

Kleinstbohrer in Hartmetall

- Typ N, rechts od. links schneidend, mittel
- Zylinderschaft h6 präzisionsgeschliffen
- Mit verstärktem Schaft Ø d2
- Hartmetall Feinstkorn
- in Schritten von 0.01 mm

Micro foret en carbure

- Type N, coupe à droite ou à gauche, moyen
- queue cylindrique rectifiée d'haute précision h6
- tige Ø d2 renforcé
- MD monobloc Micrograin
- dimensions en pas de 0.01 mm

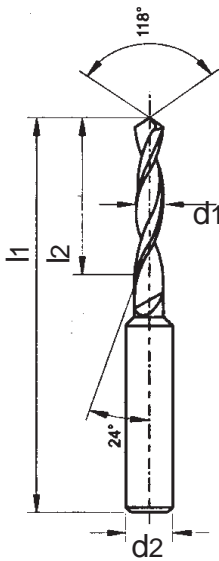
Micro twist drill in carbide

- type N, right or left hand cutting, medium
- cylindrical shank h6 precision ground
- with reinforced shank Ø d2
- carbide micrograin
- in steps of 0.01 mm

4361VS05..

HM/MD

rechts/à droite
right

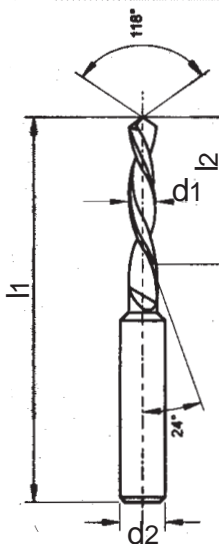


d1					d1					d1				
0					0					0				
h6					h6					h6				
-0.004					-0.004					-0.004				
0.10	1.0	30	0.7	14.25	0.65	1.0	30	5.0	8.30	1.35	1.5	30	11.2	11.60
0,11-0,14	1.0	30	0.7	13.65	0,66-0,69	1.0	30	5.6	11.80	1,36-1,39	1.5	30	11.2	12.90
0.15	1.0	30	1.0	12.05	0.70	1.0	30	5.6	8.30	1.40	1.5	30	11.2	11.00
0,16-0,19	1.0	30	1.0	13.00	0,71-0,74	1.0	30	5.6	11.80	1,41-1,44	1.5	30	11.2	12.90
0.20	1.0	30	1.0	10.00	0.75	1.0	30	5.6	7.80	1.45	1.5	30	11.2	11.60
0,21-0,23	1.0	30	1.0	11.80	0,76-0,79	1.0	30	6.3	11.80	1,46-1,49	1.5	30	11.2	12.90
0.23	1.0	30	2.2	11.80	0.80	1.5	30	6.3	7.80	1.50	2.0	38	12.0	14.20
0.24	1.0	30	1.0	11.80	0,81-0,84	1.5	30	6.3	12.80	1,51-1,54	2.0	38	12.0	15.40
0.24	1.0	30	2.2	11.80	0.85	1.5	30	6.3	7.80	1.55	2.0	38	12.0	14.20
0.25	1.0	30	1.0	10.00	0,86-0,89	1.5	30	7.1	12.80	1,56-1,59	2.0	38	12.0	15.40
0.25	1.0	30	2.2	10.00	0.90	1.5	30	7.1	7.80	1.60	2.0	38	12.0	14.20
0,26-0,29	1.0	30	1.0	11.80	0,91-0,94	1.5	30	7.1	12.80	1,61-1,64	2.0	38	12.0	15.40
0.30	1.0	30	1.0	10.10	0.95	1.5	30	7.1	7.80	1.65	2.0	38	12.0	14.20
0,31-0,32	1.0	30	1.5	11.80	0,96-0,99	1.5	30	8.0	12.80	1,66-1,69	2.0	38	12.0	15.40
0.32	1.0	30	3.0	12.25	1.00	1.5	30	9.0	11.00	1.70	2.0	38	12.0	14.20
0.33	1.0	30	1.5	11.70	1,01-1,04	1.5	30	9.0	12.90	1,71-1,74	2.0	38	12.0	15.40
0.33	1.0	30	3.0	12.25	1.05	1.5	30	9.0	11.60	1.75	2.0	38	12.0	14.20
0.34	1.0	30	1.5	11.70	1,06-1,09	1.5	30	9.0	12.90	1,76-1,79	2.0	38	12.0	15.40
0.34	1.0	30	3.0	12.25	1.10	1.5	30	9.0	11.00	1.80	2.0	38	12.0	14.20
0.35	1.0	30	1.5	9.10	1,11-1,14	1.5	30	9.0	12.90	1,81-1,84	2.0	38	12.0	15.40
0,36-0,39	1.0	30	1.5	11.80	1.15	1.5	30	9.0	11.60	1.85	2.0	38	12.0	14.20
0.40	1.0	30	2.0	9.10	1,16-1,18	1.5	30	9.0	12.90	1,86-1,89	2.0	38	12.0	15.40
0,41-0,44	1.0	30	2.0	11.80	1.19	1.5	30	10.0	12.90	1.90	2.0	38	12.0	14.20
0.45	1.0	30	3.6	8.30	1.20	1.5	30	10.0	11.00	1,91-1,94	2.0	38	12.0	15.40
0,46-0,49	1.0	30	3.6	11.80	1,21-1,24	1.5	30	10.0	12.90	1.95	2.0	38	12.0	14.20
0.50	1.0	30	4.0	10.40	1.25	1.5	30	10.0	11.60	1,96-1,99	2.0	38	12.0	15.50
0,51-0,54	1.0	30	4.0	11.80	1,26-1,29	1.5	30	10.0	12.90	2.00	2.5	43	12.0	16.30
0.55	1.0	30	4.5	8.30	1.30	1.5	30	10.0	11.00	2,01-2,04	2.5	43	12.0	18.70
0,56-0,59	1.0	30	4.5	11.80	1,31-1,32	1.5	30	10.0	12.90	2.05	2.5	43	12.0	17.35
0.60	1.0	30	4.5	8.30	1,33-1,34	1.5	30	11.2	12.90	2,10-2,45*	2.5	43	12.0	17.35
0,61-0,64	1.0	30	5.0	11.70										

Weitere Dimensionen / autres dimen./ additional dimensions: auf Anfrage/sur demande/on request *in Stufen von/pas de/steps 0,05mm

4361VS10..

HM/MD/carbide
links/à gauche
left



d1					d1					d1				
0					0					0				
h6					h6					h6				
-0.004					-0.004					-0.004				
0.10	1.0	30	0.7	14.25	0.65	1.0	30	5.0	8.30	1.35	1.5	30	11.2	11.60
0,11-0,14	1.0	30	0.7	13.65	0,66-0,69	1.0	30	5.6	11.80	1,36-1,39	1.5	30	11.2	12.90
0.15	1.0	30	1.0	12.05	0.70	1.0	30	5.6	8.30	1.40	1.5	30	11.2	11.00
0,16-0,19	1.0	30	1.0	13.00	0,71-0,74	1.0	30	5.6	11.80	1,41-1,44	1.5	30	11.2	12.90
0.20	1.0	30	1.0	10.00	0.75	1.0	30	5.6	7.80	1.45	1.5	30	11.2	11.60
0,21-0,23	1.0	30	1.0	11.80	0,76-0,79	1.0	30	6.3	11.80	1,46-1,49	1.5	30	11.2	12.90
0.23	1.0	30	2.2	11.80	0.80	1.5	30	6.3	7.80	1.50	2.0	38	12.0	14.20
0.24	1.0	30	1.0	11.80	0,81-0,84	1.5	30	6.3	12.80	1,51-1,54	2.0	38	12.0	15.40
0.24	1.0	30	2.2	11.80	0.85	1.5	30	6.3	7.80	1.55	2.0	38	12.0	14.20
0.25	1.0	30	1.0	10.00	0,86-0,89	1.5	30	7.1	12.80	1,56-1,59	2.0	38	12.0	15.40
0.25	1.0	30	2.2	10.00	0.90	1.5	30	7.1	7.80	1.60	2.0	38	12.0	14.20
0,26-0,29	1.0	30	1.0	11.80	0,91-0,94	1.5	30	7.1	12.80	1,61-1,64	2.0	38	12.0	15.40
0.30	1.0	30	1.0	10.10	0.95	1.5	30	7.1	7.80	1.65	2.0	38	12.0	14.20
0,31-0,32	1.0	30	1.5	11.80	0,96-0,99	1.5	30	8.0	12.80	1,66-1,69	2.0	38	12.0	15.40
0.32	1.0	30	3.0	12.25	1.00	1.5	30	9.0	11.00	1.70	2.0	38	12.0	14.20
0.33	1.0	30	1.5	11.70	1,01-1,04	1.5	30	9.0	12.90	1,71-1,74	2.0	38	12.0	15.40
0.33	1.0	30	3.0	12.25	1.05	1.5	30	9.0	11.60	1.75	2.0	38	12.0	14.20
0.34	1.0	30	1.5	11.70	1,06-1,09	1.5	30	9.0	12.90	1,76-1,79	2.0	38	12.0	15.40
0.34	1.0	30	3.0	12.25	1.10	1.5	30	9.0	11.00	1.80	2.0	38	12.0	14.20
0.35	1.0	30	1.5	9.10	1,11-1,14	1.5	30	9.0	12.90	1,81-1,84	2.0	38	12.0	15.40
0,36-0,39	1.0	30	1.5	11.80	1.15	1.5	30	9.0	11.60	1.85	2.0	38	12.0	14.20
0.40	1.0	30	2.0	9.10	1,16-1,18	1.5	30	9.0	12.90	1,86-1,89	2.0	38	12.0	15.40
0,41-0,44	1.0	30	2.0	11.80	1.19	1.5	30	10.0	12.90	1.90	2.0	38	12.0	14.20
0.45	1.0	30	3.6	8.30	1.20	1.5	30	10.0	11.00	1,91-1,94	2.0	38	12.0	15.40
0,46-0,49	1.0	30	3.6	11.80	1,21-1,24	1.5	30	10.0	12.90	1.95	2.0	38	12.0	14.20
0.50	1.0	30	4.0	10.40	1.25	1.5	30	10.0	11.60	1,96-1,99	2.0	38	12.0	15.50
0,51-0,54	1.0	30	4.0	11.80	1,26-1,29	1.5	30	10.0	12.90	2.00	2.5	43	12.0	16.30
0.55	1.0	30	4.5	8.30	1.30	1.5	30	10.0	11.00	2,01-2,04	2.5	43	12.0	18.70
0,56-0,59	1.0	30	4.5	11.80	1,31-1,32	1.5	30	10.0	12.90	2.05	2.5	43	12.0	17.35
0.60	1.0	30	4.5	8.30	1,33-1,34	1.5	30	11.2	12.90	2,10-2,45*	2.5	43	12.0	17.35
0,61-0,64	1.0	30	5.0	11.70										

Weitere Dimensionen / autres dimen./ additional dimensions: auf Anfrage/sur demande/on request *in Stufen von/pas de/steps 0,05mm

Vollhartmetall-Spiralbohrer mit drei Schneiden für besonders harte Werkstoffe

- Ausführung nach DIN 1897
- Rechts schneidend
- Zylinderschaft h6 präzisionsgeschliffen
- Mit gleichem Nenn- und Schaft-Ø
- Hartmetallsorte K10/K20 Micrograin

Mèche en métal dur monobloc avec 3 lèbres pour des matériaux spécialement durs

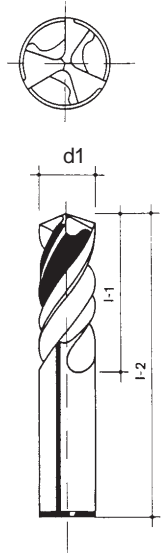
- Exécution selon DIN 1897
- coupe à droite
- queue cylindrique rectifiée d'haute précision h6
- tige et diamètre d1 identique
- nuance métal dur K10/K20 micrograin

Carbide twist drills with 3 cutting edges for specially hard materials

- executions according DIN 1897
- right hand cutting
- cylindrical shank h6 precision ground
- drilling Ø equal shank-Ø
- carbide K10/K20 micrograin

4361V3..

d1	l1	l2	Fr.	d1	l1	l2	Fr.	d1	l1	l2	Fr.	d1	l1	l2	Fr.	d1	l1	l2	Fr.
1.00	8	30	13.50	2.20	13	40	16.75	4.50	24	58	27.30	6.80	34	74	46.50	9.10	40	84	73.20
1.05	8	30	15.50	2.30	13	40	16.75	4.60	24	58	30.40	6.90	34	74	46.50	9.20	40	84	73.20
1.10	10	30	14.00	2.40	14	43	18.25	4.70	24	58	30.40	7.00	34	74	45.20	9.30	40	84	73.20
1.15	10	30	15.50	2.50	14	43	16.50	4.80	26	62	30.40	7.10	34	74	52.70	9.40	40	84	73.20
1.20	10	30	14.00	2.60	14	43	19.00	4.90	26	62	30.40	7.20	34	74	52.70	9.50	40	84	73.20
1.25	10	30	15.50	2.70	16	46	20.75	5.00	26	62	29.90	7.30	34	74	52.70	9.60	43	89	82.40
1.30	10	30	14.00	2.80	16	46	20.75	5.10	26	62	34.40	7.40	34	74	52.70	9.70	43	89	82.40
1.35	10	30	15.50	2.90	16	46	20.75	5.20	26	62	34.40	7.50	34	74	52.00	9.80	43	89	82.40
1.40	10	30	14.00	3.00	16	46	20.80	5.30	26	62	34.40	7.60	37	79	56.70	9.90	43	89	82.40
1.45	10	30	15.50	3.10	18	49	23.00	5.40	26	62	34.40	7.70	37	79	56.70	10.00	43	89	81.10
1.50	10	30	14.00	3.20	18	49	23.00	5.50	26	62	33.80	7.80	37	79	56.70	10.20	43	89	92.40
1.55	12	38	16.75	3.30	18	49	23.00	5.60	26	62	36.20	7.90	37	79	56.70	10.50	43	89	96.90
1.60	12	38	15.50	3.40	20	52	23.00	5.70	26	62	36.20	8.00	37	79	55.90	11.00	47	95	105.00
1.65	12	38	16.75	3.50	20	52	22.30	5.80	26	62	36.20	8.10	37	79	62.20	11.50	47	95	115.40
1.70	12	38	15.50	3.60	20	52	24.00	5.90	26	62	36.20	8.20	37	79	62.20	12.00	51	102	125.80
1.75	12	38	16.75	3.70	20	52	24.00	6.00	28	66	35.30	8.30	37	79	62.20	12.50	51	102	142.50
1.80	12	38	15.50	3.80	22	55	24.00	6.10	31	70	40.50	8.40	37	79	62.20	13.00	51	102	148.70
1.85	12	38	16.75	3.90	22	55	24.00	6.20	31	70	40.50	8.50	37	79	61.60	13.50	51	102	175.80
1.90	12	38	15.50	4.00	22	55	23.00	6.30	31	70	40.50	8.60	40	84	68.00	14.00	54	107	175.80
1.95	12	38	16.75	4.10	22	55	27.80	6.40	31	70	40.50	8.70	40	84	68.00	14.50	54	107	195.50
2.00	12	38	15.50	4.20	22	55	27.80	6.50	31	70	39.70	8.80	40	84	68.00	15.00	56	111	195.50
2.10	12	38	16.75	4.30	24	58	27.80	6.60	31	70	46.50	8.90	40	84	68.00	15.50	58	115	228.80
4.361V328				4.40	24	58	27.80	6.70	31	70	46.50	9.00	40	84	67.20	16.00	58	115	228.80



3 schneidige Hartmetall-Spiralbohrer für höchste Positionsgenauigkeit mit verstärktem Schaft

- 3-schneidige Spiralbohrer bieten höhere Steifigkeit gegen seitliche Abdrängkräfte
- hohe Positionsgenauigkeit u. Rundheit der Bohrung
- sehr geringe Verschmierung an der Lochwandung (nur 20-30% gegenüber üblichen Bohrern)
- Gute Späneabfuhr, geräuscharmer Bohrprozess u. Schonung der Bohrspindel, da weniger Kraftaufwand
- Schaft-Ø: 3.175 mm (1/8"), Länge 38 mm (1 1/2")

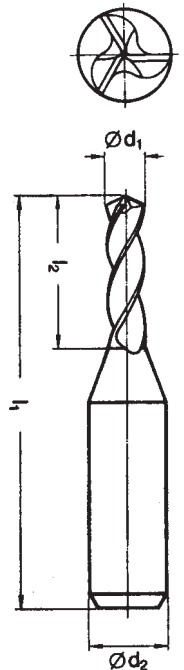
Mèche hélicoïdale en métal dur monobloc avec 3 lèbres pour positionnement optimal, tige renforcé

- Mèches avec 3 lèbres rendront possible une stabilité augmentée contre les forces latérales
- haute précision de positionnement et rondeur de l'alésage
- très peu boucher de la surface de l'alésage (20-30% comparé avec des valeurs des mèches usuels)
- bonne enlèvement de copeaux, procédé s'alésage silencieux et petite force sur l'arbre
- diamètre de la queue: 3.175 mm (1/8") longueur: 38 mm (1 1/2")

Twist drills with 3 cutting edges for highest precision with reinforced shank

- Twist drills with 3 cutting edges give higher toughness against sidwise forces
- high positioning accuracy and roundness of the bore
- very low smear at the hole wall (only 20-30% against normal drills)
- good chip removal, low noise of drilling process & less force on the drilling spindle
- shank-Ø: 3.175 mm (1/8"), length 38 mm (1 1/2")

4361V3S..

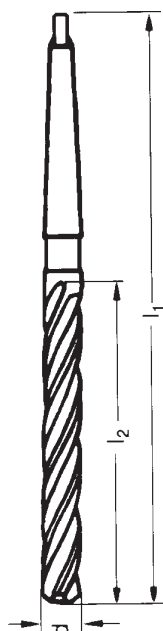


d1	l1	l2	Fr.	d1	l1	l2	Fr.	d1	l1	l2	Fr.
0.15	38	2.0	21.20	0.65	38	7.0	9.70	1.50	38	10.5	9.70
0.20	38	3.0	19.00	0.65	38	8.5	9.70	1.60	38	10.5	9.70
0.25	38	3.0	16.00	0.70	38	10.5	9.70	1.70	38	10.5	9.70
0.25	38	4.8	16.00	0.75	38	10.5	9.70	1.80	38	10.5	9.70
0.30	38	7.0	14.00	0.80	38	10.5	9.70	1.90	38	10.5	9.70
0.30	38	8.5	14.00	0.85	38	10.5	9.70	2.00	38	10.5	9.70
0.35	38	7.0	14.00	0.90	38	10.5	9.70	2.10	38	10.5	9.70
0.35	38	8.5	14.00	0.95	38	10.5	9.70	2.20	38	10.5	9.70
0.40	38	7.0	14.00	1.00	38	10.5	9.70	2.30	38	10.5	9.70
0.40	38	8.5	14.00	1.05	38	10.5	9.70	2.40	38	10.5	9.70
0.45	38	7.0	14.00	1.10	38	10.5	9.70	2.50	38	10.5	9.70
0.45	38	8.5	14.00	1.15	38	10.5	9.70	2.60	38	10.5	9.70
0.50	38	7.0	14.00	1.20	38	10.5	9.70	2.70	38	10.5	9.70
0.50	38	8.5	14.00	1.25	38	10.5	9.70	2.80	38	10.5	9.70
0.55	38	7.0	9.70	1.30	38	10.5	9.70	2.90	38	10.5	9.70
0.55	38	8.5	9.70	1.35	38	10.5	9.70	3.00	38	10.5	9.70
0.60	38	7.0	9.70	1.40	38	10.5	9.70	3.10	38	10.5	9.70
0.60	38	8.5	9.70	1.45	38	10.5	9.70	3.175	38	10.5	9.70

4.361V3S28

4380MK.. **Aufbohrer mit 4 Schneiden** **Forets - aléseurs à 4 lèvres** **Rebore with 4 flutes**

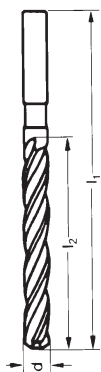
- HSS-Co, Typ N, mit Morsekegel, DIN 343
- 4 Schneiden, kleinster Durchmesser der Ausgangsbohrung beachten
- HSS-Co, type N, *queue conique*, DIN 343
- 4 lèvres, observez diam. minimal d'amorcement
- HSS-Co, type N, with morse shank according DIN 343
- 4 flutes, give attention to smallest diameter of the starting bore diam.



4380..

4.380MK115							min. d						
Vorbereitung			Best.Nr./order no.				Vorbereitung			Best.Nr./order no.			
d[mm]	I2	I1	d'amorcem.	MK	no.cde.	CHF	d[mm]	I2	I1	d'amorcem.	MK	no.cde.	CHF
9.80	87	168	7.0	1	4380MK. 0980	51.80	22.70	155	253	16.0	2	4380MK. 2270	158.70
10.00	87	168	7.0	1	4380MK. 1000	51.80	23.00	155	253	16.0	2	4380MK. 2300	120.90
10.75	94	175	7.7	1	4380MK. 1075	53.80	23.70	160	281	16.6	3	4380MK. 2370	130.00
11.00	94	175	7.7	1	4380MK. 1100	53.80	24.00	160	281	16.6	3	4380MK. 2400	175.00
11.75	101	182	8.4	1	4380MK. 1175	72.70	24.70	160	281	17.3	3	4380MK. 2470	186.80
12.00	101	182	8.4	1	4380MK. 1200	59.10	25.00	160	281	17.3	3	4380MK. 2500	186.80
12.75	101	182	9.1	1	4380MK. 1275	79.00	25.70	165	286	18.0	3	4380MK. 2570	148.20
13.00	101	182	9.1	1	4380MK. 1300	83.60	26.00	165	286	18.0	3	4380MK. 2600	223.90
13.75	108	189	9.8	1	4380MK. 1375	83.60	27.70	170	291	19.3	3	4380MK. 2770	233.20
14.00	108	189	9.8	1	4380MK. 1400	72.70	28.00	170	291	19.3	3	4380MK. 2800	233.20
14.75	114	212	10.5	2	4380MK. 1475	68.80	29.70	175	296	20.5	3	4380MK. 2970	219.70
15.00	114	212	10.5	2	4380MK. 1500	118.50	30.00	175	296	20.5	3	4380MK. 3000	219.70
15.75	120	218	11.2	2	4380MK. 1575	118.50	31.60	185	334	22.0	4	4380MK. 3160	348.40
16.00	120	218	11.2	2	4380MK. 1600	102.40	32.00	185	334	22.0	4	4380MK. 3200	348.40
16.75	125	223	11.9	2	4380MK. 1675	109.40	33.60	190	339	24.0	4	4380MK. 3360	460.10
17.00	125	223	11.9	2	4380MK. 1700	109.40	34.00	190	339	24.0	4	4380MK. 3400	559.80
17.75	130	228	12.6	2	4380MK. 1775	106.70	34.60	190	339	25.0	4	4380MK. 3460	268.30
18.00	130	228	12.6	2	4380MK. 1800	106.30	35.00	190	339	25.0	4	4380MK. 3500	268.30
18.70	135	233	13.3	2	4380MK. 1870	81.80	36.00	195	344	25.5	4	4380MK. 3600	578.60
19.00	135	233	13.3	2	4380MK. 1900	81.80	38.00	200	349	26.5	4	4380MK. 3800	646.30
19.70	140	238	14.0	2	4380MK. 1970	118.40	40.00	200	349	28.0	4	4380MK. 4000	820.80
20.00	140	238	14.0	2	4380MK. 2000	127.00	42.00	205	354	29.0	4	4380MK. 4200	804.70
20.70	145	243	14.6	2	4380MK. 2070	150.30	45.00	210	359	31.0	4	4380MK. 4500	933.30
21.00	145	243	14.6	2	4380MK. 2100	150.30	46.00	215	364	32.0	4	4380MK. 4600	433.50
21.70	150	248	15.3	2	4380MK. 2170	154.20	48.00	200	369	33.0	4	4380MK. 4800	462.10
22.00	150	248	15.3	2	4380MK. 2200	137.60	50.00	200	369	34.5	4	4380MK. 5000	1143.90

- HSS-Co, Typ N, mit Zylinderschaft
- 4 Schneiden, kleinster Durchmesser der Ausgangsbohrung beachten
- HSS-Co, type N, *queue cylindr.*
- 4 lèvres, observez diam. minimal d'amorcement
- HSS-Co, type N, with cyl. shank
- 4 flutes, give attention to smallest diameter of the starting bore diam.

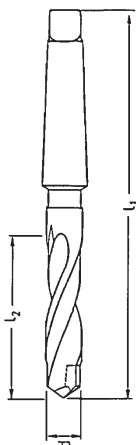


4362..

4.380115							min. d						
Vorbereitung			Best.Nr./order no.				Vorbereitung			Best.Nr./order no.			
d[mm]	I2	I1	d'amorcem.	MK	no.cde.	CHF	d[mm]	I2	I1	d'amorcem.	MK	no.cde.	CHF
4.80	52	86	3.5		4380. 0480	34.90	8.80	81	125	6.3		4380. 0880	39.60
5.00	52	86	3.5		4380. 0500	34.90	9.00	81	125	6.3		4380. 0900	43.70
5.80	57	93	4.2		4380. 0580	37.00	9.80	87	133	7.0		4380. 0980	64.80
6.00	57	93	4.2		4380. 0600	37.00	9.525	87	133	7.0		4380. 09525	43.70
6.35	57	93	4.2		4380. 0635	55.00	10.00	87	133	7.0		4380. 1000	43.70
6.80	69	109	4.9		4380. 0680	37.40	10.75	94	142	7.7		4380. 1075	44.60
7.00	69	109	4.9		4380. 0700	37.40	11.00	94	142	7.7		4380. 1100	44.60
7.80	75	117	5.6		4380. 0780	39.60	11.75	101	151	8.4		4380. 1175	49.10
8.00	75	117	5.6		4380. 0800	43.70	12.00	101	151	8.4		4380. 1200	49.10
							12.70	101	151	8.4		4380. 1270	73.00

Spiralbohrer kurz HM-bestückt **Forets à plaquettes métal dur** **Twist drills w. carbide edges**

- Typ N, mit Morsekegel, DIN 345
- HSS, hartmetallbestückt
- Hauptanwendung: Stahl & Gusseis.
- type N, *queue conique*, DIN 345
- HSS, à plaquette MD brasée
- application principale: acier & fonte
- type N, shank Morse, DIN 345
- HSS, carbide edges
- main application: steel & cast iron



4.362115							Best.Nr./order no.						
d[mm]	I2	I1	MK	no.cde.	CHF		d[mm]	I2	I1	MK	no.cde.	CHF	
10.00	87	168	1	4362. 1000	98.80		19.00	135	233	2	4362. 1900	225.00	
11.00	94	175	1	4362. 1100	89.80		20.00	140	238	2	4362. 2000	251.40	
12.00	101	182	1	4362. 1200	94.00		21.00	145	243	2	4362. 2100	259.20	
13.00	101	182	1	4362. 1300	113.30		22.00	150	248	2	4362. 2200	233.70	
13.50	101	182	1	4362. 1350	113.30		23.00	155	253	2	4362. 2300	318.20	
14.00	108	189	1	4362. 1400	139.40		24.00	160	281	3	4362. 2400	296.70	
15.00	114	212	2	4362. 1500	156.40		25.00	160	281	3	4362. 2500	302.90	
16.00	120	218	2	4362. 1600	167.50		26.00	160	281	3	4362. 2600	340.40	
17.00	125	223	2	4362. 1700	179.10		27.00	170	291	3	4362. 2700	357.30	
17.50	125	223	2	4362. 1750	154.20		28.00	170	291	3	4362. 2800	379.40	
18.00	130	228	2	4362. 1800	179.80		29.00	175	296	3	4362. 2900	429.30	
							30.00	175	296	3	4362. 3000	455.30	

Spiralbohrer kurz HM-bestückt

- Typ N, rechtss., Zylindersch., DIN 338
∠ pointe 118°, ∠ hélice 30°HSS,
- hartmetallbestückt
- Hauptanwendung: Stahl & Gusseisen

Forets courts à plaquettes MD

- type N, cpe. à dr., queue cylindr., DIN 338, ∠ pointe 118°, ∠ hélice 30°HSS,
- avec plaquette en MD dur brasée
- application principale: acier et fonte

Drills short w.brased carb. ins.

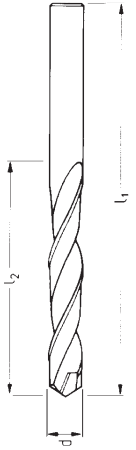
- type N, RH, straight shank, DIN 338
∠ drill point 118°, ∠ helix 30°, HSS
- brased carbide inserts
- main application: steel & cast iron

4361..

4.361115 Best.Nr./order no.				
d[mm]	I2	I1	no.cde.	CHF
2.00	24	49	4361.0200	21.50
2.10	24	49	4361.0210	24.80
2.20	27	53	4361.0220	24.80
2.30	27	53	4361.0230	24.80
2.40	30	57	4361.0240	24.80
2.50	30	57	4361.0250	21.80
2.60	30	57	4361.0260	24.80
2.70	33	61	4361.0270	24.80
2.80	33	61	4361.0280	24.80
2.90	33	61	4361.0290	24.80
3.00	33	61	4361.0300	21.80
3.10	36	65	4361.0310	24.80
3.20	36	65	4361.0320	24.80
3.30	36	65	4361.0330	24.80
3.40	39	70	4361.0340	24.80
3.50	39	70	4361.0350	21.80
3.60	39	70	4361.0360	24.80
3.70	39	70	4361.0370	24.80
3.80	43	75	4361.0380	24.80
3.90	43	75	4361.0390	24.80
4.00	43	75	4361.0400	25.50
4.10	43	75	4361.0410	25.70
4.20	43	75	4361.0420	25.70
4.30	47	80	4361.0430	25.70
4.40	47	80	4361.0440	25.70
4.50	47	80	4361.0450	22.50
4.60	47	80	4361.0460	25.70
4.70	47	80	4361.0470	25.70
4.80	52	86	4361.0480	25.70
4.90	52	86	4361.0490	25.70
5.00	52	86	4361.0500	22.50
5.10	52	86	4361.0510	26.70
5.20	52	86	4361.0520	26.70
5.30	52	86	4361.0530	26.70

Best.Nr./order no.				
d[mm]	I2	I1	no.cde.	CHF
5.40	57	93	4361.0540	26.70
5.50	57	93	4361.0550	27.20
5.60	57	93	4361.0560	28.20
5.70	57	93	4361.0570	28.20
5.80	57	93	4361.0580	28.20
5.90	57	93	4361.0590	28.20
6.00	57	93	4361.0600	28.50
6.10	57	93	4361.0610	32.40
6.20	57	93	4361.0620	32.40
6.30	57	63	4361.0630	32.40
6.40	63	101	4361.0640	32.40
6.50	63	101	4361.0650	34.40
6.60	63	101	4361.0660	32.40
6.70	63	101	4361.0670	32.40
6.80	69	109	4361.0680	32.40
6.90	69	109	4361.0690	32.40
7.00	69	109	4361.0700	29.40
7.10	69	109	4361.0710	33.70
7.20	69	109	4361.0720	33.70
7.30	69	109	4361.0730	33.70
7.40	69	109	4361.0740	33.70
7.50	69	109	4361.0750	35.10
7.60	69	109	4361.0760	33.70
7.70	69	109	4361.0770	33.70
7.80	75	117	4361.0780	33.70
7.90	75	117	4361.0790	33.70
8.00	75	117	4361.0800	35.60
8.10	75	117	4361.0810	36.70
8.20	75	117	4361.0820	36.70
8.30	75	117	4361.0830	36.70
8.40	75	117	4361.0840	36.70
8.50	75	117	4361.0850	39.00
8.60	75	117	4361.0860	36.70
8.70	75	117	4361.0870	36.70

Best.Nr./order no.				
d[mm]	I2	I1	no.cde.	CHF
8.80	81	125	4361.0880	36.70
8.90	81	125	4361.0890	36.70
9.00	81	125	4361.0900	39.00
9.10	81	125	4361.0910	40.10
9.20	81	125	4361.0920	40.10
9.30	81	125	4361.0930	40.10
9.40	81	125	4361.0940	40.10
9.50	81	125	4361.0950	42.60
9.60	81	125	4361.0960	40.10
9.70	81	125	4361.0970	40.10
9.80	87	133	4361.0980	40.10
9.90	87	133	4361.0990	40.10
10.00	87	133	4361.1000	42.80
10.20	87	133	4361.1020	52.20
10.50	87	133	4361.1050	47.00
11.00	94	142	4361.1100	54.20
11.50	94	142	4361.1150	53.50
12.00	101	151	4361.1200	53.40
12.50	101	151	4361.1250	64.20
13.00	101	151	4361.1300	63.80
13.50	108	160	4361.1350	66.40
14.00	108	160	4361.1400	75.10
14.50	114	169	4361.1450	71.40
15.00	114	169	4361.1500	85.80
15.50	120	178	4361.1550	87.10
16.00	120	178	4361.1600	98.40
16.50	120	178	4361.1650	110.10
17.00	120	178	4361.1700	110.10
17.50	130	188	4361.1750	118.40
18.50	130	188	4361.1850	147.10
19.00	140	198	4361.1900	147.10
20.00	140	198	4361.2000	167.20



Lange HSS Spiralbohrer

- Rechtsschneidend mit Zylinderschaft
- HSS, nach Norm DIN 340 / ISO 494
- Spitzenwinkel 118°, Drallwinkel 28°
- Hauptanwendung: Stahl & Gusseisen

Forets série longue HSS

- Coupe à droite avec queue cylindr
- HSS, selon Norm DIN 340 / ISO 494
- Angle de la pointe 118°, hélice 28°
- Application principale: acier et fonte

Long HSS twist drills

- RH cutting with straight shank
- HSS, acc.DIN 340 / ISO 494
- Drill point angle 118°, helix 28°
- main application: steel & cast iron

4355..

4.355115 Best.Nr./order no.				
d[mm]	I2	I1	no.cde.	CHF
1.00	33	56	4355.0100	3.70
1.10	37	60	4355.0110	2.90
1.20	41	65	4355.0120	2.90
1.30	41	65	4355.0130	2.90
1.40	45	70	4355.0140	2.90
1.50	45	70	4355.0150	2.90
1.60	50	76	4355.0160	2.80
1.70	50	76	4355.0170	2.80
1.75	50	76	4355.0175	7.20
1.80	53	80	4355.0180	2.80
1.90	53	80	4355.0190	2.80
2.00	56	85	4355.0200	2.80
2.10	56	85	4355.0210	2.90
2.20	59	90	4355.0220	3.10
2.25	59	90	4355.0225	7.20
2.30	59	90	4355.0230	2.80
2.40	62	95	4355.0240	3.10
2.50	62	95	4355.0250	3.20
2.60	62	95	4355.0260	3.40
2.70	66	100	4355.0270	3.40
2.75	66	100	4355.0275	7.00
2.80	66	100	4355.0280	3.40
2.90	66	100	4355.0290	3.40
3.00	66	100	4355.0300	4.50
3.10	69	106	4355.0310	5.50
3.20	69	106	4355.0320	5.10
3.25	69	106	4355.0325	7.50
3.30	69	106	4355.0330	5.10
3.40	73	112	4355.0340	5.60
3.50	73	112	4355.0350	5.20
3.60	73	112	4355.0360	5.80
3.70	73	112	4355.0370	4.30

Best.Nr./order no.				
d[mm]	I2	I1	no.cde.	CHF
3.75	73	112	4355.0375	7.70
3.80	78	119	4355.0380	5.70
3.90	78	119	4355.0390	6.10
4.00	78	119	4355.0400	5.70
4.10	78	119	4355.0410	6.40
4.20	78	119	4355.0420	6.50
4.25	78	119	4355.0425	10.60
4.30	82	126	4355.0430	7.00
4.40	82	126	4355.0440	6.90
4.50	82	126	4355.0450	6.70
4.60	82	126	4355.0460	7.00
4.70	82	126	4355.0470	6.50
4.75	82	126	4355.0475	8.60
4.80	87	132	4355.0480	7.50
4.90	87	132	4355.0490	5.60
5.00	87	132	4355.0500	7.20
5.10	87	132	4355.0510	7.80
5.20	87	132	4355.0520	7.90
5.25	87	132	4355.0525	12.00
5.30	87	132	4355.0530	8.10
5.40	91	139	4355.0540	7.90
5.50	91	139	4355.0550	8.60
5.60	91	139	4355.0560	9.20
5.70	91	139	4355.0570	9.40
5.75	91	139	4355.0575	13.50
5.80	91	139	4355.0580	9.30
5.90	91	139	4355.0590	9.30
6.00	91	139	4355.0600	8.90
6.10	97	148	4355.0610	10.80
6.20	97	148	4355.0620	10.70
6.25	97	148	4355.0625	15.70
6.30	97	148	4355.0630	9.50

Best.Nr./order no.				
d[mm]	I2	I1	no.cde.	CHF
6.40	97	148	4355.0640	11.60
6.50	97	148	4355.0650	11.30
6.60	97	148	4355.0660	11.10
6.70	97	148	4355.0670	11.80
6.75	102	156	4355.0675	11.90
6.80	102	156	4355.0680	13.30
6.90	102	156	4355.0690	13.50
7.00	102	156	4355.0700	13.40
7.10	102	156	4355.0710	16.60
7.20	102	156	4355.0720	12.10
7.25	102	156	4355.0725	12.50
7.30	102	156	4355.0730	15.20
7.40	102	156	4355.0740	15.40
7.50	102	156	4355.0750	14.20
7.60	109	165	4355.0760	12.50
7.70	109	165	4355.0770	12.50
7.75	109	165	4355.0775	12.90
7.80	109	165	4355.0780	17.30
7.90	109	165	4355.0790	17.20
8.00	109	165	4355.0800	15.60
8.10	109	165	4355.0810	18.70
8.20	109	165	4355.0820	17.80
8.25	109	165	4355.0825	14.30
8.30	109	165	4355.0830	13.70
8.40	109	165	4355.0840	18.80
8.50	109	165	4355.0850	17.40
8.60	115	175	4355.0860	20.60
8.70	115	175	4355.0870	22.90
8.75	115	175	4355.0875	18.00
8.80	115	175	4355.0880	19.90
8.90	115	175	4355.0890	13.60
9.00	115	175	4355.0900	18.80

Best.Nr./order no.				
d[mm]	I2	I1	no.cde.	CHF

Überlange Spiralbohrer, UFL

Forets série extra longues UFL Overlong twist drills, UFL

4355EL20..

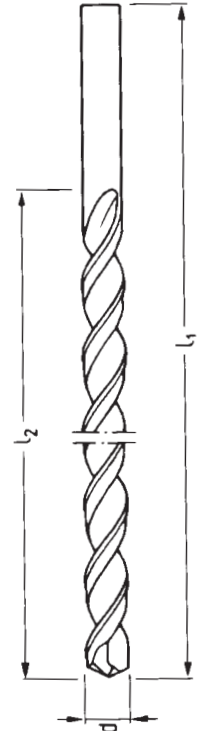
ISO 3292 N

- HSS-Co, Typ UFL mit grossen Spannern, rechtsschneidend mit Zylinderschaft
- Spitzenwinkel 130°, Drallwinkel 35°
- Hauptanwendung: Stahl u. langspannende Werkstoffe wie ALU, Kupfer und rostfreie Stähle bis ca. 1000N/mm2, bei grösseren Bohrtiefen auch für kurzspannende Werkstoffe

- HSS-Co, type UFL, à grandes rainures de copeaux, coupe à droite avec queue cylindrique
- Angle de la pointe 130°, hélice 35°
- Application principale: acier et matériaux de copeaux long, comme ALU, cuivre et acier INOX, jusqu'à 1000N/mm2, épaisseurs grandes: aussi p.mater.de copeaux courtes

- HSS-Co, type UFL with big helix grooves for the chips, RH cutting with straight shank
- drill point angle 130°, helix angle 35°
- main application: steel and long chip materials like ALU, copper and stainless steels til approx. 1000N/mm2, with bigger drill depth suitable also for short chip materials

Best.Nr./order no.					Best.Nr./order no.				
d [mm]	l2	l1	no.cde..	CHF	d [mm]	l2	l1	no.cde..	CHF
2.00	93	125	4355EL20.0200	17.00	8.00	187	250	4355EL20.0802	45.70
2.00	120	160	4355EL20.0202	19.00	8.00	235	315	4355EL20.0804	58.20
2.50	93	125	4355EL20.0250	17.00	8.00	300	400	4355EL20.0806	71.30
2.50	120	160	4355EL20.0252	19.00	8.50	150	200	4355EL20.0850	41.50
3.00	93	125	4355EL20.0300	17.60	8.50	187	250	4355EL20.0852	48.70
3.00	120	160	4355EL20.0301	19.80	8.50	235	315	4355EL20.0854	61.20
3.00	150	200	4355EL20.0302	24.30	8.50	300	400	4355EL20.0858	76.10
3.50	150	200	4355EL20.0354	25.40	9.00	150	200	4355EL20.0900	43.90
4.00	120	160	4355EL20.0400	20.50	9.00	235	315	4355EL20.0906	63.70
4.00	150	200	4355EL20.0402	25.60	10.00	150	200	4355EL20.1000	46.60
4.00	235	315	4355EL20.0406	37.00	10.00	187	250	4355EL20.1002	54.50
4.50	120	160	4355EL20.0450	21.50	10.00	235	315	4355EL20.1004	66.90
4.50	150	200	4355EL20.0452	28.20	10.00	300	400	4355EL20.1006	85.30
4.50	187	250	4355EL20.0456	32.40	10.50	187	250	4355EL20.1050	56.20
5.00	120	160	4355EL20.0500	22.00	10.50	235	315	4355EL20.1052	70.40
5.00	150	200	4355EL20.0502	27.20	10.50	300	400	4355EL20.1054	91.40
5.00	187	250	4355EL20.0504	34.10	11.00	187	250	4355EL20.1100	65.20
5.00	235	315	4355EL20.0506	42.10	11.00	235	315	4355EL20.1102	71.60
5.50	150	200	4355EL20.0552	36.00	11.00	300	400	4355EL20.1104	96.10
5.50	187	250	4355EL20.0556	36.20	11.50	187	250	4355EL20.1150	66.00
6.00	120	160	4355EL20.0600	25.50	11.50	235	315	4355EL20.1152	75.10
6.00	150	200	4355EL20.0602	30.20	12.00	187	250	4355EL20.1200	75.30
6.00	187	250	4355EL20.0604	36.70	12.00	235	315	4355EL20.1202	76.30
6.00	235	315	4355EL20.0606	48.80	12.00	300	400	4355EL20.1204	102.70
6.00	300	400	4355EL20.0610	54.90	12.50	187	250	4355EL20.1250	75.80
6.50	150	200	4355EL20.0650	32.70	12.50	235	315	4355EL20.1252	81.30
6.50	187	250	4355EL20.0652	40.60	12.50	300	400	4355EL20.1254	108.70
6.50	235	315	4355EL20.0654	51.50	13.00	187	250	4355EL20.1300	85.40
7.00	187	250	4355EL20.0702	42.70	13.00	235	315	4355EL20.1302	85.50
7.00	235	315	4355EL20.0754	56.70	13.00	300	400	4355EL20.1304	124.00
8.00	150	200	4355EL20.0800	40.40					



Hochl.-Blechschaufbohrer

Mèches conique p. tôles

Sheet metal conical drills

4RU364A..

- Stufenloses gratfreies Bohren ohne Deformation des Bleches
- Nachschleifbar

- percer continuellement sans bavure et sans déformation de la tôle
- réaffûtables

- stepless burr free drilling without deformation of the sheet metal
- grindable

Grösse grandeur size	Bohrbereich Gamme d'usage range [mm]	Gesamtlänge longeur totale total length [mm]	Schaft tige shank [mm]	Best.Nr. no.cde. order no.	Preis/prix price CHF
1	3 - 14.0	53	6	4RU364A.00	44.90
2	8 - 20.0	61	8	4RU364A.05	65.90
3	16 - 30.5	73	9	4RU364A.10	99.90
4	26 - 40.0	86	10	4RU364A.15	199.00
5	36 - 50.0	93	12	4RU364A.20	249.00
6	40 - 61.0	100	13	4RU364A.25	475.00



Mehrphasiger Stufenbohrer
Zylinderschaft DIN 8376 180°

Mèches étagée à lèvres
multiples 180° DIN 8376

Countersink 180°, for through holes, HSS long, DIN 8376

453905..

DIN 8376

Senkwinkel 180°, für Durchgangsbohrungen, Typ N, aus HSS lang

angle d'étagé 180° p. trous traversants, type N, en HSS longue

angle 180° for through holes, type N, in HSS long

M für Gewinde p. filetage for thread	d1 [mm]	d2 [mm]	l3 [mm] Stufenlänge longueur du pas step length	l2 [mm] Nutenlänge Longuer hélix helix length	l1 [mm] Gesamtlänge longueur totale total length	Best.Nr. no.cde. order no.	Preis prix price CHF
M 3	3.4	6.000	9	57	93	453905.080	47.90
M 4	4.5	8.000	11	75	117	453905.160	53.60
M 5	5.5	10.000	13	87	133	453905.240	64.40
M 6	6.6	11.000	15	94	142	453905.340	74.40
M 8	9	15.000	19	114	169	453905.440	93.60
M10	11	18.000	23	130	191	453905.500	109.00

