

Drilling tools

Measuring tools, Cutting blades



Twist drills

Twist drills DIN 338/HSS type N

point angle 118°, spiral angle 25 - 35°, Ø-tolerance h 8, of HSS, for drilling of steel, steel-casting alloyed and unalloyed up to approx. 900 N/mm² strength grey- and tempered casting, sinter iron, newsilver, graphite, alu-alloy, bronze and brass

Packing units:

individual in plastic bags

PB, R, TIN:

- up to 10 mm Ø in Polybag of 10 pieces
- from 10.2 mm Ø in Polybag of 5 pieces



Art. No.	Ø	core-hole	length	t.length	weight	PU
23 00 10	0.5		6	22	0,04	1
23 00 10/PB						
23 00 10/R						
23 00 10/TIN						
23 00 20	1		12	34	0,2	1
23 00 20/PB						
23 00 20/R						
23 00 20/TIN						
23 00 30	1.5		18	40	0,56	1
23 00 30/PB						
23 00 30/R						
23 00 30/TIN						
23 00 32	1.6	M 2	20	43	0,7	1
23 00 32/PB						
23 00 32/R						
23 00 32/TIN						
23 00 40	2		24	49	1,15	1
23 00 40/PB						
23 00 40/R						
23 00 40/TIN						
23 00 50	2.5	M 3	30	57	2	1
23 00 50/PB						
23 00 50/R						
23 00 50/TIN						
23 00 60	3		33	61	3	1
23 00 60/PB						
23 00 60/R						
23 00 60/TIN						
23 00 64	3.2		36	65	4	1
23 00 64/PB						
23 00 64/R						
23 00 64/TIN						
23 00 66	3.3	M 4	36	65	4	1
23 00 66/PB						
23 00 66/R						
23 00 66/TIN						
23 00 70	3.5		39	70	4	1
23 00 70/PB						
23 00 70/R						
23 00 70/TIN						
23 00 80	4		43	75	6	1
23 00 80/PB						
23 00 80/R						
23 00 80/TIN						
23 00 84	4.2	M 5	43	75	7	1
23 00 84/PB						
23 00 84/R						
23 00 84/TIN						
23 00 90	4.5		47	80	8	1
23 00 90/PB						
23 00 90/R						
23 00 90/TIN						
23 01 00	5	M 6	52	86	10	1
23 01 00/PB						
23 01 00/R						
23 01 00/TIN						

Art. No.	Ø	core-hole	length	t.length	weight	PU
23 01 10	5.5		57	93	13	1
23 01 10/PB						
23 01 10/R						
23 01 10/TIN						
23 01 20	6	M 7	57	93	16	1
23 01 20/PB						
23 01 20/R						
23 01 20/TIN						
23 01 30	6.5		63	101	19	1
23 01 30/PB						
23 01 30/R						
23 01 30/TIN						
23 01 36	6.8	M 8	69	101	22	1
23 01 36/PB						
23 01 36/R						
23 01 36/TIN						
23 01 40	7		69	109	24	1
23 01 40/PB						
23 01 40/R						
23 01 40/TIN						
23 01 60	8		75	117	32	1
23 01 60/PB						
23 01 60/R						
23 01 60/TIN						
23 01 70	8.5	M 10	75	117	39	1
23 01 70/PB						
23 01 70/R						
23 01 70/TIN						
23 01 80	9		81	125	46	1
23 01 80/PB						
23 01 80/R						
23 01 80/TIN						
23 01 90	9.5		81	125	54	1
23 01 90/PB						
23 01 90/R						
23 01 90/TIN						
23 02 00	10		87	133	62	1
23 02 00/PB						
23 02 00/R						
23 02 00/TIN						
23 02 04	10.2	M 12	87	133	63	1
23 02 04/PB						
23 02 04/R						
23 02 04/TIN						
23 02 10	10.5		87	133	70	1
23 02 10/PB						
23 02 10/R						
23 02 10/TIN						
23 02 20	11				78	1
23 02 20/PB						
23 02 20/R						
23 02 20/TIN						
23 02 30	11.5		94	142	86	1
23 02 30/PB						
23 02 30/R						
23 02 30/TIN						
23 02 40	12	M 14	101	151	94	1
23 02 40/PB						
23 02 40/R						
23 02 40/TIN						
23 02 44	12.5				107	1
23 02 44/PB						
23 02 44/R						
23 02 44/TIN						
23 02 50	13		101	151	115	1
23 02 50/PB						
23 02 50/R						
23 02 50/TIN						

Technical information

Standard version:

Industrial quality, dressed to size from solid material, high true tuning precision, long tool life, cutter separate packet in plastic bags or as a set in a box.

/PB: as beside

/R: workshop quality, wheeled milled

/TIN: as beside, titanium nitride coating

Twist drills DIN 338/HSS type N

made from high power steel, in metal pocket



Art. No.	set	drill-Ø	rising	weight	PU
23 03 12	19	1 - 10	0.5	800	1
23 03 12/R	19	1 - 10	0.5	800	1
23 03 12/TIN	19	1 - 10	0.5	800	1
23 03 14	25	1 - 13	0.5	1500	1
23 03 14/R	25	1 - 13	0.5	1500	1
23 03 14/TIN	25	1 - 13	0.5	1500	1

Bulk storage chest for twist drills

HSS, DIN 338, 170 pieces, TYP N, short, ground, bright, with split point, TIN coated.

Content: 1.0 - 10.0 mm (upstairs in 0.5 mm steps)
 up to 8,0 mm 10 pieces/size
 > 8,5 mm 5 pieces/size



Art. No.	set	PU
23 03 01/TIN	170-pieces	1

Drill type machine bits for wood

made from carbon steel, concentrically ground, with centre point and front cutter



Art. No.	drill-Ø	length	weight	PU
23 06 16	3	70	3	10
23 06 18	4	80	5	10
23 06 20	5	90	8	10
23 06 22	6	100	15	10
23 06 26	8	120	30	10
23 06 28	9	130	40	10
23 06 30	10	137	50	10
23 06 34	12	155	80	10
23 06 36	13	170	85	10

Flat bits

with flat cutter head, square shank, DIN 6447 A



Art. No.	drill-Ø	shank	length	weight	PU
23 07 32	10	6	150	35	12
23 07 34	12	6	150	35	12
23 07 36	14	6	150	38	12
23 07 38	16	6	150	38	12
23 07 40	18	6	150	45	12
23 07 42	20	6	150	45	12
23 07 46	24	6	150	45	12

Spiral bit DIN 338 type N

High-capacity spiral bit suitable for all normal drilling using standard materials.

Tip polish: cone-shaped
 Spiral angle: 20° - 30°
 Ø-tolerance: h8
 Cutting direction: right cutting
 Packaging unit: in plastic box
 ecl@ss: 21-01-01-01

HSS-R

Point thinning: normal polish

Nose angle: 118°

Surface: black, steam tempered

High-capacity spiral drill suitable for all normal drilling using standard materials. The roll-shaped manufacturing procedure hardens the material and offers increased break resistance.

Areas of use: for steel and steel casting alloyed and unalloyed (up to N/mm resistance), gray iron, malleable iron, modular graphite iron, die casting, sintered iron, nickel silver, graphite, short-chipping aluminium alloys, bronze, brass.

HSS-G

Point thinning: from Ø 3.0 mm cross polish according to DIN 1412 C

Nose angle: 118°

Surface: blank

High-capacity cut spiral bit suitable for all normal drilling of all standard materials. The completely cut spiral bit has increased true running accuracy.

Areas of use: for steel and steel casting alloyed, and unalloyed (up to 900 N/mm resistance) gray iron, malleable iron, modular graphite iron, die casting, sintered iron, nickel silver, graphite, short-chipping aluminium alloys, bronze, brass.

HSS-G Co 5

Point thinning: from Ø 3.0 mm cross polish according to DIN 1412 C

Nose angle: 130°

Surface: gold brown

Like HSS-G plus cobalt alloyed.

The cobalt ensures high hot hardness resistance.

Areas of use: for unalloyed and alloyed steels (up to 900 N/mm resistance), warm and cold work steels, heat-treatable and case-hardened steel and for rust-resistant and acid-resistant steels.

HSS-G TIN

Point thinning: from Ø 3.0 mm cross polish according to DIN 1412 C

Nose angle: 118°

Surface: TiN coated

Like HSS-G plus titanium nitride coated.

Surface hardness increases as a result of the TiN coating to approx. 2.300 HV and hot hardness resistance up to 600 °C. High service life with increased cutting values.

Areas of use: for steel, steel casting alloyed and unalloyed (up to 900 N/mm resistance), gray iron, malleable iron, modular graphite iron, die casting, sintered iron, nickel silver, graphite, short-chipping aluminium alloys, bronze, brass.



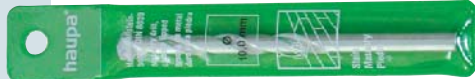
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Drills

Masonry drills DIN 8039

carbide tipped, with straight shank, each piece in plastic pocket



Art. No.	Ø	length	cut. length	weight	PU
23 03 30	3	70	40	7	10
23 03 31	3.5	75	45	8	10
23 03 32	4	80	45	10	10
23 03 34	4.5	85	50	11	10
23 03 36	5	90	50	13	10
23 03 38	5.5	95	55	15	10
23 03 40	6	100	60	18	10
23 03 42	6.5	105	65	22	10
23 03 44	7	110	65	27	10
23 03 46	8	120	70	37	10
23 03 52	10	140	90	50	10
23 03 54	11	150	95	82	10
23 03 56	12	160	105	90	10
23 03 58	13	170	110	100	10
23 03 60	14	180	115	120	10
23 03 62	15	190	125	165	10
23 03 64	16	190	125	165	10

Masonry drills DIN 8039

carbide tipped, with straight shank, each piece in plastic pocket



Art. No.	Ø	length	cut. length	weight	PU
23 03 70	8	400	300	110	1
23 03 72	10	400	300	185	1
23 03 74	12	400	300	240	1
23 03 76	14	400	300	310	1
23 03 78	16	400	300	425	1
23 03 80	18	400	300	550	1
23 03 82	20	400	300	680	1
23 04 00	8	600	500	170	1
23 04 02	10	600	500	280	1
23 04 04	12	600	500	300	1
23 04 06	14	600	500	440	1
23 04 08	16	600	500	625	1
23 04 10	18	600	500	800	1
23 04 12	20	600	500	1025	1
23 04 14	22	600	500	1135	1

Masonry drill bit

High-Helix Masonry drill bit, sand blasted, countersink construction, professional quality



Art. No.	size	weight	PU
23 17 00	3 x 70 mm	40	10
23 17 02	4 x 85 mm	45	10
23 17 04	5 x 95 mm	50	10
23 17 06	6 x 100 mm	60	10
23 17 08	7 x 100 mm	65	10
23 17 10	8 x 120 mm	70	10
23 17 12	9 x 120 mm	75	10
23 17 14	10 x 120 mm	80	10
23 17 16	11 x 150 mm	85	10
23 17 18	12 x 150 mm	90	10

SDS hammer drill bits

Top quality: SDS-Plus fast fitting system: 2 lengthwise slots and 2 round slots at the end of the shank. Universal tool fitting for different types of hammer drills according to the SDS-Plus system



Art. No.	drill-Ø	length	cut. length	weight	PU
23 04 30	5	110	50	42	1
23 04 31	5	160	100	365	1
23 04 32	5.5	110	50	45	1
23 04 33	5.5	160	100	365	1
23 04 34	6	110	50	46	1
23 04 36	6	160	100	52	1
23 04 38	6.5	110	50	40	1
23 04 38/B	6.5	160	100	365	1
23 04 40	7	110	60	48	1
23 04 38/A	7	160	100	50	1
23 04 42	8	110	50	52	1
23 04 42/A	8	160	100	50	1
23 04 44	8	210	150	71	1
23 04 44/A	8	460	400	365	1
23 04 48	10	160	100	68	1
23 04 50	10	210	145	108	1
23 04 50/A	10	260	150	100	1
23 04 51	10	460	400	155	1
23 04 78/1	10	600	540	365	1
23 04 54	12	160	100	77	1
23 04 53	12	210	150	100	1
23 04 56	12	260	200	115	1
23 04 57	12	460	400	250	1
23 04 59	12	600	550	315	1
23 04 58	13	160	85	90	1
23 04 60	14	160	100	110	1
23 04 60/A	14	260	200	250	1
23 04 61	14	460	400	300	1
23 04 67	14	615	550	365	1
23 04 64	16	210	150	195	1
23 04 66	16	450	400	355	1
23 04 73	16	600	550	450	1
23 04 75	18	450	400	420	1
23 04 74	20	200	150	240	1
23 03 95	20	460	400	365	1
23 03 96	20	600	550	600	1
23 03 97	22	450	400	550	1
23 03 98	25	450	400	750	1

SDS hammer drill bits

Top quality: SDS-Plus fast fitting system: 2 lengthwise slots and 2 round slots at the end of the shank. Universal tool fitting for different types of hammer drills according to the SDS-Plus system - made in germany -

The MS helix
reduces the vibration load caused by the hammer drill
➔ **Longer life time**

The MS helix
reduces the torsion tests caused by the hammer drill
➔ **No drill dust congestion**

The MS helix
transfers the shock energy optimized
➔ **Higher penetration rate**

The MS helix
has a reinforced core with rounded intergradation
➔ **Higher breaking strength**

COMPARED DRILL HOLE
MS5 helix
39% faster
15 Sek.

drilling depth with a drill time of 15 seconds
6 x 100 x 160 mm in concrete B25

SDS-Nut-hammer drill sets

7-pieces



Art. No.	contents	weight	PU
23 04 79	5, 6, 8 x 110	700	1
	6, 8, 10, 12 x 160	700	1

SDS hammer drill bits

Workshop quality: SDS-Plus fast fitting system: 2 lengthwise slots and 2 round slots at the end of the shank. Universal tool fitting for different types of hammer drills according to the SDS-Plus system



Art. No.	drill-Ø	length	PU
23 09 00	5	110	1
23 09 02	5	160	1
23 09 04	5.5	110	1
23 09 06/1	5.5	160	1
23 09 08	6	110	1
23 09 10	6	160	1
23 09 12	6.5	110	1
23 09 14	6.5	160	1
23 09 16	7	110	1
23 09 18	7	160	1
23 09 20	8	110	1
23 09 22	8	160	1
23 09 24	8	210	1
23 09 26	10	160	1
23 09 28	10	210	1
23 09 30/1	10	260	1
23 09 32	10	450	1
23 09 34	10	600	1
23 09 36	11	260	1
23 09 38	12	160	1
23 09 40	12	210	1
23 09 42	12	310	1
23 09 44	12	450	1
23 09 46	12	600	1
23 09 48	13	160	1
23 09 50	14	160	1
23 09 52	14	260	1
23 09 54/1	14	450	1
23 09 56	14	600	1
23 09 58	15	160	1
23 09 60	16	210	1
23 09 62/1	16	450	1
23 09 64	16	600	1
23 09 66	18	200	1
23 09 68	18	450	1
23 09 70	20	210	1
23 09 72	20	310	1
23 09 74	20	450	1
23 09 76	22	450	1
23 09 78	25	450	1

SDS-hammer drill sets

5-pieces



Art. No.	contents	weight	PU
23 09 79	5, 6, x 110	500	1
	6, 8, 10 x 160		

Hand taps DIN 352, type N/HSS

set of 3, for ISO metric thread to DIN, 1, 2, 3-cutter, made of HSS, for pass-through threading, for good chipping steel up to approx. 900 N/mm²



Art. No.	thread	rising	□	shank Ø	weight	PU
23 08 00	M 1	0.25	2.1	2.5	1	1
23 08 02	M 1.4	0.3	2.1	2.5	1	1
23 08 04	M 1.6	0.35	2.1	2.5	2	1
23 08 06	M 1.8	0.35	2.1	2.5	2	1
23 08 08	M 2	0.4	2.1	2.8	2	1
23 08 10	M 2.2	0.4	2.1	2.8	2	1
23 08 12	M 2.5	0.45	2.1	2.8	2	1
23 08 14	M 3	0.5	2.7	3.5	3	1
23 08 16	M 3.5	0.6	3	4	4	1
23 08 18	M 4	0.7	3.4	4.5	4	1
23 08 20	M 4.5	0.75	4.3	5.5	5	1
23 08 22	M 5	0.8	4.9	6	9	1
23 08 24	M 6	1	4.9	6	11	1
23 08 26	M 7	1	4.9	6	12	1
23 08 28	M 8	1.25	4.9	6	14	1
23 08 30	M 9	1.25	5.5	7	17	1
23 08 32	M 10	1.5	5.5	7	20	1
23 08 34	M 11	1.5	6.2	8	25	1
23 08 36	M 12	1.75	7	9	36	1
23 08 38	M 14	2	9	11	52	1
23 08 40	M 16	2	9	12	62	1
23 08 42	M 18	2.5	11	14	102	1
23 08 44	M 20	2.5	12	16	125	1
23 08 46	M 22	2.5	14.5	18	182	1
23 08 48	M 24	3	14.5	18	205	1
23 08 50	M 27	3	16	20	260	1
23 08 52	M 30	3.5	18	22	370	1
23 08 54	M 33	3.5	20	25	480	1
23 08 56	M 36	4	22	28	645	1
23 08 58	M 39	4	24	32	820	1
23 08 60	M 42	4.5	24	32	930	1
23 08 62	M 45	4.5	29	36	1140	1
23 08 64	M 48	5	29	36	1370	1
23 08 66	M 52	5	32	40	1650	1
23 08 68	M 56	5.5	35	45	2800	1
23 08 70	M 60	5.5	35	45	2900	1

Adjustable tap wrenches DIN 1814

for taps



Art. No.	size	length	thread	weight	PU
23 10 50	0	2.1 - 4.9	M 1 - 8	50	1
23 10 52	1	2.1 - 5.5	M 1 - 10	95	1
23 10 54	1 1/2	2.1 - 7.0	M 1 - 12	130	1
23 10 56	2	3.8 - 7.0	M 4 - 12	280	1
23 10 58	3	4.9 - 12.0	M 5 - 21	700	1
23 10 60	4	5.5 - 16.0	M 9 - 27	1270	1
23 10 62	5	7.0 - 20.0	M 12 - 33	1630	1
23 10 64	6	12.0 - 24.0	M 19 - 38	4520	1

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Threading bits, taps, cone drills

Ratchet wrenches

for right-hand and left-hand action



23 10 70-72



23 10 74-76

Art. No.	size	shank	length	thread	weight	PU
23 10 70	1	2.4 - 5.5	85	M 3 - 9	185	1
23 10 72	2	4.5 - 7	100	M 9 - 12	360	1
23 10 74	1	2.4 - 5.5	250	M 3 - 9	285	1
23 10 76	2	4.5 - 7	300	M 5 - 12	465	1

HSS taps set

with taps to DIN 352, in metal box, contents: M3, M 4, M 5, M 6, M 8, M 10, M 12



Art. No.	weight	PU
23 10 80	770	1

Combi, threading bit set, made of HSSG SGE-Bit (DBGM)

for drilling, threading and countersinking, for stand drilling machines and hand drills, suitable for steel and NE metal up to 1 xd (M 6 = 6 mm thickness of material), up to 600 N/mm² tensile strength, rpm according to the cutting speeds of the tride, in metal box



Art. No.	contents	weight	PU
23 10 82	M 3, 4, 5, 6, 8, 10	250	1

HSS taps "Direct cutter"

with intermittent teeth, dimensions to DIN 371, or ISO metric thread to DIN 13



Art. No.	thread	rising	shank	weight	PU
23 09 82	M 4	0.7	4.5	4	1
23 09 84	M 5	0.8	6.0	8	1
23 09 86	M 6	1.0	6.0	10	1
23 09 88	M 8	1.25	6.0	12	1

Screw extractor set



Art. No.	size	weight	PU
23 06 82	1 - 5/M 3 - 18	175	10
23 06 83	1 - 6/M 3 - 24	200	10

HSS Tap set

Contents:

hand tap (DIN 352) M 3, 4, 5, 6, 8, 10, 12
Dies (DIN 223) M 3, 4, 5, 6, 8, 10, 12,
Dies stock 20 x 5/20 x 7/25 x 9/30 x 11/
38 x 14 mm
tape holder size 1 + 2, in metal box



Art. No.	set	weight	PU
23 12 80	23-pieces	3700	1

HSS Tap set

Contents:

Hand tap (DIN 352) M 5, 6, 8, 10, 12,
14, 16, 18, 20
Dies (DIN 223)
M 5, 6, 8, 10, 12, 14, 16, 18, 20
Dies holder
20 x 7/25 x 9/30 x 11/38 x 14/
45 x 18 mm
Tap holder size 1 + 3, in metal box



Art. No.	set	weight	PU
23 12 82	25-pieces	8200	1

Cone drills/Aerial drills/HSS

for edgefree drilling of thin material



Art. No.	Ø mm	shank	weight	PU
23 13 00	3 - 14	6.0	21	1
23 13 01	6 - 20	8.0	47	1
23 13 30	6 - 22.5	8.0	50	1
23 13 02	16 - 30	10.0	128	1
23 13 04	26 - 40	12.0	260	1
23 13 05	6 - 30	10.0	260	1
23 13 06	36 - 50	12.0	350	1
23 13 07	46 - 60	13.0	510	1

Set of cone drills/HSS

4 pieces, in metal box, 1 piece each No. 1, 2, 3 (Ø 3 - 30 mm), plus paste, suitable for NE material, soft steel sheet, similar to ST 14 - 37, Nirosta steel sheet A 2, for duro or thermo plastic



Art. No.	set	size	Ø	weight	PU
23 13 12	4-pieces	1 - 3	3 - 30	585	1

a-range...adjusting range
bar.....in mm
CC-Ø.....cutting capacity in mm²

cross section...in mm²
CTh.....cutting thickness (mm)
CW.....cutting width in mm

height.....in mm
length.....in mm
lob.....length of blade mm

M.....for screws M
Ø.....in mm
PU.....packing unit in pieces

size.....in mm
sth.....steel thickness in mm
th.....thickness in mm

th. of jaw.....thickness of jaw (mm)
tot. length.....in mm
weight.....in mm

Step drills

Combination step drills/HSS

for **metric PG rough thread-through-hole and core-hole-drillings**,
6 drilling diameters for core-hole with 5 mm step for sheet metal up to max. 6 mm.
through-hole: 8,5 - 12,5 - 16,5 - 20,5 - 25,5 - 32,5 - 40,5 mm
core-hole: 10,5 (M12) - 14,5 (M16) - 18,5 (M20) - 23,5 (M25) - 30,5 (M32) - 38,5 (M40)



Art. No.	weight	PU
23 13 19	150	1

Step drills /HSS

Special type for electric assembly, for sheet metal up to max. 4 mm gauge,
for metric thread through-hole drilling,
8,5 - 12,5 - 16,5 - 20,5 - 25,5 - 32,5 - 40,5 mm



Art. No.	weight	PU
23 13 24	205	1

Step drills /HSS

thickness up to max. 6 mm, for **metric** core-hole-drilling,
8,5 - 10,5 - 14,5 - 18,5 - 23,5 - 30,5 mm



Art. No.	weight	PU
23 13 26	160	1

Step drills/HSS

special type for electric assembly, for sheet steel up to 4 mm thickness,
for amoured conduit thread sizes



Art. No.	drill-Ø	weight	PU
23 13 20	PG 7 - 29	205	1
23 13 22	PG 7 - 21	135	1

Step drills/HSS

for amoured conduit core removing hole sizes up to 6 mm thickness



Art. No.	drill-Ø	weight	PU
23 13 23	PG 7 - 21	150	1

Step drills/HSS

for mechanical engineering and tinsmith working, with 2 cutters, metric



Art. No.	drill-Ø	shank	rising	weight	PU
23 13 36	4 - 12	6	1	17	1
23 13 38	12 - 20	9	1	60	1
23 13 40	20 - 30	12	1	190	1
23 13 42	30 - 40	12	1	385	1
23 13 50	4 - 12	6	2	17	1
23 13 52	4 - 20	8	2	50	1
23 13 54	6 - 30	10	2	153	1

Step drills assortment/HSS

4 pieces, for mechanical engineering and tinsmith working,
with 2 cutters.
Contents: Ø 4 - 12 mm, Ø 12 - 20 mm, Ø 20 - 30 mm, paste



Art. No.	set	size	weight	PU
23 13 27	4-pieces	4 - 30	650	1

Drilling paste

high quality drilling paste, in practical container, 17 g



Art. No.	weight	PU
23 13 34	40	1

INFO

Rotary guide value for step drills/cone drills

Material	unleg. Baustahl < 700 N/mm ²	unleg. Baustahl > 700 N/mm ²	leg. Stahl < 1000 N/mm ²	Gußeisen < 250 N/mm ²	Gußeisen > 250 N/mm ²	Edelstahl rostfrei	CuZn Leg. spröde	CuZn Leg. zäh	AL Leg. < 11% Si	Thermo- plaste	Duro- plaste	Holz
	Mild steel < 700 N/mm ²	Mild steel > 700 N/mm ²	Alloy steel < 1000 N/mm ²	Cast iron < 250 N/mm ²	Cast iron > 250 N/mm ²	Stainless steel	CuZn alloy brittle	CuZn alloy tough	Alloy steel < 11% Si	Thermo plastic	Duro plastic	Wood
Materialstärke	6,0 mm	6,0 mm	6,0 mm	6,0 mm	6,0 mm	3,0 mm	6,0 mm	6,0 mm	6,0 mm	6,0 mm	6,0 mm	25,0 mm
Kühlung	Bohrpaste	Bohrpaste	Bohrpaste	Luft	Luft	Bohrpaste	Luft	Luft	Bohrpaste	H ₂ O	Luft	Luft
Lubricant	Drilling paste	Drilling paste	Drilling paste	Air	Air	Drilling paste	Air	Air	Drilling paste	H ₂ O	Air	Air
Vc = m / min	25	20 - 25	20	15	10	5	60	35	30	20	15	> 40
Ø mm	U/min r.p.m	U/min r.p.m	U/min r.p.m	U/min r.p.m	U/min r.p.m	U/min r.p.m	U/min r.p.m	U/min r.p.m	U/min r.p.m	U/min r.p.m	U/min r.p.m	U/min r.p.m
4,0 - 12,0	1900 - 600	1700 - 580	1550 - 520	1190 - 400	800 - 250	400 - 130	4700 - 1550	2750 - 920	2350 - 790	1550 - 520	1190 - 400	3000 - 1000
4,0 - 20,0	1900 - 400	1700 - 350	1550 - 300	1190 - 240	800 - 160	400 - 80	4700 - 950	2750 - 550	2350 - 470	1550 - 300	1190 - 240	3000 - 650
12,0 - 20,0	600 - 400	600 - 350	520 - 300	400 - 240	250 - 160	130 - 80	1550 - 950	920 - 550	790 - 470	520 - 300	400 - 240	1000 - 650
4,0 - 24,0	1900 - 300	1700 - 280	1550 - 250	1190 - 200	800 - 130	400 - 65	4700 - 790	2750 - 460	2350 - 400	1550 - 250	1190 - 200	3000 - 550
6,0 - 30,0	1300 - 250	1200 - 230	1000 - 200	780 - 150	530 - 100	250 - 50	3150 - 630	1850 - 370	1590 - 310	1000 - 200	780 - 150	2100 - 420
20,0 - 30,0	400 - 250	350 - 230	300 - 200	230 - 150	160 - 100	80 - 50	950 - 630	550 - 370	470 - 310	300 - 200	230 - 150	650 - 420
6,0 - 36,0	1300 - 220	1200 - 200	1000 - 170	780 - 130	530 - 90	250 - 45	3150 - 530	1850 - 300	1590 - 260	1000 - 170	780 - 130	2100 - 350
30,0 - 40,0	250 - 200	230 - 180	200 - 150	150 - 120	100 - 80	50 - 40	630 - 470	370 - 280	310 - 240	200 - 150	150 - 120	420 - 310
40,0 - 50,0	200 - 160	180 - 140	150 - 125	120 - 90	80 - 65	40 - 30	470 - 380	280 - 220	240 - 190	150 - 125	120 - 90	310 - 250
50,0 - 60,0	160 - 130	140 - 110	125 - 100	90 - 80	65 - 50	30 - 25	380 - 310	220 - 185	190 - 150	125 - 100	90 - 80	250 - 210

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Screw punches, hollow core cutters, threading dies

Spare screws

Spare screws for screw punches



Art. No.	screws M	weight	PU
18 05 30	10 x 1	60	1
18 05 32	12 x 1,5	60	1
18 05 34	16 x 1,5	60	1

Screw punches

matching for cable connection acc. the new Euro-Norm EN 50262, with 3 cutting edges for iron sheet up to 2 mm, steel sheet up to 1,5 mm, stainless-steel sheet up to 1,5 mm thickness



metric

Art. No.	size	hole-Ø (mm)	drills	weight	PU
18 05 13	16	16,5	180530	185	1
18 05 15	20	20,5	180530	230	1
18 05 17	25	25,5	180530	350	1
18 05 19	32	32,5	180532	400	1
18 05 21	40	40,5	180532	950	1
18 05 23	50	50,5	180534	1300	1
18 05 25	63	63,5	180534	1600	1

PG

Art. No.	size PG	hole-Ø mm	drills	weight	PU
18 05 00	9	15	180530	80	1
18 05 02	11	19	180530	150	1
18 05 04	13,5	21	180530	165	1
18 05 06	16	22,5	180530	185	1
18 05 08	21	29	180530	250	1
18 05 10	29	37	180532	400	1
18 05 12	30,5	-	180534	400	1
18 05 14	36	47	180534	800	1
18 05 16	42	54	180534	1250	1
18 05 18	48	60	180534	1300	1
18 05 20	1 1/8"	29	180530	250	1

More crimping and punching tools starting at page 38.

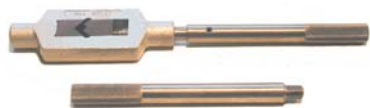
Taps for armoured steel conduits, metric thread



Art. No.	thread	weight	PU
14 02 36	M 16 x 1,5	40	1
14 02 38	M 20 x 1,5	60	1
14 02 40	M 25 x 1,5	90	1
14 02 42	M 32 x 1,5	120	1
14 02 44	M 40 x 1,5	150	1
14 02 46	M 50 x 1,5	230	1
14 02 48	M 63 x 1,5	600	1

Adjustable tap wrenches

short pattern



Art. No.	PG	for taps		M weight	PU
		inch	M		
14 01 80	7-25	7-21	1/8 - 3/4"	850	1
14 01 82	32-63	11-48	1/2-2 1/2"	1900	1

Nipple threading dies

with guide, replaceable dies and taps



Art. No.	thread	weight	PU
14 01 90	M 10	100	1
14 01 92	M 13	130	1

Nipple threading dies

with guide, replaceable dies and tap



Art. No.	thread	weight	PU
14 02 10	M 10, M 13	220	1

Complete stocks, metric thread



Art. No.	size	weight	PU
14 02 14	M 16, M 20, M 25	1850	1
14 02 16	M 20, M 25	1350	1
14 02 18	M 32, M 40	2850	1
14 02 20	M 50, M 63	3500	1

Dies, metric thread



Art. No.	size	weight	PU
14 02 22	M 16	175	1
14 02 24	M 20	165	1
14 02 26	M 25	145	1
14 02 28	M 32	130	1
14 02 30	M 40	130	1
14 02 32	M 50	125	1
14 02 34	M 63	170	1

Guides, metric



Art. No.	size	weight	PU
14 02 50	M 16	50	1
14 02 52	M 20	40	1
14 02 54	M 25	35	1
14 02 56	M 32	30	1
14 02 58	M 40	30	1
14 02 60	M 50	70	1
14 02 62	M 63	90	1

a-range...adjusting range
barin mm
CC-Øcutting capacity in mm²

cross sectionin mm²
CTh.....cutting thickness (mm)
CW.....cutting width in mm

height.....in mm
length.....in mm
loblength of blade mm

Mfor screws M
Øin mm
PU.....packing unit in pieces

sizein mm
sthsteel thickness in mm
th.....thickness in mm

th. of jaw.....thickness of jaw (mm)
tot. length.....in mm
weightin mm

Diamond hollow core cutters

Diamond hollow core cutters

Carrier turned from solid material, suitable for soft materials and brickwork, concrete and artificial stone, takes M 16, without receiving shaft and centre drill, **laser-welded**, use only without impact



Art. No.	∅	weight	PU
23 06 76	68	450	1
23 06 77	82	550	1

Diamond hollow core cutters

shank M 16, with tapered cylindrical drill bit, hexagon fitting, **laser-welded**



Art. No.	∅	weight	PU
23 06 76/K	68	640	1
23 06 77/K	82	740	1

Diamond hollow core cutter special

Diamond drill bit for socket outlets with laser welded segments, suitable for soft materials and brickwork, concrete and artificial stone, optimal rotating speed 800 - 1.000 U/min, maximum rotating speed 1.600 - 1.800 U/min, use only without impact



Art. No.	weight	PU
23 08 85/K Diamond hollow core cutter abrasive 68 mm complete	640	1
23 08 86/K Diamond hollow core cutter abrasive 82 mm complete	740	1

Hollow core cutters

for tungsten carbide tipped, with centre bit and hexagon shank, 12 mm



Art. No.	∅	length	mm	no. of teeth	weight	PU
23 06 61	68	80	hexagon shank	6	1100	1
23 06 65	82	80	hexagon shank	6	1100	1
23 06 67	68	80	tapered shank	6	1100	1
23 06 75	82	80	tapered shank	6	1100	1

Shank for hollow core cutters

SDS-Plus-shank, M16, connection thread, cylindrical cutter



Art. No.	length	weight	PU
23 06 81	100 mm	150	1

Shank for hollow core cutters, SDS-Plus

SDS-Plus-shank, conic



Art. No.	length	weight	PU
23 06 81/K	100 mm	150	1

Shank for hollow core cutters, SW 12

shank M 16, for centre bits, tapered holder, cylindrical cutter



Art. No.	weight	PU
23 06 78	150	1

Drill for Diamond hollow core cutters

tapered shank



Art. No.	∅	length	weight	PU
23 06 79	9	120	40	1

Centre bits with tungsten carbide tipped cutting edge

for tungsten carbide tipped hollow core cutters, cylindrical



Art. No.	∅	length	weight	PU
23 06 80	9	120	40	1

Cutting discs, hollow saws, measuring tools

Diamond cutting blades

laser-welded, high diamond concentration, long life, for the professional works – Industrial quality –



Art. No.	∅	bore-∅	weight	PU
23 06 89	115	22,2	100	1
23 06 91	125	22,2	150	1
23 07 20	135 (for FUBAG)	30,0	200	1
23 07 21	140 (for FLEX)	22,2	250	1
23 07 04	150	22,2	200	1
23 07 05	180	22,2	400	1
23 07 06	230	22,2	700	1
23 07 11	300	22,2	1100	1

Diamond cutting blades

sintered – Profi Quality –



Art. No.	∅	bore-∅	weight	PU
23 07 01	115	22,2	100	1
23 07 02	125	22,2	100	1
23 07 08	180	22,2	400	1
23 07 09	230	22,2	700	1

Diamond cutting blades, FL tiles

– Profi Quality –, continuous rim, universal application, granite, tiles, ceramics, stone- and marble-flatters



Art. No.	∅	bore-∅	weight	PU
23 07 14	115	22,2	200	1

Diamond cutting blades, TBM Turbo

– Profi quality –



Art. No.	∅	bore-∅	weight	PU
23 07 22	115	22,2	200	1
23 07 23	125	22,2	200	1
23 07 25	230	22,2	800	1

Carbide tipped hollow saw with border senk D 68

∅ 68 mm, total length 175 mm, multi purpose hole saw for turning operation suitable for plastic, tiles up to hardness 6 and plaster material, set consisting of hole saw D 68, shank SW 11, carbide-tipped centre drill bit



Art. No.	∅	length	weight	PU
23 06 99	68	175	650	1

Hollow saws

with shank M16, of Bi-metal, set toothing, tooth pitch alternating from 4,2 to 6,3 mm, long tool life, suitable for metall, wood and plastics



Art. No.	∅	weight	PU
23 18 00	22	45	1
23 18 02	25	55	1
23 18 04	29	60	1
23 18 06	32	72	1
30 05 00	35	86	1
23 18 10	40	100	1
23 18 12	51	110	1
23 18 14	57	152	1
30 05 01	68	200	1
23 18 18	76	248	1
23 18 20	79	260	1

Centre drill



Art. No.	∅	weight	PU
30 05 60	6,35	90	1

Shank for hollow saw

including drill bit



Art. No.	weight	PU
23 18 21	< 32 mm	290 1
23 06 85	≥ 32 mm	290 1

HSS-BI-Hole saw assortment

For fast and exact holes metal, wood inter-effected with nails, ply wood, fibre boards, plastic, pipe, boards and asbestos. Re-milleable, for operation in hand- and stand drilling machines, combi-toothing, ∅ 35/68/75 mm, with arbor and bit, set of 2 or 3 saws



Art. No.	set	weight	PU
23 06 87	combi-toothing, ∅ 68/82 mm	900	1
23 06 86	combi-toothing, ∅ 35/68/75 mm	1000	1

Folding rules

wood, with spring joint, mm-graduations on both sides



Art. No.	length m	width	strength	weight	PU
24 00 02	2	16	3,0	120	10

Measuring tapes

with spring steel tapes, case: plastic, with automatic return motion and locking key, tape with stove-enamel finished



Art. No.	length m	width	weight	PU
24 00 11	3	13	90	12
24 00 12	5	16	90	12

Measuring tapes

in metal case, with woven rayon tape, strengthened against stretching by 8 bronze wires woven into tape, scale graduations both sides: metres and centimetres



Art. No.	length m	width	weight	PU
24 00 18	20	16	500	1
24 00 20	25	16	600	1
24 00 22	30	16	660	1
24 00 24	50	16	1050	1

Aluminium spirit levels

bubble level made of acrylic glass, accuracy of measurement: $0,043^\circ = 0,75 \text{ mm/m}$



Art. No.	length	width	height	weight	PU
24 00 41	300	20	57	320	1
24 00 42	400	20	57	340	1
24 00 44	600	20	57	480	1
24 00 46	800	20	57	530	1
24 00 48	1000	20	57	620	1

Electrician's safety levels

nonconducting plastic material, with 2 tubes horizontal and vertical



Art. No.	length	width	height	weight	PU
24 00 57	400	24	52	200	1
24 00 58	600	24	52	250	1

Cabinet levels

Torped type, nonconducting plastic material, with 3 tubes horizontal, vertical and 45°



Art. No.	length	width	height	weight	PU
24 00 59	250	20	40	100	1

Torped-level

with 3 tubes horizontal, vertical and 45°



Art. No.	length	weight	PU
24 00 60	225	300	1

Gauges

steel, nickel-plated, in plastic bag



Art. No.	length	width	height	weight	PU
24 00 62	95	35	3	75	1

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Measuring tools

Precision pocket vernier calipers „Stainless“

manufactured from stainless steel, completely hardened, with measuring nibs, depth gauge and thread tables, in plastic wallet, 1/20" or 1/128 mm, size 140 mm



Art. No.	weight	PU
24 00 71	170	1

Engineers' squares

manufactured from steel, bright



Art. No.	size mm	width	strength	weight	PU
24 01 32	150 x 100	20	5	170	1
24 01 34	200 x 130	20	5	235	1
24 01 36	250 x 160	25	5	370	1
24 01 38	300 x 180	25	5	590	1

Engineers' squares

manufactured from steel, bright



Art. No.	size mm	width	strength	weight	PU
24 01 52	150 x 100	20	5	170	1
24 01 54	200 x 130	20	5	235	1
24 01 56	250 x 160	25	5	370	1
24 01 58	300 x 180	25	5	440	1
24 01 60	400 x 230	30	5	680	1

Steel point scribers

knurled handle, replaceable screw-out hardened points, handle with one straight and one bent point (90°)



Art. No.	length	weight	PU
24 02 34	250	50	10