKO 8913 HSS bi-metal

Toothing crossed and milled.

Application range:
Thin sheets from 1.5 - 4.0 mm material thickness, pipes and profiles from Ø 5.0 - 175.0 mm.
Flexible, flush cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
228,0	18,4	0,9	1,4	18 Tpi	331 89135	5

HSS | Bi Metall | WITH NAILS WOOD | STEEL | CHIP BOARD WOOD | PVC | 90°

Blades from other manufacturers *
Bosch® S 610 DF I Metabo® 31925
AEG® 373-243 I Wilpu® 3055-150

RUKO 8985 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails, metal, chipboard from 10.0 - 100.0 mm material thickness, plastic profiles from Ø 5.0 - 100.0 mm, solid plastics / GRP from 8.0 - 50.0 mm, window frames made of wood and metal.
Especially suitable for plunge cuts.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	21,0	1,6	4,2	6 Tpi	331 89855	5

Reciprocating blades for power tools by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Bi Metall | TUBES | PROFILES | SHEETS | CHIP BOARD WOOD | 90°

Blades from other manufacturers *
Bosch® S 920 CF I AEG® 373-247

RUKO 8986 HSS bi-metal

Toothing crossed and milled.

Application range:
Sheets from 4.0 - 10.0 mm, solid pipes and profiles from Ø 20.0 - 100.0 mm.
Ideal for pipe cutting equipment and rescue/demolition work. Powerful and rough cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	21,0	1,6	2,54 - 3,18	8 - 10 Tpi	331 89865	5

HSS | Bi Metall | TUBES | PROFILES | SHEETS | CHIP BOARD WOOD | 90°

Blades from other manufacturers *
Bosch® S 1120 CF I Metabo® 31993
Wilpu® 3055-225 I AEG® 373-244

RUKO 8989 HSS bi-metal

Toothing crossed and milled.

Application range:
Sheets from 4.0 - 12.0 mm, solid pipes and profiles from Ø 20.0 - 175.0 mm.
Ideal for pipe cutting equipment and rescue/demolition work. Powerful and rough cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
228,0	21,0	1,6	2,54 - 3,18	8 - 10 Tpi	331 89895	5

Reciprocating blades for power tools
by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Bi Metall | WITH NAILS WOOD | CHIP BOARD WOOD | PVC | STEEL | 90° | !

Blades from other manufacturers *
Bosch® S 611 DF I Metabo® 31985
MP.S® 4016 I AEG® 354-775 I Wilpu® 3021/150bi

RUKO 8917 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails, metal, chipboard from 10.0 - 100.0 mm material thickness, plastic profiles from Ø 5.0 - 100.0 mm, solid plastics / GRP from 8.0 - 50.0 mm, window frames made of wood and metal. Especially suitable for plunge cuts.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	18,0	1,25	4,2	6 Tpi	331 89175	5

HSS | Bi Metall | TUBES | Cu Ni Ms Zn | SHEETS | STEEL | WITH NAILS WOOD | HARD SOFT WOOD

Blades from other manufacturers *
Bosch® S 922 HF I Metabo® 31131
MP.S® 4430 I AEG® 318-127 I Wilpu® 3018/150

RUKO 8901 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails and metal from 5.0 - 100.0 mm material thickness, metal sheets, pipes, aluminium profiles from 3.0 - 12.0 mm and pallets.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	18,0	0,9	2,5	10 Tpi	331 89015	5

HSS | Bi Metall | WITH NAILS WOOD | Cu Ni Ms Zn | CHIP BOARD WOOD | PVC | SHEETS | PROFILES

Blades from other manufacturers *
Bosch® S 3456 XF I Metabo® 31915
MP.S® 4447

RUKO 8943 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails and metal, chipboard from 5.0 - 150.0 mm material thickness, metal sheets, aluminium profiles from 3.0 - 18.0 mm, plastics / GRP and profiles from Ø 5.0 - 150.0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
203,0	18,0	1,25	2,1 - 4,3	6 - 12 Tpi	331 89435	5

Reciprocating blades for power tools
by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Bi Metall | TUBES | STEEL | SHEETS | WITH NAILS WOOD | Cu Ni Ms Zn | HARD SOFT WOOD

Blades from other manufacturers *
Bosch® S 1022 HF I Metabo® 31932
Wilpu® 3018-200 I MP.S® 4431

RUKO 8909 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails and metal from 5.0 - 150.0 mm material thickness, metal sheets, pipes, aluminium profiles from 3.0 - 12.0 mm and pallets.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
203,0	18,0	0,9	2,5	10 Tpi	331 89095	5

HSS | Bi Metall | STEEL | WITH NAILS WOOD | PVC | CHIP BOARD WOOD

Blades from other manufacturers *
Bosch® S 1111 DF I AEG® 318-125

RUKO 8936 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails and metal, chipboard from 10.0 - 175.0 mm material thickness, Plastic profiles from Ø 5.0 - 175.0 mm, solid plastics / GRP from 8.0 - 50.0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
228,0	18,0	1,25	4,25	6 Tpi	331 89365	5

HSS | Bi Metall | TUBES | STEEL | SHEETS | WITH NAILS WOOD | Cu Ni Ms Zn | HARD SOFT WOOD

Blades from other manufacturers *
Bosch® S 1122 HF

RUKO 8945 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails and metal from 5.0 - 175.0 mm material thickness, metal sheets, pipes, aluminium profiles from 3.0 - 12.0 mm and for pallet repair. Flexible, flush cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
228,0	18,0	0,9	2,54	10 Tpi	331 89455	5

Reciprocating blades for power tools
by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Bi Metall | WITH NAILS WOOD | SHEETS | PVC | STEEL | Cu Ni Ms Zn

Blades from other manufacturers *
Bosch® S 1125 VF I AEG® 323-813

RUKO 8933 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails and metal from 5.0 - 175.0 mm material thickness, metal sheets, aluminium profiles from 3.0 - 10.0 mm and plastic profiles from Ø 3.0 - 175.0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
228,0	18,0	1,25	1,8 - 2,6	10 - 14 Tpi	331 89335	5

HSS | Bi Metall | PVC | Cu Ni Ms Zn | SHEETS | STEEL | WITH NAILS WOOD

Blades from other manufacturers *
Bosch® S 1122 VF I AEG® 323-813

RUKO 8928 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails and metal from 5.0 - 175.0 mm material thickness, metal sheets,
aluminium profiles from 3.0 - 10.0 mm and plastic profiles from Ø 3.0 - 175.0 mm. Flexible, flush cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
228,0	18,0	0,9	1,8 - 2,6	10 - 14 Tpi	331 89285	5

HSS | Bi Metall | WITH NAILS WOOD | STEEL | CHIP BOARD WOOD | PVC | | PROFILES

Blades from other manufacturers *
Bosch® S 1411 DF I Wilpu® 3021-300 bi

RUKO 8937 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails, metal and chipboard from 10.0 - 250.0 mm material thickness, aerated concrete from 10.0 - 250.0 mm, Plastics / GRP and profiles from 5.0 - 60.0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
305,0	18,0	1,25	4,2	6 Tpi	331 89375	5

Reciprocating blades for power tools
by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HSS | Bi Metall | PVC | STEEL | SHEETS | WITH NAILS WOOD | Cu Ni Ms Zn

Blades from other manufacturers *
Bosch® S 1222 VF I Metabo® 31125 / 31475
MP.S® 4432 I AEG® 354-778 I Wilpu® 3021/300 bi

RUKO 8910 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails and metal from 5.0 - 250.0 mm material thickness, metal sheets, aluminium profiles from 3.0 - 10.0 mm and plastic profiles from Ø 3.0 - 250.0 mm. Flexible, flush cut.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
305,0	18,0	0,9	1,8 - 2,4	10 - 14 Tpi	331 89105	5

HSS | Bi Metall | STEEL | WITH NAILS WOOD | PVC | SHEETS | Cu Ni Ms Zn

Blades from other manufacturers *
Bosch® S 1225 VF I Metabo® 31124 / 31474
MP.S® 4422

RUKO 8929 HSS bi-metal

Toothing crossed and milled.

Application range:
Wood with nails and metal from 5,0 - 250,0 mm material thickness, metal sheeting, aluminium profiles from 3,0 - 10,0 mm and plastic profiles from Ø 3,0 - 250,0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
305,0	18,0	1,25	1,8 - 2,4	10 - 14 Tpi	331 89295	5

HCS | Blank | PLYWOOD | BLOCK BOARD WOOD | CHIP BOARD WOOD | | TREE CUTTING WOOD | HARD SOFT WOOD

Blades from other manufacturers *
Bosch® S 617 K I Metabo® 28241
MP.S® 4021 I Wilpu® 3019-150 I AEG® 354 779

RUKO 8905 HCS

Toothing crossed and milled.

Application range:
Coarse and nail-free wood from 20,0 - 100,0 mm, living wood, prune to Ø 100,0 mm.
Especially suitable for curved cuts and plunge cuts.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	18,35	1,25	8,5	3 Tpi	331 89055	5

Reciprocating blades for power tools
by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HCS | Blank | WOOD | ETERNIT | PVC

Blades from other manufacturers *
Bosch® S 828 D I Metabo® 31136
MP.S® 4014/4060 I Wilpu® 3025-150 I AEG® 318-131

RUKO 8903 HCS

Toothing crossed.

Application range:
Especially for various plasterboards and plasterboards from 8.0 - 100.0 mm. Wood, Eternit and plastics.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	18,35	1,0	4,2	6 Tpi	331 89035	5

HCS | Blank | PVC | WOOD | WOOD | PLYWOOD

Blades from other manufacturers *
Bosch® S 644 D I Metabo® 31120 / 31470
MP.S® 4011/4012 I AEG® 323-800 I Wilpu® 3021-150

RUKO 8924 HCS

Toothing crossed and ground.

Application range:
Structural wood, plywood and plastics from 6,0 - 100,0 mm, wooden wall to 75,0 mm, chipboard and MDF from 6,0 - 60,0 mm. Especially suitable for plunge cuts.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
152,0	18,1	1,25	4,0	6 Tpi	331 89245	5

HCS | Blank | WOOD | PLYWOOD | WOOD | PVC | PROFILES

Blades from other manufacturers *
Bosch® S 2345 X I Metabo® 31910/31913
MP.S® 4046 I Wilpu® 3023/150-240

RUKO 8944 HCS

Toothing crossed and ground.

Application range:
Structural wood, plywood and plastics from 6,0 - 150,0 mm, wooden walls up to 175,0 mm, Chipboard and MDF from 6,0 - 60,0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
203,0	18,1	1,25	2,4 - 4,0	6 - 10 Tpi	331 89445	5

Reciprocating blades for power tools
by Bosch®, Metabo®, MP.S®, Wilpu®, Atlas Copco® / AEG® etc.

HCS | Blank | HARD SOFT WOOD | PLYWOOD | BLOCK BOARD WOOD | CHIP BOARD WOOD | TREE CUTTING WOOD

Blades from other manufacturers *
Bosch® S 1111 K I Metabo® 31125 / 31475
MP.S® 4432 I AEG® 354-778 I Wilpu® 3021/300 bi

RUKO 8923 HCS

Toothing crossed and milled.

Application range:
Coarse and nail-free wood from 20,0 - 175,0 mm, firewood from Ø 20,0 - 175,0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
225,0	18,0	1,25	8,5	3 Tpi	331 89235	5

HCS | Blank | HARD SOFT WOOD | PLYWOOD | BLOCK BOARD WOOD | CHIP BOARD WOOD | TREE CUTTING WOOD

Blades from other manufacturers *
Bosch® S 1531 L I Metabo® 31139 / 31488
MP.S® 4052 I AEG® 323-803 I Wilpu® 3030-225

RUKO 8922 HCS

Toothing crossed and ground.

Application range:
Coarse and nail-free wood from 15,0 - 190,0 mm, living wood, pruned to Ø 190,0 mm,
firewood from Ø 15,0 - 190,0 mm.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
240,0	18,0	1,6	4,0 - 6,5	5 Tpi	331 89225	5

HCS | Blank | PLYWOOD | BLOCK BOARD WOOD | CHIP BOARD WOOD | | PVC | HARD SOFT WOOD

Blades from other manufacturers *
Bosch® S 1344 D I Metabo® 31122 / 31472
MP.S® 4015 I AEG® 323-802 I Wilpu® 3021-300

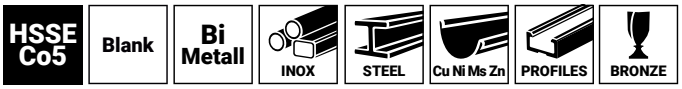
RUKO 8904 HCS

Toothing crossed and ground.

Application range:
Structural wood, wooden wall, chipboard, MDF, plywood, plastics.

mm	mm	mm	Tooth spacing teeth per mm	Tooth spacing teeth per inch		
300,0	18,0	1,25	4,2	6 Tpi	331 89045	5

HSS-Co Bihart cobalt hacksaw blade



This HSS bi-metal handsaw blade is made of two different steels. The cutting edges are made of hard HSS molybdenum steel and the saw blade body is made of alloyed heat-treated steel. The combination of the two steels in one saw blade makes the handsaw blade extremely wear-resistant, unbreakable and has excellent cutting properties. Suitable for all common materials.

Packaging unit: 100 blades per carton (10 x 10 pieces)

The ideal blade for high demands.

mm	mm	mm	inch	inch	inch	Tooth spacing teeth per inch	Tooth spacing teeth per cm		
300,0	13,0	0,65	12	1/2	0.025	18 Tpi	8	3121 300 18 R	100
300,0	13,0	0,65	12	1/2	0.025	24 Tpi	10	3121 300 24 R	100
300,0	13,0	0,65	12	1/2	0.025	32 Tpi	12	3121 300 32 R	100

HSS bi-flexible hacksaw blade

This HSS solid steel saw blade combines two seemingly incompatible properties thanks to a special heat treatment: Hardness and elasticity. Only the saw teeth are hardened, the HSS saw blade body remains flexible. These two hardening zones give the handsaw blade almost the same properties as an HSS bi-metal handsaw blade.

The ideal blade for craftswomen ans craftsmen.

Packaging unit: 100 blades per carton (10 x 10 pieces)

mm	mm	mm	inch	inch	inch	Tooth spacing teeth per inch	Tooth spacing teeth per cm		
300,0	13,0	0,65	12	1/2	0.025	18 Tpi	8	3181 300 18 R	100
300,0	13,0	0,65	12	1/2	0.025	24 Tpi	10	3181 300 24 R	100
300,0	13,0	0,65	12	1/2	0.025	32 Tpi	12	3181 300 32 R	100

Compact 33 hacksaw frame

Handle made from lacquered light-metal pressure-die casting.
Frame made from polished chrome-plated square tube.
Suitable for 300,0 mm saw blades.
Includes 1 Bihart cobalt saw blade with 24 teeth per inch.

mm	mm			
420,0	130,0	580 g	317 000 33 R	1

Reference table
– *for RUKO reciprocating blades*

Competitive blades may vary from our specifications.

	Bosch®	D+N®	Gematic®	Hawera®	Metabo®	MP.S®	Fein®	Alfra®
33189015	S 922 HF	11 10 18	11 5346	144248	31131	4430	48015	30 058
33189035	S 828 D	11 20 41	11 5222	121605	31136	4014 / 4060	56012	30 082
33189045	S 1344 D	11 20 46	11 5210	144235	31122 / 31472	4015	–	30 079
33189055	S 617 K	11 20 40	11 5207	121590	28241	4021	50011	30 076
33189065	S 922 AF	11 10 21	11 5354	144239	31129	4405	–	30 061
33189085	S 922 EF	11 10 20	11 5352	144242	31132	4401	–	30 060
33189095	S 1022 HF	11 10 24	11 5361	144249	31932	4431	52013	30 063
33189105	S 1222 VF	11 10 31	–	–	31125 / 31475	4432	–	30 071
33189135	S 1122 EF	11 10 26	11 5367	144243	31133 / 31483 / 31493	4402	59018	30 065
33189155	S 922 BF	11 10 19	11 5349	144245	31130	4411	47017	30 059
33189165	S 1122 BF	11 10 25	11 5364	–	31135 / 31485	4415	51010	30 064
33189175	S 611 DF	11 22 70	11 5328	–	31985	4016	–	–
33189185	S 1025 VF	–	–	–	31991	–	–	–
33189225	S 1531 L	11 20 51	11 5219	121611	31139 / 31488	4052	–	–
33189235	S 1111 K	–	–	–	–	–	–	–
33189245	S 644 D	11 20 44	11 5201	121600	31120 / 31470	4011	55019	–
33189285	S 1122 VF	11 10 35	–	–	–	–	–	–
33189295	S 1225 VF	11 10 32	11 5379	–	31124 / 31474	4422	–	–
33189335	S 1125 VF	11 10 34	–	–	–	–	–	–
33189365	S 1111 DF	11 22 71	–	–	–	–	–	–
33189375	S 1411 DF	11 22 72	–	–	–	–	–	–
33189405	S 123 XF	–	–	–	–	–	–	–
33189435	S 3456 XF	–	–	–	–	–	–	–
33189445	S 2345 X	–	–	–	31910 / 31913	4046	–	–
33189455	S 1122 HF	–	–	–	–	–	–	–
33189855	S 610 DF	–	–	–	–	–	–	–
33189865	S 920 CF	–	–	–	–	–	–	–
33189895	S 1120 CF	–	–	–	–	–	–	–

Flex®	Wilpu®	Atlas Copco® AEG®	Makita® Hitachi®	Milford® Rockwell®	Lenox®	Rothenberger®
–	3018-150	318-127	–	M 88176 / R12415	20562-610R	–
200.786	3025-150	318-131 / 323-801	M 0.30.20 / H 983 605 Z	M 87945	20560-606R	–
201.936	3021-300	318-125 / 323-802	M 0.30.21	M 88010 / R12403	20585-156R	–
200.751	3019-150	354-779	M 0.30.19	M 87936	–	–
200.743	3015-150	354-796	M 0.30.07 / H 983 603 Z	M 88179 / R 12433	20568-624R	86.5784
200.735	3014-150	354-792	M 0.30.06 / H 983 602 Z	M 88178 / R12454	20566-618R	86.5785
–	–	–	–	M 88174	20580-810R	–
201.928	3018-280	323-813	M 0.30.18	M 88208 / M 12418	–	–
217.751	3014-200	354-789	M 0.30.09	M 88187 / R 12420	20578-818R	86.5787
200.727	3013-150	323-810	M 0.30.13	M 88177 / M 12451	205654-614R	86.5786
217.190	3013-200	354-790	M 0.30.08 / H 983 601 Z	M 88186 / R 12419	–	86.5788
–	3021-150 bi	354-775	–	–	20570-636RP	–
–	–	–	–	–	–	–
250.056	3030-225	323-803	M 0.30.29	–	–	–
–	–	–	–	–	–	–
–	3021-150	318-126 / 323-800	–	M 88000 / R 12400	20572-656R	–
–	–	323-813	–	–	–	–
–	–	–	–	M 88218 / R 12457	20583-110R	86.5789
–	–	323-813	–	–	–	–
–	–	318-125	–	–	–	–
–	3021-300 bi	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	3023 / 150-240	–	–	–	–	–
–	–	–	–	–	–	–
–	3055-225	373-244	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–

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DEBURRERS

Type and applications overview

	Material	Surface	Type	Description	Material thickness mm	Packing unit	Item no.	Page
	HSS	Blank	B10	Unigrat B 10		10	107 012	292
	HSS	Blank	B20	Unigrat B 20		10	107 014	
	HSS	Blank	B30	Unigrat B 30	4,0	10	107 015	
	TC HM	Blank	B50	Unigrat B 50		1	107 016	
	HSS	Blank	B60	Unigrat B 60	20,0	10	107 017	
	TC HM	Blank	B70	Unigrat B 70	3,0	1	107 018	
	HSS	Blank	C40	Unigrat C 40	4,0	1	107 020	
	HSS	Blank	C42	Unigrat C 42	8,0	1	107 021	
	HSS	Blank	E100	Unigrat E 100		10	107 026	293
	HSS	Blank	E200	Unigrat E 200		10	107 027	
	HSS	Blank	E300	Unigrat E 300	4,0	10	107 028	
	HSS	Blank	E350	Unigrat E 350		10	107 029	
	HSS	Blank	E600	Unigrat E 600	20,0	5	107 030	
	HSS	Blank		Rapid deburrer		1	107 052 107 054	294
	HSS	Blank		Double deburrer	10,0	1	107 060 107 061	
	HSS	Blank		Tube deburrer	Ø 4,0 – 36,0	1	107 053	

Stainless steel	Steel	Sheet metal	Cast iron	Aluminium	Copper	Brass	Polyacetal	Polyamid (PA)	Polyvinyl chlorid (PVC)	Polyphenylene oxide	Polyethylene	Polypropylene	Poly carbonate	Polytetrafluoroethylene	Polystyrene
	●			●	●		●	○	●	●	●	●	●	●	●
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● Main application ○ Other application

A Unigrat "Universal Handle"

This handle fits all holders B-C-D-E-F.

With the locking head withdrawn, the steel holders can be adjusted up to 100,0 mm in length and can be locked in any position. The replacement blades fit in the bottom cavity of the handle.

Packaging: plastic

	L1 mm		
Universal handle A	150,0	107 010	1

B Unigrat "Blade B"

Packaging: plastic

B10	The HSS blade most commonly used for internal and external deburring work on long-chipping materials such as steel, aluminium, plastics etc.	107 012	10
B20	This HSS blade is used for short-chipping materials such as brass and cast iron. Can be used in both directions.	107 014	10
B30	This HSS blade is suitable for the simultaneous deburring of inside and outside bores in material up to 4,0 mm thickness.	107 015	10
B50	Scriber with carbide-tipped point, regrindable.	107 016	1
B60	This HSS blade removes burrs from the back of material up to 20,0 mm thickness.	107 017	10
B70	This carbide-tipped blade deburs workpieces made of material up to 3,0 mm thickness.	107 018	1

C Unigrat "Blade C"

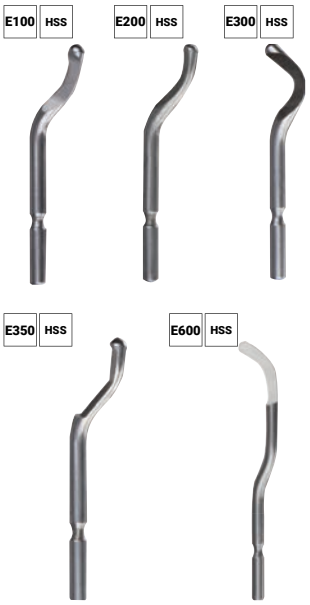
Packaging: plastic

C40	Small HSS triangular scraper 4,0 x 20,0 mm for precision work on surfaces up to 4 mm width.	107 020	1
C42	Large HSS triangular scraper 8,0 x 30,0 mm for standard work on surfaces up to 8,0 mm width.	107 021	1

E Unigrat "Blade E"

Packaging: plastic

E100	HSS blade with B 10 cutting edge, long shank only. For internal and external deburring work on long-chipping materials such as steel, aluminium, plastics etc.	107 026	10
E200	HSS blade with B 20 cutting edge, long shank only. For short-chipping materials such as brass and cast iron. Usable in both directions.	107 027	10
E300	HSS blade with B 30 cutting edge, long shank only. For simultaneous deburring of internal and external bores in materials up to 4,0 mm thickness.	107 028	10
E350	This HSS blade is suitable for deburring straight edges, keyways etc.	107 029	10
E600	This HSS blade is suitable for deburring from behind in materials up to 20,0 mm thickness.	107 030	5



Unigrat "Steel holder"

Packaging: plastic

Steel holder B	107 011	1
Steel holder C	107 019	1
Steel holder D	107 022	1
Steel holder E	107 025	1
Steel holder F	107 031	1

Edge trimmer with HSS blades

- Plastic handle with removable back for spare blade storage.
- Exchangeable blades.
- Ideal for trimming edges, tubes, steel, aluminium, brass and copper sheets, cast iron and plastic sheets.

Packaging: plastic

Edge trimmer A1 complete with E 100 HSS blade	107 050	1
4-piece set of edge trimmer A3 complete with 3 HSS blades	107 051	1

Rapid deburrer with HSS blade

- Hexagonal aluminium handle.
- Small and handy.
- Pocket-sized for permanent readiness.

Packaging: self-service bag

Rapid deburrer – blade not changeable E 100 HSS blade	107 052	1
Rapid deburrer – blade changeable E 100 HSS blade	107 054	1

Double deburrer with HSS disk blade

- Plastic handle with hand protector and 2 HSS blades.
- Exchangeable HSS disk blades.
- The disk blades can be turned when the cutting surfaces become worn, enabling the whole blade circumference to be utilized.
- The distance between the disk blades can be adjusted.
- Suitable for double-sided deburring of steel, aluminium, brass, copper and plastic sheets up to 10,0 mm thickness.

Packaging: plastic

Double deburrer, complete	107 060	1
Replacement HSS disk blade	107 061	2

Tube deburrer with HSS cutting edges

- Ideal for internal and external deburring of pipes.
- Can be used for pipe diameters from 4.0 to 36.0 mm.

Packaging: plastic

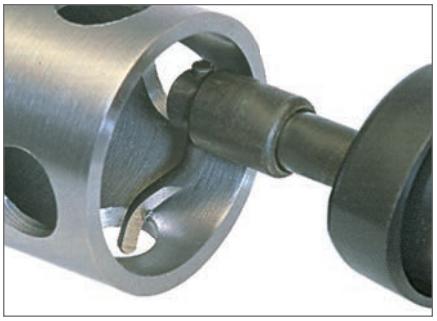
Tube deburrer	107 053	1

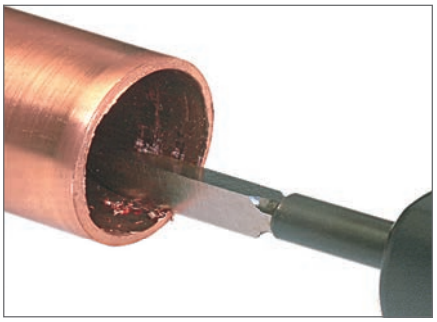
Unigrat sets

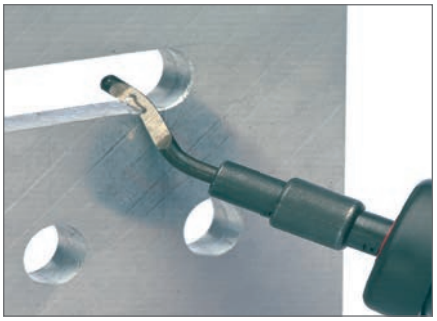
A rational deburring system for all deburring work that has to be done by hand.
The wide selection of blades provides a wide range of deburring possibilities for bores and edges.
The various blades enable you to debur bores from inside, outside or on both sides, as the blade itself adapts to the contours.

Packaging: plastic

4-piece set of unigrat deburrer "B" 	107 003
3-piece set of unigrat deburrer "C" 	107 004
5-piece set of unigrat deburrer "E" 	107 006







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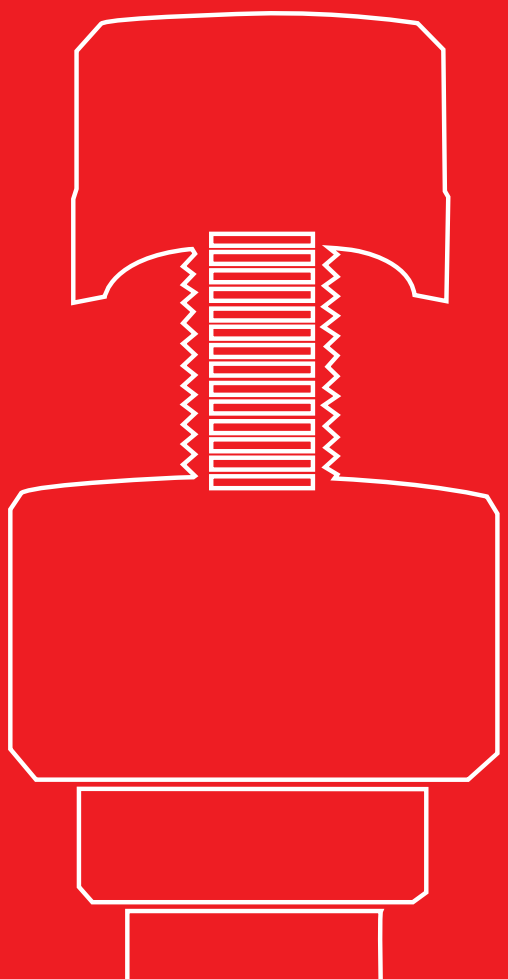


SCREW-HOLE PUNCHES

MF 4 mm

Screw-hole punch with three-point cutting tip

Die: three point cutting tip
Material: special steel
Draw-in bolt: metric fine-threads

Suitable for sheet steel, stainless-steel sheets, non-ferrous and light metals, plastics.
Ideal for switchgear manufacturers, electricians, plumbers, industry and handicrafts.

The through hole should be only slightly bigger than the diameter (+ 1.0 mm) of the traction bolt. Apply (spread) RUKO lubricating paste on the cutting edges and the traction bolt. This reduces wear and thus increases the service life of the Screw-hole punch.

Packing unit: individual cartons

Ø mm	Through dimensions		Conduit & Pipe Size	Ø inch	Draw-in bolt MF	**Standard**	**Ball-bearing**	
	M	PG						
12,7	M 12	PG 7		1/2"	MF 8	109 127		1
15,2		PG 9			MF 10	109 152	109 152 K	1
16,0					MF 10	109 160	109 160 K	1
16,5	M 16				MF 10	109 165	109 165 K	1
18,0					MF 10	109 180	109 180 K	1
18,6		PG 11			MF 10	109 186	109 186 K	1
19,0				3/4"	MF 10	109 190	109 190 K	1
20,0					MF 10	109 200	109 200 K	1
20,4	M 20	PG 13,5			MF 10	109 204	109 204 K	1
21,0					MF 10	109 210	109 210 K	1
22,0					MF 10	109 220	109 220 K	1
22,5		PG 16	1/2"	7/8"	MF 10	109 225	109 225 K	1
23,0					MF 10	109 230	109 230 K	1
24,0					MF 10	109 240	109 240 K	1
25,0					MF 10	109 250	109 250 K	1
25,4	M 25			1"	MF 10	109 254	109 254 K	1
26,0					MF 10	109 260	109 260 K	1
27,0					MF 10	109 270	109 270 K	1
28,3		PG 21	3/4"		MF 12	109 283	109 283 K	1
29,0					MF 12	109 290	109 290 K	1
30,0					MF 12	109 300	109 300 K	1
30,5				1 7/32"	MF 12	109 305	109 305 K	1
31,0					MF 12	109 310	109 310 K	1
32,0					MF 12	109 320	109 320 K	1
32,5	M 32				MF 12	109 325	109 325 K	1
33,0					MF 12	109 330	109 330 K	1
34,0					MF 12	109 340	109 340 K	1
35,0				1 3/8"	MF 12	109 350	109 350 K	1
36,0					MF 12	109 360	109 360 K	1
37,0		PG 29			MF 12	109 370	109 370 K	1
38,0				1 1/2"	MF 12	109 380	109 380 K	1
40,0	M 40				MF 12	109 400	109 400 K	1
40,5					MF 16	109 405	109 405 K	1
42,0					MF 16	109 420	109 420 K	1
43,0			1 1/4"		MF 16	109 430	109 430 K	1
45,0					MF 16	109 450	109 450 K	1
47,0		PG 36			MF 16	109 470	109 470 K	1
50,0			1 1/2"		MF 16	109 500	109 500 K	1
50,5	M 50				MF 16	109 505	109 505 K	1
51,0					MF 16	109 510	109 510 K	1
53,0					MF 16	109 530	109 530 K	1
54,0		PG 42		2 1/8"	MF 16	109 540	109 540 K	1
55,0					MF 16	109 550	109 550 K	1
60,0		PG ~ 48			MF 16	109 600	109 600 K	1
61,5			2"	2 3/8"	MF 16	109 615	109 615 K	1
63,5	M 63			2 1/2"	MF 16	109 635	109 635 K	1

		Standard	Ball-bearing
4 tlg./pcs.	Screw-hole punch set 3 screw-hole punches Ø 28.3 (PG 21) - 32.0 - 35.0 + 1 spare screw MF 12 x 1.5 x 55	109 001	
11 tlg./pcs.	Screw-hole punch set 6 screw-hole punches Ø 15.2 (PG 9) - 18.6 (PG 11) - 20.4 (M 20 / PG 13.5) - 22.5 (PG 16) - 28.3 (PG 21) + 32.0 mm + 1 sheet metal peel drill HSS size 1 + 1 cutting paste 20 ml + 2 replacement screws MF 10 x 1.0 + 1 replacement screw MF 12 x 1.5	109 002	109 002 K
13 tlg./pcs.	Screw-hole punch set 8 screw-hole punches Ø 15.2 (PG 9) - 18.6 (PG 11) - 20.4 (M 20 / PG 13.5) - 22.5 (PG 16) - 28.3 (PG 21) - 37.0 (PG 29) - 47.0 (PG 36) + 54.0 mm (PG 42) + 1 sheet metal peel drill HSS size 2 + 1 cutting paste 20 ml + 1 replacement screw MF 10 x 1.0 + 1 replacement screw MF 12 x 1.5 + 1 spare screw MF 16 x 1.5	109 003	109 003 K
10 tlg./pcs.	Screw-hole punch set 5 screw-hole punches Ø 16.5 (M 16) - 20.4 (M 20 / PG 13.5) - 25.4 (M 25) - 32.5 (M 32) + 40.5 mm (M 40) + 1 sheet metal peel drill HSS size 2 + 1 cutting paste 20 ml + 1 replacement screw MF 10 x 1.0 + 1 replacement screw MF 12 x 1.5 + 1 spare screw MF 16 x 1.5	109 006	109 006 K
12 tlg./pcs.	Screw-hole punch set 7 screw-hole punches Ø 16.5 (M 16) - 20.4 (M 20 / PG 13.5) - 25.4 (M 25) - 32.5 (M 32) - 40.5 (M 40) - 50.5 (M 50) + 63.5 mm (M 63) + 1 sheet metal peel drill HSS size 2 + 1 cutting paste 20 ml + 1 replacement screw MF 10 x 1.0 + 1 replacement screw MF 12 x 1.5 + 1 spare screw MF 16 x 1.5	109 008	109 008 K

109 001

109 003

109 006

109 008 K

Hand hydraulic punch

5 tlg./pcs.	Compact manual hydraulic punch, complete + 1 distance sleeve + 1 adapter bolt MF 10 x 1,0, 3/4" UNF fitting + 1 adapter bolt MF 12 x 1,5, 3/4" UNF fitting + 1 adapter bolt MF 16 x 1,5, 3/4" UNF fitting pulling power 50 kN	109 101

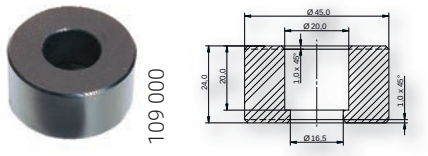
Screw-hole punch sets with compact manual hydraulic punch

13 tlg./pcs.	Screw-hole punch set with compact hand hydraulic punch 1 compact manual hydraulic punch complete + 6 Screw-hole punches Ø 16.5 (M 16) - 20.4 (M 20 / PG 13.5) - 25.4 (M 25) - 32.5 (M 32) - 40.5 (M 40) + 50.5 mm (M 50) + 1 sheet metal peeling drill HSS size 2 + 1 cutting paste 30 g + 1 spacer bush + 1 adapter screw MF 10 x 1.0 receptacle 3/4" UNF + 1 adapter screw MF 12 x 1.5 receptacle 3/4" UNF + 1 adapter screw MF 16 x 1.5 receptacle 3/4" UNF Tensile force 50 kN	109 009
15 tlg./pcs.	Screw-hole punch set with compact hand hydraulic punch 1 compact manual hydraulic punch complete + 8 Screw-hole punches Ø 15.2 (PG 9) - 18.6 (PG11) - 20.4 (M 20 / PG 13.5) - 22.5 (PG 16) - 28.3 (PG 21) - 37.0 (PG 29) - 47.0 (PG 36) + 54.0 mm (PG 42) + 1 sheet metal peeling drill HSS size 2 + 1 cutting paste 30 g + 1 spacer bush + 1 adapter screw MF 10 x 1.0 receptacle 3/4" UNF + 1 adapter screw MF 12 x 1.5 receptacle 3/4" UNF + 1 adapter screw MF 16 x 1.5 receptacle 3/4" UNF Tensile force 50 kN	109 004

Spare parts

The adapter bolts may be used on all standard hydraulic punches.

Packaging: plastic

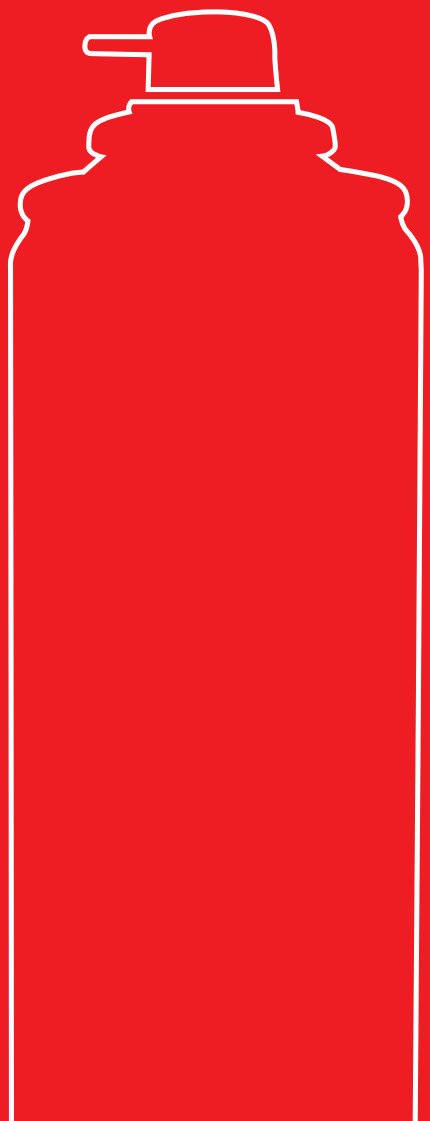


Distance sleeve	109 000
Adapter bolt MT 10 x 1,0, 3/4" UNF fitting	109 110
Adapter bolt MT 12 x 1,5, 3/4" UNF fitting	109 112
Adapter bolt MT 16 x 1,5, 3/4" UNF fitting	109 116
Replacement bolt MT 8 x 1,0 x 40	103 108
Replacement bolt MT 10 x 1,0 x 45	103 110
Replacement bolt MT 12 x 1,5 x 55	103 112
Replacement bolt MT 16 x 1,5 x 60	103 116
Replacement bolt with ball-bearing MT 10 x 1,0 x 50	103 110 K
Replacement bolt with ball-bearing MT 12 x 1,5 x 60	103 112 K
Replacement bolt with ball-bearing MT 16 x 1,5 x 70	103 116 K

Guide values for the use of screw-hole punches

Ø mm	Draw-in bolt	Sheet steel	Stainless-steel sheets	Non-ferrous and light metals	Plastics
12,7	MF 8 x 1,0 mm	2,0 mm	1,0 mm	4,0 mm	4,0 mm
15,2 - 27,0	MF 10 x 1,0 mm	2,0 mm	1,0 mm	4,0 mm	4,0 mm
28,3 - 40,0	MF 12 x 1,5 mm	3,0 mm	1,5 mm	4,0 mm	4,0 mm
40,5 - 63,5	MF 16 x 1,5 mm	3,0 mm	1,5 mm	4,0 mm	4,0 mm

COOLANTS AND LUBRICANTS



14

Cutting pastes

High performance cutting paste with outstanding separation and cooling effect. Increases tool life even with hard and brittle materials. High heat resistance ensures good lubrication and cooling even at high temperatures. Good adhesion improves lubrication.

For all standard metal working processes such as thread cutting, grinding, sawing, drilling, countersinking, deburring, turning, stamping and milling. Cutting spray including 360° valve!

Cutting paste 40 ml	101 021	1
Cutting paste 20 ml	101 035	1

Cutting spray cans

High performance cutting spray with outstanding separation and cooling effect. Increases tool life even with hard and brittle materials. High heat resistance ensures good lubrication and cooling even at high temperatures. Good adhesion improves lubrication.

For all standard metal working processes such as thread cutting, grinding, sawing, drilling, countersinking, deburring, turning, stamping and milling.

Cutting spray 50 ml	101 010	12
Cutting spray 200 ml	101 025	12
Cutting spray 400 ml	101 036	12
Cutting pump spray can * 300 ml	101 012	12

* no hazardous substance (without propellant gas)

Universal cutting oil concentrate

Excellent lubricating and cooling effect. Prevents corrosion and increases tool life thanks to excellent lubricity, even at low concentrations. Transparent solution does not stick and allows an unobstructed view of the machine, workpiece and tool. Skin-friendly, free from formaldehyde, sulphur and sodium nitrite, biostable, complies with TRGS 611.

For all common metalworking processes in unalloyed and alloyed steels, for thread cutting, reaming, sawing, drilling, turning, milling and grinding. Boron and amine-free.
Application concentration in water depending on the work process: 5 – 15 %

Universal cutting oil concentrate, 1 L bottle	101 034	1
Universal cutting oil concentrate, 5 L canister	101 033	1

15

CONCRETE DRILLS

Type and applications overview

	Surface	Cutting edges	Shank	Ø mm	Drilling depth in mm	Item no.	Page/s
 NEW	Blank		SDS-PLUS	5,0 – 30,0	50 – 400	123 xxx 123 xxx K	308
	Blank		SDS-PLUS	3,5 – 26,0	50,0 – 950,0	211 xxx	310 – 311
	Blank	TC/HM		5,0 – 12,0	50,0 – 90,0	223 xxx	312
	Blank	TC/HM		3,0 – 12,0	80,0 – 100,0	223 xxx	312
	Blank		SDS-PLUS 6	30,0 – 100,0	50,0	226 xxx	313

Concrete	Masonry	Granite and marble	Tiles	Bricks	Lightweight material	Concrete reinforcement	Plastics	Non-ferrous metals	Glass
●	●	●	●	●		●			
●	●	●	●	●		●			
	●		●	●	●	●	●	●	
			●				●		●
●	●	●	●	●	●				

● Main application ○ Other application

NEW

SDS-plus hammer drill with 4 cutting edges

A special drill dust groove geometry ensures optimum drill dust feed. Reduced vibrations and low friction result in significantly shorter drilling times. Core reinforcement for maximum energy transfer. No risk of breakage when hitting reinforcement.

Areas of application: for granite, concrete, clinker, stone, masonry and marble.

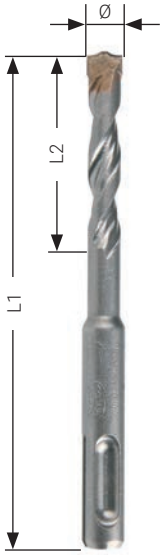
Packaging: self-service clip or QuadroPack

Ø mm	Ø Zoll	L1 mm	L2 mm	SB-Clip		QuadroPack	
5,0	3/16	110 mm	50 mm	123 050	1	123 050 K	10
5,0	3/16	160 mm	100 mm	123 051	1	123 051 K	10
5,5	7/32	160 mm	100 mm	123 055	1	123 055 K	10
6,0	15/64	110 mm	50 mm	123 060	1	123 060 K	10
6,0	15/64	160 mm	100 mm	123 061	1	123 061 K	10
6,0	15/64	210 mm	150 mm	123 062	1	123 062 K	10
6,0	15/64	260 mm	200 mm	123 063	1	123 063 K	10
6,5	8/32	210 mm	150 mm	123 065	1	123 065 K	10
8,0	5/16	110 mm	50 mm	123 080	1	123 080 K	10
8,0	5/16	160 mm	100 mm	123 081	1	123 081 K	10
8,0	5/16	210 mm	150 mm	123 082	1	123 082 K	10
8,0	5/16	260 mm	200 mm	123 083	1	123 083 K	10
10,0	3/8	160 mm	100 mm	123 100	1	123 100 K	10
10,0	3/8	210 mm	150 mm	123 101	1	123 101 K	10
10,0	3/8	260 mm	200 mm	123 102	1	123 102 K	10
10,0	3/8	450 mm	400 mm	123 103	1	–	–
12,0	15/32	160 mm	100 mm	123 120	1	123 120 K	5
12,0	15/32	210 mm	150 mm	123 121	1	123 121 K	5
12,0	15/32	260 mm	200 mm	123 122	1	123 122 K	5
12,0	15/32	450 mm	400 mm	123 123	1	–	–
14,0	9/16	160 mm	100 mm	123 140	1	123 140 K	5
14,0	9/16	210 mm	150 mm	123 141	1	123 141 K	5
14,0	9/16	260 mm	200 mm	123 142	1	123 142 K	5
14,0	9/16	450 mm	400 mm	123 143	1	123 143 K	5
16,0	5/8	210 mm	150 mm	123 161	1	–	–
16,0	5/8	260 mm	200 mm	123 162	1	–	–
16,0	5/8	310 mm	250 mm	123 163	1	–	–
16,0	5/8	450 mm	400 mm	123 164	1	–	–
18,0	11/16	260 mm	200 mm	123 181	1	–	–
18,0	11/16	450 mm	400 mm	123 182	1	–	–
20,0	25/32	260 mm	200 mm	123 201	1	–	–
20,0	25/32	450 mm	400 mm	123 202	1	–	–
22,0	7/8	450 mm	400 mm	123 221	1	–	–
24,0	15/16	450 mm	400 mm	123 241	1	–	–
28,0	1 1/8	450 mm	400 mm	123 281	1	–	–
30,0	1 3/16	450 mm	400 mm	123 301	1	–	–

SDS-plus hammer drill with 2 cutting edges

Longer service life in concrete and on reinforcement thanks to stabilised head geometry and rounded cutting edges. Patented 2-edge design based on the Bionic principle. Innovative Twinmax 3D helix profile enables optimum drill dust transport. Certified by the Prüfgemeinschaft Mauerbohrer (PGM) in accordance with the requirements of the Deutsches Institut für Bautechnik (DiBt).

Areas of application: For granite, concrete, concrete reinforcement, clinker, stone, masonry and marble.
Use: In all rotary hammers with SDS-plus chuck and 2-slot chuck, e.g. Hilti TE 10-22.



Packaging: self-service clip

Ø mm	Ø inch	L1 mm	L2 mm		
3,5	9/64	110,0	50,0	211 035	1
4,0	5/32	110,0	50,0	211 040	1
4,0	5/32	160,0	100,0	211 041	1
5,0	3/16	110,0	50,0	211 050	1
5,0	3/16	160,0	100,0	211 051	1
5,0	3/16	210,0	150,0	211 052	1
5,5	7/32	110,0	50,0	211 055	1
5,5	7/32	160,0	100,0	211 056	1
6,0	15/64	110,0	50,0	211 060	1
6,0	15/64	160,0	100,0	211 061	1
6,0	15/64	210,0	150,0	211 062	1
6,0	15/64	260,0	200,0	211 063	1
6,0	15/64	460,0	* 400,0	211 068	1
6,5	8/32	110,0	50,0	211 065	1
6,5	8/32	160,0	100,0	211 066	1
6,5	8/32	210,0	150,0	211 067	1
6,5	8/32	260,0	200,0	211 069	1
7,0	9/32	110,0	50,0	211 070	1
7,0	9/32	160,0	100,0	211 071	1
7,0	9/32	210,0	150,0	211 072	1
8,0	5/16	110,0	50,0	211 080	1
8,0	5/16	160,0	100,0	211 081	1
8,0	5/16	210,0	150,0	211 082	1
8,0	5/16	260,0	200,0	211 083	1
8,0	5/16	310,0	250,0	211 085	1
8,0	5/16	460,0	* 400,0	211 084	1
8,0	5/16	610,0	* 550,0	211 086	1
9,0	11/32	160,0	100,0	211 090	1
9,0	11/32	210,0	150,0	211 091	1
10,0	3/8	110,0	50,0	211 105	1
10,0	3/8	160,0	100,0	211 100	1
10,0	3/8	210,0	150,0	211 101	1
10,0	3/8	260,0	200,0	211 102	1
10,0	3/8	310,0	250,0	211 104	1
10,0	3/8	360,0	300,0	211 103	1
10,0	3/8	460,0	* 400,0	211 106	1
10,0	3/8	610,0	* 550,0	211 107	1
10,0	3/8	1000,0	* 950,0	211 108	1
11,0	7/16	160,0	100,0	211 110	1
11,0	7/16	210,0	150,0	211 111	1
11,0	7/16	260,0	200,0	211 112	1
12,0	15/32	160,0	100,0	211 120	1
12,0	15/32	210,0	150,0	211 122	1
12,0	15/32	260,0	200,0	211 121	1
12,0	15/32	310,0	250,0	211 124	1
12,0	15/32	460,0	* 400,0	211 123	1
12,0	15/32	600,0	* 550,0	211 125	1
12,0	15/32	1000,0	* 950,0	211 126	1
13,0	1/2	160,0	100,0	211 130	1

Ø mm	Ø inch	L1 mm	L2 mm		
13,0	1/2	210,0	150,0	211 133	1
13,0	1/2	260,0	200,0	211 131	1
13,0	1/2	310,0	250,0	211 132	1
14,0	9/16	160,0	100,0	211 140	1
14,0	9/16	210,0	150,0	211 141	1
14,0	9/16	260,0	200,0	211 142	1
14,0	9/16	310,0	250,0	211 143	1
14,0	9/16	460,0	* 400,0	211 144	1
14,0	9/16	600,0	* 550,0	211 145	1
14,0	9/16	1000,0	* 950,0	211 146	1
15,0	19/32	160,0	100,0	211 150	1
15,0	19/32	210,0	150,0	211 152	1
15,0	19/32	260,0	200,0	211 151	1
15,0	19/32	450,0	* 400,0	211 153	1
16,0	5/8	160,0	100,0	211 162	1
16,0	5/8	210,0	150,0	211 160	1
16,0	5/8	250,0	200,0	211 163	1
16,0	5/8	310,0	250,0	211 164	1
16,0	5/8	450,0	* 400,0	211 161	1
16,0	5/8	600,0	* 550,0	211 165	1
16,0	5/8	800,0	* 750,0	211 166	1
16,0	5/8	1000,0	* 950,0	211 167	1
17,0	43/64	210,0	150,0	211 170	1
18,0	11/16	200,0	150,0	211 180	1
18,0	11/16	250,0	200,0	211 184	1
18,0	11/16	300,0	250,0	211 183	1
18,0	11/16	450,0	* 400,0	211 181	1
18,0	11/16	600,0	* 550,0	211 185	1
18,0	11/16	1000,0	* 950,0	211 182	1
19,0	3/4	200,0	150,0	211 190	1
19,0	3/4	450,0	* 400,0	211 191	1
20,0	25/32	200,0	150,0	211 200	1
20,0	25/32	300,0	250,0	211 201	1
20,0	25/32	450,0	* 400,0	211 202	1
20,0	25/32	600,0	* 550,0	211 203	1
20,0	25/32	1000,0	* 950,0	211 204	1
22,0	7/8	250,0	200,0	211 221	1
22,0	7/8	300,0	250,0	211 222	1
22,0	7/8	450,0	* 400,0	211 220	1
22,0	7/8	600,0	* 550,0	211 223	1
22,0	7/8	1000,0	* 950,0	211 224	1
24,0	15/16	250,0	200,0	211 240	1
24,0	15/16	450,0	* 400,0	211 241	1
25,0	63/64	250,0	200,0	211 251	1
25,0	63/64	300,0	250,0	211 252	1
25,0	63/64	450,0	* 400,0	211 250	1
25,0	63/64	1000,0	* 950,0	211 253	1
26,0	1 3/16	250,0	200,0	211 261	1
26,0	1 3/16	450,0	* 400,0	211 260	1

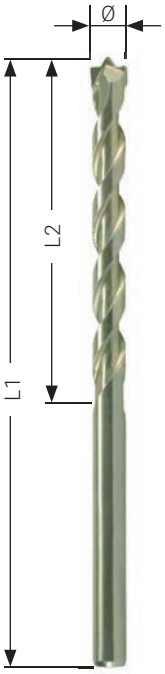
* Pre-drill to a depth of approx. 150.0 mm using a shorter hammer drill bit of the same diameter.

Packaging: plastic tube

Ø mm	Ø inch	L1 mm	L2 mm		
5,0	3/16	110,0	50,0	211 050 K	10
5,0	3/16	160,0	100,0	211 051 K	10
6,0	15/64	110,0	50,0	211 060 K	10
6,0	15/64	160,0	100,0	211 061 K	10
8,0	5/16	110,0	50,0	211 080 K	10
8,0	5/16	160,0	100,0	211 081 K	10
8,0	5/16	210,0	150,0	211 082 K	10
10,0	3/8	110,0	50,0	211 105 K	10
10,0	3/8	160,0	100,0	211 100 K	10
12,0	15/32	160,0	100,0	211 120 K	10
12,0	15/32	210,0	150,0	211 122 K	10
14,0	9/16	160,0	100,0	211 140 K	5
14,0	9/16	210,0	150,0	211 141 K	5

7 tlg./pcs.	SDS-plus hammer drill set Ø 5.0 - 6.0 - 8.0 x 110.0 mm and Ø 6.0 - 8.0 - 10.0 - 12.0 x 160.0 mm	205 246 RO

Universal drills with carbide cutting edge and straight shank



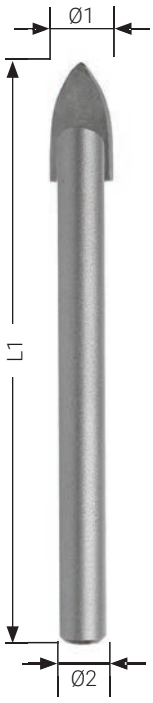
High time of exposure is guaranteed by a special alloyed steel quality. For precise center drilling on hard surfaces. Ideal for non splittering and precise drilling. Special tungsten carbide plate with center point.

Applications: for drilling in tiles, clinker, stone, masonry, plastics, non-ferrous metals, soft and hard wood and lightweight material. Only usable for revolving application in turning and impact drilling machines. Ideal for accumulator machines.

Packaging: self-service bag

Ø mm	Ø inch	L1 mm	L2 mm		
5,0	3/16	95,0	50,0	223 050	1
6,0	15/64	100,0	60,0	223 060	1
8,0	5/16	120,0	80,0	223 080	1
10,0	3/8	120,0	80,0	223 100	1
12,0	15/32	150,0	90,0	223 120	1

Glass and tile drills with carbide cutting edge and straight shank



Best results with lower r.p.m. and good cooling with water, vinegar, turpentine and kerosine. Especially suited for drilling of window pane, mirror glass, bottles, porcelain, tiles, ceramics etc.

Cutting edge: special ground carbide plate
Soldering: high-strength special soldering

Packaging: self-service bag

Ø1 mm	Ø1 inch	Ø2 mm	L1 mm		
3,0	1/8	3,0	80,0	223 003	1
4,0	5/32	3,0	90,0	223 004	1
5,0	3/16	4,0	90,0	223 005	1
6,0	15/64	5,0	100,0	223 006	1
8,0	5/16	6,0	100,0	223 008	1
10,0	3/8	6,0	120,0	223 010	1
12,0	15/32	8,0	120,0	223 012	1

Hammer percussion drills with carbide cutting edges

High performance due to very stable and thin-walled core bit body.

Areas of application: for concrete, stone, masonry and brick.
Use: in rotary hammers up to max. 4.0 kg with SDS-plus chuck and 2-slot chuck.
In impact drills with hexagonal shank.

Required machine power: up to Ø 50.0 mm min. 600 watts from, Ø 65.0 mm min. 800 watts.
Supplied without centre drill and shank.

Cutting edge: special tungsten carbide tips
Soldering: high-strength special soldering
Adaptor: M16 thread

Packaging: plastic tube

Examples for applications	Ø mm	L1 mm	Drilling depth L2 mm	Quantity of teeth TC		
Sanitation and heating tubes	30,0	72,0	50,0	4	226 0301	1
Sanitation and heating tubes	35,0	72,0	50,0	4	226 0351	1
Waste, water and heating tubes	40,0	72,0	50,0	4	226 0401	1
Waste, water and heating tubes	50,0	72,0	50,0	6	226 0501	1
Switch boxes	68,0	72,0	50,0	6	226 0651	1
Branch and distribution boxes	82,0	72,0	50,0	6	226 0801	1
Branch, distribution and ventilating tubes	90,0	72,0	50,0	6	226 0901	1
Ventilating tubes	100,0	72,0	50,0	6	226 1001	1

Accessoires for percussion drills

Center drill with carbide cutting edge Ø 8,0 mm total length 120,0 mm	226 200	1
Adaptor with hexagon shank span of jaw 12,0 mm total length 95,0 mm	226 201	1
Adaptor SDS-plus total length 110,0 mm	226 203	1

Overview of symbols

01 Twist drills

HSS — High-speed steel

HSSE Co8 — High-speed steel with 8 % cobalt content

Blank — Blank surface

Bronze — Bronze-colored surface

VAP — Black oxidized surface

Point angle e.g. 130°

Tolerance h8

Three-surface shank e.g. from Ø 4.0 mm

FLOWSTEP® tip from Ø 3.0 mm

Sink angle 60°

HSS-R — High-speed steel rolled

HSSE Co5 — High-speed steel with 5% cobalt content

VAP Bonze — Black oxidized / Bronze-colored surface

VAP Blank — Black oxidized / Blank surface

TiN — TiN coating

Helix angle e.g. 40°


Cylindrical shank


Weldon shank


Very suitable for use in hand drills and cordless drills

Set item e.g. 19-piece

Inch Size — Inch dimensions

TiAlN — TiAlN coating


Left cutting

Drilling depth e.g. 5 x Ø


Reduced shank


Morse taper shank

Square shank according to DIN 10


Through hole

02 Special drills

HSS — High-speed steel

Blank — Blank surface

TiCN — TiCN coating

Shape N Helical point normal ground

Helix angle e.g. 25 – 30°

HSSE Co5 — High-speed steel with 5% cobalt content

TiN — TiN coating

Center point

Tolerance h8


Very suitable for use in hand drills and cordless drills

TC HM — Tungsten carbide

AlTiN — AlTiN coating

Point angle 180°

Set item e.g. 13-piece


Cylindrical shank

03 Tube and sheet drills

HSS — High-speed steel

Cone angle
e.g. 20 – 30°


Ø tolerance
factory standard


Bit shank
1/4" x 27.0 mm

HSSE Co5 — High-speed steel
with 5% cobalt content

Point angle
e.g. 118°


Point grinding
factory standard

TiN — TiN coating

Shape C:
split point

Three-surface shank

04 Step drills

HSS — High-speed steel

Blank — Blank surface

Shape C:
split point

Point angle
e.g. 118°

Three-surface shank


4 cutting edges

VAP — Black oxidized surface

FLOWSTEP® tip
from Ø 3.0 mm

HSSE Co5 — High-speed steel
with 5% cobalt content

TiN — TiN coating

Step angle
e.g. 90°


Point grinding
factory standard


Bit shank
1/4" x 27,0 mm


3 cutting edges

RUKO Turbo tip

TiAlN — TiAlN coating

RUna TEC — RUnaTEC coating

FLOWSTEP® Technology


Ø tolerance
factory standard


Cylindrical shank

Material thickness
up to max. e.g. 4 mm

Set item
3-piece

05 Sinkers

HSS — High-speed steel

HSSE Co5 — High-speed steel
with 5% cobalt content

TC HM — Tungsten carbide

Sink angle
e.g. 90°

Blank — Blank surface

VAP — Black oxidized surface

RUna TEC — RUnaTEC coating


3 cutting edges

TiAlN — TiAlN coating

TiN — TiN coating

ALU — For aluminium

Shape N Helical point
normal ground

Sink angle 120°


Morse taper shank


Bit shank
1/4" x 27.0 mm


Very suitable for use in
hand drills and cordless drills

Cylindrical shank
from sink-Ø 6.3 mm

Set item
e.g. 6-piece


1 cutting edge


Cylindrical shank


Fast cuts

Sink angle 180°


Very suitable for use in
pillar drilling machines

Inch dimensions

Ø tolerance
factory standard


Three-surface shank


4 unevenly divided cutting edges

Three-surface shank
e.g. from sink-Ø 8.3 mm

Very suitable for use in
CNC lathes

06 Thread-cutting tools

High-speed steel

High-speed steel
with 5% cobalt content


Left cutting

FLOWSTEP® tip


Blind hole

Metric,
DIN ISO 13

Metric fine,
DIN ISO 13

British Standard Whitworth thread
according to BS 84

British Standard Fine thread
according to BS 84

DIN ISO 228 "G"
(cylindrical pipe thread)

Blank surface

Black oxidized surface

Type B approx. 4 – 5 threads
with progressive tap

Type C / 35° right-hand spiral flutes,
approx. 2 - 3 threads

Type D
approx. 4 - 6 threads

Interrupted threads
for cutting
soft materials


Through hole

American UNC coarse thread
ANSI / ASME B 1.1

American UNF fine thread
ANSI / ASME B 1.1

American conical pipe thread to
ANSI B.1.20.1

DIN 2999 "Rp"
Whitworth pipe thread

DIN 40430 steel
conduit thread

TiAlN coating

TiN coating

Thread tolerance for American
threads for internal threads

Thread tolerance for American
threads for external threads

Thread tolerance for metric and
metric fine threads according to
DIN ISO 13 – internal threads

Thread tolerance for metric and
metric fine threads according to
DIN ISO 13 – external threads


Ø tolerance
factory standard

Machine taps
with reinforced shank

Machine taps
with overflow shank

Strength classes
e.g. 800 N/mm²

Thread angle
e.g. 60°


Bit shank
1/4" x 27.0 mm


Square shank to DIN 10

Metric ISO thread to DIN 13


Cylindrical shank

Drilling depth
e.g. 5 x Ø

Shape C:
split point from Ø 2 mm

Point angle
e.g. 130°

Helix angle
e.g. 36°

Tolerance h8


Very suitable for use in
hand drills and cordless drills

Color ring
e.g. green

Set item
e.g. 7-piece

07 Thread repair tool

HSS
Height-speed steel

Shape C:
split point from Ø 2 mm

Square shank to DIN 10

M
Metric, DIN ISO 13

B
Type B approx. 4 – 5 threads
with progressive tap


Cylindrical shank

N
Type N

Thread angle
e.g. 60°

Point angle 118°

Drilling depth
e.g. 5 x Ø

Thread tolerance for metric and
metric fine threads according to
DIN ISO 13 – internal threads

Helix angle 25 – 30°

Tolerance e.g. h8

Set item
e.g. 86-piece

08 Core drilling technology

HSS
High-speed steel

Blank
Blank surface


Weldon shank

HSSE
Co5
High-speed steel
with 5% cobalt content

TiAlN
TiAlN coating


Quick IN shank

TC
HM
Tungsten carbide

Drilling depth
e.g. 30.0 mm


Threaded retainer


Ø tolerance
factory standard


Suitable for use in
magnetic drilling machines


Very suitable for use in
pillar drilling machines

RU40
RU25
A10
Suitable for use in the RUKO
magnetic drilling machines
RU40, RU25 and A10

Set item
e.g. 9-piece

09 Rotary burrs

TC HM — Tungsten carbide


Cylindrical shank

12 tlg./pcs. — Set item
e.g. 12-piece

Blank — Blank surface

CT4 — Toothing CT 4
for steels

TiCN — TiCN coating

ALU — Toothing ALU
for soft materials

10 Hole saws

HSS — High-speed steel

HSSE Co8 — High-speed steel
with 8 % cobalt content

TC HM — Tungsten carbide

8 tlg./pcs. — Set item
e.g. 8-piece

HSSE Co8 — High-speed steel
with 8 % cobalt content
cutting edges

2.5 mm — Material thickness
up to max. 2.5 mm

Blank — Blank surface

Bi Metall — Bi-metal

Three-surface shank


Ø tolerance
factory standard

HSS — High-speed steel
cutting edges

Cu Ni Ms Zn 28 mm — Material thickness up to max.
28 mm for non-ferrous metals

TPI 6x — Teeth per inch
e.g. 6 teeth


Varied toothing


Fine toothing

Cutting depth
e.g. 10.0 mm

TC/HM — Tungsten carbide
cutting edges

INOX 20 mm — Material thickness up to max.
20 mm for Inox

11 Saws

Blank — Blank surface

HCS — Steel with
high carbon content

Structural steel

Sheets

Inox

Aluminium

Non-ferrous metals

HSS — High-speed steel

White — White surface

Eternit (asbestos cement) plates

Hardwoods and
softwoods

Chipboard

Blockboard

Sandwich materials

Bi Metall — Bi-metal

VAP — Black surface

Tubes


Curved cuts

Plywood

Right-angled cuts

Pruning

Wood with nails embedded

Plastics


Fast cuts

Profiled section


Porous concrete

Laminated / coated boards


Special technology

12 Deburrers

High-speed steel

Tungsten carbide

Blank surface

13 Screw-hole punches

Black oxidized surface


3 cutting edges

Metric fine, DIN ISO 13

Set item e.g. 5-piece

Material thickness up to max. 4.0 mm

15 Concrete drills

Blank surface

Point angle 130°

Drilling depth 50.0 mm


4 cutting edges

SDS-plus shank

Wood

Tiles

Hardwoods and softwoods

Tungsten carbide cutting edges

Tungsten carbide


Cylindrical shank

Hexagon shank


2 cutting edges

ISO 5468

DIN 8039

Concrete

Bricks

Set item e.g. 7-piece

Non-ferrous metals

Plastics

Glass


6 cutting edges

Masonry

Granite and marble

Lightweight material


Very suitable for use in hand drills and cordless drills

Item number directory

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