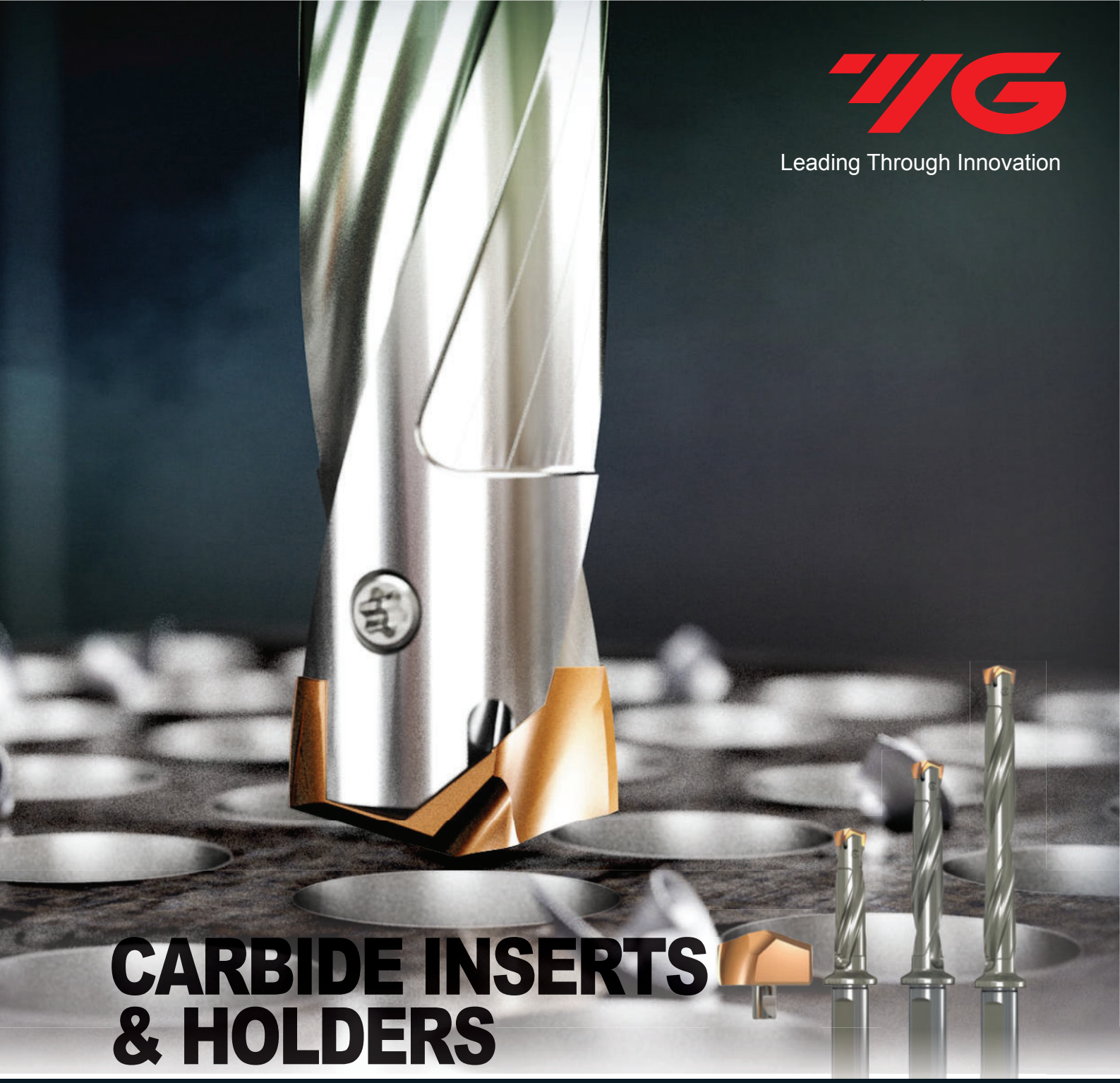
YG

Leading Through Innovation



CARBIDE INSERTS & HOLDERS

i - ONE DRILLS

i-One Drills

- **High Performance Exchangeable for General Steels and Cast Iron**
- **Leistungsstarke, austauschbare Bohrwerkzeuge für allgemeine Stähle und Gusseisen**

SELECTION GUIDE

YG HOLEMAKING TOOLS

CARBIDE INSERTS & HOLDERS
i-ONE DRILLS

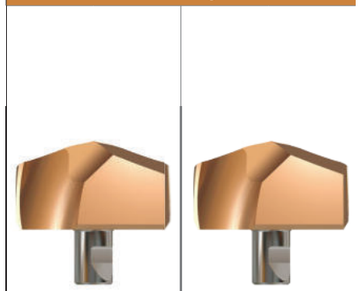
High Performance Exchangeable
for General Steels and Cast Iron

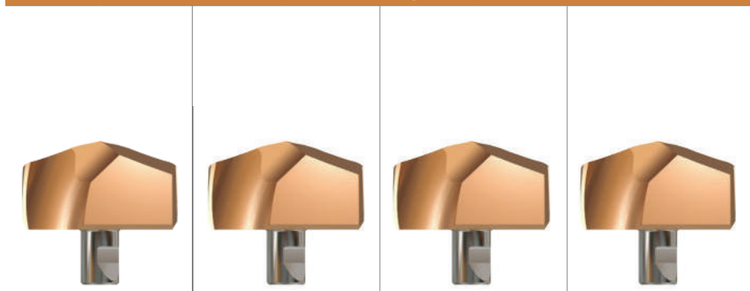
Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A34

SERIES	Y101H	Y121H	Y141H	Y161H	Y181H	Y201H	Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8
SIZE MIN	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00	26.00	28.00	30.00	32.00			
SIZE MAX	11.91	13.90	15.90	17.90	19.90	21.90	23.90	25.90	27.78	29.77	31.75	33.73			
PAGE	A24	A25	A26	A27	A28	A29	A30	A31	A32		A33				
SURFACE TREATMENT	H-Coating				H-Coating								3XD	5XD	8XD





ISO		VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc												
P	1		Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	2			About 0.45% C	Annealed	190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	3			About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	4			About 0.75% C	Annealed	270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	5			About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	6		Low alloy steel		Annealed	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	7				Quenched & Tempered	275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	8				Quenched & Tempered	300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	9				Quenched & Tempered	350	38	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	10		High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	11				Quenched & Tempered	325	35	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
M	12		Stainless steel	Ferritic / Martensitic	Annealed	200	15												
	13			Martensitic	Quenched & Tempered	240	23												
	14			Austenitic10		180	10												
K	15		Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	16			Pearlitic (Martensitic)		260	26	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	17		Nodular cast iron	Ferritic		160	3	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	18			Pearlitic		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	19		Malleable cast iron	Ferritic		130		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	20			Pearlitic		230	21	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
N	21		Aluminum-wrought alloy	Not Curable		60													
	22			Curable	Hardened	100													
	23		Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75													
	24			≤ 12% Si, Curable	Hardened	90													
	25			> 12% Si, Not Curable		130													
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110													
	27			CuZn, CuSnZn (Brass)		90													
	28			CuSn, lead-free copper and electrolytic copper		100													
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic															
	30			Rubber, Wood, etc.															
S	31		Heat Resistant Super Alloys	Fe Based	Annealed	200	15												
	32				Cured	280	30												
	33			Ni or Co Based	Annealed	250	25												
	34				Cured	350	38												
	35				Cast	320	34												
	36		Titanium Alloys	Pure Titanium		400 Rm													
	37			Alpha + Beta Alloys	Hardened	1050 Rm													
H	38		Hardened steel		Hardened	550	55												
	39				Hardened	630	60												
	40		Chilled Cast Iron		Cast	400	42												
	41		Hardened Cast Iron		Hardened	550	55												

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
HPD DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

i - ONE DRILLS

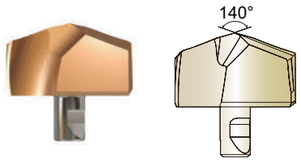
Y101H SERIES

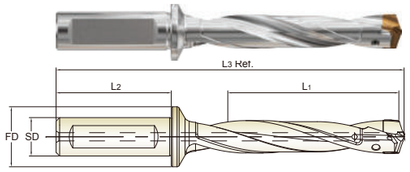
i-ONE DRILL INSERTS & HOLDERS

- i-ONE DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- INSERTI & PORTAINSERTI i-ONE DRILL

- Applications
▶For carbon steels, alloy steels and cast iron.
▶Holder length: 3xD, 5xD, 8xD
- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
▶Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
▶Halterlänge: 3xD, 5xD, 8xD
- Vorteile
▶Sicheres und schnelles Spannsystem.
▶Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.
▶Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.





CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder: Flat Shank — INDEXABLE DRILL HOLDER — ER COLLET CHUCK

Unit : mm

Series Range	Insert EDP No.	Insert O.D. h7			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	H-Coating	dec.	frac.	mm		SD	L2	FD	L1		L3 Ref.	
S10 Ø10.00 to Ø11.99	Y101H1000	0.3937	-	10.00	ZD10003016	16	48	23	3D	31.5	103.0	TX1011P5
	Y101H1010	0.3976	-	10.10								
	Y101H1020	0.4016	-	10.20	ZD10005016				5D	52.5	123.0	
	Y101H1030	0.4055	-	10.30								
	Y101H1032	0.4063	13/32	10.32	ZD10008016				8D	84.0	153.0	
	Y101H1040	0.4094	-	10.40								
	Y101H1050	0.4134	-	10.50	ZD10503016				3D	33.0	104.0	
	Y101H1060	0.4173	-	10.60								
	Y101H1070	0.4213	-	10.70	ZD10505016				5D	55.0	125.0	
	Y101H1072	0.4219	27/64	10.72								
	Y101H1080	0.4252	-	10.80	ZD10508016				8D	88.0	156.5	
	Y101H1090	0.4291	-	10.90								
	Y101H1100	0.4331	-	11.00	ZD11003016	16	48	23	3D	34.5	105.0	
	Y101H1110	0.4370	-	11.10								
	Y101H1111	0.4375	7/16	11.11	ZD11005016				5D	57.5	127.0	
	Y101H1120	0.4409	-	11.20								
	Y101H1130	0.4449	-	11.30	ZD11008016				8D	92.0	160.0	
	Y101H1140	0.4488	-	11.40								
	Y101H1150	0.4528	-	11.50	ZD11503016	16	48	23	3D	36.0	106.0	
	Y101H1151	0.4531	29/64	11.51								
	Y101H1160	0.4567	-	11.60	ZD11505016				5D	60.0	129.0	
	Y101H1170	0.4606	-	11.70								
	Y101H1180	0.4646	-	11.80	ZD11508016				8D	96.0	163.5	
	Y101H1190	0.4685	-	11.90								
	Y101H1191	0.4688	15/32	11.91								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P											M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

i - ONE DRILLS

Y121H SERIES

i-ONE DRILL INSERTS & HOLDERS

- i-ONE DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- INSERTI & PORTAINSERTI i-ONE DRILL

- Applications
▶For carbon steels, alloy steels and cast iron.
▶Holder length: 3xD, 5xD, 8xD
- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
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- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
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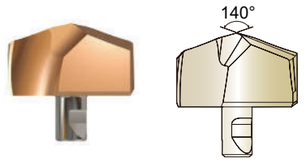
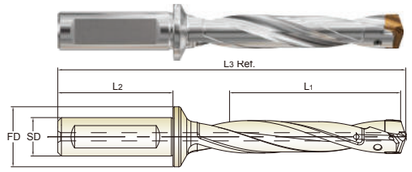




CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder: Flat Shank — INDEXABLE DRILL HOLDER — ER COLLET CHUCK

Unit : mm

Series Range	Insert EDP No.	Insert O.D. h7			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	H-Coating	dec.	frac.	mm		SD	L2	FD	L1		L3 Ref.	
S12 Ø12.00 to Ø13.99	Y121H1200	0.4724	-	12.00	ZD12003016	16	48	23	3D	37.5	109.8	TX1213P5
	Y121H1210	0.4764	-	12.10								
	Y121H1220	0.4803	-	12.20	ZD12005016				5D	62.5	133.8	
	Y121H1230	0.4844	31/64	12.30								
	Y121H1240	0.4882	-	12.40	ZD12008016				8D	100.0	169.8	
	Y121H1250	0.4921	-	12.50	ZD12503016				3D	39.0	110.8	
	Y121H1260	0.4961	-	12.60								
	Y121H1270	0.5000	1/2	12.70	ZD12505016				5D	65.0	135.8	
	Y121H1280	0.5039	-	12.80								
	Y121H1290	0.5079	-	12.90	ZD12508016				8D	104.0	173.3	
	Y121H1300	0.5118	-	13.00	ZD13003016	16	48	23	3D	40.5	112.8	
	Y121H1310	0.5156	33/64	13.10								
	Y121H1320	0.5197	-	13.20	ZD13005016				5D	67.5	138.8	
	Y121H1330	0.5236	-	13.30								
	Y121H1340	0.5276	-	13.40	ZD13008016				8D	108.0	177.8	
	Y121H1349	0.5313	17/32	13.49								
	Y121H1350	0.5315	-	13.50	ZD13503016	16	48	23	3D	42.0	113.8	
	Y121H1360	0.5354	-	13.60								
	Y121H1370	0.5394	-	13.70	ZD13505016				5D	70.0	140.8	
	Y121H1380	0.5433	-	13.80								
	Y121H1389	0.5469	35/64	13.89	ZD13508016				8D	112.0	181.3	
	Y121H1390	0.5472	-	13.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P											M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

i - ONE DRILLS

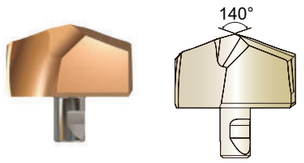
Y141H SERIES

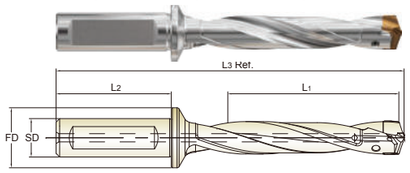
i-ONE DRILL INSERTS & HOLDERS

i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

- Applications
▶For carbon steels, alloy steels and cast iron.
▶Holder length: 3xD, 5xD, 8xD
- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
▶Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
▶Halterlänge: 3xD, 5xD, 8xD
- Vorteile
▶Sicheres und schnelles Spannsystem.
▶Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.
▶Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.





CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder — Flat Shank: INDEXABLE DRILL HOLDER, ER COLLET CHUCK

Unit : mm

Series Range	Insert EDP No.	Insert O.D. h7			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1		L_3 Ref.	
S14 Ø14.00 to Ø15.99	Y141H1400	0.5512	-	14.00	ZD14003016	16	48	23	3D	43.5	116.3	TX1415P7
	Y141H1410	0.5551	-	14.10								
	Y141H1420	0.5591	-	14.20	ZD14005016				5D	72.5	144.3	
	Y141H1429	0.5625	9/16	14.29								
	Y141H1430	0.5630	-	14.30	ZD14008016				8D	116.0	186.3	
	Y141H1440	0.5669	-	14.40								
	Y141H1450	0.5709	-	14.50	ZD14503016	16	48	23	3D	45.0	118.3	
	Y141H1460	0.5748	-	14.60								
	Y141H1468	0.5781	37/64	14.68	ZD14505016				5D	75.0	147.3	
	Y141H1470	0.5787	-	14.70								
	Y141H1480	0.5827	-	14.80	ZD14508016				8D	120.0	190.8	
	Y141H1490	0.5866	-	14.90								
	Y141H1500	0.5906	-	15.00	ZD15003016	16	48	23	3D	46.5	120.3	
	Y141H1508	0.5938	19/32	15.08								
	Y141H1510	0.5945	-	15.10	ZD15005016				5D	77.5	150.3	
	Y141H1520	0.5984	-	15.20								
	Y141H1530	0.6024	-	15.30	ZD15008016				8D	124.0	195.3	
	Y141H1540	0.6063	-	15.40								
	Y141H1548	0.6094	39/64	15.48								
	Y141H1550	0.6102	-	15.50	ZD15503016	16	48	23	3D	48.0	121.3	
	Y141H1560	0.6142	-	15.60								
	Y141H1570	0.6181	-	15.70	ZD15505016				5D	80.0	152.3	
	Y141H1580	0.6220	-	15.80								
	Y141H1588	0.6250	5/8	15.88	ZD15508016				8D	128.0	198.8	
	Y141H1590	0.6260	-	15.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P											M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

i - ONE DRILLS

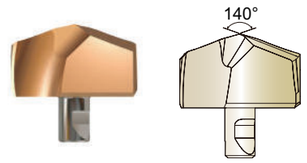
Y161H SERIES

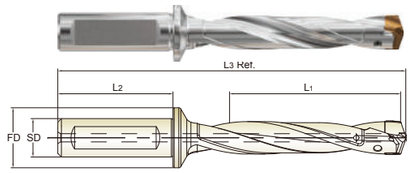
i-ONE DRILL INSERTS & HOLDERS

i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

- Applications
▶For carbon steels, alloy steels and cast iron.
▶Holder length: 3xD, 5xD, 8xD
- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
▶Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
▶Halterlänge: 3xD, 5xD, 8xD
- Vorteile
▶Sicheres und schnelles Spannsystem.
▶Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.
▶Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.





CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder — Flat Shank: INDEXABLE DRILL HOLDER, ER COLLET CHUCK

Unit : mm

Series Range	Insert EDP No.	Insert O.D. h7			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1		L_3 Ref.	
S16 Ø16.00 to Ø17.99	Y161H1600	0.6299	-	16.00	ZD16003020	20	50	25	3D	51.0	127.0	TX1617P7
	Y161H1609	0.6335	-	16.09								
	Y161H1610	0.6339	-	16.10								
	Y161H1620	0.6378	-	16.20								
	Y161H1627	0.6406	41/64	16.27								
	Y161H1630	0.6417	-	16.30								
	Y161H1640	0.6457	-	16.40	ZD16005020				5D	85.0	160.0	
	Y161H1650	0.6496	-	16.50								
	Y161H1660	0.6535	-	16.60								
	Y161H1667	0.6563	21/32	16.67	ZD16008020				8D	136.0	209.5	
	Y161H1670	0.6575	-	16.70								
	Y161H1680	0.6614	-	16.80								
	Y161H1690	0.6654	-	16.90								
	Y161H1700	0.6693	-	17.00	ZD17003020	20	50	25	3D	54.0	130.0	TX1718P7
	Y161H1707	0.6719	43/64	17.07								
	Y161H1710	0.6732	-	17.10								
	Y161H1720	0.6772	-	17.20								
	Y161H1730	0.6811	-	17.30								
	Y161H1740	0.6850	-	17.40								
	Y161H1746	0.6875	11/16	17.46	ZD17005020				5D	90.0	165.0	
	Y161H1750	0.6890	-	17.50								
	Y161H1760	0.6929	-	17.60								
	Y161H1770	0.6969	-	17.70	ZD17008020				8D	144.0	217.5	
	Y161H1780	0.7008	-	17.80								
	Y161H1786	0.7031	45/64	17.86								
	Y161H1790	0.7047	-	17.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P											M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

i - ONE DRILLS

Y181H SERIES

i-ONE DRILL INSERTS & HOLDERS

i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

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- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
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- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
▶Halterlänge: 3xD, 5xD, 8xD
- Vorteile
▶Sicheres und schnelles Spannsystem.
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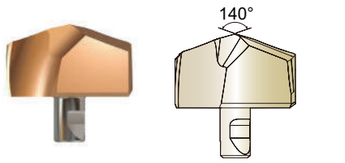

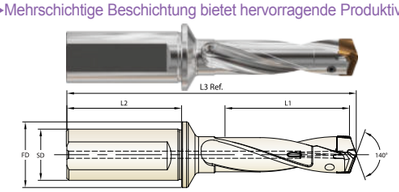

FULL-FLAT SHANK

CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder — Flat Shank: INDEXABLE DRILL HOLDER, ER COLLET CHUCK

Unit : mm

Series Range	Insert EDP No.	Insert O.D. h7			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1		L_3 Ref.	
S18 Ø18.00 to Ø19.99	Y181H1800	0.7087	-	18.00	ZD18003025	25	56	32	3D	57.0	141.3	TX1819P9
	Y181H1810	0.7126	-	18.10								
	Y181H1820	0.7165	-	18.20								
	Y181H1826	0.7188	23/32	18.26								
	Y181H1830	0.7205	-	18.30								
	Y181H1840	0.7244	-	18.40	ZD18005025				5D	95.0	178.3	
	Y181H1850	0.7283	-	18.50								
	Y181H1860	0.7323	-	18.60								
	Y181H1865	0.7344	47/64	18.65								
	Y181H1870	0.7362	-	18.70	ZD18008025				8D	152.0	233.8	
	Y181H1880	0.7402	-	18.80								
	Y181H1890	0.7441	-	18.90								
	Y181H1900	0.7480	-	19.00	ZD19003025	25	56	32	3D	60.0	145.3	TX1920P9
	Y181H1905	0.7500	3/4	19.05								
	Y181H1910	0.7520	-	19.10								
	Y181H1920	0.7559	-	19.20								
	Y181H1927	0.7587	-	19.27								
	Y181H1930	0.7598	-	19.30								
	Y181H1940	0.7638	-	19.40	ZD19005025				5D	100.0	184.3	
	Y181H1945	0.7656	49/64	19.45								
	Y181H1950	0.7677	-	19.50								
	Y181H1960	0.7717	-	19.60								
	Y181H1970	0.7756	-	19.70	ZD19008025				8D	160.0	242.8	
	Y181H1980	0.7795	-	19.80								
	Y181H1984	0.7813	25/32	19.84								
	Y181H1990	0.7835	-	19.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P											M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
HPD DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

i - ONE DRILLS

Y201H SERIES

i-ONE DRILL INSERTS & HOLDERS

i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

- Applications
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▶Holder length: 3xD, 5xD, 8xD
- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
▶Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
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▶Sicheres und schnelles Spannsystem.
▶Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.
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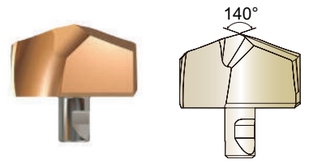

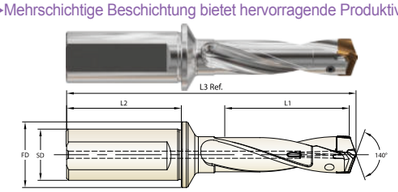

FULL-FLAT SHANK

CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder — Flat Shank: INDEXABLE DRILL HOLDER, ER COLLET CHUCK

Unit : mm

Series Range	Insert EDP No.	Insert O.D. h7			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1		L_3 Ref.	
S20 Ø20.00 to Ø21.99	Y201H2000	0.7874	-	20.00	ZD20003025	25	56	32	3D	63.0	147.5	TX2021P9
	Y201H2010	0.7913	-	20.10								
	Y201H2020	0.7953	-	20.20								
	Y201H2024	0.7969	51/64	20.24								
	Y201H2030	0.7992	-	20.30								
	Y201H2040	0.8031	-	20.40	ZD20005025				5D	105.0	188.5	
	Y201H2050	0.8071	-	20.50								
	Y201H2060	0.8110	-	20.60								
	Y201H2064	0.8125	13/16	20.64								
	Y201H2070	0.8150	-	20.70	ZD20008025				8D	168.0	250.0	
	Y201H2080	0.8189	-	20.80								
	Y201H2090	0.8228	-	20.90								
	Y201H2100	0.8268	-	21.00	ZD21003025	25	56	32	3D	66.0	150.5	TX2122P9
	Y201H2103	0.8281	53/64	21.03								
	Y201H2110	0.8307	-	21.10								
	Y201H2120	0.8346	-	21.20								
	Y201H2130	0.8386	-	21.30								
	Y201H2140	0.8425	-	21.40								
	Y201H2143	0.8438	27/32	21.43	ZD21005025				5D	110.0	193.5	
	Y201H2150	0.8465	-	21.50								
	Y201H2160	0.8504	-	21.60								
	Y201H2170	0.8543	-	21.70	ZD21008025				8D	176.0	258.0	
	Y201H2180	0.8583	-	21.80								
	Y201H2183	0.8594	55/64	21.83								
	Y201H2190	0.8622	-	21.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P											M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

i - ONE DRILLS

Y221H SERIES

i-ONE DRILL INSERTS & HOLDERS

i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

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▶Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
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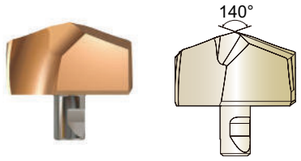

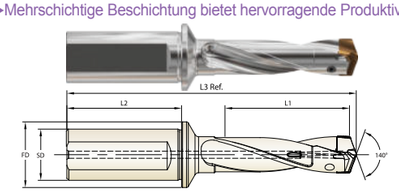

FULL-FLAT SHANK

CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder: Flat Shank — INDEXABLE DRILL HOLDER — ER COLLET CHUCK

Unit : mm

Series Range	Insert EDP No.	Insert O.D. h7			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1		L_3 Ref.	
S22 Ø22.00 to Ø23.99	Y221H2200	0.8661	-	22.00	ZD22003025				3D	69.0	153.4	
	Y221H2210	0.8701	-	22.10								
	Y221H2220	0.8740	-	22.20								
	Y221H2223	0.8750	7/8	22.23								
	Y221H2230	0.8780	-	22.30								
	Y221H2240	0.8819	-	22.40	ZD22005025	25	56	32	5D	115.0	198.4	TX2223P9
	Y221H2250	0.8858	-	22.50								
	Y221H2260	0.8898	-	22.60								
	Y221H2262	0.8906	57/64	22.62	ZD22008025				8D	184.0	265.9	
	Y221H2270	0.8937	-	22.70								
	Y221H2280	0.8976	-	22.80								
	Y221H2290	0.9016	-	22.90								
	Y221H2300	0.9055	-	23.00	ZD23003025				3D	72.0	157.4	
	Y221H2302	0.9063	29/32	23.02								
	Y221H2310	0.9094	-	23.10								
	Y221H2320	0.9134	-	23.20								
	Y221H2330	0.9173	-	23.30								
	Y221H2340	0.9213	-	23.40	ZD23005025	25	56	32	5D	120.0	204.4	TX2324P9
	Y221H2342	0.9219	59/64	23.42								
	Y221H2350	0.9252	-	23.50								
	Y221H2360	0.9291	-	23.60	ZD23008025				8D	192.0	274.9	
	Y221H2370	0.9331	-	23.70								
	Y221H2380	0.9370	-	23.80								
	Y221H2381	0.9375	15/16	23.81								
	Y221H2390	0.9409	-	23.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P																			M					K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel			Duplex	Grey cast iron			Nodular cast iron		Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20											
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21											
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230										
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎										

ISO	N										S							H												
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41										
HRc											15	30	25	38	34			55	60	42	55										
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550										
Recommended																															

i - ONE DRILLS

Y241H SERIES

i-ONE DRILL INSERTS & HOLDERS

i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

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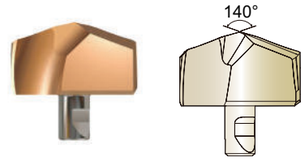
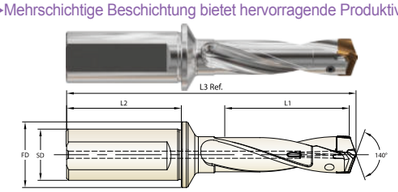
- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
▶Halterlänge: 3xD, 5xD, 8xD
- Vorteile
▶Sicheres und schnelles Spannsystem.
▶Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.
▶Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.





FULL-FLAT SHANK

CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder: Flat Shank — INDEXABLE DRILL HOLDER — ER COLLET CHUCK

Unit : mm

Series Range	Insert EDP No.	Insert O.D. h7			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1		L_3 Ref.	
S24 Ø24.00 to Ø25.99	Y241H2400	0.9449	-	24.00	ZD24003032				3D	75.0	165.8	
	Y241H2410	0.9488	-	24.10								
	Y241H2420	0.9528	-	24.20								
	Y241H2421	0.9531	61/64	24.21								
	Y241H2430	0.9567	-	24.30								
	Y241H2440	0.9606	-	24.40	ZD24005032	32	60	37	5D	125.0	214.8	TX2425P10
	Y241H2450	0.9646	-	24.50								
	Y241H2460	0.9685	-	24.60								
	Y241H2461	0.9688	31/32	24.61	ZD24008032				8D	200.0	288.3	
	Y241H2470	0.9724	-	24.70								
	Y241H2480	0.9764	-	24.80								
	Y241H2490	0.9803	-	24.90								
	Y241H2500	0.9844	63/64	25.00	ZD25003032				3D	78.0	170.8	
	Y241H2510	0.9882	-	25.10								
	Y241H2520	0.9921	-	25.20								
	Y241H2530	0.9961	-	25.30								
	Y241H2540	1.0000	1	25.40								
	Y241H2550	1.0039	-	25.50	ZD25005032	32	60	37	5D	130.0	221.8	TX2526P10
	Y241H2560	1.0079	-	25.60								
	Y241H2567	1.0106	-	25.67								
	Y241H2570	1.0118	-	25.70	ZD25008032				8D	208.0	298.3	
	Y241H2580	1.0156	1-1/64	25.80								
	Y241H2590	1.0197	-	25.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P																			M					K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel			Duplex	Grey cast iron			Nodular cast iron		Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20											
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21											
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230										
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎										

ISO	N										S							H												
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41										
HRc											15	30	25	38	34			55	60	42	55										
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550										
Recommended																															

i - ONE DRILLS

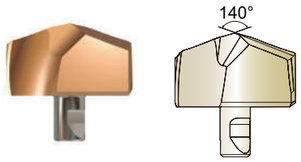
Y261H SERIES
Y281H SERIES

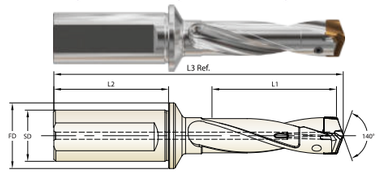
i-ONE DRILL INSERTS & HOLDERS

i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

- Applications
▶For carbon steels, alloy steels and cast iron.
▶Holder length: 3xD, 5xD, 8xD
- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
▶Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
▶Halterlänge: 3xD, 5xD, 8xD
- Vorteile
▶Sicheres und schnelles Spannsystem.
▶Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.
▶Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.





FULL-FLAT SHANK

CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder — Flat Shank: INDEXABLE DRILL HOLDER, ER COLLET CHUCK

Unit : mm

Series Range (mm)	Insert EDP No. H-Coating	Insert O.D. h7 dec.	frac.	mm	Holder EDP No.	Shank Dia. SD	Shank Length L_2	Flange Dia. FD	Drilling Depth	L_1	Overall Length L_3 Ref.	Screw No.
S26 Ø26.00 to Ø27.99	Y261H2600	1.0236	-	26.00	ZD26003032	32	60	37	3D	81.0	172.2	TX2627P10
	Y261H2619	1.0313	1-1/32	26.19								
	Y261H2650	1.0433	-	26.50	ZD26005032				5D	135.0	225.2	
	Y261H2659	1.0469	1-3/64	26.59								
	Y261H2699	1.0625	1-1/16	26.99	ZD26008032				8D	216.0	304.	
	Y261H2700	1.0630	-	27.00	ZD27003032	32	60	37	3D	84.0	175.2	TX2728P10
	Y261H2738	1.0781	1-5/64	27.38								
	Y261H2750	1.0827	-	27.50	ZD27005032				5D	140.0	230.2	
	Y261H2778	1.0938	1-3/32	27.78	ZD27008032				8D	224.0	312.7	
S28 Ø28.00 to Ø29.99	Y281H2800	1.1024	-	28.00	ZD28003032	32	60	37	3D	87.0	179.2	TX2829P10
	Y281H2818	1.1094	1-7/64	28.18								
	Y281H2850	1.1220	-	28.50	ZD28005032				5D	145.0	236.2	
	Y281H2858	1.1250	1-1/8	28.58								
	Y281H2897	1.1406	1-9/64	28.97	ZD28008032				8D	232.0	321.7	
	Y281H2900	1.1417	-	29.00	ZD29003032	32	60	37	3D	90.0	183.2	TX2930P10
	Y281H2937	1.1563	1-5/32	29.37								
	Y281H2950	1.1614	-	29.50	ZD29005032				5D	150.0	242.2	
	Y281H2977	1.1719	1-11/64	29.77	ZD29008032				8D	240.0	330.7	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P											M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

i - ONE DRILLS

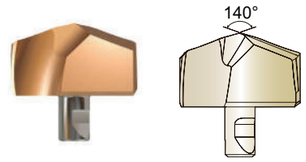
Y301H SERIES
Y321H SERIES

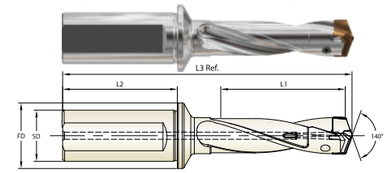
i-ONE DRILL INSERTS & HOLDERS

i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

- Applications
▶For carbon steels, alloy steels and cast iron.
▶Holder length: 3xD, 5xD, 8xD
- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
▶Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen
▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
▶Halterlänge: 3xD, 5xD, 8xD
- Vorteile
▶Sicheres und schnelles Spannsystem.
▶Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.
▶Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.





FULL-FLAT SHANK

CARBIDE | ISO 9766 | h7 | 140° | H Coating | p.A34

Recommended ToolHolder — Flat Shank: INDEXABLE DRILL HOLDER, ER COLLET CHUCK

Unit : mm

Series Range (mm)	Insert EDP No. H-Coating	Insert O.D. h7 dec.	frac.	mm	Holder EDP No.	Shank Dia. SD	Shank Length L_2	Flange Dia. FD	Drilling Depth	L_1	Overall Length L_3 Ref.	Screw No.
S30 Ø30.00 to Ø31.99	Y301H3000	1.1811	-	30.00	ZD30003032	32	60	37	3D	93.0	187.0	TX3031P15
	Y301H3016	1.1875	1-3/16	30.16								
	Y301H3050	1.2008	-	30.50	ZD30005032				5D	155.0	248.0	
	Y301H3056	1.2031	1-13/64	30.56								
	Y301H3096	1.2188	1-7/32	30.96	ZD30008032				8D	248.0	339.5	
	Y301H3100	1.2205	-	31.00	ZD31003032	32	60	37	3D	96.0	191.0	TX3132P15
	Y301H3135	1.2344	1-15/64	31.35								
	Y301H3150	1.2402	-	31.50	ZD31005032				5D	160.0	254.0	
	Y301H3175	1.2500	1-1/4	31.75	ZD31008032				8D	256.0	348.5	
S32 Ø32.00 to Ø33.99	Y321H3200	1.2598	-	32.00	ZD32003032	32	60	37	3D	99.0	197.2	TX3233P15
	Y321H3215	1.2656	1-17/64	32.15								
	Y321H3250	1.2795	-	32.50	ZD32005032				5D	165.0	262.2	
	Y321H3254	1.2813	1-9/32	32.54								
	Y321H3294	1.2969	1-19/64	32.94	ZD32008032				8D	264.0	359.7	
	Y321H3300	1.2992	-	33.00	ZD33003032	32	60	37	3D	102.0	201.2	TX3334P15
	Y321H3334	1.3125	1-5/16	33.34								
	Y321H3350	1.3189	-	33.50	ZD33005032				5D	170.0	268.2	
	Y321H3373	1.3281	1-21/64	33.73	ZD33008032				8D	272.0	368.7	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P											M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

i-ONE DRILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

Vc = m/min.
RPM = rev./min.
FEED = mm/rev.

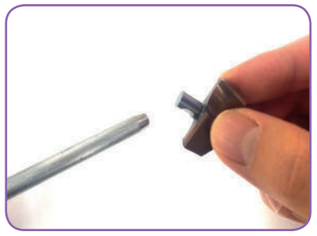
ISO	VDI 3323	Material Description	Cutting Speed	Feed					
			Vc	Ø10.0-11.99	Ø12.09-14.99	Ø15.00-17.99	Ø18.00-21.99	Ø22.0-26.9	Ø27.0-33.99
P	1	Non-alloy steel	**80-135**	0.13-0.29	0.18-0.33	0.23-0.37	0.28-0.43	0.34-0.50	0.36-0.52
	2		**70-120**	0.13-0.29	0.18-0.33	0.23-0.37	0.28-0.43	0.34-0.50	0.36-0.52
	3		**70-95**	0.13-0.29	0.18-0.33	0.23-0.37	0.28-0.43	0.34-0.50	0.36-0.52
	4		**70-95**	0.13-0.29	0.18-0.33	0.23-0.37	0.28-0.43	0.34-0.50	0.36-0.52
	5		**40-80**	0.13-0.29	0.18-0.33	0.23-0.37	0.28-0.43	0.34-0.50	0.36-0.52
	6	Low alloy steel	**80-100**	0.12-0.29	0.17-0.33	0.22-0.35	0.27-0.38	0.32-0.45	0.35-0.49
	7		**70-90**	0.12-0.29	0.17-0.33	0.22-0.35	0.27-0.38	0.32-0.45	0.35-0.49
	8		**60-80**	0.12-0.29	0.17-0.33	0.22-0.35	0.27-0.38	0.32-0.45	0.35-0.49
	9		**50-60**	0.12-0.29	0.17-0.33	0.22-0.35	0.27-0.38	0.32-0.45	0.35-0.49
	10	High alloyed steel, and tool steel	**45-80**	0.12-0.24	0.15-0.29	0.20-0.34	0.25-0.39	0.27-0.39	0.34-0.40
	11		**35-70**	0.12-0.24	0.15-0.29	0.20-0.34	0.25-0.39	0.27-0.39	0.34-0.40
K	15	Grey cast iron	**100-140**	0.15-0.35	0.20-0.40	0.25-0.45	0.30-0.55	0.35-0.60	0.40-0.60
	16		**90-120**	0.15-0.35	0.20-0.40	0.25-0.45	0.30-0.55	0.35-0.60	0.40-0.60
	17	Nodular cast iron	**100-135**	0.15-0.35	0.20-0.40	0.25-0.45	0.30-0.55	0.35-0.60	0.40-0.60
	18		**90-120**	0.15-0.35	0.20-0.40	0.25-0.45	0.30-0.55	0.35-0.60	0.40-0.60
	19	Malleable cast iron	**100-135**	0.15-0.35	0.20-0.40	0.25-0.45	0.30-0.55	0.35-0.60	0.40-0.60
	20		**90-120**	0.15-0.35	0.20-0.40	0.25-0.45	0.30-0.55	0.35-0.60	0.40-0.60

▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
▶ Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 8xD holders.
▶ For use of 8xD holder, we recommend to use a pilot drill with equal to or larger than 140º point angle (0.5xD ~ 1.5xD).
The use of the centering pre-hole improves hole location, roundness and surface finish.

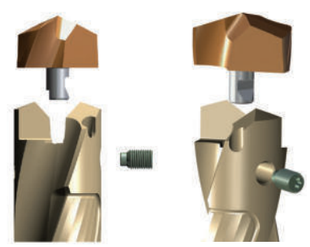
Comparison with Split Point Drill, Spade Drill & Dream Drill

i-ONE DRILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

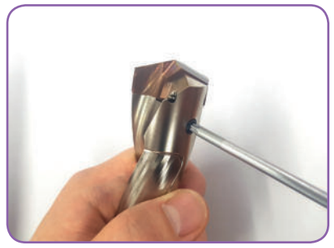
ASSEMBLY OF i-ONE DRILLS
MONTAGE DES i-ONE DRILLS



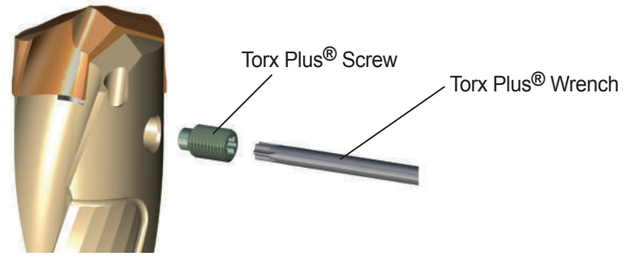
Make sure to clean the insert and insert seat.
Schneideinsatz und Haltersitz sorgfältig reinigen.



Slide the drill insert into the slot of the holder and press down the insert to touch the bottom of the slot.
Schneideinsatz in den Haltersitz einführen und den Schneideinsatz fest auf den Grund des Haltersitzes pressen.



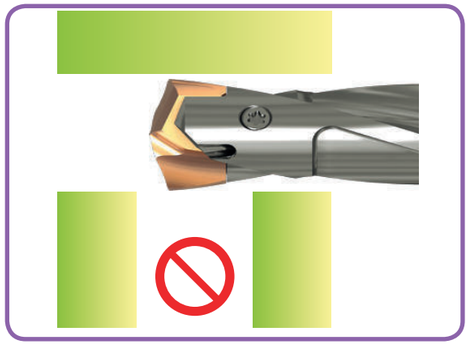
After confirming the insert is pressed down to the bottom of the slot, tighten the screw using anti-seize compound.
Wenn der Schneideinsatz fest auf den Grund des Haltersitzes gepresst ist, die Schraube fest anziehen und dabei Spezialfett verwenden.



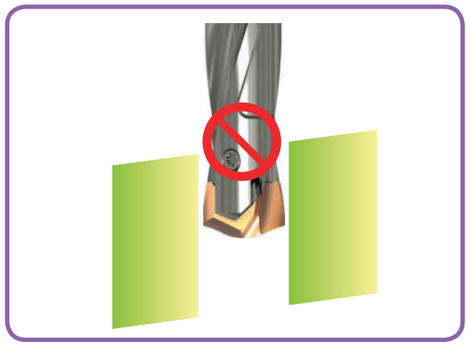
WRENCH TYPE	PRODUCT NO.	SERIES (INSERT SIZE)	TORX PLUS®	TORQUE (N·m)
	TWFP05	S10~S12 (10.00 ~ 13.90)	5 IP	0.6
	TWDP07	S14~S16 (14.00 ~ 17.90)	7 IP	1.0
	TWDP09	S18~S22 (18.00 ~ 23.90)	9 IP	1.5
	TWDP10	S24~S28 (24.00 ~ 29.77)	10 IP	2.2
	TWDP15	S30~S32 (30.00 ~ 33.73)	15 IP	3.2

Use the Torx Plus wrench
Benutzen Sie den Winkeldreher oder T - Schlüsse
▶ Need to use appropriate wrenches and screws as indicated.
Unbedingt die angegebenen Schrauben und Dreher verwenden.
▶ It's important to tighten up the screw properly.
Es ist wichtig, die Schraube korrekt und fest anzuziehen.

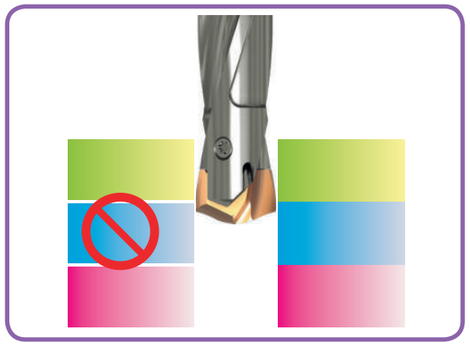
CAUTION-NOT RECOMMENDABLE APPLICATION
ACHTUNG - NICHT EMPFOHLENE ANWENDUNG



Intersecting cross hole is bigger than the drill insert's Margin Length.
Der Haltersitz ist größer als die Breite des Schneideinsatzes.

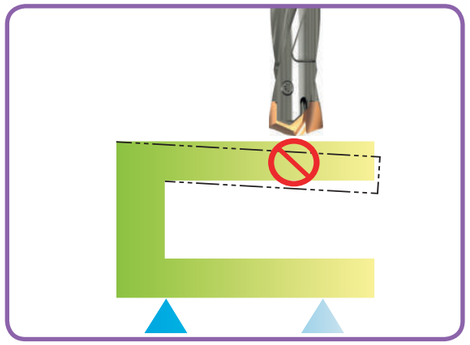


Material with slanting entrance and exit over 7 degrees. (If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)
Werkstücke mit schrägem Anschnitt oder Austritt von über 7°. (Zum Bohren von bis zu 7° Schräge den Vorschub um ca. 30-50% reduzieren).



For drilling stacked plates, minimize the space between the plates.
Beim Bohren von Blechpaketen den Abstand der Bleche minimieren.

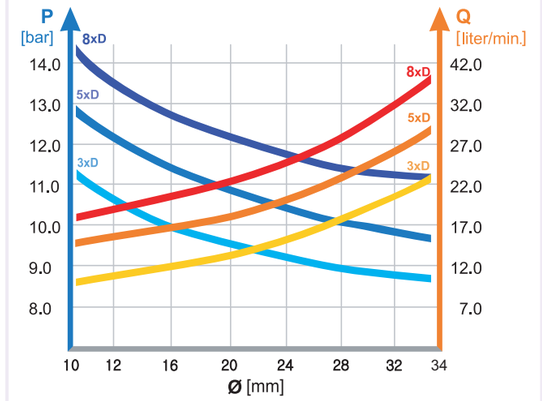
The space between stacked plates can cause insert breakage or poor chip control.
Freiraum in Blechpaketen kann den Bruch des Schneideinsatzes oder schlechte Entspanung verursachen.



The material needs to be fixtured securely before drilling.
Das Werkstück muss fest und sicher aufgespannt sein

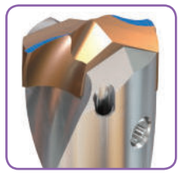
i - ONE DRILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

RECOMMENDED COOLANT PRESSURE AND FLOW RATE ON VERTICAL DRILLING
EMPFOHLENE KÜHLMITTELDRUCK UND - MENGE BEIM VERTIKALEN BOHREN

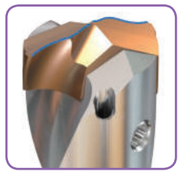


- Recommended emulsion mix is 6 - 8%.
  Empfohlene Emulsionsmischung 6 - 8%.
- For Drilling into Stainless and High Strength steels, a mix of 10% is recommended.
  Beim Bohren in rostfreie und hochfeste Stähle werden 10% empfohlen.
- For horizontal drilling, 30% reduction on the coolant pressure and flow rate is possible.
  Beim horizontalen Bohren können Kühlmitteldruck und - menge um 30% gemindert werden.
- Dry drilling is possible for 1-2xD drilling. (But not recommended.)
  Trocken Bohren ist möglich bei 1-2xD. (Aber nicht empfohlen.)

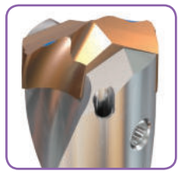
TROUBLE SHOOTING
PROBLEMLÖSUNGEN



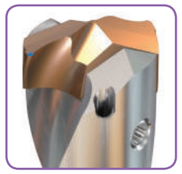
1) Heavy flank wear / Fast flank wear
- Reduce cutting speed
- Increase feed



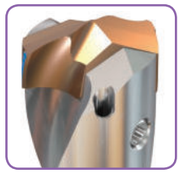
2) Chipping on cutting edge
- Reduce feed
- Check the rigidity of spindle and chuck
- Rigid clamping of workpiece



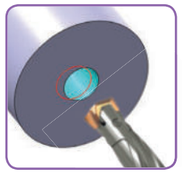
3) Build-up on cutting edge
- Increase cutting speed
- Use a coated insert



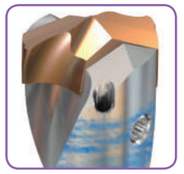
4) Chipping or break down on outer corner
- Reduce feed
- Rigid clamping of workpiece



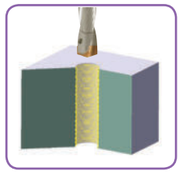
5) Wear of land margin
- Rigid clamping of workpiece
- Reduce cutting speed
- Increase coolant flow



6) Unsatisfactory positioning of the hole
- Rigid clamping of workpiece
- Reduce feed during entrance or exit



7) Scratching on holder
- Rigid clamping of workpiece
- Reduce feed
- Increase coolant flow



8) Unsatisfactory surface finish
- Rigid clamping of workpiece
- Increase coolant flow and pressure