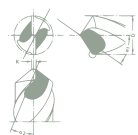


RISTA
REPARATUR UND INSTANDHALTUNG

RISTA
REPAIRING AND MAINTENANCE





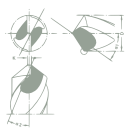
Werkzeug- und Industrietechnik



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Qualitätsprüfung:
Diese Werkzeuge unterliegen dem witec Qualitätsprüfungssystem.
Quality inspection:
These tools are subject to witec quality inspection system.



Werkzeug- und Industrietechnik

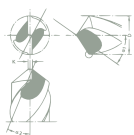


Reparatur- und
Instandhaltung

SPIRALBOHRER TWIST DRILLS

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3-11103	Spiralbohrer, HSS-Co5%, goldfinished, 130°, NX, DIN 340 Bushing Machine Drill, HSS-Co5%, goldfinished, 130°, NX, DIN 340	4
3-11303	witec® Spiralbohrer, HSS, goldfinished, 36°, NX, DIN 338 witec® Drill, HSS, goldfinished, 36°, NX, DIN 338	5
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3-12102GP	Spiralbohrer, HSS, gewalzt und poliert, 118°, N, DIN 338 Jobber Length Machine Drill, HSS, rolled and polished, 118°, N, DIN 338	9 - 10
3-12103	Spiralbohrer, HSS, gewalzt, 118°, N, DIN 340 Bushing Machine Drill, HSS, rolled, 118°, N, DIN 340	11
3-12108	MK Spiralbohrer, HSS, 118°, N, fließgepresst, gewalzt, DIN 345 Morse Taper Shank Machine Drill, HSS, 118°, N, endpolished, rolled, DIN 345	12 - 13
3-12302	Spiralbohrer, HSS-Co5%, 118°, VA, abgesetzter Schaft, geschliffen, DIN 338 Jobber Length Machine Drill, HSS-Co5%, 118°, VA, reduced shank, grinded, DIN338	14
3-12402	Spiralbohrer, HSS, 118°, N, abgesetzter Schaft, gewalzt, DIN 338 Jobber Length Machine Drill, HSS, 118°, N, reduced shank, rolled, DIN 338	15
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3-12701	Doppelendbohrer, HSS-Co, 130°, NX, witec-Norm Double ended Body Drill, HSS-Co, 130°, NX, witec-Norm	17
3-12801	Doppelendbohrer, HSS, 118°, NX, witec-Norm Double ended Body Drill, HSS, 118°, NX, witec-Norm	17
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3-18101	Spiralbohrer, HSS, blank, 118° NX, DIN 1897 Screw Machine Drill, HSS, bright finished, 118°, NX, DIN 1897	21 - 22
3-18101 TiN	Spiralbohrer, HSS, TiN-Beschichtung, 118°, NX, DIN 1897 Screw Machine Drill, HSS, TiN-coating, 118°, NX, DIN 1897	22 - 23
3-18102	Spiralbohrer, HSS, blank 118°, NX, DIN 338 Jobber Length Machine Drill, HSS, bright finished, 118°, NX, DIN 338	24 - 25
3-18102 TiN	Spiralbohrer, HSS, TiN-Beschichtung, 118°, NX, DIN 338 Jobber Length Machine Drill, HSS, TiN-coating, 118°, NX, DIN 338	26
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3-18105	Spiralbohrer, HSS, blank, 130°, NX, DIN 1869-I Bushing Machine Drill, HSS, bright finished 118°, NX, DIN 1869-II	29
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Werkzeug- und Industrietechnik



Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 1897

SCREW MACHINE DRILLS DIN 1897

DIN 1897

HSS-Co5%
M35

NX

130°

GESCHLIFFEN
GRINDED

- 130° Kreuzanschliff
- goldfinished
- Zylinderschaft
- extra kurze Ausführung
- für Hand- und stationäre Maschinen
- zum Einsatz in der Mischbearbeitung
- 130° splitpoint
- goldfinished
- straight shank
- extra short
- for hand- and stationary machines
- to use in multi purpose working field

INFOBOX



Art.-Nr.: 3-11101

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1.00	26	6	3-11101
1.50	32	9	3-11101
2.00	38	12	3-11101
2.50	43	14	3-11101
3.00	46	16	3-11101
3.10	49	18	3-11101
3.20	49	18	3-11101
3.30	49	18	3-11101
3.50	52	20	3-11101
4.00	55	22	3-11101
4.10	55	22	3-11101
4.20	55	22	3-11101
4.50	58	24	3-11101
5.00	62	26	3-11101
5.20	66	28	3-11101
5.50	66	28	3-11101
6.00	66	28	3-11101

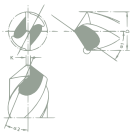
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.50	70	31	3-11101
6.80	74	34	3-11101
7.00	74	34	3-11101
7.50	74	34	3-11101
8.00	79	37	3-11101
8.50	79	37	3-11101
9.00	84	40	3-11101
9.50	84	40	3-11101
10.00	89	43	3-11101
10.20	89	43	3-11101
10.50	89	43	3-11101
11.00	95	47	3-11101
11.50	95	47	3-11101
12.00	102	51	3-11101
12.50	102	51	3-11101
13.00	102	51	3-11101

Einsatzgebiete:

N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²

Materials:

N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

DIN 338

HSS-Co5%
M35

NX

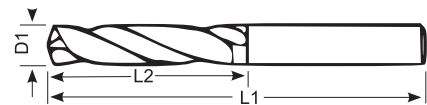
130°

GESCHLIFFEN
GRINDED

- 130° Kreuzanschliff
- goldfinished
- Zylinderschaft
- für Hand- und stationäre Maschinen
- zum Einsatz in der Mischbearbeitung

INFOBOX

- 130° splitpoint
- goldfinished
- straight shank
- for hand- and stationary machines
- to use in multi purpose working field



Art.-Nr.: 3-11102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1.00	34	12	3-11102
1.10	36	14	3-11102
1.20	38	16	3-11102
1.30	38	16	3-11102
1.40	40	18	3-11102
1.50	40	18	3-11102
1.60	43	20	3-11102
1.70	43	20	3-11102
1.80	46	22	3-11102
1.90	46	22	3-11102
2.00	49	24	3-11102
2.10	49	24	3-11102
2.20	53	27	3-11102
2.30	53	27	3-11102
2.40	57	30	3-11102
2.50	57	30	3-11102
2.60	57	30	3-11102
2.70	61	33	3-11102
2.80	61	33	3-11102
2.90	61	33	3-11102
3.00	61	33	3-11102
3.10	65	36	3-11102
3.20	65	36	3-11102
3.30	65	36	3-11102
3.40	70	39	3-11102
3.50	70	39	3-11102

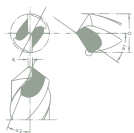
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3.60	70	39	3-11102
3.70	70	39	3-11102
3.80	75	43	3-11102
3.90	75	43	3-11102
4.00	75	43	3-11102
4.10	75	43	3-11102
4.20	75	43	3-11102
4.30	80	47	3-11102
4.40	80	47	3-11102
4.50	80	47	3-11102
4.60	80	47	3-11102
4.70	80	47	3-11102
4.80	86	52	3-11102
4.90	86	52	3-11102
5.00	86	52	3-11102
5.10	86	52	3-11102
5.20	86	52	3-11102
5.30	86	52	3-11102
5.40	93	57	3-11102
5.50	93	57	3-11102
5.60	93	57	3-11102
5.70	93	57	3-11102
5.80	93	57	3-11102
5.90	93	57	3-11102
6.00	93	57	3-11102
6.10	101	63	3-11102

Einsatzgebiete:

N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²

Materials:

N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik



SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.20	101	63	3-11102
6.30	101	63	3-11102
6.40	101	63	3-11102
6.50	101	63	3-11102
6.60	101	63	3-11102
6.70	101	63	3-11102
6.80	109	69	3-11102
6.90	109	69	3-11102
7.00	109	69	3-11102
7.10	109	69	3-11102
7.20	109	69	3-11102
7.30	109	69	3-11102
7.40	109	69	3-11102
7.50	109	69	3-11102
7.60	117	75	3-11102
7.70	117	75	3-11102
7.80	117	75	3-11102
7.90	117	75	3-11102
8.00	117	75	3-11102
8.10	117	75	3-11102
8.20	117	75	3-11102
8.30	117	75	3-11102
8.40	117	75	3-11102
8.50	117	75	3-11102
8.60	125	81	3-11102
8.70	125	81	3-11102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
8.80	125	81	3-11102
8.90	125	81	3-11102
9.00	125	81	3-11102
9.10	125	81	3-11102
9.20	125	81	3-11102
9.30	125	81	3-11102
9.40	125	81	3-11102
9.50	125	81	3-11102
9.60	125	81	3-11102
9.70	133	87	3-11102
9.80	133	87	3-11102
9.90	133	87	3-11102
10.00	133	87	3-11102
10.20	133	87	3-11102
10.50	133	87	3-11102
11.00	142	94	3-11102
11.50	142	94	3-11102
12.00	151	101	3-11102
12.50	151	101	3-11102
13.00	151	101	3-11102
13.50	160	108	3-11102
14.00	160	108	3-11102
14.50	169	114	3-11102
15.00	169	114	3-11102
15.50	178	120	3-11102
16.00	170	120	3-11102

Sätze / Sets



Ø mm	Art.-Nr.
1-10.0 x 0.5	3-11102
1-13.0 x 0.5	3-11102
1-10.5 x 0.5	3-11102
1-5.9 x 0.1	3-11102
6-10.0 x 0.1	3-11102



Depot

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-11102
1-13.0 x 0.5	3-11102

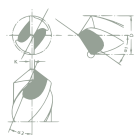


Einsatzgebiete:

N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²

Materials:

N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 340 BUSHING MACHINE DRILLS DIN 340

DIN 340

HSS-Co5%
M35

NX

130°

GESCHLIFFEN
GRINDED

- 130° Kreuzanschliff
- goldfinished, lange Ausführung
- Zylinderschaft
- für Hand- und stationäre Maschinen
- zum Einsatz in der Mischbearbeitung

INFOBOX

- 130° splitpoint
- goldfinished, long series
- straight shank
- for hand- and stationary machines
- to use in multi purpose working field



Art.-Nr.: 3-11103

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
2.00	85	56	3-11103
2.50	95	62	3-11103
3.00	100	66	3-11103
3.10	106	69	3-11103
3.20	106	69	3-11103
3.30	106	69	3-11103
3.50	112	73	3-11103
3.80	119	78	3-11103
4.00	119	78	3-11103
4.10	119	78	3-11103
4.20	119	78	3-11103
4.50	126	82	3-11103
5.00	132	87	3-11103
5.20	132	87	3-11103
5.50	139	91	3-11103
6.00	139	91	3-11103

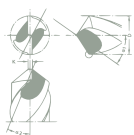
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.50	148	97	3-11103
6.80	156	102	3-11103
7.00	156	102	3-11103
7.50	156	102	3-11103
8.00	165	109	3-11103
8.50	165	109	3-11103
9.00	175	115	3-11103
9.50	175	115	3-11103
10.00	184	121	3-11103
10.20	184	121	3-11103
10.50	184	121	3-11103
11.00	195	128	3-11103
11.50	195	128	3-11103
12.00	205	134	3-11103
12.50	205	134	3-11103
13.00	205	134	3-11103

Einsatzgebiete:

N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²

Materials:

N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik



WITEC® SPIRALBOHRER DIN 338

WITEC® DRILL DIN 338

DIN 338

HSS
M2

NX

36°

GESCHLIFFEN
GRINDED

- 36° Seitenspanwinkel
- goldfinished, Kreuzanschliff
- mit Zentrumschneide
- Zylinderschaft
- für Hand- und stationäre Maschinen
- 36° flute angle
- goldfinished, splitpoint
- with center tip
- straight shank
- for hand- and stationary machines

INFOBOX



Art.-Nr.: 3-11302

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1.00	34	12	3-11302
1.50	40	18	3-11302
2.00	49	24	3-11302
2.50	57	30	3-11302
3.00	61	33	3-11302
3.20	65	36	3-11302
3.30	65	36	3-11302
3.50	70	39	3-11302
4.00	75	43	3-11302
4.10	75	43	3-11302
4.20	75	43	3-11302
4.50	80	47	3-11302
4.80	86	52	3-11302
5.00	86	52	3-11302
5.10	86	52	3-11302
5.20	86	52	3-11302
5.40	93	57	3-11302

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
5.50	93	57	3-11302
6.00	93	57	3-11302
6.50	101	63	3-11302
6.80	109	69	3-11302
7.00	109	69	3-11302
7.50	109	69	3-11302
8.00	117	75	3-11302
8.50	117	75	3-11302
9.00	125	81	3-11302
9.50	125	81	3-11302
10.00	133	87	3-11302
10.50	133	87	3-11302
11.00	142	94	3-11302
11.50	142	94	3-11302
12.00	151	101	3-11302
12.50	151	101	3-11302
13.00	151	101	3-11302



Sätze / Sets

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-11302
1-13.0 x 0.5	3-11302

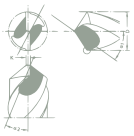


Einsatzgebiete:

Hochlegierte Materialien bis 900 N/mm², Aluminium, Kunststoffe

Materials:

High alloyed materials up to 900 N/mm², Aluminium, Plastics



SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

DIN 338

HSS
M2

N

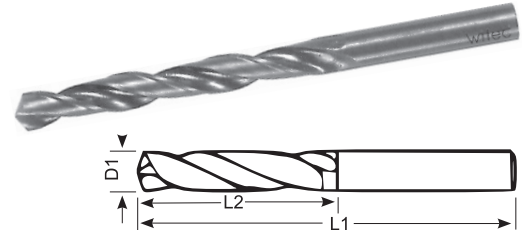
118°

GEWALZT
ROLLED

- Zylinderschaft
- Kegelmantelanschliff
- gewalzt

INFOBOX

- straight shank
- relieved cone
- rolled



Art.-Nr.: 3-12102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
0.50	22	6	3-12102
0.60	24	7	3-12102
0.70	28	9	3-12102
0.75	28	9	3-12102
0.80	30	10	3-12102
0.90	32	11	3-12102
1.00	34	12	3-12102
1.10	36	14	3-12102
1.20	38	16	3-12102
1.25	38	16	3-12102
1.30	38	16	3-12102
1.40	40	18	3-12102
1.50	40	18	3-12102
1.60	43	20	3-12102
1.70	43	20	3-12102
1.75	46	22	3-12102
1.80	46	22	3-12102
1.90	46	22	3-12102
2.00	49	24	3-12102
2.10	49	24	3-12102
2.20	53	27	3-12102
2.25	53	27	3-12102
2.30	53	27	3-12102
2.40	57	30	3-12102
2.50	57	30	3-12102
2.60	57	30	3-12102
2.70	61	33	3-12102
2.75	61	33	3-12102
2.80	61	33	3-12102
2.90	61	33	3-12102
3.00	61	33	3-12102

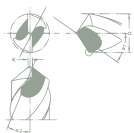
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3.10	65	36	3-12102
3.20	65	36	3-12102
3.25	65	36	3-12102
3.30	65	36	3-12102
3.40	70	39	3-12102
3.50	70	39	3-12102
3.60	70	39	3-12102
3.70	70	39	3-12102
3.75	70	39	3-12102
3.80	75	43	3-12102
3.90	75	43	3-12102
4.00	75	43	3-12102
4.10	75	43	3-12102
4.20	75	43	3-12102
4.25	75	43	3-12102
4.30	80	47	3-12102
4.40	80	47	3-12102
4.50	80	47	3-12102
4.60	80	47	3-12102
4.70	80	47	3-12102
4.75	80	47	3-12102
4.80	86	52	3-12102
4.90	86	52	3-12102
5.00	86	52	3-12102
5.10	86	52	3-12102
5.20	86	52	3-12102
5.25	86	52	3-12102
5.30	86	52	3-12102
5.40	93	57	3-12102
5.50	93	57	3-12102
5.60	93	57	3-12102

Einsatzgebiete:

N und Materialien bis 700 N/mm²

Materials:

N and materials up to 700 N/mm²



Werkzeug- und Industrietechnik



SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
5.70	93	57	3-12102
5.75	93	57	3-12102
5.80	93	57	3-12102
5.90	93	57	3-12102
6.00	93	57	3-12102
6.10	101	63	3-12102
6.20	101	63	3-12102
6.25	101	63	3-12102
6.30	101	63	3-12102
6.40	101	63	3-12102
6.50	101	63	3-12102
6.60	101	63	3-12102
6.70	101	63	3-12102
6.75	109	69	3-12102
6.80	109	69	3-12102
6.90	109	69	3-12102
7.00	109	69	3-12102
7.10	109	69	3-12102
7.20	109	69	3-12102
7.25	109	69	3-12102
7.30	109	69	3-12102
7.40	109	69	3-12102
7.50	109	69	3-12102
7.60	117	75	3-12102
7.70	117	75	3-12102
7.75	117	75	3-12102
7.80	117	75	3-12102
7.90	117	75	3-12102
8.00	117	75	3-12102
8.10	117	75	3-12102
8.20	117	75	3-12102
8.25	117	75	3-12102
8.30	117	75	3-12102
8.40	117	75	3-12102
8.50	117	75	3-12102
8.60	125	81	3-12102
8.70	125	81	3-12102
8.75	125	81	3-12102
8.80	125	81	3-12102
8.90	125	81	3-12102
9.00	125	81	3-12102
9.10	125	81	3-12102
9.20	125	81	3-12102
9.25	125	81	3-12102

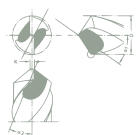
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
9.30	125	81	3-12102
9.40	125	81	3-12102
9.50	125	81	3-12102
9.60	133	87	3-12102
9.70	133	87	3-12102
9.75	133	87	3-12102
9.80	133	87	3-12102
9.90	133	87	3-12102
10.00	133	87	3-12102
10.10	133	87	3-12102
10.20	133	87	3-12102
10.25	133	87	3-12102
10.30	133	87	3-12102
10.40	133	87	3-12102
10.50	133	87	3-12102
10.60	142	94	3-12102
10.70	142	94	3-12102
10.75	142	94	3-12102
10.80	142	94	3-12102
10.90	142	94	3-12102
11.00	142	94	3-12102
11.10	142	94	3-12102
11.20	142	94	3-12102
11.25	142	94	3-12102
11.30	142	94	3-12102
11.40	142	94	3-12102
11.50	142	94	3-12102
11.60	142	94	3-12102
11.70	142	94	3-12102
11.75	142	94	3-12102
11.80	142	94	3-12102
11.90	151	101	3-12102
12.00	151	101	3-12102
12.10	151	101	3-12102
12.20	151	101	3-12102
12.25	151	101	3-12102
12.50	151	101	3-12102
12.60	151	101	3-12102
12.70	151	101	3-12102
12.75	151	101	3-12102
12.80	151	101	3-12102
12.90	151	101	3-12102
13.00	151	101	3-12102
13.50	160	108	3-12102

Einsatzgebiete:

N und Materialien bis 700 N/mm²

Materials:

N and materials up to 700 N/mm²



SPIRALBOHRER DIN 338

JOBBER LENGTH MACHINE DRILLS DIN 338

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
14.00	160	108	3-12102
14.50	169	114	3-12102
15.00	169	114	3-12102
15.50	178	120	3-12102
16.00	178	120	3-12102
16.50	184	125	3-12102
17.00	184	125	3-12102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
17.50	191	130	3-12102
18.00	191	130	3-12102
18.50	198	135	3-12102
19.00	198	135	3-12102
19.50	205	140	3-12102
20.00	205	140	3-12102

Sätze / Sets

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-12102
1-13.0 x 0.5	3-12102
1-10.5 x 0.5	3-12102
1-5.9 x 0.1	3-12102
6-10.0 x 0.1	3-12102



Depot

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-12102
1-13.0 x 0.5	3-12102



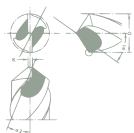
jeweils/each
 1.0-8.0 mm
 je 10 Stück/pcs
 8.5-13.0 mm
 je 5 Stück/pcs

Einsatzgebiete:

N und Materialien bis 700 N/mm²

Materials:

N and materials up to 700 N/mm²



Werkzeug- und Industrietechnik



SPIRALBOHRER DIN 338

JOBBER LENGTH MACHINE DRILLS DIN 338

DIN 338

HSS
M2

N

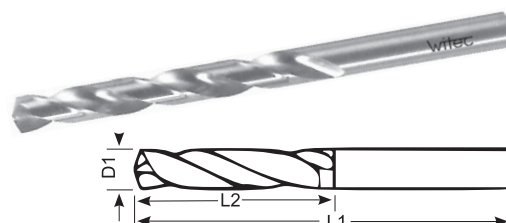
118°

GEWALZT
ROLLED

- Zylinderschaft
- Kegelmantelschliff
- gewalzt und poliert

INFOBOX

- straight shank
- relieved cone
- rolled and polished



Art.-Nr.: 3-12102GP

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1.00	34	12	3-12102GP
1.10	36	14	3-12102GP
1.20	36	16	3-12102GP
1.30	38	16	3-12102GP
1.40	40	18	3-12102GP
1.50	40	18	3-12102GP
1.60	43	20	3-12102GP
1.70	43	20	3-12102GP
1.80	46	22	3-12102GP
1.90	46	22	3-12102GP
2.00	49	24	3-12102GP
2.10	49	24	3-12102GP
2.20	53	27	3-12102GP
2.30	53	27	3-12102GP
2.40	57	30	3-12102GP
2.50	57	30	3-12102GP
2.60	57	30	3-12102GP
2.70	61	33	3-12102GP
2.80	61	33	3-12102GP
2.90	61	33	3-12102GP
3.00	61	33	3-12102GP
3.10	65	36	3-12102GP
3.20	65	36	3-12102GP
3.30	65	36	3-12102GP
3.40	70	39	3-12102GP
3.50	70	39	3-12102GP
3.60	70	39	3-12102GP
3.70	70	39	3-12102GP
3.80	75	43	3-12102GP
3.90	75	43	3-12102GP
4.00	75	43	3-12102GP

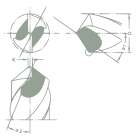
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
4.10	75	43	3-12102GP
4.20	75	43	3-12102GP
4.30	80	47	3-12102GP
4.40	80	47	3-12102GP
4.50	80	47	3-12102GP
4.60	80	47	3-12102GP
4.70	80	47	3-12102GP
4.80	86	52	3-12102GP
4.90	86	52	3-12102GP
5.00	86	52	3-12102GP
5.10	86	52	3-12102GP
5.20	86	52	3-12102GP
5.30	86	52	3-12102GP
5.40	93	57	3-12102GP
5.50	93	57	3-12102GP
5.60	93	57	3-12102GP
5.70	93	57	3-12102GP
5.80	93	57	3-12102GP
5.90	93	57	3-12102GP
6.00	93	57	3-12102GP
6.10	101	63	3-12102GP
6.20	101	63	3-12102GP
6.30	101	63	3-12102GP
6.40	101	63	3-12102GP
6.50	101	63	3-12102GP
6.60	101	63	3-12102GP
6.70	101	63	3-12102GP
6.80	109	69	3-12102GP
6.90	109	69	3-12102GP
7.00	109	69	3-12102GP
7.10	109	69	3-12102GP

Einsatzgebiete:

N und Materialien bis 700 N/mm²

Materials:

N and materials up to 700 N/mm²



SPIRALBOHRER DIN 338

JOBBER LENGTH MACHINE DRILLS DIN 338

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
7.20	109	69	3-12102GP
7.30	109	69	3-12102GP
7.40	109	69	3-12102GP
7.50	109	69	3-12102GP
7.60	117	75	3-12102GP
7.70	117	75	3-12102GP
7.80	117	75	3-12102GP
7.90	117	75	3-12102GP
8.00	117	75	3-12102GP
8.10	117	75	3-12102GP
8.20	117	75	3-12102GP
8.30	117	75	3-12102GP
8.40	117	75	3-12102GP
8.50	117	75	3-12102GP
8.60	125	81	3-12102GP
8.70	125	81	3-12102GP
8.80	125	81	3-12102GP
8.90	125	81	3-12102GP

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
9.00	125	81	3-12102GP
9.10	125	81	3-12102GP
9.20	125	81	3-12102GP
9.30	125	81	3-12102GP
9.40	125	81	3-12102GP
9.50	125	81	3-12102GP
9.60	125	81	3-12102GP
9.70	133	87	3-12102GP
9.80	133	87	3-12102GP
9.90	133	87	3-12102GP
10.00	133	87	3-12102GP
10.20	133	87	3-12102GP
10.50	133	87	3-12102GP
11.00	142	94	3-12102GP
11.50	142	94	3-12102GP
12.00	151	101	3-12102GP
12.50	151	101	3-12102GP
13.00	151	101	3-12102GP

Sätze / Sets

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-12102GP
1-13.0 x 0.5	3-12102GP



Sätze / Sets

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-12102GP
1-13.0 x 0.5	3-12102GP

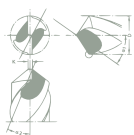


Einsatzgebiete:

N und Materialien bis 700 N/mm²

Materials:

N and materials up to 700 N/mm²



Werkzeug- und Industrietechnik

SPIRALBOHRER DIN 340 BUSHING MACHINE DRILLS DIN 340

DIN 340

HSS
M2

N

118°

GEWALZT
ROLLED

- Zylinderschaft, lange Ausführung
- Kegelmantelanschliff
- gewalzt

INFOBOX

- straight shank, long series
- relieved cone
- rolled



Art.-Nr.: 3-12103

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
2.00	85	56	3-12103
2.10	85	56	3-12103
2.20	90	59	3-12103
2.30	90	59	3-12103
2.40	95	62	3-12103
2.50	95	62	3-12103
2.60	95	62	3-12103
2.70	100	66	3-12103
2.80	100	66	3-12103
2.90	100	66	3-12103
3.00	100	66	3-12103
3.10	106	69	3-12103
3.20	106	69	3-12103
3.25	106	69	3-12103
3.30	106	69	3-12103
3.40	112	73	3-12103
3.50	112	73	3-12103
3.60	112	73	3-12103
3.70	112	73	3-12103
3.80	119	78	3-12103
3.90	119	78	3-12103
4.00	119	78	3-12103
4.10	119	78	3-12103
4.20	119	78	3-12103

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
4.30	126	82	3-12103
4.40	126	82	3-12103
4.50	126	82	3-12103
4.60	126	82	3-12103
4.70	126	82	3-12103
4.75	126	82	3-12103
4.80	132	87	3-12103
4.90	132	87	3-12103
5.00	132	87	3-12103
5.10	132	87	3-12103
5.20	132	87	3-12103
5.30	132	87	3-12103
5.40	139	91	3-12103
5.50	139	91	3-12103
5.60	139	91	3-12103
5.70	139	91	3-12103
5.80	139	91	3-12103
5.90	139	91	3-12103
6.00	139	91	3-12103
6.10	148	97	3-12103
6.20	148	97	3-12103
6.30	148	97	3-12103
6.40	148	97	3-12103
6.50	148	97	3-12103

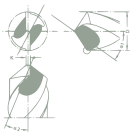
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.80	156	102	3-12103
7.00	156	102	3-12103
7.20	156	102	3-12103
7.50	156	102	3-12103
7.80	165	109	3-12103
8.00	165	109	3-12103
8.20	165	109	3-12103
8.50	165	109	3-12103
8.80	175	115	3-12103
9.00	175	115	3-12103
9.50	175	115	3-12103
9.80	184	121	3-12103
10.00	184	121	3-12103
10.20	184	121	3-12103
10.50	184	121	3-12103
11.00	195	128	3-12103
11.50	195	128	3-12103
12.00	205	134	3-12103
12.50	205	134	3-12103
13.00	205	134	3-12103
14.00	214	140	3-12103
15.00	220	144	3-12103
16.00	227	149	3-12103

Einsatzgebiete:

N und Materialien bis 700 N/mm²

Materials:

N and materials up to 700 N/mm²



MK SPIRALBOHRER DIN 345 MORSE TAPER SHANK MACHINE DRILLS DIN 345

DIN 345

HSS
M2

N

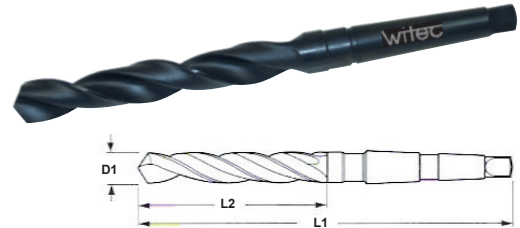
118°

GEWALZT
ROLLED

- Morsekonus
- Kegelmantelschliff
- fließgepresst
- gewalzt

- morse taper shank
- relieved cone
- endpolished
- rolled

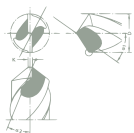
INFOBOX



Art.-Nr.: 3-12108

Ø D1 mm	L1 mm	L2 mm	MK	Art.-Nr.
8.00	156	75	1	3-12108
8.50	156	75	1	3-12108
9.00	162	81	1	3-12108
9.50	162	81	1	3-12108
10.00	168	87	1	3-12108
10.20	168	87	1	3-12108
10.25	168	87	1	3-12108
10.50	168	87	1	3-12108
10.75	175	94	1	3-12108
11.00	175	94	1	3-12108
11.25	175	94	1	3-12108
11.50	175	94	1	3-12108
11.75	175	94	1	3-12108
12.00	182	101	1	3-12108
12.25	182	101	1	3-12108
12.50	182	101	1	3-12108
12.75	182	101	1	3-12108
13.00	182	101	1	3-12108
13.25	189	108	1	3-12108
13.50	189	108	1	3-12108
13.75	189	108	1	3-12108
14.00	212	114	1	3-12108
14.25	212	114	2	3-12108
14.50	212	114	2	3-12108
14.75	212	114	2	3-12108
15.00	212	114	2	3-12108
15.25	218	120	2	3-12108
15.50	218	120	2	3-12108
15.75	218	120	2	3-12108

Ø D1 mm	L1 mm	L2 mm	MK	Art.-Nr.
16.00	218	120	2	3-12108
16.25	223	125	2	3-12108
16.50	223	125	2	3-12108
16.75	223	125	2	3-12108
17.00	223	125	2	3-12108
17.25	228	130	2	3-12108
17.50	228	130	2	3-12108
17.75	228	130	2	3-12108
18.00	228	130	2	3-12108
18.25	233	135	2	3-12108
18.50	233	135	2	3-12108
18.75	233	135	2	3-12108
19.00	233	135	2	3-12108
19.25	238	140	2	3-12108
19.50	238	140	2	3-12108
19.75	238	140	2	3-12108
20.00	238	140	2	3-12108
20.25	243	145	2	3-12108
20.50	243	145	2	3-12108
20.75	243	145	2	3-12108
21.00	243	145	2	3-12108
21.25	248	150	2	3-12108
21.50	248	150	2	3-12108
21.75	248	150	2	3-12108
22.00	248	150	2	3-12108
22.25	248	150	2	3-12108
22.50	253	155	2	3-12108
22.75	253	155	2	3-12108
23.00	253	155	2	3-12108

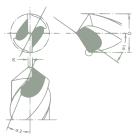


MK SPIRALBOHRER DIN 345 MORSE TAPER SHANK MACHINE DRILLS DIN 345

Ø D1 mm	L1 mm	L2 mm	MK	Art.-Nr.
23.25	276	155	2	3-12108
23.50	276	155	3	3-12108
23.75	281	160	3	3-12108
24.00	281	160	3	3-12108
24.25	281	160	3	3-12108
24.50	281	160	3	3-12108
24.75	281	160	3	3-12108
25.00	281	160	3	3-12108
25.25	286	165	3	3-12108
25.50	286	165	3	3-12108
25.75	286	165	3	3-12108
26.00	286	165	3	3-12108
26.25	286	165	3	3-12108
26.50	291	170	3	3-12108
26.75	291	170	3	3-12108
27.00	291	170	3	3-12108
27.25	291	170	3	3-12108
27.50	291	170	3	3-12108
27.75	291	170	3	3-12108
28.00	291	170	3	3-12108
28.25	296	175	3	3-12108
28.50	296	175	3	3-12108
28.75	296	175	3	3-12108
29.00	296	175	3	3-12108
29.25	296	175	3	3-12108
29.50	296	175	3	3-12108
29.75	296	175	3	3-12108
30.00	296	175	3	3-12108
30.25	301	180	3	3-12108
30.50	301	180	3	3-12108
30.75	301	180	3	3-12108
31.00	301	180	3	3-12108
31.25	301	180	3	3-12108
31.50	301	180	3	3-12108
31.75	306	185	3	3-12108
32.00	334	185	4	3-12108
32.50	334	185	4	3-12108
33.00	334	185	4	3-12108
33.50	334	185	4	3-12108
34.00	339	190	4	3-12108
34.50	339	190	4	3-12108

Ø D1 mm	L1 mm	L2 mm	MK	Art.-Nr.
35.00	339	190	4	3-12108
35.50	339	190	4	3-12108
36.00	344	195	4	3-12108
36.50	344	195	4	3-12108
37.00	344	195	4	3-12108
37.50	344	195	4	3-12108
38.00	349	200	4	3-12108
38.50	349	200	4	3-12108
39.00	349	200	4	3-12108
39.50	349	200	4	3-12108
40.00	349	200	4	3-12108
40.50	354	205	4	3-12108
41.00	354	205	4	3-12108
41.50	354	205	4	3-12108
42.00	354	205	4	3-12108
42.50	354	205	4	3-12108
43.00	359	210	4	3-12108
43.50	359	210	4	3-12108
44.00	359	210	4	3-12108
44.50	359	210	4	3-12108
45.00	359	210	4	3-12108
45.50	364	215	4	3-12108
46.00	364	215	4	3-12108
46.50	364	215	4	3-12108
47.00	364	215	4	3-12108
47.50	364	215	4	3-12108
48.00	369	220	4	3-12108
48.50	369	220	4	3-12108
49.00	369	220	4	3-12108
49.50	369	220	4	3-12108
50.00	369	220	4	3-12108
51.00	412	295	5	3-12108
52.00	412	295	5	3-12108
53.00	412	295	5	3-12108
54.00	417	230	5	3-12108
55.00	417	230	5	3-12108
56.00	417	230	5	3-12108
57.00	422	235	5	3-12108
58.00	422	235	5	3-12108
59.00	422	235	5	3-12108
60.00	422	235	5	3-12108

Einsatzgebiete:N und Materialien bis 700 N/mm²**Materials:**N and materials up to 700 N/mm²



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

DIN 338

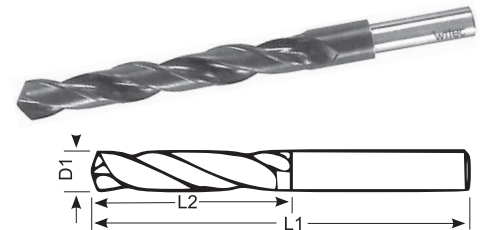
HSS-Co5%
M35VA
INOX

130°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- abgesetzter Schaft-Ø 13,0 mm
- Kreuzanschliff
- straight shank
- reduced shank-Ø 13,0 mm
- split point

INFOBOX



Art.-Nr.: 3-12302

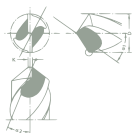
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
13.50	160	108	3-12302
14.00	160	108	3-12302
14.50	169	114	3-12302
15.00	169	114	3-12302
15.50	178	120	3-12302
16.00	178	120	3-12302
16.50	184	125	3-12302
17.00	184	125	3-12302
17.50	191	130	3-12302
18.00	191	130	3-12302
18.50	198	135	3-12302
19.00	198	135	3-12302
19.50	205	140	3-12302
20.00	205	140	3-12302

Einsatzgebiete:

legierte und unlegierte Stähle und Gussarten mit Festigkeiten über 800 N/mm²

Materials:

alloyed and unalloyed steels and castings with a tensile strength over 800 N/mm²



Werkzeug- und Industrietechnik



SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

DIN 338

HSS
M2

N

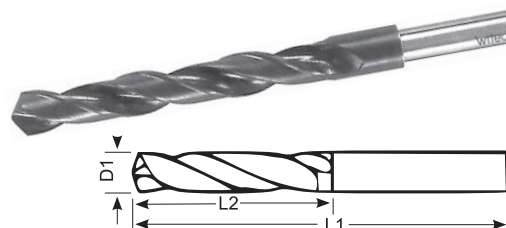
118°

GEWALZT
ROLLED

- abgesetzter Schaft (8, 10 und 13 mm)
- Kegelmantelschliff
- gewalzt

INFOBOX

- straight shank (8, 10 and 13 mm)
- relieved cone
- rolled



Art.-Nr.: 3-12402

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
10.50	133	87	3-12402
11.00	142	94	3-12402
11.50	142	94	3-12402
12.00	151	101	3-12402
12.50	151	101	3-12402
13.00	151	101	3-12402
13.50	160	108	3-12402
14.00	160	108	3-12402
14.50	169	114	3-12402
15.00	169	114	3-12402
15.50	178	120	3-12402
16.00	178	120	3-12402
16.50	184	125	3-12402
17.00	184	125	3-12402
17.50	191	130	3-12402
18.00	191	130	3-12402

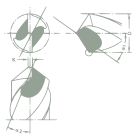
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
18.50	198	135	3-12402
19.00	198	135	3-12402
19.50	205	140	3-12402
20.00	205	140	3-12402
20.50	225	145	3-12402
21.00	225	145	3-12402
21.50	210	150	3-12402
22.00	210	150	3-12402
23.00	215	155	3-12402
24.00	220	160	3-12402
25.00	220	160	3-12402
26.00	235	165	3-12402
27.00	235	170	3-12402
28.00	235	170	3-12402
29.00	240	175	3-12402
30.00	240	175	3-12402

Einsatzgebiete:

N und Materialien bis 700 N/mm²

Materials:

N and materials up to 700 N/mm²



Werkzeug- und Industrietechnik



SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

DIN 338

HSS
M2

NX

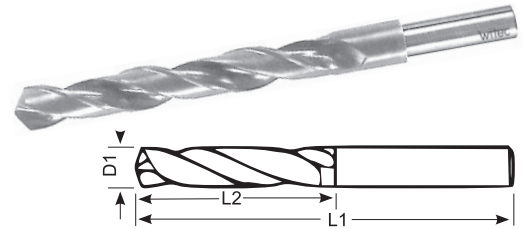
118°

GESCHLIFFEN
GRINDED

- abgesetzter Schaft
- Kreuzanschliff
- blank

INFOBOX

- reduced shank
- split point
- bright finished



Art.-Nr.: 3-12602

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
10.50	133	87	3-12602
11.00	142	94	3-12602
11.50	142	94	3-12602
12.00	151	101	3-12602
12.50	151	101	3-12602
13.00	151	101	3-12602
13.50	160	108	3-12602
14.00	160	108	3-12602
14.50	169	114	3-12602
15.00	169	114	3-12602
15.50	178	120	3-12602
16.00	178	120	3-12602
16.50	184	125	3-12602
17.00	184	125	3-12602
17.50	191	130	3-12602

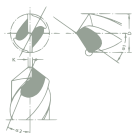
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
18.00	191	130	3-12602
18.50	198	135	3-12602
19.00	198	135	3-12602
19.50	205	140	3-12602
20.00	205	140	3-12602
20.50	225	145	3-12602
21.00	225	145	3-12602
21.50	230	150	3-12602
22.00	230	150	3-12602
22.50	230	155	3-12602
23.00	230	155	3-12602
23.50	230	155	3-12602
24.00	250	160	3-12602
24.50	250	160	3-12602
25.00	250	160	3-12602

Einsatzgebiete:

N, W, GG (bis GG40) und hochlegierte Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and high alloyed materials up to 900 N/mm²



Werkzeug- und Industrietechnik



DOPPELELENDBOHRER DOUBLE ENDED BODY DRILLS

WITEC-NORM

HSS-Co5%
M35

NX

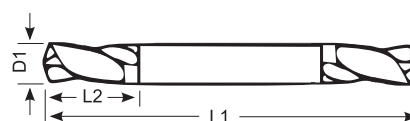
118°/130°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- Kreuzanschliff
- blank

INFOBOX

- straight shank
- split-point
- bright finished



Art.-Nr.: 3-12701 / 3-12801 / 3-13001

HSS-Co, 130°

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3.30	40	16	3-12701
4.90	50	22	3-12701
5.10	52	24	3-12701

HSS, 130°

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
2.00	38	7.5	3-13001
2.50	43	9.5	3-13001
2.70	46	9.5	3-13001
3.00	46	9.5	3-13001
3.10	49	9.5	3-13001
3.20	49	9.5	3-13001
3.25	49	9.5	3-13001
3.30	49	9.5	3-13001
3.50	52	13	3-13001
3.80	55	13	3-13001
4.00	55	13	3-13001
4.10	55	13	3-13001
4.20	55	13	3-13001
4.50	58	16	3-13001
4.80	62	16	3-13001
4.90	62	16	3-13001
5.00	62	16	3-13001
5.10	62	16	3-13001
5.20	62	16	3-13001
5.50	66	16	3-13001
6.00	66	16	3-13001
6.50	70	18	3-13001
7.00	74	19	3-13001
8.00	79	20	3-13001

HSS, 118°

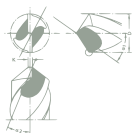
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
2.50	43	9.5	3-12801
3.00	46	9.5	3-12801
3.10	49	9.5	3-12801
3.20	49	9.5	3-12801
3.25	49	9.5	3-12801
3.30	49	9.5	3-12801
3.40	52	13	3-12801
3.50	52	13	3-12801
4.00	55	13	3-12801
4.10	55	13	3-12801
4.20	55	13	3-12801
4.50	58	16	3-12801
4.80	62	16	3-12801
4.90	62	16	3-12801
5.00	62	16	3-12801
5.10	62	16	3-12801
5.20	62	16	3-12801
5.25	62	16	3-12801
5.50	66	16	3-12801
6.00	66	16	3-12801

Einsatzgebiete:

N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²

Materials:

N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik



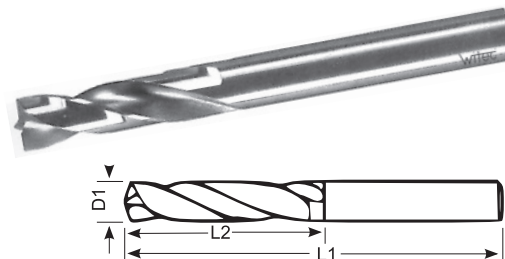
SCHWEISSPUNKTBOHRER WELDINGSPOT DRILLS

DIN1897

HSS-Co5%
M35SONDERSPITZE
SPECIAL POINTGESCHLIFFEN
GRINDED

- mit Sonderspitze ähnl. DIN 1412 E
- profilgeschliffene Qualität, 90°
- with special point similar DIN 1412E
- profile ground quality, 90°

INFOBOX

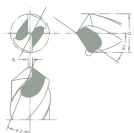


Art.-Nr.: 3-13101

DIN 1897, blank / bright finished

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.00	66	28	3-13101
7.00	74	34	3-13101
8.00	79	37	3-13101
10.00	89	43	3-13101

Einsatzgebiete:N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²**Materials:**N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik

FRÄSBOHRER SAW DRILLS

WITEC-NORM

HSS
M2

GESCHLIFFEN
GRINDED

- geschliffene Fräszähne und tiefgeschliffene Spannuten
- Fräsen, Trennen
- Raspeln und Feilen von Holz
- blank oder TiN beschichtet

INFOBOX

- grinded milling teeth and deep grinded chip flute
- milling, cutting
- rasping and filing of wood
- bright finished or TiN coating



Art.-Nr.: 3-18001 / 3-18001TiN

blank / bright finished

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.00	90	-	3-18001
8.00	90	-	3-18001

TiN beschichtet / TiN coated

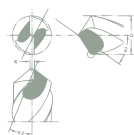
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.00	90	-	3-18001TiN
8.00	90	-	3-18001TiN

Einsatzgebiete:

Spanplatten, Kunststoffe, Aluminium, andere NE-Metalle, Stahlblech, Gipskarton

Materials:

chipboard, plastics, aluminium, other none iron-metals, steel sheets, plasterboard



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

ANBOHRER RIVET DRILLS

WITEC

HSS
M2

NX

118°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- extra kurze Ausführung
- Kreuzanschliff
- blank

INFOBOX

- straight shank
- extra short series
- split-point
- bright finished



Art.-Nr.: 3-18100

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3.00	37	14	3-18100
3.10	37	14	3-18100
3.20	37	14	3-18100
3,25	40	16	3-18100
3.30	40	16	3-18100
3,50	42	16	3-18100
3.60	42	16	3-18100
3.70	42	16	3-18100
3,75	42	16	3-18100
3.80	42	16	3-18100
4.00	42	16	3-18100
4.10	44	18	3-18100
4.20	44	18	3-18100

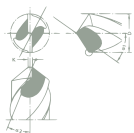
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
4.50	48	20	3-18100
4.80	48	20	3-18100
4.90	50	22	3-18100
5.00	50	22	3-18100
5.10	52	24	3-18100
5.20	52	24	3-18100
5.30	52	24	3-18100
5.50	52	24	3-18100
5.60	55	26	3-18100
5.70	55	26	3-18100
5.80	55	26	3-18100
6.00	55	26	3-18100

Einsatzgebiete:

N, W, GG (bis GG40) und Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and materials up to 900 N/mm²



Werkzeug- und Industrietechnik



Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 1897

SCREW MACHINE DRILLS DIN 1897

DIN 1897

HSS
M2

NX

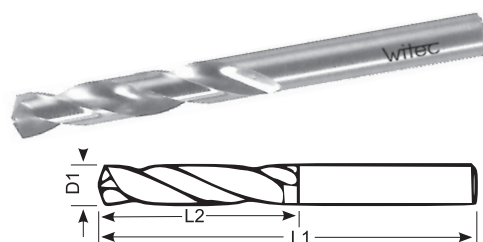
118°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- kurze Ausführung
- Kreuzanschliff
- blank

INFOBOX

- straight shank
- short series
- split-point
- bright finished



Art.-Nr.: 3-18101

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1.00	26	6	3-18101
1.50	32	9	3-18101
2.00	38	12	3-18101
2.10	38	12	3-18101
2.20	40	13	3-18101
2.30	40	13	3-18101
2.40	43	14	3-18101
2.50	43	14	3-18101
2.60	43	14	3-18101
2.70	46	16	3-18101
2.80	46	16	3-18101
2.90	46	16	3-18101
3.00	46	16	3-18101
3.10	49	18	3-18101
3.20	49	18	3-18101
3.30	49	18	3-18101
3.40	52	20	3-18101
3.50	52	20	3-18101
3.60	52	20	3-18101
3.70	52	20	3-18101
3.80	55	22	3-18101
3.90	55	22	3-18101
4.00	55	22	3-18101
4.10	55	22	3-18101
4.20	55	22	3-18101
4.30	58	24	3-18101
4.40	58	24	3-18101
4.50	58	24	3-18101
4.60	58	24	3-18101

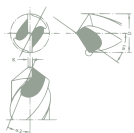
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
4.70	58	24	3-18101
4.80	62	26	3-18101
4.90	62	26	3-18101
5.00	62	26	3-18101
5.10	62	26	3-18101
5.20	62	26	3-18101
5.30	62	26	3-18101
5.40	66	28	3-18101
5.50	66	28	3-18101
5.60	66	28	3-18101
5.70	66	28	3-18101
5.80	66	28	3-18101
5.90	66	28	3-18101
6.00	66	28	3-18101
6.50	70	31	3-18101
6.80	74	34	3-18101
7.00	74	34	3-18101
7.20	74	34	3-18101
7.50	74	34	3-18101
7.80	79	37	3-18101
8.00	79	37	3-18101
8.50	79	37	3-18101
9.00	84	40	3-18101
9.50	84	40	3-18101
10.00	89	43	3-18101
10.20	89	43	3-18101
10.50	89	43	3-18101
11.00	95	47	3-18101
11.50	95	47	3-18101

Einsatzgebiete:

N, W, GG (bis GG40) und Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and materials up to 900 N/mm²



SPIRALBOHRER DIN 1897

SCREW MACHINE DRILLS DIN 1897

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
12.00	102	51	3-18101
12.50	102	51	3-18101
13.00	102	51	3-18101
14.00	107	54	3-18101
15.00	111	56	3-18101
16.00	115	58	3-18101



Sätze / Sets

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-18101
1-13.0 x 0.5	3-18101

Art.-Nr.: 3-18101

SPIRALBOHRER DIN 1897

SCREW MACHINE DRILLS DIN 1897

DIN 1897

HSS
M2

NX

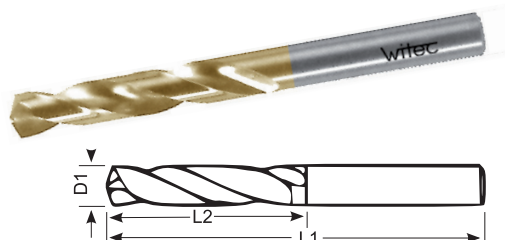
118°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- kurze Ausführung
- Kreuzanschliff
- TiN-Beschichtung

INFOBOX

- straight shank
- short series
- split-point
- TiN-Coating



Art.-Nr.: 3-18101 TiN

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1.00	26	6	3-18101TiN
1.50	32	9	3-18101TiN
2.00	38	12	3-18101TiN
2.10	38	12	3-18101TiN
2.20	40	13	3-18101TiN
2.30	40	13	3-18101TiN
2.40	43	14	3-18101TiN
2.50	43	14	3-18101TiN
2.60	43	14	3-18101TiN
2.70	46	16	3-18101TiN
2.80	46	16	3-18101TiN
2.90	46	16	3-18101TiN

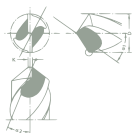
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3.00	46	16	3-18101TiN
3.10	49	18	3-18101TiN
3.20	49	18	3-18101TiN
3.30	49	18	3-18101TiN
3.40	52	20	3-18101TiN
3.50	52	20	3-18101TiN
3.60	52	20	3-18101TiN
3.70	52	20	3-18101TiN
3.80	55	22	3-18101TiN
3.90	55	22	3-18101TiN
4.00	55	22	3-18101TiN
4.10	55	22	3-18101TiN

Einsatzgebiete:

N, W, GG (bis GG40) und Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and materials up to 900 N/mm²



Werkzeug- und Industrietechnik

SPIRALBOHRER DIN 1897 SCREW MACHINE DRILLS DIN 1897

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
4.20	55	22	3-18101TiN
4.30	58	24	3-18101TiN
4.40	58	24	3-18101TiN
4.50	58	24	3-18101TiN
4.60	58	24	3-18101TiN
4.70	58	24	3-18101TiN
4.80	62	26	3-18101TiN
4.90	62	26	3-18101TiN
5.80	66	28	3-18101TiN
5.90	66	28	3-18101TiN
6.00	66	28	3-18101TiN
6.50	70	31	3-18101TiN
6.80	74	34	3-18101TiN
7.00	74	34	3-18101TiN
7.20	74	34	3-18101TiN
7.50	74	34	3-18101TiN

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
7.80	79	37	3-18101TiN
8.00	79	37	3-18101TiN
8.50	79	37	3-18101TiN
9.00	84	40	3-18101TiN
9.50	84	40	3-18101TiN
10.00	89	43	3-18101TiN
10.20	89	43	3-18101TiN
10.50	89	43	3-18101TiN
11.00	95	47	3-18101TiN
11.50	95	47	3-18101TiN
12.00	102	51	3-18101TiN
12.50	102	51	3-18101TiN
13.00	102	51	3-18101TiN
14.00	107	54	3-18101TiN
15.00	111	56	3-18101TiN
16.00	115	58	3-18101TiN



Sätze / Sets

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-18101TiN
1-13.0 x 0.5	3-18101TiN

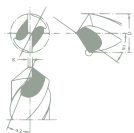
Art.-Nr.: 3-18101TiN

Einsatzgebiete:

N, W, GG (bis GG40) und Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and materials up to 900 N/mm²



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

DIN 338

HSS
M2

NX

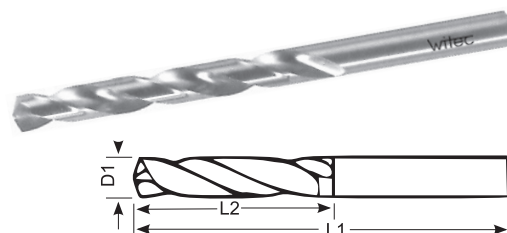
118°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- Kreuzanschliff
- blank

INFOBOX

- straight shank
- split-point
- bright finished

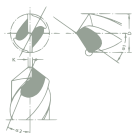


Art.-Nr.: 3-18102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
0.30	19	3	3-18102
0.40	20	5	3-18102
0.50	22	6	3-18102
0.60	24	7	3-18102
0.70	28	9	3-18102
0.80	30	10	3-18102
0.90	32	11	3-18102
1.00	34	12	3-18102
1.10	36	14	3-18102
1.20	36	16	3-18102
1.30	38	16	3-18102
1.40	40	18	3-18102
1.50	40	18	3-18102
1.60	43	20	3-18102
1.70	43	20	3-18102
1.80	46	22	3-18102
1.90	46	22	3-18102
2.00	49	24	3-18102
2.10	49	24	3-18102
2.20	53	27	3-18102
2.30	53	27	3-18102
2.40	57	30	3-18102
2.50	57	30	3-18102
2.60	57	30	3-18102
2.70	61	33	3-18102
2.80	61	33	3-18102
2.90	61	33	3-18102
3.00	61	33	3-18102
3.10	65	36	3-18102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3.20	65	36	3-18102
3.30	65	36	3-18102
3.40	70	39	3-18102
3.50	70	39	3-18102
3.60	70	39	3-18102
3.70	70	39	3-18102
3.80	75	43	3-18102
3.90	75	43	3-18102
4.00	75	43	3-18102
4.10	75	43	3-18102
4.20	75	43	3-18102
4.30	80	47	3-18102
4.40	80	47	3-18102
4.50	80	47	3-18102
4.60	80	47	3-18102
4.70	80	47	3-18102
4.80	86	52	3-18102
4.90	86	52	3-18102
5.00	86	52	3-18102
5.10	86	52	3-18102
5.20	86	52	3-18102
5.30	86	52	3-18102
5.40	93	57	3-18102
5.50	93	57	3-18102
5.60	93	57	3-18102
5.70	93	57	3-18102
5.80	93	57	3-18102
5.90	93	57	3-18102
6.00	93	57	3-18102

Einsatzgebiete:N, W, GG (bis GG40) und Materialien bis 900 N/mm²**Materials:**N, W, GG (bis GG40) and materials up to 900 N/mm²



Werkzeug- und Industrietechnik

SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.10	101	63	3-18102
6.20	101	63	3-18102
6.30	101	63	3-18102
6.40	101	63	3-18102
6.50	101	63	3-18102
6.60	101	63	3-18102
6.70	101	63	3-18102
6.80	109	69	3-18102
6.90	109	69	3-18102
7.00	109	69	3-18102
7.10	109	69	3-18102
7.20	109	69	3-18102
7.30	109	69	3-18102
7.40	109	69	3-18102
7.50	109	69	3-18102
7.60	117	75	3-18102
7.70	117	75	3-18102
7.80	117	75	3-18102
7.90	117	75	3-18102
8.00	117	75	3-18102
8.10	117	75	3-18102
8.20	117	75	3-18102
8.30	117	75	3-18102
8.40	117	75	3-18102
8.50	117	75	3-18102
8.60	125	81	3-18102
8.70	125	81	3-18102
8.80	125	81	3-18102
8.90	125	81	3-18102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
9.00	125	81	3-18102
9.10	125	81	3-18102
9.20	125	81	3-18102
9.30	125	81	3-18102
9.40	125	81	3-18102
9.50	125	81	3-18102
9.60	125	81	3-18102
9.70	133	87	3-18102
9.80	133	87	3-18102
9.90	133	87	3-18102
10.00	133	87	3-18102
10.10	133	87	3-18102
10.20	133	87	3-18102
10.30	133	87	3-18102
10.40	133	87	3-18102
10.50	133	87	3-18102
10.60	133	87	3-18102
10.70	133	87	3-18102
10.80	133	87	3-18102
10.90	133	87	3-18102
11.00	142	94	3-18102
11.20	142	94	3-18102
11.50	142	94	3-18102
11.80	142	94	3-18102
12.00	151	101	3-18102
12.20	151	101	3-18102
12.50	151	101	3-18102
12.80	151	101	3-18102
13.00	151	101	3-18102

Schrank/Display



Ø	Art.-Nr.
1-13.0 x 0.1/0.5	3-18102

jeweils/each
1.0-10.0x0.1 mm
je 10 Stück/pcs
10.5-13.0x0.5 mm
je 5 Stück/pcs

Depot

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-18102



Sätze / Sets

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-18102
1-13.0 x 0.5	3-18102
1-10.5 x 0.5 + KL	3-18102

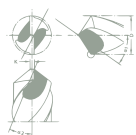


Einsatzgebiete:

N, W, GG (bis GG40) und
Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and
materials up to 900 N/mm²



Werkzeug- und Industrietechnik

Risto
Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

DIN 338

HSS
M2

NX

118°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- Kreuzanschliff
- TiN-Beschichtung

INFOBOX

- straight shank
- split-point
- TiN-Coating



Art.-Nr.: 3-18102TiN

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1.00	34	12	3-18102TiN
1.50	40	18	3-18102TiN
2.00	49	24	3-18102TiN
2.50	57	30	3-18102TiN
3.00	61	33	3-18102TiN
3.10	65	36	3-18102TiN
3.20	65	36	3-18102TiN
3.30	65	36	3-18102TiN
3.50	70	39	3-18102TiN
4.00	75	43	3-18102TiN
4.10	75	43	3-18102TiN
4.20	75	43	3-18102TiN
4.50	80	47	3-18102TiN
5.00	86	52	3-18102TiN
5.10	86	52	3-18102TiN
5.20	86	52	3-18102TiN
5.50	93	57	3-18102TiN

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.00	93	57	3-18102TiN
6.50	101	63	3-18102TiN
6.80	109	69	3-18102TiN
7.00	109	69	3-18102TiN
7.50	109	69	3-18102TiN
8.00	117	75	3-18102TiN
8.50	117	75	3-18102TiN
9.00	125	81	3-18102TiN
9.50	125	81	3-18102TiN
10.00	133	87	3-18102TiN
10.20	133	87	3-18102TiN
10.50	133	87	3-18102TiN
11.00	142	94	3-18102TiN
11.50	142	94	3-18102TiN
12.00	151	101	3-18102TiN
12.50	151	101	3-18102TiN
13.00	151	101	3-18102TiN

Sätze / Sets

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-18102TiN
1-13.0 x 0.5	3-18102TiN
1-10.5 x 0.5 + KL	3-18102TiN
1-5.9 x 0.1	3-18102TiN
6-10.0 x 0.1	3-18102TiN



Depot

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-18102TiN

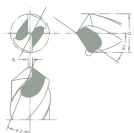


Einsatzgebiete:

N, W, GG (bis GG40) und Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and materials up to 900 N/mm²



Werkzeug- und Industrietechnik



Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 340

BUSHING MACHINE DRILLS DIN 340

DIN 340

HSS
M2

NX

118°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- lange Ausführung
- Kreuzanschliff
- blank

INFOBOX

- straight shank
- long series
- split-point
- bright finished



Art.-Nr.: 3-18103

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1.00	56	33	3-18103
1.50	70	45	3-18103
2.00	85	56	3-18103
2.50	95	62	3-18103
2.90	100	66	3-18103
3.00	100	66	3-18103
3.10	106	69	3-18103
3.20	106	69	3-18103
3.50	112	73	3-18103
3.80	119	78	3-18103
3.90	119	78	3-18103
4.00	119	78	3-18103
4.10	119	78	3-18103
4.20	119	78	3-18103
4.30	126	82	3-18103
4.50	126	82	3-18103
4.80	132	87	3-18103
4.90	132	87	3-18103
5.00	132	87	3-18103
5.10	132	87	3-18103
5.20	132	87	3-18103
5.50	139	91	3-18103
5.80	139	91	3-18103
6.00	139	91	3-18103

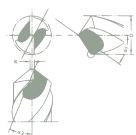
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6.20	148	97	3-18103
6.50	148	97	3-18103
6.80	156	102	3-18103
7.00	156	102	3-18103
7.20	156	102	3-18103
7.50	156	102	3-18103
7.80	165	109	3-18103
8.00	165	109	3-18103
8.20	165	109	3-18103
8.50	165	109	3-18103
9.00	175	115	3-18103
9.50	175	115	3-18103
9.80	184	121	3-18103
10.00	184	121	3-18103
10.20	184	121	3-18103
10.50	184	121	3-18103
11.00	195	128	3-18103
11.50	195	128	3-18103
12.00	205	134	3-18103
12.50	205	134	3-18103
13.00	205	134	3-18103
14.00	214	140	3-18103
15.00	220	144	3-18103

Einsatzgebiete:

N, W, GG (bis GG40) und Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and materials up to 900 N/mm²



Werkzeug- und Industrietechnik

Risto
Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 1869-I TWIST DRILLS DIN 1869-I

DIN 1869-I

HSS
M2

NX

130°

GESCHLIFFEN
GRINDED

- 130° Kreuzanschliff
- Tieflochspirale, extra lange Ausführung
- Zylinderschaft
- nitrierte Fasen
- blanke Nuten

INFOBOX

- 130° splitpoint
- deep hole flutes, extra long series
- straight shank
- nitrited chamfer
- bright finished flutes



Art.-Nr.: 3-18104

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1,00	100	60	3-18104
1,50	100	60	3-18104
2,00	125	85	3-18104
2,50	140	95	3-18104
3,00	150	100	3-18104
3,10	155	105	3-18104
3,20	155	105	3-18104
3,30	155	105	3-18104
3,50	165	115	3-18104
4,00	175	120	3-18104
4,20	175	120	3-18104
4,50	185	125	3-18104
5,00	195	135	3-18104
5,50	205	240	3-18104
6,00	205	140	3-18104
6,50	215	150	3-18104

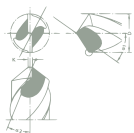
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6,80	225	155	3-18104
7,00	225	155	3-18104
7,50	225	155	3-18104
8,00	240	165	3-18104
8,50	240	165	3-18104
9,00	250	175	3-18104
9,50	250	175	3-18104
10,00	265	185	3-18104
10,20	265	185	3-18104
10,50	265	185	3-18104
11,00	280	195	3-18104
11,50	280	195	3-18104
12,00	295	205	3-18104
12,50	295	205	3-18104
13,00	295	205	3-18104

Einsatzgebiete:

N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²

Materials:

N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik

SPIRALBOHRER DIN 1869-II TWIST DRILLS DIN 1869-II

DIN 1869-II

HSS
M2

NX

130°

GESCHLIFFEN
GRINDED

- 130° Kreuzanschliff
- Tieflochspirale, extra lange Ausführung
- Zylinderschaft
- nitrierte Fasen
- blanke Nuten

INFOBOX

- 130° splitpoint
- deep hole flutes, extra long series
- straight shank
- nitrited chamfer
- bright finished flutes



Art.-Nr.: 3-18105

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
2.00	160	100	3-18105
2.50	180	120	3-18105
3.00	190	130	3-18105
3,20	200	135	3-18105
3.50	210	145	3-18105
4.00	220	150	3-18105
4,20	220	150	3-18105
4.50	235	160	3-18105
5.00	245	170	3-18105
5.50	260	180	3-18105
6.00	260	180	3-18105
6.50	275	190	3-18105
6,80	290	200	3-18105
7.00	290	200	3-18105

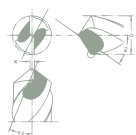
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
7.50	290	200	3-18105
8.00	305	210	3-18105
8.50	305	210	3-18105
9.00	320	220	3-18105
9.50	320	220	3-18105
10.00	340	235	3-18105
10,20	340	235	3-18105
10.50	340	235	3-18105
11.00	365	250	3-18105
11.50	365	250	3-18105
12.00	375	260	3-18105
12.50	375	260	3-18105
13.00	375	260	3-18105

Einsatzgebiete:

N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²

Materials:

N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

SPIRALBOHRER DIN 1869-III TWIST DRILLS DIN 1869-III

DIN 1869-III

HSS
M2

NX

130°

GESCHLIFFEN
GRINDED

- 130° Kreuzanschliff
- Tieflochspirale, extra lange Ausführung
- Zylinderschaft
- nitrierte Fasen
- blanke Nuten

INFOBOX

- 130° splitpoint
- deep hole flutes, extra long series
- straight shank
- nitrited chamfer
- bright finished flutes



Art.-Nr.: 3-18106

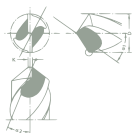
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3,00	240	160	3-18106
3,20	250	170	3-18106
3,50	265	180	3-18106
4,00	280	190	3-18106
4,20	280	190	3-18106
4,50	295	200	3-18106
5,00	315	210	3-18106
5,50	330	225	3-18106
6,00	330	225	3-18106
6,50	350	235	3-18106
6,80	370	250	3-18106
7,00	370	250	3-18106
8,00	390	265	3-18106
9,00	410	280	3-18106
10,00	430	295	3-18106

Einsatzgebiete:

N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²

Materials:

N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik



SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

DIN 338

HSS
M2

N

118°

GESCHLIFFEN-
GRINDED

- Zylinderschaft
- Kegelmantelschliff
- blank

INFOBOX

- straight shank
- relieved cone
- bright finished



Art.-Nr.: 3-19102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
0.20	19	2,5	3-19102
0.25	19	3	3-19102
0.30	19	3	3-19102
0.35	19	4	3-19102
0.38	19	4	3-19102
0.40	20	5	3-19102
0.45	20	5	3-19102
0.50	22	6	3-19102
0.52	22	6	3-19102
0.55	24	7	3-19102
0.58	24	7	3-19102
0.60	24	7	3-19102
0.65	26	8	3-19102
0.70	28	9	3-19102
0.75	28	9	3-19102
0.78	30	10	3-19102
0.80	30	10	3-19102
0.82	30	10	3-19102
0.85	30	10	3-19102
0.90	32	11	3-19102
0.95	32	11	3-19102
1.00	34	12	3-19102
1.05	34	12	3-19102
1.10	36	14	3-19102
1.15	36	14	3-19102
1.20	38	16	3-19102
1.25	38	16	3-19102
1.30	38	16	3-19102
1.35	40	18	3-19102
1.40	40	18	3-19102
1.45	40	18	3-19102
1.50	40	18	3-19102

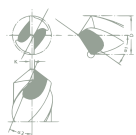
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
1.55	43	20	3-19102
1.60	43	20	3-19102
1.65	43	20	3-19102
1.70	43	20	3-19102
1.75	46	22	3-19102
1.80	46	22	3-19102
1.85	46	22	3-19102
1.90	46	22	3-19102
1.95	49	24	3-19102
2.00	49	24	3-19102
2.10	49	24	3-19102
2.20	53	27	3-19102
2.25	53	27	3-19102
2.30	53	27	3-19102
2.40	57	30	3-19102
2.50	57	30	3-19102
2.60	57	30	3-19102
2.70	61	33	3-19102
2.75	61	33	3-19102
2.80	61	33	3-19102
2.90	61	33	3-19102
3.00	61	33	3-19102
3.10	65	36	3-19102
3.20	65	36	3-19102
3.25	65	36	3-19102
3.30	65	36	3-19102
3.40	70	39	3-19102
3.50	70	39	3-19102
3.60	70	39	3-19102
3.70	70	39	3-19102
3.75	70	39	3-19102
3.80	75	43	3-19102

Einsatzgebiete:

N und Materialien bis 700 N/mm²

Materials:

N and materials up to 700 N/mm²



Werkzeug- und Industrietechnik



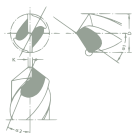
SPIRALBOHRER DIN 338

JOBBER LENGTH MACHINE DRILLS DIN 338

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3.90	75	43	3-19102
4.00	75	43	3-19102
4.10	75	43	3-19102
4.20	75	43	3-19102
4.25	75	43	3-19102
4.30	80	47	3-19102
4.40	80	47	3-19102
4.50	80	47	3-19102
4.60	80	47	3-19102
4.70	80	47	3-19102
4.75	80	47	3-19102
4.80	86	52	3-19102
4.90	86	52	3-19102
5.00	86	52	3-19102
5.10	86	52	3-19102
5.20	86	52	3-19102
5.25	86	52	3-19102
5.30	86	52	3-19102
5.40	93	57	3-19102
5.50	93	57	3-19102
5.60	93	57	3-19102
5.70	93	57	3-19102
5.75	93	57	3-19102
5.80	93	57	3-19102
5.90	93	57	3-19102
6.00	93	57	3-19102
6.10	101	63	3-19102
6.20	101	63	3-19102
6.25	101	63	3-19102
6.30	101	63	3-19102
6.40	101	63	3-19102
6.50	101	63	3-19102
6.60	101	63	3-19102
6.70	101	63	3-19102
6.75	109	69	3-19102
6.80	109	69	3-19102
6.90	109	69	3-19102
7.00	109	69	3-19102
7.10	109	69	3-19102
7.20	109	69	3-19102
7.25	109	69	3-19102
7.30	109	69	3-19102
7.40	109	69	3-19102
7.50	109	69	3-19102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
7.60	117	75	3-19102
7.70	117	75	3-19102
7.75	117	75	3-19102
7.80	117	75	3-19102
7.90	117	75	3-19102
8.00	117	75	3-19102
8.10	117	75	3-19102
8.20	117	75	3-19102
8.25	117	75	3-19102
8.30	117	75	3-19102
8.40	117	75	3-19102
8.50	117	75	3-19102
8.60	125	81	3-19102
8.70	125	81	3-19102
8.75	125	81	3-19102
8.80	125	81	3-19102
8.90	125	81	3-19102
9.00	125	81	3-19102
9.10	125	81	3-19102
9.20	125	81	3-19102
9.25	125	81	3-19102
9.30	125	81	3-19102
9.40	125	81	3-19102
9.50	125	81	3-19102
9.60	125	81	3-19102
9.70	133	87	3-19102
9.75	133	87	3-19102
9.80	133	87	3-19102
9.90	133	87	3-19102
10.00	133	87	3-19102
10,10	133	87	3-19102
10.20	133	87	3-19102
10,30	133	87	3-19102
10,40	133	87	3-19102
10.50	133	87	3-19102
10,60	142	94	3-19102
10,70	142	94	3-19102
10,80	142	94	3-19102
10,90	142	94	3-19102
11.00	142	94	3-19102
11,20	142	94	3-19102
11.50	142	94	3-19102
11,80	142	94	3-19102
12.00	151	101	3-19102

Einsatzgebiete:N und Materialien bis 700 N/mm²**Materials:**N and materials up to 700 N/mm²



Werkzeug- und Industrietechnik



SPIRALBOHRER DIN 338 JOBBER LENGTH MACHINE DRILLS DIN 338

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
12,20	151	101	3-19102
12,50	151	101	3-19102
12,80	151	101	3-19102
13,00	151	101	3-19102
13,50	160	108	3-19102

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
14,00	160	108	3-19102
14,50	169	114	3-19102
15,00	169	114	3-19102
15,50	178	120	3-19102
16,00	178	120	3-19102



Sätze / Sets

Ø mm	Art.-Nr.
1-10.0 x 0.5	3-19102
1-13.0 x 0.5	3-19102
1-10.5 x 0.5	3-19102
1-5.9 x 0.1	3-19102
6-10.0 x 0.1	3-19102

Depot

Ø mm	Art.-Nr.
1-13.0 x 0.5	3-19102

jeweils/each
1.0-8.0 mm
je 10 Stück/pcs
8.5-13.0 mm
je 5 Stück/pcs



SPIRALBOHRER DIN 340 BUSHING MACHINE DRILLS DIN 340

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
0,40	30	10	3-19103
0,50	32	12	3-19103
0,60	35	15	3-19103
0,70	42	21	3-19103
0,80	46	25	3-19103
0,90	51	29	3-19103
1,00	56	33	3-19103
1,10	60	37	3-19103
1,20	65	41	3-19103
1,30	65	41	3-19103
1,40	70	45	3-19103
1,50	70	45	3-19103
1,60	76	50	3-19103
1,70	76	50	3-19103
1,80	80	53	3-19103
1,90	80	53	3-19103
2,00	85	56	3-19103
2,10	85	56	3-19103
2,20	90	59	3-19103
2,30	90	59	3-19103
2,40	95	62	3-19103
2,50	95	62	3-19103
2,60	95	62	3-19103
2,70	100	66	3-19103
2,80	100	66	3-19103
2,90	100	66	3-19103
3,00	100	66	3-19103
3,10	106	69	3-19103
3,20	106	69	3-19103
3,25	106	69	3-19103

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3,30	106	69	3-19103
3,40	112	73	3-19103
3,50	112	73	3-19103
3,60	112	73	3-19103
3,70	112	73	3-19103
3,80	119	78	3-19103
3,90	119	78	3-19103
4,00	119	78	3-19103
4,10	119	78	3-19103
4,20	119	78	3-19103
4,25	119	78	3-19103
4,30	126	82	3-19103
4,40	126	82	3-19103
4,50	126	82	3-19103
4,60	126	82	3-19103
4,70	126	82	3-19103
4,80	132	87	3-19103
4,90	132	87	3-19103
5,00	132	87	3-19103
5,10	132	87	3-19103
5,20	132	87	3-19103
5,30	132	87	3-19103
5,40	139	91	3-19103
5,50	139	91	3-19103
5,60	139	91	3-19103
5,70	139	91	3-19103
5,80	139	91	3-19103
5,90	139	91	3-19103
6,00	139	91	3-19103
6,10	148	97	3-19103

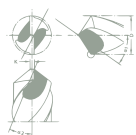
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
6,20	148	97	3-19103
6,30	148	97	3-19103
6,40	148	97	3-19103
6,50	148	97	3-19103
6,60	148	97	3-19103
6,70	148	97	3-19103
6,80	156	102	3-19103
6,90	156	102	3-19103
7,00	156	102	3-19103
7,20	156	102	3-19103
7,50	156	102	3-19103
7,80	165	109	3-19103
8,00	165	109	3-19103
8,20	165	109	3-19103
8,50	165	109	3-19103
9,00	175	115	3-19103
9,50	175	115	3-19103
9,80	184	121	3-19103
10,00	184	121	3-19103
10,20	184	121	3-19103
10,50	184	121	3-19103
11,00	195	128	3-19103
11,50	195	128	3-19103
12,00	205	134	3-19103
12,50	205	134	3-19103
13,00	205	134	3-19103
14,00	214	140	3-19103
15,00	220	144	3-19103

Einsatzgebiete:

N und Materialien bis 700 N/mm²

Materials:

N and materials up to 700 N/mm²



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

MK SPIRALBOHRER DIN 345

MORSE TAPER SHANK MACHINE DRILLS DIN 345

DIN 345

HSS
M2

N

118°

GEFRÄST
MILLED

- Morsekonus
- Kegelmantelanschliff
- gefräst
- außen poliert

INFOBOX

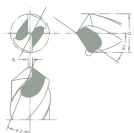
- morse taper shank
- relieved cone
- milled
- outside polished



Art.-Nr.: 3-19108

Ø D1 mm	L1 mm	L2 mm	MK	Art.-Nr.
5.00	133	52	1	3-19108
5.50	133	52	1	3-19108
6.00	138	57	1	3-19108
6.50	144	57	1	3-19108
7.00	150	69	1	3-19108
7.50	150	69	1	3-19108
8.00	156	75	1	3-19108
8.50	156	75	1	3-19108
9.00	162	81	1	3-19108
9.50	162	81	1	3-19108
10.00	168	87	1	3-19108
10.20	168	87	1	3-19108
10.50	168	87	1	3-19108
11.00	175	94	1	3-19108
11.50	175	94	1	3-19108
12.00	182	101	1	3-19108
12.50	182	101	1	3-19108
13.00	182	101	1	3-19108
13.50	189	108	1	3-19108
14.00	189	108	1	3-19108
14.50	212	114	2	3-19108
15.00	212	114	2	3-19108
15.50	218	120	2	3-19108
16.00	218	120	2	3-19108
16.50	223	125	2	3-19108
17.00	223	125	2	3-19108
17.50	228	130	2	3-19108
18.00	228	130	2	3-19108
18.50	233	135	2	3-19108
19.00	233	135	2	3-19108
19.50	238	140	2	3-19108
20.00	238	140	2	3-19108

Ø D1 mm	L1 mm	L2 mm	MK	Art.-Nr.
20.50	243	145	2	3-19108
21.00	243	145	2	3-19108
21.50	248	150	2	3-19108
22.00	248	150	2	3-19108
22.50	253	155	2	3-19108
23.00	253	155	2	3-19108
23.50	276	155	3	3-19108
24.00	281	160	3	3-19108
24.50	281	160	3	3-19108
25.00	281	160	3	3-19108
25.50	286	165	3	3-19108
26.00	286	165	3	3-19108
26.50	286	165	3	3-19108
27.00	291	170	3	3-19108
27.50	291	170	3	3-19108
28.00	291	170	3	3-19108
28.50	296	175	3	3-19108
29.00	296	175	3	3-19108
29.50	296	175	3	3-19108
30.00	296	175	3	3-19108
30.50	301	180	3	3-19108
31.00	301	180	3	3-19108
31.50	301	180	3	3-19108
32.00	334	185	4	3-19108
33.00	334	185	4	3-19108
34.00	339	190	4	3-19108
35.00	339	190	4	3-19108
36.00	344	195	4	3-19108
37.00	344	195	4	3-19108
38.00	349	200	4	3-19108
39.00	349	200	4	3-19108
40.00	349	200	4	3-19108



Werkzeug- und Industrietechnik



MK SPIRALBOHRER DIN 345 MORSE TAPER SHANK MACHINE DRILLS DIN 345

$\varnothing D1$ mm	L1 mm	L2 mm	MK	Art.-Nr.
41.00	354	205	4	3-19108
42.00	354	205	4	3-19108
43.00	359	210	4	3-19108
44.00	359	210	4	3-19108
45.00	359	210	4	3-19108
46.00	364	215	4	3-19108
47.00	364	215	4	3-19108
48.00	369	220	4	3-19108
49.00	369	220	4	3-19108
50.00	369	220	4	3-19108

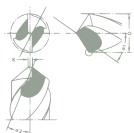
$\varnothing D1$ mm	L1 mm	L2 mm	MK	Art.-Nr.
51.00	412	225	5	3-19108
52.00	412	225	5	3-19108
53.00	412	225	5	3-19108
54.00	417	230	5	3-19108
55.00	417	230	5	3-19108
56.00	417	230	5	3-19108
57.00	422	235	5	3-19108
58.00	422	235	5	3-19108
59.00	422	235	5	3-19108
60.00	422	235	5	3-19108

Einsatzgebiete:

N, W, GG (bis GG40) und Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and materials up to 900 N/mm²



SPIRALBOHRER DIN 341 HIGH SPEED MACHINE DRILLS DIN 341

DIN 341

HSS
M2

N

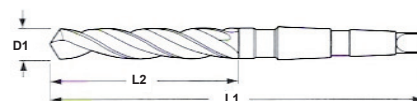
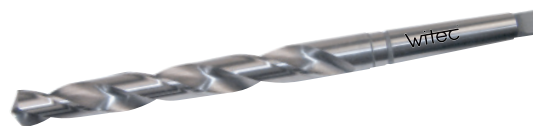
118°

GEFRÄST
MILLED

- Morsekonus
- Kegelmantelanschliff
- gefräst
- außen poliert

INFOBOX

- morse taper shank
- relieved cone
- milled
- outside polished

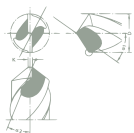


Art.-Nr.: 3-19110

Ø D1 mm	L1 mm	L2 mm	MK	Art.-Nr.
10.00	197	115	1	3-19110
10.50	197	115	1	3-19110
11.00	206	125	1	3-19110
11.50	206	125	1	3-19110
12.00	215	134	1	3-19110
12.50	215	134	1	3-19110
13.00	215	134	1	3-19110
13.50	223	142	1	3-19110
14.00	223	142	1	3-19110
14.50	245	147	2	3-19110
15.00	245	147	2	3-19110
15.50	251	153	2	3-19110
16.00	251	153	2	3-19110
16.50	257	159	2	3-19110
17.00	257	159	2	3-19110
17.50	263	165	2	3-19110
18.00	263	165	2	3-19110
18.50	269	171	2	3-19110
19.00	269	171	2	3-19110
19.50	275	177	2	3-19110
20.00	275	177	2	3-19110
20.50	282	184	2	3-19110
21.00	282	184	2	3-19110
21.50	289	191	2	3-19110
22.00	289	191	2	3-19110
22.50	296	198	2	3-19110
23.00	296	198	2	3-19110
23.50	319	198	3	3-19110
24.00	327	206	3	3-19110

Ø D1 mm	L1 mm	L2 mm	MK	Art.-Nr.
24.50	327	206	3	3-19110
25.00	327	206	3	3-19110
25.50	335	214	3	3-19110
26.00	335	214	3	3-19110
26.50	335	214	3	3-19110
27.00	343	222	3	3-19110
27.50	343	222	3	3-19110
28.00	343	222	3	3-19110
28.50	351	230	3	3-19110
29.00	351	230	3	3-19110
29.50	351	230	3	3-19110
30.00	351	230	3	3-19110
30.50	360	239	3	3-19110
31.00	360	239	3	3-19110
31.50	360	239	3	3-19110
32.00	397	248	4	3-19110
32.50	397	248	4	3-19110
33.00	397	248	4	3-19110
33.50	397	248	4	3-19110
34.00	397	248	4	3-19110
34.50	406	257	4	3-19110
35.00	406	257	4	3-19110
35.50	406	257	4	3-19110
36.00	416	267	4	3-19110
36.50	416	267	4	3-19110
37.00	416	267	4	3-19110
37.50	426	277	4	3-19110
38.00	426	277	4	3-19110
38.50	426	277	4	3-19110

Einsatzgebiete:N, W, GG (bis GG40) und Materialien bis 900 N/mm²**Materials:**N, W, GG (bis GG40) and materials up to 900 N/mm²



Werkzeug- und Industrietechnik

SPIRALBOHRER DIN 341 HIGH SPEED MACHINE DRILLS DIN 341

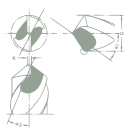
$\varnothing D1$ mm	L1 mm	L2 mm	MK	Art.-Nr.
39.00	426	277	4	3-19110
39.50	426	277	4	3-19110
40.00	426	277	4	3-19110
40.50	436	287	4	3-19110
41.00	436	287	4	3-19110
41.50	436	287	4	3-19110
42.00	436	287	4	3-19110
42.50	436	287	4	3-19110
43.00	447	298	4	3-19110
44.00	447	298	4	3-19110
45.00	447	298	4	3-19110
46.00	459	310	4	3-19110
47.00	459	310	4	3-19110
48.00	470	321	4	3-19110
49.00	470	321	4	3-19110
50.00	470	321	4	3-19110

Einsatzgebiete:

N, W, GG (bis GG40) und Materialien bis 900 N/mm²

Materials:

N, W, GG (bis GG40) and materials up to 900 N/mm²

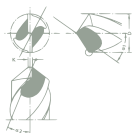


Werkzeug- und Industrietechnik



KERNBOHRER CORE DRILLS

Art.-Nr.		Seite Page
3-19220 / ATN	Kernbohrer, HSS-Co 5%, M35, mit Weldonschaft, kurz Core Drill, HSS-Co 5%, M35, with Weldon Shank, short	39
3-19221 / ATN	Kernbohrer, HSS-Co 5%, M35, mit Weldonschaft, lang Core Drill, HSS-Co 5%, M35, with Weldon Shank, long	40
3-19222 / ATN	Kernbohrer, HSS, M2, mit Weldonschaft, kurz Core Drill, HSS, M2, with Weldon Shank, short	41
3-19223 / ATN	Kernbohrer, HSS, M2, mit Weldonschaft, lang Core Drill, HSS, M2, with Weldon Shank, long	42
3-19224 / ATN	Kernbohrer, HSS, M2, mit Weldonschaft, extra-lang Core Drill, HSS, M2, with Weldon Shank, extra-long	43
3-19225 / ATN	Kernbohrer, HSS-Co 5%, M35, mit Quick-in Schaft, kurz Core Drill, HSS-Co 5%, M35, with Quick-in Shank, short	44
3-19226 / ATN	Kernbohrer, HSS-Co 5%, M35, mit Nitto-Schaft, kurz Core Drill, HSS-Co 5%, M35, with Nitto-Shank, short	45
3-19227 / ATN	Kernbohrer, HSS-Co 5%, M35, mit Nitto-Schaft, lang Core Drill, HSS-Co 5%, M35, with Nitto-Shank, long	46
3-19240 / ATN	Kernbohrer, HM-bestückt, mit Weldonschaft, kurz Core Drill, HM-tipped, with Weldon Shank, short	47



Werkzeug- und Industrietechnik



KERNBOHRER CORE DRILLS

WITEC-NORM

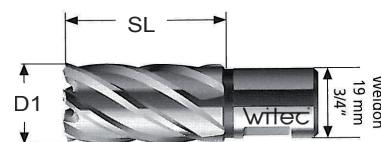
HSS-Co5%
M35

Weldon
Schaft/Shank

KURZ
SHORT

- mit Weldonschaft
- blank oder ATN beschichtet
- with Weldon shank
- bright finished or ATN coated

INFOBOX



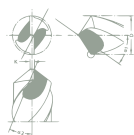
Art.-Nr.: 3-19220 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
12	30	63	19	3-19220 / ATN
13	30	63	19	3-19220 / ATN
14	30	63	19	3-19220 / ATN
15	30	63	19	3-19220 / ATN
16	30	63	19	3-19220 / ATN
17	30	63	19	3-19220 / ATN
18	30	63	19	3-19220 / ATN
19	30	63	19	3-19220 / ATN
20	30	63	19	3-19220 / ATN
21	30	63	19	3-19220 / ATN
22	30	63	19	3-19220 / ATN
23	30	63	19	3-19220 / ATN
24	30	63	19	3-19220 / ATN
25	30	63	19	3-19220 / ATN
26	30	63	19	3-19220 / ATN
27	30	63	19	3-19220 / ATN
28	30	63	19	3-19220 / ATN
29	30	63	19	3-19220 / ATN
30	30	63	19	3-19220 / ATN
31	30	63	19	3-19220 / ATN
32	30	63	19	3-19220 / ATN
33	30	63	19	3-19220 / ATN
34	30	63	19	3-19220 / ATN
35	30	63	19	3-19220 / ATN
36	30	63	19	3-19220 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
37	30	63	19	3-19220 / ATN
38	30	63	19	3-19220 / ATN
39	30	63	19	3-19220 / ATN
40	30	63	19	3-19220 / ATN
41	30	63	19	3-19220 / ATN
42	30	63	19	3-19220 / ATN
43	30	63	19	3-19220 / ATN
44	30	63	19	3-19220 / ATN
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56	30	63	19	3-19220 / ATN
57	30	63	19	3-19220 / ATN
58	30	63	19	3-19220 / ATN
59	30	63	19	3-19220 / ATN
60	30	63	19	3-19220 / ATN

Zuberhör/Accessoires

Führungsstifte für Kernbohrer mit 3/4" Weldonschaft Ejector pins for core drills with weldon shank 3/4"	Art.-Nr.
6,35 x 77 mm HSS	3-19230



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

KERNBOHRER CORE DRILLS

WITEC-NORM

HSS-Co5%
M35Weldon
Schaft/ShankLANG
LONG

- mit Weldonschaft
- blank oder ATN beschichtet
- with Weldon shank
- bright finished or ATN coated

INFOBOX



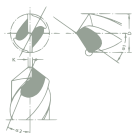
Art.-Nr.: 3-19221 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
12	55	88	19	3-19221 / ATN
13	55	88	19	3-19221 / ATN
14	55	88	19	3-19221 / ATN
15	55	88	19	3-19221 / ATN
16	55	88	19	3-19221 / ATN
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27	55	88	19	3-19221 / ATN
28	55	88	19	3-19221 / ATN
29	55	88	19	3-19221 / ATN
30	55	88	19	3-19221 / ATN
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32	55	88	19	3-19221 / ATN
33	55	88	19	3-19221 / ATN
34	55	88	19	3-19221 / ATN
35	55	88	19	3-19221 / ATN
36	55	88	19	3-19221 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
37	55	88	19	3-19221 / ATN
38	55	88	19	3-19221 / ATN
39	55	88	19	3-19221 / ATN
40	55	88	19	3-19221 / ATN
41	55	88	19	3-19221 / ATN
42	55	88	19	3-19221 / ATN
43	55	88	19	3-19221 / ATN
44	55	88	19	3-19221 / ATN
45	55	88	19	3-19221 / ATN
46	55	88	19	3-19221 / ATN
47	55	88	19	3-19221 / ATN
48	55	88	19	3-19221 / ATN
49	55	88	19	3-19221 / ATN
50	55	88	19	3-19221 / ATN
51	55	88	19	3-19221 / ATN
52	55	88	19	3-19221 / ATN
53	55	88	19	3-19221 / ATN
54	55	88	19	3-19221 / ATN
55	55	88	19	3-19221 / ATN
56	55	88	19	3-19221 / ATN
57	55	88	19	3-19221 / ATN
58	55	88	19	3-19221 / ATN
59	55	88	19	3-19221 / ATN
60	55	88	19	3-19221 / ATN

Zuberhör/Accessoires

Führungsstifte für Kernbohrer mit 3/4" Weldonschaft Ejector pins for core drills with weldon shank 3/4"	Art.-Nr.
6,35 x 77 mm HSS	3-19230



Werkzeug- und Industrietechnik



KERNBOHRER CORE DRILLS

WITEC-NORM

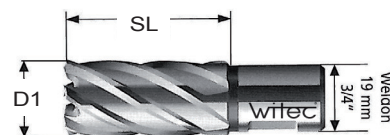
HSS
M2

Weldon
Schaft/Shank

KURZ
SHORT

- mit Weldonschaft
- blank oder ATN beschichtet
- with Weldon shank
- bright finished or ATN coated

INFOBOX



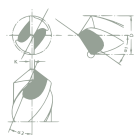
Art.-Nr.: 3-19222 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
12	30	63	19	3-19222 / ATN
13	30	63	19	3-19222 / ATN
14	30	63	19	3-19222 / ATN
15	30	63	19	3-19222 / ATN
16	30	63	19	3-19222 / ATN
17	30	63	19	3-19222 / ATN
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26	30	63	19	3-19222 / ATN
27	30	63	19	3-19222 / ATN
28	30	63	19	3-19222 / ATN
29	30	63	19	3-19222 / ATN
30	30	63	19	3-19222 / ATN
31	30	63	19	3-19222 / ATN
32	30	63	19	3-19222 / ATN
33	30	63	19	3-19222 / ATN
34	30	63	19	3-19222 / ATN
35	30	63	19	3-19222 / ATN
36	30	63	19	3-19222 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
37	30	63	19	3-19222 / ATN
38	30	63	19	3-19222 / ATN
39	30	63	19	3-19222 / ATN
40	30	63	19	3-19222 / ATN
41	30	63	19	3-19222 / ATN
42	30	63	19	3-19222 / ATN
43	30	63	19	3-19222 / ATN
44	30	63	19	3-19222 / ATN
45	30	63	19	3-19222 / ATN
46	30	63	19	3-19222 / ATN
47	30	63	19	3-19222 / ATN
48	30	63	19	3-19222 / ATN
49	30	63	19	3-19222 / ATN
50	30	63	19	3-19222 / ATN
51	30	63	19	3-19222 / ATN
52	30	63	19	3-19222 / ATN
53	30	63	19	3-19222 / ATN
54	30	63	19	3-19222 / ATN
55	30	63	19	3-19222 / ATN
56	30	63	19	3-19222 / ATN
57	30	63	19	3-19222 / ATN
58	30	63	19	3-19222 / ATN
59	30	63	19	3-19222 / ATN
60	30	63	19	3-19222 / ATN

Zuberhör/Accessoires

Führungsstifte für Kernbohrer mit 3/4" Weldonschaft Ejector pins for core drills with weldon shank 3/4"	Art.-Nr.
6,35 x 77 mm HSS	3-19230



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

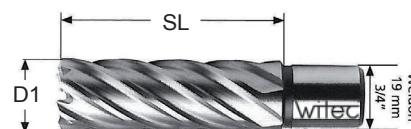
KERNBOHRER CORE DRILLS

WITEC-NORM

HSS
M2Weldon
Schaft/ShankLANG
LONG

- mit Weldonschaft
- blank oder ATN beschichtet
- with Weldon shank
- bright finished or ATN coated

INFOBOX



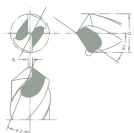
Art.-Nr.: 3-19223 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
12	55	88	19	3-19223 / ATN
13	55	88	19	3-19223 / ATN
14	55	88	19	3-19223 / ATN
15	55	88	19	3-19223 / ATN
16	55	88	19	3-19223 / ATN
17	55	88	19	3-19223 / ATN
18	55	88	19	3-19223 / ATN
19	55	88	19	3-19223 / ATN
20	55	88	19	3-19223 / ATN
21	55	88	19	3-19223 / ATN
22	55	88	19	3-19223 / ATN
23	55	88	19	3-19223 / ATN
24	55	88	19	3-19223 / ATN
25	55	88	19	3-19223 / ATN
26	55	88	19	3-19223 / ATN
27	55	88	19	3-19223 / ATN
28	55	88	19	3-19223 / ATN
29	55	88	19	3-19223 / ATN
30	55	88	19	3-19223 / ATN
31	55	88	19	3-19223 / ATN
32	55	88	19	3-19223 / ATN
33	55	88	19	3-19223 / ATN
34	55	88	19	3-19223 / ATN
35	55	88	19	3-19223 / ATN
36	55	88	19	3-19223 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
37	55	88	19	3-19223 / ATN
38	55	88	19	3-19223 / ATN
39	55	88	19	3-19223 / ATN
40	55	88	19	3-19223 / ATN
41	55	88	19	3-19223 / ATN
42	55	88	19	3-19223 / ATN
43	55	88	19	3-19223 / ATN
44	55	88	19	3-19223 / ATN
45	55	88	19	3-19223 / ATN
46	55	88	19	3-19223 / ATN
47	55	88	19	3-19223 / ATN
48	55	88	19	3-19223 / ATN
49	55	88	19	3-19223 / ATN
50	55	88	19	3-19223 / ATN
51	55	88	19	3-19223 / ATN
52	55	88	19	3-19223 / ATN
53	55	88	19	3-19223 / ATN
54	55	88	19	3-19223 / ATN
55	55	88	19	3-19223 / ATN
56	55	88	19	3-19223 / ATN
57	55	88	19	3-19223 / ATN
58	55	88	19	3-19223 / ATN
59	55	88	19	3-19223 / ATN
60	55	88	19	3-19223 / ATN

Zuberhör/Accessoires

Führungsstifte für Kernbohrer mit 3/4" Weldonschaft Ejector pins for core drills with weldon shank 3/4"	Art.-Nr.
6,35 x 77 mm HSS	3-19230



Werkzeug- und Industrietechnik



KERNBOHRER CORE DRILLS

WITEC-NORM

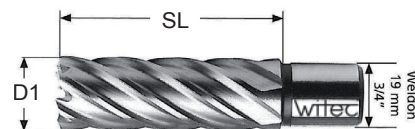
HSS
M2

Weldon
Schaft/Shank

EXTRA-LANG
EXTRA-LONG

- mit Weldonschaft
- blank oder ATN beschichtet
- with Weldon shank
- bright finished or ATN coated

INFOBOX



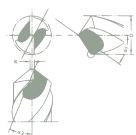
Art.-Nr.: 3-19224 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
20	110	145	19	3-19224 / ATN
21	110	145	19	3-19224 / ATN
22	110	145	19	3-19224 / ATN
23	110	145	19	3-19224 / ATN
24	110	145	19	3-19224 / ATN
25	110	145	19	3-19224 / ATN
26	110	145	19	3-19224 / ATN
27	110	145	19	3-19224 / ATN
28	110	145	19	3-19224 / ATN
29	110	145	19	3-19224 / ATN
30	110	145	19	3-19224 / ATN
31	110	145	19	3-19224 / ATN
32	110	145	19	3-19224 / ATN
33	110	145	19	3-19224 / ATN
34	110	145	19	3-19224 / ATN
35	110	145	19	3-19224 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
36	110	145	19	3-19224 / ATN
37	110	145	19	3-19224 / ATN
38	110	145	19	3-19224 / ATN
39	110	145	19	3-19224 / ATN
40	110	145	19	3-19224 / ATN
41	110	145	19	3-19224 / ATN
42	110	145	19	3-19224 / ATN
43	110	145	19	3-19224 / ATN
44	110	145	19	3-19224 / ATN
45	110	145	19	3-19224 / ATN
46	110	145	19	3-19224 / ATN
47	110	145	19	3-19224 / ATN
48	110	145	19	3-19224 / ATN
49	110	145	19	3-19224 / ATN
50	110	145	19	3-19224 / ATN

Zubehör/Accessoires

Führungsstifte für Kernbohrer mit 3/4" Weldonschaft Ejector pins for core drills with weldon shank 3/4"	Art.-Nr.
6,35 x 77 mm HSS	3-19230



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

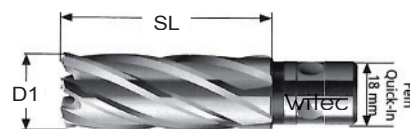
KERNBOHRER CORE DRILLS

WITEC-NORM

HSS-Co5%
M35Quick-in Schaft
ShankKURZ
SHORT

- mit Quick-In Schaft
- blank oder ATN beschichtet
- with Quick-In shank
- bright finished or ATN coated

INFOBOX



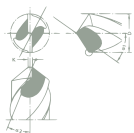
Art.-Nr.: 3-19225 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
12	35	77	18	3-19225 / ATN
13	35	77	18	3-19225 / ATN
14	35	77	18	3-19225 / ATN
15	35	77	18	3-19225 / ATN
16	35	77	18	3-19225 / ATN
17	35	77	18	3-19225 / ATN
18	35	77	18	3-19225 / ATN
19	35	77	18	3-19225 / ATN
20	35	77	18	3-19225 / ATN
21	35	77	18	3-19225 / ATN
22	35	77	18	3-19225 / ATN
23	35	77	18	3-19225 / ATN
24	35	77	18	3-19225 / ATN
25	35	77	18	3-19225 / ATN
26	35	77	18	3-19225 / ATN
27	35	77	18	3-19225 / ATN
28	35	77	18	3-19225 / ATN
29	35	77	18	3-19225 / ATN
30	35	77	18	3-19225 / ATN
31	35	77	18	3-19225 / ATN
32	35	77	18	3-19225 / ATN
33	35	77	18	3-19225 / ATN
34	35	77	18	3-19225 / ATN
35	35	77	18	3-19225 / ATN
36	35	77	18	3-19225 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
37	35	77	18	3-19225 / ATN
38	35	77	18	3-19225 / ATN
39	35	77	18	3-19225 / ATN
40	35	77	18	3-19225 / ATN
41	35	77	18	3-19225 / ATN
42	35	77	18	3-19225 / ATN
43	35	77	18	3-19225 / ATN
44	35	77	18	3-19225 / ATN
45	35	77	18	3-19225 / ATN
46	35	77	18	3-19225 / ATN
47	35	77	18	3-19225 / ATN
48	35	77	18	3-19225 / ATN
49	35	77	18	3-19225 / ATN
50	35	77	18	3-19225 / ATN
51	35	77	18	3-19225 / ATN
52	35	77	18	3-19225 / ATN
53	35	77	18	3-19225 / ATN
54	35	77	18	3-19225 / ATN
55	35	77	18	3-19225 / ATN
56	35	77	18	3-19225 / ATN
57	35	77	18	3-19225 / ATN
58	35	77	18	3-19225 / ATN
59	35	77	18	3-19225 / ATN
60	35	77	18	3-19225 / ATN

Zuberhör/Accessoires

Führungsstifte für Kernbohrer mit 3/4" Weldonschaft Ejector pins for core drills with weldon shank 3/4"	Art.-Nr.
6,35 x 77 mm HSS	3-19230



Werkzeug- und Industrietechnik



KERNBOHRER CORE DRILLS

WITEC-NORM

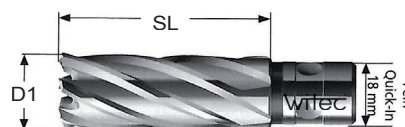
HSS-Co5%
M35

Nitto-Schaft
Shank

KURZ
SHORT

- mit Nitto-Schaft
- blank oder ATN beschichtet
- with Nitto-shank
- bright finished or ATN coated

INFOBOX



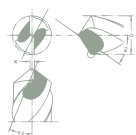
Art.-Nr.: 3-19226 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
12	30	62	19	3-19226 / ATN
13	30	62	19	3-19226 / ATN
14	30	62	19	3-19226 / ATN
15	30	62	19	3-19226 / ATN
16	30	62	19	3-19226 / ATN
17	30	62	19	3-19226 / ATN
18	30	62	19	3-19226 / ATN
19	30	62	19	3-19226 / ATN
20	30	62	19	3-19226 / ATN
21	30	62	19	3-19226 / ATN
22	30	62	19	3-19226 / ATN
23	30	62	19	3-19226 / ATN
24	30	62	19	3-19226 / ATN
25	30	62	19	3-19226 / ATN
26	30	62	19	3-19226 / ATN
27	30	62	19	3-19226 / ATN
28	30	62	19	3-19226 / ATN
29	30	62	19	3-19226 / ATN
30	30	62	19	3-19226 / ATN
31	30	62	19	3-19226 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
32	30	62	19	3-19226 / ATN
33	30	62	19	3-19226 / ATN
34	30	62	19	3-19226 / ATN
35	30	62	19	3-19226 / ATN
36	30	62	19	3-19226 / ATN
37	30	62	19	3-19226 / ATN
38	30	62	19	3-19226 / ATN
39	30	62	19	3-19226 / ATN
40	30	62	19	3-19226 / ATN
41	30	62	19	3-19226 / ATN
42	30	62	19	3-19226 / ATN
43	30	62	19	3-19226 / ATN
44	30	62	19	3-19226 / ATN
45	30	62	19	3-19226 / ATN
46	30	62	19	3-19226 / ATN
47	30	62	19	3-19226 / ATN
48	30	62	19	3-19226 / ATN
49	30	62	19	3-19226 / ATN
50	30	62	19	3-19226 / ATN

Zuberhör/Accessoires

Führungsstifte für Kernbohrer mit 3/4" Weldonschaft Ejector pins for core drills with weldon shank 3/4"	Art.-Nr.
6,35 x 77 mm HSS	3-19230



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

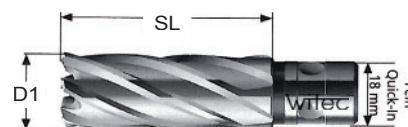
KERNBOHRER CORE DRILLS

WITEC-NORM

HSS-Co5%
M35Nitro-Schaft
ShankLANG
LONG

- mit Nitro-Schaft
- blank oder ATN beschichtet
- with Nitro-shank
- bright finished or ATN coated

INFOBOX



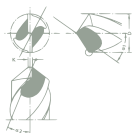
Art.-Nr.: 3-19227 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
12	50	85	19	3-19227 / ATN
13	50	85	19	3-19227 / ATN
14	50	85	19	3-19227 / ATN
15	50	85	19	3-19227 / ATN
16	50	85	19	3-19227 / ATN
17	50	85	19	3-19227 / ATN
18	50	85	19	3-19227 / ATN
19	50	85	19	3-19227 / ATN
20	50	85	19	3-19227 / ATN
21	50	85	19	3-19227 / ATN
22	50	85	19	3-19227 / ATN
23	50	85	19	3-19227 / ATN
24	50	85	19	3-19227 / ATN
25	50	85	19	3-19227 / ATN
26	50	85	19	3-19227 / ATN
27	50	85	19	3-19227 / ATN
28	50	85	19	3-19227 / ATN
29	50	85	19	3-19227 / ATN
30	50	85	19	3-19227 / ATN
31	50	85	19	3-19227 / ATN

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
32	50	85	19	3-19227 / ATN
33	50	85	19	3-19227 / ATN
34	50	85	19	3-19227 / ATN
35	50	85	19	3-19227 / ATN
36	50	85	19	3-19227 / ATN
37	50	85	19	3-19227 / ATN
38	50	85	19	3-19227 / ATN
39	50	85	19	3-19227 / ATN
40	50	85	19	3-19227 / ATN
41	50	85	19	3-19227 / ATN
42	50	85	19	3-19227 / ATN
43	50	85	19	3-19227 / ATN
44	50	85	19	3-19227 / ATN
45	50	85	19	3-19227 / ATN
46	50	85	19	3-19227 / ATN
47	50	85	19	3-19227 / ATN
48	50	85	19	3-19227 / ATN
49	50	85	19	3-19227 / ATN
50	50	85	19	3-19227 / ATN

Zubehör/Accessoires

Führungsstifte für Kernbohrer mit 3/4" Weldonschaft Ejector pins for core drills with weldon shank 3/4"	Art.-Nr.
6,35 x 77 mm HSS	3-19230



Werkzeug- und Industrietechnik

HM-BESTÜCKTE KERNBOHRER CARBIDE TIPPED CORE DRILLS

WITEC-NORM

HM BESTÜCKT
CARBIDE TIPPED

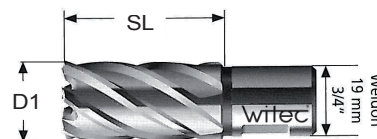
Weldon
Schaft/Shank

KURZ
SHORT

- mit Weldon-Schaft
- HM-bestückt

INFOBOX

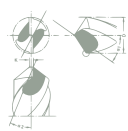
- with Weldon-shank
- Carbide tipped



Art.-Nr.: 3-19240

Ø D1 mm	SL mm	GL mm	Schaft mm	Art.-Nr.
19,0	30	63	19	3-19240
20,0	30	63	19	3-19240
21,0	30	63	19	3-19240
22,0	30	63	19	3-19240
23,0	30	63	19	3-19240
24,0	30	63	19	3-19240
25,0	30	63	19	3-19240
26,0	30	63	19	3-19240
26,5	30	63	19	3-19240
27,0	30	63	19	3-19240
27,5	30	63	19	3-19240
28,0	30	63	19	3-19240
29,0	30	63	19	3-19240
30,0	30	63	19	3-19240
31,0	30	63	19	3-19240
32,0	30	63	19	3-19240
33,0	30	63	19	3-19240
34,0	30	63	19	3-19240
36,0	30	63	19	3-19240



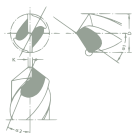


Werkzeug- und Industrietechnik



HOLZBOHRER WOOD DRILLS

Art.-Nr.		Seite Page
3-18024	Holzspiralbohrer Wood Drill Bit	49
3-18025	Schlangenbohrer Form LEWIS Auger Bit LEWIS-Form	50
3-18026	Forstner Bohrer Forstner Bit	51
3-18028	Flachfräsbohrer Machine Flat Bit	52
3-18830	Schalungsbohrer Auger Bit	53
3-18831	Dachdeckerbohrer, HSS, NX, 130°, schwarze Ausführung, witec-Norm Hollow Section Twist Drill, HSS, NX, 130°, blackfinished, witec-Norm	54



Werkzeug- und Industrietechnik



HOLZSPIRALBOHRER WOOD DRILL BITS

- geschliffene Zentrierspitze
- 2 Schulterseiden
- rechtsschneidend

INFOBOX

- ground centre-tip
- 2 shouldered cutting edge
- right hand cutting



Art.-Nr.: 3-18024

Ø mm	L1 mm	L2 mm	Art.-Nr.
3.00	61	33	3-18024
4.00	75	43	3-18024
5.00	86	52	3-18024
6.00	93	57	3-18024
7.00	109	69	3-18024
8.00	117	75	3-18024
10.00	133	87	3-18024
12.00	151	96	3-18024
14.00	151	96	3-18024
16.00	160	100	3-18024
18.00	180	120	3-18024
20.00	200	130	3-18024
22.00	210	140	3-18024
24.00	215	140	3-18024
25.00	215	140	3-18024
26.00	215	140	3-18024
28.00	220	150	3-18024
30.00	220	150	3-18024

Sätze / Sets

Ø mm	Art.-Nr.
4-5-6-8-10	3-18024
3-4-5-6-7-8-9-10	3-18024

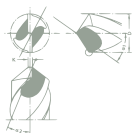


Einsatzgebiete:

für exakte Bohrungen in Holz, Sperrholz, unbeschichtete Spanplatten

Materials:

for drilling in wood, plywood, uncoated chipboard



SCHLANGENBOHRER FORM LEWIS AUGER BITS LEWIS-FORM

- Sechskant-Schaft
 - gefräste und überschleifene Spirale
 - selbststeinziehende Gewindespitze
 - 1 Vorschneider
 - spezieller Freischliff hinter dem Schneidkopf
-
- hexagon-shank
 - milled version
 - self-threatening tip
 - 1 cutting lip
 - special step-tip

INFOBOX



Art.-Nr.: 3-18025

Ø mm	L1 mm	L2 mm	Art.-Nr.
6.0	235	160	3-18025
6.0	460	360	3-18025
7.0	235	160	3-18025
7.0	460	360	3-18025
8.0	235	160	3-18025
8.0	460	360	3-18025
10.0	235	160	3-18025
10.0	460	360	3-18025
12.0	235	160	3-18025
12.0	460	360	3-18025
14.0	235	160	3-18025
14.0	460	360	3-18025
16.0	235	160	3-18025
16.0	460	360	3-18025
18.0	235	160	3-18025

Ø mm	L1 mm	L2 mm	Art.-Nr.
18.0	460	360	3-18025
20.0	235	160	3-18025
20.0	460	360	3-18025
22.0	235	160	3-18025
22.0	460	360	3-18025
24.0	235	160	3-18025
24.0	460	360	3-18025
26.0	235	160	3-18025
26.0	460	360	3-18025
28.0	235	160	3-18025
28.0	460	360	3-18025
30.0	235	160	3-18025
30.0	460	360	3-18025
32.0	235	160	3-18025
32.0	460	360	3-18025

Sätze / Sets

Ø mm	Art.-Nr.
6/8/10/12/14/16/18/20x235	3-18025
10/12/14/16/18/20x460	3-18025

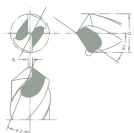


Einsatzgebiete:

Punktgenaues Bohren mit sehr guter Spanabfuhr, für Weich- und die meisten Harthölzer geeignet.
 Durch den speziellen Freischliff auch zum Bohren in feuchtem Holz geeignet.

Materials:

Exact drilling with excellent chip removal in soft- and most hard-woods.
 Due to special „step-tip“ also for drilling in wet wood.



Werkzeug- und Industrietechnik

FORSTNER BOHRER FORSTNER BITS

- Zentrierspitze
- 2 Hauptschneiden
- 1 geschlossene Umfangschneide
- Sechskant-Schaft
- rechtsschneidend
- geschmiedete Ausführung

INFOBOX

- centre-point
- 2 cutting edges
- 1 circumferential cutting blade
- hexagon shank
- right hand cutting
- forged version



Art.-Nr.: 3-18026

Sätze / Sets

Ø mm	Art.-Nr.
10.00	3-18026
12.00	3-18026
15.00	3-18026
18.00	3-18026
20.00	3-18026
22.00	3-18026
25.00	3-18026
28.00	3-18026
30.00	3-18026
32.00	3-18026
35.00	3-18026
40.00	3-18026

Ø mm	Art.-Nr.
15-20-25-30-35	3-18026

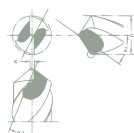


Einsatzgebiete:

zum punktgenauen und ausrißfreien Bohren von Weichholzlöchern, Leimbindern, etc.

Materials:

for exact and splinterfree holes in wood, veneered wooden boards, etc.



Werkzeug- und Industrietechnik

FLACHFRÄSBOHRER MACHINE FLAT BITS

- geschliffene Ausführung
- Zentrierspitze
- 2 Schneiden auf jeder Seite
- Sechskant-Schaft
- aus gehärtetem Werkzeugstahl
- brüniert und am Schaft blank poliert

INFOBOX

- ground version
- centre tip
- 2 cutting-edges on both sides
- hexagon-shank
- made of special tempered steel
- burnished and partly polished



Art.-Nr.: 3-18028

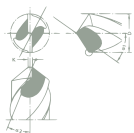
Ø D1 mm	L1 mm	Art.-Nr.
6.00	150	3-18028
6.50	150	3-18028
8.00	150	3-18028
10.00	150	3-18028
11.00	150	3-18028
12.00	150	3-18028
13.00	150	3-18028
14.00	150	3-18028
16.00	150	3-18028
18.00	150	3-18028
19.00	150	3-18028
20.00	150	3-18028
22.00	160	3-18028
24.00	160	3-18028
25.00	160	3-18028
26.00	160	3-18028
28.00	160	3-18028
30.00	160	3-18028
32.00	160	3-18028
34.00	160	3-18028
35.00	160	3-18028
36.00	160	3-18028
38.00	160	3-18028
40.00	160	3-18028
Verlängerung Extension sleeves	300	3-18028

Einsatzgebiete:

für Bohrungen in Weichholz, Balken und Spanplatten

Materials:

for drilling in soft-wood, beams and chip-boards



SCHALUNGSBOHRER AUGER BITS

- Zylinderschaft
- optimale Rundlaufgenauigkeit
- hohe Haltbarkeit
- garantierte Bruchsicherheit
- schnelle Spanabfuhr
- abgesetzter Schaft

INFOBOX

- straight shank
- perfect concentricity
- higher durability
- guaranteed break resistance
- optimal chip removal
- reduced shank



Art.-Nr.: 3-18830

Ø mm	L1 mm	L2 mm	Art.-Nr.
6,00	400	5	3-18830
6,00	600	5	3-18830
8,00	400	6	3-18830
8,00	600	6	3-18830
10,00	400	8	3-18830
10,00	600	8	3-18830
10,00	800	8	3-18830
12,00	400	8	3-18830
12,00	600	8	3-18830
12,00	800	8	3-18830
14,00	400	8	3-18830
14,00	600	8	3-18830
14,00	800	8	3-18830
16,00	400	10	3-18830
16,00	600	10	3-18830
16,00	800	10	3-18830

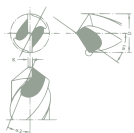
Ø mm	L1 mm	L2 mm	Art.-Nr.
18,00	400	10	3-18830
18,00	600	10	3-18830
18,00	800	10	3-18830
20,00	400	10	3-18830
20,00	600	10	3-18830
20,00	800	10	3-18830
22,00	400	10	3-18830
22,00	600	10	3-18830
24,00	400	11	3-18830
24,00	600	11	3-18830
26,00	400	11	3-18830
26,00	600	11	3-18830
28,00	400	11	3-18830
28,00	600	11	3-18830
30,00	400	11	3-18830
30,00	600	11	3-18830

Einsatzgebiete:

zum Bohren von Schalungen, Balken, Dielen, Gips- und Leichtbauplatten

Materials:

designed for drilling inner and outer covering boards in one operation, also for beams, hard-board etc.



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

DACHDECKERBOHRER HOLLOW SECTION TWIST DRILLS

WITEC-NORM

HSS
M2

NX

130°

GESCHLIFFEN
GRINDED

- 130° Kreuzanschliff
- schwarze Ausführung
- Zylinderschaft
- rechts
- profilgeschliffene Qualität

INFOBOX

- 130° splitpoint
- black finished
- straight shank
- right Hand
- profile ground quality



Art.-Nr.: 3-18831

Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
3,00	100	30	3-18831
4,90	70	30	3-18831
4,90	100	30	3-18831
4,90	120	30	3-18831
4,90	150	30	3-18831
5,00	70	30	3-18831
5,00	100	30	3-18831
5,00	120	30	3-18831
5,00	150	30	3-18831
5,00	180	30	3-18831
5,00	210	30	3-18831
5,10	70	30	3-18831
5,10	100	30	3-18831
5,10	120	30	3-18831
5,10	150	30	3-18831
5,10	180	30	3-18831
5,10	210	30	3-18831
5,30	70	30	3-18831
5,30	100	30	3-18831
5,30	120	30	3-18831
5,30	150	30	3-18831

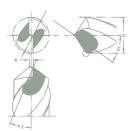
Ø D1 mm	L1 mm	L2 mm	Art.-Nr.
5,30	180	30	3-18831
5,30	210	30	3-18831
5,50	70	30	3-18831
5,50	100	30	3-18831
5,50	120	30	3-18831
5,50	150	30	3-18831
5,50	180	30	3-18831
5,50	210	30	3-18831
5,70	70	30	3-18831
5,70	100	30	3-18831
5,70	120	30	3-18831
5,70	150	30	3-18831
5,70	180	30	3-18831
5,70	210	30	3-18831
5,80	70	30	3-18831
5,80	100	30	3-18831
5,80	120	30	3-18831
5,80	150	30	3-18831
5,80	180	30	3-18831
5,80	210	30	3-18831

Einsatzgebiete:

Spezialbohrer für die Bearbeitung und Anbringung von Hohlprofilen, z.B. im Fensterbau

Materials:

special drills designed for working on Hollow-Profiles

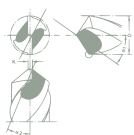


Werkzeug- und Industrietechnik



LOCHSÄGEN HOLESAWS

Art.-Nr.		Seite Page
3-18720	Bi-Metall Lochsäge HSS Bi-Metal Hole Saw HSS	55
3-18721	Bi-Metall Lochsäge HSS-Co8%(M42) Bi-Metal Hole Saw HSS-Co(M42)	56 - 57
3-18725	HM-bestückte Lochsäge, Flachschnitt-Ausführung, Schnitttiefe 12 mm Carbide tipped Hole Saw, flat cut version, cutting depth 12 mm	58 - 59
3-18726	HM-bestückte Lochsäge, Tiefschnitt-Ausführung, Schnitttiefe 35 mm Carbide tipped Hole Saw, deep cut version, cutting depth 35 mm	60 - 61



Werkzeug- und Industrietechnik



BI-METALL LOCHSÄGEN HSS (M2) BI-METAL HOLE SAWS HSS (M2)

- HSS-Zahnschneiden auf Körper aus Spezialstahl aufgeschweißt
- mit variabler Zahnteilung für geringe Vibration, gleichmäßigen Schnitt und geringe Wärmeentwicklung
- Schnitttiefe 38 mm

INFOBOX

- HSS-cutting teeth welded on special-steel body
- cutting teeth variable pitched for less vibration, smoother cutting and less heat production during cutting
- cutting depth 38 mm



Art.-Nr.: 3-18720

Lochsägensätze auf Anfrage lieferbar.
Hole Saws sets available on request.

Ø mm	Ø "	Art.-Nr.	Ø mm	Ø "	Art.-Nr.
14,00	9/16	3-18720	59,00	2 5/16	3-18720
16,00	5/8	3-18720	60,00	2 3/8	3-18720
17,00	11/16	3-18720	64,00	2 1/2	3-18720
19,00	3/4	3-18720	65,00	2 9/16	3-18720
20,00	-	3-18720	67,00	2 5/8	3-18720
21,00	13/16	3-18720	68,00	2 11/16	3-18720
22,00	7/8	3-18720	70,00	2 3/4	3-18720
24,00	15/16	3-18720	73,00	2 7/8	3-18720
25,00	1	3-18720	76,00	3	3-18720
27,00	-	3-18720	79,00	3 1/8	3-18720
29,00	-	3-18720	83,00	3 1/4	3-18720
30,00	1 3/16	3-18720	86,00	3 3/8	3-18720
32,00	1 1/4	3-18720	89,00	3 1/2	3-18720
33,00	1 5/16	3-18720	92,00	3 5/8	3-18720
35,00	1 3/8	3-18720	95,00	3 3/4	3-18720
37,00	1 7/16	3-18720	98,00	3 7/8	3-18720
38,00	1 1/2	3-18720	102,00	4	3-18720
40,00	1 9/16	3-18720	105,00	4 1/8	3-18720
41,00	1 5/8	3-18720	108,00	4 1/4	3-18720
43,00	1 11/16	3-18720	111,00	4 3/8	3-18720
44,00	1 3/4	3-18720	114,00	4 1/2	3-18720
46,00	1 13/16	3-18720	121,00	4 3/4	3-18720
48,00	1 7/8	3-18720	127,00	5	3-18720
51,00	2	3-18720	140,00	5 1/2	3-18720
52,00	2 1/16	3-18720	146,00	5 3/4	3-18720
54,00	2 1/8	3-18720	152,00	6	3-18720
56,00	-	3-18720	195,00		3-18720
57,00	2 1/4	3-18720	210,00		3-18720

Zubehör/Accessoires

Aufnahmeschäfte incl. Zentrierbohrer Arbors incl. pilot-drills	Art.-Nr.
Schaft/Shank A 5519, 9,5 mm	3-18720
Ø-Bereich 13-30 mm	3-18720
Schaft/Shank A 5545 11,11 mm	3-18720
Ø-Bereich 32-152 mm	3-18720
SDS-Schaft/Shank A5576 13-30 mm	3-18720
SDS-Schaft/Shank A5577 32-152 mm	3-18720

Zubehör/Accessoires

Zentrierbohrer Pilot-drills	Art.-Nr.
Nr. / no. 8536	
6,35 x 71 mm HSS	3-18720

Zubehör/Accessoires

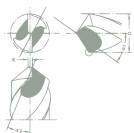
Beschreibung Description	Art.-Nr.
Verlängerungen/Extensions for Arbors	
Schaftlänge/Shank length 300 mm	3-18720

Einsatzgebiete:

stabile Konstruktion zum Bohren von Blech, Leichtmetall, Kunststoff, Gipskarton, Holzverkleidungen etc.
mit Säulen- und Handbohrmaschinen

Materials:

solid construction for drilling sheet metal, aluminium, plastic, wood, plywood, plasticboards etc.



Werkzeug- und Industrietechnik



BI-METALL LOCHSÄGEN VARIO HSS-Co8%(M42)

BI-METAL HOLE SAWS VARIO HSS-Co8%(M42)

- HSS-Co8%(M42)-Zahnschneiden auf Körper aus Spezialstahl aufgeschweißt
- mit variabler Zahnteilung für schnellen Sägefortschritt und ratterfreies Sägen
- Arbeitstiefe 5 mm, über 5 mm mit Lüftung
- HSS-Co8%(M42)-cutting teeth welded on special-steel body
- cutting teeth variable pitched for rapid sawing process and reduced vibration
- working depth 5 mm, over 5 mm with ventilation

INFOBOX

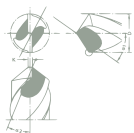


Art.-Nr.: 3-18721

Lochsägensätze auf Anfrage lieferbar.
Hole Saws sets available on request.

Ø mm	Zoll "	Art.-Nr.
14,00	9/16	3-18721
16,00	5/8	3-18721
17,00	11/16	3-18721
19,00	3/4	3-18721
20,00	25/32	3-18721
21,00	13/16	3-18721
22,00	7/8	3-18721
24,00	15/16	3-18721
25,00	1"	3-18721
27,00	1 1/16	3-18721
29,00	1 1/8	3-18721
30,00	1 3/16	3-18721
32,00	1 1/4	3-18721
33,00	1 5/16	3-18721
35,00	1 3/8	3-18721
37,00	1 7/16	3-18721
38,00	1 1/2	3-18721
40,00	1 9/16	3-18721
41,00	1 5/8	3-18721
43,00	1 11/16	3-18721
44,00	1 3/4	3-18721
46,00	1 13/16	3-18721
48,00	1 7/8	3-18721
51,00	2"	3-18721
52,00	2 1/16	3-18721
54,00	2 1/8	3-18721
57,00	2 1/4	3-18721
59,00	2 5/16	3-18721
60,00	2 3/8	3-18721

Ø mm	Zoll "	Art.-Nr.
64,00	2 1/2	3-18721
65,00	2 9/16	3-18721
67,00	2 5/8	3-18721
68,00	2 11/16	3-18721
70,00	2 3/4	3-18721
73,00	2 7/8	3-18721
76,00	3"	3-18721
79,00	3 1/8	3-18721
83,00	3 1/4	3-18721
86,00	3 3/8	3-18721
89,00	3 1/2	3-18721
92,00	3 5/8	3-18721
95,00	3 3/4	3-18721
98,00	3 7/8	3-18721
102,00	4"	3-18721
105,00	4 1/8	3-18721
108,00	4 1/4	3-18721
111,00	4 3/8	3-18721
114,00	4 1/2	3-18721
121,00	4 3/4	3-18721
127,00	5"	3-18721
140,00	5 1/2	3-18721
146,00	5 3/4	3-18721
152,00	6	3-18721
160,00	6 19/64	3-18721
168,00	6 5/8	3-18721
177,00	7	3-18721
210,00	8 1/4	3-18721



Werkzeug- und Industrietechnik



BI-METALL LOCHSÄGEN VARIO HSS-Co8%(M42)

BI-METAL HOLE SAWS VARIO HSS-Co8%(M42)

Zubehör/Accessoires

Ø mm	L1 mm	U/RPM min Stahl Steel	U/RPM min VA Inox	U/RPM min ALU ALU	Art.-Nr.
152	6	55	25	75	3-18721
160	6 19/64	50	23	69	3-18721
168	6 5/8	47	22	66	3-18721
177	7	45	21	63	3-18721
210	8 1/4	38	18	53	3-18721

Aufnahmeschäfte incl. Zentrierbohrer Arbors incl. pilot-drills	Art.-Nr.
Schaft/Shank 9,5 mm	3-18721
SDS-Schaft/Shank	3-18721
Ø-Bereich 14-30 mm	3-18721
Schaft/Shank 11,11 mm	3-18721
SDS-Schaft/Shank	3-18721
Ø-Bereich 32-250 mm	3-18721

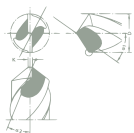
Zubehör/Accessoires

Beschreibung Description	Art.-Nr.
Ersatz-Auswurfeder/Replacement ejector spring	
Verlängerungen/Extensions for Arbors	
Schaftlänge/shank length	
11x300 mm	3-18721

Zubehör/Accessoires

Zentrierbohrer Pilot-drills	Art.-Nr.
6,35 x 82 mm HSS	3-18721

Lochsägensätze auf Anfrage lieferbar.
Hole Saws sets available on request.



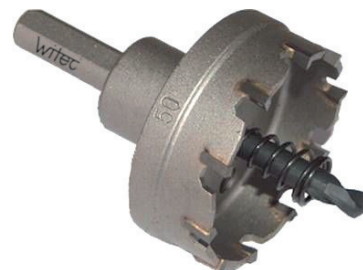
Werkzeug- und Industrietechnik



HM-BESTÜCKTE LOCHSÄGEN CARBIDE TIPPED HOLE SAWS

- Flachschnitt-Ausführung für Metallbearbeitung
- Zentrierbohrer und Auswurffeder auswechselbar
- flatcut version for metal working
- centre drill and ejection spring replaceable

INFOBOX



Art.-Nr.: 3-18725

Ø D1 mm	Z Teeth	Schnitttiefe Cutting depth	Art.-Nr.
15,00	3	12	3-18725
16,00	3	12	3-18725
17,00	3	12	3-18725
18,00	3	12	3-18725
19,00	3	12	3-18725
20,00	4	12	3-18725
21,00	4	12	3-18725
22,00	5	12	3-18725
23,00	5	12	3-18725
24,00	5	12	3-18725
25,00	5	12	3-18725
26,00	5	12	3-18725
27,00	5	12	3-18725
28,00	5	12	3-18725
29,00	6	12	3-18725
30,00	6	12	3-18725
31,00	6	12	3-18725
32,00	6	12	3-18725
33,00	7	12	3-18725
34,00	7	12	3-18725
35,00	7	12	3-18725
36,00	7	12	3-18725
37,00	8	12	3-18725
38,00	8	12	3-18725
39,00	8	12	3-18725
40,00	8	12	3-18725
41,00	8	12	3-18725
42,00	9	12	3-18725
43,00	9	12	3-18725
44,00	9	12	3-18725
45,00	9	12	3-18725
46,00	10	12	3-18725
47,00	10	12	3-18725
48,00	10	12	3-18725

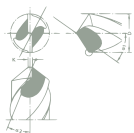
Ø D1 mm	Z Teeth	Schnitttiefe Cutting depth	Art.-Nr.
49,00	10	12	3-18725
50,00	11	12	3-18725
51,00	11	12	3-18725
52,00	11	12	3-18725
53,00	11	12	3-18725
54,00	11	12	3-18725
55,00	12	12	3-18725
56,00	12	12	3-18725
57,00	12	12	3-18725
58,00	12	12	3-18725
59,00	13	12	3-18725
60,00	13	12	3-18725
61,00	13	12	3-18725
62,00	13	12	3-18725
63,00	13	12	3-18725
64,00	14	12	3-18725
65,00	14	12	3-18725
66,00	14	12	3-18725
67,00	14	12	3-18725
68,00	15	12	3-18725
69,00	15	12	3-18725
70,00	15	12	3-18725
71,00	15	12	3-18725
72,00	15	12	3-18725
73,00	16	12	3-18725
74,00	16	12	3-18725
75,00	16	12	3-18725
76,00	16	12	3-18725
77,00	16	12	3-18725
78,00	16	12	3-18725
79,00	16	12	3-18725
80,00	17	12	3-18725
81,00	17	12	3-18725
82,00	17	12	3-18725

Einsatzgebiete:

unlegierte Stähle, Aluminium, NE-Metalle, Kunststoffe usw.

Materials:

unalloyed steels, Aluminium, NE-metals, plastics, etc.



Werkzeug- und Industrietechnik



HM-BESTÜCKTE LOCHSÄGEN CARBIDE TIPPED HOLE SAWS

Ø D1 mm	Z Teeth	Schnitttiefe Cutting depth	Art.-Nr.
83,00	17	12	3-18725
84,00	17	12	3-18725
85,00	18	12	3-18725
86,00	18	12	3-18725
87,00	18	12	3-18725
88,00	18	12	3-18725
89,00	18	12	3-18725
90,00	19	12	3-18725
91,00	19	12	3-18725
92,00	19	12	3-18725
93,00	19	12	3-18725
94,00	19	12	3-18725
95,00	19	12	3-18725
96,00	20	12	3-18725

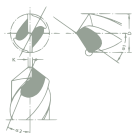
Ø D1 mm	Z Teeth	Schnitttiefe Cutting depth	Art.-Nr.
97,00	20	12	3-18725
98,00	20	12	3-18725
99,00	20	12	3-18725
100,00	20	12	3-18725
105,00	20	12	3-18725
110,00	20	12	3-18725
115,00	23	12	3-18725
120,00	23	12	3-18725
125,00	23	12	3-18725
130,00	23	12	3-18725
135,00	23	12	3-18725
140,00	25	12	3-18725
145,00	25	12	3-18725
150,00	25	12	3-18725

Einsatzgebiete:

unlegierte Stähle, Aluminium, NE-Metalle, Kunststoffe usw.

Materials:

unalloyed steels, Aluminium, NE-metals, plastics, etc.



HM-BESTÜCKTE LOCHSÄGEN CARBIDE TIPPED HOLE SAWS

- Tiefschnitt-Ausführung für Metallbearbeitung
- Zentrierbohrer und Auswurffeder auswechselbar
- deepcut version for metal working
- centre drill and ejection spring replaceable

INFOBOX



Art.-Nr.: 3-18726

Ø D1 mm	Z teeth	Schnitttiefe cutting depth	Art.-Nr.
16,00	3	35	3-18726
17,00	3	35	3-18726
18,00	3	35	3-18726
19,00	3	35	3-18726
20,00	4	35	3-18726
21,00	4	35	3-18726
22,00	5	35	3-18726
23,00	5	35	3-18726
24,00	5	35	3-18726
25,00	5	35	3-18726
26,00	5	35	3-18726
27,00	5	35	3-18726
28,00	5	35	3-18726
29,00	6	35	3-18726
30,00	6	35	3-18726
31,00	6	35	3-18726
32,00	6	35	3-18726
33,00	7	35	3-18726
34,00	7	35	3-18726
35,00	7	35	3-18726
36,00	7	35	3-18726
37,00	8	35	3-18726
38,00	8	35	3-18726
39,00	8	35	3-18726
40,00	8	35	3-18726
41,00	8	35	3-18726
42,00	9	35	3-18726
43,00	9	35	3-18726
44,00	9	35	3-18726
45,00	9	35	3-18726
46,00	10	35	3-18726
47,00	10	35	3-18726
48,00	10	35	3-18726
49,00	10	35	3-18726

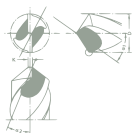
Ø D1 mm	Z teeth	Schnitttiefe cutting depth	Art.-Nr.
50,00	11	35	3-18726
51,00	11	35	3-18726
52,00	11	35	3-18726
53,00	11	35	3-18726
54,00	11	35	3-18726
55,00	12	35	3-18726
56,00	12	35	3-18726
57,00	12	35	3-18726
58,00	12	35	3-18726
59,00	13	35	3-18726
60,00	13	35	3-18726
61,00	13	60	3-18726
62,00	13	60	3-18726
63,00	13	60	3-18726
64,00	14	60	3-18726
65,00	14	60	3-18726
66,00	14	60	3-18726
67,00	14	60	3-18726
68,00	15	60	3-18726
69,00	15	60	3-18726
70,00	15	60	3-18726
71,00	15	60	3-18726
72,00	15	60	3-18726
73,00	16	60	3-18726
74,00	16	60	3-18726
75,00	16	60	3-18726
76,00	16	60	3-18726
77,00	16	60	3-18726
78,00	16	60	3-18726
79,00	16	60	3-18726
80,00	17	60	3-18726
81,00	17	60	3-18726
82,00	17	60	3-18726
83,00	17	60	3-18726

Einsatzgebiete:

unlegierte Stähle, Aluminium, NE-Metalle, Kunststoffe usw.

Materials:

unalloyed steels, Aluminium, NE-metals, plastics, etc.



Werkzeug- und Industrietechnik



HM-BESTÜCKTE LOCHSÄGEN CARBIDE TIPPED HOLE SAWS

Ø D1 mm	Z Teeth	Schnitttiefe Cutting depth	Art.-Nr.
84,00	17	60	3-18726
85,00	18	60	3-18726
86,00	18	60	3-18726
87,00	18	60	3-18726
88,00	18	60	3-18726
89,00	18	60	3-18726
90,00	19	60	3-18726
91,00	19	60	3-18726
92,00	19	60	3-18726
93,00	19	60	3-18726
94,00	19	60	3-18726
95,00	19	60	3-18726
96,00	20	60	3-18726
97,00	20	60	3-18726

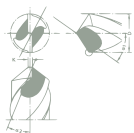
Ø D1 mm	Z Teeth	Schnitttiefe Cutting depth	Art.-Nr.
98,00	20	60	3-18726
99,00	20	60	3-18726
100,00	20	60	3-18726
105,00	20	60	3-18726
110,00	20	60	3-18726
115,00	23	60	3-18726
120,00	23	60	3-18726
125,00	23	60	3-18726
130,00	23	60	3-18726
135,00	23	60	3-18726
140,00	25	60	3-18726
145,00	25	60	3-18726
150,00	25	60	3-18726

Einsatzgebiete:

unlegierte Stähle, Aluminium, NE-Metalle, Kunststoffe usw.

Materials:

unalloyed steels, Aluminium, NE-metals, plastics, etc.



Werkzeug- und Industrietechnik



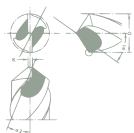
BI-METALL LOCHSÄGEN HSS-Co/HM

BI-METAL HOLE SAWS HSS-Co/HM

ANWENDUNGSMATRIX

APPLICATION TABLE

Materialstärke Materialien Materials		Lochsägen M42 HSS-Co8	HM Bestückte Lochsägen Hole Saws
Materialstärke	< 3 mm	√	√
	3 - 8 mm	√	√
	> 8 mm	√	√
Stahl / Steel			
Stahl	Steel	√	○
Edelstahl	Inox	√	○
GG (G)	Grey Cast	√	○
ALU / NE-Metalle	Aluminium	√	○
Stein / Stone			
Fliessen bis Härte 6	Tile walls up to 6 mm thickness	○	√
Gips Zellenbeton	Gypsum Cellular Concrete	○	√
Mauerwerk	Masonry	○	√
Kunststoffe / Plastics			
PVC	PVC	√	√
Nylon	Nylon	○	√
Trespa	Trespa	○	√
Glasfaser	Glass fiber	○	√
Laminate	Laminate	○	√
Holz / Wood			
gepresstes Holz	Pressed Wood	○	√
Spanplatten	Chipboard	○	√
MDF	MDF	○	√
Hartholz	Hardwood	○	√
Bodenbeläge	Flooring	○	√



Werkzeug- und Industrietechnik



BI-METALL LOCHSÄGEN HSS-Co/HM

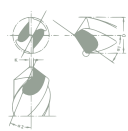
BI-METAL HOLE SAWS HSS-Co/HM

VERGLEICHSTABELLE

COMPARATIVE TABLE

HRC Rockwell	HV Vickers	HB Brinell	N/mm²
68	940		
67	900		
66	865		
65	832		
64	800		
63	772		
62	746		
61	720		
60	697		
59	674		
58	653	615	
57	633	595	
56	613	577	
55	595	560	2075
54	577	543	2015
53	560	525	1950
52	544	512	1880
51	528	496	1820
50	513	481	1760
49	498	469	1695
48	484	455	1635
47	471	443	1580
46	458	432	1530
45	446	431	1480
44	436	409	1435
43	423	400	1385
42	412	390	1340
41	402	381	1295
40	392	371	1250
39	382	362	1215

HRC Rockwell	HV Vickers	HB Brinell	N/mm²
38	372	353	1180
37	363	344	1160
36	354	336	1115
35	345	327	1080
34	336	319	1055
33	327	311	1025
32	318	301	1000
31	310	294	980
30	302	286	950
29	294	279	930
28	286	271	910
27	279	264	880
26	272	258	860
25	266	253	840
24	260	247	825
23	254	243	805
22	248	237	785
21	243	231	770
20	238	226	760
(18)	230	219	730
(16)	222	212	705
(14)	213	203	675
(12)	204	194	650
(10)	196	187	620
(8)	188	179	600
(6)	180	171	580
(4)	173	165	550
(2)	166	158	530
(0)	160	152	515

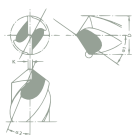


Werkzeug- und Industrietechnik



BETON- UND STEINBOHRER MASONRY AND CONCRETE DRILLS

Art.-Nr.		Seite Page
3-18020	Beton- und Steinbohrer, zylindrisch, DIN 8039 Masonry Drill, cylindrical, DIN 8039	65
3-18021	Schlagbohrer, zylindrisch Percussion Drill, cylindrical	66
3-18022	Mehrbereichssteinbohrer Multipurpose Masonry Drill	67
3-18320	Hammerbohrer SDS-Plus MS5 Hammer Drill SDS- Plus MS5	68
3-18321	Hammerbohrer SDS-Plus Hammer Drill SDS-Plus	69
3-18323	Hammerbohrer SDS-Plus MS5 TurboHead Xpro, 4 cutter sytem Hammer Drill SDS-Plus MS5 TurboHead Xpro, 4 cutter system	70
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Werkzeug- und Industrietechnik

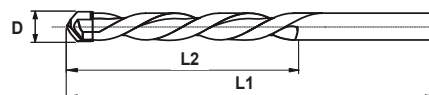


BETON- UND STEINBOHRER DIN 8039

MASONRY DRILLS DIN 8039

- mit HM-Platte
- Spitzenwinkel 130°
- carbide-plate
- point angle 130°

INFOBOX



Art.-Nr.: 3-18020

Ø D mm	Ø Zoll "	L1 mm	Art.-Nr.
3.0	1/8	60	3-18020
4.0	5/32	75	3-18020
5.0	3/16	85	3-18020
5.0	3/16	200	3-18020
6.0	15/64	100	3-18020
6.0	15/64	200	3-18020
6.0	15/64	400	3-18020
7.0	9/32	100	3-18020
8.0	5/16	120	3-18020
8.0	5/16	200	3-18020
8.0	5/16	400	3-18020
8.0	5/16	600	3-18020
9.0	11/32	120	3-18020
10.0	3/8	120	3-18020
10.0	3/8	200	3-18020
10.0	3/8	400	3-18020
10.0	3/8	600	3-18020
11.0	13/32	120	3-18020
12.0	15/32	150	3-18020
12.0	15/32	200	3-18020
12.0	15/32	400	3-18020

Ø D mm	Ø Zoll "	L1 mm	Art.-Nr.
12.0	15/32	600	3-18020
13.0	1/2	150	3-18020
14.0	9/16	150	3-18020
14.0	9/16	200	3-18020
14.0	9/16	400	3-18020
14.0	9/16	600	3-18020
15.0	19/32	150	3-18020
16.0	5/8	160	3-18020
16.0	5/8	400	3-18020
16.0	5/8	600	3-18020
17.0	21/32	160	3-18020
18.0	11/16	160	3-18020
18.0	11/16	400	3-18020
18.0	11/16	600	3-18020
19.0	23/32	160	3-18020
20.0	25/32	160	3-18020
20.0	25/32	400	3-18020
20.0	25/32	600	3-18020
22.0	27/32	160	3-18020
25.0	31/32	160	3-18020

Sätze / Sets

Ø mm	Art.-Nr.
Kombidose / Combi box 3,00-10,00 mm	3-18020
4,0 - 5,0 - 6,0 - 8,0 - 10 mm	3-18020
3,0 - 4,0 - 5,0 - 6,0 - 7,0 - 8,0 - 9,0 - 10,0 mm	3-18020

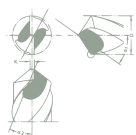


Einsatzgebiete:

für leichte Bohrarbeiten in Dreh- und Schlagbohrmaschinen, besonders für den Heimwerkerbereich

Materials:

for ordinary drilling in impact drilling-machines, mainly for DIY purpose



Werkzeug- und Industrietechnik

SCHLAGBOHRER PERCUSSION DRILLS

- mit HM-Platte
- Spitzenwinkel 130°

INFOBOX

- carbide-plate
- point angle 130°



Art.-Nr.: 3-18021

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
3,0	1/8	40	70	3-18021
4,0	5/32	40	75	3-18021
5,0	3/16	50	85	3-18021
6,0	15/64	60	100	3-18021
7,0	9/32	60	100	3-18021
8,0	5/16	80	120	3-18021
10,0	3/8	80	120	3-18021
12,0	15/32	90	150	3-18021
14,0	9/16	90	150	3-18021
16,0	5/8	90	150	3-18021

Sätze / Sets

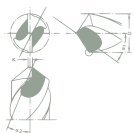
Ø mm	Art.-Nr.
4,0 - 5,0 - 6,0 - 8,0 - 10 mm	3-18021
3,0 - 4,0 - 5,0 - 6,0 - 7,0 - 8,0 - 9,0 - 10,0 mm	3-18021

Einsatzgebiete:

für professionelle Bohrarbeiten in Beton, Mauerwerk, Naturstein und Kunststein

Materials:

for professional drilling in concrete, masonry, natural stone, etc.



Werkzeug- und Industrietechnik

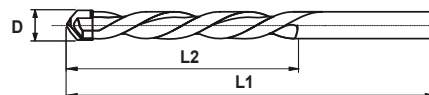


UNIVERSALBOHRER MULTIPURPOSE DRILLS

- Hartmetallplatte mit spezieller Schneidengeometrie für den universellen Einsatz

INFOBOX

- carbide-tip with special cutting edge geometry for drilling in various materials



Art.-Nr.: 3-18022

Sätze / Sets

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
3,0	1/8	70	40	3-18022
4,0	5/32	85	50	3-18022
5,0	3/16	85	50	3-18022
5,5	7/32	85	50	3-18022
6,0	15/64	100	60	3-18022
6,0	15/64	150	90	3-18022
6,5	1/4	100	60	3-18022
6,5	1/4	150	90	3-18022
7,0	9/32	100	60	3-18022
8,0	5/16	120	80	3-18022
8,0	5/16	250	200	3-18022
9,0	11/32	120	80	3-18022
10,0	3/8	120	80	3-18022
10,0	3/8	250	200	3-18022
12,0	15/32	150	90	3-18022
12,0	15/32	250	200	3-18022
14,0	9/16	250	200	3-18022



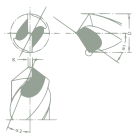
Ø mm	Art.-Nr.
5 - 6 - 6 - 8 - 10 mm	3-18022

Einsatzgebiete:

für moderne leichte Baustoffe wie z.B. Gasbeton, Gipskarton

Materials:

designed to drill in various modern light building materials like aerated concrete, insulation materials, concrete, metal, wood and plastics



HAMMERBOHRER SDS-PLUS MS5

HAMMER DRILLS SDS-PLUS MS5

- mit besonders harter HM-Platte
- mit Zentrierspitze
- MS5 Spirale

INFOBOX

- with even harder carbide-quality
- with special centering-tip
- MS5 helix

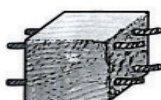


Art.-Nr.: 3-18320

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
4,0	5/32	110	50	3-18320
5,0	3/16	110	50	3-18320
5,0	3/16	160	100	3-18320
5,0	3/16	210	150	3-18320
5,5	7/32	110	50	3-18320
5,5	7/32	160	100	3-18320
6,0	15/64	110	50	3-18320
6,0	15/64	160	100	3-18320
6,0	15/64	210	150	3-18320
6,0	15/64	260	200	3-18320
6,5	1/4	110	50	3-18320
6,5	1/4	160	100	3-18320
6,5	1/4	210	150	3-18320
6,5	1/4	260	200	3-18320
7,0	9/32	110	50	3-18320
7,0	9/32	160	100	3-18320
8,0	5/16	110	50	3-18320
8,0	5/16	160	100	3-18320
8,0	5/16	210	150	3-18320
8,0	5/16	260	200	3-18320
8,0	5/16	460	400	3-18320
9,0	11/32	160	100	3-18320
10,0	3/8	110	50	3-18320
10,0	3/8	160	100	3-18320
10,0	3/8	210	150	3-18320
10,0	3/8	260	200	3-18320
10,0	3/8	450	400	3-18320
12,0	15/32	160	100	3-18320
12,0	15/32	210	150	3-18320
12,0	15/32	260	200	3-18320

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
12,0	15/32	450	400	3-18320
14,0	9/16	160	100	3-18320
14,0	9/16	210	150	3-18320
14,0	9/16	260	200	3-18320
14,0	9/16	450	400	3-18320
16,0	5/8	160	100	3-18320
16,0	5/8	210	150	3-18320
16,0	5/8	260	200	3-18320
16,0	5/8	450	400	3-18320
16,0	5/8	1000	950	3-18320
18,0	11/16	200	150	3-18320
18,0	11/16	450	400	3-18320
18,0	11/16	600	550	3-18320
18,0	11/16	1000	950	3-18320
19,0	3/4	450	400	3-18320
20,0	25/32	200	150	3-18320
20,0	25/32	300	250	3-18320
20,0	25/32	450	400	3-18320
20,0	25/32	600	550	3-18320
20,0	25/32	1000	950	3-18320
22,0	7/8	250	200	3-18320
22,0	7/8	450	400	3-18320
22,0	7/8	600	550	3-18320
22,0	7/8	1000	950	3-18320
24,0	59/64	250	200	3-18320
24,0	59/64	450	400	3-18320
25,0	31/32	250	200	3-18320
25,0	31/32	450	400	3-18320
26,0	1"	250	200	3-18320
26,0	1"	450	400	3-18320

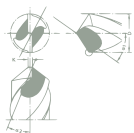
ANWENDUNGEN



ART.-NR.: 3-18320


Einsatzgebiete: zum Bohren in Mauerwerk, Stahlbeton, Natur- und Kunststein

Materials: for drilling of masonry, reinforced concrete, natural and artificial stone

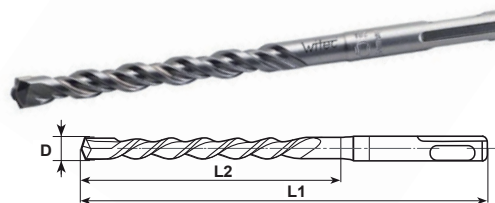


Werkzeug- und Industrietechnik

HAMMERBOHRER SDS-PLUS HAMMER DRILLS SDS-PLUS

- mit HM-Platte
- Spitzenwinkel 130°
- with carbide-plate
- point angle 130°

INFOBOX



Art.-Nr.: 3-18321

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
4,0	5/32	110	50	3-18321
4,0	5/32	160	50	3-18321
5,0	3/16	110	50	3-18321
5,0	3/16	160	100	3-18321
5,0	3/16	210	150	3-18321
5,0	3/16	260	200	3-18321
5,0	3/16	310	250	3-18321
5,5	7/32	160	100	3-18321
6,0	15/64	110	50	3-18321
6,0	15/64	160	100	3-18321
6,0	15/64	210	150	3-18321
6,0	15/64	260	200	3-18321
6,0	15/64	310	250	3-18321
8,0	5/16	110	50	3-18321
8,0	5/16	160	100	3-18321
8,0	5/16	210	150	3-18321
8,0	5/16	260	200	3-18321
8,0	5/16	310	250	3-18321
8,0	5/16	400	350	3-18321
8,0	5/16	460	400	3-18321
10,0	3/8	110	50	3-18321
10,0	3/8	160	100	3-18321
10,0	3/8	210	150	3-18321
10,0	3/8	260	200	3-18321
10,0	3/8	310	250	3-18321
10,0	3/8	350	300	3-18321
10,0	3/8	450	400	3-18321
10,0	3/8	600	500	3-18321
12,0	15/32	160	100	3-18321
12,0	15/32	210	150	3-18321
12,0	15/32	260	200	3-18321
12,0	15/32	310	250	3-18321

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
12,0	15/32	460	400	3-18321
12,0	15/32	600	550	3-18321
14,0	9/16	160	100	3-18321
14,0	9/16	210	150	3-18321
14,0	9/16	260	200	3-18321
14,0	9/16	310	250	3-18321
14,0	9/16	460	400	3-18321
14,0	9/16	610	550	3-18321
15,0	19/32	160	100	3-18321
15,0	19/32	260	200	3-18321
16,0	5/8	160	100	3-18321
16,0	5/8	210	150	3-18321
16,0	5/8	300	250	3-18321
16,0	5/8	450	400	3-18321
16,0	5/8	600	550	3-18321
18,0	11/16	200	150	3-18321
18,0	11/16	300	250	3-18321
18,0	11/16	450	400	3-18321
18,0	11/16	600	550	3-18321
20,0	25/32	200	150	3-18321
20,0	25/32	300	250	3-18321
20,0	25/32	450	400	3-18321
20,0	25/32	600	550	3-18321
22,0	7,8	250	200	3-18321
22,0	7,8	300	210	3-18321
22,0	7,8	450	400	3-18321
22,0	7,8	600	550	3-18321
24,0	59/64	250	200	3-18321
24,0	59/64	450	400	3-18321
25,0	31/32	250	200	3-18321
25,0	31/32	450	400	3-18321
26,0	1"	250	200	3-18321
26,0	1"	450	400	3-18321

Sätze(Kunststoff)/Sets(Plastic)

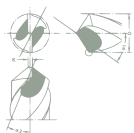
Ø D mm	Art.-Nr.
5 / 6 x 110 mm 6 / 8 / 10 x 160 mm	3-18321



Sätze(Metall)/Sets(Metal)

Ø D mm	Art.-Nr.
5 / 6 / 8 x 110 mm 6 / 8 / 10 / 12 x 160 mm	3-18321





HAMMERBOHRER SDS-PLUS MS5 TURBOHEAD XPRO

HAMMER DRILLS SDS-PLUS MS5 TURBOHEAD XPRO

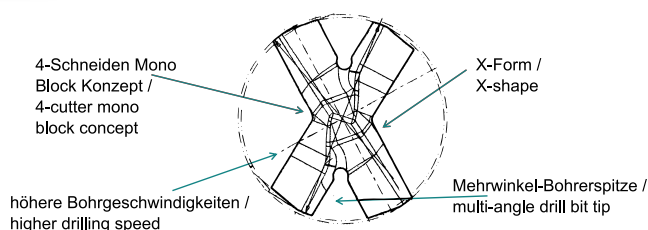
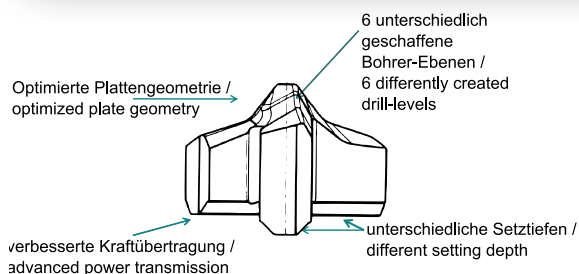
- Kugelgestrahlt und zwischenstufengehärtet aus Chrom-Nickel-Molybdän-Stahl
- MS5 Spirale mit 2 großvolumigen Wendeln und Zentrierspitze
- tiefenversetzte Vollhartmetallplatten
- Xpro Kopf mit 2x2 Schneidenkonzeption
- zylindrisches Bohrloch

INFOBOX

- shot-blasted with steel balls and hardened of chrome-nickel-molybdenum steel
- MS5 helix with 2 larger-volume flutes and centering-tip
- vertical displaced full-carbide plates
- Xpro head with 2x2 cutting-edge concept
- cylindrical drilling-hole



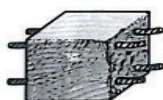
Art.-Nr.: 3-18323



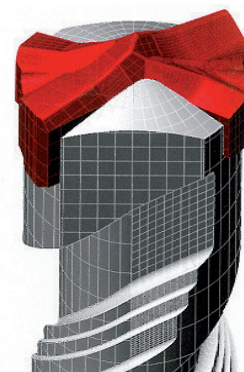
Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
5,0	3/16	110	50	3-18323
5.0	3/16	160	100	3-18323
5,0	3/16	210	150	3-18323
6.0	15/64	110	50	3-18323
6.0	15/64	160	100	3-18323
6.0	15/64	210	150	3-18323
6.0	15/64	260	200	3-18323
8.0	5/16	110	50	3-18323
8.0	5/16	160	100	3-18323
8,0	5/16	210	150	3-18323
8,0	5/16	260	200	3-18323
10.0	3/8	160	100	3-18323
10.0	3/8	210	150	3-18323

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
10.0	3/8	260	200	3-18323
10.0	3/8	310	250	3-18323
10.0	3/8	460	400	3-18323
12.0	15/32	160	100	3-18323
12.0	15/32	210	150	3-18323
12.0	15/32	260	200	3-18323
12,0	15/32	310	250	3-18323
12.0	15/32	450	400	3-18323
14.0	17/32	160	100	3-18323
14.0	17/32	210	150	3-18323
14.0	17/32	260	200	3-18323
14.0	17/32	450	400	3-18323

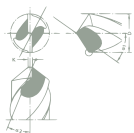
ANWENDUNGEN



ART.-NR.: 3-18323



Einsatzgebiete: zum Bohren in Mauerwerk, Stahlbeton, Natur- und Kunststein
Materials: for drilling of masonry, reinforced concrete, natural and artificial stone



Werkzeug- und Industrietechnik

HAMMERBOHRER SDS-PLUS MS5 VARIO

HAMMER DRILLS SDS-PLUS MS5 VARIO

- Kugelgestrahlt und zwischenstufengehärtet aus Chrom-Nickel-Molybdän-Stahl
- MS5 Spirale

INFOBOX

- shot-blasted with steel balls and hardened of chrome-nickel-molybdenum steel
- MS5 helix



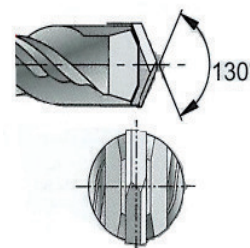
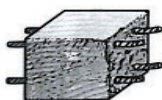
Art.-Nr.: 3-18325

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
5,0	3/16	110	50	3-18325
5,0	3/16	160	100	3-18325
6,0	15/64	110	50	3-18325
6,0	15/64	160	100	3-18325
6,0	15/64	210	150	3-18325
6,0	15/64	260	200	3-18325
8,0	5/16	110	50	3-18325
8,0	5/16	160	100	3-18325
8,0	5/16	210	150	3-18325
8,0	5/16	260	200	3-18325

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
10,0	3/8	110	50	3-18325
10,0	3/8	160	100	3-18325
10,0	3/8	210	150	3-18325
10,0	3/8"	260	200	3-18325
12,0	15/32	160	100	3-18325
12,0	15/32	210	150	3-18325
12,0	15/32	260	200	3-18325
14,0	17/32	160	100	3-18325
14,0	17/32	210	150	3-18325
14,0	17/32	260	200	3-18325

ANWENDUNGEN

ART.-NR.: 3-18325

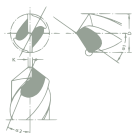


Einsatzgebiete:

für moderne leichte Baustoffe wie z.B. Gasbeton, Gipskarton

Materials:

designed to drill in various modern light building materials like aerated concrete, insulation materials, concrete, metal, wood and plastics



HAMMERBOHRER SDS-PLUS 3 SCHNEIDEN

HAMMER DRILLS SDS-PLUS 3 CUTTERS

- Kugelgestrahlt und zwischenstufengehärtet aus Chrom-Nickel-Molybdän-Stahl
- mit besonders harter HM-Platte und Zentrierspitze
- 3 Schneiden

INFOBOX

- shot-blasted with steel balls and hardened of chrome-nickel-molybdenum steel
- with even harder carbide plate and centering tip
- 2 cutter with MS5 helix up to 16 mm
- 4 cutter with W helix from 18 mm



Art.-Nr.: 3-18327

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
5,0	3/16	110	50	3-18327
5,0	3/16	160	100	3-18327
5,5	7/32	110	50	3-18327
5,5	7/32	160	100	3-18327
6,0	15/64	110	50	3-18327
6,0	15/64	160	100	3-18327
6,0	15/64	210	150	3-18327
6,0	15/64	260	200	3-18327
6,5	1/4	110	50	3-18327
6,5	1/4	160	100	3-18327
6,5	1/4	210	150	3-18327
7,0	9/32	160	100	3-18327
7,0	9/32	210	150	3-18327
8,0	5/16	110	50	3-18327
8,0	5/16	160	100	3-18327
8,0	5/16	210	150	3-18327
8,0	5/16	260	200	3-18327
8,0	5/16	310	250	3-18327
8,0	5/16	450	400	3-18327
10,0	3/8	110	50	3-18327
10,0	3/8	160	100	3-18327
10,0	3/8	210	150	3-18327

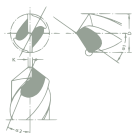
Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
10,0	3/8	260	200	3-18327
10,0	3/8	310	250	3-18327
10,0	3/8	450	400	3-18327
10,0	3/8	600	550	3-18327
12,0	15/32	160	100	3-18327
12,0	15/32	210	150	3-18327
12,0	15/32	260	200	3-18327
12,0	15/32	310	250	3-18327
12,0	15/32	450	400	3-18327
12,0	15/32	600	550	3-18327
14,0	9/16	160	100	3-18327
14,0	9/16	200	150	3-18327
14,0	9/16	250	200	3-18327
14,0	9/16	300	250	3-18327
14,0	9/16	450	400	3-18327
14,0	9/16	600	550	3-18327
16,0	5/8	200	150	3-18327
16,0	5/8	250	200	3-18327
16,0	5/8	300	400	3-18327
16,0	5/8	450	950	3-18327
16,0	5/8	600	950	3-18327

Einsatzgebiete:

für moderne leichte Baustoffe wie z.B. Gasbeton, Gipskarton

Materials:

designed to drill in various modern light building materials like aerated concrete, insulation materials, concrete, metal, wood and plastics



Werkzeug- und Industrietechnik

HAMMERBOHRER SDS-MAX W2 X-FORM HAMMER DRILLS SDS-MAX W2 X-FORM

- Kugelgestrahlt und zwischenstufengehärtet aus Chrom-Nickel-Molybdän-Stahl
 - mit besonders harter HM-Platte und Zentrierspitze
 - 2 Schneider bis 15 mm
 - 4 Schneider ab 16 mm
- INFOBOX
- shot-blasted with steel balls and hardened of chrome-nickel-molybdenum steel
 - with even harder carbide plate and centering tip
 - 2 cutter up to 15 mm
 - 4 cutter from 16 mm

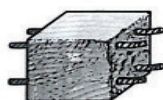


Art.-Nr.: 3-18820

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
12,0	15/32	340	200	3-18820
12,0	15/32	540	400	3-18820
14,0	9/16	340	200	3-18820
14,0	9/16	540	400	3-18820
16,0	.5/8	340	200	3-18820
16,0	5/8	540	400	3-18820
18,0	11/16	340	200	3-18820
18,0	11/16	540	400	3-18820
20,0	3/4	320	200	3-18820
20,0	3/4	520	400	3-18820
22,0	7/8	320	200	3-18820
22,0	7/8	520	400	3-18820

Ø D mm	Ø Zoll "	L1 mm	L2 mm	Art.-Nr.
24,0	15/16	320	200	3-18820
24,0	15/16	520	400	3-18820
25,0	1	320	200	3-18820
25,0	1	520	400	3-18820
28,0	1 1/8	320	250	3-18820
28,0	1 1/8	520	450	3-18820
30,0	1 3/16	320	250	3-18820
30,0	1 3/16	520	450	3-18820
32,0	1 1/4	320	250	3-18820
32,0	1 1/4	520	450	3-18820
35,0	1 3/8	520	450	3-18820
40,0	1 9/16	520	450	3-18820

ANWENDUNGEN



ART.-NR.: 3-18820

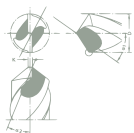


Einsatzgebiete:

zum Bohren in Mauerwerk, Stahlbeton, Natur- und Kunststein

Materials:

for drilling of masonry, reinforced concrete, natural and artificial stone



MEISSEL CHISELS

- Kugelgestrahlt und gehärtet
- aus hochwertigem Werkzeugstahl

INFOBOX

- shot-blasted and hardened
- made of high-quality tool-steel



Art.-Nr.: 3-18400

SDS-max

Meissel chisel	Länge/Breite Ø mm	Art.-Nr.
Spitzmeißel Point Chisel	280	3-18400
	400	3-18400
	600	3-18400
Flachmeißel Flat Chisel	280/25	3-18400
	400/25	3-18400
	600/25	3-18400
Spatmeißel Spade Chisel	400/50	3-18400
	300/80	3-18400
Hohlmeißel Hollow Chisel	300/26	3-18400

SDS-plus

Meissel chisel	Länge/Breite Ø mm	Art.-Nr.
Spitzmeißel Point Chisel	250	3-18400
Flachmeißel Flat Chisel	250/20	3-18400
Spatmeißel Spade Chisel	250/40	3-18400
Fliesenmeißel Hollow Chisel	200/40	3-18400
Hohlmeißel Tile Chisel	250/22	3-18400

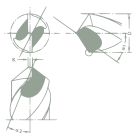
SDS-top

Meissel chisel	Länge/Breite Ø mm	Art.-Nr.
Spitzmeißel Point Chisel	270	3-18400
Flachmeißel Flat Chisel	270/20	3-18400
Spatmeißel Spade Chisel	250/40	3-18400

ANWENDUNGEN

ART.-Nr.: 3-18400





Werkzeug- und Industrietechnik

GLASBOHRER GLASS DRILL BITS

- mit spezieller nierenförmiger Hartmetallplatte
- zylindrischer Schaft
- galvanisiert

INFOBOX

- with special carbide-tip
- cylindrical shank
- galvanized



Art.-Nr.: 3-19922

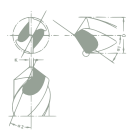
Ø D1 mm	Art.-Nr.
3.00	3-19922
4.00	3-19922
5.00	3-19922
6.00	3-19922
8.00	3-19922
10.00	3-19922
12.00	3-19922

Einsatzgebiete:

zum Bohren von Glas, Porzellan, Fliesen, Keramik, etc.

Materials:

special drills for glass, porcelain, tiles, ceramics, etc.

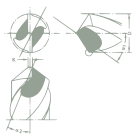


Werkzeug- und Industrietechnik



SENKWERKZEUGE COUNTERSINKING TOOLS

Art.-Nr.		Seite Page
3-18080-R	Kegel- und Engratsenker, HSS-Co5%, C, 90°, geschliffen, DIN 335 Countersink, HSS-Co5%, C, 90°, grinded, DIN 335	77
3-19080	Kegel- und Engratsenker, HSS, C, 90°, DIN 335 Countersink, HSS, C, 90°, DIN 335	78
3-19080 TiN	Kegel- und Engratsenker, HSS, C, 90°, TiN-Beschichtung, geschliffen, DIN 335 Countersink, HSS, C, 90°, TiN-Coating, grinded, DIN 335	78
3-19180	Stufenbohrer, HSS, witec-Norm Step Drill, HSS, witec-Norm	79
3-19180 TiN	Stufenbohrer, HSS, TiN-Beschichtung, witec-Norm Step Drill, HSS, TiN-Coating, witec-Norm	79
3-19280	Stufenblechschälbohrer, HSS-Co5%, witec-Norm Sheet Metall Step Drill, HSS-Co5%, witec-Norm	80
3-19380	Blechschälbohrer, HSS, witec-Norm Sheet Metall Drill, HSS, witec-Norm	81
3-19380 TiN	Blechschälbohrer, HSS, TiN-Beschichtung, witec-Norm Sheet Metall Drill, HSS, TiN-coating, witec-Norm	81
3-19480	Stufenblechschälbohrer, HSS-Co5%, witec-Norm Step Drill, HSS-Co5%, witec-Norm	82
3-19480 ATN	Stufenblechschälbohrer, HSS-Co5%, ATN-Beschichtung, witec-Norm Step Drill, HSS-Co5%, ATN-coating, witec-Norm	82
3-19780	Stufenblechschälbohrer, HSS, witec-Norm Step Drill, HSS, witec-Norm	83
3-19780	Stufenblechschälbohrer, HSS, TiN-Beschichtung, witec-Norm Step Drill, HSS, TiN-Coating, witec-Norm	83
3-19580	Blechschälbohrer mit Kreuzanschliff, HSS-Co, witec-Norm Sheet Metall Drill, with split point, HSS-Co, witec-Norm	84
3-19580 TiN	Kegel- und Entgratsenker mit Querloch, HSS, 90°, TiN-Beschichtung, witec-Norm Deburring Countersink with cross hole, HSS, 90°, TiN-Coating, witec-Norm	84
3-19680	Kegel- und Entgratsenker mit Querloch, HSS, 90°, witec-Norm Deburring Countersink with cross hole, HSS, 90°, witec-Norm	85



Werkzeug- und Industrietechnik



KEGEL- UND ENTGRATSENKER COUNTERSINKS

DIN 335

HSS-Co5%
M35

C

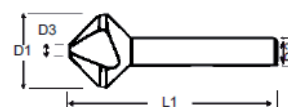
90°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- 3 Schneiden
- blank

INFOBOX

- straight shank
- 3 cutters
- bright finished



Art.-Nr.: 3-18080-R

Sätze / Sets

Ø D1 mm	D2 mm	D3 mm	L1 mm	Art.-Nr.
6,3	5,0	1,5	45	3-18080-R
8,0	6,0	2,0	50	3-18080-R
8,3	6,0	2,0	50	3-18080-R
10,0	6,0	2,5	50	3-18080-R
10,4	6,0	2,5	50	3-18080-R
12,4	8,0	2,8	56	3-18080-R
15,0	10,0	3,2	60	3-18080-R
16,5	10,0	3,2	60	3-18080-R
20,5	10,0	3,5	63	3-18080-R
25,0	10,0	3,8	67	3-18080-R
31,0	12,0	4,2	71	3-18080-R

Ø mm	Art.-Nr.
6,3 / 8,3 / 10,4 / 12,4 / 16,5 / 20,5 mm	3-18080-R
8,0 / 12,4 / 16,5 / 20,5 / 25,0 mm	3-18080-R

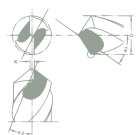


Einsatzgebiete:

in allen gängigen Industriematerialien

Materials:

for all common industrial materials



KEGEL- UND ENTGRATSENKER COUNTERSINKS

DIN 335

HSS
M2

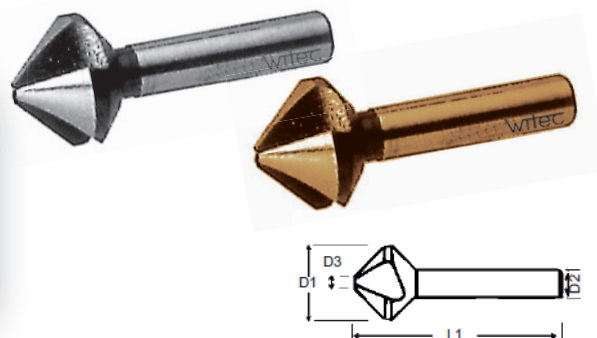
C

90°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- 3 Schneiden
- blank oder TiN-Beschichtung
- straight shank
- 3 cutters
- bright finished or TiN-Coating

INFOBOX



Art.-Nr.: 3-19080 / 3-19080TiN

Ø D1 mm	D2 mm	D3 mm	L1 mm	Art.-Nr.	Ø D1 mm	D2 mm	D3 mm	L1 mm	Art.-Nr.
4,3	4,0	1,3	40	3-19080/TiN	11,5	8,0	2,8	56	3-19080/TiN
5,0	4,0	1,3	40	3-19080/TiN	12,4	8,0	2,8	56	3-19080/TiN
5,3	4,0	1,3	40	3-19080/TiN	13,4	8,0	2,8	56	3-19080/TiN
5,8	5,0	1,5	45	3-19080/TiN	15,0	10,0	3,2	60	3-19080/TiN
6,0	5,0	1,5	45	3-19080/TiN	16,5	10,0	3,2	60	3-19080/TiN
6,3	5,0	1,5	45	3-19080/TiN	19,0	10,0	3,5	63	3-19080/TiN
7,0	6,0	1,8	50	3-19080/TiN	20,5	10,0	3,5	63	3-19080/TiN
7,3	6,0	1,8	50	3-19080/TiN	23,0	10,0	3,8	67	3-19080/TiN
8,0	6,0	2,0	50	3-19080/TiN	25,0	10,0	3,8	67	3-19080/TiN
8,3	6,0	2,0	50	3-19080/TiN	28,0	12,0	4,0	71	3-19080/TiN
9,4	6,0	2,2	50	3-19080/TiN	30,0	12,0	4,2	71	3-19080/TiN
10,0	6,0	2,5	50	3-19080/TiN	31,0	12,0	4,2	71	3-19080/TiN
10,4	6,0	2,5	50	3-19080/TiN	40,0	12,0	4,2	80	3-19080/TiN



Sätze / Sets

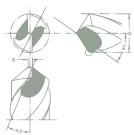
Ø mm	Art.-Nr.
6,3 / 8,3 / 10,4 / 12,4 / 16,5 / 20,5 mm	3-19080 TiN
6,3 / 8,3 / 12,4 / 16,5 / 20,5 / 25,0 mm	3-19080 TiN

Einsatzgebiete:

in allen gängigen Industriematerialien

Materials:

for all common industrial materials



Werkzeug- und Industrietechnik



STUFENBLECHSCHÄLBOHRER DOUBLE LIPPED STEP DRILLS

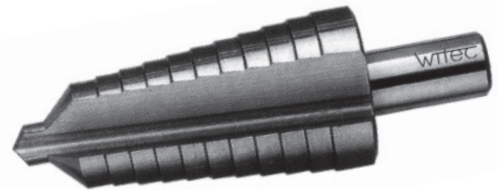
WITEC NORM

HSS
M2

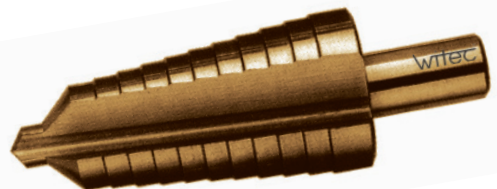
GESCHLIFFEN
GRINDED

- 2 Schneiden
- blank oder TiN Beschichtung
- 2 cutters
- bright finished or TiN coating

INFOBOX



Art.-Nr.: 3-19180



Art.-Nr.: 3-19180 TiN

blank / bright finished

Ø mm	Stufe step mm	Art.-Nr.
4-12	1	3-19180
4-20	2	3-19180
4-30	2	3-19180
6-30	2	3-19180
9-36	3	3-19180
12-20	1	3-19180
20-30	1	3-19180

TiN-beschichtet / TiN-coated

Ø mm	Stufe step mm	Art.-Nr.
4-12	1	3-19180 TiN
4-20	2	3-19180 TiN
4-30	2	3-19180 TiN
6-30	2	3-19180 TiN
9-36	3	3-19180 TiN
12-20	1	3-19180 TiN
20-30	1	3-19180 TiN



Sätze / Sets

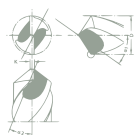
Größe size	Abm. diameter mm	Art.-Nr.
1,2,3	4-12 / 4-20 / 4-30	3-19180
1,2,3	4-12 / 4-20 / 4-30	3-19180 TiN

Einsatzgebiete:

zum Bohren von größeren Löchern in dünnwandigen Materialien sowie zum Aufbohren vorhandener Löcher in Stahlblech bis 2mm Dicke, NE-Metalle bis 5mm Dicke

Materials:

for drilling in thin-walled materials like sheet-metal up to 2 mm thickness



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

STUFENBLECHSCHÄLBOHRER DOUBLE LIPPED STEP DRILLS

WITEC NORM

HSS-Co5%
M35GESCHLIFFENG
GRINDED

- 2 Schneiden
- mit Kreuzanschliff
- blank

INFOBOX

- 2 cutters
- with split point
- bright finished



Art.-Nr.: 3-19280

Ø mm	Stufe step mm	Art.-Nr.
4-12	1	3-19280
4-20	2	3-19280
6-30	2	3-19280
SET 1,2,3	4-12 / 4-20 / 4-30	3-19280

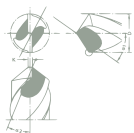


Einsatzgebiete:

zum Bohren von größeren Löchern in dünnwandigen Materialien sowie zum Aufbohren vorhandener Löcher in Stahlblech und Edelstahl bis 2mm Dicke, NE-Metalle bis 5mm Dicke

Materials:

for drilling in thin-walled materials like sheet-metal up to 2 mm thickness



Werkzeug- und Industrietechnik



BLECHSCHÄLBOHRER SHEET METAL DRILLS

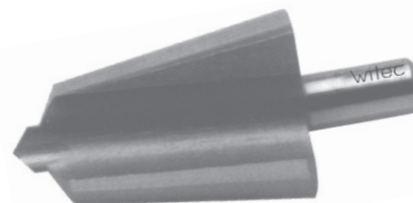
WITEC NORM

HSS
M2

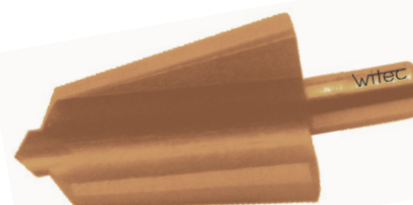
GESCHLIFFEN
GRINDED

- 2 Schneiden
- blank, TiN oder TiALN Beschichtung
- 2 cutters
- bright finished, TiN or TiALN coating

INFOBOX



Art.-Nr.: 3-19380



Art.-Nr.: 3-19380 TiN / TiALN

blank / bright finished

Gruppe GR	Ø mm	Art.-Nr.
1	3-14	3-19380 / TiN
2	5-20	3-19380 / TiN
7	5-31	3-19380 / TiN
3	16-30,5	3-19380 / TiN
4	26-40	3-19380 / TiN
5	36-50	3-19380 / TiN
6	40-61	3-19380 / TiN

TiALN-beschichtet / TiALN-coated

	Ø mm	Art.-Nr.
1	3-14	3-19380 TiALN
2	4-20	3-19380 TiALN
3	16-30,5	3-19380 TiALN
Satz / Set	3-14 / 4-20 / 16-30,5	3-19380 TiALN

Sätze / Sets

Ø mm	Art.-Nr.
3-14 / 5-20 / 16-30,5	3-19380
3-14 / 5-20 / 16-30,5	3-19380 TiN

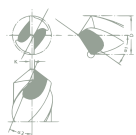


Einsatzgebiete:

zum Bohren von größeren Löchern in dünnwandigen Materialien wie Stahlblech, NE-Metalle etc

Materials:

for drilling in thin-walled materials like sheet-metal, profiles, pipes etc.



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

STUFENBLECHSCHÄLBOHRER STEP DRILLS

WITEC NORM

HSS-Co5%
M35GESCHLIFFEN
GRINDED

INFOBOX

- Spiralnuten
- Kreuzanschliff
- blank oder ATN plus-Beschichtung
- spiral flutes
- split-point
- bright finished or ATN plus-coated



blank / bright finished

Art.-Nr.: 3-19480 / 3-19480 ATN plus

Gruppe/ Group	Ø mm	Bohrstufen drilling steps mm	L mm	Schank/ Shank mm	Art.-Nr.
1	4-12	1	80	6	3-19480/ATN plus
2	4-20	2	70	8	3-19480/ATN plus
3	6-30	2	98	10	3-19480/ATN plus
4	6-36	3	97	12	3-19480/ATN plus

Material	
ALU 99,5%	Steel 55 HRC
•	-
ALU <10% Si	Steel 60 HRC
•	-
ALU Guss / Cast	Steel 65 HRC
•	-
Steel <500 N	Inox <900 N
•	•
Steel <750 N	Inox >900 N
•	•
Steel <900 N	Ti >800 N
•	•
Steel <1100 N	GG (G) Cast
•	•
Steel 45 HRC	Hardox Inconel
-	-

Sätze / Sets

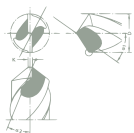
Ø mm	Art.-Nr.
4-12 / 4-20 / 6-30	3-19480
4-12 / 4-20 / 6-30	3-19480 ATN plus

**Einsatzgebiete:**

für den Einsatz in Baustahl, CrNi-Stahl, NE-Metall

Materials:

to drill in structural steel, CrNi-Steel, non-ferrous metal



Werkzeug- und Industrietechnik



STUFENBLECHSCHÄLBOHRER STEP DRILLS

WITEC NORM

HSS
M2

GESCHLIFFEN
GRINDED

INFOBOX

- Spiralnuten
- Kreuzanschliff
- blank oder TiN-Beschichtung
- spiral flutes
- split-point
- bright finished or TiN-coated



Art.-Nr.: 3-19780 / 3-19780 TiN

blank / bright finished

Ø mm	Bohrstufen drilling steps mm	Art.-Nr.
4-12	1	3-19780 / TiN
4-20	2	3-19780 / TiN
4-30	2	3-19780 / TiN
6-30	2	3-19780 / TiN
9-36	3	3-19780 / TiN
12-20	1	3-19780 / TiN
20-30	1	3-19780 / TiN

Sätze / Sets

Ø mm	Art.-Nr.
4-12 / 4-20 / 6-30	3-19780
4-12 / 4-20 / 6-30	3-19780 / TiN

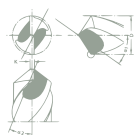


Einsatzgebiete:

für den Einsatz in Stahl, Aluminium, Kunststoffe

Materials:

to drill in steel, Aluminium



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

KEGEL- UND ENTGRATSENKER MIT QUERLOCH DEBURRING COUNTERSINKS WITH CROSS HOLE

WITEC NORM

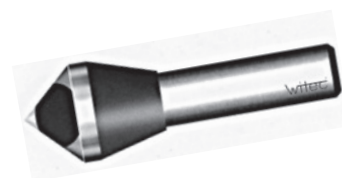
HSS
M2

90°

GESCHLIFFEN
GRINDED

- Zylinderschaft
- rechtsschneidend
- blank oder TiN Beschichtung
- straight shank
- right hand cutting
- bright finished or TiN coated

INFOBOX



Art.-Nr.: 3-19580



Art.-Nr.: 3-19580 TiN

blank / bright finished

Ø mm	Ø - Ø mm	D2 mm	Art.-Nr.
5	2,0 - 5,0	6	3-19580
10	5,0 - 10,0	8	3-19580
15	10,0 - 15,0	10	3-19580
20	15,0 - 20,0	12	3-19580
25	20,0 - 25,0	12	3-19580
30	25,0 - 30,0	15	3-19580
35	30,0 - 35,0	15	3-19580
40	35,0 - 40,0	15	3-19580
50	40,0 - 50,0	20	3-19580

Sätze / Sets

Ø mm	Ø - Ø mm	Art.-Nr.
5 / 10 / 15 / 20	2-5 / 5-10 / 10-15 / 15-20	3-19580
5 / 10 / 15 / 20	2-5 / 5-10 / 10-15 / 15-20	3-19580 TiN

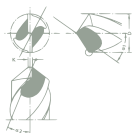


Einsatzgebiete:

zum Grat- und ratterfreien Entgraten. Ansenken und Versenken in einem Arbeitsgang.

Materials:

for countersinking free of chattering and burring.



Werkzeug- und Industrietechnik



BLECHSCHÄLBOHRER SHEET METAL DRILLS

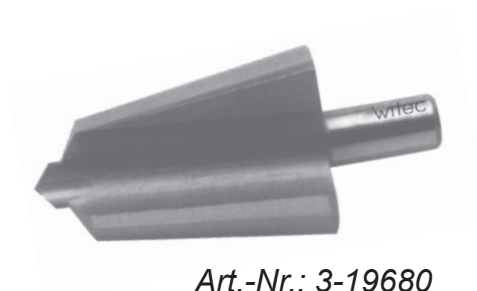
WITEC NORM

HSS-Co5%
M35

GESCHLIFFEN
GRINDED

- 2 Schneiden
- blank
- 2 cutters
- bright finished

INFOBOX



Art.-Nr.: 3-19680

blank / bright finished

Ø mm	Art.-Nr.
3-14	3-19680
5-20	3-19680
5-31	3-19680
16-30,5	3-19680

Sätze / Sets

Ø mm	Art.-Nr.
3-14 / 5-20 / 16-30,5	3-19680

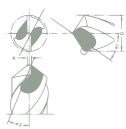


Einsatzgebiete:

für den Einsatz in Baustahl, CrNi-Stahl, NE-Metall

Materials:

to drill in structural steel, CrNi-Steel, non-ferrous metal

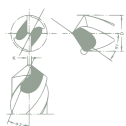


Werkzeug- und Industrietechnik

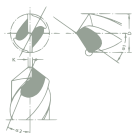


GEWINDESCHNEIDWERKZEUGE THREADING TOOLS

Art.-Nr.		Seite Page
3-20001	Gewindeschneidwerkzeuge Satz, M3-M12 HSS, metrisch Threading Tools Set, M3-M12 HSS, metric	87
3-20001	Gewindeschneidwerkzeuge Satz, M3-M20 HSS, metrisch Threading Tools Set, M3-M20 HSS, metric	87
3-20001	Gewindeschneidwerkzeuge Satz, M3-M24 HSS, metrisch Threading Tools Set, M3-M24 HSS, metric	87
3-20002	Gewindeschneidwerkzeuge Mf Satz, M3-M12 HSS, metrischfein Threading Tools Set, Mf M3-M12 HSS, metric fine	88
3-20002	Gewindeschneidwerkzeuge Satz, Mf M6-M20 HSS, metrisch fein Threading Tools Set, Mf M6-M20 HSS, metric fine	88
3-20002	Gewindeschneidwerkzeuge Satz, Mf M6-M24 HSS, metrischfein Threading Tools Set, Mf M6-M24 HSS, metric fine	88
3-20003	Gewindeschneidwerkzeuge Satz, HSS G (BSP) Threading Tools Set, HSS G (BSP)	89
3-20003	Gewindeschneidwerkzeuge Satz, HSS G (BSP) Threading Tools Set, HSS G (BSP)	89
3-20003	Gewindeschneidwerkzeuge Satz, HSS G (BSP) Threading Tools Set, HSS G (BSP)	89
3-20004	Gewindeschneidwerkzeuge Satz, M3-M20 HSS-Co, metrisch Threading Tools Set, M3-M20 HSS, metric	90
3-20010	Gewindeschneidwerkzeuge Satz, M3-M12 HSS, metrisch Threading Tools Set, M3-M12 HSS, metric	90
3-20011	Gewindeschneidwerkzeuge Satz, M3-M12 HSS, metrisch Threading Tools Set, M3-M12 HSS, metric	90
3-20101-R	Runde Schneideisen, HSS, metrischfein, EN 22568 B Round Solid Die, HSS, metric fine, EN 22568 B	91
3-20102-R	Runde Schneideisen, HSS, metrisch, EN 22568 B Round Solid Die, HSS, metric, EN 22568 B	92
3-20103-R	Runde Schneideisen, HSS G (BSP), Rohrgewinde, DIN 5158 Round Solid Die, HSS G (BSP), Rohrgewinde, DIN 5158	93
3-20119-R	Runde Schneideisen, HSS, metrisch, EN 22568 B Round Solid Die, HSS, metric, EN 22568 B	94
3-27001-R	Einschnittgewindebohrer, HSS, metrisch, DIN 352/B Machine Tap, HSS, metric, DIN 352/B	95
3-27002-R	Einschnittgewindebohrer, HSS-Co, metrisch, DIN 352/C 35° Machine Tap, HSS-Co, metric, DIN 352/C 35°	96
3-27003-R	Einschnittgewindebohrer, HSS G (BSP), metrisch, DIN 352/D Machine Tap, HSS G (BSP), metric, DIN 352/D	97
3-27004-R	Einschnittgewindebohrer, HSS G, metrischfein, DIN 2181/D Machine Tap, HSS G, metric fine, DIN 2181/D	98



Art.-Nr.		Seite Page
3-21200	Handgewindebohrer, HSS, metrischfein, V,/F, DIN 2181 Hand Tap, HSS, metric fine, 1/3, DIN 2181	99
3-22200	Handgewindebohrer, HSS, metrisch, V,/M/F, DIN 352 Hand Tap, HSS, metric, 1/2/3, DIN 352	100
3-23200	Handgewindebohrer, HSS G (BSP), Rohrgewinde, V,/F, DIN 5157 Hand Tap, HSS G (BSP), pipe thread, 1/3, DIN 5157	101
3-24010	Maschinengewindebohrer, HSS-Co, N, metrisch, DIN 371/B Machine Tap, HSS-Co, N, metric, DIN 371/B	102
3-24010 TiN	Maschinengewindebohrer, HSS-Co, N, metrisch, DIN 371/B, TiN Beschichtung Machine Tap, HSS-Co, N, metric, DIN 371/B, TiN coating	102
3-24021	Maschinengewindebohrer, HSS-Co, N, metrisch, 35° RSP, DIN 371/C Machine Tap, HSS-Co, N, metric, 35° RSP, DIN 371/C	103
3-24100	Maschinengewindebohrer, HSS-Co, N, metrisch, DIN 376/B Machine Tap, HSS-Co, N, metric, DIN 376/B	104
3-24100 TiN	Maschinengewindebohrer, HSS-Co, N, metrisch, DIN 376/B, TiN Beschichtung Machine Tap, HSS-Co, N, metric, DIN 376/B, TiN coating	104
3-24102	Maschinengewindebohrer, HSS-Co, N, metrisch, 35° RSP, DIN 376/C Machine Tap, HSS-Co, N, metric, 35° RSP, DIN 376/C	105
3-25010	Maschinengewindebohrer, HSS, N, metrisch, DIN 371/B Machine Tap, HSS, N, metric, DIN 371/B	106
3-25021	Maschinengewindebohrer, HSS, metrisch, 35° RSP, DIN 371/C Machine Tap, HSS, metric, 35° RSP, DIN 371/C	107
3-25100	Maschinengewindebohrer, HSS, metrisch, DIN 376/B Machine Tap, HSS, metric, DIN 376/B	108
3-25102	Maschinengewindebohrer, HSS, metrisch, 35° RSP, DIN 376/C Machine Tap, HSS, metric, 35° RSP, DIN 376/C	105
3-27370	Kombigewindebohrer, HSS-E, metrisch, DIN 13, blank Combined Tap, HSS-E, metric, DIN 13, bright finished	109
3-27370 / TiN	Kombigewindebohrer, HSS-E, metrisch, DIN 13, TiN beschichtet Combined Tap, HSS-E, metric, DIN 13, TiN coated	110



Werkzeug- und Industrietechnik



GEWINDESCHNEIDWERKZEUGE SÄTZE THREADING TOOLS SETS

SORTIMENTE / SETS

**HSS
M2**

**METRISCH
METRIC**

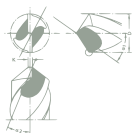
Sortiment / Set M3-M12	Art.-Nr.
Gewindeschneidwerkzeug- Sortiment in Metallkassette 2-27090 Handgewindebohrer DIN 352 HSS Satz 3-teilig M3 - M12 Schneideisen DIN 223 (DIN EN22568) 25x9 Schneideisenhalter DIN 225 verstellbares Windeisen DIN 1814 Gr. 1,5 Schraubenausdreher Threadingtool-assortment in metalbox hand taps DIN 352 HSS set in 3-pcs M3-M12 round solid dies DIN 223 (DIN EN 22568) 25x9 diestock DIN 225 adjustable wrench DIN 1814 No. 1,5, screw extractor	3-20001

Art.-Nr.: 3-20001



Sortiment / Set M3-M20	Art.-Nr.
Gewindeschneidwerkzeug- Sortiment in Stahlkassette 2-27090 handtaps DIN 352 HSS 3-teiliger Satz M3-M20 2-20102 Schneideisen DIN 223 (DIN EN 22568) verstellbare 2-90001 Windeisen DIN 1814 Nr.1+3 2-90002 Schneideisenhalter DIN 225 20x5, 20x7, 25x9, 30x11 38x14, 45x18, Ratsche Nr. 1+2 Threadingtool-assortment in metalbox hand taps DIN 352 HSS set in 3-pcs. M3-M20 round solid dies DIN 223 (DIN EN 22568) adjustable wrench DIN 1814 No. 1+3 die stock DIN 225, ratch No. 1+2	3-20001

Sortiment / Set M3-M24	Art.-Nr.
Gewindeschneidwerkzeug- Sortiment in Stahlkassette 2-27090 Handgewindebohrer DIN 352 HSS 3-teiliger Satz M3-M24 2-20102 Schneideisen DIN 223 (DIN EN 22568) verstellbare 3-90001 Windeisen DIN 1814 Nr.1+3 3-90002 Schneideisenhalter DIN 225 20x5, 20x7, 25x9, 30x11 38x14, 45x18, 55x22, Threadingtool-assortment in Metalbox hand taps DIN 352 HSS set in 3-pcs. M3-M24 round solid dies DIN 223 (DIN EN 22568) adjustable wrench DIN 1814 No. 1+3 die stock DIN 225	3-20001



Werkzeug- und Industrietechnik



GEWINDESCHNEIDWERKZEUGE SÄTZE THREADING TOOLS SETS

SORTIMENTE / SETS

HSS
M2METRISCHFEIN
METRIC FEIN

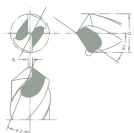
Sortiment / Set M3-M12	Art.-Nr.
2-27092 Handgewindebohrer DIN 2181 2-20101 Schneideisen DIN 223 (DIN EN 22568) Mf3x0,35-4x0,5-5x0,5-6x0,75-8x0,75, Mf 10x1-12x1,5 3-90001 verstellbare Windeisen DIN 1814 Nr. 1+2 3-90002 Schneideisenhalter DIN 225 (DIN EN 22568) 20x5-25x9-30x11-38x10 3-90003 Werkzeughalter mit Knarre rechts, links Nr. 1 Threadingtool-assortment metric fine in metalbox hand taps DIN 2181 round solid dies DIN 223 (DIN EN 22568) adjustable wrench DIN 1814 No. 1+2 die stock DIN 225 (DIN EN 22568) tap holder with wratches right/left	3-20002

Art.-Nr.: 3-20002

Sortiment / Set M6-M20	Art.-Nr.
2-27092 Handgewindebohrer DIN 2181 2-20101 Schneideisen DIN 223 (DIN EN 22568) Mf6x0,75-8x0,75-10x1-12x1-12x1,5-14x1,25 Mf 14x1,5-16x1,5-18x1,5-20x1,5 3-90001 verstellbare Windeisen DIN 1814 Nr. 1+3 3-90002 Schneideisenhalter DIN 225 (DIN EN 22568) 20x7-25x9-30x11-38x10-45x14 3-90003 Werkzeughalter mit Knarre rechts, links Nr. 1 Threadingtool-assortment metric fine in metalbox hand taps DIN 2181 round solid dies DIN 223 (DIN EN 22568) adjustable wrench DIN 1814 No. 1+2 die stock DIN 225 (DIN EN 22568) tap holder with wratches right/left	3-20002



Sortiment / Set M6-M24	Art.-Nr.
2-27092 Handgewindebohrer DIN 2181 2-20101 Schneideisen DIN 223 (DIN EN 22568) Mf6x0,75-8x0,75-8x1-10x1-12x1-12x1,5 Mf 14x1,25-14x1,5-16x1,5-18x1,5 Mf 20x1,5-24x1,5 3-90001 verstellbare Windeisen DIN 1814 Nr. 1+3 3-90002 Schneideisenhalter DIN 225 (DIN EN 22568) 20x7-25x9-30x11-38x10-45x14 3-90003 Werkzeughalter mit Knarre rechts, links Nr. 1 Threadingtool-assortment metric fine in Metalbox hand taps DIN 2181 round solid dies DIN 223 (DIN EN 22568) adjustable wrench DIN 1814 No. 1+2 die stock DIN 225 (DIN EN 22568) tap holder with wratches right/left	3-20002



Werkzeug- und Industrietechnik

GEWINDESCHNEIDWERKZEUGE SÄTZE THREADING TOOLS SETS

SORTIMENTE / SETS

**HSS
M2**

G (BSP)

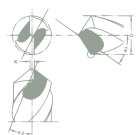
Sortiment / Sets G (BSP)	Art.-Nr.
Handgewindebohrer / hand taps DIN 5157 G 1/8-1/4-3/8-1/2-3/4-1" Gewindeschneideisen / round solid dies DIN 5158 3-90001 vertellbare Windeisen / adjustable wrench DIN1814 Nr.1+3+5 3-90002 Schneideisenhalter / die stock DIN 225 30x11-38x10-45x14-55x16-65x18	3-20003

Art.-Nr.: 3-20003

Sortiment / Sets G (BSP)	Art.-Nr.
Handgewindebohrer / hand taps DIN 5157 G 1/8-1/4-3/8-1/2-5/8-3/4-7/8-1" Gewindeschneideisen / round solid dies DIN 5158 3-90001 vertellbare Windeisen / adjustable wrench DIN1814 Nr.1+3+5 3-90002 Schneideisenhalter / die stock DIN 225 30x11-38x10-45x14-55x16-65x18	3-20003



Sortiment / Sets G (BSP)	Art.-Nr.
Handgewindebohrer / hand taps DIN 5157 G 1/4-3/8-1/2-3/4-1"-1.1/4-1.1/2 Gewindeschneideisen / round solid dies DIN 5158 3-90001 vertellbare Windeisen / adjustable wrench DIN1814 Nr.2+4+7 3-90002 Schneideisenhalter / die stock DIN 225 38x10-45x14-55x16-65x18-75x20-90x22	3-20003



Werkzeug- und Industrietechnik

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GEWINDESCHNEIDWERKZEUGE SÄTZE THREADING TOOLS SETS

SORTIMENTE / SETS

HSS-Co5%
M35METRISCH
METRIC

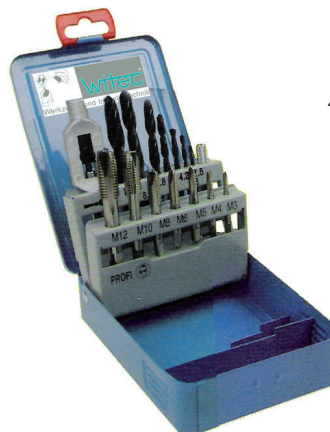
Sortiment / Set M3-M20 HSS-Co	Art.-Nr.
Gewindeschneidwerkzeug-Sortiment in Stahlkassette 2-27096 Handgewindebohrer DIN 352 HSS-E 3-teiliger Satz M3-M20 2-20110 Schneideisen DIN 223 (DIN EN 22568) 3-90001 verstellbare Windeisen DIN 1814 Nr. 1+3 3-90002 Schneideisenhalter DIN 225 20x5, 20x7, 25x9, 30x11, 38x14, 45x18 Threadingtool-assortment in metalbox DIN 352 HSS-E set in 3-pcs. M3-M20 round solid dies DIN 223 (DIN EN 22568) adjustable wrench DIN 1814 No. 1+3 die stock DIN 225	3-20004

Art.-Nr.: 3-20004



Sortiment / Set M3-M12 HSS	Art.-Nr.
Einschnittgewindebohrer in Metallkassette HSS DIN 352/B M3-M12 Kernlochspiralbohrer DIN 338 rollgewalzt verstellbares Windeisen DIN 1814 Gr 1,5 Machinetaps short in metalbox HSS DIN 352/B M3-M12 core-hole drills rolled adjustable wrench DIN 1814 No. 1,5	3-20010

Art.-Nr.: 3-20010

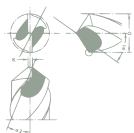


Sortiment / Set M3-M12 HSS	Art.-Nr.
HSS-Handgewindebohrer DIN 352 je 1 Satz, 3tlg., M3 - M12 HSS-hand tap DIN 352 per 1 set, 3 pcs., M3 -M12	3-20011

Art.-Nr.: 3-20011



Verschiedene Sätze- und Sortimentausführungen auf Anfrage.
Various tool sets and assortments on request.



Werkzeug- und Industrietechnik

RUNDE SCHNEIDEISEN ROUND SOLID DIES

DIN 223 B

**HSS
M2**

**METRISCHFEIN
METRIC FEIN**

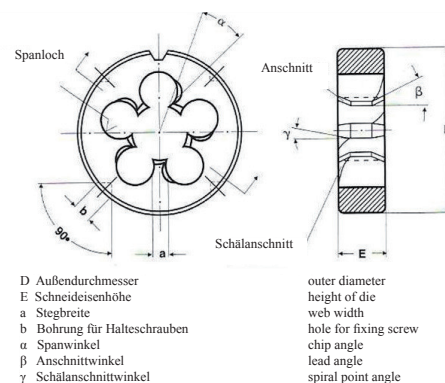
- metrisches ISO-Feingewinde DIN 13
- DIN EN 22568 (DIN 223B)
- metric ISO-fine thread DIN 13
- DIN EN 22568 (DIN 223B)

INFOBOX



Ø	Steigung Pitch mm	Außen- Ø Outside- Ø mm	Höhe Height mm	Art.-Nr.
M6	0,75	20	7	3-20101-R
M8	0,75	25	9	3-20101-R
M8	1,00	25	9	3-20101-R
M10	1,00	30	11	3-20101-R
M10	1,25	30	11	3-20101-R
M12	1,00	38	10	3-20101-R
M12	1,25	38	10	3-20101-R
M12	1,50	38	10	3-20101-R
M14	1,00	38	10	3-20101-R
M14	1,25	38	10	3-20101-R
M14	1,50	38	10	3-20101-R
M16	1,50	45	14	3-20101-R
M18	1,50	45	14	3-20101-R
M20	1,50	45	14	3-20101-R
M22	1,50	55	16	3-20101-R
M24	1,50	55	16	3-20101-R

Art.-Nr.: 3-20101-R

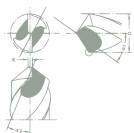


Einsatzgebiete:

für Außengewinde in Stählen bis 900 N/mm² Festigkeit, in langspanenden Werkstoffen

Materials:

for external threads in steels up to 900 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik

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RUNDE SCHNEIDEISEN ROUND SOLID DIES

DIN 223

HSS
M2METRISCH
METRIC

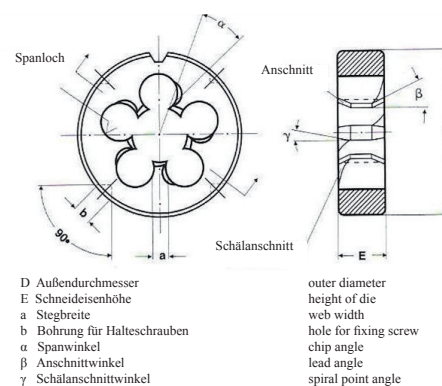
- metrisches ISO-Gewinde DIN 13
- DIN EN 22568 (DIN 223)
- metric ISO-thread DIN 13
- DIN EN 22568 (DIN 223)

INFOBOX



Ø	Steigung Pitch mm	Außen- Ø Outside- Ø mm	Höhe Height mm	Art.-Nr.
M3	0,50	20	5	3-20102-R
M4	0,70	20	5	3-20102-R
M5	0,80	20	7	3-20102-R
M6	1,00	20	7	3-20102-R
M8	1,25	25	9	3-20102-R
M10	1,50	30	11	3-20102-R
M12	1,75	38	14	3-20102-R
M14	2,00	38	14	3-20102-R
M16	2,00	45	18	3-20102-R
M18	2,50	45	18	3-20102-R
M20	2,50	45	18	3-20102-R
M22	2,50	55	22	3-20102-R
M24	3,00	55	22	3-20102-R

Art.-Nr.: 3-20102-R

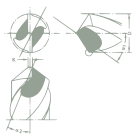


Einsatzgebiete:

für Außengewinde in Stählen bis 900 N/mm² Festigkeit, in langspanenden Werkstoffen

Materials:

for external threads in steels up to 900 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik

RUNDE SCHNEIDEISEN ROUND SOLID DIES

DIN 5158

HSS
M2

G (BSP)

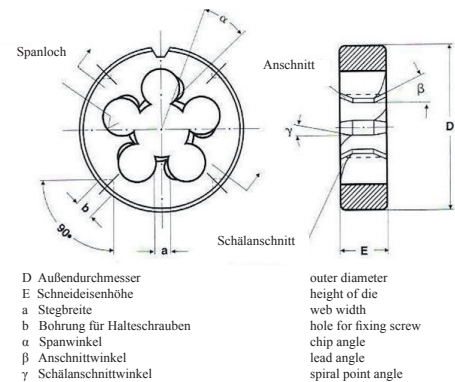
- Rohrgewinde ISO-Gewinde DIN 228
- DIN EN 24231 (DIN 5158)
- gas threads ISO-thread DIN 228
- DIN EN 24231 (DIN 5158)

INFOBOX



Ø "	Außen- Ø Outside- Ø mm	Art.-Nr.
G 1/8x28	30x11	3-20103-R
G 1/4x19	38x10	3-20103-R
G 3/8x19	45x14	3-20103-R
G 1/2x14	45x14	3-20103-R
G 5/8x14	55x16	3-20103-R
G 3/4x14	55x16	3-20103-R
G 7/8x14	65x18	3-20103-R
G 1x11	65x18	3-20103-R
G 1 1/8x11	70x20	3-20103-R
G 1 1/4x11	70x20	3-20103-R
G 1 3/8x11	85x22	3-20103-R
G 1 1/2x11	85x22	3-20103-R
G 1 3/4x11	100x22	3-20103-R
G 2x11	100x22	3-20103-R

Art.-Nr.: 3-20103-R

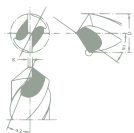


Einsatzgebiete:

für Außengewinde in Stählen bis 900 N/mm² Festigkeit, in langspanenden Werkstoffen

Materials:

for external threads in steels up to 900 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik

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RUNDE SCHNEIDEISEN ROUND SOLID DIES

DIN 223

HSS
M2METRISCH
METRIC

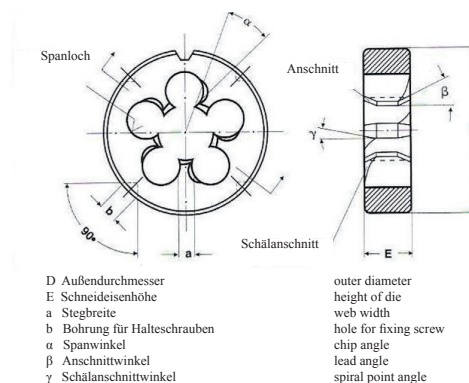
- metrisches ISO-Gewinde DIN 13
- DIN 223 (DIN EN 22568 B), Toleranz 6g
- metric ISO-thread DIN 13
- DIN 223 (DIN EN 22568 B), tolerance 6g

INFOBOX



Art.-Nr.: 3-20119-R

Ø	Steigung Pitch mm	Außen- Ø Outside- Ø mm	Höhe Height mm	Art.-Nr.
M3	0,50	25x9	5	3-20119-R
M4	0,70	25x9	5	3-20119-R
M5	0,80	25x9	7	3-20119-R
M6	1,00	25x9	7	3-20119-R
M8	1,25	25x9	9	3-20119-R
M10	1,50	25x9	11	3-20119-R
M12	1,75	25x9	22	3-20119-R

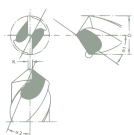


Einsatzgebiete:

für Außengewinde in gut zerspanbaren Werkstoffen bis 800 N/mm², unlegierten und niedriglegierten Stählen

Materials:

for external threads in well chipping steels up to 800 N/mm², alloyed and low alloyed steels



Werkzeug- und Industrietechnik

EINSCHNITTGEWINDEBOHRER MACHINE TAPS

DIN 352

FORM B

**HSS
M2**

**METRISCH
METRIC**

- metrisches ISO-Gewinde DIN 13
- mit Schälanschnitt Form B
- für Hand- und Maschineneinsatz
- metric ISO-fine thread DIN 13
- with spiral point form B
- for hand and machine tapping

INFOBOX



Art.-Nr.: 3-27001-R

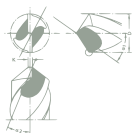
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	40	11	3,5	2,7	3-27001-R
M4	0,70	45	13	4,5	3,4	3-27001-R
M5	0,80	48	16	6,0	4,9	3-27001-R
M6	1,00	50	19	6,0	4,9	3-27001-R
M8	1,25	56	22	6,0	4,9	3-27001-R
M10	1,50	70	24	7,0	5,5	3-27001-R
M12	1,75	75	29	9,0	7,0	3-27001-R
M3-M12 + KL + Halter						3-27001-R

Einsatzgebiete:

für Durchgangslöcher in Stählen bis 800 N/mm² Festigkeit

Materials:

for through holes in steels up to 800 N/mm² tensile strength



Werkzeug- und Industrietechnik



EINSCHNITTGEWINDEBOHRER MACHINE TAPS

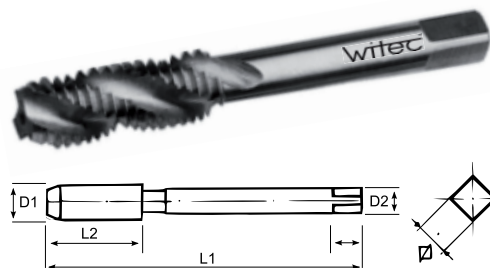
DIN 352

FORM C 35°

HSS-Co5%
M35METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- Form C 35°
- für Hand- und Maschineneinsatz
- metric ISO-fine thread DIN 13
- form C 35°
- for hand and machine tapping

INFOBOX



Art.-Nr.: 3-27002-R

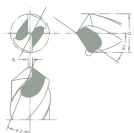
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	40	11	3,5	2,7	3-27002-R
M4	0,70	45	13	4,5	3,4	3-27002-R
M5	0,80	48	16	6,0	4,9	3-27002-R
M6	1,00	50	19	6,0	4,9	3-27002-R
M8	1,25	56	22	6,0	4,9	3-27002-R
M10	1,50	70	24	7,0	5,5	3-27002-R
M12	1,75	75	29	9,0	7,0	3-27002-R

Einsatzgebiete:

für Durchgangs- und Sacklochgewinde in Stählen bis 800 N/mm² Festigkeit

Materials:

for through and blind holes in steels up to 800 N/mm² tensile strength



Werkzeug- und Industrietechnik

EINSCHNITTGEWINDEBOHRER MACHINE TAPS

DIN 5157

Form D

HSS-G

G / (BSP)

- G / (BSP) ISO-Gewinde DIN 5157
- Form D
- für Hand- und Maschineneinsatz
- G / (BSP) ISO-thread DIN 5157
- form D
- for hand and machine tapping

INFOBOX



Art.-Nr.: 3-27003-R

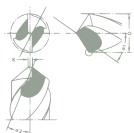
Ø D1 "	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
G 1/8	28	63	20	7	5,5	3-27003-R
G 1/4	19	70	22	11	9,0	3-27003-R
G 3/8	19	70	22	12	9,0	3-27003-R
G 1/2	14	80	22	16	12,0	3-27003-R
G 3/4	14	90	22	20	16,0	3-27003-R
G 1	11	100	25	25	20,0	3-27003-R
G 1.1/4	11	125	40	32	24,0	3-27003-R
G 1.1/2	11	140	40	36	29,0	3-27003-R
G 1.3/4	11	140	40	40	32,0	3-27003-R
G 2	11	160	40	45	35,0	3-27003-R
G 2.1/4	11	160	40	50	39,0	3-27003-R
G 2.1/2	11	160	40	50	39,0	3-27003-R
G 2.3/4	11	160	40	50	39,0	3-27003-R
G 3	11	160	40	50	39,0	3-27003-R
G 3.1/2	11	180	45	56	44,0	3-27003-R
G 4	11	180	45	56	44,0	3-27003-R

Einsatzgebiete:

für Durchgangs- und Sacklochgewinde in Stählen bis 800 N/mm² Festigkeit

Materials:

for through and blind holes in steels up to 800 N/mm² tensile strength



Werkzeug- und Industrietechnik

Rista
Reparatur- und
Instandhaltung

EINSCHNITTGEWINDEBOHRER MACHINE TAPS

DIN 2181

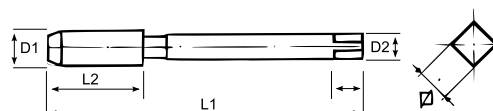
FORM D

HSS-G

METRISCHFEIN
METRIC FINE

- metrisch ISO-Feingewinde DIN 13
- mit Schälanschnitt Form D
- für Hand- und Maschineneinsatz
- metric ISO-fine thread DIN 13
- with spiral point form D
- for hand and machine tapping

INFOBOX



Art.-Nr.: 3-27004-R

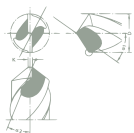
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M6x0.75	0,75	50	14	6,0	4,9	3-27004-R
M8x0.75	0,75	50	19	6,0	4,9	3-27004-R
M8x1.00	1,00	56	22	6,0	4,9	3-27004-R
M10x0.75	0,75	63	20	7,0	5,5	3-27004-R
M10x1.00	1,00	63	20	7,0	5,5	3-27004-R
M10x1.25	1,25	70	24	7,0	5,5	3-27004-R
M12x1.00	1,00	70	22	9,0	7,0	3-27004-R
M12x1.25	1,25	70	22	9,0	7,0	3-27004-R
M12x1.50	1,50	70	22	9,0	7,0	3-27004-R
M14x1.00	1,00	70	22	11,0	9,0	3-27004-R
M14x1.25	1,25	70	22	11,0	9,0	3-27004-R
M14x1.50	1,50	70	22	11,0	9,0	3-27004-R
M16x1.50	1,50	70	22	12,0	9,0	3-27004-R
M18x1.00	1,00	80	22	14,0	11,0	3-27004-R
M18x1.50	1,50	80	22	14,0	11,0	3-27004-R
M20x1.50	1,50	80	22	16,0	12,0	3-27004-R
M20x2.00	2,00	80	22	16,0	12,0	3-27004-R
M22x1.50	1,50	80	22	18,0	14,5	3-27004-R
M22x2.00	2,00	80	22	18,0	14,5	3-27004-R
M24x1.50	1,50	90	22	18,0	14,5	3-27004-R
M24x2.00	2,00	90	22	18,0	14,5	3-27004-R

Einsatzgebiete:

für Durchgangs- und Sacklochgewinde in Stählen bis 800 N/mm² Festigkeit

Materials:

for through and blind holes in steels up to 800 N/mm² tensile strength



Werkzeug- und Industrietechnik

HANDGEWINDEBOHRER HAND TAPS

DIN 2181

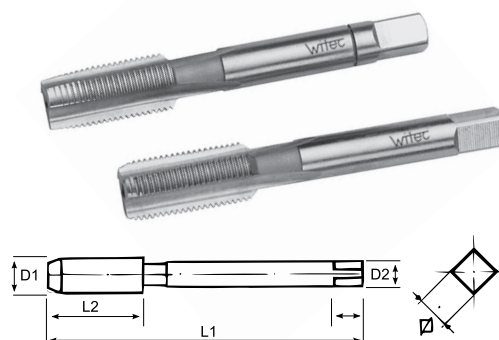
**HSS
M2**

**METRISCHFEIN
METRIC FINE**

**V, F
1, 3**

- metrisches ISO-Feingewinde DIN 13
- Sätze bestehend aus:
Vor- und Fertigschneider
- metric ISO-fine thread DIN 13
- sets consisting of:
first taper tap and bottoming tap

INFOBOX



Art.-Nr.: 3-21200

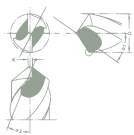
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt./square mm	Art.-Nr.
M6	0,75	50	14	6,0	4,9	3-21200
M8	0,75	50	19	6,0	4,9	3-21200
M8	1,00	56	22	6,0	4,9	3-21200
M10	1,00	63	20	7,0	5,5	3-21200
M10	1,25	70	24	7,0	5,5	3-21200
M12	1,00	70	22	8,0	7,0	3-21200
M12	1,25	70	22	9,0	7,0	3-21200
M12	1,50	70	22	9,0	7,0	3-21200
M14	1,25	70	22	11,0	9,0	3-21200
M14	1,50	70	22	11,0	9,0	3-21200
M16	1,50	70	22	12,0	9,0	3-21200
M18	1,50	80	22	14,0	11,0	3-21200
M20	1,50	80	22	16,0	12,0	3-21200
M22	1,50	80	22	18,0	14,5	3-21200
M24	1,50	90	22	18,0	14,5	3-21200

Einsatzgebiete:

für Durchgangs- und Sacklochgewinde in Stählen bis 900 N/mm² Festigkeit

Materials:

for through and blind holes in steels up to 900 N/mm² tensile strength



Werkzeug- und Industrietechnik

HANDGEWINDEBOHRER

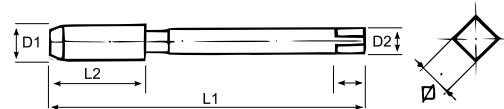
HAND TAPS

DIN 352

HSS
M2METRISCH
METRICV, M, F
1, 2, 3

- metrisches ISO-Gewinde DIN 13
- Sätze bestehend aus:
Vor-, Mittel- und Fertigschneider
- metric ISO-fine thread DIN 13
- sets consisting of:
first taper tap, second tap and bottoming tap

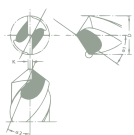
INFOBOX



Art.-Nr.: 3-22200

Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	40	11	3,5	2,7	3-22200
M4	0,70	45	13	4,5	3,4	3-22200
M5	0,80	50	16	6,0	4,9	3-22200
M6	1,00	50	19	6,0	4,9	3-22200
M8	1,25	56	22	6,0	4,9	3-22200
M10	1,50	70	24	7,0	5,5	3-22200
M12	1,75	75	29	9,0	7,0	3-22200
M14	2,00	80	30	11,0	9,0	3-22200
M16	2,00	80	32	12,0	9,0	3-22200
M18	2,50	95	40	14,0	11,0	3-22200
M20	2,50	95	40	16,0	12,0	3-22200
M22	2,50	100	40	18,0	14,5	3-22200
M24	3,00	110	50	18,0	14,5	3-22200

Einsatzgebiete:für Durchgangs- und Sacklochgewinde in Stählen bis 900 N/mm² Festigkeit**Materials:**for through and blind holes in steels up to 900 N/mm² tensile strength



Werkzeug- und Industrietechnik



HANDGEWINDEBOHRER HAND TAPS

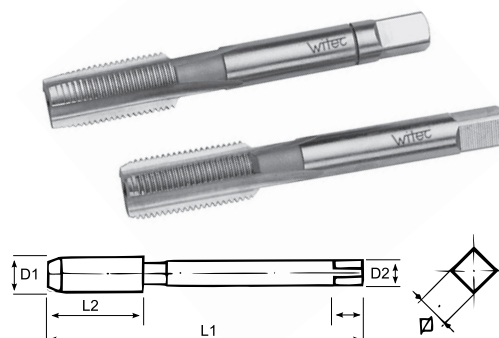
DIN 5157

HSS
M2

G (BSP)

V, F
1, 3

- INFOBOX**
- HSS G (BSP) ISO-Gewinde DIN 228
 - Sätze bestehend aus:
Vor- und Fertigschneider für Rohrgewinde
 - HSS G (BSP) ISO-fine thread DIN 228
 - sets consisting of:
first taper tap and bottoming tap for pipe threads



Art.-Nr.: 3-23200

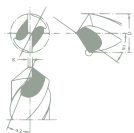
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
G 1/8	28	63	20	7	5.5	3-23200
G 1/4	19	70	22	11	9.0	3-23200
G 3/8	19	70	22	12	9.0	3-23200
G 1/2	14	80	22	16	12.0	3-23200
G 5/8	14	80	22	18	14.5	3-23200
G 3/4	14	90	22	20	16.0	3-23200
G 7/8	14	90	22	22	18.0	3-23200
G 1"	11	100	25	25	20.0	3-23200
G 1.1/8	11	125	40	28	22.0	3-23200
G 1.1/4	11	125	40	32	24.0	3-23200
G 1.3/8	11	140	40	36	29.0	3-23200
G 1.1/2	11	140	40	36	29.0	3-23200
G 1.3/4	11	140	40	40	32.0	3-23200
G 2	11	160	40	45,0	35,0	3-23200

Einsatzgebiete:

für Durchgangs- und Sacklochgewinde in Stählen bis 900 N/mm² Festigkeit

Materials:

for through and blind holes in steels up to 900 N/mm² tensile strength



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

MASCHINENGEWINDEBOHRER MACHINE TAPS

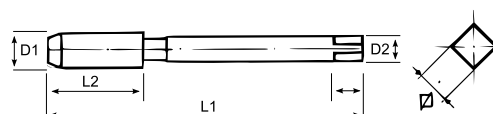
DIN 371

FORM B

HSS-Co5%
M35METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- mit Schälanschnitt Form B
- mit verstärktem Schaft
- metric ISO-fine thread DIN 13
- with spiral point form B
- with reinforced shank

INFOBOX



Art.-Nr.: 3-24010 / 3-24010 TiN

Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	56	11	3,5	2,7	3-24010
M4	0,70	63	13	4,5	3,4	3-24010
M5	0,80	70	16	6,0	4,9	3-24010
M6	1,00	80	19	6,0	4,9	3-24010
M8	1,25	90	22	8,0	6,2	3-24010
M10	1,50	100	24	10,0	8,0	3-24010
Set	M3-M12					3-24010

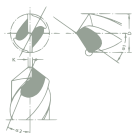
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	56	11	3,5	2,7	3-24010 TiN
M4	0,70	63	13	4,5	3,4	3-24010 TiN
M5	0,80	70	16	6,0	4,9	3-24010 TiN
M6	1,00	80	19	6,0	4,9	3-24010 TiN
M8	1,25	90	22	8,0	6,2	3-24010 TiN
M10	1,50	100	24	10,0	8,0	3-24010 TiN
Set	M3-M12					3-24010 TiN

Einsatzgebiete:

für Durchgangslöcher in Stählen bis 900 N/mm² Festigkeit, in langspanenden Werkstoffen

Materials:

for through holes in steels up to 900 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik



MASCHINENGEWINDEBOHRER MACHINE TAPS

DIN 371

FORM C

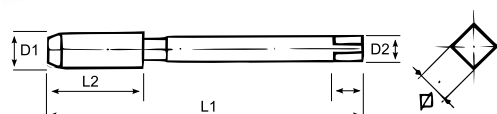
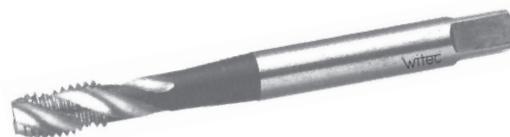
35°

HSS-Co5%
M35

METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- rechtsgenutet 35° Form C
- mit verstärktem Schaft
- metric ISO-fine thread DIN 13
- with 35° spiral flutes form C
- with reinforced shank

INFOBOX



Art.-Nr.: 3-24021

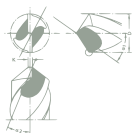
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	56	11	3,5	2,7	3-24021
M4	0,70	63	13	4,5	3,4	3-24021
M5	0,80	70	16	6,0	4,9	3-24021
M6	1,00	80	19	6,0	4,9	3-24021
M8	1,25	90	22	8,0	6,2	3-24021
M10	1,50	100	24	10,0	8,0	3-24021
Set	M3-M12					3-24021

Einsatzgebiete:

für Durchgangs- und Sacklochgewinde in Stählen bis 1000 N/mm² Festigkeit, in langspanenden Werkstoffen

Materials:

for through and blind holes in steels up to 1000 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

MASCHINENGEWINDEBOHRER MACHINE TAPS

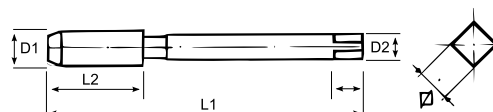
DIN 376

FORM B

HSS-Co5%
M35METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- mit Schälanschnitt Form B
- metric ISO-fine thread DIN 13
- with spiral point form B

INFOBOX



Art.-Nr.: 3-24100 / 3-24100 TiN

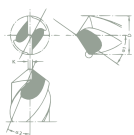
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	56	11	2,2	-	3-24100 / 3-24100 TiN
M4	0,70	63	13	2,8	2,1	3-24100 / 3-24100 TiN
M5	0,80	70	16	3,5	2,7	3-24100 / 3-24100 TiN
M6	1,00	80	19	4,5	3,4	3-24100 / 3-24100 TiN
M8	1,25	90	22	6,0	4,9	3-24100 / 3-24100 TiN
M10	1,50	100	24	7,0	5,5	3-24100 / 3-24100 TiN
M12	1,75	110	29	9,0	7,0	3-24100 / 3-24100 TiN
M14	2,00	110	30	11,0	9,0	3-24100 / 3-24100 TiN
M16	2,00	110	32	12,0	9,0	3-24100 / 3-24100 TiN
M18	2,50	125	34	14,0	11,0	3-24100 / 3-24100 TiN
M20	2,50	140	34	16,0	12,0	3-24100 / 3-24100 TiN
M22	2,50	140	34	18,0	14,5	3-24100 / 3-24100 TiN
M24	3,00	160	38	18,0	14,5	3-24100 / 3-24100 TiN
M27	3,00	160	38	20,0	16,0	3-24100 / 3-24100 TiN
M30	3,50	180	45	22,0	18,0	3-24100 / 3-24100 TiN
Set	M3-M12					3-24100

Einsatzgebiete:

für Durchgangslöcher in Stählen bis 900 N/mm² Festigkeit, in langspanenden Werkstoffen

Materials:

for through holes in steels up to 900 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik



MASCHINENGEWINDEBOHRER MACHINE TAPS

DIN 376

FORM C

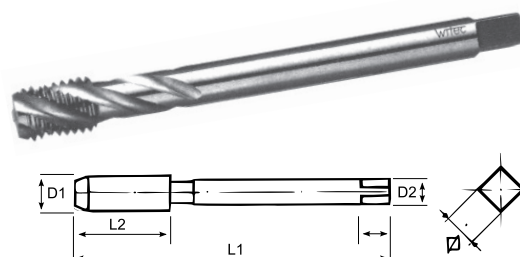
35°

HSS-Co5%
M35

METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- rechtsgenutet 35° Form C
- metric ISO-fine thread DIN 13
- with 35° spiral flutes form C

INFOBOX



Art.-Nr.: 3-24102

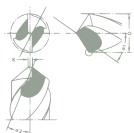
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	56	6	2,2	-	3-24102
M4	0,70	63	7	2,8	2,1	3-24102
M5	0,80	70	8	3,5	2,7	3-24102
M6	1,00	80	10	4,5	3,4	3-24102
M8	1,25	90	14	6,0	4,9	3-24102
M10	1,50	100	16	7,0	5,5	3-24102
M12	1,75	110	18	9,0	7,0	3-24102
M14	2,00	110	20	11,0	9,0	3-24102
M16	2,00	110	22	12,0	9,0	3-24102
M18	2,50	125	25	14,0	11,0	3-24102
M20	2,50	140	25	16,0	12,0	3-24102
M22	2,50	140	27	18,0	14,5	3-24102
M24	3,00	160	30	18,0	14,5	3-24102
M27	3,00	160	30	20,0	16,0	3-24102
M30	3,50	180	35	22,0	18,0	3-24102
Set	M3-M12					3-24102

Einsatzgebiete:

für Durchgangs- und Sacklochgewinde in Stählen bis 1000 N/mm² Festigkeit, in langspanenden Werkstoffen

Materials:

for through and blind holes in steels up to 1000 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik

MASCHINENGEWINDEBOHRER MACHINE TAPS

DIN 371

FORM B

HSS
M2METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- mit Schälanschnitt Form B
- mit verstärktem Schaft
- metric ISO-fine thread DIN 13
- with spiral point form B
- with reinforced shank

INFOBOX



Art.-Nr.: 3-25010

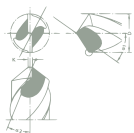
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	56	11	3,5	2,7	3-25010
M4	0,70	63	13	4,5	3,4	3-25010
M5	0,80	70	16	6,0	4,9	3-25010
M6	1,00	80	19	6,0	4,9	3-25010
M8	1,25	90	22	8,0	6,2	3-25010
M10	1,50	100	24	10,0	8,0	3-25010

Einsatzgebiete:

für Durchgangslöcher in Stählen bis 800 N/mm² Festigkeit, in langspanenden Werkstoffen

Materials:

for through holes in steels up to 800 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik

MASCHINENGEWINDEBOHRER MACHINE TAPS

DIN 371

FORM C

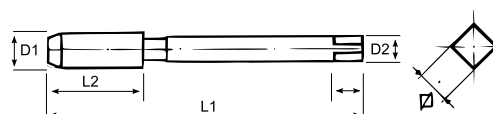
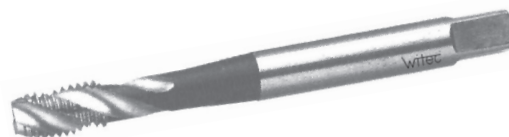
35°

HSS
M2

METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- rechtsgenutet 35° Form C
- mit verstärktem Schaft
- metric ISO-fine thread DIN 13
- with 35° spiral flutes form C
- with reinforced shank

INFOBOX



Art.-Nr.: 3-25021

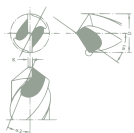
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	56	11	3,5	2,7	3-25021
M4	0,70	63	13	4,5	3,4	3-25021
M5	0,80	70	16	6,0	4,9	3-25021
M6	1,00	80	19	6,0	4,9	3-25021
M8	1,25	90	22	8,0	6,2	3-25021
M10	1,50	100	24	10,0	8,0	3-25021

Einsatzgebiete:

für Durchgangs- und Sacklochgewinde in Stählen bis 800 N/mm² Festigkeit,
in langspanenden Werkstoffen

Materials:

for through and blind holes in steels up to 800 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik



MASCHINENGEWINDEBOHRER

MACHINE TAPS

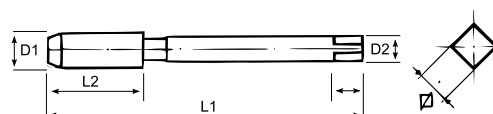
DIN 376

FORM B

HSS
M2METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- mit Schälanschnitt Form B
- metric ISO-fine thread DIN 13
- with spiral point form B

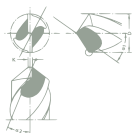
INFOBOX



Art.-Nr.: 3-25100

Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	56	11	2,2	-	3-25100
M4	0,70	63	13	2,8	2,1	3-25100
M5	0,80	70	16	3,5	2,7	3-25100
M6	1,00	80	19	4,5	3,4	3-25100
M8	1,25	90	22	6,0	4,9	3-25100
M10	1,50	100	24	7,0	5,5	3-25100
M12	1,75	110	29	9,0	7,0	3-25100
M14	2,00	110	30	11,0	9,0	3-25100
M16	2,00	110	32	12,0	9,0	3-25100
M18	2,50	125	34	14,0	11,0	3-25100
M20	2,50	140	34	16,0	12,0	3-25100

Einsatzgebiete:für Durchgangslöcher in Stählen bis 800 N/mm² Festigkeit, in langspanenden Werkstoffen**Materials:**for through holes in steels up to 800 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik



MASCHINENGEWINDEBOHRER MACHINE TAPS

DIN 376

FORM C

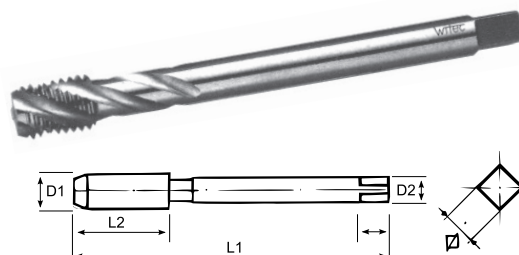
35°

HSS
M2

METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- rechtsgenutet 35° Form C
- metric ISO-fine thread DIN 13
- with 35° spiral flutes form C

INFOBOX



Art.-Nr.: 3-25102

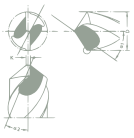
Ø D1	Steigung Pitch mm	L1 mm	L2 mm	D2 mm	vkt. square mm	Art.-Nr.
M3	0,50	56	11	2,2	-	3-25102
M4	0,70	63	13	2,8	2,1	3-25102
M5	0,80	70	16	3,5	2,7	3-25102
M6	1,00	80	19	4,5	3,4	3-25102
M8	1,25	90	22	6,0	4,9	3-25102
M10	1,50	100	24	7,0	5,5	3-25102
M12	1,75	110	29	9,0	7,0	3-25102
M14	2,00	110	30	11,0	9,0	3-25102
M16	2,00	110	32	12,0	9,0	3-25102
M18	2,50	125	34	14,0	11,0	3-25102
M20	2,50	140	34	16,0	12,0	3-26116

Einsatzgebiete:

für Durchgangs- und Sacklochgewinde in Stählen bis 800 N/mm² Festigkeit,
in langspanenden Werkstoffen

Materials:

for through and blind holes in steels up to 800 N/mm² tensile strength, in longchipping materials



Werkzeug- und Industrietechnik



KOMBIGEWINDEBOHRER COMBINED TAPS

DIN 13

FORM C

KOMBI

HSS-E

METRISCH
METRIC

- metrisches ISO-Gewinde DIN 13
- Kombigewindebohrer
- metric ISO-fine thread DIN 13
- combined taps



Art.-Nr.: 3-27370 / 3-27370TiN

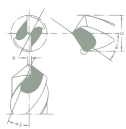
Ø	L1 mm	S1 mm	L2 mm	D1 mm	D2 mm	□ mm	Art.-Nr.
M3	56	16	11	2,5	3,0	2,4	3-27370 / 3-27370 TiN
M4	63	18	14	3,3	4,0	3,0	3-27370 / 3-27370 TiN
M5	71	20	18	4,2	5,0	3,8	3-27370 / 3-27370 TiN
M6	80	22	22	5,0	6,0	4,9	3-27370 / 3-27370 TiN
M8	95	26	25	6,8	8,0	6,2	3-27370 / 3-27370 TiN
M10	106	30	31	8,5	10,0	8,0	3-27370 / 3-27370 TiN
M12	115	32	35	10,2	12,0	9,0	3-27370 / 3-27370 TiN
Set M3 - M12							3-27370 / 3-27370 TiN

Einsatzgebiete:

für die Bearbeitung von Stählen, NE-Metallen und Kunststoffen bis 600 N/mm² Festigkeit

Materials:

for processing of steels, NE-metals and plastics up to 800 N/mm² tensile strength

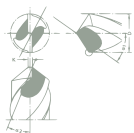


Werkzeug- und Industrietechnik



WERKZEUGHALTER TOOL HOLDERS

Art.-Nr.		Seite Page
3-90001	Verstellbare Windeisen, DIN 1814 Adjustable Tap Wrenches, DIN 1814	111
3-90002	Schneideisenhalter, DIN 225 Die Stock, DIN 225	111
3-90003	Werkzeughalter mit Knarre Tap Wrench with Ratches	111
3-90004	Gewindebohrer Verlängerungen, DIN 377 Extension Sleeves for Taps, DIN 377	112
3-90005	Reduzierhülsen, DIN 2185 Adaptor Sleeves, DIN 2185	112
3-90006	Austreiber, DIN 228 Drill Drifts, DIN 228	112



Werkzeug- und Industrietechnik



VERSTELLBARE WINDEISEN DIN 1814 ADJUSTABLE TAP WRENCHES DIN 1814

Nr. No.	Abmessung Size	Art.-Nr.
Gr.0	M1-M8	3-90001
Gr.1	M1-M10	3-90001
Gr.1.1/2	M1-M12	3-90001
Gr. 2	M3,5-M12	3-90001
Gr. 3	M5-M20	3-90001
Gr. 4	M11-M27	3-90001
Gr. 5	M13-M32	3-90001



Art.-Nr.: 3-90001

SCHNEIDEISENHALTER DIN 225

zur direkten Aufnahme von Schneideisen nach DIN 223/5158, DIN EN 22568, DIN EN 24230, DIN EN 24231

DIE STOCKS DIN 225

for direct application of dies DIN 223 without capsule

Abmessung Size mm	Art.-Nr.
16x5	3-90002
20x5	3-90002
20x7	3-90002
25x9	3-90002
30x11	3-90002
38x10	3-90002
38x14	3-90002
45x14	3-90002
45x18	3-90002
55x22	3-90002
65x18	3-90002
65x25	3-90002
75x30	3-90002
90x36	3-90002



Art.-Nr.: 3-90002

WERKZEUGHALTER MIT KNARRE

für Rechts- und Linksgang

TAP WRENCHES WITH RATCHES

for right- and left-hand turn

kurze Ausführung

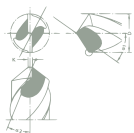
Abmessung Size	Art.-Nr.
No. 1	3-90003
No. 2	3-90003

lange Ausführung

Abmessung Size	Art.-Nr.
No. 10	3-90003
No. 20	3-90003



Art.-Nr.: 3-90003



GEWINDEBOHRER VERLÄNGERUNGEN DIN 377

EXTENSION SLEEVES FOR TAPS DIN 377



Art.-Nr.: 3-90004

Abmessung Size	L1 mm	HGB DIN 352	Art.-Nr.
2,10	60	M1-2,6	3-90004
2,40	70		3-90004
2,70	80	M3	3-90004
3,00	90	M3,5	3-90004
3,40	95	M4	3-90004
3,80	100		3-90004
4,30	105		3-90004
4,90	110	M4,5-8	3-90004
5,50	115	M9-10	3-90004
6,20	120	M11	3-90004
7,00	125	M12	3-90004
8,00	125		3-90004
9,00	130	M14-16	3-90004

Abmessung Size	L1 mm	HGB DIN 352	Art.-Nr.
10,00	140		3-90004
11,00	150	M18	3-90004
12,00	155	M20	3-90004
13,00	165		3-90004
14,50	175	M22-24	3-90004
16,00	180	M27	3-90004
18,00	200	M30	3-90004
20,00	220	M33	3-90004
22,00	220	M36	3-90004
24,00	235	M39-42	3-90004
26,00	250		3-90004
29,00	265	M45-48	3-90004
32,00	285	M52	3-90004

Abmessung Size	Art.-Nr.
2x1	3-90005
3x1	3-90005
3x2	3-90005
4x1	3-90005
4x2	3-90005
4x3	3-90005
5x3	3-90005
5x4	3-90005

REDUZIERHÜLSEN DIN 2185

INNEN MK X AUSSEN MK

ADAPTOR SLEEVES DIN 2185

INSIDE-MORSETAPER X OUTSIDE-MORSETAPER



Art.-Nr.: 3-90005

Abmessung Size	Ø L1 mm	Art.-Nr.
MK1	140	3-90006
MK2	140	3-90006
MK3	190	3-90006
MK4	225	3-90006
MK5	265	3-90006
MK6	265	3-90006

AUSTREIBER DIN 228

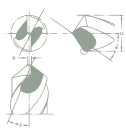
gehärtet für Werkzeugkegel DIN 228

DRILL DRIFTS DIN 228

hardened for cone chuck DIN 228



Art.-Nr.: 3-90006

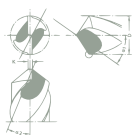


Werkzeug- und Industrietechnik



VHM ROTORFRÄSER SOLID CARBIDE ROTOR-BURRS

Art.-Nr.		Seite Page
3-38101	VHM Rotorfräser, Typ ZYA, 6 mm Schaft Solid Carbide Rotor-Burrs, Type ZYA, 6 mm Shank	113
3-38102	VHM Rotorfräser, Typ WRC, 6 mm Schaft Solid Carbide Rotor-Burrs, Type WRC, 6 mm Shank	113
3-38103	VHM Rotorfräser, Typ KUD, 6 mm Schaft Solid Carbide Rotor-Burrs, Type KUD, 6 mm Shank	114
3-38104	VHM Rotorfräser, Typ RBF, 6 mm Schaft Solid Carbide Rotor-Burrs, Type RBF, 6 mm Shank	114
3-38105	VHM Rotorfräser, Typ SPG, 6 mm Schaft Solid Carbide Rotor-Burrs, Type SPG, 6 mm Shank	115
3-38106	VHM Rotorfräser, Typ SKM, 6 mm Schaft Solid Carbide Rotor-Burrs, Type SKM, 6 mm Shank	115
3-38198	VHM Rotorfräser Satz, 8-teilig, extra lang, 6 mm Schaft, blank Solid Carbide Rotor-Burs Set, 8 Pcs., extra long, 6 mm Shank, bright finished	116
3-38199	VHM Rotorfräser Satz, 10-teilig, extra lang, 3 mm Schaft, blank Solid Carbide Rotor-Burrs Set, 10 Pcs., extra long, 3 mm Shank, bright finished	116



Werkzeug- und Industrietechnik



VHM ROTORFRÄSER SOLID CARBIDE ROTOR-BURRS

ZYLINDERFORM
CYLINDRICAL SHAPE

Z3K
ALU

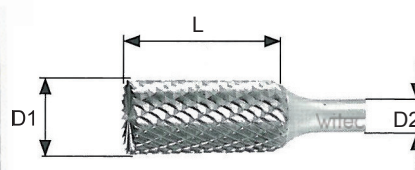
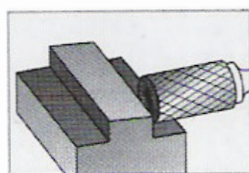
VHM
SOLID CARBIDE

Typ ZYA-S
Type ZYA-S

Typ Z3K - Universalzahnung / Type Z3K - Universal teeth
Typ ALU / Type ALU

Art.-Nr.: 3-38101

Ø D1 mm Kopf Head	Ø L mm Kopflänge Head length	Ø D2 mm Schaft Shank	Zahnung Teeth mm	Art.-Nr.
3,0	13	3	Z3K	3-38101
6,0	16	6	Z3K	3-38101
8,0	20	6	Z3K	3-38101
10,0	20	6	Z3K	3-38101
12,0	25	6	Z3K	3-38101
16,0	25	6	Z3K	3-38101
6,0	16	6	ALU	3-38101
12,0	25	6	ALU	3-38101



WALZENRUND FORM
BALL NOSED
CYLINDRICAL SHAPE

Z3K
ALU

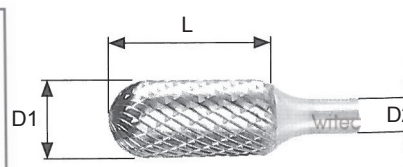
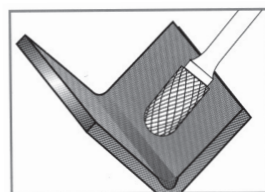
VHM
SOLID CARBIDE

Typ WRC
Type WRC

Typ Z3K - Universalzahnung / Type Z3K - Universal teeth
Typ ALU / Type ALU

Art.-Nr.: 3-38102

Ø D1 mm Kopf Head	Ø L mm Kopflänge Head length	Ø D2 mm Schaft Shank	Zahnung Teeth mm	Art.-Nr.
3,0	13	3	Z3K	3-38102
6,0	16	6	Z3K	3-38102
8,0	20	6	Z3K	3-38102
10,0	20	6	Z3K	3-38102
12,0	25	6	Z3K	3-38102
16,0	25	6	Z3K	3-38102
6,0	16	6	ALU	3-38102
12,0	25	6	ALU	3-38102



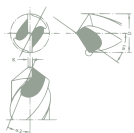
Material:		Steel 60 HRC	Steel 65 HRC	Inox <900 N	Inox >900 N	Ti >800 N	GG (G) Cast	Hardox Inconel
		-	-	•	•	•	•	•
Z3K ALU	ALU 99,5%	ALU <10% Si	ALU Guss/Cast	Steel <500 N	Steel <750 N	Steel <900 N	Steel <1100 N	Steel 45 HRC
Z3K ALU	•	•	•	•	•	•	•	•

Einsatzgebiete:

für allgemeine Arbeiten, Stahlguß, Stähle mit hoher Festigkeit, zum Entgraten, Fasen,
Kantenbrechen, saubere Oberflächen

Materials:

to work in steel cast, hard steels, for deburring, chamfering edge, breaking, clean surface



Werkzeug- und Industrietechnik

Risto
Reparatur- und
Instandhaltung

VHM ROTORFRÄSER SOLID CARBIDE ROTOR-BURRS

KUGEL FORM
BALL SHAPE

Z3K
ALU

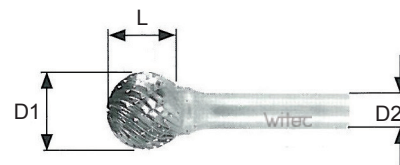
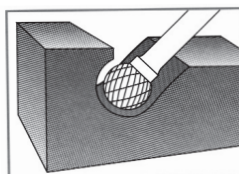
VHM
SOLID CARBIDE

TYP KUD
TYPE KUD

Typ Z3K - Universalzahnung / Type Z3K - Universal teeth
Typ ALU / Type ALU

Art.-Nr.: 3-38103

Ø D1 mm Kopf Head	Ø L mm Kopflänge Head length	Ø D2 mm Schaft Shank	Zahnung Teeth mm	Art.-Nr.
3,0	2	3	Z3K	3-38103
6,0	5	6	Z3K	3-38103
8,0	7	6	Z3K	3-38103
10,0	9	6	Z3K	3-38103
12,0	10	6	Z3K	3-38103
16,0	14	6	Z3K	3-38103
6,0	7	6	ALU	3-38103
12,0	10	6	ALU	3-38103



RUNDBOGEN FORM
BALL NOSED
TREE SHAPE

Z3K
ALU

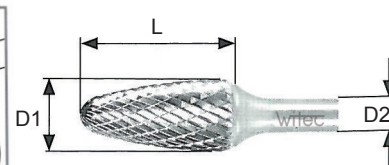
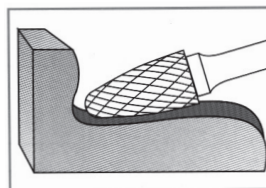
VHM
SOLID CARBIDE

TYP RBF
TYPE RBF

Typ Z3K - Universalzahnung / Type Z3K - Universal teeth
Typ ALU / Type ALU

Art.-Nr.: 3-38104

Ø D1 mm Kopf Head	Ø L mm Kopflänge Head length	Ø D2 mm Schaft Shank	Zahnung Teeth mm	Art.-Nr.
3,0	7	3	Z3K	3-38104
6,0	18	6	Z3K	3-38104
8,0	20	6	Z3K	3-38104
10,0	20	6	Z3K	3-38104
12,0	25	6	Z3K	3-38104
16,0	30	6	Z3K	3-38104
6,0	18	6	ALU	3-38104
12,0	25	6	ALU	3-38104



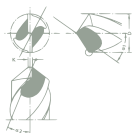
Material:		Steel 60 HRC	Steel 65 HRC	Inox <900 N	Inox >900 N	Ti >800 N	GG (G) Cast	Hardox Inconel
Z3K ALU		-	-	•	•	•	•	•
	ALU 99,5%	ALU <10% Si	ALU Guss/Cast	Steel <500 N	Steel <750 N	Steel <900 N	Steel <1100 N	Steel 45 HRC
Z3K ALU	•	•	•	•	•	•	•	•

Einsatzgebiete:

für allgemeine Arbeiten, Stahlguß, Stähle mit hoher Festigkeit, zum Entgraten, Fasen,
Kantenbrechen, saubere Oberflächen

Materials:

to work in steel cast, hard steels, for deburring, chamfering edge, breaking, clean surface



Werkzeug- und Industrietechnik



VHM ROTORFRÄSER SOLID CARBIDE ROTOR-BURRS

SPITZBOGEN FORM
TREE SHAPE

Z3K
ALU

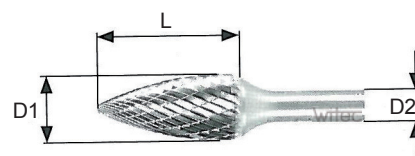
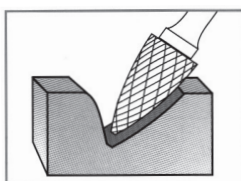
VHM
SOLID CARBIDE

TYP SPG
TYPE SPG

Typ Z3K - Universahlzahnung / Type Z3K - Universal teeth
Typ ALU / Type ALU

Art.-Nr.: 3-38105

Ø D1 mm Kopf Head	Ø L mm Kopflänge Head length	Ø D2 mm Schaft Shank	Zahnung Teeth mm	Art.-Nr.
3,00	13	3	Z3K	3-38105
6,00	18	6	Z3K	3-38105
10,0	20	6	Z3K	3-38105
12,0	25	6	Z3K	3-38105
16,0	30	6	Z3K	3-38105
6,0	18	6	ALU	3-38105
12,0	25	6	ALU	3-38105



SPITZKEGEL FORM
CONE SHAPE

Z3K
ALU

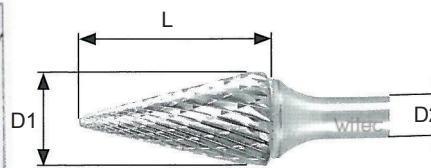
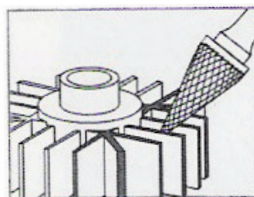
VHM
SOLID CARBIDE

TYP SKM
TYPE SKM

Typ Z3K - Universahlzahnung / Type Z3K - Universal teeth
Typ ALU / Type ALU

Art.-Nr.: 3-38106

Ø D1 mm Kopf Head	Ø L mm Kopflänge Head length	Ø D2 mm Schaft Shank	Zahnung Teeth mm	Art.-Nr.
3,00	11	3	Z3K	3-38106
6,00	18	6	Z3K	3-38106
10,0	20	6	Z3K	3-38106
12,0	25	6	Z3K	3-38106
6,0	18	6	ALU	3-38106
12,0	25	6	ALU	3-38106



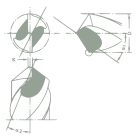
Material:		Steel 60 HRC	Steel 65 HRC	Inox <900 N	Inox >900 N	Ti >800 N	GG (G) Cast	Hardox Inconel
Z3K ALU		-	-	•	•	•	•	•
Z3K ALU	ALU 99,5%	ALU <10% Si	ALU Guss/Cast	Steel <500 N	Steel <750 N	Steel <900 N	Steel <1100 N	Steel 45 HRC
	•	•	•	•	•	•	•	•

Einsatzgebiete:

für allgemeine Arbeiten, Stahlguß, Stähle mit hoher Festigkeit, zum Entgraten, Fasen, Kantenbrechen, saubere Oberflächen

Materials:

to work in steel cast, hard steels, for deburring, chamfering edge, breaking, clean surface



Werkzeug- und Industrietechnik



VHM ROTORFRÄSER SÄTZE SOLID CARBIDE ROTOR-BURRS SETS

8-teilig im Kunststoffkoffer, 6 mm Schaft, blank
8 Pcs. in plastic case, 6 mm shank, extra long, bright finished



Art.-Nr.: 3-38198

Typ Z3 - Universahlzahnung / Type Z3 - Universal teeth

Typ Type	Ø D1 mm Kopf Head	Ø L mm Kopf Head	L1 mm	D2 mm	Art.-Nr.	Typ Type	Ø D1 mm Kopf Head	Ø L mm Kopf Head	L1 mm	D2 mm	Art.-Nr.
ZYA	10	20	64	6	3-38151	RBF	10	20	64	6	3-38104
ZYA-S	10	20	64	6	3-38101	SKM	6	20	51	6	3-38106
WRC	10	20	64	6	3-38102	KUD	10	10	52	6	3-38103
SPG	10	20	64	6	3-38105	KEL	10	27	71	6	3-38161

10-teilig im Kunststoffkoffer, 3 mm Schaft, extra lang, blank
10 Pcs. in plastic case, 3 mm shank, extra long, bright finished



Art.-Nr.: 3-38199

Typ Z3 - Universahlzahnung / Type Z3 - Universal teeth

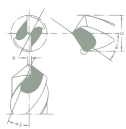
Typ Type	Ø D1 mm Kopf Head	Ø L mm Kopf Head	L1 mm	D2 mm	Art.-Nr.	Typ Type	Ø D1 mm Kopf Head	Ø L mm Kopf Head	L1 mm	D2 mm	Art.-Nr.
ZYA	3	13	38	3	3-38151	HMB	3	6	38	3	3-38178
WRC	3	13	38	3	3-38102	KEL	3	13	38	3	3-38181
SPG	3	8	38	3	3-38105	KUD	3,2	3,2	38	3	3-38103
RBF	3	13	38	3	3-38104	WKN	3	3	38	3	3-38183
TRE	3	6	38	3	3-38175	SKM	3	13	38	3	3-38106

Einsatzgebiete:

für allgemeine Arbeiten, Stahlguß, Stähle mit hoher Festigkeit, zum Entgraten, Fasen, Kantenbrechen, saubere Oberflächen

Materials:

to work in steel cast, hard steels, for deburring, chamfering edge, breaking, clean surface

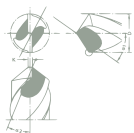


Werkzeug- und Industrietechnik



VHM FLIESSLOCHBOHRER SOLID CARBIDE FRICTION DRILLS

Art.-Nr.		Seite Page
1-10052	VHM Fließlochbohrer für Verformung mit selbstzentrierender Spitze Solid Carbide Friction Drill for forming with self centering tip	117 - 118
1-10053	VHM Fließlochbohrer zum Schneiden mit selbstzentrierender Spitze Solid Carbide Friction Drill for cutting with self centering tip	117 - 118



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

117

VHM FLIESSLOCHBOHRER MIT ZENTRIERSPITZE SOLID CARBIDE FRICTION DRILLS WITH CENTERING TIP

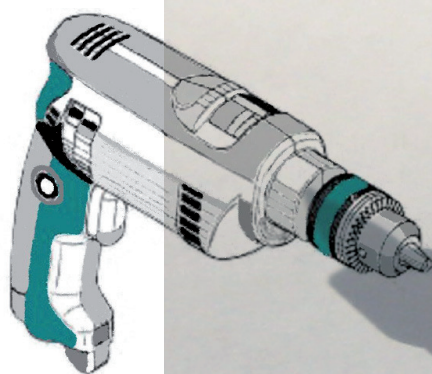
- zum Schneiden und für Verformung
- Norm kurz und lang
- für die Herstellung von Fließlöchern
- mit oder ohne Kragen
- mit Zentrierspitze
- zum Einsatz auf Handbohrmaschinen

- type forming and cutting
- short and long
- to produce flow holes
- with or without collar
- with centering tip
- application hand drilling machines

INFOBOX

Art.-Nr.: 1-10052 / 1-10053

Hergestellt in Deutschland 



Die Neue Generation!

The New Generation!

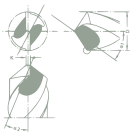
witec Fliesslochbohrer für die Handbohrmaschine
witec friction drill for the hand machine



Einsatzgebiete: in dünnwandigen metallischen Werkstoffen
Materials: for thin-walled metallic materials

Hergestellt in Deutschland
Made in Germany





Werkzeug- und Industrietechnik



metrisches ISO-Gewinde metric ISO-thread



Gewinde thread	Ø mm	Materialstärke thickness mm	Art-Nr.	
			ohne Schneide without cutter	mit Schneide with cutter
M4 K(S) / L	3,7	1,3	1-10052	1-10053
M5 K(S) / L	4,5	1,3	1-10052	1-10053
M6 K(S) / L	5,4	2,0	1-10052	1-10053
M8 K(S) / L	7,3	2,0	1-10052	1-10053
M8 K(S) / L	7,4	2,0	1-10052	1-10053
M4 K(S) / L	1-10052/-3+27200 TiN	Set	1-10052	1-10053
M5 K(S) / L	1-10052/-3+27200 TiN	Set	1-10052	1-10053
M6 K(S) / L	1-10052/-3+27200 TiN	Set	1-10052	1-10053
M8 K(S) / L	1-10052/-3+27200 TiN	Set	1-10052	1-10053

Art.-Nr.: 1-10052
Typ Verformung
Type forming



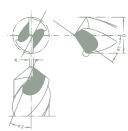
Art.-Nr.: 1-10053
Typ Schneide
Type cutting



Zubehör / Accessories			Art.-Nr.
Kühlfutter / Cooling chuck			
MK 2	ER25	4-16 mm	3-90008
MK 3	ER32	2-20 mm	3-90008
Trennpaste / Cutting paste 100 g			3-90500

TECHNISCHE DATEN / TECHNICAL DATA

Drehzahl für die Fließlochbohrer Anwendung RPM for the friction drill application			Drehzahl für die Gewindeformer Anwendung RPM for cold forming tap application	
M4 k	min 3.000	max 4.000	M4	1100
M5 k	min 3.000	max 4.000	M5	900
M6 k	min 3.000	max 4.000	M6	800
M8 k	min 3.000	max 4.000	M8	600
Auszugskräfte (Ausreißen des Gewindes) Pull out strength			Sicherheitshinweis Safety indication	
ISO Metrisch Metric	Materialstärke mm Material thickness mm	kN Kilo Newton	Schutzbrille während der Anwendung tragen. Fließbohrer und Werkstück sind nach der Bearbeitung sehr heiß. Abkühlungsprozess abwarten, Schutzhandschuhe tragen. Please wear safety glasses during the application. Friction drill and work piece are very hot after working. Please wait for cooling down the tools and wear protective gloves.	
M4	1,0	5 - 6		
	2,0	8 - 9		
M5	1,0	8 - 10		
	1,5	11 - 13		
	2,0	14 - 15		
M6	1,5	12 - 16		
	2,0	16 - 17		
M8	2,0	22 - 27		

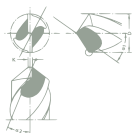


Werkzeug- und Industrietechnik



WERKZEUGE MIT 1/4" BIT-AUFNAHME CUTTING TOOLS WITH 1/4" HEXAGON SHANK

Art.-Nr.		Seite Page
3-18188BIT	Spiralbohrer, HSS, 118°, NX, 1/4" Bit-Aufnahme, blank Screw Machine Drill, HSS, 118°, NX, 1/4" Hexagon Shank, bright finished	119
3-19089BIT	Kegel- und Engratsenker, HSS, C, 90°, geschliffen, 1/4" Schaft DIN 335, blank Countersink, HSS, C, 90°, grinded, 1/4" Shank, DIN 335, bright finished	120
3-19188BIT	Stufenblechschälbohrer, HSS, C, 90°, geschliffen, 1/4" Schaft DIN 335, blank Sheet Metal Step Drills, HSS, C, 90°, grinded, 1/4" shank, DIN 335, bright finished	121
3-27088BIT	Einschnittgewindebohrer, HSS, metrisch, 1/4" Schaft Short Hand Tap, HSS, metric, 1/4" Shank	122
3-27672BIT	Kombi-Bits, HSS-G, metrisch, 1/4" Schaft, blank Combined Bits, HSS-G, metric, 1/4" Shank, bright finished	122
3-18028BIT	Flachfräser mit 1/4" Bit-Aufnahme, DIN 3126-E 6,3 Machine Flat Bit with 1/4" Hexagon Shank, DIN 3126-E 6,3	123
3-90007BIT	Universalwerkzeughalter, 1/4" Schaft, blank UNI Tool Holder, 1/4" shank, bright finished	123



Werkzeug- und Industrietechnik



SPIRALBOHRER 1/4" BIT-AUFNAHME SCREW MACHINE DRILLS 1/4" HEXAGON SHANK

1/4"

HSS
M2

N

118°

GESCHLIFFEN
GRINDED

- 1/4" Bitschaft Antrieb (DIN 3126)
- geschliffen
- Winkel 118°
- für Handmaschinen
- zum Einsatz in der Mischbearbeitung
- blank

INFOBOX

- 1/4" hexagonal shank (DIN 3126)
- grinded
- angle 118°
- for hand machines
- to use in multi purpose working field
- bright finished



Art.-Nr.: 3-18188BIT

blank / bright finished

Ø D1 mm	L1 mm	L2 mm	D2 mm	Art.-Nr.
1,50	32	10	1/4"	3-18188BIT
2,00	34	12	1/4"	3-18188BIT
2,50	36	14	1/4"	3-18188BIT
3,00	38	16	1/4"	3-18188BIT
3,30	40	18	1/4"	3-18188BIT
3,50	40	18	1/4"	3-18188BIT
4,00	44	20	1/4"	3-18188BIT
4,20	45	20	1/4"	3-18188BIT
4,50	46	24	1/4"	3-18188BIT
5,00	50	26	1/4"	3-18188BIT
5,50	50	26	1/4"	3-18188BIT

Ø D1 mm	L1 mm	L2 mm	D2 mm	Art.-Nr.
6,00	50	26	1/4"	3-18188BIT
6,50	50	30	1/4"	3-18188BIT
6,80	50	30	1/4"	3-18188BIT
7,00	50	30	1/4"	3-18188BIT
7,50	51	32	1/4"	3-18188BIT
8,00	51	32	1/4"	3-18188BIT
8,50	53	33	1/4"	3-18188BIT
9,00	53	33	1/4"	3-18188BIT
9,50	54	33	1/4"	3-18188BIT
10,00	54	38	1/4"	3-18188BIT
10,20	54	38	1/4"	3-18188BIT

Satz / Set

Ø mm	D2 mm	Art.-Nr.
2,0 - 2,5 - 3,0 - 4,0 - 5,0 - 6,0 - 8,0	1/4"	3-18188BIT

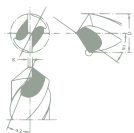


Einsatzgebiete:

N, W, VA, GG (bis GG40) und hochlegierte Materialien bis 1200 N/mm²

Materials:

N, W, INOX, GG (bis GG40) and high alloyed materials up to 1200 N/mm²



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

KEGEL- UND ENTGRATSSENKER 1/4" BIT-AUFNAHME COUNTERSINKS 1/4" HEXAGON SHANK

DIN 335

HSS
M2

C

90°

GESCHLIFFEN
GRINDED

- 1/4" Bitschaft Antrieb (DIN 3126)
- geschliffen
- 3 Schneiden, 90°
- für Handmaschinen
- zum Einsatz in der Mischbearbeitung
- blank

INFOBOX

- 1/4" hexagonal shank (DIN 3126)
- grinded
- 3 cutters, 90°
- for hand machines
- to use in multi purpose working field
- bright finished



Art.-Nr.: 3-19089BIT

blank / bright finished

Ø D1 mm	M mm	L mm	SW Shank	Art.-Nr.
6.3	M3	31	1/4"	3-19089BIT
8.3	M4	31	1/4"	3-19089BIT
10.4	M5	34	1/4"	3-19089BIT
12.4	M6	35	1/4"	3-19089BIT
16.5	M8	40	1/4"	3-19089BIT
20.5	M10	41	1/4"	3-19089BIT

Sätze / Sets

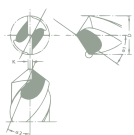
Ø mm	Art.-Nr.
6,3 - 8,3 - 10,4 - 12,4 - 16,5 - 20,5	3-19089BIT
+ Universalhalter 825-25 + Bohrpaste + Handgriff 1/4" „Innensechskant-Aufnahme“	

**Einsatzgebiete:**

in allen gängigen Industriematerialien

Materials:

for all common industrial materials



Werkzeug- und Industrietechnik

STUFENBLECHSCHÄLBOHRER 1/4" BIT-AUFNAHME SHEET METAL STEP DRILLS 1/4" HEXAGON SHANK

WITEC NORM

HSS
M2

GESCHLIFFEN
GRINDED

- 1/4" Bitschaft Antrieb (DIN 3126)
- geschliffen, Kreuzanschliff
- 2 Schneiden, 90°
- für Handmaschinen
- zum Einsatz in der Mischbearbeitung
- blank
- 1/4" hexagonal shank (DIN 3126)
- grinded, split-point
- 2 cutters, 90°
- for hand machines
- to use in multi purpose working field
- bright finished

INFOBOX



Art.-Nr.: 3-19188BIT

blank / bright finished

Ø mm	Stufe Step	GL mm	Schaft Ø	Schaft ↔	Art.-Nr.
4-12	5	72	6,35	27	3-19188BIT
4-20	4	81	6,35	27	3-19188BIT
4-30	4	105	6,35	27	3-19188BIT



Sätze / Sets

Ø mm	Art.-Nr.
4-12 - 4-20 - 6-30	3-19188BIT

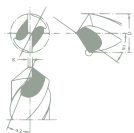


Einsatzgebiete:

für gratfreies Bohren von größeren Löchern in Blechen, Rohren, Profile, dünnwandigen Materialien wie Stahlblech, NE-Metalle etc

Materials:

for burr-free drilling of large holes in thin materials such as sheet-metal, profiles, pipes etc., and also steels, nonferrous metals, etc.



Werkzeug- und Industrietechnik



Risto
Reparatur- und
Instandhaltung

EINSCHNITTGEWINDEBOHRER-BIT 1/4" BIT-AUFNAHME SHORT TAP-BITS WITH 1/4" HEXAGON SHANK

BITS

1/4"

KOMBI

HSS
M2METRISCH
METRIC

Art.-Nr.: 3-27088BIT

Ø	P mm	L1 mm	L2 mm	SW Shank	Drill mm	Art.-Nr.
M3	0,5	33	11	1/4"	2,5	3-27088BIT
M4	0,7	35	12	1/4"	3,3	3-27088BIT
M5	0,8	36	15	1/4"	4,2	3-27088BIT
M6	1,0	39	18	1/4"	5,0	3-27088BIT
M8	1,25	40	19	1/4"	6,8	3-27088BIT
M10	1,5	41	21	1/4"	8,5	3-27088BIT
Set M3 - M4 - M5 - M6 - M8 - M10 + Adapter 825-25						3-27088BIT



KOMBI-BITS COMBINED BITS

BITS

1/4"

KOMBI

HSS-G

METRISCH
METRIC

Art.-Nr.: 3-27672BIT

Ø	D1 mm	L1 mm	SW Shank	Art.-Nr.
M3	2,5	36	1/4"	3-27672BIT
M4	3,3	39	1/4"	3-27672BIT
M5	4,2	41	1/4"	3-27672BIT
M6	5,0	44	1/4"	3-27672BIT
M8	6,8	50	1/4"	3-27672BIT
M10	8,5	59	1/4"	3-27672BIT
Set M3 - M4 - M5 - M6 - M8 - M10 + Adapter 825-25				3-27672BIT

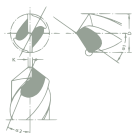


Einsatzgebiete:

für die Bearbeitung von Stählen, NE-Metallen und Kunststoffen bis 600 N/mm² Festigkeit

Materials:

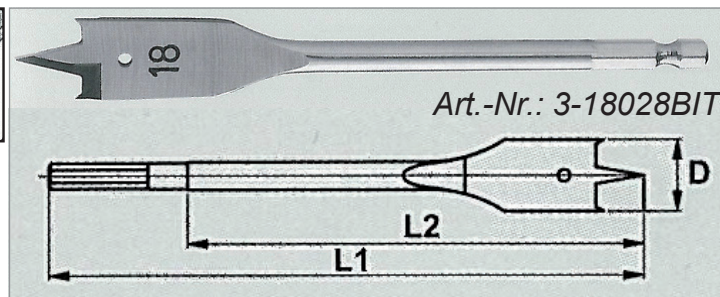
for processing of steels, NE-metals and plastics up to 800 N/mm² tensile strength



Werkzeug- und Industrietechnik

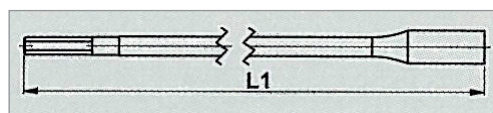


FLACHFRÄSER DIN 3126-E 6,3 MIT 1/4" BIT-AUFNAHME MACHINE FLAT BIT DIN 3126-E 6,3 WITH 1/4" HEXAGON SHANK



blank / bright finished

Ø D1 mm	Ø L1 mm	Ø L2 mm	SW mm	Art.-Nr.
6,00	150	100	6,35	3-18028BIT
8,00	150	100	6,35	3-18028BIT
10,00	150	100	6,35	3-18028BIT
12,00	150	100	6,35	3-18028BIT
13,00	150	100	6,35	3-18028BIT
14,00	150	100	6,35	3-18028BIT
16,00	150	100	6,35	3-18028BIT
18,00	150	100	6,35	3-18028BIT
20,00	150	100	6,35	3-18028BIT
22,00	150	100	6,35	3-18028BIT
24,00	150	100	6,35	3-18028BIT
25,00	150	100	6,35	3-18028BIT
28,00	150	100	6,35	3-18028BIT
30,00	150	100	6,35	3-18028BIT
32,00	150	100	6,35	3-18028BIT
35,00	150	100	6,35	3-18028BIT
38,00	150	100	6,35	3-18028BIT
40,00	150	100	6,35	3-18028BIT
Verlängerung	300		6,35	
Extension Sleeves				3-18028BIT



UNIVERSALHALTER-BIT 1/4" BIT-AUFNAHME UNI TOOL HOLDER WITH 1/4" HEXAGON SHANK

Art.-Nr.: 3-90007BIT

Ø mm	Art.-Nr.
Universalhalter / UNI tool holder	3-90007BIT
60 mm Länge	





Werkzeug- und Industrietechnik

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