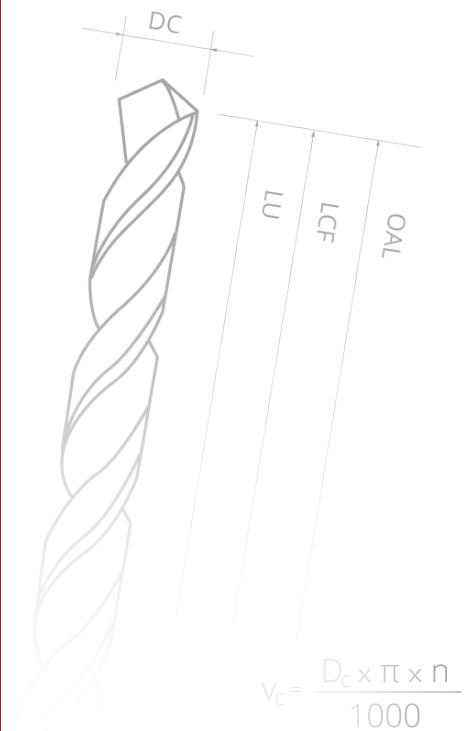


VOLLHARTMETALL- BOHRER

EDITION 02.3

























































$$f = f_z \times Z$$

$$v_f = f \times n$$

**VHM-BOHRER VON 3 BIS
30XD, FLACHBOHRER,
HARTBOHRER BIS 70HRC,
MIKRO-BOHRER UND
ENTGRATWERKZEUGE**

Icons






 Stahl	 Rostfreier Stahl	 Superlegierung und Titan	
 Guss	 Gehärteter Stahl	 NE-Metalle	
 Stahl (geeignet)	 Rostfreier Stahl (geeignet)	 Superlegierung und Titan (geeignet)	
 GUSS (geeignet)	 Gehärteter Stahl (geeignet)	 NE-Metalle (geeignet)	
 Vollnutfräsen	 Umfangsfräsen	 Hochgeschwindigkeitsfräsen	 Trochoidalfräsen
 Planfräsen	 3D-Fräsen	 Helixfräsen	 Ramping
 Bohren	 Fasenfräsen	 Vor- und Rückwärts Fasenfräsen	
 Zentrierbohren	 Vollbohren	 Flachbohren	 Senken
 Durchgangsloch	 Sackloch		
 Ungleiche Teilung	 Ungleicher Drallwinkel	 Drallwinkel	 Spitzenwinkel
 Beschichtung	 Unbeschichtet	 Zylinderschaft	 Weldonschaft
 Fase 45°	 Flatland	 Scharfkantig	 Eckenradius
 Kugelfräser	 Lollipopfräser	 Halsfreistellung	 Spanteiler
 Backtaper	 Zentrale Innenkühlung	 Innenkühlung	 Radiale Innenkühlung
 Zähnezahl	 Schrump-Profil	 Längenangabe	 Verhältnis Nutzlänge/ Durchmesser
 Toleranzen	 Metrisch	 Metrisch-fein	 Whitworth
 Gewindetoleranz	 Anschnittform	 DIN-Norm	

ae	Radiale Zustellung	LF	Funktionslänge
ap	Axiale Zustellung	LH	Kopflänge
APMX	Maximale Schnitttiefe	LU	Maximale Nutzlänge
BHTA	Körperkegeleinstellwinkel	n	Drehzahl
CHW	Eckenfasenbreite	RE	Eckenradius
CZCMS	Aufnahmegröße, maschinenseitig	RE_{CAM}	Programmier-Radius
DC	Werkzeugdurchmesser	S	Schneidplattendicke
DCON	Aufnahmedurchmesser, werkstückseitig	SIG	Spitzenwinkel
DCX	Schneidendurchmesser, max.	TDZ	Gewindegrösse
DN	Halsdurchmesser	THL	Länge Schneidteil
FTDZ	Größe des Gewindedurchmessers	TOL	Toleranz
fz	Vorschub pro Zahn	TP	Gewindesteigung
h	Maximal verbleibendes Aufmaß	TPI	Gewindegänge je Inch
IC	Inkreisdurchmesser	ULDR	Verhältnis Nutzlänge / Durchmesser
KAPR	Winkel Werkzeugschneidkante	Vc	Schnittgeschwindigkeit
L	Schneidkantenlänge	Vf	Bahngeschwindigkeit
		ZEPF	Anzahl wirksamer Schneiden, umfangseitig


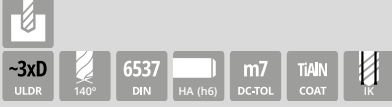


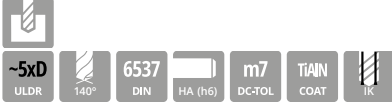











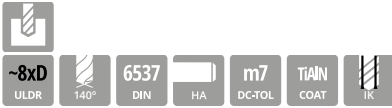






Inhalt

Artikel	Beschreibung	Material und Durchmesserbereich	Bearbeitungen und werkzeugbezogene Eigenschaften	S.
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MULTIFUNKTIONSWERKZEUGE










NEU G9400	 VHM-Multifunktionswerkzeug 90°	P M K N S Ø 3 - 20	 90° HA (h6) TiAlN COAT	 08
NEU SST-MT	 Wendeplatten- Multifunktionswerkzeug 90°	P M K N S Ø 16	 90° HB	SIX SIGMA TOOLS® TECHNOLOGY 10

HOCHLEISTUNGSBOHRER MIT INNENKÜHLUNG











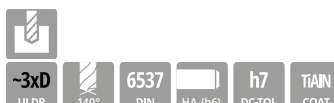

DH451	 VHM-Spiralbohrer INOX 3 x D	P M S N Ø 3 - 20	 ~3xD ULDR 140° 6537 DIN HA (h6) DC-TOL m7 TiAlN COAT IK	 12
DH452	 VHM-Spiralbohrer INOX 5 x D	P M S N Ø 1 - 20	 ~5xD ULDR 140° 6537 DIN HA (h6) DC-TOL m7 TiAlN COAT IK	 14
DH453	 VHM-Spiralbohrer INOX 8 x D	P M S N Ø 3 - 14	 ~8xD ULDR 140° 6537 DIN HA (h6) DC-TOL m7 TiAlN COAT IK	 16
DH446	 VHM-Spiralbohrer STEEL 3 x D	P M K Ø 3 - 20	 ~3xD ULDR 140° 6537 DIN HB *HA DC-TOL m7 TiAlN COAT IK	 18
DH448	 VHM-Spiralbohrer STEEL 5 x D	P M K Ø 3 - 20	 ~5xD ULDR 140° 6537 DIN HB *HA DC-TOL m7 TiAlN COAT IK	 20
DH421	 VHM-Spiralbohrer STEEL 8 x D	P M K Ø 3 - 14	 ~8xD ULDR 140° 6537 DIN HA DC-TOL m7 TiAlN COAT IK	 22
DHM10	 VHM-Tieflochbohrer MQL 10 x D	P M K Ø 3 - 14	 ~10xD ULDR 140° HA (h6) DC-TOL h7 TiAlN COAT IK	 24
DHM15	 VHM-Tieflochbohrer MQL 15 x D	P M K Ø 3 - 12	 ~15xD ULDR 140° HA (h6) DC-TOL h7 TiAlN COAT IK	 25

Artikel	Beschreibung	Material und Durchmesserbereich	Bearbeitungen und werkzeugbezogene Eigenschaften	S.
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HOCHLEISTUNGSBOHRER MIT INNENKÜHLUNG





DHM20	 VHM-Tieflochbohrer MQL 20 x D	P M K Ø 3 - 12	 ~20xD ULDR 140° HA (h6) h7 TiAlN COAT IK	 26
DHM25	 VHM-Tieflochbohrer MQL 25 x D	P M K Ø 3 - 10	 ~25xD ULDR 140° HA (h6) h7 TiAlN COAT IK	 27
DHM30	 VHM-Tieflochbohrer MQL 30 x D	P M K Ø 3 - 8	 ~30xD ULDR 140° HA (h6) h7 TiAlN COAT IK	 28

HOCHLEISTUNGSBOHRER OHNE INNENKÜHLUNG







UTDSX	 VHM-Kleinstbohrer ~ 5 x D	P M N S Ø 0.3 - 2	 ~5xD ULDR 130° HA 0/-0.01 Micro COAT	 30
C-UMD	 VHM-Kleinstbohrer 10 x D	P M N S Ø 0.1 - 3	 ~10xD ULDR 150° HA 0/-0.01 Micro COAT	 31
DH424	 VHM-Spiralbohrer STEEL 5 x D	P M K Ø 3 - 20	 ~5xD ULDR 140° 6537 DIN HA (h6) m7 TiAlN COAT	 34
DH500	 VHM-Spiralbohrer bis HRC 70	H Ø 1 - 14	 ~3xD ULDR 140° 6537 DIN HA (h6) h7 TiAlN COAT	 36

Artikel	Beschreibung	Material und Durchmesserbereich	Bearbeitungen und werkzeugbezogene Eigenschaften	S.
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FLACHBOHRER

DPP447	 VHM-Flachbohrer 180° 2 x D	P M K S N Ø 3 - 20	 ~2xD ULDR 180° HA (h6) h7 COAT X sharp	38
DH450	 VHM-Flachbohrer 180° 5 x D	P M K S N Ø 3 - 20	 ~5xD ULDR 180° HA (h6) h7 TiAlN COAT IK C x 45°	40









HSS-SPIRALBOHRER

D2107	 HSS-Co8-Spiralbohrer ~ 5 x D	P M K S N Ø 1 - 31	 ~5xD ULDR 135° HA h8 UN-COAT	43
DLGP195	 HSS-E-Spiralbohrer ~ 12 x D	P M K S N Ø 1 - 13	 ~12xD ULDR 135° HA h8 TiN COAT	46
D1GP165	 HSS-Spiralbohrer ~ 12 x D	P M K S N Ø 1.6 - 13	 ~12xD ULDR 118° HA h8 TiN COAT	48

ENTGRATWERKZEUGE

FF060-Z	 VHM-Fasenfräser 60°	P M K S N Ø 4 - 16	 4 ZEPF 60° *HA (h6) HB (h6) SST COAT	SIX SIGMA TOOLS [®] TECHNOLOGY 50
FF090-Z	 VHM-Fasenfräser 90°	P M K S N Ø 1 - 20	 3-4 ZEPF 90° *HA (h6) HB (h6) SST COAT	SIX SIGMA TOOLS [®] TECHNOLOGY 51
FF120-Z	 VHM-Fasenfräser 120°	P M K S N Ø 4 - 20	 4 ZEPF 120° *HA (h6) HB (h6) SST COAT	SIX SIGMA TOOLS [®] TECHNOLOGY 52
VRE	 VHM-Vor- und Rückwärts Fasenfräser 45°	P M K S N Ø 2 - 16	 3-4 ZEPF HA (h6) SST COAT	SIX SIGMA TOOLS [®] TECHNOLOGY 53
NEU RVRE	 VHM-Vor- und Rückwärts Viertelkreisfräser R0.2 - R1.5	P M K S N Ø 8 - 10	 4 ZEPF HA (h6) SST COAT	SIX SIGMA TOOLS [®] TECHNOLOGY 54

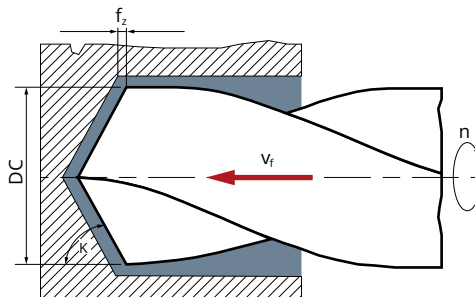
Inhalt

Artikel	Beschreibung	Material und Durchmesserbereich	Bearbeitungen und werkzeugbezogene Eigenschaften	S.
SENKER				
NEU KSE090	 VHM-Kegelsenker 90°	P M K S N Ø 4.3 – 31	 3 ZEFP HA (hi) SST COAT	56
NEU KSE090-UG	 HSS-Kegelsenker ungleich geteilt 90°	P M K S N Ø 4.3 – 31	 3 ZEFP HA SST COAT	57
C1239	 HSS-Co8-Kegelsenker 90°	P M K N Ø 4.3 – 31	 3 ZEFP HA TIN COAT	58
C3139	 HSS-Kegelsenker unbeschichtet 90°	P M K N Ø 4.3 – 31	 3 ZEFP HA UN-COAT	59

Berechnungsformeln

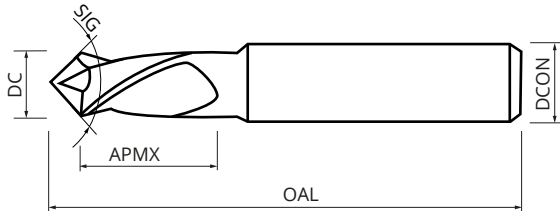
BOHREN

Parameter	Formel	Einheit
Drehzahl	$n = \frac{v_c \times 1000}{D_c \times \pi}$	[min ⁻¹]
Schnittgeschwindigkeit	$v_c = \frac{D_c \times \pi \times n}{1000}$	[m/min]
Vorschub pro Umdrehung	$f_n = f_z \times Z$	[mm/U]
Vorschubgeschwindigkeit	$v_f = f_n \times n$	[mm/min]
Zeitspanvolumen (Vollbohren)	$Q = \frac{v_f \times \pi \times D_c^2}{4 \times 1000}$	[cm ³ /min]
Spandicke	$h = f_z \times \sin K$	[mm]
Bearbeitungszeit	$T_c = \frac{l_m}{v_f}$	[min]





NEU



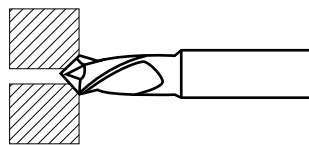
- Vielseitiges einsetzbares Multifunktionswerkzeug
- Bearbeitungsmöglichkeiten: Anbohren, Entgraten, Umfangfräsen und Gravieren

ABMESSUNGEN

ArtNr. (WGR. 8400)	DCX mm	DCON mm	APMX mm	OAL mm	SIG °
G9400030	3	4	6	50	90
G9400040	4	5	8	50	90
G9400050	5	6	10	50	90
G9400060	6	8	12	60	90
G9400080	8	10	16	70	90
G9400100	10	12	18	70	90
G9400120	12	12	20	70	90
G9400140	14	14	24	80	90
G9400160	16	16	26	80 <td 90	
G9400200	20	20	32	100	90

Verfahren

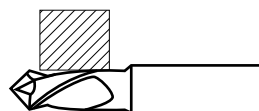
Anbohren / Gravieren



Fasenfräsen



Umfangfräsen

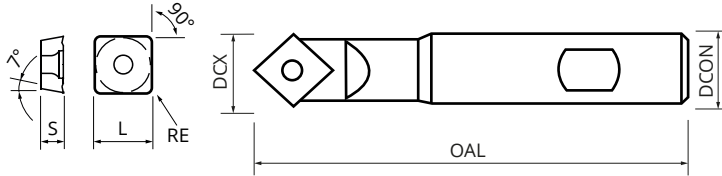


SCHNITTDATEN

Material	Unlegierter Stahl						Niedriglegierter Stahl					
	Senken		Fasenfräsen		V-Nut fräsen		Senken		Fasenfräsen		V-Nut fräsen	
DC mm	Vc m/min	fz mm/U	Vc m/min	fz mm/Z	Vc m/min	fz mm/Z	Vc m/min	fz mm/U	Vc m/min	fz mm/Z	Vc m/min	fz mm/Z
3	60	0.045	80	0.008	80	0.005	45	0.041	50	0.008	50	0.004
4	65	0.056	85	0.010	85	0.006	55	0.049	55	0.010	55	0.004
5	65	0.072	85	0.013	85	0.008	55	0.065	55	0.013	55	0.006
6	65	0.094	85	0.018	85	0.010	55	0.077	55	0.018	55	0.007
8	65	0.128	85	0.025	85	0.014	55	0.104	55	0.024	55	0.012
10	65	0.149	90	0.030	90	0.016	55	0.131	55	0.030	55	0.014
12	70	0.180	95	0.037	95	0.018	60	0.164	60	0.041	55	0.020
16	70	0.225	90	0.054	100	0.023	65	0.189	65	0.05	65	0.022
20	85	0.247	95	0.063	100	0.029	65	0.252	60	0.064	60	0.028

Material	Hochlegierter Stahl						Rostfreier Stahl					
	Senken		Fasenfräsen		V-Nut fräsen		Senken		Fasenfräsen		V-Nut fräsen	
DC mm	Vc m/min	fz mm/U	Vc m/min	fz mm/Z	Vc m/min	fz mm/Z	Vc m/min	fz mm/U	Vc m/min	fz mm/Z	Vc m/min	fz mm/Z
3	60	0.045	45	0.008	45	0.004	30	0.038	30	0.008	30	0.004
4	65	0.056	50	0.009	50	0.004	35	0.045	35	0.010	35	0.005
5	65	0.072	50	0.012	50	0.006	40	0.052	40	0.013	40	0.006
6	65	0.094	50	0.017	50	0.008	40	0.067	40	0.018	40	0.008
8	65	0.128	50	0.025	50	0.014	40	0.099	40	0.024	40	0.010
10	65	0.149	55	0.027	55	0.015	40	0.115	45	0.027	45	0.011
12	70	0.180	55	0.036	55	0.018	40	0.140	45	0.036	45	0.013
16	70	0.225	55	0.046	55	0.023	40	0.198	45	0.046	45	0.019
20	85	0.247	55	0.060	55	0.030	45	0.220	40	0.069	40	0.028

Material	Aluminium						Titanlegierung			
	Senken		Fasenfräsen		V-Nut fräsen		Fasenfräsen		V-Nut fräsen	
DC mm	Vc m/min	fz mm/U	Vc m/min	fz mm/Z	Vc m/min	fz mm/Z	Vc m/min	fz mm/Z	Vc m/min	fz mm/Z
3	145	0.045	185	0.008	185	0.008	30	0.008	30	0.004
4	155	0.058	210	0.010	210	0.010	35	0.010	35	0.005
5	155	0.081	210	0.013	210	0.013	40	0.013	40	0.006
6	155	0.103	210	0.019	210	0.016	40	0.018	40	0.008
8	155	0.135	210	0.030	210	0.022	40	0.024	40	0.010
10	175	0.153	225	0.037	220	0.026	45	0.027	45	0.011
12	185	0.180	230	0.045	230	0.030	45	0.036	45	0.013
16	195	0.241	230	0.050	230	0.041	45	0.046	45	0.019
20	195	0.315	230	0.064	230	0.052	45	0.069	40	0.028



- Vielseitiges einsetzbares Multifunktionswerkzeug mit Wendeplatten
- Bearbeitungsmöglichkeiten: Anbohren, Entgraten und Gravieren
- Speziell ausgespitze Wendeplatten für Anbohr-Operationen

ABMESSUNGEN HALTER

Artikelnummer (WGR. 9829)	DCX mm	DCON mm	APMX mm	OAL mm	SIG °	ZEFP
SST-MTH-K-S16-90	13	16	6.5	100	90	1

ABMESSUNGEN WENDEPLATTE

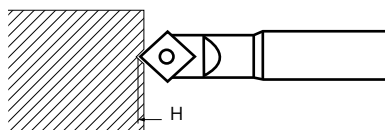
Artikelnummer (WGR. 9829)	L mm	IC mm	S mm	RE mm
SOMT11T308 SSTP20	11.00	10.87	3.97	0.80
SOGT11T303 SSTM20	11.00	10.87	3.97	0.30

SCHNITTDATEN

Material		Vc m/min	fz mm/U	
			SOMT11T308 SSTP20	SOGT11T303 SSTM20
Stahl	niedriglegiert	120 - 150	0.04 - 0.08	0.05 - 0.10
	legiert	100 - 120	0.03 - 0.07	0.05 - 0.10
	hochlegiert	60 - 100	0.03 - 0.06	0.04 - 0.08
Rostfreier Stahl	ferritisch	100 - 150	0.04 - 0.07	0.03 - 0.06
	austenitisch	60 - 120	0.03 - 0.06	0.03 - 0.07
Guss	Grauguss	80 - 120	0.05 - 0.08	0.05 - 0.08
	Sphäroguss	70 - 110	0.04 - 0.08	0.04 - 0.08
	Temperguss	90 - 150	0.05 - 0.10	0.05 - 0.10

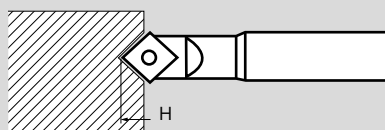
Verfahren

Gravieren



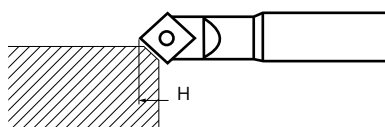
max. H = 0.7 mm

NC-Anbohren



max. H = 5 mm

Fasenfräsen



max. H = 7 mm



~3xD
ULDR



140°

6537
DIN



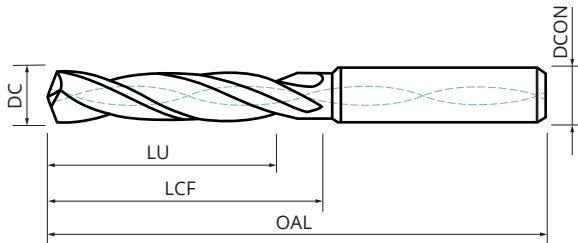
HA (h6)

m7
DC-TOL

TiAlN
COAT



IK



- Zur Anwendung in Stahl bis 45 HRC, rostfreiem Stahl und Titan sowie in Nichteisenmetall

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH451030	3	15.5	20	6	62
DH451031	3.1	15.4	20	6	62
DH451032	3.2	15.2	20	6	62
DH451033	3.3	15.1	20	6	62
DH451034	3.4	14.9	20	6	62
DH451035	3.5	14.8	20	6	62
DH451036	3.6	14.6	20	6	62
DH451037	3.7	14.5	20	6	62
DH451038	3.8	18.3	24	6	66
DH451039	3.9	18.2	24	6	66
DH451040	4	18	24	6	66
DH451041	4.1	17.9	24	6	66
DH451042	4.2	17.7	24	6	66
DH451043	4.3	17.6	24	6	66
DH451044	4.4	17.4	24	6	66
DH451045	4.5	17.3	24	6	66
DH451046	4.6	17.1	24	6	66
DH451047	4.7	17	24	6	66
DH451048	4.8	20.8	28	6	66
DH451049	4.9	20.7	28	6	66
DH451050	5	20.5	28	6	66
DH451051	5.1	20.4	28	6	66
DH451052	5.2	20.2	28	6	66
DH451053	5.3	20.1	28	6	66
DH451054	5.4	19.9	28	6	66
DH451055	5.5	19.8	28	6	66
DH451056	5.6	19.6	28	6	66
DH451057	5.7	19.5	28	6	66
DH451058	5.8	19.3	28	6	66
DH451059	5.9	19.2	28	6	66

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH451060	6	19	28	6	66
DH451061	6.1	24.9	34	8	79
DH451062	6.2	24.7	34	8	79
DH451063	6.3	24.6	34	8	79
DH451064	6.4	24.4	34	8	79
DH451065	6.5	24.3	34	8	79
DH451066	6.6	24.1	34	8	79
DH451067	6.7	24	34	8	79
DH451068	6.8	23.8	34	8	79
DH451069	6.9	23.7	34	8	79
DH451070	7	23.5	34	8	79
DH451071	7.1	30.4	41	8	79
DH451072	7.2	30.2	41	8	79
DH451073	7.3	30.1	41	8	79
DH451074	7.4	29.9	41	8	79
DH451075	7.5	29.8	41	8	79
DH451076	7.6	29.6	41	8	79
DH451077	7.7	29.5	41	8	79
DH451078	7.8	29.3	41	8	79
DH451079	7.9	29.2	41	8	79
DH451080	8	29	41	8	79
DH451081	8.1	34.9	47	10	89
DH451082	8.2	34.7	47	10	89
DH451083	8.3	34.6	47	10	89
DH451084	8.4	34.4	47	10	89
DH451085	8.5	34.3	47	10	89
DH451086	8.6	34.1	47	10	89
DH451087	8.7	34	47	10	89
DH451088	8.8	33.8	47	10	89
DH451089	8.9	33.7	47	10	89

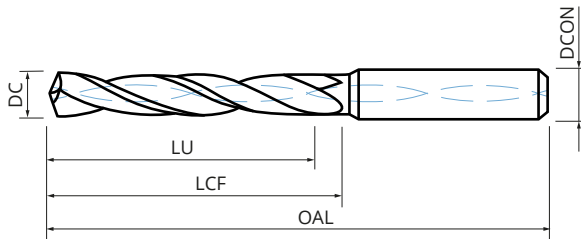
ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH451090	9	33.5	47	10	89	DH451116	11.6	37.6	55	12	102
DH451091	9.1	33.4	47	10	89	DH451117	11.7	37.5	55	12	102
DH451092	9.2	33.2	47	10	89	DH451118	11.8	37.3	55	12	102
DH451093	9.3	33.1	47	10	89	DH451119	11.9	37.2	55	12	102
DH451094	9.4	32.9	47	10	89	DH451120	12	37	55	12	102
DH451095	9.5	32.8	47	10	89	DH451125	12.5	41.3	60	14	107
DH451096	9.6	32.6	47	10	89	DH451130	13	40.5	60	14	107
DH451097	9.7	32.5	47	10	89	DH451135	13.5	39.8	60	14	107
DH451098	9.8	32.3	47	10	89	DH451140	14	39	60	14	107
DH451099	9.9	32.2	47	10	89	DH451145	14.5	43.3	65	16	115
DH451100	10	32	47	10	89	DH451150	15	42.5	65	16	115
DH451101	10.1	39.9	55	12	102	DH451155	15.5	41.8	65	16	115
DH451102	10.2	39.7	55	12	102	DH451160	16	41	65	16	115
DH451103	10.3	39.6	55	12	102	DH451165	16.5	48.3	73	18	123
DH451104	10.4	39.4	55	12	102	DH451170	17	47.5	73	18	123
DH451105	10.5	39.3	55	12	102	DH451175	17.5	46.8	73	18	123
DH451106	10.6	39.1	55	12	102	DH451180	18	46	73	18	123
DH451107	10.7	39	55	12	102	DH451185	18.5	51.3	79	20	131
DH451108	10.8	38.8	55	12	102	DH451190	19	50.5	79	20	131
DH451109	10.9	38.7	55	12	102	DH451195	19.5	49.8	79	20	131
DH451110	11	38.5	55	12	102	DH451200	20	49	79	20	131
DH451111	11.1	38.4	55	12	102						
DH451112	11.2	38.2	55	12	102						
DH451113	11.3	38.1	55	12	102						
DH451114	11.4	37.9	55	12	102						
DH451115	11.5	37.8	55	12	102						

Weitere Abmessungen und Ausführungen auf Anfrage.

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14	16	18	20
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	legiert	100 - 120	0.07	0.09	0.11	0.14	0.17	0.22	0.25	0.29	0.31	0.34	0.40
	ferritisch	60 - 70	0.05	0.07	0.09	0.11	0.12	0.13	0.15	0.17	0.19	0.21	0.23
Rostfreier Stahl	martensitisch	40 - 55	0.05	0.07	0.09	0.11	0.12	0.13	0.15	0.17	0.19	0.21	0.23
	austenitisch	55 - 65	0.06	0.08	0.10	0.12	0.12	0.14	0.16	0.18	0.20	0.22	0.24
Super-legierung	Titan	40 - 55	0.03	0.05	0.06	0.07	0.09	0.12	0.13	0.15	0.16	0.17	0.18
Nichteisen Metall	Al-Legierung < 10% Si	140 - 180	0.16	0.22	0.25	0.28	0.30	0.32	0.34	0.37	0.40	0.43	0.45
	Al-Legierung > 10% Si	120 - 140	0.15	0.21	0.24	0.27	0.29	0.31	0.33	0.36	0.38	0.40	0.42
	Andere	100 - 115	0.12	0.16	0.21	0.24	0.26	0.28	0.30	0.33	0.35	0.37	0.39



- Zur Anwendung in Stahl bis 45 HRC, rostfreiem Stahl und Titan sowie in Nichteisenmetall
- Kann zum Pilotieren verwendet werden bei MQL Tieflochbohrern

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH452010	1	6.5	8	3	55	DH452046	4.6	29.1	36	6	74
DH452011	1.1	10.4	12	3	55	DH4520465	4.65	29	36	6	74
DH452012	1.2	10.2	12	3	55	DH452047	4.7	29	36	6	74
DH452013	1.3	10.1	12	3	55	DH452048	4.8	36.8	44	6	82
DH452014	1.4	9.9	12	3	55	DH452049	4.9	36.7	44	6	82
DH452015	1.5	13.8	16	3	55	DH452050	5	36.5	44	6	82
DH452016	1.6	13.6	16	3	55	DH452051	5.1	36.4	44	6	82
DH452017	1.7	13.5	16	3	55	DH452052	5.2	36.2	44	6	82
DH452018	1.8	13.3	16	3	55	DH452053	5.3	36.1	44	6	82
DH452019	1.9	13.2	16	3	55	DH452054	5.4	35.9	44	6	82
DH452020	2	18	21	4	57	DH452055	5.5	35.8	44	6	82
DH452021	2.1	17.9	21	4	57	DH4520555	5.55	35.7	44	6	82
DH452022	2.2	17.7	21	4	57	DH452056	5.6	35.6	44	6	82
DH452023	2.3	17.6	21	4	57	DH452057	5.7	35.5	44	6	82
DH452024	2.4	17.4	21	4	57	DH452058	5.8	35.3	44	6	82
DH452025	2.5	17.3	21	4	57	DH452059	5.9	35.2	44	6	82
DH452026	2.6	17.1	21	4	57	DH452060	6	35	44	6	82
DH452027	2.7	17	21	4	57	DH452061	6.1	43.9	53	8	91
DH452028	2.8	16.8	21	4	57	DH452062	6.2	43.7	53	8	91
DH452029	2.9	16.7	21	4	57	DH452063	6.3	43.6	53	8	91
DH452030	3	23.5	28	6	66	DH452064	6.4	43.4	53	8	91
DH452031	3.1	23.4	28	6	66	DH452065	6.5	43.3	53	8	91
DH452032	3.2	23.2	28	6	66	DH452066	6.6	43.1	53	8	91
DH452033	3.3	23.1	28	6	66	DH452067	6.7	43	53	8	91
DH452034	3.4	22.9	28	6	66	DH452068	6.8	42.8	53	8	91
DH452035	3.5	22.8	28	6	66	DH452069	6.9	42.7	53	8	91
DH452036	3.6	22.6	28	6	66	DH452070	7	42.5	53	8	91
DH452037	3.7	22.5	28	6	66	DH452071	7.1	42.4	53	8	91
DH452038	3.8	30.3	36	6	74	DH452072	7.2	42.2	53	8	91
DH452039	3.9	30.2	36	6	74	DH452073	7.3	42.1	53	8	91
DH452040	4	30	36	6	74	DH452074	7.4	41.9	53	8	91
DH452041	4.1	29.9	36	6	74	DH452075	7.5	41.8	53	8	91
DH452042	4.2	29.7	36	6	74	DH452076	7.6	41.6	53	8	91
DH452043	4.3	29.6	36	6	74	DH452077	7.7	41.5	53	8	91
DH452044	4.4	29.4	36	6	74	DH452078	7.8	41.3	53	8	91
DH452045	4.5	29.3	36	6	74	DH452079	7.9	41.2	53	8	91

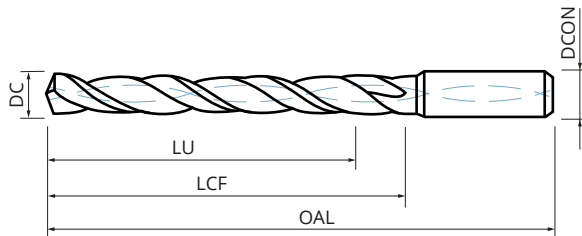
ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH452080	8	41	53	8	91	DH452112	11.2	54.2	71	12	118
DH452081	8.1	48.9	61	10	103	DH452113	11.3	54.1	71	12	118
DH452082	8.2	48.7	61	10	103	DH452114	11.4	53.9	71	12	118
DH452083	8.3	48.6	61	10	103	DH452115	11.5	53.8	71	12	118
DH452084	8.4	48.4	61	10	103	DH452116	11.6	53.6	71	12	118
DH452085	8.5	48.3	61	10	103	DH452117	11.7	53.5	71	12	118
DH452086	8.6	48.1	61	10	103	DH452118	11.8	53.3	71	12	118
DH452087	8.7	48	61	10	103	DH452119	11.9	53.2	71	12	118
DH452088	8.8	47.8	61	10	103	DH452120	12	53	71	12	118
DH452089	8.9	47.7	61	10	103	DH452125	12.5	58.3	77	14	124
DH452090	9	47.5	61	10	103	DH452130	13	57.5	77	14	124
DH452091	9.1	47.4	61	10	103	DH452135	13.5	56.8	77	14	124
DH452092	9.2	47.2	61	10	103	DH452140	14	56	77	14	124
DH452093	9.3	47.1	61	10	103	DH452145	14.5	61.3	83	16	133
DH452094	9.4	46.9	61	10	103	DH452150	15	60.5	83	16	133
DH452095	9.5	46.8	61	10	103	DH452155	15.5	59.8	83	16	133
DH452096	9.6	46.6	61	10	103	DH452158	15.8	59.3	83	16	133
DH452097	9.7	46.5	61	10	103	DH452160	16	59	83	16	133
DH452098	9.8	46.3	61	10	103	DH452165	16.5	68.3	93	18	143
DH452099	9.9	46.2	61	10	103	DH452170	17	67.5	93	18	143
DH452100	10	46	61	10	103	DH452175	17.5	66.8	93	18	143
DH452101	10.1	55.9	71	12	118	DH452180	18	66	93	18	143
DH452102	10.2	55.7	71	12	118	DH452185	18.5	73.3	101	20	153
DH452103	10.3	55.6	71	12	118	DH452190	19	72.5	101	20	153
DH452104	10.4	55.4	71	12	118	DH452195	19.5	71.8	101	20	153
DH452105	10.5	55.3	71	12	118	DH452198	19.8	71.3	101	20	153
DH452106	10.6	55.1	71	12	118	DH452200	20	71	101	20	153
DH452107	10.7	55	71	12	118						
DH452108	10.8	54.8	71	12	118						
DH452109	10.9	54.7	71	12	118						
DH452110	11	54.5	71	12	118						
DH452111	11.1	54.4	71	12	118						

Weitere Abmessungen und Ausführungen auf Anfrage.

SCHNITTDATEN

Material		Dc	1	2	3	4	5	6	8	10	12	14	16	18	20
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	legiert	100 - 120	0.025	0.045	0.07	0.09	0.11	0.14	0.17	0.22	0.25	0.29	0.31	0.34	0.40
	ferritisch	60 - 70	0.025	0.040	0.05	0.07	0.09	0.11	0.12	0.13	0.15	0.17	0.19	0.21	0.23
Rostfreier Stahl	martensitisch	40 - 55	0.025	0.040	0.05	0.07	0.09	0.11	0.12	0.13	0.15	0.17	0.19	0.21	0.23
	austenitisch	55 - 65	0.030	0.045	0.06	0.08	0.10	0.12	0.12	0.14	0.16	0.18	0.20	0.22	0.24
Superlegierung	Titan	40 - 55	0.012	0.022	0.03	0.05	0.06	0.07	0.09	0.12	0.13	0.15	0.16	0.17	0.18
Nichteisen Metall	Al-Legierung < 10% Si	140 - 180	0.08	0.12	0.16	0.22	0.25	0.28	0.30	0.32	0.34	0.37	0.40	0.43	0.45
	Al-Legierung > 10% Si	120 - 140	0.07	0.11	0.15	0.21	0.24	0.27	0.29	0.31	0.33	0.36	0.38	0.40	0.42
	Andere	100 - 115	0.05	0.09	0.12	0.16	0.21	0.24	0.26	0.28	0.30	0.33	0.35	0.37	0.39



- Zur Anwendung in Stahl bis 45 HRC, rostfreiem Stahl und Titan sowie in Nichteisenmetall

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH453030	3	29.5	34	6	72	DH453056	5.6	48.6	57	6	95
DH453031	3.1	29.4	34	6	72	DH453057	5.7	48.5	57	6	95
DH453032	3.2	29.2	34	6	72	DH453058	5.8	48.3	57	6	95
DH453033	3.3	29.1	34	6	72	DH453059	5.9	48.2	57	6	95
DH453034	3.4	28.9	34	6	72	DH453060	6	48	57	6	95
DH453035	3.5	28.8	34	6	72	DH453061	6.1	66.9	76	8	114
DH453036	3.6	28.6	34	6	72	DH453062	6.2	66.7	76	8	114
DH453037	3.7	28.5	34	6	72	DH453063	6.3	66.6	76	8	114
DH453038	3.8	37.3	43	6	81	DH453064	6.4	66.4	76	8	114
DH453039	3.9	37.2	43	6	81	DH453065	6.5	66.3	76	8	114
DH453040	4	37	43	6	81	DH453066	6.6	66.1	76	8	114
DH453041	4.1	36.9	43	6	81	DH453067	6.7	66	76	8	114
DH453042	4.2	36.7	43	6	81	DH453068	6.8	65.8	76	8	114
DH453043	4.3	36.6	43	6	81	DH453069	6.9	65.7	76	8	114
DH453044	4.4	36.4	43	6	81	DH453070	7	65.5	76	8	114
DH453045	4.5	36.3	43	6	81	DH453071	7.1	65.4	76	8	114
DH453046	4.6	36.1	43	6	81	DH453072	7.2	65.2	76	8	114
DH453047	4.7	36	43	6	81	DH453073	7.3	65.1	76	8	114
DH453048	4.8	49.8	57	6	95	DH453074	7.4	64.9	76	8	114
DH453049	4.9	49.7	57	6	95	DH453075	7.5	64.8	76	8	114
DH453050	5	49.5	57	6	95	DH453076	7.6	64.6	76	8	114
DH453051	5.1	49.4	57	6	95	DH453077	7.7	64.5	76	8	114
DH453052	5.2	49.2	57	6	95	DH453078	7.8	64.3	76	8	114
DH453053	5.3	49.1	57	6	95	DH453079	7.9	64.2	76	8	114
DH453054	5.4	48.9	57	6	95	DH453080	8	64	76	8	114
DH453055	5.5	48.8	57	6	95	DH453081	8.1	82.9	95	10	142

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH453082	8.2	82.7	95	10	142	DH453104	10.4	98.4	114	12	162
DH453083	8.3	82.6	95	10	142	DH453105	10.5	98.3	114	12	162
DH453084	8.4	82.4	95	10	142	DH453106	10.6	98.1	114	12	162
DH453085	8.5	82.3	95	10	142	DH453107	10.7	98	114	12	162
DH453086	8.6	82.1	95	10	142	DH453108	10.8	97.8	114	12	162
DH453087	8.7	82	95	10	142	DH453109	10.9	97.7	114	12	162
DH453088	8.8	81.8	95	10	142	DH453110	11	97.5	114	12	162
DH453089	8.9	81.7	95	10	142	DH453111	11.1	97.4	114	12	162
DH453090	9	81.5	95	10	142	DH453112	11.2	97.2	114	12	162
DH453091	9.1	81.4	95	10	142	DH453113	11.3	97.1	114	12	162
DH453092	9.2	81.2	95	10	142	DH453114	11.4	96.9	114	12	162
DH453093	9.3	81.1	95	10	142	DH453115	11.5	96.8	114	12	162
DH453094	9.4	80.9	95	10	142	DH453116	11.6	96.6	114	12	162
DH453095	9.5	80.8	95	10	142	DH453117	11.7	96.5	114	12	162
DH453096	9.6	80.6	95	10	142	DH453118	11.8	96.3	114	12	162
DH453097	9.7	80.5	95	10	142	DH453119	11.9	96.2	114	12	162
DH453098	9.8	80.3	95	10	142	DH453120	12	96	114	12	162
DH453099	9.9	80.2	95	10	142	DH453125	12.5	114.3	133	14	178
DH453100	10	80	95	10	142	DH453130	13	113.5	133	14	178
DH453101	10.1	98.9	114	12	162	DH453135	13.5	112.8	133	14	178
DH453102	10.2	98.7	114	12	162	DH453140	14	112	133	14	178
DH453103	10.3	98.6	114	12	162						

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	legiert	70 - 110	0.05	0.08	0.10	0.12	0.15	0.18	0.20	0.23
Rostfreier Stahl	ferritisch	45 - 60	0.04	0.07	0.09	0.11	0.13	0.14	0.15	0.17
	martensitisch	25 - 40	0.04	0.07	0.09	0.11	0.13	0.14	0.15	0.17
	austenitisch	40 - 60	0.04	0.08	0.10	0.12	0.14	0.15	0.16	0.18
Super- legierung	Titan	40 - 50	0.03	0.04	0.06	0.06	0.08	0.10	0.12	0.14
Nichteisen Metall	Al-Legierung < 10% Si	120 - 150	0.11	0.16	0.18	0.22	0.27	0.33	0.38	0.45
	Al-Legierung > 10% Si	100 - 120	0.08	0.13	0.16	0.20	0.24	0.28	0.32	0.35
	Andere	90 - 110	0.07	0.09	0.10	0.13	0.16	0.20	0.23	0.27



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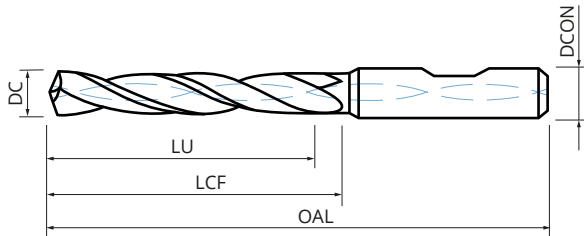
6537
DIN



*HA

m7
DC-TOL

TiAlN
COAT



- Zur Anwendung in Stahl bis 45 HRC und Guss, bedingt auch für rostfreien Stahl geeignet

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH446030	3	15.5	20	6	62	DH446062	6.2	24.7	34	8	79
DH446031	3.1	15.4	20	6	62	DH446063	6.3	24.6	34	8	79
DH446032	3.2	15.2	20	6	62	DH446064	6.4	24.4	34	8	79
DH446033	3.3	15.1	20	6	62	DH446065	6.5	24.3	34	8	79
DH446034	3.4	14.9	20	6	62	DH446066	6.6	24.1	34	8	79
DH446035	3.5	14.8	20	6	62	DH446067	6.7	24	34	8	79
DH446036	3.6	14.6	20	6	62	DH446068	6.8	23.8	34	8	79
DH446037	3.7	14.5	20	6	62	DH446069	6.9	23.7	34	8	79
DH446038	3.8	18.3	24	6	66	DH446070	7	23.5	34	8	79
DH446039	3.9	18.2	24	6	66	DH446071	7.1	30.4	41	8	79
DH446040	4	18	24	6	66	DH446072	7.2	30.2	41	8	79
DH446041	4.1	17.9	24	6	66	DH446073	7.3	30.1	41	8	79
DH446042	4.2	17.7	24	6	66	DH446074	7.4	29.9	41	8	79
DH446043	4.3	17.6	24	6	66	DH446075	7.5	29.8	41	8	79
DH446044	4.4	17.4	24	6	66	DH446076	7.6	29.6	41	8	79
DH446045	4.5	17.3	24	6	66	DH446077	7.7	29.5	41	8	79
DH446046	4.6	17.1	24	6	66	DH446078	7.8	29.3	41	8	79
DH446047	4.7	17	24	6	66	DH446079	7.9	29.2	41	8	79
DH446048	4.8	20.8	28	6	66	DH446080	8	29	41	8	79
DH446049	4.9	20.7	28	6	66	DH446081	8.1	34.9	47	10	89
DH446050	5	20.5	28	6	66	DH446082	8.2	34.7	47	10	89
DH446051	5.1	20.4	28	6	66	DH446083	8.3	34.6	47	10	89
DH446052	5.2	20.2	28	6	66	DH446084	8.4	34.4	47	10	89
DH446053	5.3	20.1	28	6	66	DH446085	8.5	34.3	47	10	89
DH446054	5.4	19.9	28	6	66	DH446086	8.6	34.1	47	10	89
DH446055	5.5	19.8	28	6	66	DH446087	8.7	34	47	10	89
DH446056	5.6	19.6	28	6	66	DH446088	8.8	33.8	47	10	89
DH446057	5.7	19.5	28	6	66	DH446089	8.9	33.7	47	10	89
DH446058	5.8	19.3	28	6	66	DH446090	9	33.5	47	10	89
DH446059	5.9	19.2	28	6	66	DH446091	9.1	33.4	47	10	89
DH446060	6	19	28	6	66	DH446092	9.2	33.2	47	10	89
DH446061	6.1	24.9	34	8	79	DH446093	9.3	33.1	47	10	89

ABMESSUNGEN

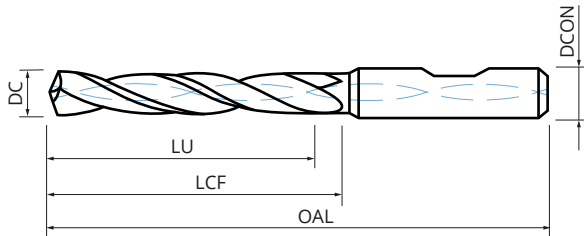
ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH446094	9.4	32.9	47	10	89	DH446118	11.8	37.3	55	12	102
DH446095	9.5	32.8	47	10	89	DH446119	11.9	37.2	55	12	102
DH446096	9.6	32.6	47	10	89	DH446120	12	37	55	12	102
DH446097	9.7	32.5	47	10	89	DH446125	12.5	41.3	60	14	107
DH446098	9.8	32.3	47	10	89	DH446130	13	40.5	60	14	107
DH446099	9.9	32.2	47	10	89	DH446135	13.5	39.8	60	14	107
DH446100	10	32	47	10	89	DH446140	14	39	60	14	107
DH446101	10.1	39.9	55	12	102	DH446145	14.5	43.3	65	16	115
DH446102	10.2	39.7	55	12	102	DH446150	15	42.5	65	16	115
DH446103	10.3	39.6	55	12	102	DH446155	15.5	41.8	65	16	115
DH446104	10.4	39.4	55	12	102	DH446160	16	41	65	16	115
DH446105	10.5	39.3	55	12	102	DH446165	16.5	48.3	73	18	123
DH446106	10.6	39.1	55	12	102	DH446170	17	47.5	73	18	123
DH446107	10.7	39	55	12	102	DH446175	17.5	46.8	73	18	123
DH446108	10.8	38.8	55	12	102	DH446180	18	46	73	18	123
DH446109	10.9	38.7	55	12	102	DH446185	18.5	51.3	79	20	131
DH446110	11	38.5	55	12	102	DH446190	19	50.5	79	20	131
DH446111	11.1	38.4	55	12	102	DH446195	19.5	49.8	79	20	131
DH446112	11.2	38.2	55	12	102	DH446200	20	49	79	20	131
DH446113	11.3	38.1	55	12	102						
DH446114	11.4	37.9	55	12	102						
DH446115	11.5	37.8	55	12	102						
DH446116	11.6	37.6	55	12	102						
DH446117	11.7	37.5	55	12	102						

Weitere Abmessungen und Ausführungen auf Anfrage.

*Bestellnummer für
HA Schaft - DH406

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14	16	18	20
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	95 - 125	0.10	0.12	0.16	0.19	0.22	0.25	0.28	0.32	0.35	0.40	0.45
	niedriglegiert	90 - 115	0.09	0.11	0.14	0.17	0.20	0.23	0.25	0.27	0.29	0.32	0.35
	hochlegiert	55 - 95	0.07	0.09	0.12	0.14	0.16	0.18	0.20	0.23	0.26	0.29	0.33
Rostfreier Stahl	ferritisch	80 - 90	0.08	0.10	0.14	0.16	0.19	0.22	0.25	0.29	0.32	0.35	0.39
	martensitisch	55 - 65	0.05	0.07	0.10	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34
Guss	Grauguss	95 - 110	0.10	0.12	0.15	0.17	0.19	0.23	0.26	0.29	0.32	0.36	0.41
	Sphäroguss	80 - 125	0.10	0.12	0.15	0.17	0.19	0.23	0.26	0.29	0.32	0.36	0.41
	Temperguss	80 - 95	0.10	0.12	0.15	0.17	0.19	0.23	0.26	0.29	0.32	0.36	0.41



- Zur Anwendung in Stahl bis 45 HRC und Guss, bedingt auch für rostfreien Stahl geeignet

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH448030	3	23.5	28	6	66	DH448062	6.2	43.7	53	8	91
DH448031	3.1	23.4	28	6	66	DH448063	6.3	43.6	53	8	91
DH448032	3.2	23.2	28	6	66	DH448064	6.4	43.4	53	8	91
DH448033	3.3	23.1	28	6	66	DH448065	6.5	43.3	53	8	91
DH448034	3.4	22.9	28	6	66	DH448066	6.6	43.1	53	8	91
DH448035	3.5	22.8	28	6	66	DH448067	6.7	43	53	8	91
DH448036	3.6	22.6	28	6	66	DH448068	6.8	42.8	53	8	91
DH448037	3.7	22.5	28	6	66	DH448069	6.9	42.7	53	8	91
DH448038	3.8	30.3	36	6	74	DH448070	7	42.5	53	8	91
DH448039	3.9	30.2	36	6	74	DH448071	7.1	42.4	53	8	91
DH448040	4	30	36	6	74	DH448072	7.2	42.2	53	8	91
DH448041	4.1	29.9	36	6	74	DH448073	7.3	42.1	53	8	91
DH448042	4.2	29.7	36	6	74	DH448074	7.4	41.9	53	8	91
DH448043	4.3	29.6	36	6	74	DH448075	7.5	41.8	53	8	91
DH448044	4.4	29.4	36	6	74	DH448076	7.6	41.6	53	8	91
DH448045	4.5	29.3	36	6	74	DH448077	7.7	41.5	53	8	91
DH448046	4.6	29.1	36	6	74	DH448078	7.8	41.3	53	8	91
DH448047	4.7	29	36	6	74	DH448079	7.9	41.2	53	8	91
DH448048	4.8	36.8	44	6	82	DH448080	8	41	53	8	91
DH448049	4.9	36.7	44	6	82	DH448081	8.1	48.9	61	10	103
DH448050	5	36.5	44	6	82	DH448082	8.2	48.7	61	10	103
DH448051	5.1	36.4	44	6	82	DH448083	8.3	48.6	61	10	103
DH448052	5.2	36.2	44	6	82	DH448084	8.4	48.4	61	10	103
DH448053	5.3	36.1	44	6	82	DH448085	8.5	48.3	61	10	103
DH448054	5.4	35.9	44	6	82	DH448086	8.6	48.1	61	10	103
DH448055	5.5	35.8	44	6	82	DH448087	8.7	48	61	10	103
DH448056	5.6	35.6	44	6	82	DH448088	8.8	47.8	61	10	103
DH448057	5.7	35.5	44	6	82	DH448089	8.9	47.7	61	10	103
DH448058	5.8	35.3	44	6	82	DH448090	9	47.5	61	10	103
DH448059	5.9	35.2	44	6	82	DH448091	9.1	47.4	61	10	103
DH448060	6	35	44	6	82	DH448092	9.2	47.2	61	10	103
DH448061	6.1	43.9	53	8	91	DH448093	9.3	47.1	61	10	103

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH448094	9.4	46.9	61	10	103	DH448118	11.8	53.3	71	12	118
DH448095	9.5	46.8	61	10	103	DH448119	11.9	53.2	71	12	118
DH448096	9.6	46.6	61	10	103	DH448120	12	53	71	12	118
DH448097	9.7	46.5	61	10	103	DH448125	12.5	58.3	77	14	124
DH448098	9.8	46.3	61	10	103	DH448130	13	57.5	77	14	124
DH448099	9.9	46.2	61	10	103	DH448135	13.5	56.8	77	14	124
DH448100	10	46	61	10	103	DH448140	14	56	77	14	124
DH448101	10.1	55.9	71	12	118	DH448145	14.5	61.3	83	16	133
DH448102	10.2	55.7	71	12	118	DH448150	15	60.5	83	16	133
DH448103	10.3	55.6	71	12	118	DH448155	15.5	59.8	83	16	133
DH448104	10.4	55.4	71	12	118	DH448160	16	59	83	16	133
DH448105	10.5	55.3	71	12	118	DH448165	16.5	68.3	93	18	143
DH448106	10.6	55.1	71	12	118	DH448170	17	67.5	93	18	143
DH448107	10.7	55	71	12	118	DH448175	17.5	66.8	93	18	143
DH448108	10.8	54.8	71	12	118	DH448180	18	66	93	18	143
DH448109	10.9	54.7	71	12	118	DH448185	18.5	73.3	101	20	153
DH448110	11	54.5	71	12	118	DH448190	19	72.5	101	20	153
DH448111	11.1	54.4	71	12	118	DH448200	20	71	101	20	153
DH448112	11.2	54.2	71	12	118						
DH448113	11.3	54.1	71	12	118						
DH448114	11.4	53.9	71	12	118						
DH448115	11.5	53.8	71	12	118						
DH448116	11.6	53.6	71	12	118						
DH448117	11.7	53.5	71	12	118						

Weitere Abmessungen und Ausführungen auf Anfrage.

*Bestellnummer für
HA Schaft - DH408

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14	16	18	20
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	90 - 120	0.10	0.12	0.16	0.19	0.22	0.25	0.28	0.32	0.35	0.40	0.45
	niedriglegiert	85 - 110	0.09	0.11	0.14	0.17	0.20	0.23	0.25	0.27	0.29	0.32	0.35
	hochlegiert	50 - 90	0.07	0.09	0.12	0.14	0.16	0.18	0.20	0.23	0.26	0.29	0.33
Rostfreier Stahl	ferritisch	75 - 85	0.08	0.10	0.14	0.16	0.19	0.22	0.25	0.29	0.32	0.35	0.39
	martensitisch	50 - 60	0.05	0.07	0.10	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34
Guss	Grauguss	95 - 110	0.10	0.12	0.15	0.17	0.19	0.23	0.26	0.29	0.32	0.36	0.41
	Sphäroguss	80 - 120	0.10	0.12	0.15	0.17	0.19	0.23	0.26	0.29	0.32	0.36	0.41
	Temperguss	80 - 90	0.10	0.12	0.15	0.17	0.19	0.23	0.26	0.29	0.32	0.36	0.41



~8xD
ULDR

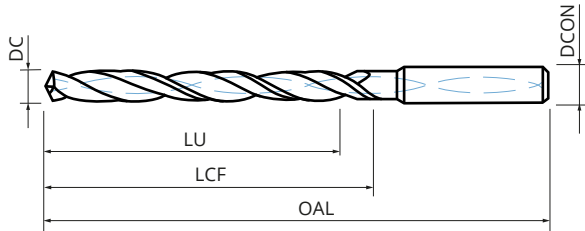


6537
DIN



m7
DC-TOL

TiAlN
COAT



- Zur Anwendung in Stahl bis 45 HRC und Guss, bedingt auch für rostfreien Stahl geeignet

ABMESSUNGEN

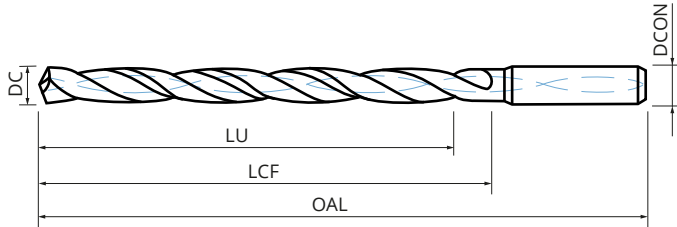
ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH421030	3	29.5	34	6	72	DH421058	5.8	48.3	57	6	95
DH421031	3.1	29.4	34	6	72	DH421059	5.9	48.2	57	6	95
DH421032	3.2	29.2	34	6	72	DH421060	6	48	57	6	95
DH421033	3.3	29.1	34	6	72	DH421061	6.1	66.9	76	8	114
DH421034	3.4	28.9	34	6	72	DH421062	6.2	66.7	76	8	114
DH421035	3.5	28.8	34	6	72	DH421063	6.3	66.6	76	8	114
DH421036	3.6	28.6	34	6	72	DH421064	6.4	66.4	76	8	114
DH421037	3.7	28.5	34	6	72	DH421065	6.5	66.3	76	8	114
DH421038	3.8	37.3	43	6	81	DH421066	6.6	66.1	76	8	114
DH421039	3.9	37.2	43	6	81	DH421067	6.7	66	76	8	114
DH421040	4	37	43	6	81	DH421068	6.8	65.8	76	8	114
DH421041	4.1	36.9	43	6	81	DH421069	6.9	65.7	76	8	114
DH421042	4.2	36.7	43	6	81	DH421070	7	65.5	76	8	114
DH421043	4.3	36.6	43	6	81	DH421071	7.1	65.4	76	8	114
DH421044	4.4	36.4	43	6	81	DH421072	7.2	65.2	76	8	114
DH421045	4.5	36.3	43	6	81	DH421073	7.3	65.1	76	8	114
DH421046	4.6	36.1	43	6	81	DH421074	7.4	64.9	76	8	114
DH421047	4.7	36	43	6	81	DH421075	7.5	64.8	76	8	114
DH421048	4.8	49.8	57	6	95	DH421076	7.6	64.6	76	8	114
DH421049	4.9	49.7	57	6	95	DH421077	7.7	64.5	76	8	114
DH421050	5	49.5	57	6	95	DH421078	7.8	64.3	76	8	114
DH421051	5.1	49.4	57	6	95	DH421079	7.9	64.2	76	8	114
DH421052	5.2	49.2	57	6	95	DH421080	8	64	76	8	114
DH421053	5.3	49.1	57	6	95	DH421081	8.1	82.9	95	10	142
DH421054	5.4	48.9	57	6	95	DH421082	8.2	82.7	95	10	142
DH421055	5.5	48.8	57	6	95	DH421083	8.3	82.6	95	10	142
DH421056	5.6	48.6	57	6	95	DH421084	8.4	82.4	95	10	142
DH421057	5.7	48.5	57	6	95	DH421085	8.5	82.3	95	10	142

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH421086	8.6	82.1	95	10	142	DH421106	10.6	98.1	114	12	162
DH421087	8.7	82	95	10	142	DH421107	10.7	98	114	12	162
DH421088	8.8	81.8	95	10	142	DH421108	10.8	97.8	114	12	162
DH421089	8.9	81.7	95	10	142	DH421109	10.9	97.7	114	12	162
DH421090	9	81.5	95	10	142	DH421110	11	97.5	114	12	162
DH421091	9.1	81.4	95	10	142	DH421111	11.1	97.4	114	12	162
DH421092	9.2	81.2	95	10	142	DH421112	11.2	97.2	114	12	162
DH421093	9.3	81.1	95	10	142	DH421113	11.3	97.1	114	12	162
DH421094	9.4	80.9	95	10	142	DH421114	11.4	96.9	114	12	162
DH421095	9.5	80.8	95	10	142	DH421115	11.5	96.8	114	12	162
DH421096	9.6	80.6	95	10	142	DH421116	11.6	96.6	114	12	162
DH421097	9.7	80.5	95	10	142	DH421117	11.7	96.5	114	12	162
DH421098	9.8	80.3	95	10	142	DH421118	11.8	96.3	114	12	162
DH421099	9.9	80.2	95	10	142	DH421119	11.9	96.2	114	12	162
DH421100	10	80	95	10	142	DH421120	12	96	114	12	162
DH421101	10.1	98.9	114	12	162	DH421125	12.5	114.3	133	14	178
DH421102	10.2	98.7	114	12	162	DH421130	13	113.5	133	14	178
DH421103	10.3	98.6	114	12	162	DH421135	13.5	112.8	133	14	178
DH421104	10.4	98.4	114	12	162	DH421140	14	112	133	14	178
DH421105	10.5	98.3	114	12	162						

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	85 - 110	0.09	0.11	0.15	0.18	0.21	0.24	0.27	0.31
	niedriglegiert	80 - 100	0.08	0.10	0.13	0.16	0.19	0.22	0.24	0.26
	hochlegiert	45 - 85	0.06	0.08	0.11	0.14	0.15	0.17	0.19	0.22
Rostfreier Stahl	ferritisch	70 - 80	0.07	0.09	0.13	0.15	0.18	0.21	0.24	0.28
	martensitisch	45 - 55	0.04	0.06	0.09	0.12	0.16	0.18	0.21	0.24
Guss	Grauguss	90 - 100	0.09	0.11	0.14	0.16	0.18	0.22	0.25	0.28
	Sphäroguss	75 - 110	0.09	0.11	0.14	0.16	0.18	0.22	0.25	0.28
	Temperguss	75 - 85	0.09	0.11	0.14	0.16	0.18	0.22	0.25	0.28



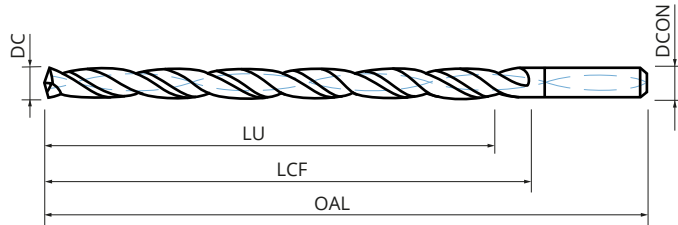
- Zur Anwendung in Stahl bis 45 HRC und Guss, bedingt auch für rostfreien Stahl geeignet

ABMESSUNGEN

ArtNr. (WGR. 8104)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8104)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DHM10030	3	35.5	40	6	80	DHM10080	8	93	105	8	145
DHM10033	3.3	42.1	47	6	87	DHM10085	8.5	99.3	112	10	156
DHM10035	3.5	41.8	47	6	87	DHM10090	9	104.5	118	10	162
DHM10040	4	47	53	6	93	DHM10095	9.5	111.8	126	10	170
DHM10042	4.2	53.7	60	6	100	DHM10100	10	117	132	10	176
DHM10045	4.5	53.3	60	6	100	DHM10105	10.5	123.3	139	12	188
DHM10050	5	58.5	66	6	106	DHM10110	11	128.5	145	12	194
DHM10055	5.5	64.8	73	6	113	DHM10115	11.5	134.8	152	12	201
DHM10060	6	70	79	6	119	DHM10120	12	140	158	12	207
DHM10065	6.5	76.3	86	8	126	DHM10125	12.5	146.3	165	14	214
DHM10068	6.8	81.8	92	8	132	DHM10130	13	151.5	171	14	220
DHM10070	7	81.5	92	8	132	DHM10135	13.5	157.8	178	14	227
DHM10075	7.5	87.8	99	8	139	DHM10140	14	163	184	14	233

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	85 - 110	0.10	0.12	0.14	0.16	0.20	0.23	0.24	0.28
	niedriglegiert	60 - 95	0.08	0.10	0.12	0.13	0.17	0.19	0.20	0.23
	hochlegiert	55 - 80	0.07	0.08	0.10	0.10	0.14	0.16	0.17	0.19
Guss	Grauguss	70 - 90	0.12	0.14	0.19	0.21	0.24	0.26	0.30	0.32
	Sphäroguss	75 - 100	0.10	0.12	0.17	0.19	0.22	0.24	0.28	0.30
	Temperguss	65 - 80	0.09	0.11	0.16	0.18	0.21	0.23	0.25	0.27



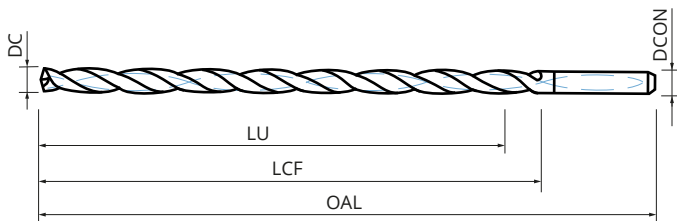
- Zur Anwendung in Stahl bis 45 HRC und Guss, bedingt auch für rostfreien Stahl geeignet
- Eine Pilotbohrung ist erforderlich - DH452 wird empfohlen (Seite 20)

ABMESSUNGEN

ArtNr. (WGR. 8104)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DHM15030	3	50.5	55	6	95
DHM15035	3.5	58.8	64	6	104
DHM15040	4	67	73	6	113
DHM15045	4.5	75.3	82	6	122
DHM15050	5	83.5	91	6	131
DHM15055	5.5	91.8	100	6	140
DHM15060	6	100	109	6	149
DHM15070	7	116.5	127	8	167
DHM15080	8	133	145	8	185
DHM15090	9	149.5	163	10	207
DHM15100	10	167	182	10	226
DHM15110	11	183.5	200	12	249
DHM15120	12	200	218	12	267

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	85 - 110	0.10	0.12	0.14	0.16	0.20	0.23	0.24	0.28
	niedriglegiert	60 - 95	0.08	0.10	0.12	0.13	0.17	0.19	0.20	0.23
	hochlegiert	55 - 80	0.07	0.08	0.10	0.10	0.14	0.16	0.17	0.19
Guss	Grauguss	70 - 90	0.12	0.14	0.19	0.21	0.24	0.26	0.30	0.32
	Sphäroguss	75 - 100	0.10	0.12	0.17	0.19	0.22	0.24	0.28	0.30
	Temperguss	65 - 80	0.09	0.11	0.16	0.18	0.21	0.23	0.25	0.27



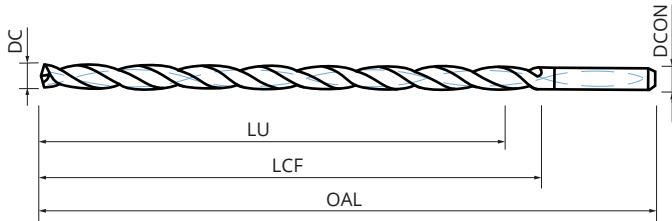
- Zur Anwendung in Stahl bis 45 HRC und Guss, bedingt auch für rostfreien Stahl geeignet
- Eine Pilotbohrung ist erforderlich – DH452 wird empfohlen (Seite 20)

ABMESSUNGEN

ArtNr. (WGR. 8104)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DHM20030	3	65.5	70	6	110
DHM20035	3.5	76.8	82	6	122
DHM20040	4	87	93	6	133
DHM20045	4.5	98.3	105	6	145
DHM20050	5	108.5	116	6	156
DHM20055	5.5	119.8	128	6	168
DHM20060	6	130	139	6	179
DHM20070	7	151.5	162	8	202
DHM20080	8	173	185	8	225
DHM20090	9	194.5	208	10	252
DHM20100	10	217	232	10	276
DHM20110	11	238.5	255	12	304
DHM20120	12	260	278	12	327

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	85 - 110	0.10	0.12	0.14	0.16	0.20	0.23	0.24	0.28
	niedriglegiert	60 - 95	0.08	0.10	0.12	0.13	0.17	0.19	0.20	0.23
	hochlegiert	55 - 80	0.07	0.08	0.10	0.10	0.14	0.16	0.17	0.19
Guss	Grauguss	70 - 90	0.12	0.14	0.19	0.21	0.24	0.26	0.30	0.32
	Sphäroguss	75 - 100	0.10	0.12	0.17	0.19	0.22	0.24	0.28	0.30
	Temperguss	65 - 80	0.09	0.11	0.16	0.18	0.21	0.23	0.25	0.27



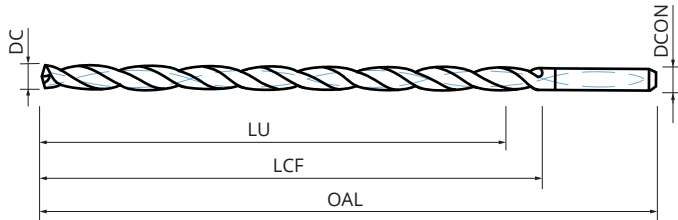
- Zur Anwendung in Stahl bis 45 HRC und Guss, bedingt auch für rostfreien Stahl geeignet
- Eine Pilotbohrung ist erforderlich - DH452 wird empfohlen (Seite 20)

ABMESSUNGEN

ArtNr. (WGR. 8104)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DHM25030	3	80.5	85	6	125
DHM25035	3.5	93.8	99	6	139
DHM25040	4	107	113	6	153
DHM25045	4.5	120.3	127	6	167
DHM25050	5	133.5	141	6	181
DHM25055	5.5	146.8	155	6	195
DHM25060	6	160	169	6	209
DHM25070	7	186.5	197	8	237
DHM25080	8	213	225	8	265
DHM25090	9	239.5	253	10	297
DHM25100	10	267	282	10	326

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	65 - 100	0.09	0.11	0.13	0.15	0.19	0.21
	niedriglegiert	50 - 90	0.07	0.09	0.11	0.12	0.15	0.17
	hochlegiert	45 - 50	0.06	0.07	0.09	0.10	0.12	0.15
Guss	Grauguss	60 - 75	0.11	0.13	0.18	0.20	0.22	0.24
	Sphäroguss	60 - 80	0.10	0.11	0.16	0.18	0.21	0.23
	Temperguss	55 - 65	0.08	0.10	0.15	0.17	0.20	0.22



- Zur Anwendung in Stahl bis 45 HRC und Guss, bedingt auch für rostfreien Stahl geeignet
- Eine Pilotbohrung ist erforderlich – DH452 wird empfohlen (Seite 20)

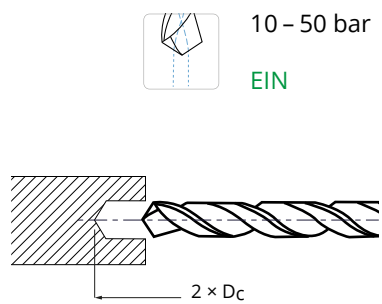
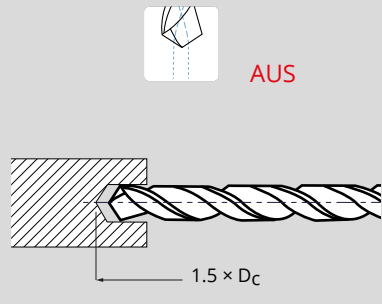
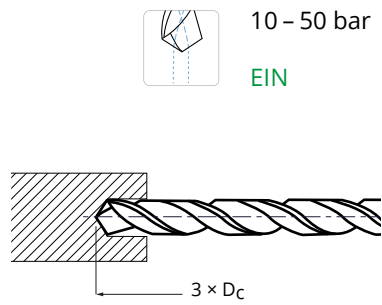
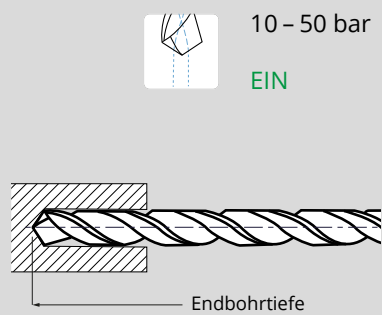
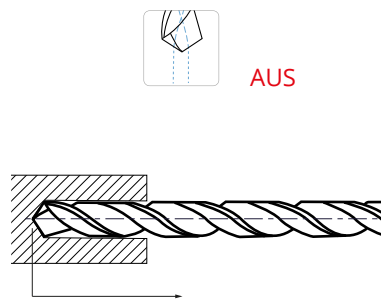
ABMESSUNGEN

ArtNr. (WGR. 8104)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DHM30030	3	95.5	100	6	140
DHM30035	3.5	111.8	117	6	157
DHM30040	4	127	133	6	173
DHM30045	4.5	143.3	150	6	190
DHM30050	5	158.5	166	6	206
DHM30055	5.5	174.8	183	6	223
DHM30060	6	190	199	6	239
DHM30070	7	221.5	232	8	272
DHM30080	8	253	265	8	305

SCHNITTDATEN

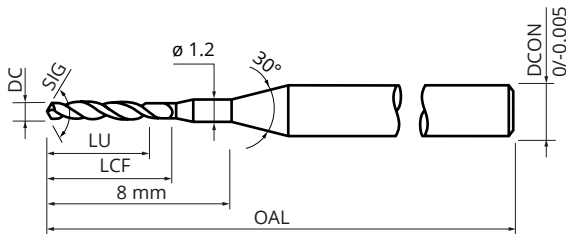
Material		Dc	3	4	5	6	8	10
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	65 - 100	0.09	0.11	0.13	0.15	0.19	0.21
	niedriglegiert	50 - 90	0.07	0.09	0.11	0.12	0.15	0.17
	hochlegiert	45 - 50	0.06	0.07	0.09	0.10	0.12	0.15
Guss	Grauguss	60 - 75	0.11	0.13	0.18	0.20	0.22	0.24
	Sphäroguss	60 - 80	0.10	0.11	0.16	0.18	0.21	0.23
	Temperguss	55 - 65	0.08	0.10	0.15	0.17	0.20	0.22

Tiefloch-Bohrstrategie

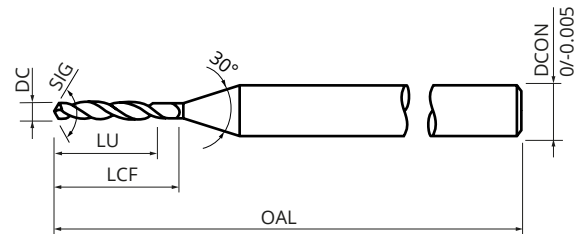
Verfahren		Einheit und Formeln
<p>Pilotieren</p>	 <p>10 - 50 bar EIN</p> <p>$2 \times D_c$</p>	<p>$2 \times D_c$</p>
<p>Einfahren</p>	 <p>AUS</p> <p>$1.5 \times D_c$</p>	<p>$n_{max} = 100 \text{ min}^{-1}$ $v_f = 1000 \text{ mm/min}$</p>
<p>Anbohren (Optional für besseren Verlauf)</p>	 <p>10 - 50 bar EIN</p> <p>$3 \times D_c$</p>	<p>$v_c = 25 - 50 \%$ $v_f = 25 - 50 \%$</p>
<p>Tieflochbohren</p>	 <p>10 - 50 bar EIN</p> <p>Endbohrtiefe</p>	<p>$v_c = 100 \%$ $v_f = 100 \%$</p> <p>Eine kurze Verweilzeit auf Endbohrtiefe wird empfohlen.</p>
<p>Ausfahren</p>	 <p>AUS</p>	<p>$n_{max} = 100 \text{ min}^{-1}$ $v_f = 1000 \text{ mm/min}$</p>



- Kleinstbohrer zur Anwendung in Stahl bis 45 HRC und Nichteisenmetall



gilt für DC 0.3 - 0.65



gilt für DC 0.7 - 2.0

ABMESSUNGEN

ArtNr. (WGR. 7771)	DC mm	DCON mm	LU mm	LCF mm	OAL mm
UTDSX 2030-015	0.3	3	1.1	1.5	38
UTDSX 2035-018	0.35	3	1.3	1.8	38
UTDSX 2040-020	0.4	3	1.4	2	38
UTDSX 2045-023	0.45	3	1.6	2.3	38
UTDSX 2050-025	0.5	3	1.8	2.5	38
UTDSX 2055-028	0.55	3	2	2.8	38
UTDSX 2060-030	0.6	3	2.1	3	38
UTDSX 2065-033	0.65	3	2.3	3.3	38
UTDSX 2070-035	0.7	3	2.5	3.5	38
UTDSX 2075-038	0.75	3	2.7	3.8	38
UTDSX 2080-040	0.8	3	2.8	4	38
UTDSX 2085-043	0.85	3	3	4.3	38
UTDSX 2090-045	0.9	3	3.2	4.5	38
UTDSX 2095-048	0.95	3	3.4	4.8	38
UTDSX 2100-050	1	3	3.5	5	38
UTDSX 2105-053	1.05	3	3.7	5.3	38
UTDSX 2110-055	1.1	3	3.9	5.5	38
UTDSX 2115-058	1.15	3	4.1	5.8	38

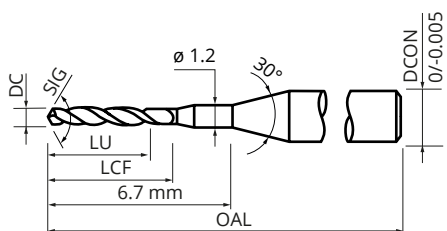
ArtNr. (WGR. 7771)	DC mm	DCON mm	LU mm	LCF mm	OAL mm
UTDSX 2120-060	1.2	3	4.2	6	38
UTDSX 2125-063	1.25	3	4.4	6.3	38
UTDSX 2130-065	1.3	3	4.6	6.5	38
UTDSX 2135-068	1.35	3	4.8	6.8	38
UTDSX 2140-070	1.4	3	4.9	7	38
UTDSX 2145-073	1.45	3	5.1	7.3	38
UTDSX 2150-075	1.5	3	5.3	7.5	38
UTDSX 2155-078	1.55	3	5.5	7.8	38
UTDSX 2160-080	1.6	3	5.6	8	38
UTDSX 2165-083	1.65	3	5.8	8.3	38
UTDSX 2170-085	1.7	3	6	8.5	38
UTDSX 2175-088	1.75	3	6.2	8.8	38
UTDSX 2180-090	1.8	3	6.3	9	38
UTDSX 2185-093	1.85	3	6.5	9.3	38
UTDSX 2190-095	1.9	3	6.7	9.5	38
UTDSX 2195-098	1.95	3	6.9	9.8	38
UTDSX 2200-100	2	3	7	10	38

SCHNITTDATEN

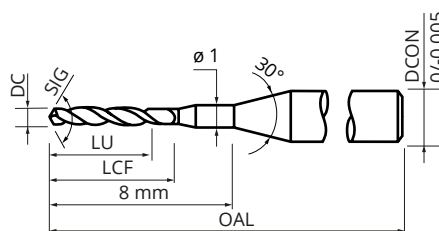
Material		Dc										
		0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	2		
		Vc m/min	Bohrtiefe mm	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	25 - 60	0.3 x Dc	0.002	0.003	0.005	0.006	0.007	0.008	0.010	0.011	0.030
	legiert	20 - 45	0.5 x Dc	0.002	0.003	0.005	0.005	0.007	0.008	0.008	0.009	0.031
Nichteisen Metall	Al-Legierung < 10% Si	20 - 60	1.0 x Dc	0.020	0.035	0.050	0.053	0.056	0.060	0.069	0.080	0.100



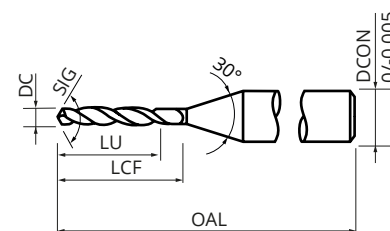
■ Kleinstbohrer zur Anwendung in Stahl bis 45 HRC und Nichteisenmetall



gilt für DC 0.1 – 0.25



gilt für DC 0.26 – 0.65



gilt für DC 0.66 – 3

ABMESSUNGEN

ArtNr. (WGR. 7771)	DC mm	DCON mm	LU mm	LCF mm	OAL mm	ArtNr. (WGR. 7771)	DC mm	DCON mm	LU mm	LCF mm	OAL mm
C-UMD 2010-012	0.1	3	1.1	1.2	38	C-UMD 2042-070	0.42	3	6.4	7	38
C-UMD 2011-012	0.11	3	1	1.2	38	C-UMD 2043-070	0.43	3	6.4	7	38
C-UMD 2012-014	0.12	3	1.2	1.4	38	C-UMD 2044-070	0.44	3	6.3	7	38
C-UMD 2013-014	0.13	3	1.2	1.4	38	C-UMD 2045-070	0.45	3	6.3	7	38
C-UMD 2014-014	0.14	3	1.2	1.4	38	C-UMD 2046-070	0.46	3	6.3	7	38
C-UMD 2015-020	0.15	3	1.8	2	38	C-UMD 2047-070	0.47	3	6.3	7	38
C-UMD 2016-020	0.16	3	1.8	2	38	C-UMD 2048-070	0.48	3	6.3	7	38
C-UMD 2017-020	0.17	3	1.7	2	38	C-UMD 2049-070	0.49	3	6.3	7	38
C-UMD 2018-020	0.18	3	1.7	2	38	C-UMD 2050-070	0.5	3	6.3	7	38
C-UMD 2019-020	0.19	3	1.7	2	38	C-UMD 2051-070	0.51	3	6.2	7	38
C-UMD 2020-025	0.2	3	2.2	2.5	38	C-UMD 2052-070	0.52	3	6.2	7	38
C-UMD 2021-025	0.21	3	2.2	2.5	38	C-UMD 2053-070	0.53	3	6.2	7	38
C-UMD 2022-025	0.22	3	2.2	2.5	38	C-UMD 2054-070	0.54	3	6.2	7	38
C-UMD 2023-025	0.23	3	2.2	2.5	38	C-UMD 2055-070	0.55	3	6.2	7	38
C-UMD 2024-025	0.24	3	2.1	2.5	38	C-UMD 2056-070	0.56	3	6.2	7	38
C-UMD 2025-030	0.25	3	2.6	3	38	C-UMD 2057-070	0.57	3	6.1	7	38
C-UMD 2026-030	0.26	3	2.6	3	38	C-UMD 2058-070	0.58	3	6.1	7	38
C-UMD 2027-030	0.27	3	2.6	3	38	C-UMD 2059-070	0.59	3	6.1	7	38
C-UMD 2028-030	0.28	3	2.6	3	38	C-UMD 2060-070	0.6	3	6.1	7	38
C-UMD 2029-030	0.29	3	2.6	3	38	C-UMD 2061-070	0.61	3	6.1	7	38
C-UMD 2030-050	0.3	3	4.6	5	38	C-UMD 2062-070	0.62	3	6.1	7	38
C-UMD 2031-050	0.31	3	4.5	5	38	C-UMD 2063-070	0.63	3	6.1	7	38
C-UMD 2032-050	0.32	3	4.5	5	38	C-UMD 2064-070	0.64	3	6	7	38
C-UMD 2033-050	0.33	3	4.5	5	38	C-UMD 2065-070	0.65	3	6	7	38
C-UMD 2034-050	0.34	3	4.5	5	38	C-UMD 2066-070	0.66	3	6	7	38
C-UMD 2035-060	0.35	3	5.5	6	38	C-UMD 2067-070	0.67	3	6	7	38
C-UMD 2036-060	0.36	3	5.5	6	38	C-UMD 2068-070	0.68	3	6	7	38
C-UMD 2037-060	0.37	3	5.4	6	38	C-UMD 2069-070	0.69	3	6	7	38
C-UMD 2038-060	0.38	3	5.4	6	38	C-UMD 2070-080	0.7	3	7	8	38
C-UMD 2039-060	0.39	3	5.4	6	38	C-UMD 2071-080	0.71	3	6.9	8	38
C-UMD 2040-070	0.4	3	6.4	7	38	C-UMD 2072-080	0.72	3	6.9	8	38
C-UMD 2041-070	0.41	3	6.4	7	38	C-UMD 2073-080	0.73	3	6.9	8	38

ABMESSUNGEN

ArtNr. (WGR. 7771)	DC mm	DCON mm	LU mm	LCF mm	OAL mm	ArtNr. (WGR. 7771)	DC mm	DCON mm	LU mm	LCF mm	OAL mm
C-UMD 2074-080	0.74	3	6.9	8	38	C-UMD 2122-100	1.22	3	8.2	10	38
C-UMD 2075-080	0.75	3	6.9	8	38	C-UMD 2123-100	1.23	3	8.2	10	38
C-UMD 2076-080	0.76	3	6.9	8	38	C-UMD 2124-100	1.24	3	8.1	10	38
C-UMD 2077-080	0.77	3	6.8	8	38	C-UMD 2125-100	1.25	3	8.1	10	38
C-UMD 2078-080	0.78	3	6.8	8	38	C-UMD 2126-100	1.26	3	8.1	10	38
C-UMD 2079-080	0.79	3	6.8	8	38	C-UMD 2127-100	1.27	3	8.1	10	38
C-UMD 2080-100	0.8	3	8.8	10	38	C-UMD 2128-100	1.28	3	8.1	10	38
C-UMD 2081-100	0.81	3	8.8	10	38	C-UMD 2129-100	1.29	3	8.1	10	38
C-UMD 2082-100	0.82	3	8.8	10	38	C-UMD 2130-100	1.3	3	8.1	10	38
C-UMD 2083-100	0.83	3	8.8	10	38	C-UMD 2131-100	1.31	3	8	10	38
C-UMD 2084-100	0.84	3	8.7	10	38	C-UMD 2132-100	1.32	3	8	10	38
C-UMD 2085-100	0.85	3	8.7	10	38	C-UMD 2133-100	1.33	3	8	10	38
C-UMD 2086-100	0.86	3	8.7	10	38	C-UMD 2134-100	1.34	3	8	10	38
C-UMD 2087-100	0.87	3	8.7	10	38	C-UMD 2135-100	1.35	3	8	10	38
C-UMD 2088-100	0.88	3	8.7	10	38	C-UMD 2136-100	1.36	3	8	10	38
C-UMD 2089-100	0.89	3	8.7	10	38	C-UMD 2137-100	1.37	3	7.9	10	38
C-UMD 2090-100	0.9	3	8.7	10	38	C-UMD 2138-100	1.38	3	7.9	10	38
C-UMD 2091-100	0.91	3	8.6	10	38	C-UMD 2139-100	1.39	3	7.9	10	38
C-UMD 2092-100	0.92	3	8.6	10	38	C-UMD 2140-100	1.4	3	7.9	10	38
C-UMD 2093-100	0.93	3	8.6	10	38	C-UMD 2141-100	1.41	3	7.9	10	38
C-UMD 2094-100	0.94	3	8.6	10	38	C-UMD 2142-100	1.42	3	7.9	10	38
C-UMD 2095-100	0.95	3	8.6	10	38	C-UMD 2143-100	1.43	3	7.9	10	38
C-UMD 2096-100	0.96	3	8.6	10	38	C-UMD 2144-100	1.44	3	7.8	10	38
C-UMD 2097-100	0.97	3	8.5	10	38	C-UMD 2145-100	1.45	3	7.8	10	38
C-UMD 2098-100	0.98	3	8.5	10	38	C-UMD 2146-100	1.46	3	7.8	10	38
C-UMD 2099-100	0.99	3	8.5	10	38	C-UMD 2147-100	1.47	3	7.8	10	38
C-UMD 2100-100	1	3	8.5	10	38	C-UMD 2148-100	1.48	3	7.8	10	38
C-UMD 2101-100	1.01	3	8.5	10	38	C-UMD 2149-100	1.49	3	7.8	10	38
C-UMD 2102-100	1.02	3	8.5	10	38	C-UMD 2150-100	1.5	3	7.8	10	38
C-UMD 2103-100	1.03	3	8.5	10	38	C-UMD 2151-100	1.51	3	7.7	10	38
C-UMD 2104-100	1.04	3	8.4	10	38	C-UMD 2152-100	1.52	3	7.7	10	38
C-UMD 2105-100	1.05	3	8.4	10	38	C-UMD 2153-100	1.53	3	7.7	10	38
C-UMD 2106-100	1.06	3	8.4	10	38	C-UMD 2154-100	1.54	3	7.7	10	38
C-UMD 2107-100	1.07	3	8.4	10	38	C-UMD 2155-100	1.55	3	7.7	10	38
C-UMD 2108-100	1.08	3	8.4	10	38	C-UMD 2156-100	1.56	3	7.7	10	38
C-UMD 2109-100	1.09	3	8.4	10	38	C-UMD 2157-100	1.57	3	7.6	10	38
C-UMD 2110-100	1.1	3	8.4	10	38	C-UMD 2158-100	1.58	3	7.6	10	38
C-UMD 2111-100	1.11	3	8.3	10	38	C-UMD 2159-100	1.59	3	7.6	10	38
C-UMD 2112-100	1.12	3	8.3	10	38	C-UMD 2160-120	1.6	3	9.6	12	38
C-UMD 2113-100	1.13	3	8.3	10	38	C-UMD 2161-120	1.61	3	9.6	12	38
C-UMD 2114-100	1.14	3	8.3	10	38	C-UMD 2162-120	1.62	3	9.6	12	38
C-UMD 2115-100	1.15	3	8.3	10	38	C-UMD 2163-120	1.63	3	9.6	12	38
C-UMD 2116-100	1.16	3	8.3	10	38	C-UMD 2164-120	1.64	3	9.5	12	38
C-UMD 2117-100	1.17	3	8.2	10	38	C-UMD 2165-120	1.65	3	9.5	12	38
C-UMD 2118-100	1.18	3	8.2	10	38	C-UMD 2166-120	1.66	3	9.5	12	38
C-UMD 2119-100	1.19	3	8.2	10	38	C-UMD 2167-120	1.67	3	9.5	12	38
C-UMD 2120-100	1.2	3	8.2	10	38	C-UMD 2168-120	1.68	3	9.5	12	38
C-UMD 2121-100	1.21	3	8.2	10	38	C-UMD 2169-120	1.69	3	9.5	12	38

ABMESSUNGEN

ArtNr. (WGR. 7771)	DC mm	DCON mm	LU mm	LCF mm	OAL mm	ArtNr. (WGR. 7771)	DC mm	DCON mm	LU mm	LCF mm	OAL mm
C-UMD 2170-120	1.7	3	9.5	12	38	C-UMD 2213-120	2.13	3	8.8	12	38
C-UMD 2171-120	1.71	3	9.4	12	38	C-UMD 2214-120	2.14	3	8.8	12	38
C-UMD 2172-120	1.72	3	9.4	12	38	C-UMD 2215-120	2.15	3	8.8	12	38
C-UMD 2173-120	1.73	3	9.4	12	38	C-UMD 2220-120	2.2	3	8.7	12	38
C-UMD 2174-120	1.74	3	9.4	12	38	C-UMD 2225-120	2.25	3	8.6	12	38
C-UMD 2175-120	1.75	3	9.4	12	38	C-UMD 2229-120	2.29	3	8.6	12	38
C-UMD 2176-120	1.76	3	9.4	12	38	C-UMD 2230-120	2.3	3	8.6	12	38
C-UMD 2177-120	1.77	3	9.3	12	38	C-UMD 2231-120	2.31	3	8.5	12	38
C-UMD 2178-120	1.78	3	9.3	12	38	C-UMD 2232-120	2.32	3	8.5	12	38
C-UMD 2179-120	1.79	3	9.3	12	38	C-UMD 2235-120	2.35	3	8.5	12	38
C-UMD 2180-120	1.8	3	9.3	12	38	C-UMD 2239-120	2.39	3	8.4	12	38
C-UMD 2181-120	1.81	3	9.3	12	38	C-UMD 2240-120	2.4	3	8.4	12	38
C-UMD 2182-120	1.82	3	9.3	12	38	C-UMD 2241-120	2.41	3	8.4	12	38
C-UMD 2183-120	1.83	3	9.3	12	38	C-UMD 2242-120	2.42	3	8.4	12	38
C-UMD 2184-120	1.84	3	9.2	12	38	C-UMD 2245-120	2.45	3	8.3	12	38
C-UMD 2185-120	1.85	3	9.2	12	38	C-UMD 2250-120	2.5	3	8.3	12	38
C-UMD 2186-120	1.86	3	9.2	12	38	C-UMD 2255-120	2.55	3	8.2	12	38
C-UMD 2187-120	1.87	3	9.2	12	38	C-UMD 2256-120	2.56	3	8.2	12	38
C-UMD 2188-120	1.88	3	9.2	12	38	C-UMD 2257-120	2.57	3	8.1	12	38
C-UMD 2189-120	1.89	3	9.2	12	38	C-UMD 2260-120	2.6	3	8.1	12	38
C-UMD 2190-120	1.9	3	9.2	12	38	C-UMD 2265-120	2.65	3	8	12	38
C-UMD 2191-120	1.91	3	9.1	12	38	C-UMD 2270-120	2.7	3	8	12	38
C-UMD 2192-120	1.92	3	9.1	12	38	C-UMD 2275-120	2.75	3	7.9	12	38
C-UMD 2193-120	1.93	3	9.1	12	38	C-UMD 2277-120	2.77	3	7.8	12	38
C-UMD 2194-120	1.94	3	9.1	12	38	C-UMD 2278-120	2.78	3	7.8	12	38
C-UMD 2195-120	1.95	3	9.1	12	38	C-UMD 2279-120	2.79	3	7.8	12	38
C-UMD 2196-120	1.96	3	9.1	12	38	C-UMD 2280-120	2.8	3	7.8	12	38
C-UMD 2197-120	1.97	3	9	12	38	C-UMD 2285-120	2.85	3	7.7	12	38
C-UMD 2198-120	1.98	3	9	12	38	C-UMD 2290-120	2.9	3	7.7	12	38
C-UMD 2199-120	1.99	3	9	12	38	C-UMD 2295-120	2.95	3	7.6	12	38
C-UMD 2200-120	2	3	9	12	38	C-UMD 2300-120	3	3	7.5	12	38
C-UMD 2205-120	2.05	3	8.9	12	38						
C-UMD 2210-120	2.1	3	8.9	12	38						
C-UMD 2212-120	2.12	3	8.8	12	38						

SCHNITTDATEN

Material		Dc	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	2	3	
		Vc m/min	Bohrtiefe mm	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	25 - 80	0.2 x Dc	0.002	0.003	0.005	0.006	0.007	0.008	0.010	0.011	0.030	0.041
	legiert	15 - 25	0.2 x Dc	0.002	0.003	0.005	0.005	0.007	0.008	0.008	0.009	0.031	0.041
	(Vor-) gehärtet	15 - 25	0.2 x Dc	0.001	0.003	0.005	0.004	0.004	0.005	0.006	0.006	0.013	0.013
Nichteisen Metall	Al-Legierung < 10% Si	20 - 60	0.5 x DC	0.02	0.035	0.050	0.053	0.056	0.060	0.069	0.080	0.100	0.100



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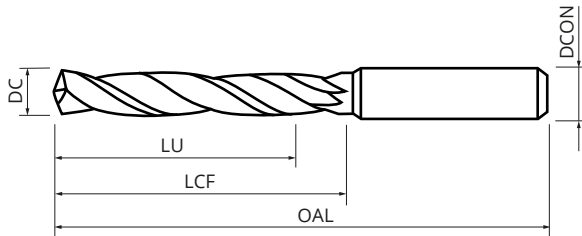


6537
DIN



m7
DC-TOL

TiAlN
COAT



■ Zur Anwendung in Stahl bis 45 HRC und Guss

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH424030	3	23.5	28	6	66	DH424062	6.2	43.7	53	8	91
DH424031	3.1	23.4	28	6	66	DH424063	6.3	43.6	53	8	91
DH424032	3.2	23.2	28	6	66	DH424064	6.4	43.4	53	8	91
DH424033	3.3	23.1	28	6	66	DH424065	6.5	43.3	53	8	91
DH424034	3.4	22.9	28	6	66	DH424066	6.6	43.1	53	8	91
DH424035	3.5	22.8	28	6	66	DH424067	6.7	43	53	8	91
DH424036	3.6	22.6	28	6	66	DH424068	6.8	42.8	53	8	91
DH424037	3.7	22.5	28	6	66	DH424069	6.9	42.7	53	8	91
DH424038	3.8	30.3	36	6	74	DH424070	7	42.5	53	8	91
DH424039	3.9	30.2	36	6	74	DH424071	7.1	42.4	53	8	91
DH424040	4	30	36	6	74	DH424072	7.2	42.2	53	8	91
DH424041	4.1	29.9	36	6	74	DH424073	7.3	42.1	53	8	91
DH424042	4.2	29.7	36	6	74	DH424074	7.4	41.9	53	8	91
DH424043	4.3	29.6	36	6	74	DH424075	7.5	41.8	53	8	91
DH424044	4.4	29.4	36	6	74	DH424076	7.6	41.6	53	8	91
DH424045	4.5	29.3	36	6	74	DH424077	7.7	41.5	53	8	91
DH424046	4.6	29.1	36	6	74	DH424078	7.8	41.3	53	8	91
DH424047	4.7	29	36	6	74	DH424079	7.9	41.2	53	8	91
DH424048	4.8	36.8	44	6	82	DH424080	8	41	53	8	91
DH424049	4.9	36.7	44	6	82	DH424081	8.1	48.9	61	10	103
DH424050	5	36.5	44	6	82	DH424082	8.2	48.7	61	10	103
DH424051	5.1	36.4	44	6	82	DH424083	8.3	48.6	61	10	103
DH424052	5.2	36.2	44	6	82	DH424084	8.4	48.4	61	10	103
DH424053	5.3	36.1	44	6	82	DH424085	8.5	48.3	61	10	103
DH424054	5.4	35.9	44	6	82	DH424086	8.6	48.1	61	10	103
DH424055	5.5	35.8	44	6	82	DH424087	8.7	48	61	10	103
DH424056	5.6	35.6	44	6	82	DH424088	8.8	47.8	61	10	103
DH424057	5.7	35.5	44	6	82	DH424089	8.9	47.7	61	10	103
DH424058	5.8	35.3	44	6	82	DH424090	9	47.5	61	10	103
DH424059	5.9	35.2	44	6	82	DH424091	9.1	47.4	61	10	103
DH424060	6	35	44	6	82	DH424092	9.2	47.2	61	10	103
DH424061	6.1	43.9	53	8	91	DH424093	9.3	47.1	61	10	103

ABMESSUNGEN

ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8102)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH424094	9.4	46.9	61	10	103	DH424120	12	53	71	12	118
DH424095	9.5	46.8	61	10	103	DH424123	12.3	58.6	77	14	124
DH424096	9.6	46.6	61	10	103	DH424125	12.5	58.3	77	14	124
DH424097	9.7	46.5	61	10	103	DH424128	12.8	57.8	77	14	124
DH424098	9.8	46.3	61	10	103	DH424130	13	57.5	77	14	124
DH424099	9.9	46.2	61	10	103	DH424135	13.5	56.8	77	14	124
DH424100	10	46	61	10	103	DH424138	13.8	56.3	77	14	124
DH424101	10.1	55.9	71	12	118	DH424140	14	56	77	14	124
DH424102	10.2	55.7	71	12	118	DH424145	14.5	61.3	83	16	133
DH424103	10.3	55.6	71	12	118	DH424148	14.8	60.8	83	16	133
DH424104	10.4	55.4	71	12	118	DH424150	15	60.5	83	16	133
DH424105	10.5	55.3	71	12	118	DH424155	15.5	59.8	83	16	133
DH424106	10.6	55.1	71	12	118	DH424158	15.8	59.3	83	16	133
DH424107	10.7	55	71	12	118	DH424160	16	59	83	16	133
DH424108	10.8	54.8	71	12	118	DH424165	16.5	68.3	93	18	143
DH424109	10.9	54.7	71	12	118	DH424168	16.8	67.8	93	18	143
DH424110	11	54.5	71	12	118	DH424170	17	67.5	93	18	143
DH424111	11.1	54.4	71	12	118	DH424175	17.5	66.8	93	18	143
DH424112	11.2	54.2	71	12	118	DH424178	17.8	66.3	93	18	143
DH424113	11.3	54.1	71	12	118	DH424180	18	66	93	18	143
DH424114	11.4	53.9	71	12	118	DH424185	18.5	73.3	101	20	153
DH424115	11.5	53.8	71	12	118	DH424190	19	72.5	101	20	153
DH424116	11.6	53.6	71	12	118	DH424195	19.5	71.8	101	20	153
DH424117	11.7	53.5	71	12	118	DH424198	19.8	71.3	101	20	153
DH424118	11.8	53.3	71	12	118	DH424200	20	71	101	20	153
DH424119	11.9	53.2	71	12	118						

SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14	16	18	20
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	60 - 70	0.08	0.10	0.13	0.16	0.18	0.21	0.23	0.27	0.30	0.33	0.34
	niedriglegiert	40 - 60	0.07	0.09	0.12	0.14	0.17	0.19	0.21	0.23	0.24	0.27	0.29
	hohlegiert	30 - 40	0.06	0.07	0.10	0.12	0.13	0.15	0.17	0.19	0.21	0.23	0.25
Rostfreier Stahl	ferritisch	40 - 50	0.06	0.08	0.12	0.13	0.16	0.18	0.21	0.24	0.26	0.28	0.29
	martensitisch	30 - 40	0.04	0.06	0.08	0.11	0.14	0.16	0.18	0.21	0.23	0.24	0.26
Guss	Grauguss	60 - 70	0.08	0.10	0.12	0.14	0.16	0.19	0.22	0.24	0.27	0.30	0.34
	Sphäroguss	50 - 70	0.08	0.10	0.12	0.14	0.16	0.19	0.22	0.24	0.27	0.30	0.34
	Temperguss	50 - 60	0.08	0.10	0.12	0.14	0.16	0.19	0.22	0.24	0.27	0.30	0.34



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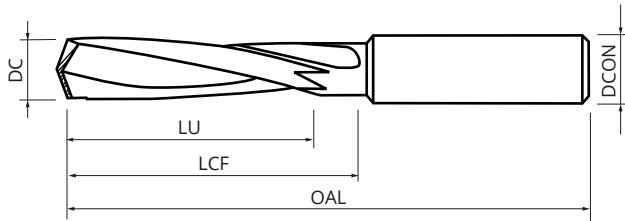


6537
DIN



h7
DC-TOL

TiAlN
COAT



- Für die Bearbeitung von gehärteten Stählen bis 70 HRC

ABMESSUNGEN

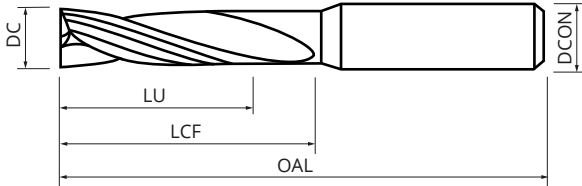
ArtNr. (WGR. 8103)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH500010	1	4.5	6	3	40
DH500011	1.1	4.4	6	3	40
DH500012	1.2	4.2	6	3	40
DH500013	1.3	6.1	8	3	40
DH500014	1.4	5.9	8	3	40
DH500015	1.5	5.8	8	3	40
DH500016	1.6	7.6	10	3	40
DH500017	1.7	7.5	10	3	40
DH500018	1.8	7.3	10	3	40
DH500019	1.9	7.2	10	3	40
DH500020	2	9	12	3	42
DH500021	2.1	8.9	12	3	42
DH500022	2.2	9.7	13	3	43
DH500023	2.3	9.6	13	3	43
DH500024	2.4	10.4	14	3	44
DH500025	2.5	10.3	14	3	44
DH500026	2.6	10.1	14	3	44
DH500027	2.7	12	16	3	46
DH500028	2.8	11.8	16	3	46
DH500029	2.9	11.7	16	3	46
DH500030	3	11.5	16	3	46
DH500031	3.1	11.4	16	4	48
DH500032	3.2	11.2	16	4	48
DH500033	3.3	13.1	18	4	48
DH500034	3.4	14.9	20	4	50
DH500035	3.5	14.8	20	4	50
DH500036	3.6	14.6	20	4	50
DH500038	3.8	16.3	22	4	52
DH500039	3.9	16.2	22	4	52
DH500040	4	16	22	4	52
DH500042	4.2	18.7	25	6	65
DH500043	4.3	21.6	28	6	68
DH500044	4.4	21.4	28	6	68
DH500045	4.5	21.3	28	6	68

ABMESSUNGEN

ArtNr. (WGR. 8103)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DH500046	4.6	21.1	28	6	68
DH500048	4.8	24.8	32	6	72
DH500049	4.9	24.7	32	6	72
DH500050	5	24.5	32	6	72
DH500051	5.1	24.4	32	6	72
DH500052	5.2	24.2	32	6	72
DH500053	5.3	24.1	32	6	72
DH500055	5.5	26.8	35	6	75
DH500056	5.6	26.6	35	6	75
DH500058	5.8	26.3	35	6	75
DH500060	6	26	35	6	75
DH500065	6.5	30.3	40	8	80
DH500068	6.8	34.8	45	8	85
DH500069	6.9	34.7	45	8	85
DH500070	7	34.5	45	8	85
DH500071	7.1	34.4	45	8	85
DH500075	7.5	33.8	45	8	85
DH500080	8	38	50	8	98
DH500085	8.5	37.3	50	10	98
DH500086	8.6	44.1	57	10	105
DH500088	8.8	43.8	57	10	105
DH500090	9	43.5	57	10	105
DH500095	9.5	42.8	57	10	105
DH500097	9.7	48.5	63	10	111
DH500100	10	48	63	10	111
DH500102	10.2	47.7	63	12	111
DH500103	10.3	47.6	63	12	111
DH500104	10.4	47.4	63	12	111
DH500105	10.5	47.3	63	12	111
DH500108	10.8	54.8	71	12	119
DH500110	11	54.5	71	12	119
DH500115	11.5	53.8	71	12	119
DH500120	12	53	71	12	119
DH500124	12.4	58.4	77	14	125
DH500140	14	56	77	14	125

SCHNITTDATEN

Material	Dc	1	1.5	2	2.5	3	4	5	6	8	10	12	14
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Gehärteter Stahl	HRC 50 - 55	14 - 22	0.01	0.01	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	HRC 56 - 60	10 - 16	0.01	0.01	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	HRC 61 - 70	8 - 13	0.01	0.01	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04



- Flachbohrer zur universellen Anwendung
- Keine Schutzfasen – scharfkantig

ABMESSUNGEN

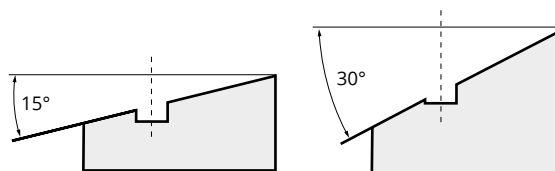
ArtNr. (WGR. 8106)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8106)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DPP447030	3	11.5	16	6	50	DPP447066	6.6	20.1	30	8	70
DPP447031	3.1	11.4	16	6	50	DPP447067	6.7	20	30	8	70
DPP447032	3.2	11.2	16	6	50	DPP447068	6.8	19.8	30	8	70
DPP447033	3.3	11.1	16	6	50	DPP447069	6.9	19.7	30	8	70
DPP447034	3.4	12.9	18	6	50	DPP447070	7	19.5	30	8	70
DPP447035	3.5	12.8	18	6	50	DPP447071	7.1	23.4	34	8	70
DPP447036	3.6	12.6	18	6	50	DPP447072	7.2	23.2	34	8	70
DPP447037	3.7	12.5	18	6	50	DPP447073	7.3	23.1	34	8	70
DPP447038	3.8	12.3	18	6	50	DPP447074	7.4	22.9	34	8	70
DPP447039	3.9	12.2	18	6	50	DPP447075	7.5	22.8	34	8	70
DPP447040	4	12	18	6	50	DPP447076	7.6	22.6	34	8	70
DPP447041	4.1	13.9	20	6	60	DPP447077	7.7	22.5	34	8	70
DPP447042	4.2	13.7	20	6	60	DPP447078	7.8	22.3	34	8	70
DPP447043	4.3	13.6	20	6	60	DPP447079	7.9	22.2	34	8	70
DPP447044	4.4	13.4	20	6	60	DPP447080	8	22	34	8	70
DPP447045	4.5	15.3	22	6	60	DPP447081	8.1	25.9	38	10	80
DPP447046	4.6	15.1	22	6	60	DPP447082	8.2	25.7	38	10	80
DPP447047	4.7	15	22	6	60	DPP447083	8.3	25.6	38	10	80
DPP447048	4.8	14.8	22	6	60	DPP447084	8.4	25.4	38	10	80
DPP447049	4.9	14.7	22	6	60	DPP447085	8.5	25.3	38	10	80
DPP447050	5	14.5	22	6	60	DPP447086	8.6	25.1	38	10	80
DPP447051	5.1	16.4	24	6	60	DPP447087	8.7	27	40	10	80
DPP447052	5.2	16.2	24	6	60	DPP447088	8.8	26.8	40	10	80
DPP447053	5.3	16.1	24	6	60	DPP447089	8.9	26.7	40	10	80
DPP447054	5.4	15.9	24	6	60	DPP447090	9	26.5	40	10	80
DPP447055	5.5	15.8	24	6	60	DPP447091	9.1	28.4	42	10	80
DPP447056	5.6	15.6	24	6	60	DPP447092	9.2	28.2	42	10	80
DPP447057	5.7	17.5	26	6	60	DPP447093	9.3	28.1	42	10	80
DPP447058	5.8	17.3	26	6	60	DPP447094	9.4	27.9	42	10	80
DPP447059	5.9	17.2	26	6	60	DPP447095	9.5	27.8	42	10	80
DPP447060	6	17	26	6	60	DPP447096	9.6	27.6	42	10	80
DPP447061	6.1	18.9	28	8	70	DPP447097	9.7	30.5	45	10	80
DPP447062	6.2	18.7	28	8	70	DPP447098	9.8	30.3	45	10	80
DPP447063	6.3	18.6	28	8	70	DPP447099	9.9	30.2	45	10	80
DPP447064	6.4	20.4	30	8	70	DPP447100	10	30	45	10	80
DPP447065	6.5	20.3	30	8	70	DPP447101	10.1	30.9	46	12	90

ABMESSUNGEN

ArtNr. (WGR. 8106)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	ArtNr. (WGR. 8106)	DC mm	LU mm	LCF mm	DCON mm	OAL mm
DPP447102	10.2	30.7	46	12	90	DPP447140	14	37	58	14	100
DPP447103	10.3	30.6	46	12	90	DPP447145	14.5	40.3	62	16	105
DPP447104	10.4	32.4	48	12	90	DPP447150	15	39.5	62	16	105
DPP447105	10.5	32.3	48	12	90	DPP447155	15.5	40.8	64	16	115
DPP447106	10.6	32.1	48	12	90	DPP447158	15.8	40.3	64	16	115
DPP447107	10.7	32	48	12	90	DPP447160	16	40	64	16	115
DPP447108	10.8	31.8	48	12	90	DPP447165	16.5	45.3	70	18	125
DPP447109	10.9	31.7	48	12	90	DPP447170	17	44.5	70	18	125
DPP447110	11	31.5	48	12	90	DPP447175	17.5	43.8	70	18	125
DPP447111	11.1	33.4	50	12	90	DPP447180	18	43	70	18	125
DPP447112	11.2	33.2	50	12	90	DPP447185	18.5	47.3	75	20	135
DPP447113	11.3	33.1	50	12	90	DPP447190	19	46.5	75	20	135
DPP447114	11.4	32.9	50	12	90	DPP447195	19.5	45.8	75	20	145
DPP447115	11.5	32.8	50	12	90	DPP447200	20	45	75	20	145
DPP447116	11.6	32.6	50	12	90						
DPP447117	11.7	34.5	52	12	90						
DPP447118	11.8	34.3	52	12	90						
DPP447119	11.9	34.2	52	12	90						
DPP447120	12	34	52	12	90						
DPP447125	12.5	35.3	54	14	100						
DPP447130	13	36.5	56	14	100						
DPP447135	13.5	37.8	58	14	100						

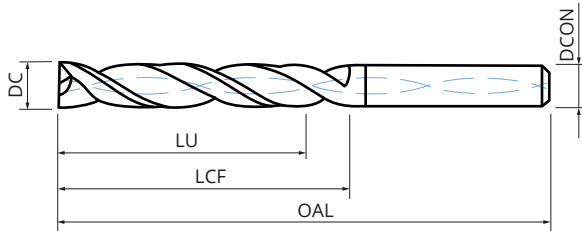
Weitere Abmessungen und Ausführungen auf Anfrage.

Winkel	Schnittdaten	
	n	fn
0° ~ 15°	100%	100%
15° ~ 30°	100%	50%
30° ~	70%	30%



SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14	16	18	20
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	60 - 70	0.05	0.07	0.08	0.10	0.14	0.17	0.20	0.24	0.28	0.32	0.35
	niedriglegiert	40 - 50	0.05	0.07	0.08	0.10	0.13	0.17	0.20	0.24	0.28	0.32	0.34
	hochlegiert	30 - 40	0.05	0.06	0.08	0.09	0.12	0.15	0.17	0.20	0.24	0.28	0.31
gehärteter Stahl	HRC 40 ~ 50	20 - 25	0.03	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.16	0.18	0.20
Rostfreier Stahl		25 - 35	0.02	0.03	0.04	0.05	0.06	0.08	0.10	0.11	0.12	0.14	0.15
Guss		50 - 70	0.04	0.06	0.07	0.09	0.12	0.15	0.17	0.20	0.24	0.26	0.30
Nichteisen Metall	Aluminium	150 - 180	0.06	0.08	0.10	0.12	0.16	0.20	0.24	0.28	0.32	0.36	0.40



- Flachbohrer zur universellen Anwendung mit Innenkühlung
- 1xD Pilotieren mit DPP447 wird empfohlen

ABMESSUNGEN

ArtNr. (WGR. 8106)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	CHW mm
DH450030	3	23.5	28	6	66	0.06
DH450031	3.1	23.4	28	6	66	0.06
DH450032	3.2	23.2	28	6	66	0.06
DH450033	3.3	23.1	28	6	66	0.06
DH450034	3.4	22.9	28	6	66	0.06
DH450035	3.5	22.8	28	6	66	0.06
DH450036	3.6	22.6	28	6	66	0.06
DH450037	3.7	22.5	28	6	66	0.06
DH450038	3.8	30.3	36	6	74	0.06
DH450039	3.9	30.2	36	6	74	0.06
DH450040	4	30	36	6	74	0.06
DH450041	4.1	29.9	36	6	74	0.06
DH450042	4.2	29.7	36	6	74	0.06
DH450043	4.3	29.6	36	6	74	0.06
DH450044	4.4	29.4	36	6	74	0.06
DH450045	4.5	29.3	36	6	74	0.06
DH450046	4.6	29.1	36	6	74	0.06
DH450047	4.7	29	36	6	74	0.06
DH450048	4.8	36.8	44	6	82	0.06
DH450049	4.9	36.7	44	6	82	0.06
DH450050	5	36.5	44	6	82	0.06
DH450051	5.1	36.4	44	6	82	0.06
DH450052	5.2	36.2	44	6	82	0.06
DH450053	5.3	36.1	44	6	82	0.06
DH450054	5.4	35.9	44	6	82	0.06
DH450055	5.5	35.8	44	6	82	0.06
DH450056	5.6	35.6	44	6	82	0.06
DH450057	5.7	35.5	44	6	82	0.06

ArtNr. (WGR. 8106)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	CHW mm
DH450058	5.8	35.3	44	6	82	0.06
DH450059	5.9	35.2	44	6	82	0.06
DH450060	6	35	44	6	82	0.06
DH450061	6.1	43.9	53	8	91	0.12
DH450062	6.2	43.7	53	8	91	0.12
DH450063	6.3	43.6	53	8	91	0.12
DH450064	6.4	43.4	53	8	91	0.12
DH450065	6.5	43.3	53	8	91	0.12
DH450066	6.6	43.1	53	8	91	0.12
DH450067	6.7	43	53	8	91	0.12
DH450068	6.8	42.8	53	8	91	0.12
DH450069	6.9	42.7	53	8	91	0.12
DH450070	7	42.5	53	8	91	0.12
DH450071	7.1	42.4	53	8	91	0.12
DH450072	7.2	42.2	53	8	91	0.12
DH450073	7.3	42.1	53	8	91	0.12
DH450074	7.4	41.9	53	8	91	0.12
DH450075	7.5	41.8	53	8	91	0.12
DH450076	7.6	41.6	53	8	91	0.12
DH450077	7.7	41.5	53	8	91	0.12
DH450078	7.8	41.3	53	8	91	0.12
DH450079	7.9	41.2	53	8	91	0.12
DH450080	8	41	53	8	91	0.12
DH450081	8.1	48.9	61	10	103	0.12
DH450082	8.2	48.7	61	10	103	0.12
DH450083	8.3	48.6	61	10	103	0.12
DH450084	8.4	48.4	61	10	103	0.12
DH450085	8.5	48.3	61	10	103	0.12

ABMESSUNGEN

ArtNr. (WGR. 8106)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	CHW mm	ArtNr. (WGR. 8106)	DC mm	LU mm	LCF mm	DCON mm	OAL mm	CHW mm
DH450086	8.6	48.1	61	10	103	0.12	DH450112	11.2	54.2	71	12	118	0.18
DH450087	8.7	48	61	10	103	0.12	DH450113	11.3	54.1	71	12	118	0.18
DH450088	8.8	47.8	61	10	103	0.12	DH450114	11.4	53.9	71	12	118	0.18
DH450089	8.9	47.7	61	10	103	0.12	DH450115	11.5	53.8	71	12	118	0.18
DH450090	9	47.5	61	10	103	0.12	DH450116	11.6	53.6	71	12	118	0.18
DH450091	9.1	47.4	61	10	103	0.12	DH450117	11.7	53.5	71	12	118	0.18
DH450092	9.2	47.2	61	10	103	0.12	DH450118	11.8	53.3	71	12	118	0.18
DH450093	9.3	47.1	61	10	103	0.12	DH450119	11.9	53.2	71	12	118	0.18
DH450094	9.4	46.9	61	10	103	0.12	DH450120	12	53	71	12	118	0.18
DH450095	9.5	46.8	61	10	103	0.12	DH450125	12.5	58.3	77	14	124	0.18
DH450096	9.6	46.6	61	10	103	0.12	DH450130	13	57.5	77	14	124	0.18
DH450097	9.7	46.5	61	10	103	0.12	DH450135	13.5	56.8	77	14	124	0.18
DH450098	9.8	46.3	61	10	103	0.12	DH450140	14	56	77	14	124	0.18
DH450099	9.9	46.2	61	10	103	0.12	DH450145	14.5	61.3	83	16	133	0.26
DH450100	10	46	61	10	103	0.12	DH450150	15	60.5	83	16	133	0.26
DH450101	10.1	55.9	71	12	118	0.18	DH450155	15.5	59.8	83	16	133	0.26
DH450102	10.2	55.7	71	12	118	0.18	DH450158	15.8	59.3	83	16	133	0.26
DH450103	10.3	55.6	71	12	118	0.18	DH450160	16	59	83	16	133	0.26
DH450104	10.4	55.4	71	12	118	0.18	DH450165	16.5	68.3	93	18	143	0.26
DH450105	10.5	55.3	71	12	118	0.18	DH450170	17	67.5	93	18	143	0.26
DH450106	10.6	55.1	71	12	118	0.18	DH450175	17.5	66.8	93	18	143	0.26
DH450107	10.7	55	71	12	118	0.18	DH450180	18	66	93	18	143	0.26
DH450108	10.8	54.8	71	12	118	0.18	DH450185	18.5	73.3	101	20	153	0.26
DH450109	10.9	54.7	71	12	118	0.18	DH450190	19	72.5	101	20	153	0.26
DH450110	11	54.5	71	12	118	0.18	DH450195	19.5	71.8	101	20	153	0.26
DH450111	11.1	54.4	71	12	118	0.18	DH450200	20	71	101	20	153	0.26

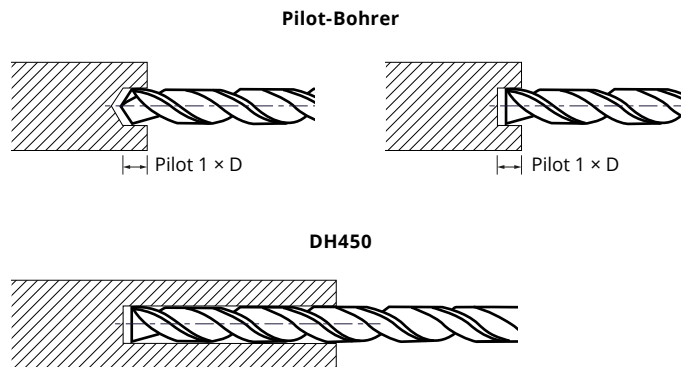
SCHNITTDATEN

Material		Dc	3	4	5	6	8	10	12	14	16	18	20
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	75 - 100	0.09	0.12	0.15	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60
	niedriglegiert	60 - 75	0.06	0.08	0.10	0.12	0.16	0.20	0.24	0.28	0.31	0.36	0.40
	hochlegiert	50 - 60	0.04	0.06	0.07	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.30
gehärteter Stahl	HRC 40 - 50	30 - 40	0.04	0.06	0.07	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.30
Rostfreier Stahl		55 - 65	0.06	0.08	0.10	0.12	0.16	0.20	0.24	0.28	0.32	0.36	0.40
Guss		70 - 90	0.05	0.06	0.08	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.30
Nichteisen Metall	Aluminium	150 - 180	0.09	0.11	0.15	0.16	0.24	0.30	0.36	0.42	0.48	0.54	0.59

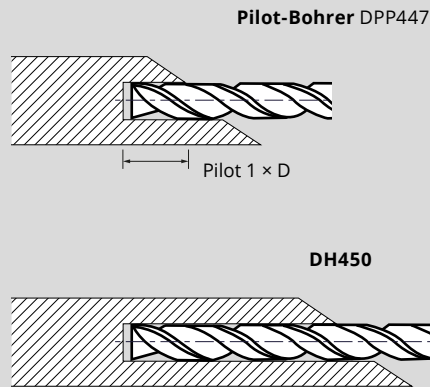
Pilotbohrungen für DH450

Verfahren

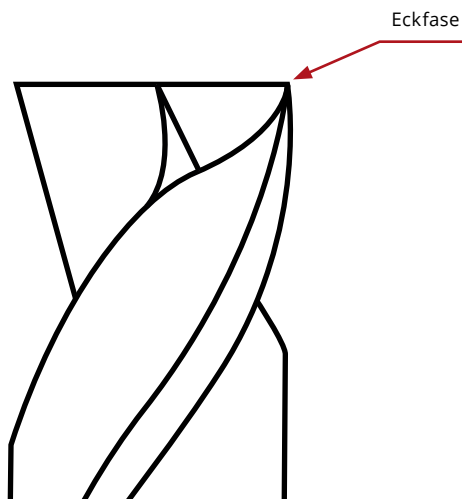
Flache Oberfläche



Schräge Oberfläche



DC mm	Eckfase mm
3 - 6	0.06
6.1 - 10	0.12
10.1 - 14	0.18
14.1 - 20	0.26





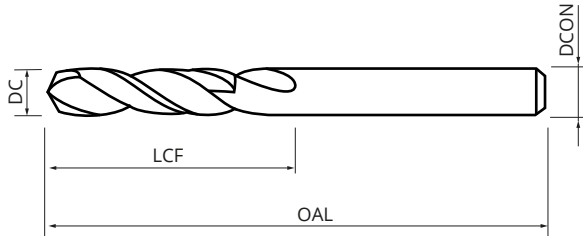
~5xD
ULDR



135°
HA

h8
DC-TOL

UN-COAT



■ Universell einsetzbarer HSS-Co8-Spiralbohrer

ABMESSUNGEN

ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm	ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm
D2107010	1	6	26	D2107033	3.3	18	49
D2107011	1.1	7	28	D2107034	3.4	20	52
D2107012	1.2	8	30	D2107035	3.5	20	52
D2107912	1.25	8	30	D2107036	3.6	20	52
D2107013	1.3	8	30	D2107037	3.7	20	52
D2107014	1.4	9	32	D2107937	3.75	20	52
D2107015	1.5	9	32	D2107038	3.8	22	55
D2107016	1.6	10	34	D2107039	3.9	22	55
D2107017	1.7	10	34	D2107040	4	22	55
D2107917	1.75	11	36	D2107041	4.1	22	55
D2107018	1.8	11	36	D2107042	4.2	22	55
D2107019	1.9	11	36	D2107942	4.25	22	55
D2107020	2	12	38	D2107043	4.3	24	58
D2107021	2.1	12	38	D2107044	4.4	24	58
D2107022	2.2	13	40	D2107045	4.5	24	58
D2107922	2.25	13	40	D2107046	4.6	24	58
D2107023	2.3	13	40	D2107946	4.65	24	58
D2107024	2.4	14	43	D2107047	4.7	24	58
D2107025	2.5	14	43	D2107947	4.75	24	58
D2107026	2.6	14	43	D2107048	4.8	26	62
D2107027	2.7	16	46	D2107049	4.9	26	62
D2107927	2.75	16	46	D2107050	5	26	62
D2107028	2.8	16	46	D2107051	5.1	26	62
D2107029	2.9	16	46	D2107052	5.2	26	62
D2107030	3	16	46	D2107952	5.25	26	62
D2107031	3.1	18	49	D2107053	5.3	26	62
D2107032	3.2	18	49	D2107054	5.4	28	66
D2107932	3.25	18	49	D2107055	5.5	28	66

ABMESSUNGEN

ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm	ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm
D2107955	5.55	28	66	D2107992	9.25	40	84
D2107056	5.6	28	66	D2107093	9.3	40	84
D2107057	5.7	28	66	D2107993	9.35	40	84
D2107957	5.75	28	66	D2107094	9.4	40	84
D2107058	5.8	28	66	D2107095	9.5	40	84
D2107059	5.9	28	66	D2107096	9.6	43	89
D2107060	6	28	66	D2107097	9.7	43	89
D2107061	6.1	31	70	D2107997	9.75	43	89
D2107062	6.2	31	70	D2107098	9.8	43	89
D2107962	6.25	31	70	D2107099	9.9	43	89
D2107063	6.3	31	70	D2107100	10	43	89
D2107064	6.4	31	70	D2107102	10.2	43	89
D2107065	6.5	31	70	D2107802	10.25	43	89
D2107066	6.6	31	70	D2107105	10.5	43	89
D2107067	6.7	31	70	D2107807	10.75	47	95
D2107967	6.75	34	74	D2107110	11	47	95
D2107068	6.8	34	74	D2107812	11.25	47	95
D2107069	6.9	34	74	D2107115	11.5	47	95
D2107070	7	34	74	D2107817	11.75	47	95
D2107071	7.1	34	74	D2107118	11.8	47	95
D2107072	7.2	34	74	D2107120	12	51	102
D2107972	7.25	34	74	D2107822	12.25	51	102
D2107073	7.3	34	74	D2107125	12.5	51	102
D2107074	7.4	34	74	D2107827	12.75	51	102
D2107974	7.45	34	74	D2107130	13	51	102
D2107075	7.5	34	74	D2107832	13.25	54	107
D2107076	7.6	37	79	D2107135	13.5	54	107
D2107077	7.7	37	79	D2107837	13.75	54	107
D2107977	7.75	37	79	D2107138	13.8	54	107
D2107078	7.8	37	79	D2107140	14	54	107
D2107079	7.9	37	79	D2107842	14.25	56	111
D2107080	8	37	79	D2107145	14.5	56	111
D2107081	8.1	37	79	D2107847	14.75	56	111
D2107082	8.2	37	79	D2107150	15	56	111
D2107982	8.25	37	79	D2107852	15.25	58	115
D2107083	8.3	37	79	D2107155	15.5	58	115
D2107084	8.4	37	79	D2107857	15.75	58	115
D2107085	8.5	37	79	D2107160	16	58	115
D2107086	8.6	40	84	D2107862	16.25	60	119
D2107087	8.7	40	84	D2107165	16.5	60	119
D2107987	8.75	40	84	D2107867	16.75	60	119
D2107088	8.8	40	84	D2107170	17	60	119
D2107089	8.9	40	84	D2107872	17.25	62	123
D2107090	9	40	84	D2107175	17.5	62	123
D2107091	9.1	40	84	D2107877	17.75	62	123
D2107092	9.2	40	84	D2107180	18	62	123

ABMESSUNGEN

ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm	ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm
D2107882	18.25	64	127	D2107245	24.5	75	151
D2107185	18.5	64	127	D2107250	25	75	151
D2107887	18.75	64	127	D2107260	26	78	156
D2107190	19	64	127	D2107270	27	81	162
D2107892	19.25	66	131	D2107280	28	81	162
D2107195	19.5	66	131	D2107290	29	84	168
D2107897	19.75	66	131	D2107300	30	84	168
D2107200	20	66	131	D2107310	31	87	174
D2107205	20.5	68	136				
D2107210	21	68	136				
D2107215	21.5	70	141				
D2107220	22	70	141				
D2107225	22.5	72	146				
D2107230	23	72	146				
D2107235	23.5	72	146				
D2107240	24	75	151				

Verpackungseinheiten:
bis inkl. Ø 6.5 VPE = 10,
Ø 6.6 - Ø 13 VPE = 5,
ab Ø 13 VPE = 1

SCHNITTDATEN

Material		Dc	2	3	4	6	8	10	13	16	18	20	30
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	20-30	0.03	0.04	0.05	0.06	0.09	0.12	0.14	0.16	0.18	0.21	0.25
	niedriglegiert	15-25	0.03	0.04	0.05	0.06	0.09	0.12	0.14	0.16	0.18	0.21	0.25
	hochlegiert	10-15	0.03	0.04	0.05	0.06	0.09	0.12	0.14	0.16	0.18	0.21	0.25
Rostfreier Stahl	ferritisch	15-20	0.03	0.04	0.05	0.05	0.08	0.11	0.13	0.14	0.16	0.19	0.23
	martensitisch	10-15	0.02	0.03	0.03	0.04	0.06	0.09	0.10	0.11	0.13	0.15	0.18
Guss	Grauguss	25-30	0.03	0.04	0.05	0.06	0.09	0.12	0.14	0.16	0.18	0.21	0.25
	Sphäroguss	25-30	0.03	0.04	0.05	0.06	0.09	0.12	0.14	0.16	0.18	0.21	0.25
	Temperguss	20-25	0.03	0.04	0.05	0.06	0.09	0.12	0.14	0.16	0.18	0.21	0.25
Super- legierung	Titan- Legierungen	8-12	0.02	0.03	0.03	0.04	0.06	0.09	0.10	0.11	0.13	0.15	0.18
Nichteisen Metall	Al-Legierung	40-55	0.04	0.05	0.07	0.08	0.12	0.15	0.18	0.21	0.23	0.27	0.33
	Kunststoff	20-30	0.03	0.04	0.05	0.06	0.09	0.12	0.14	0.16	0.18	0.21	0.25

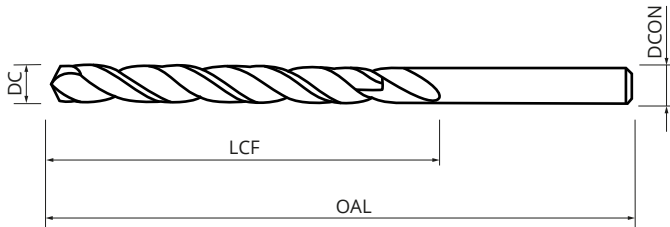


~12xD
ULDR



h8
DC-TOL

TiN
COAT



- Universell einsetzbarer HSS-E-Spiralbohrer
- TiN Gold-P Beschichtung
- 135°, unter Ø1.6 Normalanschliff, ab Ø1.6 Kreuzanschliff

ABMESSUNGEN

ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm	ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm
DLGP195010	1	12	34	DLGP195048	4.8	52	86
DLGP195011	1.1	14	36	DLGP195049	4.9	52	86
DLGP195012	1.2	16	38	DLGP195050	5	52	86
DLGP195013	1.3	16	38	DLGP195051	5.1	52	86
DLGP195014	1.4	18	40	DLGP195052	5.2	52	86
DLGP195015	1.5	18	40	DLGP195053	5.3	52	86
DLGP195016	1.6	20	43	DLGP195054	5.4	57	93
DLGP195017	1.7	20	43	DLGP195055	5.5	57	93
DLGP195018	1.8	22	46	DLGP195056	5.6	57	93
DLGP195019	1.9	22	46	DLGP195057	5.7	57	93
DLGP195020	2	24	49	DLGP195058	5.8	57	93
DLGP195021	2.1	24	49	DLGP195059	5.9	57	93
DLGP195022	2.2	27	53	DLGP195060	6	57	93
DLGP195023	2.3	27	53	DLGP195061	6.1	63	101
DLGP195024	2.4	30	57	DLGP195062	6.2	63	101
DLGP195025	2.5	30	57	DLGP195063	6.3	63	101
DLGP195026	2.6	30	57	DLGP195064	6.4	63	101
DLGP195027	2.7	33	61	DLGP195065	6.5	63	101
DLGP195028	2.8	33	61	DLGP195066	6.6	63	101
DLGP195029	2.9	33	61	DLGP195067	6.7	63	101
DLGP195030	3	33	61	DLGP195068	6.8	69	109
DLGP195031	3.1	36	65	DLGP195069	6.9	69	109
DLGP195032	3.2	36	65	DLGP195070	7	69	109
DLGP195033	3.3	36	65	DLGP195071	7.1	69	109
DLGP195034	3.4	39	70	DLGP195072	7.2	69	109
DLGP195035	3.5	39	70	DLGP195073	7.3	69	109
DLGP195036	3.6	39	70	DLGP195074	7.4	69	109
DLGP195037	3.7	39	70	DLGP195075	7.5	69	109
DLGP195038	3.8	43	75	DLGP195076	7.6	75	117
DLGP195039	3.9	43	75	DLGP195077	7.7	75	117
DLGP195040	4	43	75	DLGP195078	7.8	75	117
DLGP195041	4.1	43	75	DLGP195079	7.9	75	117
DLGP195042	4.2	43	75	DLGP195080	8	75	117
DLGP195043	4.3	47	80	DLGP195081	8.1	75	117
DLGP195044	4.4	47	80	DLGP195082	8.2	75	117
DLGP195045	4.5	47	80	DLGP195083	8.3	75	117
DLGP195046	4.6	47	80	DLGP195084	8.4	75	117
DLGP195047	4.7	47	80	DLGP195085	8.5	75	117

ABMESSUNGEN

ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm	ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm
DLGP195086	8.6	81	125	DLGP195112	11.2	94	142
DLGP195087	8.7	81	125	DLGP195113	11.3	94	142
DLGP195088	8.8	81	125	DLGP195114	11.4	94	142
DLGP195089	8.9	81	125	DLGP195115	11.5	94	142
DLGP195090	9	81	125	DLGP195116	11.6	94	142
DLGP195091	9.1	81	125	DLGP195117	11.7	94	142
DLGP195092	9.2	81	125	DLGP195118	11.8	94	142
DLGP195093	9.3	81	125	DLGP195119	11.9	101	151
DLGP195094	9.4	81	125	DLGP195120	12	101	151
DLGP195095	9.5	81	125	DLGP195121	12.1	101	151
DLGP195096	9.6	87	133	DLGP195122	12.2	101	151
DLGP195097	9.7	87	133	DLGP195123	12.3	101	151
DLGP195098	9.8	87	133	DLGP195124	12.4	101	151
DLGP195099	9.9	87	133	DLGP195125	12.5	101	151
DLGP195100	10	87	133	DLGP195126	12.6	101	151
DLGP195101	10.1	87	133	DLGP195127	12.7	101	151
DLGP195102	10.2	87	133	DLGP195128	12.8	101	151
DLGP195103	10.3	87	133	DLGP195129	12.9	101	151
DLGP195104	10.4	87	133	DLGP195130	13	101	151
DLGP195105	10.5	87	133				
DLGP195106	10.6	87	133				
DLGP195107	10.7	94	142				
DLGP195108	10.8	94	142				
DLGP195109	10.9	94	142				
DLGP195110	11	94	142				
DLGP195111	11.1	94	142				

Verpackungseinheiten:
bis inkl. Ø 6.5 VPE = 10,
Ø 6.6 - Ø 13 VPE = 5

SCHNITTDATEN

Material		Dc	2	3	4	6	8	10	13
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	30 - 40	0.05	0.06	0.08	0.10	0.14	0.19	0.22
	niedriglegiert	25 - 35	0.05	0.06	0.08	0.10	0.14	0.19	0.22
	hochlegiert	20 - 25	0.05	0.06	0.08	0.10	0.14	0.19	0.22
Rostfreier Stahl	ferritisch	15 - 25	0.05	0.06	0.08	0.08	0.13	0.18	0.21
	martensitisch	10 - 15	0.03	0.05	0.05	0.06	0.10	0.14	0.16
Guss	Grauguss	35 - 40	0.05	0.06	0.08	0.10	0.14	0.19	0.22
	Sphäroguss	30 - 40	0.05	0.06	0.08	0.10	0.14	0.19	0.22
	Temperguss	25 - 35	0.05	0.06	0.08	0.10	0.14	0.19	0.22
Super- legierung	Titan- Legierungen	15 - 20	0.03	0.05	0.05	0.07	0.09	0.12	0.14
Nichteisen Metall	Al-Legierung	50 - 65	0.06	0.08	0.11	0.15	0.19	0.23	0.27
	Kunststoff	25 - 35	0.05	0.06	0.08	0.10	0.14	0.19	0.22



~12xD
ULDR

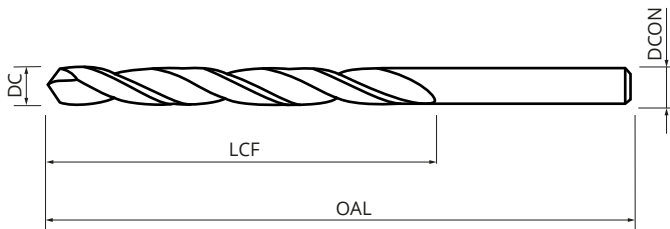


h8
DC-TOL

TiN
COAT



- Universell einsetzbarer HSS-Spiralbohrer
- TiN Gold-P Beschichtung
- 118°, Kreuzanschliff



ABMESSUNGEN

ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm	ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm
D1GP165016	1.6	20	43	D1GP165050	5	52	86
D1GP165017	1.7	20	43	D1GP165051	5.1	52	86
D1GP165018	1.8	22	46	D1GP165052	5.2	52	86
D1GP165019	1.9	22	46	D1GP165053	5.3	52	86
D1GP165020	2	24	49	D1GP165054	5.4	57	93
D1GP165021	2.1	24	49	D1GP165055	5.5	57	93
D1GP165022	2.2	27	53	D1GP165056	5.6	57	93
D1GP165023	2.3	27	53	D1GP165057	5.7	57	93
D1GP165024	2.4	30	57	D1GP165058	5.8	57	93
D1GP165025	2.5	30	57	D1GP165059	5.9	57	93
D1GP165026	2.6	30	57	D1GP165060	6	57	93
D1GP165027	2.7	33	61	D1GP165061	6.1	63	101
D1GP165028	2.8	33	61	D1GP165062	6.2	63	101
D1GP165029	2.9	33	61	D1GP165063	6.3	63	101
D1GP165030	3	33	61	D1GP165064	6.4	63	101
D1GP165031	3.1	36	65	D1GP165065	6.5	63	101
D1GP165032	3.2	36	65	D1GP165066	6.6	63	101
D1GP165033	3.3	36	65	D1GP165067	6.7	63	101
D1GP165034	3.4	39	70	D1GP165068	6.8	69	109
D1GP165035	3.5	39	70	D1GP165069	6.9	69	109
D1GP165036	3.6	39	70	D1GP165070	7	69	109
D1GP165037	3.7	39	70	D1GP165071	7.1	69	109
D1GP165038	3.8	43	75	D1GP165072	7.2	69	109
D1GP165039	3.9	43	75	D1GP165073	7.3	69	109
D1GP165040	4	43	75	D1GP165074	7.4	69	109
D1GP165041	4.1	43	75	D1GP165075	7.5	69	109
D1GP165042	4.2	43	75	D1GP165076	7.6	75	117
D1GP165043	4.3	47	80	D1GP165077	7.7	75	117
D1GP165044	4.4	47	80	D1GP165078	7.8	75	117
D1GP165045	4.5	47	80	D1GP165079	7.9	75	117
D1GP165046	4.6	47	80	D1GP165080	8	75	117
D1GP165047	4.7	47	80	D1GP165081	8.1	75	117
D1GP165048	4.8	52	86	D1GP165082	8.2	75	117
D1GP165049	4.9	52	86	D1GP165083	8.3	75	117

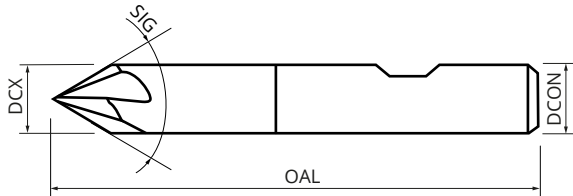
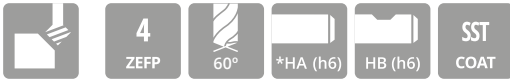
ABMESSUNGEN

ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm	ArtNr. (WGR. 8111)	DC = DCON mm	LCF mm	OAL mm
D1GP165084	8.4	75	117	D1GP165110	11	94	142
D1GP165085	8.5	75	117	D1GP165111	11.1	94	142
D1GP165086	8.6	81	125	D1GP165112	11.2	94	142
D1GP165087	8.7	81	125	D1GP165113	11.3	94	142
D1GP165088	8.8	81	125	D1GP165114	11.4	94	142
D1GP165089	8.9	81	125	D1GP165115	11.5	94	142
D1GP165090	9	81	125	D1GP165116	11.6	94	142
D1GP165091	9.1	81	125	D1GP165117	11.7	94	142
D1GP165092	9.2	81	125	D1GP165118	11.8	94	142
D1GP165093	9.3	81	125	D1GP165119	11.9	101	151
D1GP165094	9.4	81	125	D1GP165120	12	101	151
D1GP165095	9.5	81	125	D1GP165121	12.1	101	151
D1GP165096	9.6	87	133	D1GP165122	12.2	101	151
D1GP165097	9.7	87	133	D1GP165123	12.3	101	151
D1GP165098	9.8	87	133	D1GP165124	12.4	101	151
D1GP165099	9.9	87	133	D1GP165125	12.5	101	151
D1GP165100	10	87	133	D1GP165126	12.6	101	151
D1GP165101	10.1	87	133	D1GP165127	12.7	101	151
D1GP165102	10.2	87	133	D1GP165128	12.8	101	151
D1GP165103	10.3	87	133	D1GP165129	12.9	101	151
D1GP165104	10.4	87	133	D1GP165130	13	101	151
D1GP165105	10.5	87	133				
D1GP165106	10.6	87	133				
D1GP165107	10.7	94	142				
D1GP165108	10.8	94	142				
D1GP165109	10.9	94	142				

Verpackungseinheiten:
bis inkl. Ø 6,5 VPE = 10,
Ø 6.6 - Ø 13 VPE = 5

SCHNITTDATEN

Material		Dc	2	3	4	6	8	10	13
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	30 - 40	0.05	0.06	0.08	0.10	0.14	0.19	0.22
	niedriglegiert	25 - 35	0.05	0.06	0.08	0.10	0.14	0.19	0.22
	hochlegiert	20 - 25	0.05	0.06	0.08	0.10	0.14	0.19	0.22
Rostfreier Stahl	ferritisch	15 - 25	0.05	0.06	0.08	0.08	0.13	0.18	0.21
	martensitisch	10 - 15	0.03	0.05	0.05	0.06	0.10	0.14	0.16
Guss	Grauguss	35 - 40	0.05	0.06	0.08	0.10	0.14	0.19	0.22
	Sphäroguss	30 - 40	0.05	0.06	0.08	0.10	0.14	0.19	0.22
	Temperguss	25 - 35	0.05	0.06	0.08	0.10	0.14	0.19	0.22
Super- legierung	Titan- Legierungen	15 - 20	0.03	0.05	0.05	0.07	0.09	0.12	0.14
Nichteisen Metall	Al-Legierung	50 - 65	0.06	0.08	0.11	0.15	0.19	0.23	0.27
	Kunststoff	25 - 35	0.05	0.06	0.08	0.10	0.14	0.19	0.22



- Zur universellen Anwendung in Stahl, rost-freiem Stahl, Guss, Superlegierungen und Nichteisenmetallen
- Nicht für Bohr-Operationen geeignet

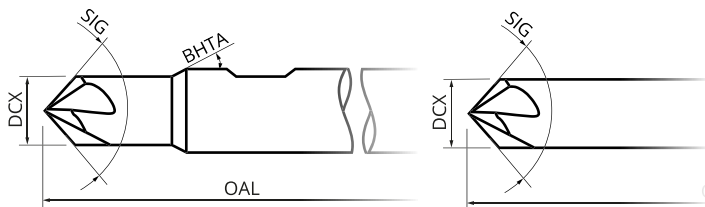
ABMESSUNGEN

Artikelnummer (WGR. 9827)	DC mm	OAL mm	DCON mm	SIG °	ZEFP
FF060040-Z4*	4	54	4	60	4
FF060060-Z4	6	57	6	60	4
FF060080-Z4	8	63	8	60	4
FF060100-Z4	10	72	10	60	4

* mit HA-Schaft

SCHNITTDATEN

Material	DC	≤ 4.0	4.1 - 8.0	8.1 - 10.0
	Vc m/min	fz mm/Z	fz mm/Z	fz mm/Z
Unlegierter Baustahl	80 - 120	0.015	0.03	0.04
Legierter Stahl / Hochlegierter Stahl	40 - 80	0.01	0.02	0.03
Rostfreier Stahl	40 - 80	0.01	0.02	0.03
Guss	80 - 120	0.015	0.04	0.04
Superlegierung	40 - 80	0.008	0.015	0.02
Nichteisen Metall	120 - 150	0.015	0.03	0.04



- Zur universellen Anwendung in Stahl, rost-freiem Stahl, Guss, Superlegierungen und Nichteisenmetallen
- Nicht für Bohr-Operationen geeignet

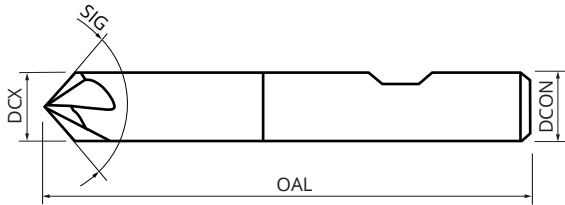
ABMESSUNGEN

Artikelnummer (WGR. 9827)	DCX mm	LU mm	OAL mm	DCON mm	SIG °	BHTA °	ZEFP
FF090010-Z3*	1	5	38	3	90	22.5	3
FF090020-Z3*	2	5	38	3	90	22.5	3
FF090030-Z4*	3	-	38	3	90	-	4
FF090040-Z4*	4	-	54	4	90	-	4
FF090060-Z4	6	-	57	6	90	-	4
FF090080-Z4	8	-	63	8	90	-	4
FF090100-Z4	10	-	72	10	90	-	4
FF090120-Z4	12	-	83	12	90	-	4
FF090160-Z5	16	-	92	16	90	-	5
FF090200-Z6	20	-	104	20	90	-	6

* mit HA-Schaft

SCHNITTDATEN

Material	DC	≤ 2.0	2.1 - 4.0	4.1 - 8.0	8.1 - 12.0	≥ 12.1
	Vc m/min	fz mm/Z	fz mm/Z	fz mm/Z	fz mm/Z	fz mm/Z
Unlegierter Baustahl	80 - 120	0.005	0.015	0.03	0.04	0.06
Legierter Stahl / Hochlegierter Stahl	40 - 80	0.003	0.01	0.02	0.03	0.05
Rostfreier Stahl	40 - 80	0.003	0.01	0.02	0.03	0.05
Guss	80 - 120	0.005	0.015	0.04	0.04	0.06
Superlegierung	40 - 80	0.002	0.008	0.015	0.02	0.03
Nichteisen Metall	120 - 150	0.005	0.015	0.03	0.04	0.06



- Zur universellen Anwendung in Stahl, rost-freiem Stahl, Guss, Superlegierungen und Nichteisenmetallen
- Nicht für Bohr-Operationen geeignet

ABMESSUNGEN

Artikelnummer (WGR. 9827)	DCX mm	OAL mm	DCON mm	SIG °	ZEFP
FF120040-Z4*	4	54	4	120	4
FF120060-Z4	6	57	6	120	4
FF120080-Z4	8	63	8	120	4
FF120100-Z4	10	72	10	120	4

* mit HA-Schaft

SCHNITTDATEN

Material	DC	≤ 4.0	4.1 - 8.0	8.1 - 10.0
	V _c m/min	f _z m/min	f _z mm/Z	f _z mm/Z
Unlegierter Baustahl	80 - 120	0.015	0.03	0.04
Legierter Stahl / Hochlegierter Stahl	40 - 80	0.01	0.02	0.03
Rostfreier Stahl	40 - 80	0.01	0.02	0.03
Guss	80 - 120	0.015	0.04	0.04
Superlegierung	40 - 80	0.008	0.015	0.02
Nichteisen Metall	120 - 150	0.015	0.03	0.04



3-4

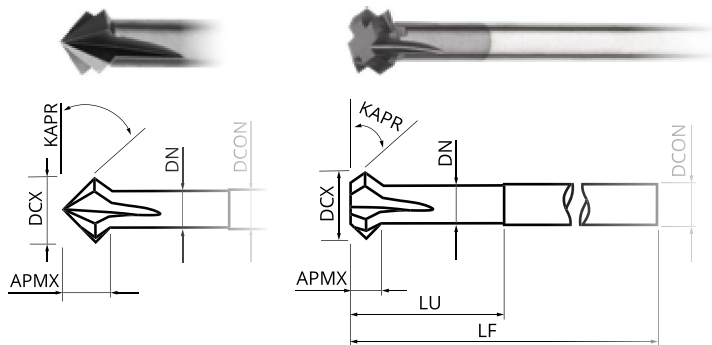
ZEFP



HA (h6)

SST

COAT



DCX ≤ 6 mm Stirn spitz zulaufend

DCX ≥ 8 mm Spitze abgeflacht



- Zur universellen Anwendung in Stahl, rostfreiem Stahl, Guss, Superlegierungen und Nichteisenmetallen
- VHM-Fasenfräser 45° für Vor- und Rückwärtsbearbeitung

ABMESSUNGEN

Artikelnummer (WGR. 7972)	DCX mm	APMX mm	LU mm	DN mm	LF mm	DCON mm	KAPR °	ZEFP
VRE090020	2	1.4	8	1.2	100	6	45	3
VRE090030	3	2.0	8	2.0	100	6	45	4
VRE090040	4	3.0	10	2.0	100	6	45	4
VRE090060	6	4.0	15	4.0	100	6	45	4
VRE090080	8	3.2	-	-	100	6	45	4
VRE090100	10	4.3	-	-	100	6	45	4
VRE090120	12	5.0	-	-	100	6	45	4
VRE090160	16	8.0	-	-	100	10	45	4

SCHNITTDATEN

Material	DC	≤ 4.0	4.1 - 8.0	8.1 - 12.0	≥ 12.1
	Vc m/min	fz m/min	fz m/min	fz m/min	fz m/min
Unlegierter Baustahl	70 - 90	0.010	0.016	0.020	0.026
Legierter Stahl / Hochlegierter Stahl	50 - 70	0.008	0.013	0.017	0.018
Rostfreier Stahl	30 - 50	0.008	0.013	0.017	0.018
Guss	60 - 80	0.010	0.016	0.020	0.023
Superlegierung	30 - 45	0.005	0.010	0.015	0.015
Nichteisen Metall	120 - 150	0.010	0.016	0.020	0.023



4

ZEFP



HA (h6)

SST

COAT

NEU



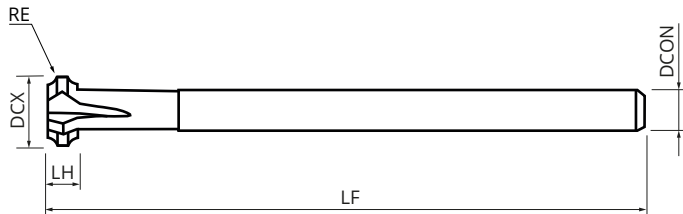
P

M

K

S

N



- Zur universellen Anwendung in Stahl, rostfreiem Stahl, Guss, Superlegierungen und Nichteisenmetallen
- VHM-Viertelkreisfräser für Vor- und Rückwärtsbearbeitung

ABMESSUNGEN

Artikelnummer (WGR. 7972)	DCX mm	RE mm	LH mm	LF mm	DCON mm	ZEFP
RVRE002080	8	0.2	2	100	6	4
RVRE003080	8	0.3	2	100	6	4
RVRE004080	8	0.4	2	100	6	4
RVRE005080	8	0.5	2	100	6	4
RVRE008100	10	0.8	4	100	6	4
RVRE010100	10	1.0	4	100	6	4
RVRE012100	10	1.2	4	100	6	4
RVRE015100	10	1.5	4	100	6	4

SCHNITTDATEN

Material	RE	0.2	0.3	0.4	0.5	0.8	1.0	1.2	1.5
	Vc m/min	fz mm/Z	fz mm/Z	fz mm/Z	fz mm/Z	fz mm/Z	fz mm/Z	fz mm/Z	fz mm/Z
Unlegierter Baustahl	70 - 90	0.050	0.040	0.030	0.025	0.023	0.023	0.020	0.020
Legierter Stahl / Hochlegierter Stahl	50 - 70	0.037	0.030	0.025	0.020	0.018	0.018	0.015	0.015
Rostfreier Stahl	30 - 50	0.037	0.030	0.025	0.020	0.018	0.018	0.015	0.015
Guss	60 - 80	0.050	0.040	0.030	0.025	0.023	0.023	0.020	0.020
Superlegierung	30 - 45	0.037	0.030	0.025	0.020	0.018	0.018	0.015	0.015
Nichteisen Metall	120 - 150	0.050	0.040	0.030	0.025	0.023	0.023	0.020	0.020

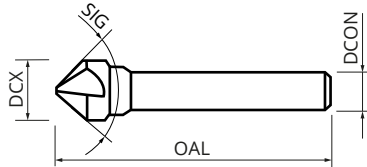


3
ZEFP

HA (h6)

SST
COAT

NEU



■ Universell einsetzbarer VHM-Kegelsenker

ABMESSUNGEN

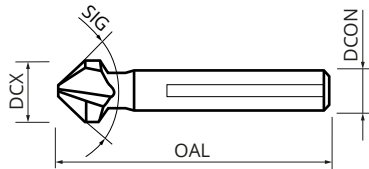
ArtNr. (WGR. 7972)	DCX mm	DCON mm	OAL mm	SIG °	ZEFP
KSE090043	4.3	6	50	90°	3
KSE090063	6.3	6	51	90°	3
KSE090083	8.3	6	52	90°	3
KSE090104	10.4	6	53	90°	3
KSE090124	12.4	8	55	90°	3
KSE090165	16.5	10	58	90°	3
KSE090205	20.5	10	61	90°	3
KSE090250	25.0	10	64	90°	3
KSE090310	31.0	10	68	90°	3

SCHNITTDATEN

Material		Dc	3	5	10	15	20	25	30
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	60 - 70	0.08	0.09	0.11	0.13	0.15	0.18	0.22
	niedriglegiert	55 - 65	0.07	0.08	0.09	0.11	0.14	0.17	0.20
Rostfreier Stahl		20 - 25	0.05	0.06	0.07	0.09	0.11	0.14	0.17
Guss		40 - 50	0.08	0.09	0.11	0.13	0.15	0.18	0.22
Nichteisen Metall	Al-Legierung	110 - 130	0.08	0.09	0.11	0.13	0.15	0.18	0.22
	Kunststoff	200 - 230	0.09	0.10	0.12	0.15	0.18	0.21	0.24



NEU



- Universell einsetzbarer Hochleistungs-HSS-Kegelsenker mit 3-Flächenschaft
- Ungleich geteilt

ABMESSUNGEN

ArtNr. (WGR. 7972)	DCX mm	DCON mm	OAL mm	SIG °	ZEFP
KSE090043-UG	4.3	4	40	90°	3
KSE090063-UG	6.3	5	45	90°	3
KSE090083-UG	8.3	6	50	90°	3
KSE090104-UG	10.4	6	50	90°	3
KSE090124-UG	12.4	8	56	90°	3
KSE090165-UG	16.5	10	60	90°	3
KSE090205-UG	20.5	10	63	90°	3
KSE090250-UG	25.0	10	67	90°	3
KSE090310-UG	31.0	12	71	90°	3

SCHNITTDATEN

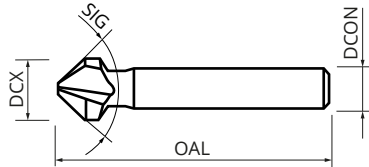
Material		Dc	3	5	10	15	20	25	30
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	13 - 20	0.11	0.13	0.18	0.21	0.25	0.27	0.31
	niedriglegiert	8 - 15	0.08	0.10	0.14	0.17	0.10	0.24	0.27
Rostfreier Stahl		4 - 6	0.05	0.06	0.07	0.09	0.10	0.11	0.12
Guss		15 - 23	0.07	0.09	0.11	0.13	0.16	0.20	0.23
Nichteisen Metall	Al-Legierung	35 - 50	0.12	0.15	0.19	0.21	0.23	0.27	0.31
	Kunststoff	15 - 25	0.11	0.13	0.16	0.19	0.21	0.26	0.30



3
ZEFP



TN
COAT



■ Universell einsetzbarer HSS-Co8-Kegelsenker

ABMESSUNGEN

ArtNr. (WGR. 8520)	DCX mm	DC-Bereich mm	DCON mm	OAL mm	SIG °	ZEFP
C1239043	4.3	1.3 - 4.3	4	40	90°	3
C1239063	6.3	1.5 - 6.3	5	45	90°	3
C1239083	8.3	2.0 - 8.3	6	50	90°	3
C1239104	10.4	2.5 - 10.4	6	50	90°	3
C1239124	12.4	2.8 - 12.4	8	56	90°	3
C1239150	15.0	3.2 - 15.0	10	60	90°	3
C1239165	16.5	3.2 - 16.5	10	60	90°	3
C1239205	20.5	3.5 - 20.5	10	63	90°	3
C1239250	25.0	3.8 - 25.0	10	67	90°	3
C1239300	30.0	4.2 - 30.0	12	71	90°	3
C1239310	31.0	4.2 - 31.0	12	71	90°	3

SCHNITTDATEN

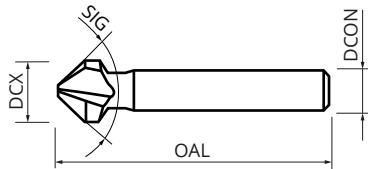
Material		Dc	3	5	10	15	20	25	30
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	13 - 20	0.11	0.13	0.18	0.21	0.25	0.27	0.31
	niedriglegiert	8 - 15	0.08	0.10	0.14	0.17	0.10	0.24	0.27
Rostfreier Stahl		4 - 6	0.05	0.06	0.07	0.09	0.10	0.11	0.12
Guss		15 - 23	0.07	0.09	0.11	0.13	0.16	0.20	0.23
Nichteisen Metall	Al-Legierung	35 - 50	0.12	0.15	0.19	0.21	0.23	0.27	0.31
	Kunststoff	15 - 25	0.11	0.13	0.16	0.19	0.21	0.26	0.30



3
ZEFP



UN-
COAT



- Universell einsetzbarer HSS-Kegelsenker unbeschichtet

ABMESSUNGEN

ArtNr. (WGR. 8520)	DCX mm	DC-Bereich mm	DCON mm	OAL mm	SIG °	ZEFP
C3139043	4.3	1.3 - 4.3	4	40	90°	3
C3139063	6.3	1.5 - 6.3	5	45	90°	3
C3139083	8.3	2.0 - 8.3	6	50	90°	3
C3139104	10.4	2.5 - 10.4	6	50	90°	3
C3139124	12.4	2.8 - 12.4	8	56	90°	3
C3139150	15.0	3.2 - 15.0	10	60	90°	3
C3139165	16.5	3.2 - 16.5	10	60	90°	3
C3139205	20.5	3.5 - 20.5	10	63	90°	3
C3139250	25.0	3.8 - 25.0	10	67	90°	3
C3139300	30.0	4.2 - 30.0	12	71	90°	3
C3139310	31.0	4.2 - 31.0	12	71	90°	3

SCHNITTDATEN

Material		Dc	3	5	10	15	20	25	30
		Vc m/min	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U	fn mm/U
Stahl	unlegiert	10 - 15	0.10	0.12	0.16	0.19	0.23	0.24	0.28
	niedriglegiert	6 - 12	0.07	0.09	0.13	0.15	0.09	0.22	0.24
Rostfreier Stahl		3 - 5	0.04	0.05	0.06	0.08	0.09	0.10	0.11
Guss		9 - 15	0.07	0.08	0.10	0.12	0.14	0.18	0.21
Nichteisen Metall	Al-Legierung	30 - 40	0.011	0.14	0.17	0.19	0.21	0.24	0.28
	Kunststoff	15 - 20	0.011	0.13	0.14	0.17	0.19	0.23	0.27



- Die Schnittdaten sind Richtwerte. Je nach Aufspannung und Maschine sind die Daten entsprechend anzupassen.
- Anwendung dieser Schnittdaten auf eigene Verantwortung. Alle Angaben ohne Gewähr, Modell-, Farb- und Preisänderungen vorbehalten.
- Die Preise gelten je Stück, exkl. der gesetzlichen MwSt. Im Übrigen gelten unsere AGB's (www.sixsigmatools.com/AGB-GmbH.pdf)
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