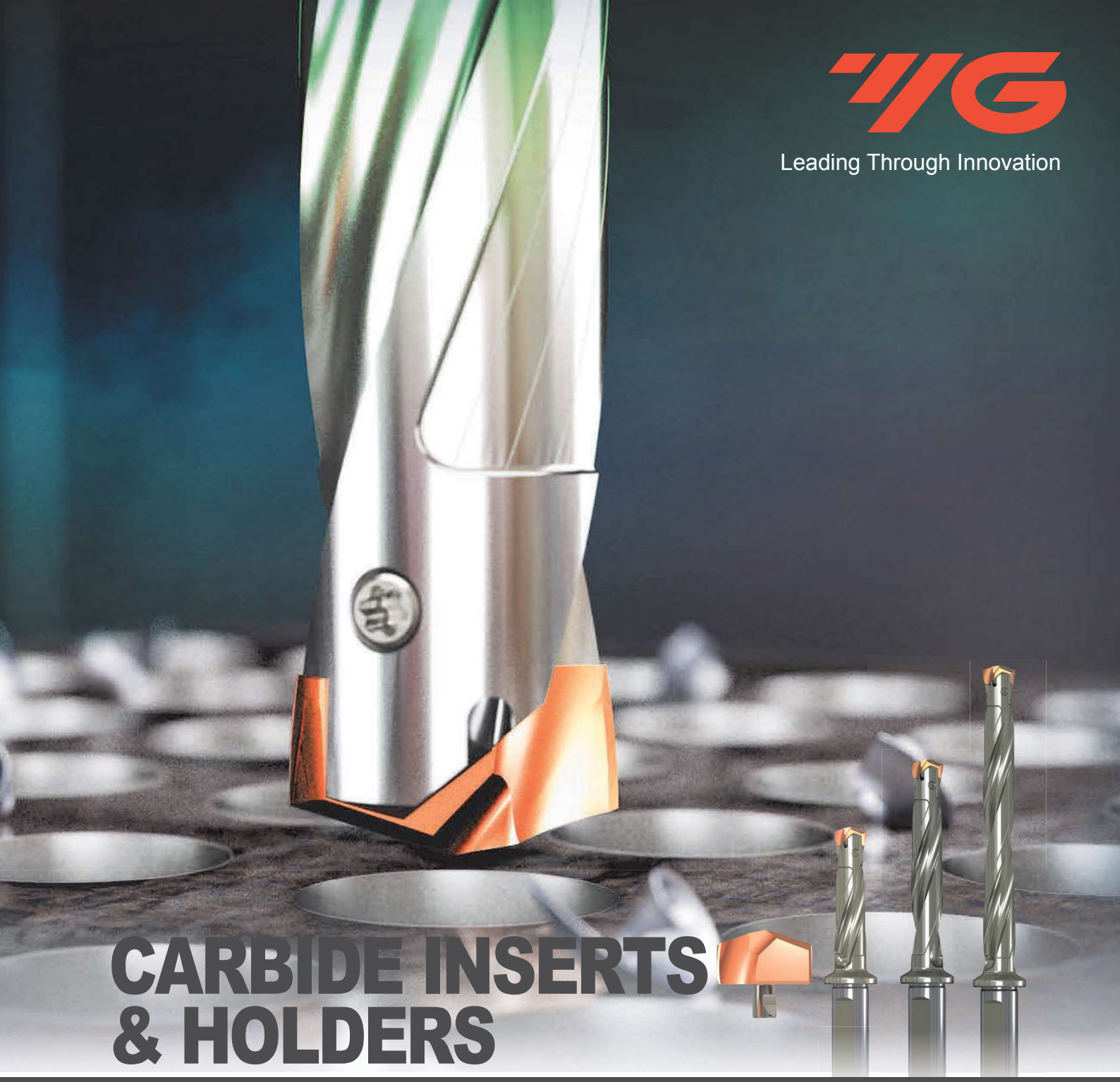
YG

Leading Through Innovation



CARBIDE INSERTS & HOLDERS

i- ONE DRILLS

i-One Drills

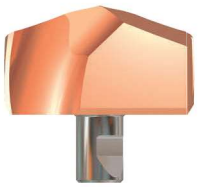
- **High Performance Exchangeable for General Steels and Cast Iron**
- **Leistungsstarke, austauschbare Bohrwerkzeuge für allgemeine Stähle und Gusseisen**

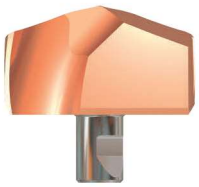
SERIES	Y101H	Y121H	Y141H	Y161H
SIZE MIN	10.00	12.00	14.00	16.00
SIZE MAX	11.91	13.90	15.90	17.90
PAGE	A24	A25	A26	A27
SURFACE TREATMENT	H-Coating			

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

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc	Y101H	Y121H	Y141H	Y161H
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				

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
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▶Multi-layered coating delivers outstanding productivity and reliability.

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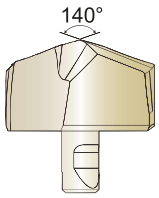
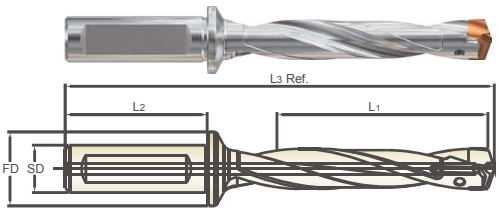
- Vorteile
▶Sicheres und schnelles Spannsystem.
▶Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.
▶Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.





CARBIDE | ISO 9766 | h7 | 140° | H Coating

p.A34

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

Unit : mm

Series Range (mm)	Insert EDP No. H-Coating	Insert O.D. h7 dec.	Insert O.D. h7 frac.	Insert O.D. h7 mm	Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1		Overall Length L3 Ref.	Screw No.
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	16	48	23	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

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

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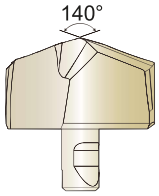
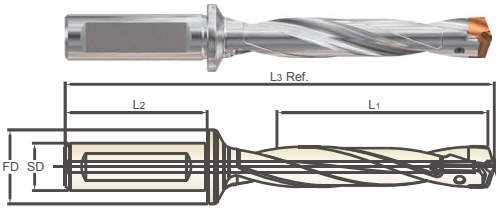
▶Sicheres und schnelles Spannsystem.
▶Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.
▶Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.





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.	
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

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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▶Für Kohlenstoffstähle, legierte Stähle und Gusseisen.
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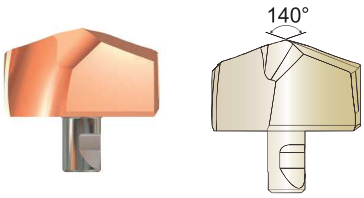

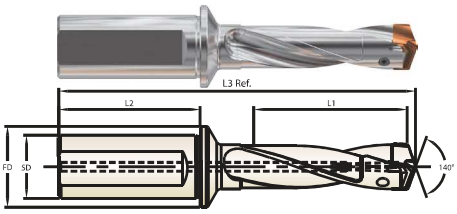

FULL-FLAT SHANK

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.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	H-Coating	h7										
		dec.	frac.	mm		SD	L2	FD	L1		L3 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								
	Y181H1880	0.7402	-	18.80								
	Y181H1890	0.7441	-	18.90	ZD18008025				8D	152.0	233.8	
	Y181H1900	0.7480	-	19.00								
	Y181H1905	0.7500	3/4	19.05								
	Y181H1910	0.7520	-	19.10								
	Y181H1920	0.7559	-	19.20								
	Y181H1927	0.7587	-	19.27	ZD19003025				3D	60.0	145.3	
	Y181H1930	0.7598	-	19.30								
	Y181H1940	0.7638	-	19.40								
	Y181H1945	0.7656	49/64	19.45								
	Y181H1950	0.7677	-	19.50								
	Y181H1960	0.7717	-	19.60	ZD19005025	25	56	32	5D	100.0	184.3	TX1920P9
	Y181H1970	0.7756	-	19.70								
	Y181H1980	0.7795	-	19.80								
	Y181H1984	0.7813	25/32	19.84								
	Y181H1990	0.7835	-	19.90	ZD19008025				8D	160.0	242.8	

▶ 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

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PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
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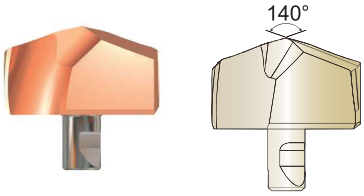

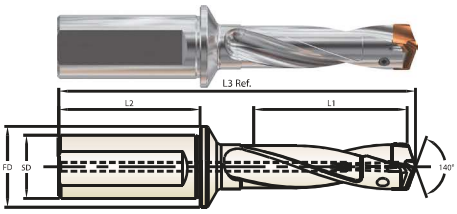

FULL-FLAT SHANK

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

phone:+82-32-526-0909, www.yg1.solutions, E-mail:yg1@yg1.solutions
YG-1 CO., LTD.

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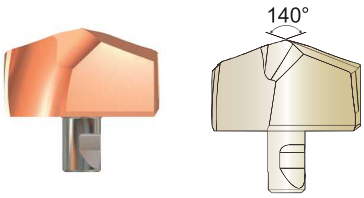
Y261H SERIES
Y281H SERIES

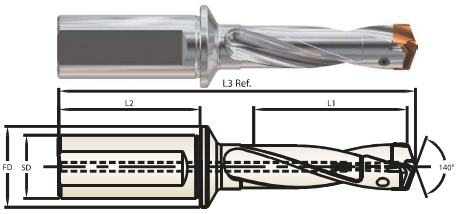
i-ONE DRILL INSERTS & HOLDERS

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.	h7 frac.	h7 mm	Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1		Overall Length L3 Ref.	Screw No.
S26 Ø26.00 to Ø27.99	Y261H2600	1.0236	-	26.00	ZD26003032	32	60	37	3D	81.0	172.2	
	Y261H2619	1.0313	1-1/32	26.19								
	Y261H2650	1.0433	-	26.50	ZD26005032				5D	135.0	225.2	TX2627P10
	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	
	Y261H2738	1.0781	1-5/64	27.38								
	Y261H2750	1.0827	-	27.50	ZD27005032				5D	140.0	230.2	TX2728P10
	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	
	Y281H2818	1.1094	1-7/64	28.18								
	Y281H2850	1.1220	-	28.50	ZD28005032				5D	145.0	236.2	TX2829P10
	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	
	Y281H2937	1.1563	1-5/32	29.37								
	Y281H2950	1.1614	-	29.50	ZD29005032				5D	150.0	242.2	TX2930P10
	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

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

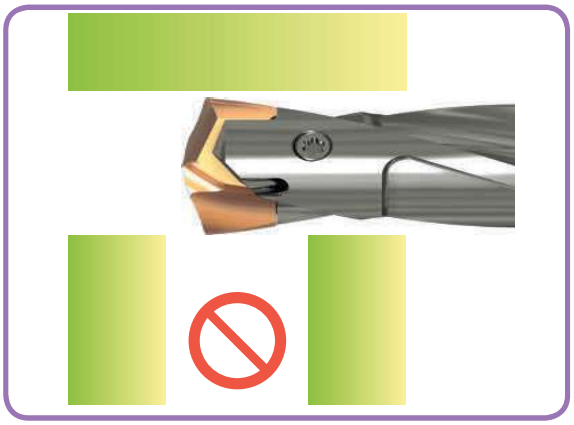
Vc = m/min.
RPM = rev./min.
FEED = mm/rev.

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

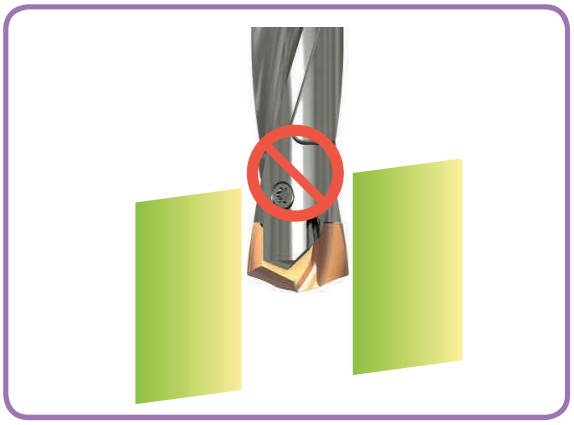
▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
▶ Recommend you to reduce the feed rate 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 140° 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

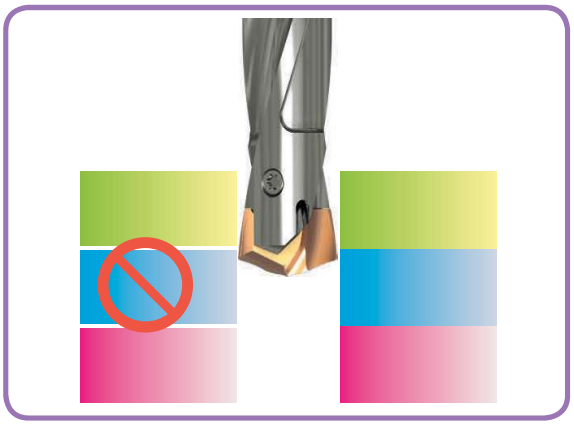
CAUTION-NOT RECOMMENDABLE APPLICATION
ACHTUNG - NICHT EMPFOHLENE ANWENDUNG



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

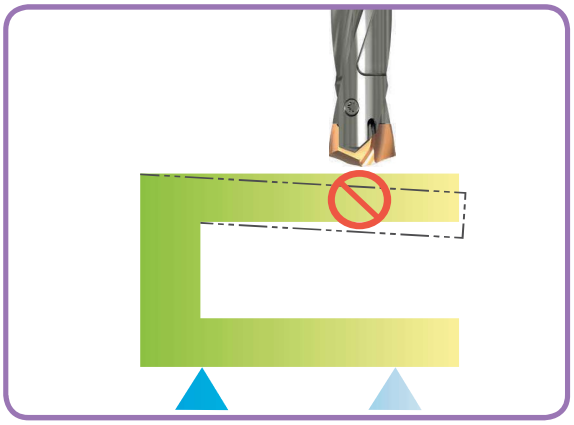


Material with slanting entrance and exit over 7 degrees. (If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)
Werkstücke mit schrägem Anschnitt oder Austritt von über 7°. (Zum Bohren von bis zu 7° Schräge den Vorschub um ca. 30-50% reduzieren).



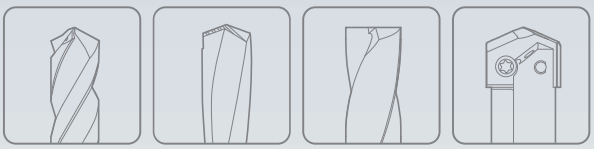
For drilling stacked plates, minimize the space between the plates.
Beim Bohren von Blechpaketen den Abstand der Bleche minimieren.

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

Global Cutting Tool Leader **YG-1**



HOLEMAKING