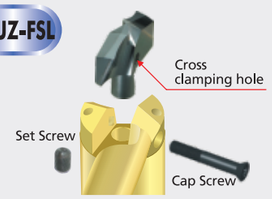
KRUZ Drills & Inserts

KRUZ-FSL



- Locking with dual screws(set & cap screw)
- Flanged body construction to reduce vibration
- Reinforced clamping power with bigger screws

IDP

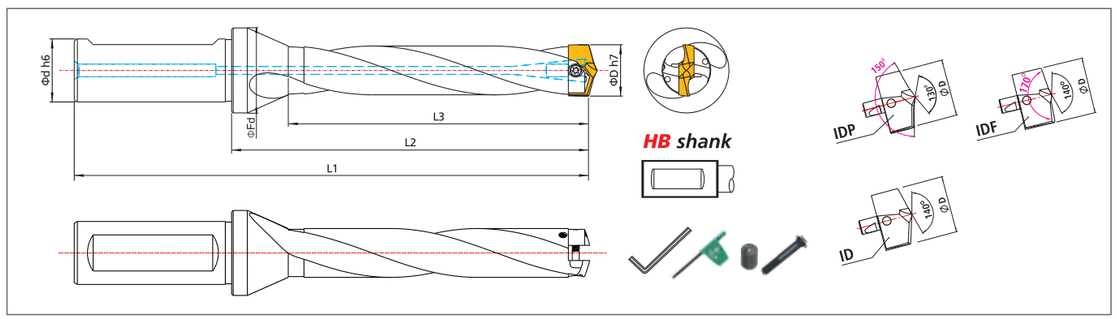
- Deep hole & general purpose
- Patented dual point 130° + 150°
- Coated with newest <Y+> coated
- Designed for deep hole and tough job

IDF

- Thin plate & shallow depth
- Optimum geometry for structural beams
- Dual point 140° + 170° side edge
- Alternative solution for interrupted hole

ID

- General purpose
- Conventional 140° single point

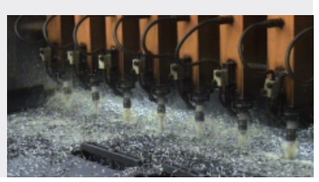


KRUZ Body

- Rugged heat-treated tool steel, polished flute to smooth chip removal
- Internal coolant channel through body
- Cylindrical with flatted HB Shank as standard(except small size 8 to 11.5mm cylindrical HA shank)
- Cutting length 3xDia, 5xDia, 7xDia, 10xDia Wide size selection 8 to 50mm as standard
- ID insert's quick change without picking up body in the machine
- Included necessary wrench and one steel bar to remove insert just for safety

KURZ drill delivers outstanding performance at high speed.

Chip feature after drilling



12 spindles machining feature used KRUZ body & IDPK inserts

Carbide insert drill

- Ultra-micro grain carbide material to cover various material from soft to harder
- Completely ground cutting edge in CNC program
- Own designed point geometry to increase performance
- Wide variety of size selection Φ8.0 to 50.4mm by 0.1mm inclusive from stock

Standard and optional geometry for different material

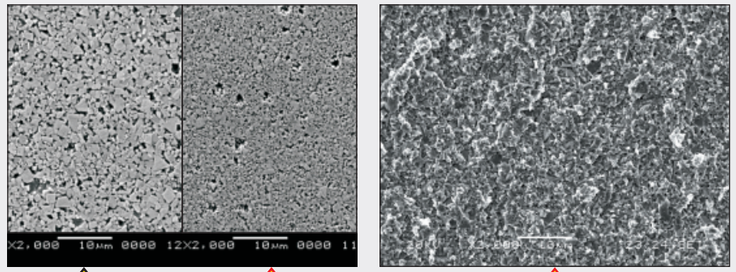
- ID & IDF coated with <TiAlN>, IDP coated with < Y+> as standard
- AL : for Aluminum, made-to-order, uncoated but polished
- SUS : for Stainless steel or Titanium, made-to-order
- FC : for Cast iron, made-to-order

Special made-to-order

- precise micro-size by 0.01mm, different point angle, corner chamfer, corner radius step shape, flat bottom 180 like end-mill or different coating available upon request only

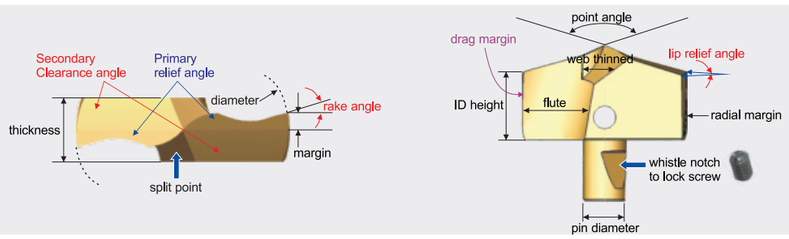
Carbide material substrate

All of Yestool's carbide cutting tool is made of ultra-micro grain carbide material with 13% cobalt contents.
This would be greatly affected on higher performance and strong durability for various materials from soft to harder work pieces, even for difficult exotic materials.

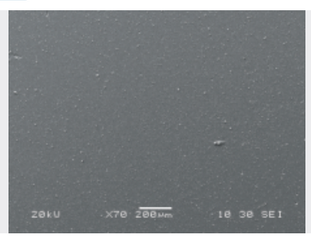


Conventional Carbide | Yestool's standard carbide | Yestool's New carbide material (0.2+0.5+0.8 μm ultra-micro grain size)

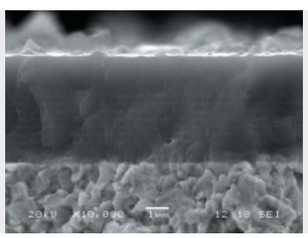
Nomenclature of Carbide Insert



Y+ coated insert



Coated surface



Coated layers

KRUZ-FSL, YTDI-FSL Flange body & Carbide insert

Insert selection

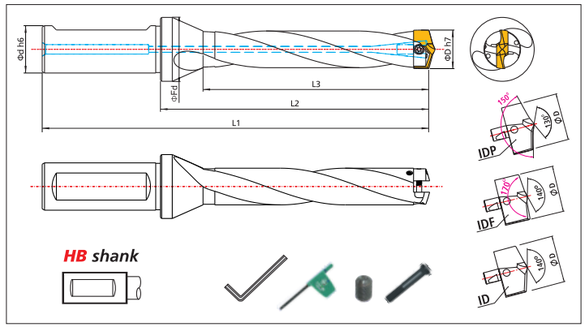
IDP Deep hole & general purpose

IDF Thin plate & shallow depth

ID General purpose

KRUZ-FSL body YTDI-FSL body

- Rugged flange type body to decrease vibration or chattering
- Interchangeable <IDP>, <IDF>, <ID> carbide drill inserts
- Drill body consists of premium tool steel with heat treatment
- Increased tool life by less vibration
- Internal coolant fed design



Please make required cutting depth in the ☐ like T, P, H, L

Hole size range	Body Code No.	Shank Φd / (L)	Cutting depth (Length x ΦD)	L1	L2	L3	Flanged dia.(ΦFd)	Insert Code No. to fit in body (IDP IDF ID)	Cap Screw	Torx driver	Set Screw	L-wrench
Φ8.0 ~Φ8.4	YTDI 080 ☐ FSL KRUZ 080 ☐ FSL	10.0 (HA) (45)	T(3xD)	87	42	32	18	IDP 080, IDP 081, IDP 082, IDP 083, IDP 084 IDF 080, IDF 081, IDF 082, IDF 083, IDF 084 ID 080, ID 081, ID 082, ID 083, ID 084	CS 080 -085 SL	T6 Torque 0.6Nm (Max)	None	None
			P(5xD)	103	58	48						
			H(7xD)	119	74	64						
			L(10xD)	143	98	88						
Φ8.5 ~Φ8.9	YTDI 085 ☐ FSL KRUZ 085 ☐ FSL		T(3xD)	89	44	34		IDP 085, IDP 086, IDP 087, IDP 088, IDP 089 IDF 085, IDF 086, IDF 087, IDF 088, IDF 089 ID 085, ID 086, ID 087, ID 088, ID 089				
			P(5xD)	106	61	51						
			H(7xD)	123	78	68						
			L(10xD)	149	104	94						
Φ9.0 ~Φ9.4	YTDI 090 ☐ FSL KRUZ 090 ☐ FSL		T(3xD)	92	47	36		IDP 090, IDP 091, IDP 092, IDP 093, IDP 094 IDF 090, IDF 091, IDF 092, IDF 093, IDF 094 ID 090, ID 091, ID 092, ID 093, ID 094	CS 090 -095 SL			
			P(5xD)	110	65	54						
			H(7xD)	128	83	72						
			L(10xD)	155	110	99						
Φ9.5 ~Φ9.9	YTDI 095 ☐ FSL KRUZ 095 ☐ FSL	12.0 (HA) (48)	T(3xD)	97	49	38		IDP 095, IDP 096, IDP 097, IDP 098, IDP 099 IDF 095, IDF 096, IDF 097, IDF 098, IDF 099 ID 095, ID 096, ID 097, ID 098, ID 099				
			P(5xD)	116	68	57						
			H(7xD)	135	87	76						
			L(10xD)	164	116	105						
Φ10.0 ~Φ10.4	YTDI 100 ☐ FSL KRUZ 100 ☐ FSL		T(3xD)	99	51	40		IDP 100, IDP 101, IDP 102, IDP 103, IDP 104 IDF 100, IDF 101, IDF 102, IDF 103, IDF 104 ID 100, ID 101, ID 102, ID 103, ID 104	CS100 -115 SL			
			P(5xD)	119	71	60						
			H(7xD)	139	91	80						
			L(10xD)	169	121	110						
Φ10.5 ~Φ10.9	YTDI 105 ☐ FSL KRUZ 105 ☐ FSL		T(3xD)	102	54	42		IDP 105, IDP 106, IDP 107, IDP 108, IDP 109 IDF 105, IDF 106, IDF 107, IDF 108, IDF 109 ID 105, ID 106, ID 107, ID 108, ID 109				
			P(5xD)	123	75	63						
			H(7xD)	144	96	84						
			L(10xD)	176	128	116						
Φ11.0 ~Φ11.4	YTDI 110 ☐ FSL KRUZ 110 ☐ FSL		T(3xD)	104	56	44		IDP 110, IDP 111, IDP 112, IDP 113, IDP 114 IDF 110, IDF 111, IDF 112, IDF 113, IDF 114 ID 110, ID 111, ID 112, ID 113, ID 114				
			P(5xD)	126	78	66						
			H(7xD)	148	100	88						
			L(10xD)	181	133	121						
Φ11.5 ~Φ11.9	YTDI 115 ☐ FSL KRUZ 115 ☐ FSL		T(3xD)	107	59	46		IDP 115, IDP 116, IDP 117, IDP 118, IDP 119 IDF 115, IDF 116, IDF 117, IDF 118, IDF 119 ID 115, ID 116, ID 117, ID 118, ID 119				
			P(5xD)	130	82	69						
			H(7xD)	153	105	92						
			L(10xD)	188	140	127						
Φ12.0 ~Φ12.4	YTDI 120 ☐ FSL KRUZ 120 ☐ FSL	16.0 (48)	T(3xD)	109	61	48	21	IDP 120, IDP 121, IDP 122, IDP 123, IDP 124 IDF 120, IDF 121, IDF 122, IDF 123, IDF 124 ID 120, ID 121, ID 122, ID 123, ID 124	CS120 -135 SL		M2.5x4	1.3mm
			P(5xD)	133	85	72						
			H(7xD)	157	109	96						
			L(10xD)	193	145	132						

Continued ▶▶

Hole size range	Body Code No.	Shank Φd / (L)	Cutting depth (Length x ΦD)	L1	L2	L3	Flanged dia.(ΦFd)	Insert Code No. to fit in body (IDP IDF ID)	Cap Screw	Torx driver	Set Screw	L-wrench
Φ12.5 ~Φ12.9	YTDI 125 ☐ FSL KRUZ 125 ☐ FSL	16.0 (48)	T(3xD)	111	63	50	21	IDP 125, IDP 126, IDP 127, IDP 128, IDP 129 IDF 125, IDF 126, IDF 127, IDF 128, IDF 129 ID 125-, ID 126, ID 127, ID 128, ID 129	CS 120 -135 SL	T6 Torque 0.6Nm (Max)	M2.5x4	1.3mm
			P(5xD)	136	88	75						
			H(7xD)	161	113	100						
			L(10xD)	199	151	138						
Φ13.0 ~Φ13.4	YTDI 130 ☐ FSL KRUZ 130 ☐ FSL		T(3xD)	114	66	52		IDP 130, IDP 131, IDP 132, IDP 133, IDP 134 IDF 130, IDF 131, IDF 132, IDF 133, IDF 134 ID 130, ID 131, ID 132, ID 133, ID 134				
			P(5xD)	140	92	78						
			H(7xD)	166	118	104						
			L(10xD)	205	157	143						
Φ13.5 ~Φ13.9	YTDI 135 ☐ FSL KRUZ 135 ☐ FSL		T(3xD)	116	68	54		IDP 135, IDP 136, IDP 137, IDP 138, IDP 139 IDF 135, IDF 136, IDF 137, IDF 138, IDF 139 ID 135, ID 136, ID 137, ID 138, ID 139				
			P(5xD)	143	95	81						
			H(7xD)	170	122	108						
			L(10xD)	211	163	149						
Φ14.0 ~Φ14.4	YTDI 140 ☐ FSL KRUZ 140 ☐ FSL		T(3xD)	119	71	56		IDP 140, IDP 141, IDP 142, IDP 143, IDP 144 IDF 140, IDF 141, IDF 142, IDF 143, IDF 144 ID 140, ID 141, ID 142, ID 143, ID 144	CS 140 -155 SL	T7 Torque 0.9Nm (Max)		
			P(5xD)	147	99	84						
			H(7xD)	175	127	112						
			L(10xD)	217	169	154						
Φ14.5 ~Φ14.9	YTDI 145 ☐ FSL KRUZ 145 ☐ FSL	20.0 (50)	T(3xD)	123	73	58	27	IDP 145, IDP 146, IDP 147, IDP 148, IDP 149 IDF 145, IDF 146, IDF 147, IDF 148, IDF 149 ID 145, ID 146, ID 147, ID 148, ID 149				
			P(5xD)	152	102	87						
			H(7xD)	181	131	116						
			L(10xD)	225	175	160						
Φ15.0 ~Φ15.4	YTDI 150 ☐ FSL KRUZ 150 ☐ FSL		T(3xD)	127	77	60		IDP 150, IDP 151, IDP 152, IDP 153, IDP 154 IDF 150, IDF 151, IDF 152, IDF 153, IDF 154 ID 150, ID 151, ID 152, ID 153, ID 154				
			P(5xD)	157	107	90						
			H(7xD)	187	137	120						
			L(10xD)	232	182	165						
Φ15.5 ~Φ15.9	YTDI 155 ☐ FSL KRUZ 155 ☐ FSL		T(3xD)	130	80	62		IDP 155, IDP 156, IDP 157, IDP 158, IDP 159 IDF 155, IDF 156, IDF 157, IDF 158, IDF 159 ID 155, ID 156, ID 157, ID 158, ID 159				
			P(5xD)	161	111	93						
			H(7xD)	192	142	124						
			L(10xD)	239	189	171						
Φ16.0 ~Φ16.4	YTDI 160 ☐ FSL KRUZ 160 ☐ FSL		T(3xD)	132	82	64		IDP 160, IDP 161, IDP 162, IDP 163, IDP 164 IDF 160, IDF 161, IDF 162, IDF 163, IDF 164 ID 160, ID 161, ID 162, ID 163, ID 164	CS 160 -175 SL			
			P(5xD)	164	114	96						
			H(7xD)	196	146	128						
			L(10xD)	244	194	176						
Φ16.5 ~Φ16.9	YTDI 165 ☐ FSL KRUZ 165 ☐ FSL		T(3xD)	135	85	66		IDP 165, IDP 166, IDP 167, IDP 168, IDP 169 IDF 165, IDF 166, IDF 167, IDF 168, IDF 169 ID 165, ID 166, ID 167, ID 168, ID 169				
			P(5xD)	168	118	99						
			H(7xD)	201	151	132						
			L(10xD)	251	201	182						
Φ17.0 ~Φ17.4	YTDI 170 ☐ FSL KRUZ 170 ☐ FSL		T(3xD)	137	87	68		IDP 170, IDP 171, IDP 172, IDP 173, IDP 174 IDF 170, IDF 171, IDF 172, IDF 173, IDF 174 ID 170, ID 171, ID 172, ID 173, ID 174				
			P(5xD)	171	121	102						
			H(7xD)	205	155	136						
			L(10xD)	256	206	187						
Φ17.5 ~Φ17.9	YTDI 175 ☐ FSL KRUZ 175 ☐ FSL		T(3xD)	139	89	70		IDP 175, IDP 176, IDP 177, IDP 178, IDP 179 IDF 175, IDF 176, IDF 177, IDF 178, IDF 179 ID 175, ID 176, ID 177, ID 178, ID 179				
			P(5xD)	174	124	105						
			H(7xD)	209	159	140						
			L(10xD)	262	212	193						
Φ18.0 ~Φ18.4	YTDI 180 ☐ FSL KRUZ 180 ☐ FSL		T(3xD)	142	92	72		IDP 180, IDP 181, IDP 182, IDP 183, IDP 184 IDF 180, IDF 181, IDF 182, IDF 183, IDF 184 ID 180, ID 181, ID 182, ID 183, ID 184	CS 180 -195 SL	T8 Torque 1.5Nm (Max)		
			P(5xD)	178	128	108						
			H(7xD)	214	164	144						
			L(10xD)	268	218	198						
Φ18.5 ~Φ18.9	YTDI 185 ☐ FSL KRUZ 185 ☐ FSL		T(3xD)	144	94	74		IDP 185, IDP 186, IDP 187, IDP 188, IDP 189 IDF 185, IDF 186, IDF 187, IDF 188, IDF 189 ID 185, ID 186, ID 187, ID 188, ID 189				
			P(5xD)	181	131	111						
			H(7xD)	218	168	148						
			L(10xD)	274	224	204						
Φ19.0 ~Φ19.4	YTDI 190 ☐ FSL KRUZ 190 ☐ FSL		T(3xD)	147	97	76		IDP 190, IDP 191, IDP 192, IDP 193, IDP 194 IDF 190, IDF 191, IDF 192, IDF 193, IDF 194 ID 190, ID 191, ID 192, ID 193, ID 194				
			P(5xD)	185	135	114						
			H(7xD)	223	173	152						
			L(10xD)	280	230	209						
Φ19.5 ~Φ19.9	YTDI 195 ☐ FSL KRUZ 195 ☐ FSL		T(3xD)	149	99	78		IDP 195, IDP 196, IDP 197, IDP 198, IDP 199 IDF 195, IDF 196, IDF 197, IDF 198, IDF 199 ID 195, ID 196, ID 197, ID 198, ID 199				
			P(5xD)	188	138	117						
			H(7xD)	227	177	156						
			L(10xD)	286	236	215						
Φ20.0 ~Φ20.4	YTDI 200 ☐ FSL KRUZ 200 ☐ FSL	25.0 (56)	T(3xD)	157	101	80	32	IDP 200, IDP 201, IDP 202, IDP 203, IDP 204 IDF 200, IDF 201, IDF 202, IDF 203, IDF 204 ID 200, ID 201, ID 202, ID 203, ID 204	CS 200 -215 SL		M3x6	1.5mm
			P(5xD)	197	141	120						
			H(7xD)	237	181	160						
			L(10xD)	297	241	220						

KRUZ-FSL, YTDI-FSL Flange body & Carbide insert

Hole size range	Body Code No.	Shank Φd / (L)	Cutting depth (Length x ΦD)	L1	L2	L3	Flanged dia.(ΦFd)	Insert Code No. to fit in body (IDP IDF ID)	Cap Screw	Torx driver	Set Screw	L-wrench
Φ20.5 ~Φ20.9	YTDI 205 ☐ FSL KRUZ 205 ☐ FSL	25.0 (56)	T(3xD)	160	104	82	32	IDP 205, IDP 206, IDP 207, IDP 208, IDP 209 IDF 205, IDF 206, IDF 207, IDF 208, IDF 209 ID 205, ID 206, ID 207, ID 208, ID 209	CS 200 -215 SL	T8 Torque 1.5Nm (Max)	M3x6	1.5mm
			P(5xD)	201	145	123						
			H(7xD)	242	186	164						
			L(10xD)	304	248	226						
Φ21.0 ~Φ21.4	YTDI 210 ☐ FSL KRUZ 210 ☐ FSL		T(3xD)	162	106	84		IDP 210, IDP 211, IDP 212, IDP 213, IDP 214 IDF 210, IDF 211, IDF 212, IDF 213, IDF 214 ID 210, ID 211, ID 212, ID 213, ID 214				
			P(5xD)	204	148	126						
			H(7xD)	246	190	168						
			L(10xD)	309	253	231						
Φ21.5 ~Φ21.9	YTDI 215 ☐ FSL KRUZ 215 ☐ FSL		T(3xD)	165	109	86		IDP 215, IDP 216, IDP 217, IDP 218, IDP 219 IDF 215, IDF 216, IDF 217, IDF 218, IDF 219 ID 215, ID 216, ID 217, ID 218, ID 219				
			P(5xD)	208	152	129						
			H(7xD)	251	195	172						
			L(10xD)	316	260	237						
Φ22.0 ~Φ22.4	YTDI 220 ☐ FSL KRUZ 220 ☐ FSL		T(3xD)	167	111	88		IDP 220, IDP 221, IDP 222, IDP 223, IDP 224 IDF 220, IDF 221, IDF 222, IDF 223, IDF 224 ID 220, ID 221, ID 222, ID 223, ID 224	CS 220 -235 SL			
			P(5xD)	211	155	132						
			H(7xD)	255	199	176						
			L(10xD)	321	265	242						
Φ22.5 ~Φ22.9	YTDI 225 ☐ FSL KRUZ 225 ☐ FSL		T(3xD)	169	113	90		IDP 225, IDP 226, IDP 227, IDP 228, IDP 229 IDF 225, IDF 226, IDF 227, IDF 228, IDF 229 ID 225, ID 226, ID 227, ID 228, ID 229				
			P(5xD)	214	158	135						
			H(7xD)	259	203	180						
			L(10xD)	327	271	248						
Φ23.0 ~Φ23.4	YTDI 230 ☐ FSL KRUZ 230 ☐ FSL		T(3xD)	172	116	92		IDP 230, IDP 231, IDP 232, IDP 233, IDP 234 IDF 230, IDF 231, IDF 232, IDF 233, IDF 234 ID 230, ID 231, ID 232, ID 233, ID 234				
			P(5xD)	218	162	138						
			H(7xD)	264	208	184						
			L(10xD)	333	277	253						
Φ23.5 ~Φ23.9	YTDI 235 ☐ FSL KRUZ 235 ☐ FSL		T(3xD)	174	118	94		IDP 235, IDP 236, IDP 237, IDP 238, IDP 239 IDF 235, IDF 236, IDF 237, IDF 238, IDF 239 ID 235, ID 236, ID 237, ID 238, ID 239				
			P(5xD)	221	165	141						
			H(7xD)	268	212	188						
			L(10xD)	339	283	259						
Φ24.0 ~Φ24.4	YTDI 240 ☐ FSL KRUZ 240 ☐ FSL	32.0 (60)	T(3xD)	181	121	96	39	IDP 240, IDP 241, IDP 242, IDP 243, IDP244 IDF 240, IDF 241, IDF 242, IDF 243, IDF244 ID 240, ID 241, ID 242, ID 243, ID 244	CS 240 -255 SL			
			P(5xD)	229	169	144						
			H(7xD)	277	217	192						
			L(10xD)	349	289	264						
Φ24.5 ~Φ24.9	YTDI 245 ☐ FSL KRUZ 245 ☐ FSL		T(3xD)	183	123	98		IDP 245, IDP 246, IDP 247, IDP 248, IDP 249 IDF 245, IDF 246, IDF 247, IDF 248, IDF 249 ID 245, ID 246, ID 247, ID 248, ID 249				
			P(5xD)	232	172	147						
			H(7xD)	281	221	196						
			L(10xD)	355	295	270						
Φ25.0 ~Φ25.4	YTDI 250 ☐ FSL KRUZ 250 ☐ FSL		T(3xD)	185	125	100		IDP 250, IDP 251, IDP 252, IDP 253, IDP 254 IDF 250, IDF 251, IDF 252, IDF 253, IDF 254 ID 250, ID 251, ID 252, ID 253, ID 254				
			P(5xD)	235	175	150						
			H(7xD)	285	225	200						
			L(10xD)	360	300	275						
Φ25.5 ~Φ25.9	YTDI 255 ☐ FSL KRUZ 255 ☐ FSL		T(3xD)	188	128	102		IDP 255, IDP 256, IDP 257, IDP 258, IDP 259 IDF 255, IDF 256, IDF 257, IDF 258, IDF 259 ID 255, ID 256, ID 257, ID 258, ID 259				
			P(5xD)	239	179	153						
			H(7xD)	290	230	204						
			L(10xD)	367	307	281						
Φ26.0 ~Φ26.4	YTDI 260 ☐ FSL KRUZ 260 ☐ FSL		T(3xD)	190	130	104		IDP 260, IDP 261, IDP 262, IDP 263, IDP 264 IDF 260, IDF 261, IDF 262, IDF 263, IDF 264 ID 260, ID 261, ID 262, ID 263, ID 264	CS 260 -275 SL	T15 Torque 3.5Nm (Max)		
			P(5xD)	242	182	156						
			H(7xD)	294	234	208						
			L(10xD)	372	312	286						
Φ26.5 ~Φ26.9	YTDI 265 ☐ FSL KRUZ 265 ☐ FSL		T(3xD)	193	133	106		IDP 265, IDP 266, IDP 267, IDP 268, IDP 269 IDF 265, IDF 266, IDF 267, IDF 268, IDF 269 ID 265, ID 266, ID 267, ID 268, ID 269				
			P(5xD)	246	186	159						
			H(7xD)	299	239	212						
			L(10xD)	379	319	292						
Φ27.0 ~Φ27.4	YTDI 270 ☐ FSL KRUZ 270 ☐ FSL		T(3xD)	195	135	108		IDP 270, IDP 271, IDP 272, IDP 273, IDP 274 IDF 270, IDF 271, IDF 272, IDF 273, IDF 274 ID 270, ID 271, ID 272, ID 273, ID 274			M4x8	2.0mm
			P(5xD)	249	189	162						
			H(7xD)	303	243	216						
			L(10xD)	384	324	297						
Φ27.5 ~Φ27.9	YTDI 275 ☐ FSL KRUZ 275 ☐ FSL		T(3xD)	197	137	110		IDP 275, IDP 276, IDP 277, IDP 278, IDP 279 IDF 275, IDF 276, IDF 277, IDF 278, IDF 279 ID 275, ID 276, ID 277, ID 278, ID 279				
			P(5xD)	252	192	165						
			H(7xD)	307	247	220						
			L(10xD)	390	330	303						
Φ28.0 ~Φ28.4	YTDI 280 ☐ FSL KRUZ 280 ☐ FSL		T(3xD)	200	140	112		IDP 280, IDP 281, IDP 282, IDP 283, IDP 284 IDF 280, IDF 281, IDF 282, IDF 283, IDF 284 ID 280, ID 281, ID 282, ID 283, ID 284	CS 280 -295 SL			
			P(5xD)	256	196	168						
			H(7xD)	312	252	224						
			L(10xD)	396	336	308						

Hole size range	Body Code No.	Shank Φd / (L)	Cutting depth (Length x ΦD)	L1	L2	L3	Flanged dia.(ΦFd)	Insert Code No. to fit in body (IDP IDF ID)	Cap Screw	Torx driver	Set Screw	L-wrench
Φ28.5 ~Φ28.9	YTDI 285 ☐ FSL KRUZ 285 ☐ FSL	32.0 (60)	T(3xD)	202	142	114	39	IDP 285, IDP 286, IDP 287, IDP 288, IDP 289 IDF 285, IDF 286, IDF 287, IDF 288, IDF 289 ID 285, ID 286, ID 287, ID 288, ID 289	CS 280 -295 SL	T15 Torque 3.5Nm (Max)	M4x8	2.0mm
			P(5xD)	259	199	171						
			H(7xD)	316	256	228						
			L(10xD)	402	342	314						
Φ29.0 ~Φ29.4	YTDI 290 ☐ FSL KRUZ 290 ☐ FSL		T(3xD)	205	145	116		IDP 290, IDP 291, IDP 292, IDP 293, IDP 294 IDF 290, IDF 291, IDF 292, IDF 293, IDF 294 ID 290, ID 291, ID 292, ID 293, ID 294				
			P(5xD)	263	203	174						
			H(7xD)	321	261	232						
			L(10xD)	408	348	319						
Φ29.5 ~Φ29.9	YTDI 295 ☐ FSL KRUZ 295 ☐ FSL		T(3xD)	207	147	118		IDP 295, IDP 296, IDP 297, IDP 298, IDP 299 IDF 295, IDF 296, IDF 297, IDF 298, IDF 299 ID 295, ID 296, ID 297, ID 298, ID 299				
			P(5xD)	266	206	177						
			H(7xD)	325	265	236						
			L(10xD)	414	354	325						
Φ30.0 ~Φ30.4	YTDI 300 ☐ FSL KRUZ 300 ☐ FSL		T(3xD)	209	149	120		IDP 300, IDP 301, IDP 302, IDP 303, IDP 304 IDF 300, IDF 301, IDF 302, IDF 303, IDF 304 ID 300, ID 301, ID 302, ID 303, ID 304	CS 300 -315 SL			
			P(5xD)	269	209	180						
			H(7xD)	329	269	240						
			L(10xD)	419	359	330						
Φ30.5 ~Φ30.9	YTDI 305 ☐ FSL KRUZ 305 ☐ FSL		T(3xD)	212	152	122		IDP 305, IDP 306, IDP 307, IDP 308, IDP 309 IDF 305, IDF 306, IDF 307, IDF 308, IDF 309 ID 305, ID 306, ID 307, ID 308, ID 309				
			P(5xD)	273	213	183						
			H(7xD)	334	274	244						
			L(10xD)	426	366	336						
Φ31.0 ~Φ31.4	YTDI 310 ☐ FSL KRUZ 310 ☐ FSL		T(3xD)	214	154	124		IDP 310, IDP 311, IDP 312, IDP 313, IDP 314 IDF 310, IDF 311, IDF 312, IDF 313, IDF 314 ID 310, ID 311, ID 312, ID 313, ID 314				
			P(5xD)	276	216	186						
			H(7xD)	338	278	248						
			L(10xD)	431	371	341						
Φ31.5 ~Φ31.9	YTDI 315 ☐ FSL KRUZ 315 ☐ FSL		T(3xD)	217	157	126		IDP 315, IDP 316, IDP 317, IDP 318, IDP 319 IDF 315, IDF 316, IDF 317, IDF 318, IDF 319 ID 315, ID 316, ID 317, ID 318, ID 319				
			P(5xD)	280	220	189						
			H(7xD)	343	283	252						
			L(10xD)	438	378	347						
Φ32.0 ~Φ32.4	YTDI 320 ☐ FSL KRUZ 320 ☐ FSL		T(3xD)	219	159	128		IDP 320, IDP 321, IDP 322, IDP 323, IDP 324 IDF 320, IDF 321, IDF 322, IDF 323, IDF 324 ID 320, ID 321, ID 322, ID 323, ID 324				
			P(5xD)	283	223	192						
			H(7xD)	347	287	256						
			L(10xD)	443	383	352						
Φ32.5 ~Φ32.9	YTDI 325 ☐ FSL KRUZ 325 ☐ FSL		T(3xD)	221	161	130		IDP 325, IDP 326, IDP 327, IDP 328, IDP 329 IDF 325, IDF 326, IDF 327, IDF 328, IDF 329 ID 325, ID 326, ID 327, ID 328, ID 329				
			P(5xD)	286	226	195						
			H(7xD)	351	291	260						
			L(10xD)	449	389	358						
Φ33.0 ~Φ33.4	YTDI 330 ☐ FSL KRUZ 330 ☐ FSL		T(3xD)	224	164	132		IDP 330, IDP 331, IDP 332, IDP 333, IDP 334 IDF 330, IDF 331, IDF 332, IDF 333, IDF 334 ID 330, ID 331, ID 332, ID 333, ID 334		T20 Torque 5.0Nm (Max)		
			P(5xD)	290	230	198						
			H(7xD)	356	296	264						
			L(10xD)	455	395	363						
Φ33.5 ~Φ33.9	YTDI 335 ☐ FSL KRUZ 335 ☐ FSL		T(3xD)	226	166	134		IDP 335, IDP 336, IDP 337, IDP 338, IDP 339 IDF 335, IDF 336, IDF 337, IDF 338, IDF 339 ID 335, ID 336, ID 337, ID 338, ID 339				
			P(5xD)	293	233	201						
			H(7xD)	360	300	268						
			L(10xD)	461	401	369						
Φ34.0 ~Φ34.4	YTDI 340 ☐ FSL KRUZ 340 ☐ FSL	40.0 (70)	T(3xD)	239	169	136	55	IDP 340, IDP 341, IDP 342, IDP 343, IDP 344 IDF 340, IDF 341, IDF 342, IDF 343, IDF 344 ID 340, ID 341, ID 342, ID 343, ID 344	CS 320 -355 SL		M5x10	2.5mm
			P(5xD)	307	237	204						
			H(7xD)	375	305	272						
			L(10xD)	477	407	374						
Φ34.5 ~Φ34.9	YTDI 345 ☐ FSL KRUZ 345 ☐ FSL		T(3xD)	241	171	138		IDP 345, IDP 346, IDP 347, IDP 348, IDP 349 IDF 345, IDF 346, IDF 347, IDF 348, IDF 349 ID 345, ID 346, ID 347, ID 348, ID 349				
			P(5xD)	310	240	207						
			H(7xD)	379	309	276						
			L(10xD)	483	413	380						
Φ35.0 ~Φ35.4	YTDI 350 ☐ FSL KRUZ 350 ☐ FSL		T(3xD)	243	173	140		IDP 350, IDP 351, IDP 352, IDP 353, IDP 354 IDF 350, IDF 351, IDF 352, IDF 353, IDF 354 ID 350, ID 351, ID 352, ID 353, ID 354				
			P(5xD)	313	243	210						
			H(7xD)	383	313	280						
			L(10xD)	488	418	385						
Φ35.5 ~Φ35.9	YTDI 355 ☐ FSL KRUZ 355 ☐ FSL		T(3xD)	246	176	142		IDP 355, IDP 356, IDP 357, IDP 358, IDP 359 IDF 355, IDF 356, IDF 357, IDF 358, IDF 359 ID 355, ID 356, ID 357, ID 358, ID 359				
			P(5xD)	317	247	213						
			H(7xD)	388	318	284						
			L(10xD)	495	425	391						
Φ36.0 ~Φ36.4	YTDI 360 ☐ FSL KRUZ 360 ☐ FSL		T(3xD)	248	178	144		IDP 360, IDP 361, IDP 362, IDP 363, IDP 364 IDF 360, IDF 361, IDF 362, IDF 363, IDF 364 ID 360, ID 361, ID 362, ID 363, ID 364	CS 360 -395 SL			
			P(5xD)	320	250	216						
			H(7xD)	392	322	288						
			L(10xD)	500	430	396						

KRUZ-FSL, YTDI-FSL Flange body & Carbide insert

Hole size range	Body Code No.	Shank Φd / (L)	Cutting depth (Length x ΦD)	L1	L2	L3	Flanged dia.(ΦFd)	Insert Code No. to fit in body (IDP IDF ID)	Cap Screw	Torx driver	Set Screw	L-wrench
Φ36.5 ~Φ36.9	YTDI 365 ☐ FSL KRUZ 365 ☐ FSL	40.0 (70)	T(3xD)	251	181	146	55	IDP 365, IDP 366, IDP 367, IDP 368, IDP 369 IDF 365, IDF 366, IDF 367, IDF 368, IDF 369 ID 365, ID 366, ID 367, ID 368, ID 369	CS 360 -395 SL	T20 Torque 5.0Nm (Max)	M5x10	2.5mm
			P(5xD)	324	254	219						
			H(7xD)	397	327	292						
			L(10xD)	507	437	402						
Φ37.0 ~Φ37.4	YTDI 370 ☐ FSL KRUZ 370 ☐ FSL		T(3xD)	253	183	148		IDP 370, IDP 371, IDP 372, IDP 373, IDP 374 IDF 370, IDF 371, IDF 372, IDF 373, IDF 374 ID 370, ID 371, ID 372, ID 373, ID 374				
			P(5xD)	327	257	222						
			H(7xD)	401	331	296						
			L(10xD)	512	442	407						
Φ37.5 ~Φ37.9	YTDI 375 ☐ FSL KRUZ 375 ☐ FSL		T(3xD)	255	185	150		IDP 375, IDP 376, IDP 377, IDP 378, IDP 379 IDF 375, IDF 376, IDF 377, IDF 378, IDF 379 ID 375, ID 376, ID 377, ID 378, ID 379				
			P(5xD)	330	260	225						
			H(7xD)	405	335	300						
			L(10xD)	518	448	413						
Φ38.0 ~Φ38.4	YTDI 380 ☐ FSL KRUZ 380 ☐ FSL		T(3xD)	258	188	152		IDP 380, IDP 381, IDP 382, IDP 383, IDP 384 IDF 380, IDF 381, IDF 382, IDF 383, IDF 384 ID 380, ID 381, ID 382, ID 383, ID 384				
			P(5xD)	334	264	228						
			H(7xD)	410	340	304						
			L(10xD)	524	454	418						
Φ38.5 ~Φ38.9	YTDI 385 ☐ FSL KRUZ 385 ☐ FSL		T(3xD)	260	196	154		IDP 385, IDP 386, IDP 387, IDP 388, IDP 389 IDF 385, IDF 386, IDF 387, IDF 388, IDF 389 ID 385, ID 386, ID 387, ID 388, ID 389				
			P(5xD)	337	267	231						
			H(7xD)	414	344	308						
			L(10xD)	530	460	424						
Φ39.0 ~Φ39.4	YTDI 390 ☐ FSL KRUZ 390 ☐ FSL		T(3xD)	263	193	156		IDP 390, IDP 391, IDP 392, IDP 393, IDP 394 IDF 390, IDF 391, IDF 392, IDF 393, IDF 394 ID 390, ID 391, ID 392, ID 393, ID 394				
			P(5xD)	341	271	234						
			H(7xD)	419	349	312						
			L(10xD)	536	466	429						
Φ39.5 ~Φ39.9	YTDI 395 ☐ FSL KRUZ 395 ☐ FSL		T(3xD)	265	195	158		IDP 395, IDP 396, IDP 397, IDP 398, IDP 399 IDF 395, IDF 396, IDF 397, IDF 398, IDF 399 ID 395, ID 396, ID 397, ID 398, ID 399				
			P(5xD)	344	274	237						
			H(7xD)	423	353	316						
			L(10xD)	542	472	435						
Φ40.0 ~Φ40.4	YTDI 400 ☐ FSL KRUZ 400 ☐ FSL		T(3xD)	267	197	160		IDP 400, IDP 401, IDP 402, IDP 403, IDP 404 IDF 400, IDF 401, IDF 402, IDF 403, IDF 404 ID 400, ID 401, ID 402, ID 403, ID 404	CS 400 -445 SL		M6x12	3.0mm
			P(5xD)	347	277	240						
			H(7xD)	427	357	320						
			L(10xD)	547	477	440						
Φ40.5 ~Φ40.9	YTDI 405 ☐ FSL KRUZ 405 ☐ FSL		T(3xD)	270	200	162		IDP 405, IDP 406, IDP 407, IDP 408, IDP 409 IDF 405, IDF 406, IDF 407, IDF 408, IDF 409 ID 405, ID 406, ID 407, ID 408, ID 409				
			P(5xD)	351	281	243						
			H(7xD)	432	362	324						
			L(10xD)	554	484	446						
Φ41.0 ~Φ41.4	YTDI 410 ☐ FSL KRUZ 410 ☐ FSL		T(3xD)	272	202	164		IDP 410, IDP 411, IDP 412, IDP 413, IDP 414 IDF 410, IDF 411, IDF 412, IDF 413, IDF 414 ID 410, ID 411, ID 412, ID 413, ID 414				
			P(5xD)	354	284	246						
			H(7xD)	436	366	328						
			L(10xD)	559	489	451						
Φ41.5 ~Φ41.9	YTDI 415 ☐ FSL KRUZ 415 ☐ FSL		T(3xD)	275	205	166		IDP 415, IDP 416, IDP 417, IDP 418, IDP 419 IDF 415, IDF 416, IDF 417, IDF 418, IDF 419 ID 415, ID 416, ID 417, ID 418, ID 419				
			P(5xD)	358	288	249						
			H(7xD)	441	371	332						
			L(10xD)	566	496	457						
Φ42.0 ~Φ42.4	YTDI 420 ☐ FSL KRUZ 420 ☐ FSL		T(3xD)	277	207	168		IDP 420, IDP 421, IDP 422, IDP 423, IDP 424 IDF 420, IDF 421, IDF 422, IDF 423, IDF 424 ID 420, ID 421, ID 422, ID 423, ID 424				
			P(5xD)	361	291	252						
			H(7xD)	445	375	336						
			L(10xD)	571	501	462						
Φ42.5 ~Φ42.9	YTDI 425 ☐ FSL KRUZ 425 ☐ FSL		T(3xD)	279	209	170		IDP 425, IDP 426, IDP 427, IDP 428, IDP 429 IDF 425, IDF 426, IDF 427, IDF 428, IDF 429 ID 425, ID 426, ID 427, ID 428, ID 429				
			P(5xD)	364	294	255						
			H(7xD)	449	379	340						
			L(10xD)	577	507	468						
Φ43.0 ~Φ43.4	YTDI 430 ☐ FSL KRUZ 430 ☐ FSL		T(3xD)	282	212	172		IDP 430, IDP 431, IDP 432, IDP 433, IDP 434 IDF 430, IDF 431, IDF 432, IDF 433, IDF 434 ID 430, ID 431, ID 432, ID 433, ID 434				
			P(5xD)	368	298	258						
			H(7xD)	454	384	344						
			L(10xD)	583	513	473						
Φ43.5 ~Φ43.9	YTDI 435 ☐ FSL KRUZ 435 ☐ FSL		T(3xD)	284	214	174		IDP 435, IDP 436, IDP 437, IDP 438, IDP 439 IDF 435, IDF 436, IDF 437, IDF 438, IDF 439 ID 435, ID 436, ID 437, ID 438, ID 439				
			P(5xD)	371	301	261						
			H(7xD)	458	388	348						
			L(10xD)	589	519	479						
Φ44.0 ~Φ44.4	YTDI 440 ☐ FSL KRUZ 440 ☐ FSL		T(3xD)	287	217	176		IDP 440, IDP 441, IDP 442, IDP 443, IDP 444 IDF 440, IDF 441, IDF 442, IDF 443, IDF 444 ID 440, ID 441, ID 442, ID 443, ID 444				
			P(5xD)	375	305	264						
			H(7xD)	463	393	352						
			L(10xD)	595	525	484						

Hole size range	Body Code No.	Shank Φd / (L)	Cutting depth (Length x ΦD)	L1	L2	L3	Flanged dia.(ΦFd)	Insert Code No. to fit in body (IDP IDF ID)	Cap Screw	Torx driver	Set Screw	L-wrench
Φ44.5 ~Φ44.9	YTDI 445 ☐ FSL KRUZ 445 ☐ FSL	40.0 (70)	T(3xD)	289	219	178	55	IDP 445, IDP 446, IDP 447, IDP 448, IDP 449 IDF 445, IDF 446, IDF 447, IDF 448, IDF 449 ID 445, ID 446, ID 447, ID 448, ID 449	CS 400 -445 SL	T20 Torque 5.0Nm (Max)	M6x12	3.0mm
			P(5xD)	378	308	267						
			H(7xD)	467	397	356						
			L(10xD)	601	531	490						
Φ45.0 ~Φ45.4	YTDI 450 ☐ FSL KRUZ 450 ☐ FSL		T(3xD)	291	221	180		IDP 450, IDP 451, IDP 452, IDP 453, IDP 454 IDF 450, IDF 451, IDF 452, IDF 453, IDF 454 ID 450, ID 451, ID 452, ID 453, ID 454	CS 450 -500 SL			
			P(5xD)	381	311	270						
			H(7xD)	471	401	360						
			L(10xD)	606	536	495						
Φ45.5 ~Φ45.9	YTDI 455 ☐ FSL KRUZ 455 ☐ FSL		T(3xD)	294	224	182		IDP 455, IDP 456, IDP 457, IDP 458, IDP 459 IDF 455, IDF 456, IDF 457, IDF 458, IDF 459 ID 455, ID 456, ID 457, ID 458, ID 459				
			P(5xD)	385	315	273						
			H(7xD)	476	406	364						
			L(10xD)	613	543	501						
Φ46.0 ~Φ46.4	YTDI 460 ☐ FSL KRUZ 460 ☐ FSL		T(3xD)	296	226	184		IDP 460, IDP 461, IDP 462, IDP 463, IDP 464 IDF 460, IDF 461, IDF 462, IDF 463, IDF 464 ID 460, ID 461, ID 462, ID 463, ID 464				
			P(5xD)	388	318	276						
			H(7xD)	480	410	368						
			L(10xD)	618	548	506						
Φ46.5 ~Φ46.9	YTDI 465 ☐ FSL KRUZ 465 ☐ FSL		T(3xD)	299	229	186		IDP 465, IDP 466, IDP 467, IDP 468, IDP 469 IDF 465, IDF 466, IDF 467, IDF 468, IDF 469 ID 465, ID 466, ID 467, ID 468, ID 469				
			P(5xD)	392	322	279						
			H(7xD)	485	415	372						
			L(10xD)	625	555	512						
Φ47.0 ~Φ47.4	YTDI 470 ☐ FSL KRUZ 470 ☐ FSL		T(3xD)	301	231	188		IDP 470, IDP 471, IDP 472, IDP 473, IDP 474 IDF 470, IDF 471, IDF 472, IDF 473, IDF 474 ID 470, ID 471, ID 472, ID 473, ID 474				
			P(5xD)	395	325	282						
			H(7xD)	489	419	376						
			L(10xD)	630	560	517						
Φ47.5 ~Φ47.9	YTDI 475 ☐ FSL KRUZ 475 ☐ F SL		T(3xD)	303	233	190		IDP 475, IDP 476, IDP 477, IDP 478, IDP 479 IDF 475, IDF 476, IDF 477, IDF 478, IDF 479 ID 475, ID 476, ID 477, ID 478, ID 479				
			P(5xD)	398	328	285						
			H(7xD)	493	423	380						
			L(10xD)	636	566	523						
Φ48.0 ~Φ48.4	YTDI 480 ☐ F SL KRUZ 480 ☐ FSL		T(3xD)	306	236	192		IDP 480, IDP 481, IDP 482, IDP 483, IDP 484 IDF 480, IDF 481, IDF 482, IDF 483, IDF 484 ID 480, ID 481, ID 482, ID 483, ID 484				
			P(5xD)	402	332	288						
			H(7xD)	498	428	384						
			L(10xD)	642	572	528						
Φ48.5 ~Φ48.9	YTDI 485 ☐ FSL KRUZ 485 ☐ FSL		T(3xD)	308	238	194		IDP 485, IDP 486, IDP 487, IDP 488, IDP 489 IDF 485, IDF 486, IDF 487, IDF 488, IDF 489 ID 485, ID 486, ID 487, ID 488, ID 489				
			P(5xD)	405	335	291						
			H(7xD)	502	432	388						
			L(10xD)	648	578	534						
Φ49.0 ~Φ49.4	YTDI 490 ☐ FSL KRUZ 490 ☐ FSL		T(3xD)	311	241	196		IDP 490, IDP 491, IDP 492, IDP 493, IDP 494 IDF 490, IDF 491, IDF 492, IDF 493, IDF 494 ID 490, ID 491, ID 492, ID 493, ID 494				
			P(5xD)	409	339	294						
			H(7xD)	507	437	392						
			L(10xD)	654	584	539						
Φ49.5 ~Φ49.9	YTDI 495 ☐ FSL KRUZ 495 ☐ FSL		T(3xD)	313	243	198		IDP 495, IDP 496, IDP 497, IDP 498, IDP 499 IDF 495, IDF 496, IDF 497, IDF 498, IDF 499 ID 495, ID 496, ID 497, ID 498, ID 499				
			P(5xD)	412	342	297						
			H(7xD)	511	441	396						
			L(10xD)	660	590	545						
Φ50.0 ~Φ50.4	YTDI 500 ☐ FSL KRUZ 500 ☐ FSL		T(3xD)	315	245	200		IDP 500, IDP 501, IDP 502, IDP 503, IDP 504 IDF 500, IDF 501, IDF 502, IDF 503, IDF 504 ID 500, ID 501, ID 502, ID 503, ID 504				
			P(5xD)	415	345	300						
			H(7xD)	515	445	400						
			L(10xD)	665	595	550						

KRUZ-FSL Drills, Cutting Speed Recommendation

Drill Dia. / Condition / Material Group	Φ8~16mm Speed (m/min)	Φ8~16mm Feed (mm/rev)	Φ16~25mm Speed (m/min)	Φ16~25mm Feed (mm/rev)	Φ25~32mm Speed (m/min)	Φ25~32mm Feed (mm/rev)	Φ32~40mm Speed (m/min)	Φ32~40mm Feed (mm/rev)	Φ40~50mm Speed (m/min)	Φ40~50mm Feed (mm/rev)
Grey cast iron (FC)	80~150	0.20~0.30	80~150	0.25~0.45	80~160	0.35~0.55	90~200	0.34~0.58	90~200	0.38~0.60
Nodular cast iron (FCD)	80~140	0.15~0.25	80~140	0.22~0.45	80~150	0.32~0.52	90~160	0.35~0.62	90~200	0.38~0.60
Carbon steel (S45C)	80~140	0.15~0.30	80~140	0.16~0.40	80~150	0.20~0.40	80~150	0.22~0.48	80~160	0.25~0.54
Alloy steel (SCM440)	70~140	0.15~0.30	70~140	0.15~0.40	70~140	0.18~0.40	80~140	0.25~0.47	80~140	0.27~0.52
Hardened steel (SKD11)	40~50	0.10~0.20	40~50	0.12~0.28	40~50	0.16~0.35	40~60	0.20~0.38	40~60	0.22~0.42
Stainless steel (SUS)	30~40	0.10~0.20	35~50	0.10~0.22	35~50	0.15~0.28	40~55	0.18~0.30	40~55	0.22~0.32
Aluminum 130HB (AL)	120~200	0.20~0.30	120~200	0.25~0.40	120~200	0.30~0.45	120~200	0.30~0.45	120~200	0.30~0.50

☞ This data is recommended for 3xDia. And should be reduced about 15~20% for 5xD, 7xD, 10xD drills.
☞ The data is normally suggested for oil-mist(MQL) coolant condition and also possible to run in other normal condition if machining environment like clamping etc. are secured in good .