



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									
	30	Non Metallic Materials								
S	31	Heat Resistant Super Alloys								
	32									
	33									
	34									
	35	Titanium Alloys								
	36									
	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.

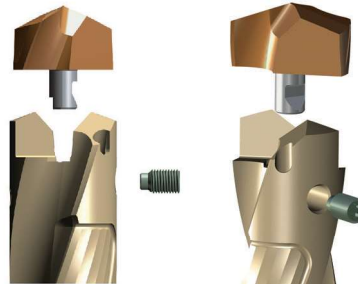
► For use of 8xD holder, we recommend to use a pilot drill with equal to or larger than 140° point angle (0.5xD ~ 1.5xD).

The use of the centering pre-hole improves hole location, roundness and surface finish.

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

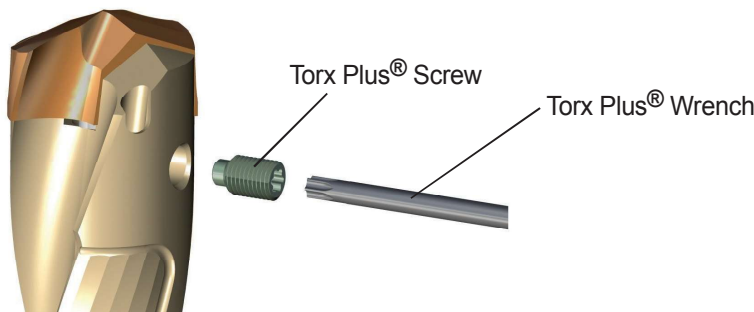



Make sure to clean the insert and insert seat.  
Schneideinsatz und Haltersitz sorgfältig reinigen.



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.