

New
Product
Announcement



New Drilling Technology: **Phoenix Drill Line** **S-Drill Line**



PHOENIX DRILL

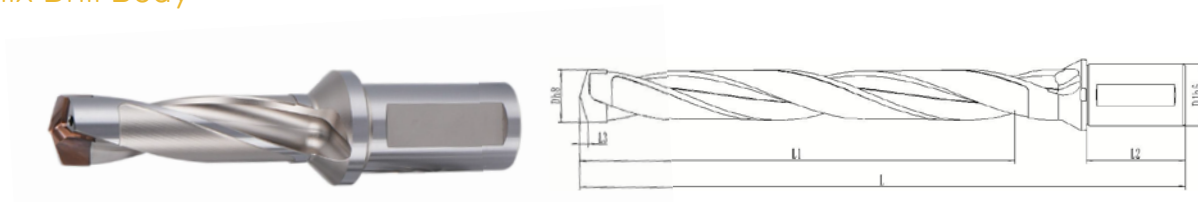
- Insert diameter range: 12.5–40 mm, depth: 3×, 5×, 7×, 10× diameter.
- Excellent centering performance.
- Equipped with internal cooling holes to enhance tool life.
- Special design of inserts with low axial force for improved feed and machining efficiency.
- Optimized coating for better wear resistance.

Product Details

Product Name	Phoenix Drill
Diameter Range	Ø12.5- Ø40
Processing Machine	High precision CNC machines
Length Range	3x/5x/7x/10x diameter
Features	The special design of the drill tip provides better centering ability, lower axial force and higher machining efficiency.

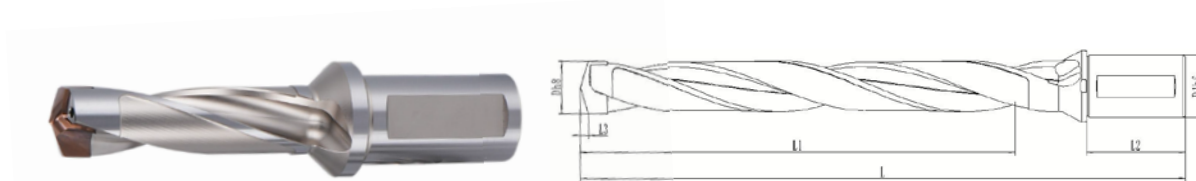


Phoenix Drill Body



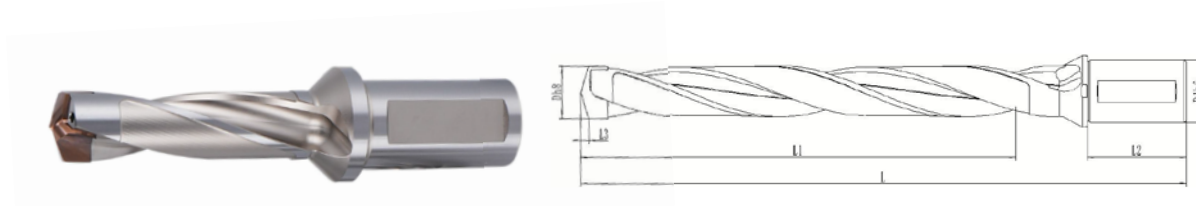
3D								
Model	Insert Diameter(D)	Effective Depth	Shank Length	Tip Height	Shank Diameter	Groove Size	Center Tightening Screws	Wrench
		L1	L2	L3	D1			
PD03125XP20	12.5-13.0	38	48	2.0	20	C	M3.0/M2.5*14	T6*156
PD03130XP20	13.0-13.5	39	48	2.1	20	C	M3.0/M2.5*14	T6*156
PD03136XP20	13.51-14.0	42	48	2.2	20	B	M3.0/M2.5*14	T6*156

Phoenix Drill Body



3D								
Model	Insert Diameter(D)	Effective Depth	Shank Length	Tip Height	Shank Diameter	Groove Size	Center Tightening Screws	Wrench
		L1	L2	L3	D1			
PD03146XP20	14.51-15.0	45	50	2.3	20	A	M3.0/M2.5*14	T6*156
PD03150XP20	15.0-15.5	45	50	2.4	20	A	M3.0/M2.5*14	T6*156
PD03155XP20	15.5-15.88	47	50	2.5	20	A	M3.0/M2.5*14	T6*156
PD03160XP20	15.89-16.5	48	50	2.5	20	1	*M3.5/M3.0*16	1.5*185
PD03165XP20	16.5-17.0	50	50	2.6	20	1	*M3.5/M3.0*16	1.5*185
PD03170XP20	17.0-17.5	51	50	2.7	20	1	*M3.5/M3.0*16	1.5*185
PD03175XP20	17.5-18.0	53	50	2.8	20	1	*M3.5/M3.0*16	1.5*185
PD03181XP25	18.01-18.5	56	56	2.9	25	2	M4.0/M3.0*16	2.0*210
PD03185XP25	18.5-19.0	56	56	2.9	25	2	M4.0/M3.0*16	2.0*210
PD03190XP25	19-19.5	57	56	3.0	25	2	M4.0/M3.0*16	2.0*210
PD03195XP25	19.5-19.99	59	56	3.1	25	2	M4.0/M3.0*16	2.0*210
PD03200XP25	20-20.5	60	56	3.2	25	3	M4.0/M3.0*19	2.0*210
PD03205XP25	20.5-21	62	56	3.3	25	3	M4.0/M3.0*19	2.0*210
PD03210XP25	21-21.5	63	56	3.3	25	3	M4.0/M3.0*19	2.0*210
PD03215XP25	21.5-22	65	56	3.4	25	3	M4.0/M3.0*19	2.0*210
PD03221XP25	22.01-22.5	68	56	3.5	25	4	M4.0/M3.0*19	2.0*210
PD03225XP25	22.5-23	68	56	3.6	25	4	M4.0/M3.0*19	2.0*210
PD03230XP25	23-23.5	69	56	3.7	25	4	M4.0/M3.0*19	2.0*210
PD03235XP25	23.5-24	71	56	3.7	25	4	M4.0/M3.0*19	2.0*210
PD03241XP32	24.01-24.5	74	60	3.8	32	5	M5.0/M4.0*23	2.5*240
PD03245XP32	24.5-25	74	60	3.9	32	5	M5.0/M4.0*23	2.5*240
PD03250XP32	25-25.5	75	60	3.8	32	5	M5.0/M4.0*23	2.5*240
PD03255XP32	25.5-26.0	77	60	3.9	32	5	M5.0/M4.0*23	2.5*240
PD03261XP32	26.01-26.5	80	60	4.0	32	6	M5.0/M4.0*23	2.5*240
PD03265XP32	26.5-27	80	60	4.1	32	6	M5.0/M4.0*23	2.5*240
PD03270XP32	27-27.5	81	60	4.2	32	6	M5.0/M4.0*23	2.5*240
PD03275XP32	27.5-28	83	60	4.2	32	6	M5.0/M4.0*23	2.5*240
PD03281XP32	28.01-28.5	86	60	4.3	32	7	M6.0/M5.0*28	3.0*265
PD03285XP32	28.5-29	86	60	4.4	32	7	M6.0/M5.0*28	3.0*265

Phoenix Drill Body

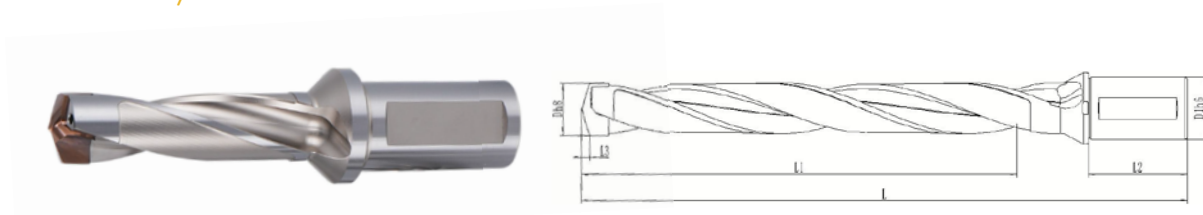


3D								
Model	Insert Diameter(D)	Effective Depth	Shank Length	Tip Height	Shank Diameter	Groove Size	Center Tightening Screws	Wrench
		L1	L2	L3	D1			
PD03295XP32	29.5-30	89	60	4.5	32	7	M6.0/M5.0*28	3.0*265
PD03301XP32	30.01-30.5	91	60	4.6	32	8	M6.0/M5.0*28	3.0*265
PD03305XP32	30.5-31	91	60	4.7	32	8	M6.0/M5.0*28	3.0*265
PD03310XP32	31-31.5	93	60	4.8	32	8	M6.0/M5.0*28	3.0*265
PD03315XP32	31.5-32	95	60	4.8	32	8	M6.0/M5.0*28	3.0*265
PD03321XP40	32.01-33	99	70	4.9	40	9	M6.0/M6.0*32	3.0*265
PD03330XP40	33.0-34.0	99	70	5.1	40	9	M6.0/M6.0*32	3.0*265
PD03340XP40	34.0-35.0	102	70	5.2	40	9	M6.0/M6.0*32	3.0*265
PD03350XP40	35.0-36.0	105	70	5.4	40	9	M6.0/M6.0*32	3.0*265
PD03361XP40	36.01-37.0	111	70	5.5	40	10	M6.0/M6.0*32	3.0*265
PD03370XP40	37.0-38.0	111	70	5.7	40	10	M6.0/M6.0*32	3.0*265
PD03380XP40	38.0-39.0	114	70	5.8	40	10	M6.0/M6.0*32	3.0*265
PD03390XP40	39.0-40.0	117	70	6.0	40	10	M6.0/M6.0*32	3.0*265
PD03400XP40	40.0	120	70	6.2	40	10	M6.0/M6.0*32	3.0*265

*15.89-18.00 diameter inserts have two types of screw holes, and the drill bodies are fitted with M3.5/M3.0 or M3.5/M2.5 screws depending on the insert(M3.5/M3.0 screws are used in most cases).

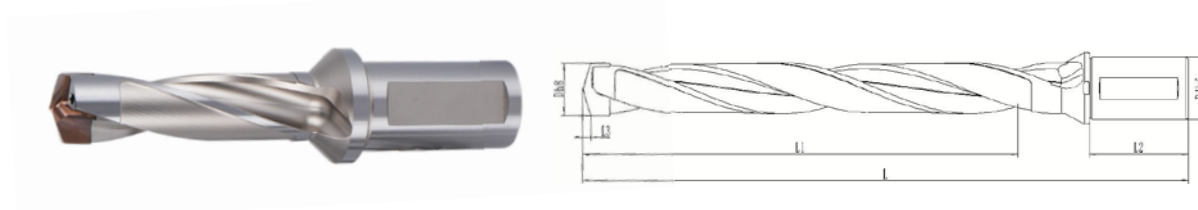
For 18.01-19.99 diameter inserts, because M3.5/M2.5 screws are easily damaged, the regular stock is M4.0/M3.0 screws.

Phoenix Drill Body



5D								
Model	Insert Diameter(D)	Effective Depth	Shank Length	Tip Height	Shank Diameter	Groove Size	Center Tightening Screws	Wrench
		L1	L2	L3	D1			
PD05125XP20	12.5-13.0	63	48	2.0	20	C	M3.0/M2.5*14	T6*156
PD05130XP20	13.0-13.5	65	48	2.1	20	C	M3.0/M2.5*14	T6*156
PD05136XP20	13.51-14.0	69	48	2.2	20	B	M3.0/M2.5*14	T6*156
PD05140XP20	14.0-14.5	70	48	2.2	20	B	M3.0/M2.5*14	T6*156
PD05146XP20	14.51-15.0	74	50	2.3	20	A	M3.0/M2.5*14	T6*156
PD05150XP20	15.0-15.5	75	50	2.4	20	A	M3.0/M2.5*14	T6*156
PD05155XP20	15.5-15.88	78	50	2.5	20	A	M3.0/M2.5*14	T6*156
PD05160XP20	15.89-16.5	80	50	2.5	20	1	*M3.5/M3.0*16	1.5*185
PD05165XP20	16.5-17.0	83	50	2.6	20	1	*M3.5/M3.0*16	1.5*185
PD05170XP20	17.0-17.5	85	50	2.7	20	1	*M3.5/M3.0*16	1.5*185
PD05175XP20	17.5-18.0	88	50	2.8	20	1	*M3.5/M3.0*16	1.5*185
PD05181XP25	18.01-18.5	92	56	2.9	25	2	M4.0/M3.0*16	2.0*210
PD05185XP25	18.5-19.0	93	56	2.9	25	2	M4.0/M3.0*16	2.0*210
PD05190XP25	19-19.5	95	56	3.0	25	2	M4.0/M3.0*16	2.0*210
PD05195XP25	19.5-19.99	98	56	3.1	25	2	M4.0/M3.0*16	2.0*210
PD05200XP25	20-20.5	100	56	3.2	25	3	M4.0/M3.0*19	2.0*210
PD05205XP25	20.5-21	103	56	3.3	25	3	M4.0/M3.0*19	2.0*210
PD05210XP25	21-21.5	105	56	3.3	25	3	M4.0/M3.0*19	2.0*210
PD05215XP25	21.5-22	108	56	3.4	25	3	M4.0/M3.0*19	2.0*210
PD05221XP25	22.01-22.5	112	56	3.5	25	4	M4.0/M3.0*19	2.0*210
PD05225XP25	22.5-23	113	56	3.6	25	4	M4.0/M3.0*19	2.0*210
PD05230XP25	23-23.5	115	56	3.7	25	4	M4.0/M3.0*19	2.0*210
PD05235XP25	23.5-24	118	56	3.7	25	4	M4.0/M3.0*19	2.0*210
PD05241XP32	24.01-24.5	122	60	3.8	32	5	M5.0/M4.0*23	2.5*240
PD05245XP32	24.5-25	123	60	3.9	32	5	M5.0/M4.0*23	2.5*240
PD05250XP32	25-25.5	125	60	3.8	32	5	M5.0/M4.0*23	2.5*240
PD05255XP32	25.5-26.0	128	60	3.9	32	5	M5.0/M4.0*23	2.5*240
PD05261XP32	26.01-26.5	132	60	4.0	32	6	M5.0/M4.0*23	2.5*240
PD05265XP32	26.5-27	133	60	4.1	32	6	M5.0/M4.0*23	2.5*240
PD05270XP32	27-27.5	135	60	4.2	32	6	M5.0/M4.0*23	2.5*240
PD05275XP32	27.5-28	138	60	4.2	32	6	M5.0/M4.0*23	2.5*240

Phoenix Drill Body



5D								
Model	Insert Diameter(D)	Effective Depth	Shank Length	Tip Height	Shank Diameter	Groove Size	Center Tightening Screws	Wrench
		L1	L2	L3	D1			
PD05281XP32	28.01-28.5	142	60	4.3	32	7	M6.0/M5.0*28	3.0*265
PD05285XP32	28.5-29	143	60	4.4	32	7	M6.0/M5.0*28	3.0*265
PD05290XP32	29-29.5	145	60	4.5	32	7	M6.0/M5.0*28	3.0*265
PD05295XP32	29.5-30	143	60	4.5	32	7	M6.0/M5.0*28	3.0*265
PD05301XP32	30.01-30.5	151	60	4.6	32	8	M6.0/M5.0*28	3.0*265
PD05305XP32	30.5-31	152	60	4.7	32	8	M6.0/M5.0*28	3.0*265
PD05310XP32	31-31.5	155	60	4.8	32	8	M6.0/M5.0*28	3.0*265
PD05315XP32	31.5-32	158	60	4.8	32	8	M6.0/M5.0*28	3.0*265
PD05321XP40	32.01-33	163	70	4.9	40	9	M6.0/M6.0*32	3.0*330
PD05330XP40	33.0-34.0	165	70	5.1	40	9	M6.0/M6.0*32	3.0*330
PD05340XP40	34.0-35.0	170	70	5.2	40	9	M6.0/M6.0*32	3.0*330
PD05350XP40	35.0-36.0	175	70	5.4	40	9	M6.0/M6.0*32	3.0*330
PD05361XP40	36.01-37.0	183	70	5.5	40	10	M6.0/M6.0*32	3.0*330
PD05370XP40	37.0-38.0	185	70	5.7	40	10	M6.0/M6.0*32	3.0*330
PD05380XP40	38.0-39.0	190	70	5.8	40	10	M6.0/M6.0*32	3.0*330
PD05390XP40	39.0-40.0	195	70	6.0	40	10	M6.0/M6.0*32	3.0*330
PD05400XP40	40.0	200	70	6.2	40	10	M6.0/M6.0*32	3.0*330

* 15.89-18.00 diameter inserts have two types of screw holes, and the drill bodies are fitted with M3.5/M3.0 or M3.5/M2.5 screws depending on the insert(M3.5/M3.0 screws are used in most cases).

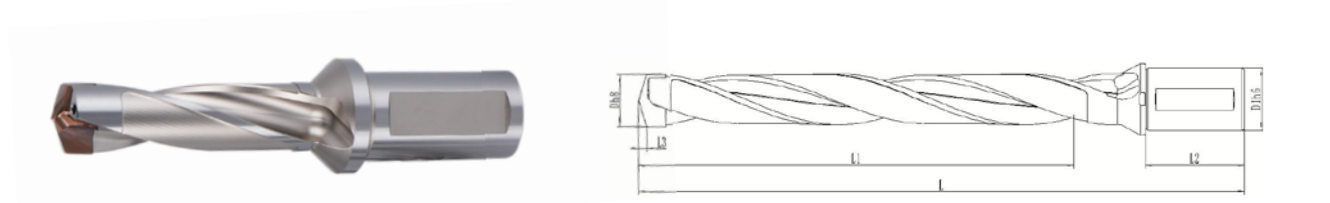
For 18.01-19.99 diameter inserts, because M3.5/M2.5 screws are easily damaged, the regular stock is M4.0/M3.0 screws.

Phoenix Drill Body



7D								
Model	Insert Diameter (D)	Effective Depth	Shank Length	Tip Height	Shank Diameter	Groove Size	Center Tightening Screws	Wrench
		L1	L2	L3	D1			
PD07125XP20	12.5-13.0	88	48	2.0	20	C	M3.0/M2.5*14	T6*188
PD07130XP20	13.0-13.5	91	48	2.1	20	C	M3.0/M2.5*14	T6*188
PD07136XP20	13.51-14.0	96	48	2.2	20	B	M3.0/M2.5*14	T6*188
PD07140XP20	14.0-14.5	98	48	2.2	20	B	M3.0/M2.5*14	T6*188
PD07146XP20	14.51-15.0	103	50	2.3	20	A	M3.0/M2.5*14	T6*188
PD07150XP20	15.0-15.5	105	50	2.4	20	A	M3.0/M2.5*14	T6*188
PD07155XP20	15.5-15.88	109	50	2.5	20	A	M3.0/M2.5*14	T6*188
PD07160XP20	15.89-16.5	112	50	2.5	20	1	*M3.5/M3.0*16	1.5*225
PD07165XP20	16.5-17.0	116	50	2.6	20	1	*M3.5/M3.0*16	1.5*225
PD07170XP20	17.0-17.5	119	50	2.7	20	1	*M3.5/M3.0*16	1.5*225
PD07175XP20	17.5-18.0	123	50	2.8	20	1	*M3.5/M3.0*16	1.5*225
PD07181XP25	18.01-18.5	128	56	2.9	25	2	M4.0/M3.0*16	2.0*260
PD07185XP25	18.5-19.0	130	56	2.9	25	2	M4.0/M3.0*16	2.0*260
PD07190XP25	19-19.5	133	56	3.0	25	2	M4.0/M3.0*16	2.0*260
PD07195XP25	19.5-19.99	137	56	3.1	25	2	M4.0/M3.0*16	2.0*260
PD07200XP25	20-20.5	140	56	3.2	25	3	M4.0/M3.0*19	2.0*260
PD07205XP25	20.5-21	144	56	3.3	25	3	M4.0/M3.0*19	2.0*260
PD07210XP25	21-21.5	147	56	3.3	25	3	M4.0/M3.0*19	2.0*260
PD07215XP25	21.5-22	151	56	3.4	25	3	M4.0/M3.0*19	2.0*260
PD07221XP25	22.01-22.5	156	56	3.5	25	4	M4.0/M3.0*19	2.0*260
PD07225XP25	22.5-23	158	56	3.6	25	4	M4.0/M3.0*19	2.0*260
PD07230XP25	23-23.5	161	56	3.7	25	4	M4.0/M3.0*19	2.0*260
PD07235XP25	23.5-24	165	56	3.7	25	4	M4.0/M3.0*19	2.0*260
PD07241XP32	24.01-24.5	170	60	3.8	32	5	M5.0/M4.0*23	2.5*295
PD07245XP32	24.5-25	172	60	3.9	32	5	M5.0/M4.0*23	2.5*295
PD07250XP32	25-25.50	175	60	3.8	32	5	M5.0/M4.0*23	2.5*295
PD07255XP32	25.51-26.0	179	60	3.9	32	5	M5.0/M4.0*23	2.5*295
PD07261XP32	26.01-26.5	184	60	4.0	32	6	M5.0/M4.0*23	2.5*295
PD07265XP32	26.5-27.0	186	60	4.1	32	6	M5.0/M4.0*23	2.5*295
PD07270XP32	27-27.5	189	60	4.2	32	6	M5.0/M4.0*23	2.5*295

Phoenix Drill Body

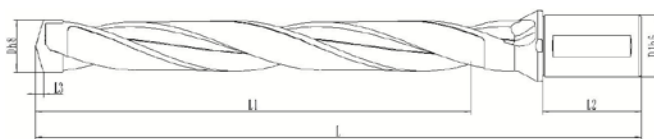


7D								
Model	Insert Diameter (D)	Effective Depth	Shank Length	Tip Height	Shank Diameter	Groove Size	Center Tightening Screws	Wrench
		L1	L2	L3	D1			
PD07275XP32	27.5-28.0	193	60	4.2	32	6	M5.0/M4.0*23	2.5*295
PD07281XP32	28.01-28.5	198	60	4.3	32	7	M6.0/M5.0*28	3.0*330
PD07285XP32	28.5-29	200	60	4.4	32	7	M6.0/M5.0*28	3.0*330
PD07290XP32	29-29.5	203	60	4.5	32	7	M6.0/M5.0*28	3.0*330
PD07295XP32	29.5-30	207	60	4.5	32	7	M6.0/M5.0*28	3.0*330
PD07301XP32	30.01-30.5	211	60	4.6	32	8	M6.0/M5.0*28	3.0*330
PD07305XP32	30.5-31	213	60	4.7	32	8	M6.0/M5.0*28	3.0*330
PD07310XP32	31-31.5	217	60	4.8	32	8	M6.0/M5.0*28	3.0*330
PD07315XP32	31.5-32	221	60	4.8	32	8	M6.0/M5.0*28	3.0*330
PD07321XP40	32.01-33	227	70	4.9	40	9	M6.0/M6.0*32	3.0*439
PD07330XP40	33.0-34.0	231	70	5.1	40	9	M6.0/M6.0*32	3.0*439
PD07340XP40	34.0-35.0	238	70	5.2	40	9	M6.0/M6.0*32	3.0*439
PD07350XP40	35.0-36.0	245	70	5.4	40	9	M6.0/M6.0*32	3.0*439
PD07361XP40	36.01-37.0	255	70	5.5	40	10	M6.0/M6.0*32	3.0*439
PD07370XP40	37.0-38.0	259	70	5.7	40	10	M6.0/M6.0*32	3.0*439
PD07380XP40	38.0-39.0	266	70	5.8	40	10	M6.0/M6.0*32	3.0*439
PD07390XP40	39.0-40.0	273	70	6.0	40	10	M6.0/M6.0*32	3.0*439
PD07400XP40	40.0	280	70	6.2	40	10	M6.0/M6.0*32	3.0*439

* 15.89-18.00 diameter inserts have two types of screw holes, and the drill bodies are fitted with M3.5/M3.0 or M3.5/M2.5 screws depending on the insert(M3.5/M3.0 screws are used in most cases).

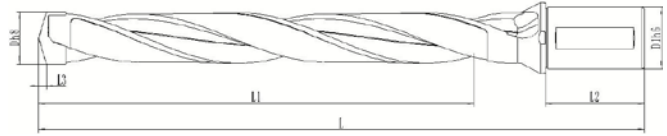
For 18.01-19.99 diameter inserts, because M3.5/M2.5 screws are easily damaged, the regular stock is M4.0 /M3.0 screws.

Phoenix Drill Body



10D								
Model	Insert Diameter(D)	Effective Depth	Shank Length	Tip Height	Shank Diameter	Groove Size	Center Tightening Screws	Wrench
		L1	L2	L3	D1			
PD10125XP20	12.5-13.0	125	48	2.0	20	C	M3.0/M2.5*14	T6*230
PD10130XP20	13.0-13.5	130	48	2.1	20	C	M3.0/M2.5*14	T6*230
PD10136XP20	13.51-14.0	136	48	2.2	20	B	M3.0/M2.5*14	T6*230
PD10140XP20	14.0-14.5	140	48	2.2	20	B	M3.0/M2.5*14	T6*230
PD10146XP20	14.51-15.0	146	50	2.3	20	A	M3.0/M2.5*14	T6*230
PD10150XP20	15.0-15.5	150	50	2.4	20	A	M3.0/M2.5*14	T6*230
PD10155XP20	15.5-15.88	155	50	2.5	20	A	M3.0/M2.5*14	T6*230
PD10160XP20	15.89-16.5	160	50	2.5	20	1	*M3.5/M3.0*16	1.5*297
PD10165XP20	16.5-17.0	165	50	2.6	20	1	*M3.5/M3.0*16	1.5*297
PD10170XP20	17.0-17.5	170	50	2.7	20	1	*M3.5/M3.0*16	1.5*297
PD10175XP20	17.5-18.0	175	50	2.8	20	1	*M3.5/M3.0*16	1.5*297
PD10181XP25	18.01-18.5	182	56	2.9	25	2	M4.0/M3.0*16	2.0*343
PD10185XP25	18.5-19.0	185	56	2.9	25	2	M4.0/M3.0*16	2.0*343
PD10190XP25	19-19.5	190	56	3.0	25	2	M4.0/M3.0*16	2.0*343
PD10195XP25	19.5-19.99	195	56	3.1	25	2	M4.0/M3.0*16	2.0*343
PD10200XP25	20-20.5	200	56	3.2	25	3	M4.0/M3.0*19	2.0*343
PD10205XP25	20.5-21	205	56	3.3	25	3	M4.0/M3.0*19	2.0*343
PD10210XP25	21-21.5	210	56	3.3	25	3	M4.0/M3.0*19	2.0*343
PD10215XP25	21.5-22	215	56	3.4	25	3	M4.0/M3.0*19	2.0*343
PD10221XP25	22.01-22.5	222	56	3.5	25	4	M4.0/M3.0*19	2.0*343
PD10225XP25	22.5-23	225	56	3.6	25	4	M4.0/M3.0*19	2.0*343
PD10230XP25	23-23.5	230	56	3.7	25	4	M4.0/M3.0*19	2.0*343
PD10235XP25	23.5-24	235	56	3.7	25	4	M4.0/M3.0*19	2.0*343
PD10241XP32	24.01-24.5	242	60	3.8	32	5	M5.0/M4.0*23	2.5*393
PD10245XP32	24.5-25	245	60	3.9	32	5	M5.0/M4.0*23	2.5*393
PD10250XP32	25-25.5	250	60	3.8	32	5	M5.0/M4.0*23	2.5*393
PD10255XP32	25.5-26.0	255	60	3.9	32	5	M5.0/M4.0*23	2.5*393
PD10261XP32	26.01-26.5	262	60	4.0	32	6	M5.0/M4.0*23	2.5*393
PD10265XP32	26.5-27	265	60	4.1	32	6	M5.0/M4.0*23	2.5*393
PD10270XP32	27-27.5	270	60	4.2	32	6	M5.0/M4.0*23	2.5*393
PD10275XP32	27.5-28	275	60	4.2	32	6	M5.0/M4.0*23	2.5*393
PD10281XP32	28.01-28.5	282	60	4.3	32	7	M6.0/M5.0*28	3.0*439

Phoenix Drill Body

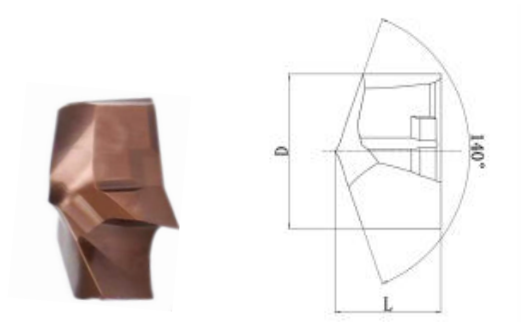


10D								
Model	Insert Diameter(D)	Effective Depth	Shank Length	Tip Height	Shank Diameter	Groove Size	Center Tightening Screws	Wrench
		L1	L2	L3	D1			
PD10285XP32	28.5-29	285	60	4.4	32	7	M6.0/M5.0*28	3.0*439
PD10290XP32	29-29.5	290	60	4.5	32	7	M6.0/M5.0*28	3.0*439
PD10295XP32	29.5-30	295	60	4.5	32	7	M6.0/M5.0*28	3.0*439
PD10301XP32	30.01-30.5	302	60	4.6	32	8	M6.0/M5.0*28	3.0*439
PD10305XP32	30.5-31	305	60	4.7	32	8	M6.0/M5.0*28	3.0*439
PD10310XP32	31-31.5	310	60	4.8	32	8	M6.0/M5.0*28	3.0*439
PD10315XP32	31.5-32	315	60	4.8	32	8	M6.0/M5.0*28	3.0*439
PD10321XP40	32.01-33	323	70	4.9	40	9	M6.0/M6.0*32	3.0*530
PD10330XP40	33.0-34.0	330	70	5.1	40	9	M6.0/M6.0*32	3.0*530
PD10340XP40	34.0-35.0	340	70	5.2	40	9	M6.0/M6.0*32	3.0*530
PD10350XP40	35.0-36.0	350	70	5.4	40	9	M6.0/M6.0*32	3.0*530
PD10361XP40	36.01-37.0	363	70	5.5	40	10	M6.0/M6.0*32	3.0*530
PD10370XP40	37.0-38.0	370	70	5.7	40	10	M6.0/M6.0*32	3.0*530
PD10380XP40	38.0-39.0	380	70	5.8	40	10	M6.0/M6.0*32	3.0*530
PD10390XP40	39.0-40.0	390	70	6.0	40	10	M6.0/M6.0*32	3.0*530
PD10400XP40	40.0	400	70	6.2	40	10	M6.0/M6.0*32	3.0*530

* 15.89-18.00 diameter inserts have two types of screw holes, and the drill bodies are fitted with M3.5/M3.0 or M3.5/M2.5 screws depending on the insert(M3.5/M3.0 screws are used in most cases).

For 18.01-19.99 diameter inserts, because M3.5/M2.5 screws are easily damaged, the regular stock is M4.0/M3.0 screws.

Phoenix Drill Insert



Insert Types			
Model	Insert Diameter Range(D)	L	Thread
PDPA(1250-1350)	12.5-13.5	9.6	M2.5
PDPA(1351-1450)	13.51-14.5	10.1	M2.5
PDPA(1451-1588)	14.51-15.88	10.6	M2.5
PDPA(1589-1800)	15.89-18.0	11.6	M3.0
PDPA(1589-1800)1F	15.89-18.0	11.6	M2.5
PDPA(1801-1999)	18.01-19.99	12.6	M3.0
PDPA(1801-1999)2F	18.01-19.99	12.6	M2.5
PDPA(2000-2200)	20.00-22.00	13.6	M3.0
PDPA(2201-2400)	22.01-24.0	14.6	M3.0
PDPA(2401-2600)	24.01-26.0	15.6	M4.0
PDPA(2601-2800)	26.01-28.0	16.6	M4.0
PDPA(2801-3000)	28.01-30.0	17.6	M5.0
PDPA(3001-3200)	30.01-32.0	18.6	M5.0
PDPA(3201-3600)	32.01-36.0	20.6	M6.0
PDPA(3601-4000)	36.01-40.0	22.6	M6.0

* The two diameter range, 15.89-18.00 and 18.01-19.99 have two types of thread, M3.0 and M2.5, whose matching drill bodies are 1/1F and 2/2F (We have 1 and 2, i.e. M3.0, in regular stock).

S - DRILL

- Insert diameter range: 12–33.5 mm, depth: 1.5×, 3×, 5×, 8×, 12× diameter.
- Resharpening allowance of 1.5 mm–3 mm is reserved for inserts to further reduce tool costs.
- Interchangeable carbide inserts and high-rigidity alloy drill body greatly improve machining accuracy and efficiency.
- The radial tooth design of the insert and the drill body realizes high precision and high strength.
- Designed with internal coolant holes, it keeps drilling cool enough for longer tool life and smoother chip evacuation.
- The same drill body can be assembled with different diameters of blades, saving tooling costs.
- Optimized spiral design for smooth chip evacuation control.
- Enhanced edge treatment dramatically improves machining life.
- Shank design suitable for a wide range of shank systems.
- Quick and easy insert change without removing the drill body from the machine.

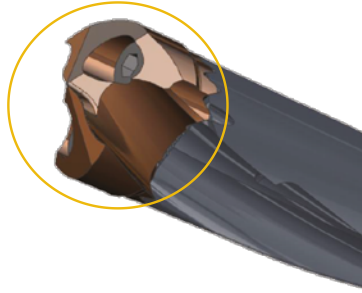
Product Details

Product Name	S - Drill
Diameter Range	Ø 12- Ø 33.5
Processing Machine	High precision CNC machines
Length Range	3x/5x/8x/10x/12x diameter
Features	It is much better than normal drills in terms of precision and finish, and the processing speed is much higher than common drills



Components

Installation Status



Screws

High-strength screws for stable locking of inserts from the head.

High-precision mating tooth profile for a solid connection.

Insert

A wide range of different cutting edges for different workpiece materials.

Inner Cooling Hole

Drill Body

The drill body is made of high-quality alloy steel with good rigidity and toughness.

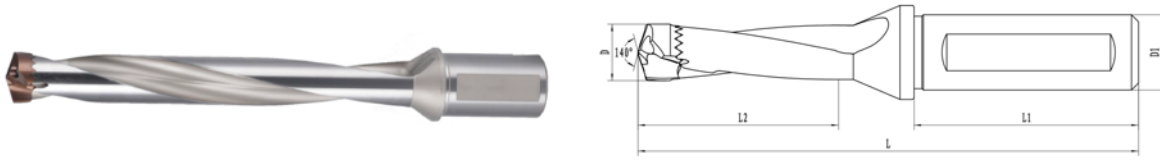
Optimized drill tips for better centering performance.

Chamfered main cutting edge for enhanced insert strength and wear resistance.

Reinforced cutting edge protection for better chipping resistance during the cutting process.

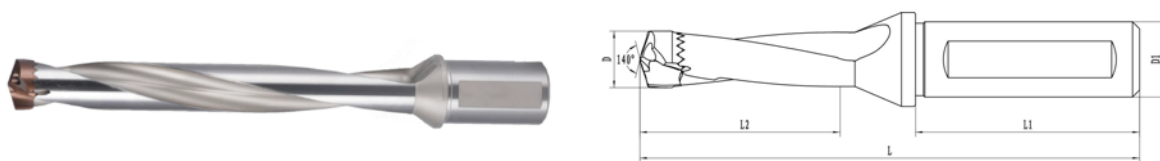
Superior coating for more wear-resistant inserts.

S - Drill Body Models and Sizes



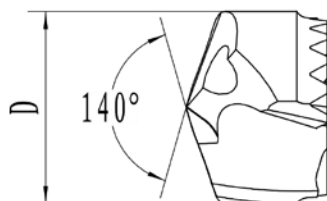
Diameter (D) (h7)	1.5D			3D			5D			universal		Screw	Wrench
	Model	Size		Model	Size		Model	Size		Size			
		L2	L		L2	L		L2	L	L1	D1		
12.0-12.49	TC1.5120XP16	28	91	TC03120XP16	46	107	TC05120XP16	71	132	48	16	M2.2*8	T6
12.5-13.49	TC1.5130XP16	30	92	TC03130XP16	49	112	TC05130XP16	76	142				
13.5-14.5	TC1.5140XP16	34	96	TC03140XP16	55	119	TC05140XP16	84	149				
14.51-15.5	TC1.5150XP20	35	100	TC03150XP20	58	129	TC05150XP20	89	159	50	20	M2.5*9	T8
15.51-16.5	TC1.5160XP20	38	103	TC03160XP20	62	134	TC05160XP20	95	169				
16.51-17.5	TC1.5170XP20	39	105	TC03170XP20	66	140	TC05170XP20	101	175				
17.51-18.5	TC1.5180XP20	43	107	TC03180XP20	70	145	TC05180XP20	107	180	56	25	M3.0*11	T15
18.51-19.5	TC1.5190XP25	44	115	TC03190XP25	73	160	TC05190XP25	112	195				
19.51-20.5	TC1.5200XP25	47	118	TC03200XP25	77	160	TC05200XP25	118	200				
20.51-21.5	TC1.5210XP25	48	119	TC03210XP25	80	160	TC05210XP25	123	200	60	32	M3.5*12	T15
21.51-22.8	TC1.5220XP25	51	121	TC03220XP25	84	165	TC05220XP25	129	205				
22.81-23.8	TC1.5230XP25	51	122	TC03230XP25	81	165	TC05230XP25	134	215				
23.81-24.8	TC1.5240XP32	54	129	TC03240XP32	91	175	TC05240XP32	140	225	60	32	M4.0*14	T15
24.81-25.8	TC1.5250XP32	54	129	TC03250XP32	93	175	TC05250XP32	145	230				
25.81-26.8	TC1.5260XP32	57	132	TC03260XP32	97	180	TC05260XP32	151	235				
26.81-27.8	TC1.5270XP32	58	133	TC03270XP32	99	180	TC05270XP32	156	245	60	32	M4.5*15	T15
27.81-28.8	TC1.5280XP32	60	135	TC03280XP32	102	185	TC05280XP32	162	245				
28.81-29.9	TC1.5290XP32	61	136	TC03290XP32	105	190	TC05290XP32	167	250				
29.81-30.8	TC1.5300XP32	64	139	TC03300XP32	110	191	TC05300XP32	173	261	60	32	M4.5*15	T15
30.81-32.0	TC1.5320XP32	67	143	TC03320XP32	116	201	TC05320XP32	181	266				
32.01-33.5	TC1.5330XP32	69	146	TC03330XP32	121	206	TC05330XP32	191	276				

S - Drill Body Models and Sizes



Diameter (D) (h7)	8D			10D			12D			universal		Screw	Wrench
	Model	Size		Model	Size		Model	Size		Size			
		L2	L		L2	L		L2	L	L1	D1		
12.0-12.49	TC08120XP16	107	168	TC10120XP16						48	16	M2.2*8	T6
12.5-13.49	TC08130XP16	115	182	TC10130XP16									
13.5-14.5	TC08140XP16	127	194	TC10140XP16	156.5	220.5	TC12140XP16	186.5	249.5				
14.51-15.5	TC08150XP20	136	204	TC10150XP20	166.7	232.7	TC12150XP20	198.7	263.7	50	20	M2.5*9	T8
15.51-16.5	TC08160XP20	144	214	TC10160XP20	178.5	243.5	TC12160XP20	211.5	276.5				
16.51-17.5	TC08170XP20	154	225	TC10170XP20	188.7	253.7	TC12170XP20	223.7	288.7				
17.51-18.5	TC08180XP20	162	230	TC10180XP20	198.8	264.8	TC12180XP20	236.8	301.8			M3.0*11	T8
18.51-19.5	TC08190XP25	171	255	TC10190XP25	209.9	280.9	TC12190XP25	248.9	314.8				
19.51-20.5	TC08200XP25	179	270	TC10200XP25	220.5	291.5	TC12200XP25	261.5	332.5				
20.51-21.5	TC08210XP25	188	266	TC10210XP25	230.6	361.6	TC12210XP25	273.6	344.6	56	25	M3.5*12	T15
21.51-22.8	TC08220XP25	196	275	TC10220XP25	244.1	315.1	TC12220XP25	289.7	360.7				
22.81-23.8	TC08230XP25	205	285	TC10230XP25	253.7	324.7	TC12230XP25	301.3	372.3				
23.81-24.8	TC08240XP32	213	300	TC10240XP32	264.9	339.9	TC12240XP32	264.9	389.5			M4.0*14	T15
24.81-25.8	TC08250XP32	222	305	TC10250XP32	270	350	TC12250XP32	326.6	401.6				
25.81-26.8	TC08260XP32	230	315	TC10260XP32	285.3	360.3	TC12260XP32	338.9	413.9				
26.81-27.8	TC08270XP32	239	325	TC10270XP32	295.3	370.3	TC12270XP32	350.9	425.9	60	32	M4.5*15	T15
27.81-28.8	TC08280XP32	247	330	TC10280XP32	306.2	381.2	TC12280XP32	363.8	438.8				
28.81-29.9	TC08290XP32	256	340	TC10290XP32	316.4	391.4	TC12290XP32	376	451				
29.81-30.8	TC08300XP32	265	351	TC10300XP32	327.9	402.9	TC12300XP32	389.5	464.5			M4.5*15	T15
30.81-32.0	TC08320XP32	276	361	TC10320XP32	345.9	424.9							
32.01-33.5	TC08330XP32	291	376	TC10330XP32	364	443							

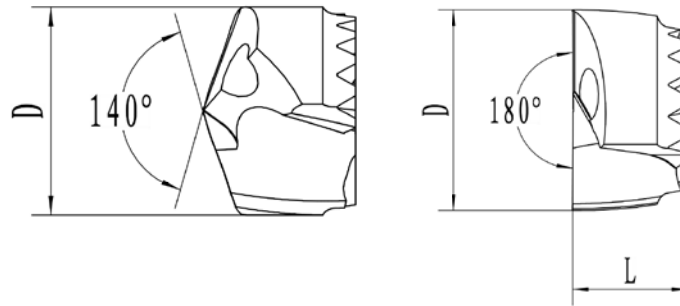
S - Drill Body Models and Sizes



S - Drill Insert Models and Sizes

Diameter D(mm)	Model	Model	Model	L	Model	L
12.0	TCEA1200	TCPA1200	TCMA1200	9.1	TCFA1200	7.1
12.5	TCEA1250	TCPA1250	TCMA1250	9.4	TCFA1250	7.2
13.0	TCEA1300	TCPA1300	TCMA1300	9.7	TCFA1300	7.5
13.5	TCEA1350	TCPA1350	TCMA1350	10.3	TCFA1350	7.9
14.0	TCEA1400	TCPA1400	TCMA1400		TCFA1400	
14.5	TCEA1450	TCPA1450	TCMA1450		TCFA1450	
15.0	TCEA1500	TCPA1500	TCMA1500	11.0	TCFA1500	8.3
15.5	TCEA1550	TCPA1550	TCMA1550		TCFA1550	
16.0	TCEA1600	TCPA1600	TCMA1600	11.6	TCFA1600	8.8
16.5	TCEA1650	TCPA1650	TCMA1650		TCFA1650	
17.0	TCEA1700	TCPA1700	TCMA1700	12.3	TCFA1700	9.3
17.5	TCEA1750	TCPA1750	TCMA1750		TCFA1750	
18.0	TCEA1800	TCPA1800	TCMA1800	12.9	TCFA1800	9.8
18.5	TCEA1850	TCPA1850	TCMA1850		TCFA1850	
19.0	TCEA1900	TCPA1900	TCMA1900	13.6	TCFA1900	10.2
19.5	TCEA1950	TCPA1950	TCMA1950		TCFA1950	
20.0	TCEA2000	TCPA2000	TCMA2000	14.1	TCFA2000	10.7
20.5	TCEA2050	TCPA2050	TCMA2050		TCFA2050	
21.0	TCEA2100	TCPA2100	TCMA2100	14.8	TCFA2100	11.2
21.5	TCEA2150	TCPA2150	TCMA2150		TCFA2150	
22.0	TCEA2200	TCPA2200	TCMA2200	15.0	TCFA2200	
22.5	TCEA2250	TCPA2250	TCMA2250		TCFA2250	
23.0	TCEA2300	TCPA2300	TCMA2300	15.2	TCFA2300	
23.5	TCEA2350	TCPA2350	TCMA2350		TCFA2350	
24.0	TCEA2400	TCPA2400	TCMA2400	15.4	TCFA2400	11.3
24.5	TCEA2450	TCPA2450	TCMA2450		TCFA2450	
25.0	TCEA2500	TCPA2500	TCMA2500	15.9	TCFA2500	11.7
25.5	TCEA2550	TCPA2550	TCMA2550		TCFA2550	
26.0	TCEA2600	TCPA2600	TCMA2600	16.5	TCFA2600	12.2
26.5	TCEA2650	TCPA2650	TCMA2650		TCFA2650	

S - Drill Body Models and Sizes



S - Drill Insert Models and Sizes

Diameter D(mm)	Model	Model	Model	L	Model	L
27.0	TCEA2700	TCPA2700	TCMA2700	17.2	TCFA2700	12.7
27.5	TCEA2750	TCPA2750	TCMA2750		TCFA2750	
28.0	TCEA2800	TCPA2800	TCMA2800	17.8	TCFA2800	13.2
28.5	TCEA2850	TCPA2850	TCMA2850		TCFA2850	
29.0	TCEA2900	TCPA2900	TCMA2900	18.4	TCFA2900	13.6
29.5	TCEA2950	TCPA2950	TCMA2950		TCFA2950	
30.0	TCEA3000	TCPA3000	TCMA3000	19.0	TCFA3000	14.1
30.5	TCEA3050	TCPA3050	TCMA3050		TCFA3050	
31.0	TCEA3100	TCPA3100	TCMA3100			
31.5	TCEA3150	TCPA3150	TCMA3150			
32.0	TCEA3200	TCPA3200	TCMA3200			
32.5	TCEA3250	TCPA3250	TCMA3250			
33.0	TCEA3300	TCPA3300	TCMA3300			
33.5	TCEA3350	TCPA3350	TCMA3350			

Assembly - Insert



TCPA

TCEA

TCMA

TCZA

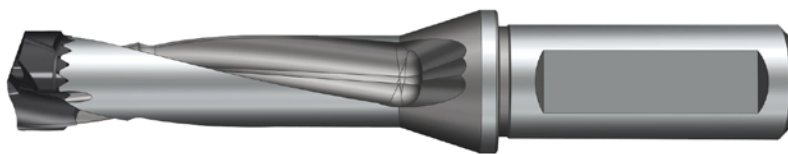
TCJA

TCFA

- **TCPA:** High tip strength for machining common steel parts, AlCr coating (P).
- **TCEA:** Relatively sharp tip for machining mild steel and cast iron, AlCrN coating (P/K).
- **TCMA:** Dedicated to machining stainless steel with a tough, chipping-resistant matrix, AlTiN coating (M/K).
- **TCZA:** Self-centering drill tip with double top corner design. There is no need to make a pilot hole when using 8× diameter drills. AlCr coating (P/K).
- **TCJA:** Double top angle design for machining structural steel, AlCrN coating.
- **TCFA:** Top angle design for inlet beveling or bottom flat hole-making requirements, AlCr coating (P/K/M).



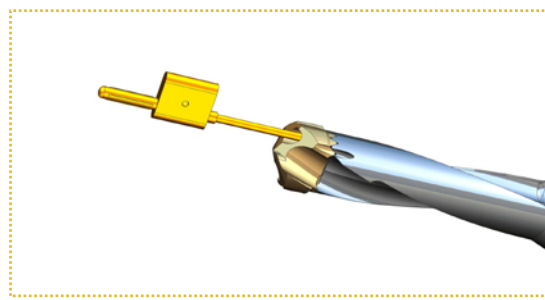
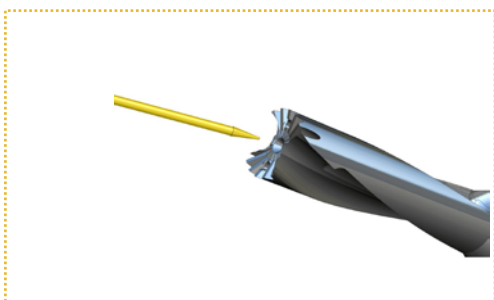
Recommended Processing Parameter of S - Drill



			Diameter(mm)		
Workpiece Material	Recommended Insert Models	Cutting Speed Vc (m/min)	12~16	16~20	20~30.8
Mild Steel (~250HB)	TCPA/TCEA	80-120 (50-80)	0.15-0.3	0.15-0.3	0.15-0.35
Plain Steel(250~320HB)	TCPA/TCEA	70-120 (50-80)	0.15-0.3	0.15-0.3	0.15-0.35
Highly Hardened Steel(45HRC)	TCPA	40-90 (30-70)	0.1-0.2	0.1-0.2	0.15-0.25
Stainless Steel(~200HB)	TCMA/TCEA	50-90 (40-60)	0.1-0.2	0.1-0.2	0.15-0.25
Gray Cast Iron	TCPA/TCEA	50-100 (40-80)	0.15-0.3	0.15-0.35	0.15-0.4
Ductile Iron	TCPA/TCEA	50-90 (40-70)	0.15-0.3	0.15-0.35	0.15-0.35

A pilot hole is required when machining with 8×D and 12×D drills. For machining parameters, refer to the values shown in parentheses.

Tips for Replacing Inserts of S - Drill

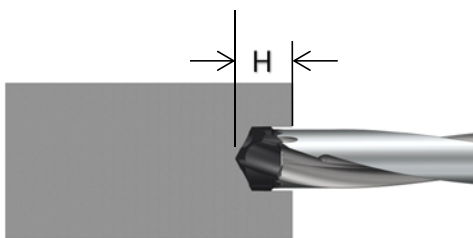


- Remove the worn-out cutterhead and blow out any foreign matter from the connection between the drill body and the cutterhead using an air gun.
- For material that cannot be removed with an air gun, use a metal brush.
- Please note that damage may occur around the insert hole if the wrench is shaken while tightening the screws.
- Replace the screws immediately before they become visibly worn or deformed.
- Tighten the insert evenly when securing the screws.

Tips for Drilling High Diameter Deep Holes

1. Use 1.5x or 3x diameter S-drill to make a pilot hole.

★ 1.5D or 3D S-drill inserts for making a pilot hole, then use the same type of insert and drill body as 8 times the diameter and above. The depth of the pilot hole (H) is 1-1.5 times the diameter of the hole.

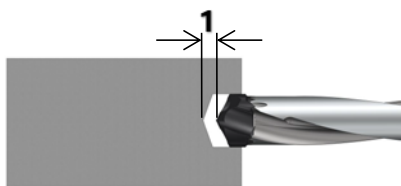


3. Increase the drilling speed to the set speed and start the cutting feed.



2. Insert 8x diameter and above S - Drill bodies and inserts into pilot holes at low RPMs.

★ RPMs: 500 r/min ★ Feed rate: 1000-2000 mm/min

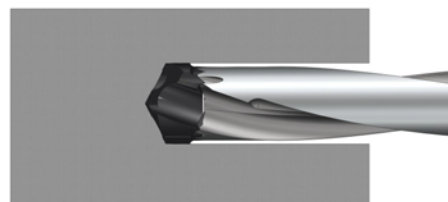


★ Insert the drill 1 mm from the bottom of the guide hole.

If the drill is inserted into the pilot hole at the set cutting speed, the peripheral runout of the drill bit may damage the shoulder of the insert. Insert the drill to 1 mm from the bottom of the pilot hole.

4. After machining, reduce the rotational speed and pull out from the workpiece.

★ RPMs: 500 r/min ★ Feed rate: 1000-2000 mm/min



If the drill insert is pulled out of the hole while rotating at high speed, the side of the insert may be damaged due to the runout of the drill bit.

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