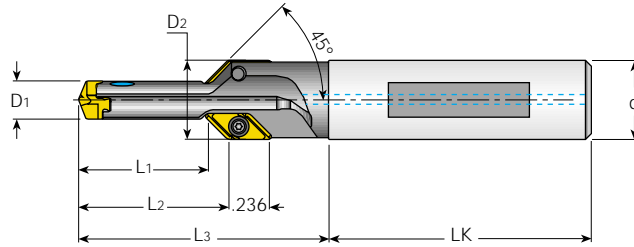


Drills for Prethread Holes

Threde Range 3/8" UNC-7/8" UNF



DCM

ISO Thread	Nominal Dia. $\varnothing D_1$	Designation	IDI Dia. Range	L1	L2	L3	LK	$\varnothing D_2$	d	IDI Key	Chamfering Inserts
3/8"UNC	.311	DCT 0311-100-063B-3/8 UNC	.303-.354	1.00	1.15	1.80	1.89	.59	.63	K DCM-8	AOMT
3/8"UNC	.335	DCT 0331-100-063B-3/8 UNF	.323-.354	1.00	1.15	1.80	1.89	.61	.63	K DCM-8	
7/16"UNC	.370	DCT 0366-106-063B-7/16 UNC	.358-.393	1.06	1.20	1.83	1.89	.63	.63	K DCM-9	
7/16"UNC	.390	DCT 0390-106-063B-7/16 UNF	.382-.393	1.06	1.18	1.83	1.89	.63	.63	K DCM-9	
1/2"UNC	.425	DCT 0421-106-063B-1/2 UNC	.413-.431	1.06	1.17	1.89	1.89	.63	.63	K DCM-10	
1/2"UNC	.483	DCT 0453-106-063B-1/2 UNF	.445-.472	1.06	1.15	1.89	1.89	.63	.63	K DCM-11	
9/16"UNC	.484	DCT 0484-106-063B-9/16 UNC	.476-.511	1.06	1.12	1.89	1.89	.63	.63	K DCM-12	
9/16"UNC	.516	DCT 0516-106-063B-9/16 UNF	.512-.551	1.06	1.12	1.89	1.89	.63	.63	K DCM-13	
5/8"UNC	.531	DCT 0531-120-063B-5/8 UNC	.524-.551	1.20	1.32	2.01	1.97	.75	.75	K DCM-13	
5/8"UNC	.571	DCT 0579-120-063B-5/8 UNF	.571-.590	1.20	1.29	2.03	1.97	.75	.75	K DCM-14	
3/4"UNC	.650	DCT 0657-140-063B-3/4 UNC	.650-.669	1.40	1.45	2.20	1.97	.78	.75	K DCM-16	
3/4"UNC	.689	DCT 0689-140-063B-3/4 UNF	.681-.708	1.40	1.50	2.20	2.20	.88	1.00	K DCM-17	
7/8"UNC	.768	DCT 0764-165-063B-7/8 UNC	.756-.787	1.65	1.78	2.48	2.20	1.00	1.00	K DCM-19	
7/8"UNC	.803	DCT 0811-165-063B-7/8 UNC	.803-.803	1.65	1.75	2.48	2.20	1.00	1.00	K DCM-20	

Chamfering Insert screw: SR 34-508.
Chamfering insert screw key: TORX T-7/51.

Inch Threads

Drill Designation	Drilling Diameter Range	UNF Thread	Drilling Head Diameter	UNF Helicoil Thread	Drilling Head Diameter	UNC Thread	Drilling Head Diameter
DCT 0311-100-063B-3/8UNC	.303-.354					UNC3/8-16	.311
DCT 0331-100-063B-3/8UNF	.323-.354	UNF3/8-24	.335	UNF5/16-24	.323		
DCT 0366-106-063B-7/16UNC	.358-.393					UNC7/16-14	.370
DCT 0390-106-063B-7/16UNF	.382-.393	UNF7/16-20	.390	UNF3/8-24	.386		
DCT 0421-106-063B-1/2UNC	.413-.433					UNC1/2-13	.425
DCT 0453-106-063B-1/2UNF	.445-.472	UNF1/2-20	.453	UNF7/16-20	.453		
DCT 0484-106-063B-9/16UNC	.476-.511					UNC9/16-12	.484
DCT 0516-106-063B-9/16UNF	.512-.551	UNF9/16-18	.516	UNF1/2-20	.516		
DCT 0531-120-075B-5/8UNC	.524-.551					UNC5/8-11	.531
DCT 0579-120-075B-5/8UNF	.571-.590	UNF5/8-18	.571				
DCT 0657-140-075B-3/4UNC	.650-.669					UNC3/4-10	.650
DCT 0689-140-100B-3/4UNF	.681-.708	UNF3/4-16	.689				
DCT 0764-165-100B-7/8UNC	.756-.787					UNC7/8-9	.768
DCT 0811-165-100B-7/8UNF	.803-.826	UNF7/8-14	.803				

Drill Designation	Drilling Diameter Range	UNC Helicoil Thread	Drilling Head Diameter	BSW Thread	Drilling Head Diameter
DCT 0311-100-063B-3/8UNC	.303-.354			BSW3/8-16	.311
DCT 0331-100-063B-3/8UNF	.323-.354	UNC5/16-18	.331		
DCT 0366-106-063B-7/16UNC	.358-.393			BSW7/16-14	.362
DCT 0390-106-063B-7/16UNF	.382-.393	UNC3/8-16	.393		
DCT 0421-106-063B-1/2UNC	.413-.433			BSW1/2-12	.413
DCT 0453-106-063B-1/2UNF	.445-.472	UNC7/16-14	.461	BSW9/16-12	.472
DCT 0531-120-075B-5/8UNC	.524-.551	UNC1/2-13	.524	BSW5/8-11	.531
DCT 0657-140-075B-3/4UNC	.650-.669			BSW3/4-10	.650
DCT 0764-165-100B-7/8UNC	.756-.787			BSW7/8-9	.760

Inch Threads

Drill Designation	Drilling Diameter Range	BSF Thread	Drilling Head Diameter	BSP Thread	Drilling Head Diameter	UNEF Thread	Drilling Head Diameter
DCT 0311-100-063B-3/8UNC	.303-.354	BSF3/8-20	.319				
DCT 0331-100-063B-3/8UNF	.323-.354			G1/8-28	.346	UNEF3/8-32	.343
DCT 0366-106-063B-7/16UNC	.358-.393	BSF7/16-18	.374				
DCT 0421-106-063B-1/2UNC	.413-.433	BSF1/2-16	.433				
DCT 0453-106-063B-1/2UNF	.445-.472			G1/4-19	.465	UNEF1/2-28	.465
DCT 0484-106-063B-9/16UNC	.476-.511	BSF9/16-16	.492				
DCT 0516-106-063B-9/16UNF	.512-.551					UNEF9/16-24	.520
DCT 0531-120-075B-5/8UNC	.524-.551	BSF5/8-14	.551				
DCT 0579-120-075B-5/8UNF	.571-.590					UNEF5/8-24	.583
DCT 0657-140-075B-3/4UNC	.650-.669	BSF3/4-12	.650				
DCT 0689-140-100B-3/4UNF	.681-.708					UNEF3/4-20	.701
DCT 0764-165-100B-7/8UNC	.756-.787	BSF7/8-11	.768				
DCT 0811-165-100B-7/8UNF	.803-.826			G5/8-14	.826	UNEF7/8-20	.826

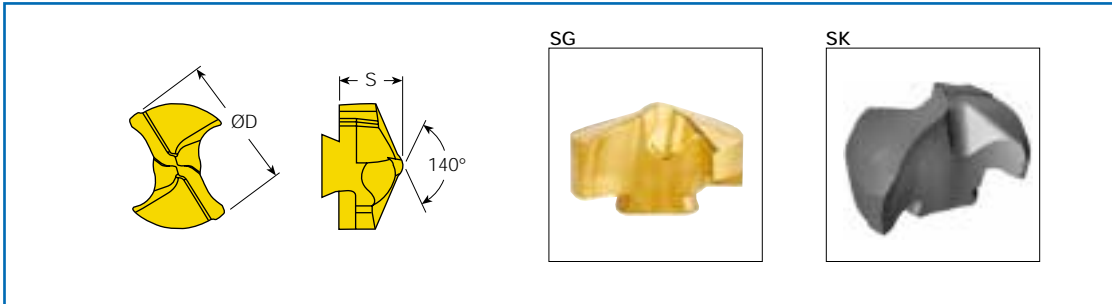
Drill Designation	Drilling Diameter Range	UNJF Thread	Drilling Head Diameter	NPT Thread	Drilling Head Diameter
DCT 0331-100-063B-3/8UNF	.323-.354		.339	NPT1/8-27	.335
DCT 0390-106-063B-7/16UNF	.382-.393		.393		
DCT 0453-106-063B-1/2UNF	.445-.472		.453		
DCT 0579-120-075B-5/8UNF	.571-.590		.571	NPT3/8-18	.571
DCT 0657-140-075B-3/4UNC	.650-.669			NPT1/2-14	.701

Metric Threads

Drill Designation	Drilling Diameter Range	M Thread	Drilling Head Diameter	MF Thread	Drilling Head Diameter
DCT 0311-100-063B-3/8UNC	.303-.354	M9	.307		
DCT 0331-100-063B-3/8UNF	.323-.354	M10	.335	MF10X1	.354
				MF10X1.25	.346
DCT 0366-106-063B-7/16UNC	.358-.393	M11	.374	MF11X1	.393
				MF12X1	.433
DCT 0421-106-063B-1/2UNC	.413-.433			MF12X1.25	.425
				MF12X1.5	.413
DCT 0453-106-063B-1/2UNF	.445-.472	M14	.472	MF13X1	.472
				MF14X1	.511
DCT 0484-106-063B-9/16UNC	.476-.511			MF14X1.25	.504
				MF14X1.5	.492
DCT 0516-106-063B-9/16UNF	.512-.551	M16	.551	MF14X1	.551
				MF16X1	.590
DCT 0579-120-075B-5/8UNF	.571-.590			MF16X1.5	.571
DCT 0657-140-075B-3/4UNC	.650-.669			MF18X1	.669
DCT 0689-140-100B-3/4UNF	.681-.708	M20	.689	MF20X2	.708
DCT 0764-165-100B-7/8UNC	.756-.787	M22	.768		
DCT 0811-165-100B-7/8UNF	.803-.826	M24	.826	MF22X1	.826

Drill Designation	Drilling Diameter Range	M Helicoil Thread	Drilling Head Diameter	TR Thread	Drilling Head Diameter
DCT 0331-100-063B-3/8UNF	.323-.354	M8	.331		
DCT 0366-106-063B-7/16UNC	.358-.393			TR12X3	.366
DCT 0421-106-063B-1/2UNC	.413-.433	M10	.413	TR14X4	.413
DCT 0453-106-063B-1/2UNF	.445-.472			TR14X3	.445
DCT 0484-106-063B-9/16UNC	.476-.511	M12	.492	TR14X2	.480
				TR16X4	.484
DCT 0579-120-075B-5/8UNF	.571-.590	M14	.571		
DCT 0657-140-075B-3/4UNC	.650-.669	M16	.650		
DCT 0689-140-100B-3/4UNF	.681-.708			TR22X5	.681
DCT 0764-165-100B-7/8UNC	.756-.787			TR24X5	.760

Drilling Heads for DCM Drills



IDI (Inch)

Designation	D Range ⁽¹⁾	s	IC528	IC908
IDI _{####} -Sg IDI _{####} - SK ⁽²⁾	.268	.161		●
	.296-.311	.161		●
	.315-.350	.157		●
	.354-.390	.610		●
	.394-.429	.205		●
	.433-.468	.217		●
	.472-.508	.228	●	●
	.512-.547	.236	●	●
	.551-.587	.272	●	●
	.590-.626	.291	●	●
	.630-.665	.307	●	●
	.669-.705	.315		●
	.709-.744	.327		●
	.748-.783	.339		●
	.787-.823	.354		●
.827-.862	.366		●	

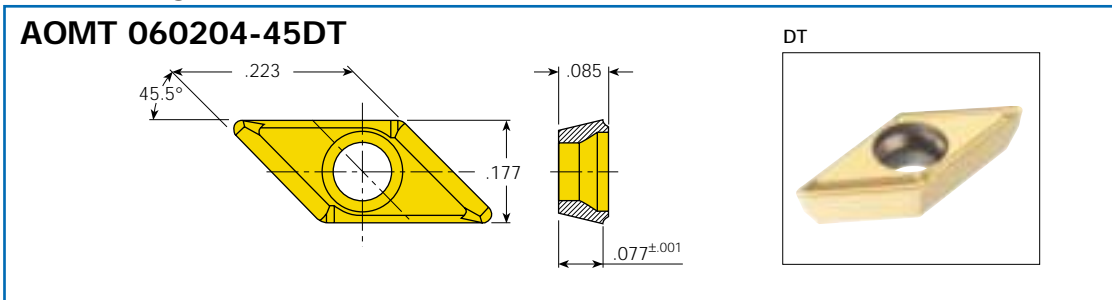
(1) Heads are available in increments of .004mm.

(2) SK heads for drilling cast iron available in IC 908.

Ordering examples for Ø.524 drill head: IDI 0524-SG IC528.

ISO P ■ ISO M ■ ISO K ■

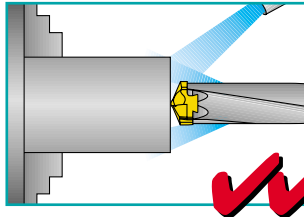
Chamfering Insert for Prethread Hole Drills



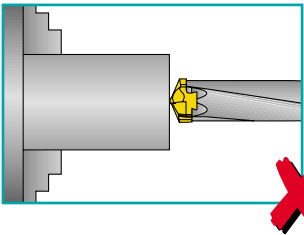
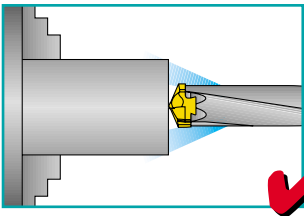
CHAMDRILL

User Guide

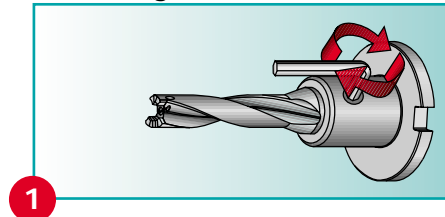
Coolant



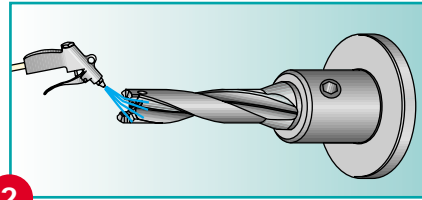
In stationary drill applications both through tool and external coolant supply is recommended.



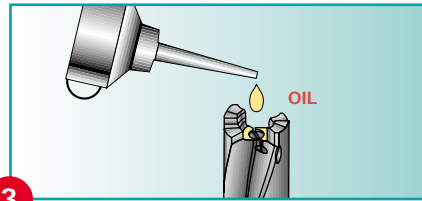
Drilling Heads Mounting Procedure



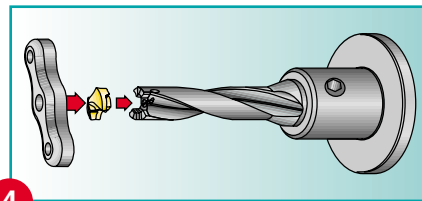
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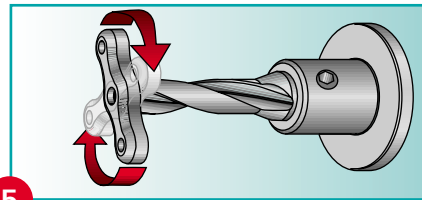
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3



4



5

Machining Data

Following is machining data for the DCM / DCT drills.

ISO	Material	Condition	Hardness HB	Cutting Speed Vc sfm	Feed vs. Drill Diameter inch/rev						
					D=.315-.394	D=.433-.472	D=.512-.551	D=.591-.630	D=.669-.787	D=.827-.984	
P	Non-alloy steel and cast steel, free cutting steel	<0.25%	Annealed	125	160-430	.005-.088	.006-.010	.008-.012	.010-.014	.010-.018	.010-.018
		>=0.25%	Annealed	190	330-400						
		< 0.55%	Quenched and tempered	250	290-360						
		>=0.55%	Annealed	220	290-400						
	Low alloy steel and cast steel (less than 5% alloying elements)	Quenched and tempered	200	260-430	.005-.008	.006-.010	.008-.012	.010-.014	.012-.016	.012-.018	
			275	230-360							
			300	190-290							
	High alloyed steel, cast steel, and tool steel	Annealed	200	160-260	.005-.008	.005-.009	.006-.010	.008-.011	.010-.013	.010-.014	
Quenched and tempered		325	130-230								
M	Stainless steel and cast steel	Ferritic/martensitic	200	60-170	.003-.006	.004-.006	.005-.007	.006-.008	.006-.009	.006-.011	
		Martensitic	240	60-170							
		Austenitic	180	60-170							
K	Cast iron nodular (GGG)	Ferritic/pearlitic	180	290-460	.005-.012	.010-.014	.012-.016	.014-.018	.016-.020	.016-.024	
		Pearlitic	260	260-430							
	Grey cast iron (GG)	Ferritic	160	330-590							
		Pearlitic	250								
	Malleable cast iron	Ferritic	130								
		Pearlitic	230								
N	Aluminum-wrought alloy <=12% Si	Not cureable	60	290-530	.005-.014	.010-.016	.012-.018	.014-.020	.016-.024	.016-.026	
		Cured	100								
		Not cureable	75								
	Aluminum-cast, alloyed >12% Si	Cured	90	260-400							
		High temperature	130								
	Copper alloys >1% Pb	Free cutting	110	290-530							
		Brass	90								
		Electrolitic copper	100								
Non metallic	Duroplastics, fiber plastics										
	Hard rubber										
S	High temp. alloys Fe based	Annealed	200	100-170	.002-.004	.003-.005	.004-.006	.005-.007	.005-.008	.005-.009	
		Cured	280	60-130							
		Annealed	250								
	Super alloys Ni or Co based	Cured	350								
		Cast	320								
	Titanium Ti alloys			60-170							.002-.005
Alpha+beta alloys cured											
H	Hardened steel	Hardened	55 HRC	60-170	.002-.005	.004-.006	.005-.007	.006-.008	.006-.009	.006-.010	
		Hardened	60 HRC								
	Chilled cast iron	Cast	400								
	Cast iron	Hardened	55 HRC								

* Grades: first choice IC908.

* For material group number please refer to our general catalog instructions.

* Chipformer should be selected based on our geometry range recommendations.

* When using external coolant supply only, reduce cutting speed by 10%.

* Use internal coolant supply when machining austenitic stainless steel.

* For Ø.303-.354 inch diameters decrease the Ø.315 inch cutting data by 15%.