

EcoCut Machining Solutions

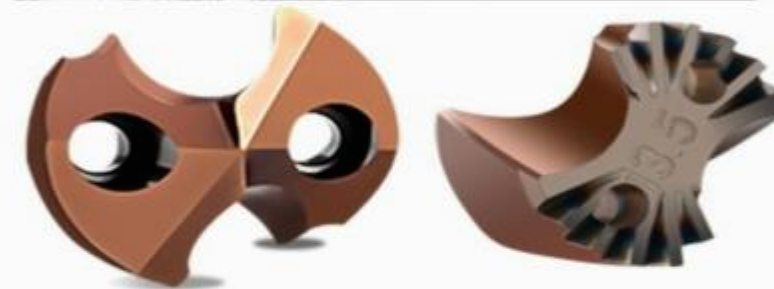
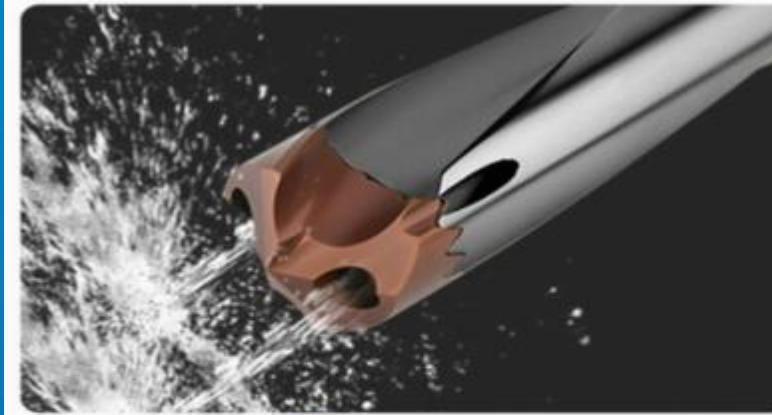
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ECONOMICAL & EXCELLENCE IN HOLE MAKING



EcoCut Machining Solutions

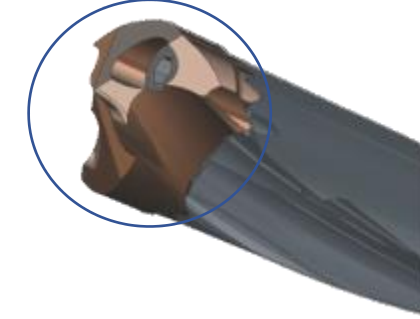
**D Type HI SPEED
EXCHANGEABLE
CARBIDE HEAD DRILLS**

D-Type Swift Drills



Components

Installation Status



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

Screws

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

Insert

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

High-precision mating tooth profile for a solid connection

Inner Cooling Hole

Drill Body

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

Chamfered main cutting edge for enhanced insert strength and wear resistance

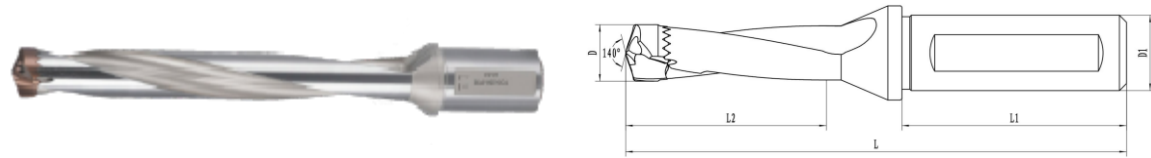
Optimized drill tips for better centering performance

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

Superior coating for more wear-resistant inserts

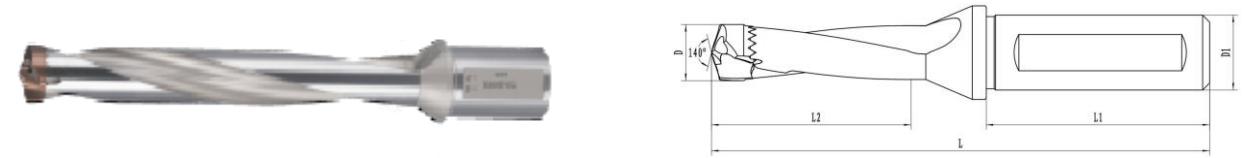


D-Type Swift Drills Body Models and Sizes



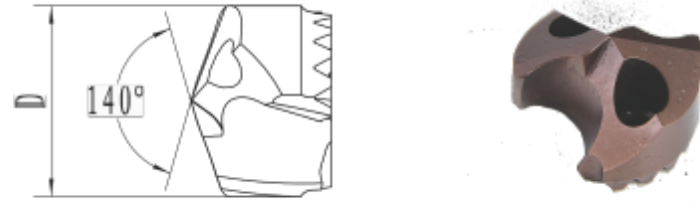
Diameter (D) (h7)	1.5D			3D			5D			universal		Screw	Wrench
	Model	Size		Model	Size		Model	Size		Size			
		L2	L		L2	L		L2	L	L1	D1		
12.0-12.49	EC1.5-120-XP16	28	91	EC03-120-XP16	46	107	EC05-120-XP16	71	132	48	16	M2.2*8	T6
12.5-13.49	EC1.5-130-XP16	30	92	EC03-130-XP16	49	112	EC05-130-XP16	76	142				
13.5-14.5	EC1.5-140-XP16	34	96	EC03-140-XP16	55	119	EC05-140-XP16	84	149				
14.51-15.5	EC1.5-150-XP20	35	100	EC03-150-XP20	58	129	EC05-150-XP20	89	159	50	20	M2.5*9	T8
15.51-16.5	EC1.5-160-XP20	38	103	EC03-160-XP20	62	134	EC05-160-XP20	95	169				
16.51-17.5	EC1.5-170-XP20	39	105	EC03-170-XP20	66	140	EC05-170-XP20	101	175				
17.51-18.5	EC1.5-180-XP20	43	107	EC03-180-XP20	70	145	EC05-180-XP20	107	180				
18.51-19.5	EC1.5-190-XP25	44	115	EC03-190-XP25	73	160	EC05-190-XP25	112	195	56	25	M3.0*11	T15
19.51-20.5	EC1.5-200-XP25	47	118	EC03-200-XP25	77	160	EC05-200-XP25	118	200				
20.51-21.5	EC1.5-210-XP25	48	119	EC03-210-XP25	80	160	EC05-210-XP25	123	200				
21.51-22.8	EC1.5-220-XP25	51	121	EC03-220-XP25	84	165	EC05-220-XP25	129	205				
22.81-23.8	EC1.5-230-XP25	51	122	EC03-230-XP25	81	165	EC05-230-XP25	134	215	60	32	M3.5*12	T15
23.81-24.8	EC1.5-240-XP32	54	129	EC03-240-XP32	91	175	EC05-240-XP32	140	225				
24.81-25.8	EC1.5-250-XP32	54	129	EC03-250-XP32	93	175	EC05-250-XP32	145	230				
25.81-26.8	EC1.5-260-XP32	57	132	EC03-260-XP32	97	180	EC05-260-XP32	151	235				
26.81-27.8	EC1.5-270-XP32	58	133	EC03-270-XP32	99	180	EC05-270-XP32	156	245				
27.81-28.8	EC1.5-280-XP32	60	135	EC03-280-XP32	102	185	EC05-280-XP32	162	245				
28.81-29.9	EC1.5-290-XP32	61	136	EC03-290-XP32	105	190	EC05-290-XP32	167	250				
29.81-30.8	EC1.5-300-XP32	64	139	EC03-300-XP32	110	191	EC05-300-XP32	173	261	60	32	M4.0*14	T15
30.81-32.0	EC1.5-320-XP32	67	143	EC03-320-XP32	116	201	EC05-320-XP32	181	266				
32.01-33.5	EC1.5-330-XP32	69	146	EC03-330-XP32	121	206	EC05-330-XP32	191	276				

D-Type Swift Drills Body Models and Sizes



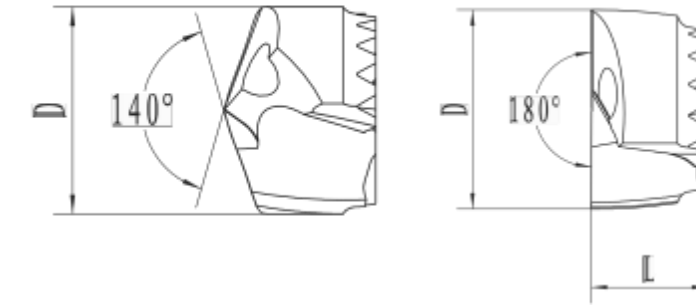
Diameter (D) (h7)	8D			10D			12D			universal		Screw	Wrench
	Model	Size		Model	Size		Model	Size		Size			
		L2	L		L2	L		L2	L	L1	D1		
12.0-12.49	EC08-120-XP16	107	168	EC10-120-XP16	-	-	-	-	-	48	16	M2.2*8	T6
12.5-13.49	EC08-130-XP16	115	182	EC10-130-XP16	-	-	-	-	-				
13.5-14.5	EC08-140-XP16	127	194	EC10-140-XP16	156.5	220.5	EC12-140-XP16	186.5	249.5				
14.51-15.5	EC08-150-XP20	136	204	EC10-150-XP20	166.7	232.7	EC12-150-XP20	198.7	263.7	50	20	M2.5*9	T8
15.51-16.5	EC08-160-XP20	144	214	EC10-160-XP20	178.5	243.5	EC12-160-XP20	211.5	276.5				
16.51-17.5	EC08-170-XP20	154	225	EC10-170-XP20	188.7	253.7	EC12-170-XP20	223.7	288.7				
17.51-18.5	EC08-180-XP20	162	230	EC10-180-XP20	198.8	264.8	EC12-180-XP20	236.8	301.8	56	25	M3.0*11	T8
18.51-19.5	EC08-190-XP25	171	255	EC10-190-XP25	209.9	280.9	EC12-190-XP25	248.9	314.8				
19.51-20.5	EC08-200-XP25	179	270	EC10-200-XP25	220.5	291.5	EC12-200-XP25	261.5	332.5				
20.51-21.5	EC08-210-XP25	188	266	EC10-210-XP25	230.6	361.6	EC12-210-XP25	273.6	344.6	56	25	M3.5*12	T15
21.51-22.8	EC08-220-XP25	196	275	EC10-220-XP25	244.1	315.1	EC12-220-XP25	289.7	360.7				
22.81-23.8	EC08-230-XP25	205	285	EC10-230-XP25	253.7	324.7	EC12-230-XP25	301.3	372.3				
23.81-24.8	EC08-240-XP32	213	300	EC10-240-XP32	264.9	339.9	EC12-240-XP32	264.9	389.5	60	32	M4.0*14	T15
24.81-25.8	EC08-250-XP32	222	305	EC10-250-XP32	270	350	EC12-250-XP32	326.6	401.6				
25.81-26.8	EC08-260-XP32	230	315	EC10-260-XP32	285.3	360.3	EC12-260-XP32	338.9	413.9				
26.81-27.8	EC08-270-XP32	239	325	EC10-270-XP32	295.3	370.3	EC12-270-XP32	350.9	425.9	60	32	M4.5*15	T15
27.81-28.8	EC08-280-XP32	247	330	EC10-280-XP32	306.2	381.2	EC12-280-XP32	363.8	438.8				
28.81-29.9	EC08-290-XP32	256	340	EC10-290-XP32	316.4	391.4	EC12-290-XP32	376	451				
29.81-30.8	EC08-300-XP32	265	351	EC10-300-XP32	327.9	402.9	EC12-300-XP32	389.5	464.5	60	32	M4.5*15	T15
30.81-32.0	EC08-320-XP32	276	361	EC10-320-XP32	345.9	424.9	-	-	-				
32.01-33.5	EC08-330-XP32	291	376	EC10-330-XP32	364	443	-	-	-				

D-Type Swift Drills Insert Models and Sizes



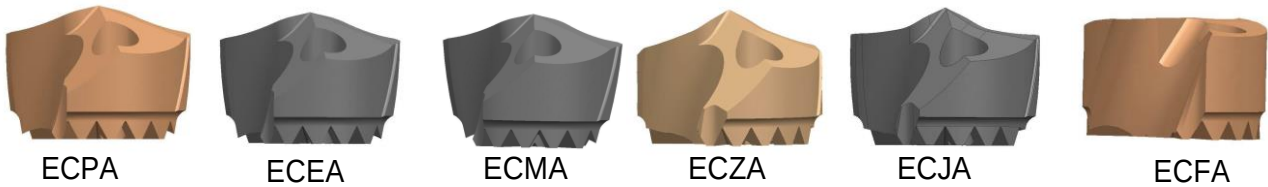
Swift Drill Insert Models and Sizes						
Diameter D(mm)	Model	Model	Model	L	Model	L
12.0	ECEA-1200	ECPA-1200	ECMA-1200	9.1	ECFA-1200	7.1
12.5	ECEA-1250	ECPA-1250	ECMA-1250	9.4	ECFA-1250	7.2
13.0	ECEA-1300	ECPA-1300	ECMA-1300	9.7	ECFA-1300	7.5
13.5	ECEA-1350	ECPA-1350	ECMA-1350	10.3	ECFA-1350	7.9
14.0	ECEA-1400	ECPA-1400	ECMA-1400		ECFA-1400	
14.5	ECEA-1450	ECPA-1450	ECMA-1450		ECFA-1450	
15.0	ECEA-1500	ECPA-1500	ECMA-1500	11.0	ECFA-1500	8.3
15.5	ECEA-1550	ECPA-1550	ECMA-1550		ECFA-1550	
16.0	ECEA-1600	ECPA-1600	ECMA-1600	11.6	ECFA-1600	8.8
16.5	ECEA-1650	ECPA-1650	ECMA-1650		ECFA-1650	
17.0	ECEA-1700	ECPA-1700	ECMA-1700	12.3	ECFA-1700	9.3
17.5	ECEA-1750	ECPA-1750	ECMA-1750		ECFA-1750	
18.0	ECEA-1800	ECPA-1800	ECMA-1800	12.9	ECFA-1800	9.8
18.5	ECEA-1850	ECPA-1850	ECMA-1850		ECFA-1850	
19.0	ECEA-1900	ECPA-1900	ECMA-1900	13.6	ECFA-1900	10.2
19.5	ECEA-1950	ECPA-1950	ECMA-1950		ECFA-1950	
20.0	ECEA-2000	ECPA-2000	ECMA-2000	14.1	ECFA-2000	10.7
20.5	ECEA-2050	ECPA-2050	ECMA-2050		ECFA-2050	
21.0	ECEA-2100	ECPA-2100	ECMA-2100	14.8	ECFA-2100	11.2
21.5	ECEA-2150	ECPA-2150	ECMA-2150		ECFA-2150	
22.0	ECEA-2200	ECPA-2200	ECMA-2200	15.0	ECFA-2200	
22.5	ECEA-2250	ECPA-2250	ECMA-2250		ECFA-2250	
23.0	ECEA-2300	ECPA-2300	ECMA-2300	15.2	ECFA-2300	
23.5	ECEA-2350	ECPA-2350	ECMA-2350		ECFA-2350	

D-Type Swift Drills Insert Models and Sizes



Swift Drill Insert Models and Sizes						
Diameter D(mm)	Model	Model	Model	L	Model	L
24.0	ECEA-2400	ECPA-2400	ECMA-2400	15.4	ECFA-2400	11.3
24.5	ECEA-2450	ECPA-2450	ECMA-2450		ECFA-2450	
25.0	ECEA-2500	ECPA-2500	ECMA-2500	15.9	ECFA-2500	11.7
25.5	ECEA-2550	ECPA-2550	ECMA-2550		ECFA-2550	
26.0	ECEA-2600	ECPA-2600	ECMA-2600	16.5	ECFA-2600	12.2
26.5	ECEA-2650	ECPA-2650	ECMA-2650		ECFA-2650	
27.0	ECEA-2700	ECPA-2700	ECMA-2700	17.2	ECFA-2700	12.7
27.5	ECEA-2750	ECPA-2750	ECMA-2750		ECFA-2750	
28.0	ECEA-2800	ECPA-2800	ECMA-2800	17.8	ECFA-2800	13.2
28.5	ECEA-2850	ECPA-2850	ECMA-2850		ECFA-2850	
29.0	ECEA-2900	ECPA-2900	ECMA-2900	18.4	ECFA-2900	13.6
29.5	ECEA-2950	ECPA-2950	ECMA-2950		ECFA-2950	
30.0	ECEA-3000	ECPA-3000	ECMA-3000	19.0	ECFA-3000	14.1
30.5	ECEA-3050	ECPA-3050	ECMA-3050		ECFA-3050	
31.0	ECEA-3100	ECPA-3100	ECMA-3100			
31.5	ECEA-3150	ECPA-3150	ECMA-3150			
32.0	ECEA-3200	ECPA-3200	ECMA-3200			
32.5	ECEA-3250	ECPA-3250	ECMA-3250			
33.0	ECEA-3300	ECPA-3300	ECMA-3300			
33.5	ECEA-3350	ECPA-3350	ECMA-3350			

Assembly-Insert



- ECPA: High tip strength for machining common steel parts, AlCr coating(P).
- ECEA: Relatively sharp tip for machining mild steel and cast iron, AlCrN coating(P/K).
- ECMA: Dedicated to machining stainless steel with a tough, chipping-resistant matrix, AlTiN coating(M/K).
- ECZA: Self-centering drill tip with double top corner design, there's no need to make a pilot hole when using 8x diameter drills, AlCr coating(P/K).
- ECJA: Double top angle design for machining structural steel, AlCrN coating.
- ECFA: Top angle design for inlet beveling or bottom flat holemaking requirements, AlCr coating(P/K/M).

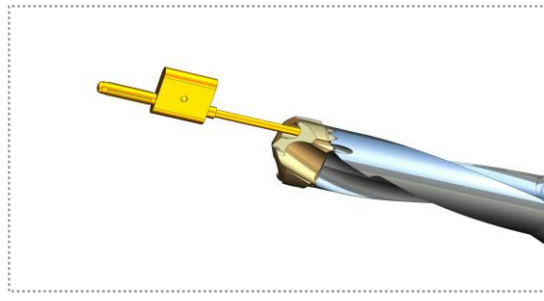
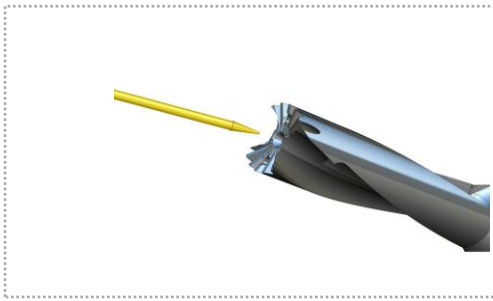


Recommended Cutting Prarameters for
D-Type Swift Drills



			Diameter(mm)		
Workpiece Material	Recommended Insert Models	Cutting Speed Vc (m/min)	12~16	16~20	20-30.8
Mild Steel (~250HB)	ECPA/ECEA	80-120 (50-80)	0.15-0.3	0.15-0.3	0.15-0.35
Plain Steel(250-320HB)	ECPA/ECEA	70-120 (50-80)	0.15-0.3	0.15-0.3	0.15-0.35
Highly Hardened Steel(45HRC)	ECPA	40-90 (30-70)	0.1-0.2	0.1-0.2	0.15-0.25
Stainless Steel(~200HB)	ECMA/ECEA	50-90 (40-60)	0.1-0.2	0.1-0.2	0.15-0.25
Gray Cast Iron	ECPA/ECEA	50-100 (40-80)	0.15-0.3	0.15-0.35	0.15-0.4
Ductile Iron	ECPA/ECEA	50-90 (40-70)	0.15-0.3	0.15-0.35	0.15-0.35
It needs to make a pilot hole when processing with 8x and 12x diameter drill, processing parameters refer to the parameters in parentheses					

Tips for Replacing Inserts of D Type Swift Drills

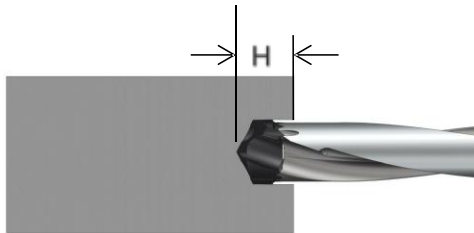


1. Remove the worn-out cutterhead and blow out any foreign matter from the connection between the drill body and the cutterhead with an air gun.
2. For those cannot be blown away with an air gun, use a metal brush.
3. Please note that damage can occur around the insert hole if the wrench is shaken when locking the screws.
4. Replace the screws immediately before they become visibly worn or deformed.
5. Evenly tighten the insert when locking the screws.

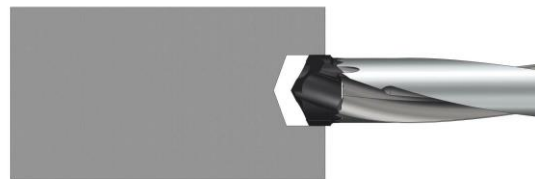
Tips for Drilling High Diameter Deep Holes

1. Use 1.5x or 3x diameter saber tooth drill to make a pilot hole

★ 1.5D or 3D saber-tooth 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.

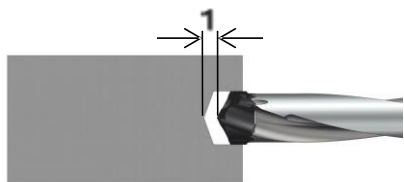


3. Increase the drilling speed to the set speed and start the cutting feed.



2. Insert 8x diameter and above saber tooth drill bodies and inserts into pilot holes at low RPMs.

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

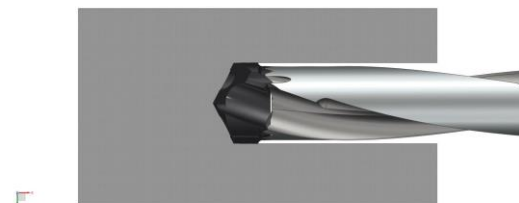


★ Insert the drill 1mm from the bottom of the guide hole

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 1mm from the bottom of the pilot hole.

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

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



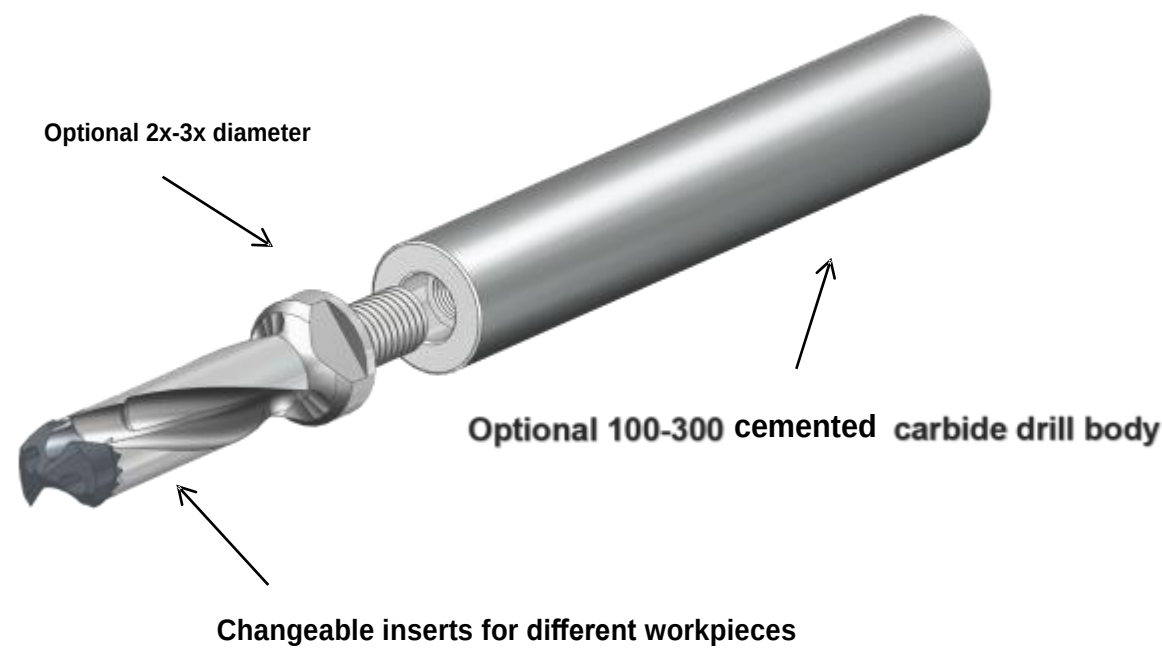
If the drill insert is pulled out of the hole while rotating at high speed, the side of the insert may be damaged due to the runout of the drill bit.

Anti Vibration D-Type Swift Drills

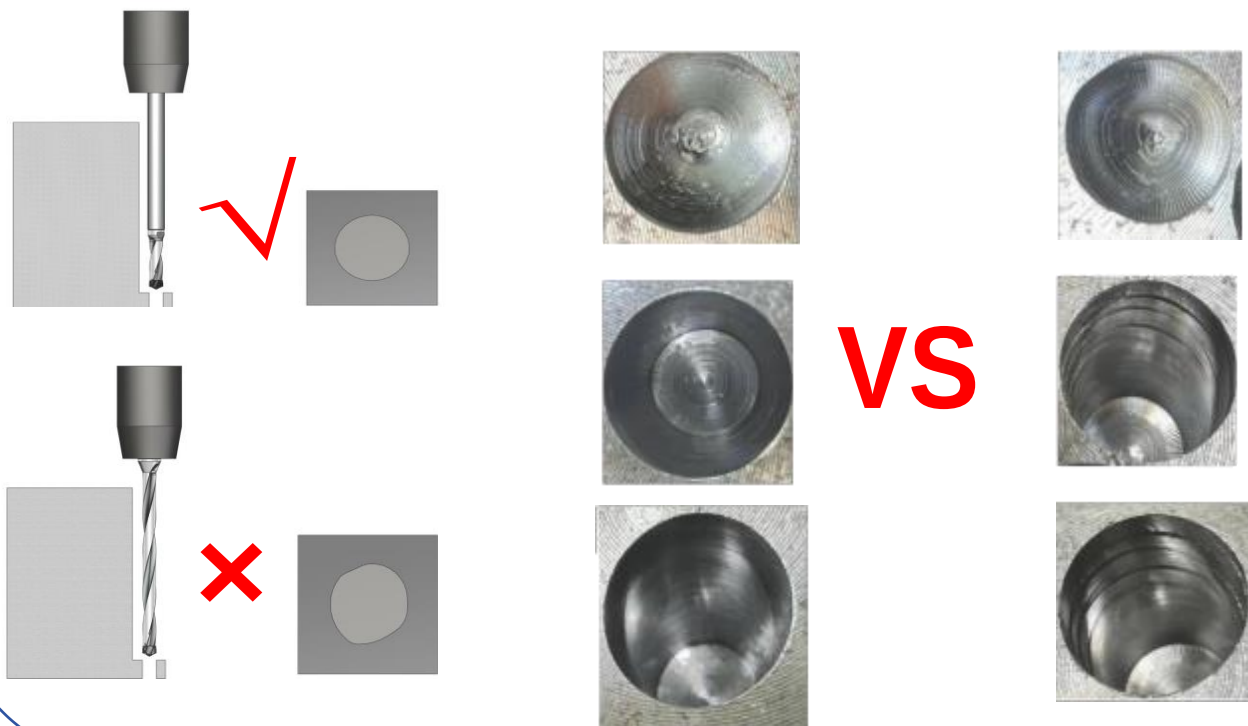


1. Insert diameter range: 12-20mm, optional 100-300 carbide drill bodies available.
2. Resharpening allowance of 1.5mm-3mm is reserved for inserts to further reduce tool costs.
3. When machining special workpieces, it is more rigid than conventional saber tooth drills with higher precision.
4. Enhanced edge treatment to dramatically improve machining life.
5. The use of tool bodies with integral carbide drill bodies enhances tool rigidity and chatter stability.
6. Quick and easy insert change without removing the drill body from the machine.

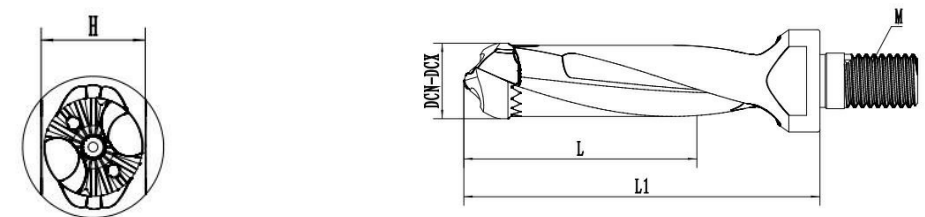
Tips for Replacing Inserts for D Type Swift Drills



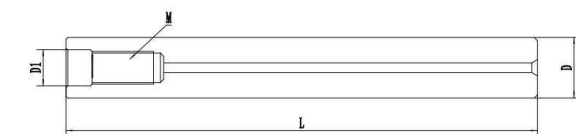
In the processing of special workpieces, the holes produced by anti-vibration D Type Swift drill rods with carbide rods are far superior to those produced by conventional D Type Swift Drill rods in terms of finish and size.



Anti-Vibration D Type Swift Drill Body



Model	DC	L	L1	H	M
TF02-12.00-M10	12.00-12.49	32	50.5	15	M10
TF02-13.00-M10	12.50-13.49	35	53.5	15	M10
TF02-14.00-M10	13.50-14.50	37	55.5	15	M10
TF02-15.00-M10	14.51-15.50	39.5	58	15	M10
TF02-16.00-M12	15.51-16.50	42	60.5	17	M12
TF02-17.00-M12	16.51-17.50	45.5	64	17	M12
TF02-18.00-M12	17.51-18.50	47	65.5	17	M12
TF02-19.00-M12	18.51-19.50	49.5	68	17	M12
TF02-20.00-M12	19.51-20.50	52	70.5	17	M12
TF03-12.00-M10	12.00-12.49	44	62.5	15	M10
TF03-13.00-M10	12.50-13.49	48	66.5	15	M10
TF03-14.00-M10	13.50-14.50	51	69.5	15	M10
TF03-15.00-M10	14.51-15.50	54.5	73	15	M10
TF03-16.00-M12	15.51-16.50	58	76.5	17	M12
TF03-17.00-M12	16.51-17.50	62.5	80	17	M12
TF03-18.00-M12	17.51-18.50	65	83.5	17	M12
TF03-19.00-M12	18.51-19.50	68.5	87	17	M12
TF03-20.00-M12	19.51-20.50	72	90.5	17	M12



	D	D1	L	M
KZ-100-M10	20	10.5	100	M10
KZ-150-M10	20	10.5	150	M10
KZ-200-M10	20	10.5	200	M10
KZ-250-M10	20	10.5	250	M10
KZ-300-M10	20	10.5	300	M10
KZ-100-M12	25	12.5	100	M12
KZ-150-M12	25	12.5	150	M12
KZ-200-M12	25	12.5	200	M12
KZ-250-M12	25	12.5	250	M12
KZ-300-M12	25	12.5	300	M12