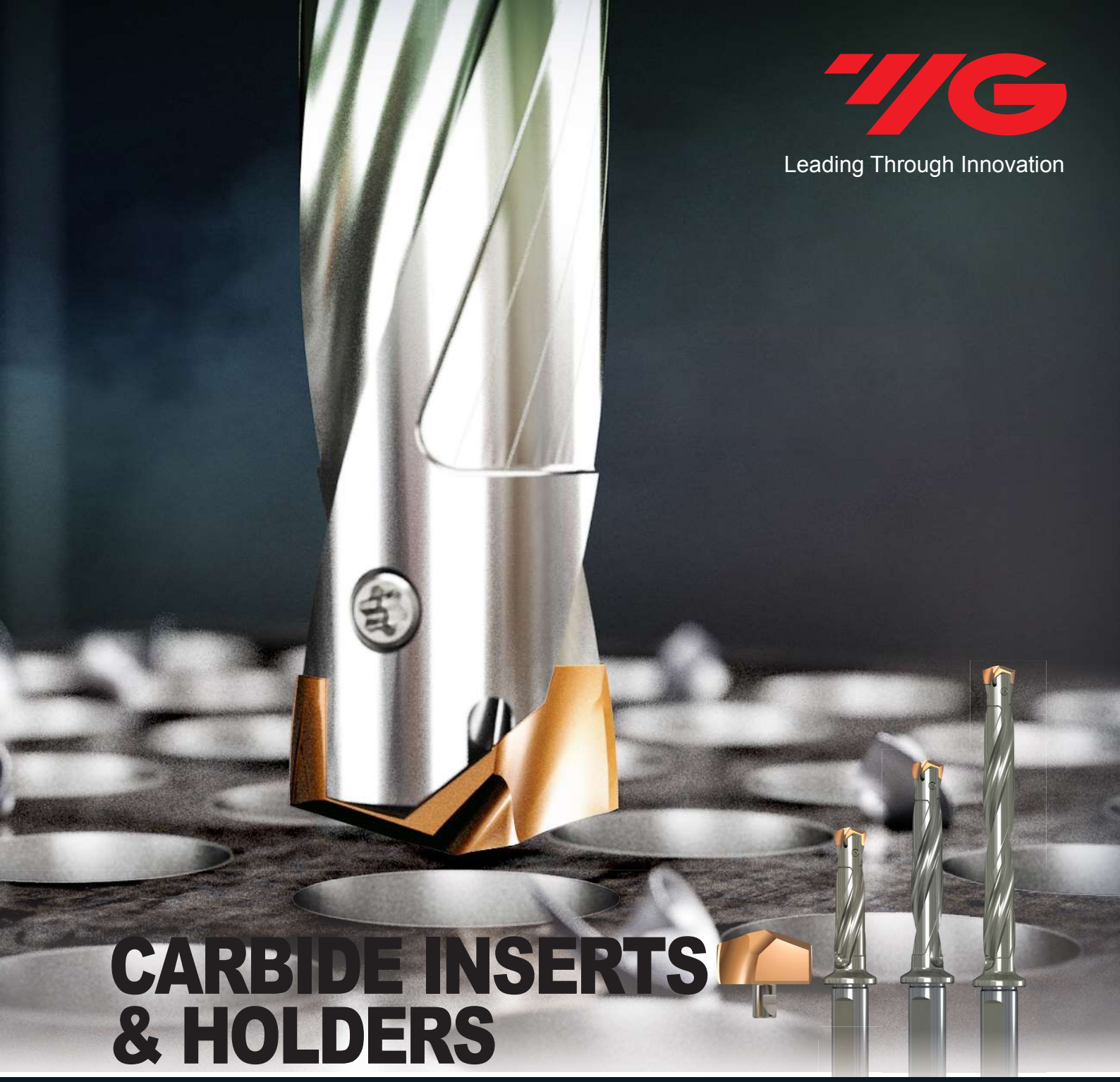
YG

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**

i - ONE DRILLS

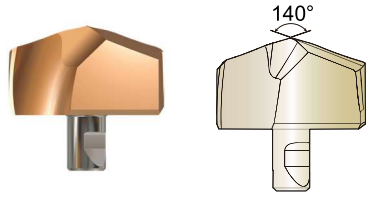
Y101H SERIES

i-ONE DRILL INSERTS & HOLDERS

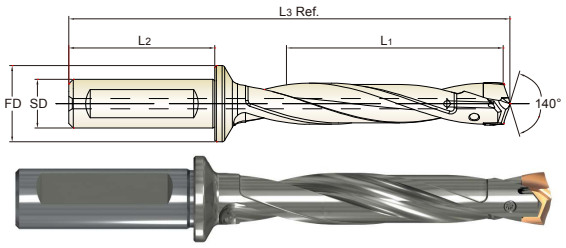
i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

- 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° P.48



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	ZD10005016				5D	52.5	123.0	
	Y101H1020	0.4016		10.20	ZD10008016				8D	84.0	153.0	
	Y101H1030	0.4055		10.30								
	Y101H1032	0.4063	13/32	10.32								
	Y101H1040	0.4094		10.40	ZD10503016	16	48	23	3D	33.0	104.0	
	Y101H1050	0.4134		10.50	ZD10505016				5D	55.0	125.0	
	Y101H1060	0.4173		10.60	ZD10508016				8D	88.0	156.5	
	Y101H1070	0.4213		10.70								
	Y101H1072	0.4219	27/64	10.72								
	Y101H1080	0.4252		10.80	ZD11003016	16	48	23	3D	34.5	105.0	
	Y101H1090	0.4291		10.90	ZD11005016				5D	57.5	127.0	
	Y101H1100	0.4331		11.00	ZD11008016				8D	92.0	160.0	
	Y101H1110	0.4370		11.10								
	Y101H1111	0.4375	7/16	11.11								
	Y101H1120	0.4409		11.20	ZD11503016	16	48	23	3D	36.0	106.0	
	Y101H1130	0.4449		11.30	ZD11505016				5D	60.0	129.0	
	Y101H1140	0.4488		11.40	ZD11508016				8D	96.0	163.5	
	Y101H1150	0.4528		11.50								
	Y101H1151	0.4531	29/64	11.51								
	Y101H1160	0.4567		11.60								
	Y101H1170	0.4606		11.70								
	Y101H1180	0.4646		11.80								
	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																					

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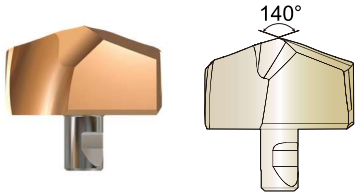
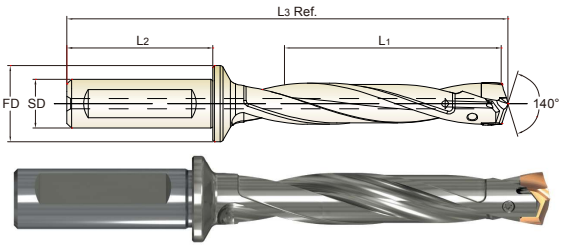


CARBIDE | ISO 9766 | h7 | 140°

P.48



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				SD	L2	FD	L1		L3 Ref.	
		dec.	frac.	mm								
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	ZD12005016				5D	62.5	133.8	
	Y121H1220	0.4803		12.20	ZD12008016				8D	100.0	169.8	
	Y121H1230	0.4844	31/64	12.30	ZD12503016	16	48	23	3D	39.0	110.8	
	Y121H1240	0.4882		12.40	ZD12505016				5D	65.0	135.8	
	Y121H1250	0.4921		12.50	ZD12508016				8D	104.0	173.3	
	Y121H1260	0.4961		12.60	ZD13003016	16	48	23	3D	40.5	112.8	
	Y121H1270	0.5000	1/2	12.70	ZD13005016				5D	67.5	138.8	
	Y121H1280	0.5039		12.80	ZD13008016				8D	108.0	177.8	
	Y121H1290	0.5079		12.90	ZD13503016	16	48	23	3D	42.0	113.8	
	Y121H1300	0.5118		13.00	ZD13505016				5D	70.0	140.8	
	Y121H1310	0.5156	33/64	13.10	ZD13508016				8D	112.0	181.3	
	Y121H1320	0.5197		13.20								
	Y121H1330	0.5236		13.30								
	Y121H1340	0.5276		13.40								
	Y121H1349	0.5313	17/32	13.49								
	Y121H1350	0.5315		13.50								
	Y121H1360	0.5354		13.60								
	Y121H1370	0.5394		13.70								
	Y121H1380	0.5433		13.80								
	Y121H1389	0.5469	35/64	13.89								
	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

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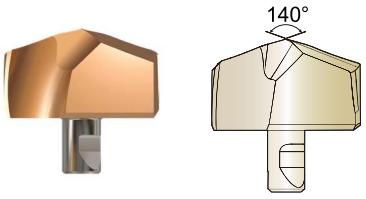
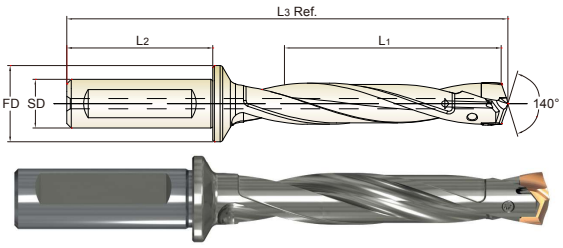


CARBIDE | ISO 9766 | h7 | 140° P.48



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	ZD14005016				5D	72.5	144.3	
	Y141H1420	0.5591		14.20	ZD14008016				8D	116.0	186.3	
	Y141H1429	0.5625	9/16	14.29	ZD14503016	16	48	23	3D	45.0	118.3	
	Y141H1430	0.5630		14.30	ZD14505016				5D	75.0	147.3	
	Y141H1440	0.5669		14.40	ZD14508016				8D	120.0	190.8	
	Y141H1450	0.5709		14.50	ZD15003016	16	48	23	3D	46.5	120.3	
	Y141H1460	0.5748		14.60	ZD15005016				5D	77.5	150.3	
	Y141H1468	0.5781	37/64	14.68	ZD15008016				8D	124.0	195.3	
	Y141H1470	0.5787		14.70	ZD15503016	16	48	23	3D	48.0	121.3	
	Y141H1480	0.5827		14.80	ZD15505016				5D	80.0	152.3	
	Y141H1490	0.5866		14.90	ZD15508016				8D	128.0	198.8	
	Y141H1500	0.5906		15.00								
	Y141H1508	0.5938	19/32	15.08								
	Y141H1510	0.5945		15.10								
	Y141H1520	0.5984		15.20								
	Y141H1530	0.6024		15.30								
	Y141H1540	0.6063		15.40								
	Y141H1548	0.6094	39/64	15.48								
	Y141H1550	0.6102		15.50								
	Y141H1560	0.6142		15.60								
	Y141H1570	0.6181		15.70								
	Y141H1580	0.6220		15.80								
	Y141H1588	0.6250	5/8	15.88								
	Y141H1590	0.6260		15.90								

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

◎ : Excellent ○ : Good

ISO	P											M				K					
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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																					

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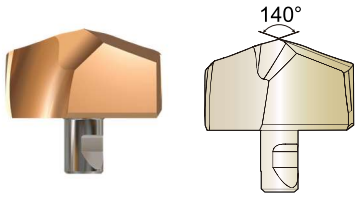

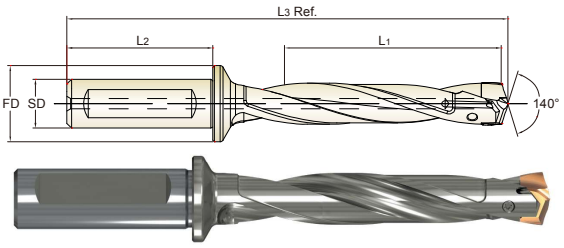

CARBIDE | ISO 9766 | h7 | 140°

P.48

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.	
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	ZD16005020				5D	85.0	160.0	
	Y161H1610	0.6339		16.10	ZD16008020				8D	136.0	209.5	
	Y161H1620	0.6378		16.20								
	Y161H1627	0.6406	41/64	16.27								
	Y161H1630	0.6417		16.30								
	Y161H1640	0.6457		16.40								
	Y161H1650	0.6496		16.50								
	Y161H1660	0.6535		16.60								
	Y161H1667	0.6563	21/32	16.67								
	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	ZD17005020				5D	90.0	165.0	
	Y161H1710	0.6732		17.10	ZD17008020				8D	144.0	217.5	
	Y161H1720	0.6772		17.20								
	Y161H1730	0.6811		17.30								
	Y161H1740	0.6850		17.40								
	Y161H1746	0.6875	11/16	17.46								
	Y161H1750	0.6890		17.50								
	Y161H1760	0.6929		17.60								
	Y161H1770	0.6969		17.70								
	Y161H1780	0.7008		17.80								
	Y161H1786	0.7031	45/64	17.86								
	Y161H1790	0.7047		17.90								

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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	
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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			
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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																					

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Y181H SERIES

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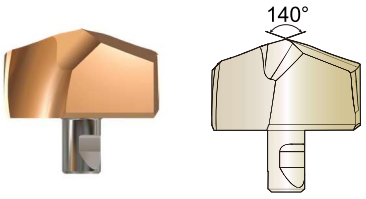

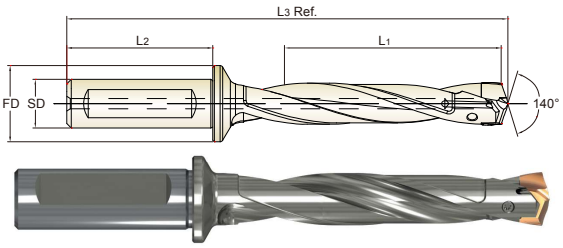

CARBIDE | ISO 9766 | h7 | 140° P.48

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				SD	L_2	FD	L_1		L_3 Ref.	
		dec.	frac.	mm								
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	ZD18005025				5D	95.0	178.3	
	Y181H1820	0.7165		18.20	ZD18008025				8D	152.0	233.8	
	Y181H1826	0.7188	23/32	18.26								
	Y181H1830	0.7205		18.30								
	Y181H1840	0.7244		18.40								
	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								
	Y181H1900	0.7480		19.00	ZD19003025	25	56	32	3D	60.0	145.3	TX1920P9
	Y181H1905	0.7500	3/4	19.05	ZD19005025				5D	100.0	184.3	
	Y181H1910	0.7520		19.10	ZD19008025				8D	160.0	242.8	
	Y181H1920	0.7559		19.20								
	Y181H1927	0.7587		19.27								
	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								
	Y181H1970	0.7756		19.70								
	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																					

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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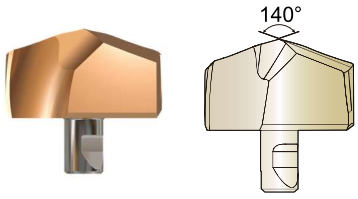

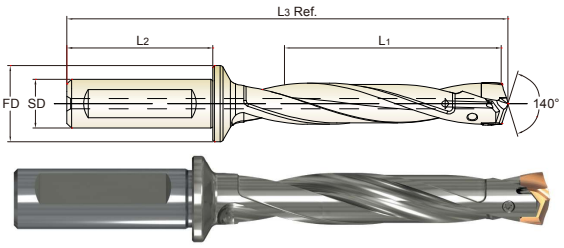

CARBIDE | ISO 9766 | h7 | 140° P.48

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				SD	L_2	FD	L_1		L_3 Ref.	
		dec.	frac.	mm								
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	ZD20005025				5D	105.0	188.5	
	Y201H2020	0.7953		20.20	ZD20008025				8D	168.0	250.0	
	Y201H2024	0.7969	51/64	20.24								
	Y201H2030	0.7992		20.30								
	Y201H2040	0.8031		20.40								
	Y201H2050	0.8071		20.50								
	Y201H2060	0.8110		20.60								
	Y201H2064	0.8125	13/16	20.64								
	Y201H2070	0.8150		20.70								
	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	ZD21005025				5D	110.0	193.5	
	Y201H2110	0.8307		21.10	ZD21008025				8D	176.0	258.0	
	Y201H2120	0.8346		21.20								
	Y201H2130	0.8386		21.30								
	Y201H2140	0.8425		21.40								
	Y201H2143	0.8438	27/32	21.43								
	Y201H2150	0.8465		21.50								
	Y201H2160	0.8504		21.60								
	Y201H2170	0.8543		21.70								
	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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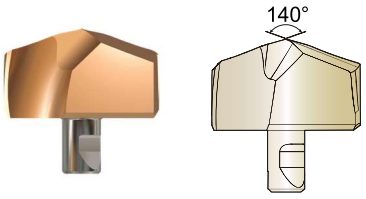

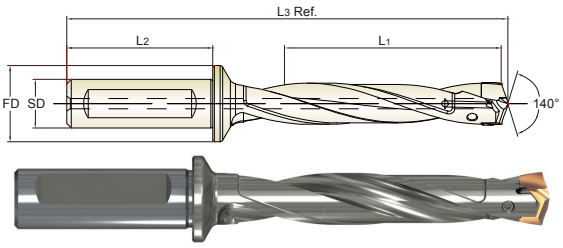

CARBIDE | ISO 9766 | h7 | 140° P.48

Unit : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	
(mm)	H-Coating	h7										Screw No.
		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	ZD22005025				5D	115.0	198.4	
	Y221H2220	0.8740		22.20	ZD22008025				8D	184.0	265.9	
	Y221H2223	0.8750	7/8	22.23								
	Y221H2230	0.8780		22.30								
	Y221H2240	0.8819		22.40								
	Y221H2250	0.8858		22.50								
	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	ZD23005025				5D	120.0	204.4	
	Y221H2310	0.9094		23.10	ZD23008025				8D	192.0	274.9	
	Y221H2320	0.9134		23.20								
	Y221H2330	0.9173		23.30								
	Y221H2340	0.9213		23.40								
	Y221H2342	0.9219	59/64	23.42								
	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																					

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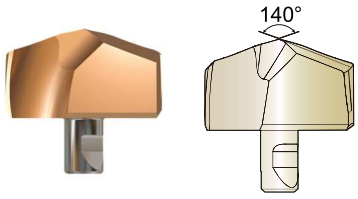
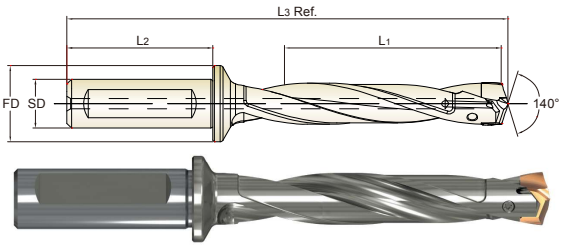


CARBIDE | ISO 9766 | h7 | 140° P.48



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				SD	L2	FD	L1		L3 Ref.	
		dec.	frac.	mm								
S24 Ø24.00 to Ø25.99	Y241H2400	0.9449		24.00	ZD24003032	32	60	37	3D	75.0	165.8	TX2425P10
	Y241H2410	0.9488		24.10	ZD24005032				5D	125.0	214.8	
	Y241H2420	0.9528		24.20	ZD24008032				8D	200.0	288.3	
	Y241H2421	0.9531	61/64	24.21								
	Y241H2430	0.9567		24.30								
	Y241H2440	0.9606		24.40								
	Y241H2450	0.9646		24.50								
	Y241H2460	0.9685		24.60								
	Y241H2461	0.9688	31/32	24.61								
	Y241H2470	0.9724		24.70								
	Y241H2480	0.9764		24.80								
	Y241H2490	0.9803		24.90								
	Y241H2500	0.9844	63/64	25.00	ZD25003032	32	60	37	3D	78.0	170.8	TX2526P10
	Y241H2510	0.9882		25.10	ZD25005032				5D	130.0	221.8	
	Y241H2520	0.9921		25.20	ZD25008032				8D	208.0	298.3	
	Y241H2530	0.9961		25.30								
	Y241H2540	1.0000	1	25.40								
	Y241H2550	1.0039		25.50								
	Y241H2560	1.0079		25.60								
	Y241H2567	1.0106		25.67								
	Y241H2570	1.0118		25.70								
	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

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PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
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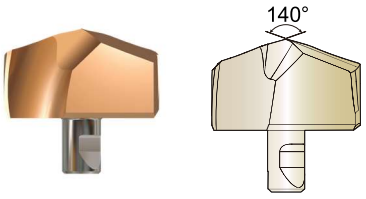

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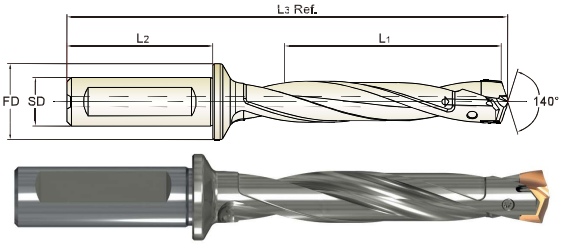

Unit : mm

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.
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	**ZD26005032**				5D	135.0	225.2	
	Y261H2650	1.0433		26.50	**ZD26008032**				8D	216.0	304.	
	Y261H2659	1.0469	1-3/64	26.59	**ZD27003032**	32	60	37	3D	84.0	175.2	TX2728P10
	Y261H2699	1.0625	1-1/16	26.99	**ZD27005032**				5D	140.0	230.2	
	Y261H2700	1.0630		27.00	**ZD27008032**				8D	224.0	312.7	
	Y261H2738	1.0781	1-5/64	27.38	**ZD28003032**	32	60	37	3D	87.0	179.2	TX2829P10
	Y261H2750	1.0827		27.50	**ZD28005032**				5D	145.0	236.2	
	Y261H2778	1.0938	1-3/32	27.78	**ZD28008032**				8D	232.0	321.7	
S28 Ø28.00 to Ø29.99	**Y281H2800**	1.1024		28.00	**ZD29003032**	32	60	37	3D	90.0	183.2	TX2930P10
	Y281H2818	1.1094	1-7/64	28.18	**ZD29005032**				5D	150.0	242.2	
	Y281H2850	1.1220		28.50	**ZD29008032**				8D	240.0	330.7	
	Y281H2858	1.1250	1-1/8	28.58								
	Y281H2897	1.1406	1-9/64	28.97								
	Y281H2900	1.1417		29.00								
	Y281H2937	1.1563	1-5/32	29.37								
	Y281H2950	1.1614		29.50								
	Y281H2977	1.1719	1-11/64	29.77								

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◎ : 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	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎

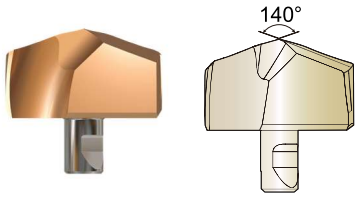
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	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																					

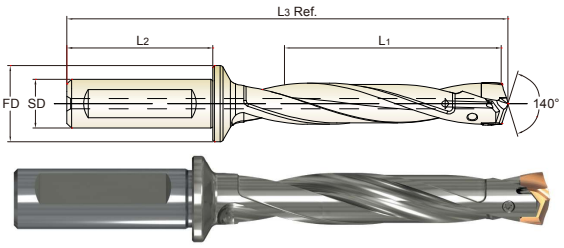
i-ONE DRILL INSERTS & HOLDERS

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° P.48

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.	
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	ZD30005032				5D	155.0	248.0	
	Y301H3050	1.2008		30.50	ZD30008032				8D	248.0	339.5	
	Y301H3056	1.2031	1-13/64	30.56	ZD31003032	32	60	37	3D	96.0	191.0	TX3132P15
	Y301H3096	1.2188	1-7/32	30.96	ZD31005032				5D	160.0	254.0	
	Y301H3100	1.2205		31.00	ZD31008032				8D	256.0	348.5	
	Y301H3135	1.2344	1-15/64	31.35	ZD32003032	32	60	37	3D	99.0	197.2	TX3233P15
	Y301H3150	1.2402		31.50	ZD32005032				5D	165.0	262.2	
	Y301H3175	1.2500	1-1/4	31.75	ZD32008032				8D	264.0	359.7	
S32 Ø32.00 to Ø33.99	Y321H3200	1.2598		32.00	ZD33003032	32	60	37	3D	102.0	201.2	TX3334P15
	Y321H3215	1.2656	1-17/64	32.15	ZD33005032				5D	170.0	268.2	
	Y321H3250	1.2795		32.50	ZD33008032				8D	272.0	368.7	
	Y321H3254	1.2813	1-9/32	32.54								
	Y321H3294	1.2969	1-19/64	32.94								
	Y321H3300	1.2992		33.00								
	Y321H3334	1.3125	1-5/16	33.34								
	Y321H3350	1.3189		33.50								
	Y321H3373	1.3281	1-21/64	33.73								

▶ 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

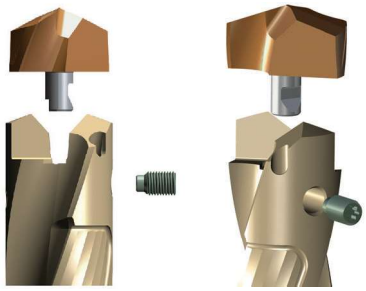
RPM = rev./min.
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc (m/min)	Feed(mm/rev)					
				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	100-126	0.14-0.24	0.18-0.31	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	2		84-110	0.12-0.21	0.15-0.26	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	3		63-84	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.36-0.54
	4		58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
	5		58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
	6	Low alloy steel	74-95	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.37-0.55
	7		63-84	0.11-0.18	0.13-0.22	0.17-0.28	0.24-0.35	0.33-0.51	0.37-0.55
	8		58-74	0.09-0.14	0.11-0.18	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
	9		47-63	0.07-0.11	0.09-0.13	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
	10	High alloyed steel, and tool steel	53-68	0.09-0.14	0.11-0.18	0.14-0.23	0.20-0.29	0.22-0.34	0.26-0.39
	11		42-58	0.09-0.14	0.11-0.18	0.12-0.20	0.23-0.33	0.22-0.34	0.26-0.39
M	12	Stainless steel							
	13								
	14								
K	15	Grey cast iron	105-131	0.13-0.23	0.17-0.29	0.22-0.41	0.30-0.46	0.40-0.56	0.44-0.61
	16		79-100	0.10-0.18	0.12-0.22	0.18-0.32	0.22-0.33	0.28-0.39	0.32-0.44
	17	Nodular cast iron	100-126	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
	18		79-100	0.10-0.18	0.12-0.22	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44
	19	Malleable cast iron	105-131	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
	20		79-100	0.10-0.15	0.12-0.20	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44
N	21	Aluminum-wrought alloy							
	22								
	23	Aluminum-cast, alloyed							
	24								
	25								
	26	Copper and Copper Alloys (Bronze / Brass)							
	27								
	28								
	29	Non Metallic Materials							
	30								
S	31	Heat Resistant Super Alloys							
	32								
	33								
	34								
	35								
	36	Titanium Alloys							
	37								
H	38	Hardened steel							
	39								
	40	Chilled Cast Iron							
	41	Hardened Cast Iron							

▶ 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.

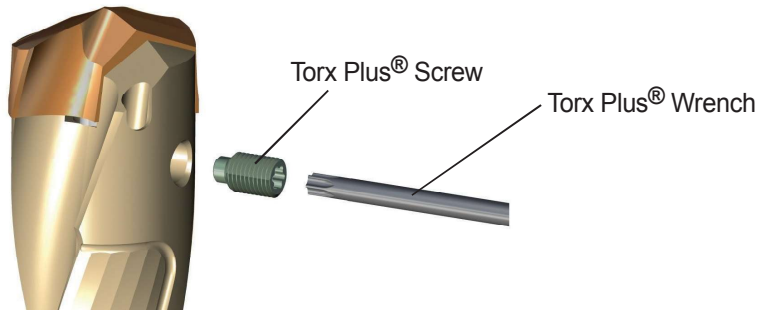
ASSEMBLY OF *i*-ONE DRILLS
MONTAGE DES i-ONE DRILLS

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.

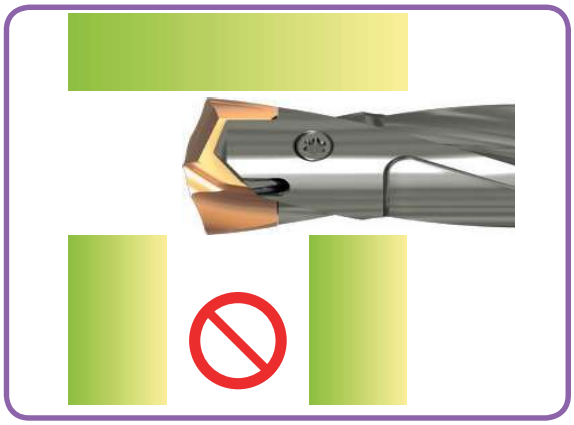


WRENCH TYPE	PRODUCT NO.	SERIES (INSERT SIZE)	TORX PLUS®	TORQUE (N·m)
	TWFP05	S10~S12 (10.00 ~ 13.90)	5 IP	0.6
	TWDP07	S14~S16 (14.00 ~ 17.90)	7 IP	1.0
	TWDP09	S18~S22 (18.00 ~ 23.90)	9 IP	1.5
	TWDP10	S24~S28 (24.00 ~ 29.77)	10 IP	2.2
	TWDP15	S30~S32 (30.00 ~ 33.73)	15 IP	3.2

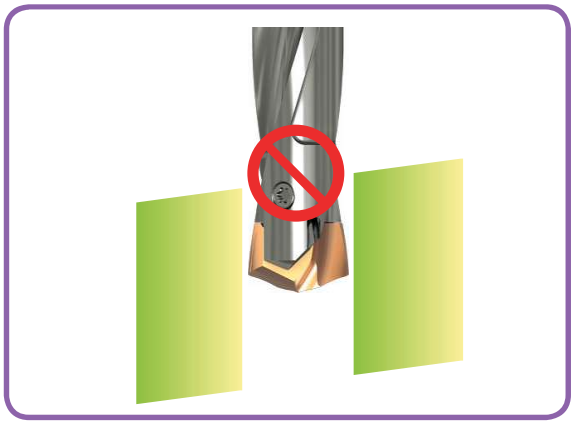
Use the Torx Plus wrench
Benutzen Sie den Winkeldreher oder T - Schlüsse

- ▶ 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.

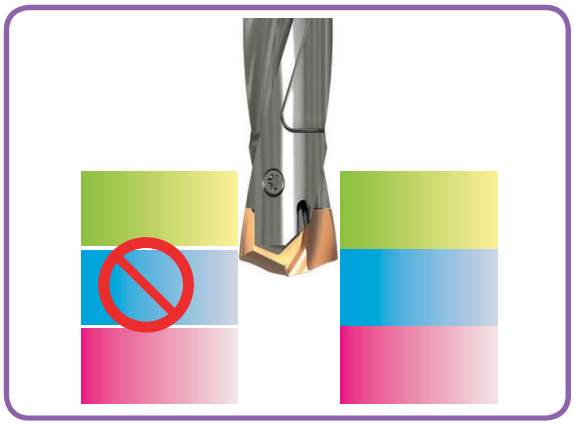
CAUTION-NOT RECOMMENDABLE APPLICATION
ACHTUNG - NICHT EMPFOHLENE ANWENDUNG



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

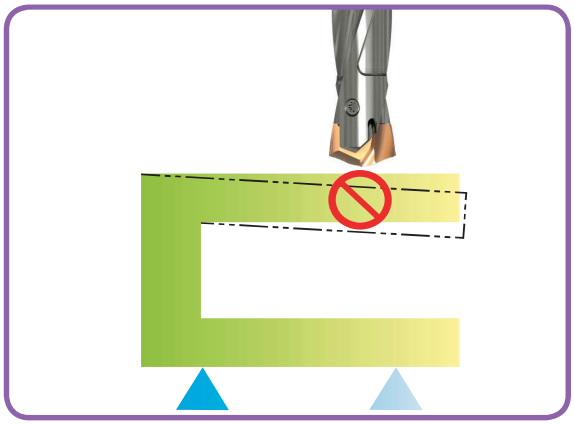


Material with slanting entrance and exit over 7 degrees. (If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)
Werkstücke mit schrägem Anschnitt oder Austritt von über 7°. (Zum Bohren von bis zu 7° Schräge den Vorschub um ca. 30-50% reduzieren).



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