



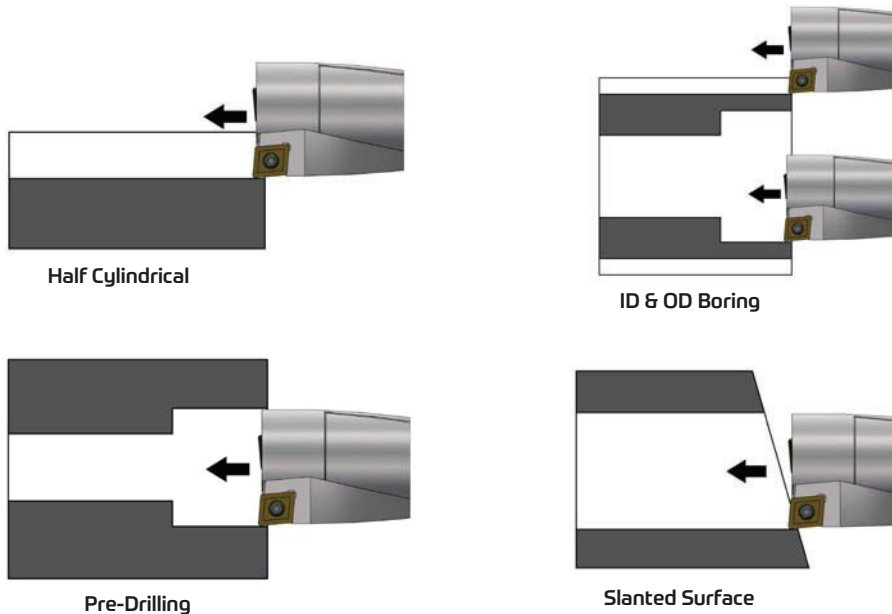
INDEXABLE DRILLS

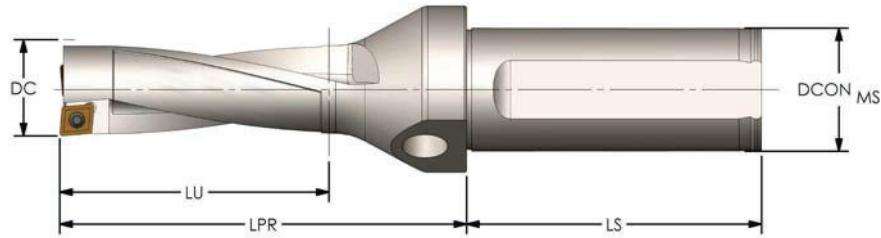
THE COMPLETE TOOL MAKING AUTHORITY®



ARCH Cutting Tools Patriot High Performance PD1 portfolio of indexable drills excels across a broad spectrum of ISO class workpiece materials. From general steels, cast irons, HSRA, and many more, when there is a high demand to reduce cost per feature in hole making applications. With diameters from 0.5625" (15mm) to 2.125" (54mm) offered in both imperial and metric sizes. Our range covers a comprehensive application base providing universal insert geometries and grades, suitable for most applications across all industry segments that focus on hole quality. These include general engineering, die and mold, automotive, and aerospace & defense.

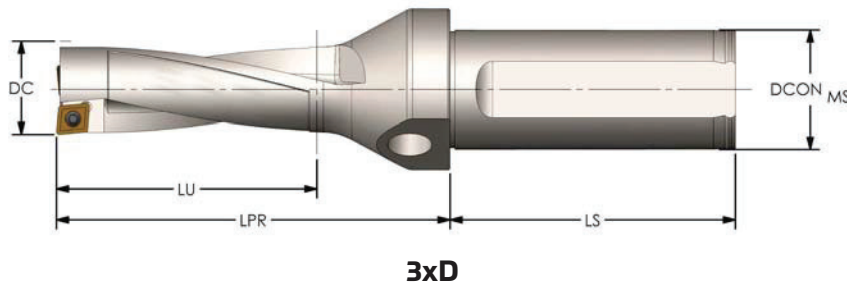
- Available in diameters 0.562" (15mm) - 2.125" (54mm), 2xD, 3xD, and 4xD
- 2-ported precision through coolant for excellent chip evacuation
- Versatility - Facing, boring, O.D. and I.D. turning capabilities
- Capable of drilling into slanted workpieces without pre-drilling
- Radial offset capability to adjust diameter size in non- rotating applications
- Economical 4-edge insert design providing excellent chip formation and lower spindle loads
- High quality tool steel bodies for added rigidity, wear resistance and reduced chip wash





2xD

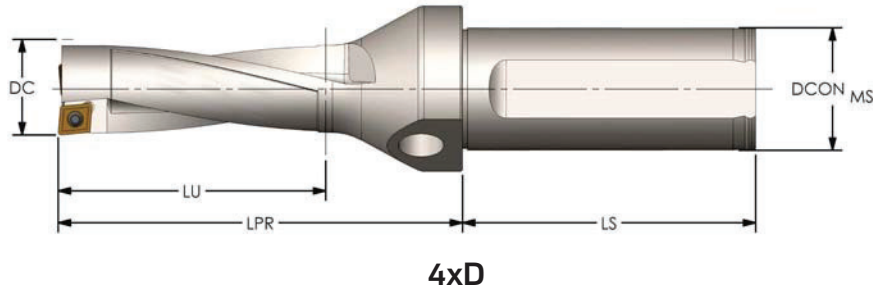
PRODUCT #	Designation	DC	DCON MS	LS	LPR	LU	INSERT	SCREW	WRENCH
970-000-034	PD1-0562-2D-075	0.562	0.750	1.900	2.042	1.242	PD1 042004	PD1-16	T-6-S
970-000-038	PD1-0625-2D-075	0.625	0.750	1.900	2.168	1.368	PD1 052804	PD1-2	
970-000-042	PD1-0687-2D-075	0.687	0.750	1.900	2.292	1.492			
970-000-047	PD1-0750-2D-100	0.750	1.000	2.400	2.561	1.618	PD1 063306	PD1-22	T-7-S
970-000-051	PD1-0812-2D-100	0.812	1.000	2.400	2.686	1.743			
970-000-055	PD1-0875-2D-100	0.875	1.000	2.400	2.811	1.868			
970-000-058	PD1-0937-2D-125	0.937	1.250	2.900	2.936	1.993	PD1 074006	PD1-25	T-7-S
970-000-062	PD1-1000-2D-125	1.000	1.250	2.900	3.061	2.118			
970-000-066	PD1-1125-2D-125	1.125	1.250	2.900	3.311	2.368			
970-000-070	PD1-1250-2D-125	1.250	1.250	2.900	3.600	2.657	PD1 094508	PD1-35	T-15-S
970-000-074	PD1-1375-2D-125	1.375	1.250	2.900	3.850	2.907	PD1 125812	PD1-5	T-20-S
970-000-078	PD1-1500-2D-150	1.500	1.500	2.900	4.100	3.157			
970-000-081	PD1-1625-2D-150	1.625	1.500	2.900	4.390	3.447			
970-000-084	PD1-1750-2D-150	1.750	1.500	2.900	4.600	3.657	PD1 156812	PD1-6	T-25-S
970-000-088	PD1-2000-2D-150	2.000	1.500	2.900	5.100	4.157			
970-000-131	PD1-2125-2D-150	2.125	1.500	2.900	5.350	4.407			



PRODUCT #	Designation	DC	DCON MS	LS	LPR	LU	Insert	Screw	Wrench
970-000-035	PD1-0562-3D-075	0.562	0.750	1.900	2.747	1.804	PD1 042004	PD1-16	T-6-S
970-000-036	PD1-0594-3D-075	0.594	0.750	1.900	2.843	1.900			
970-000-037	PD1-0609-3D-075	0.609	0.750	1.900	2.888	1.945			
970-000-039	PD1-0625-3D-075	0.625	0.750	1.900	2.936	1.993	PD1 052804	PD1-2	
970-000-041	PD1-0669-3D-075	0.669 (17mm)	0.750	1.900	3.069	2.126			
970-000-043	PD1-0687-3D-075	0.687	0.750	1.900	3.122	2.179			
970-000-045	PD1-0709-3D-075	0.709 (18mm)	0.750	1.900	3.187	2.244			
970-000-046	PD1-0734-3D-100	0.734	1.000	2.400	3.263	2.320	PD1 063306	PD1-22	
970-000-048	PD1-0750-3D-100	0.750	1.000	2.400	3.311	2.368			
970-000-050	PD1-0787-3D-100	0.787 (20mm)	1.000	2.400	3.422	2.479			
970-000-052	PD1-0812-3D-100	0.812	1.000	2.400	3.499	2.556			
970-000-054	PD1-0844-3D-100	0.844	1.000	2.400	3.637	2.694			
970-000-056	PD1-0875-3D-100	0.875	1.000	2.400	3.686	2.743			
970-000-059	PD1-0937-3D-125	0.937	1.250	2.900	3.874	2.931	PD1 074006	PD1-25	
970-000-061	PD1-0984-3D-125	0.984 (25mm)	1.250	2.900	4.014	3.071			
970-000-063	PD1-1000-3D-125	1.000	1.250	2.900	4.061	3.118			
970-000-065	PD1-1062-3D-125	1.062	1.250	2.900	4.249	3.306			
970-000-067	PD1-1125-3D-125	1.125	1.250	2.900	4.436	3.493			
970-000-069	PD1-1181-3D-125	1.181 (30mm)	1.250	2.900	4.645	3.702	PD1 094508	PD1-35	
970-000-071	PD1-1250-3D-125	1.250	1.250	2.900	4.850	3.907			
970-000-073	PD1-1312-3D-125	1.312	1.250	2.900	5.039	4.095			
970-000-075	PD1-1375-3D-125	1.375	1.250	2.900	5.225	4.282			
970-000-077	PD1-1437-3D-125	1.437	1.250	2.900	5.413	4.470	PD1 125812	PD1-5	
970-000-079	PD1-1500-3D-150	1.500	1.500	2.900	5.640	4.697			
970-000-082	PD1-1625-3D-150	1.625	1.500	2.900	6.015	5.072			
970-000-085	PD1-1750-3D-150	1.750	1.500	2.900	6.390	5.447	PD1 156812	PD1-6	
970-000-087	PD1-1875-3D-150	1.875	1.500	2.900	6.825	5.882			
970-000-089	PD1-2000-3D-150	2.000	1.500	2.900	7.140	6.197	PD1 156812	PD1-6	
970-000-091	PD1-2125-3D-150	2.125	1.500	2.900	7.515	6.572			

METRIC SHANK

PRODUCT #	Designation	DC (metric)	DCONMS (metric)	LS	LPR	LU	Insert	Screw	Wrench
970-000-115	PD1-0170-3D-20MM	17mm	20mm	44mm	74mm	54mm	PD1 052804	PD1-2	T-6-S
970-000-116	PD1-0180-3D-25MM	18mm	25mm	56mm	81mm	57mm			
970-000-117	PD1-0190-3D-25MM	19mm	25mm	56mm	84mm	60mm			
970-000-118	PD1-0200-3D-25MM	20mm	25mm	56mm	84mm	60mm	PD1 063306	PD1-22	
970-000-119	PD1-0210-3D-25MM	21mm	25mm	56mm	90mm	66mm			
970-000-120	PD1-0220-3D-25MM	22mm	25mm	56mm	93mm	69mm			
970-000-121	PD1-0230-3D-25MM	23mm	25mm	56mm	96mm	72mm			
970-000-122	PD1-0240-3D-25MM	24mm	25mm	56mm	98mm	75mm	PD1 074006	PD1-25	
970-000-123	PD1-0250-3D-25MM	25mm	25mm	56mm	102mm	78mm			
970-000-124	PD1-0260-3D-32MM	26mm	32mm	60mm	105mm	81mm			
970-000-125	PD1-0270-3D-32MM	27mm	32mm	60mm	108mm	84mm			
970-000-126	PD1-0280-3D-32MM	28mm	32mm	60mm	111mm	87mm			
970-000-127	PD1-0290-3D-32MM	29mm	32mm	60mm	115mm	91mm			
970-000-128	PD1-0300-3D-32MM	30mm	32mm	60mm	118mm	94mm			
970-000-128	PD1-0300-3D-32MM	30mm	32mm	60mm	118mm	94mm			PD1 094508



PRODUCT #	Designation	DC	DCON MS	LS	LPR	LU	Insert	Screw	Wrench
970-000-129	PD1-0562-4D-075	0.562	0.750	1.900	3.166	2.366	PD1 042004	PD1-16	T-6-S
970-000-040	PD1-0625-4D-075	0.625	0.750	1.900	3.418	2.618	PD1 052804	PD1-2	T-6-S
970-000-044	PD1-0687-4D-075	0.687	0.750	1.900	3.667	2.867			
970-000-049	PD1-0750-4D-100	0.750	1.000	2.400	4.061	3.118	PD1 063306	PD1-22	T-7-S
970-000-053	PD1-0812-4D-100	0.812	1.000	2.400	4.312	3.369			
970-000-057	PD1-0875-4D-100	0.875	1.000	2.400	4.561	3.618			
970-000-060	PD1-0937-4D-125	0.937	1.250	2.900	4.812	3.869	PD1 074006	PD1-25	T-7-S
970-000-064	PD1-1000-4D-125	1.000	1.250	2.900	5.061	4.118			
970-000-068	PD1-1125-4D-125	1.125	1.250	2.900	5.561	4.618			
970-000-072	PD1-1250-4D-125	1.250	1.250	2.900	6.100	5.157	PD1 094508	PD1-35	T-15-S
970-000-076	PD1-1375-4D-125	1.375	1.250	2.900	6.600	5.627			
970-000-080	PD1-1500-4D-150	1.500	1.500	2.900	7.140	6.197	PD1 125812	PD1-5	T-20-S
970-000-083	PD1-1625-4D-150	1.625	1.500	2.900	7.640	6.697			
970-000-086	PD1-1750-4D-150	1.750	1.500	2.900	8.140	7.197			
970-000-090	PD1-2000-4D-150	2.000	1.500	2.900	9.140	8.197	PD1 156812	PD1-6	T-25-S
970-000-130	PD1-2125-4D-150	2.125	1.500	2.900	9.640	8.697			

PRODUCT #	Designation	HP600	HK356	HN300
914-000-085	PD1 042004	•		
914-000-083			•	
914-000-084				•
914-000-088	PD1 052804	•		
914-000-086			•	
914-000-087				•
914-000-091	PD1 063306	•		
914-000-089			•	
914-000-090				•
914-000-094	PD1 074006	•		
914-000-092			•	
914-000-093				•
914-000-097	PD1 094508	•		
914-000-095			•	
914-000-096				•
914-000-100	PD1 125812	•		
914-000-098			•	
914-000-99				•
914-000-103	PD1 156812	•		
914-000-101			•	
914-000-102				•



PD1

PRODUCT #	Insert Screw
968-000-112	PD1-16
968-000-113	PD1-2
968-000-114	PD1-22
968-000-115	PD1-25
968-000-116	PD1-35
968-000-117	PD1-5
968-000-118	PD1-6

PACKAGE SIZE OF 5

PACKAGE SIZE OF 10



ISO	MATERIAL	HARDNESS	GRADE	Vc (SFM)*	INDEXABLE DRILL DIAMETER (INCH)		
					0.5620"-0.7499"	0.7500" - 1.4999"	1.5000" - 2.2500"
					Fz = IPR (INCH PER REVOLUTION)*		
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 BHN or ≤ 28 HRC	HP 600	350-900	.0015-.0060	.0020-.0075	.0030-.0120
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 17-4 PH	≤ 375 BHN or ≤ 40 HRC		260-750	.0020-.0070	.0020-.0085	.0030-.0095
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 BHN or ≤ 28 HRC	HP 600	230-700	.0018-.0040	.0030-.0065	.0030-.0085
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 BHN or ≤ 28 HRC		260-750	.0018-.0040	.0030-.0065	.0030-.0085
K	GRAY IRONS Class 20, 30, 40 ,50, 60, G3000, G3500	≤ 220 BHN or ≤ 19 HRC	HK 356	285-1000	.0025-.0055	.0035-.0070	.0040-.0085
	DUCTILE IRONS D&M series, 250, 300, 350, 400, 60-40-18, 65-45-12	≤ 260 BHN or ≤ 26 HRC		230-740	.0020-.0050	.0028-.0065	.0030-.0070
N	NON-FERROUS Aluminum, Aluminum cast, Brass, Copper, Bronze, Non Metallic	≤ 271 BHN or ≤ 28 HRC	HN 300	600-1150	.0020-.0075	.0030-.0090	.0045-.0115
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2"	≤ 375 BHN or ≤ 55 HRC	HP 600	80-275	.0018-.0065	.0020-.0075	.0030-.0080
S	HR SUPER ALLOYS Inconel 718, Waspaloy, Hastelloy, Inconel 625, Stellite 31, Haynes 25, Rene 41	≤ 275 BHN or ≤ 28 HRC	HP 600	55-270	.0016-.0032	.0020-.0055	.0025-.0060
	TITANIUM 6AL-4V, ASTM 1, 2, 3, 6AL-2S	≤ 275 BHN or ≤ 28 HRC		95-460	.0019-.0055	.0020-.0065	.0025-.008

Recommendations

Productivity and tooling performance is not only influenced by grade and geometry, but also by clamping the tool securely and accurately as possible.

- It is recommended to use precision holders i.e. hydraulic, shrink fit
- It is recommended to use internal coolant – minimum recommended pressure 145 psi

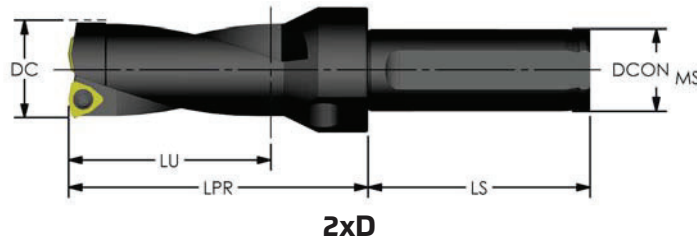
*Speeds & feeds are starting recommendations only. Factors such as machine type, fixture, tooling rigidity, available horsepower, coolant delivery method and others will affect the performance significantly.



by **Ultra-Dex**

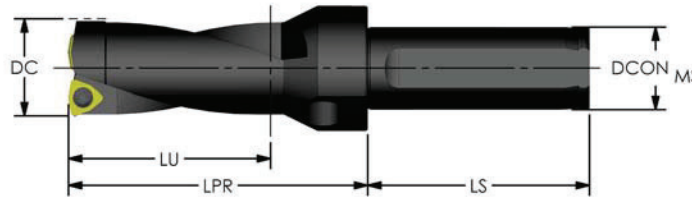


- Diameter range from 0.625" – 2.375"
- Close bore tolerances up to IT 8 achievable
- Excellent surface finish can be achieved
- Machining to production dimension without separate fine bore machining
- Universal use – suitable for both rotating and stationary operations
- Come equipped with 1/8-27 NPT side and end entry coolant ports



PRODUCT # Coated	PRODUCT # Uncoated	Designation	DC	DCON MS	LS	LPR	LU	Insert	Screw
926-000-014	926-000-013	UD-0625-2D-063	0.625	.625	1.687	2.280	1.375	WCMX 1.81.52	MTS-255 T-7-S Wrench
926-000-018	926-000-017	UD-0656-2D-063	0.656				1.406		
926-000-022	926-000-021	UD-0687-2D-063	0.687				1.437		
926-000-026	926-000-025	UD-0719-2D-063	0.719				1.467		
926-000-030	926-000-029	UD-0750-2D-075	0.750	.750	2.000	2.810	1.748	WCMX 21.52	MTS-25-DR T-8-S Wrench
926-000-034	926-000-033	UD-0781-2D-075	0.781				1.780		
926-000-038	926-000-037	UD-0812-2D-075	0.812				1.811		
926-000-042	926-000-041	UD-0844-2D-075	0.844				1.850		
926-000-046	926-000-045	UD-0875-2D-075	0.875				1.874		
926-000-050	926-000-049	UD-0906-2D-075	0.906				1.910		
926-000-054	926-000-053	UD-0937-2D-075	0.937				1.935		
926-000-058	926-000-057	UD-0968-2D-075	0.968				1.970		
926-000-062	926-000-061	UD-1000-2D-100	1.000	1.000	2.375	3.235	2.345	WCMX 2.522	MTS-3-DR T-9-S Wrench
926-000-066	926-000-065	UD-1031-2D-100	1.031				2.375		
926-000-070	926-000-069	UD-1062-2D-100	1.062				2.406		
926-000-074	926-000-073	UD-1094-2D-100	1.094				2.438		
926-000-078	926-000-077	UD-1125-2D-100	1.125				2.469		
926-000-082	926-000-081	UD-1156-2D-100	1.156				2.500		
926-000-086	926-000-085	UD-1187-2D-100	1.187				2.532		
926-000-090	926-000-089	UD-1219-2D-100	1.219				2.564		
926-000-094	926-000-093	UD-1250-2D-125	1.250	1.250	2.619	3.886	2.710	WCMX 32.52	MTS-35-DR T-10-S Wrench
926-000-098	926-000-097	UD-1312-2D-125	1.312				2.771		
926-000-102	926-000-101	UD-1343-2D-125	1.343				2.802		
926-000-104	926-000-103	UD-1375-2D-125	1.375				2.833		
926-000-108	926-000-107	UD-1437-2D-125	1.437			2.896			
926-000-112	926-000-111	UD-1500-2D-125	1.500			3.250			
926-000-116	926-000-115	UD-1562-2D-125	1.562			3.312			
926-000-120	926-000-119	UD-1625-2D-125	1.625			3.375			
926-000-124	926-000-123	UD-1687-2D-125	1.687	3.437					
926-000-128	926-000-127	UD-1750-2D-150	1.750	1.500	2.875	5.025	3.850	WCMX 433	MTS-4-DR T-15-S Wrench
926-000-132	926-000-131	UD-1812-2D-150	1.812				3.912		
926-000-136	926-000-135	UD-1875-2D-150	1.875				3.975		
926-000-140	926-000-139	UD-1937-2D-150	1.937				4.036		
926-000-144	926-000-143	UD-2000-2D-150	2.000		4.469				
926-000-148	926-000-147	UD-2125-2D-150	2.125		4.593				
926-000-152	926-000-151	UD-2250-2D-150	2.250		4.717				
926-000-156	926-000-155	UD-2375-2D-150	2.375		4.840				

*Coated with ION Nitride (Add -C to the end of designation)



2.5xD



PRODUCT # Coated	PRODUCT # Uncoated	Designation	DC	DCON MS	LS	LPR	LU	Insert	Screw
926-000-002	926-000-001	UD-0437-2D-063	0.437	.625	1.687	2.280	1.280	WCMT 1.211	MTS-184 (Screw) T-6-S (Wrench)
926-000-004	926-000-003	UD-0468-2D-063	0.468				1.310		
926-000-006	926-000-005	UD-0500-2D-063	0.500				1.340		
926-000-008	926-000-007	UD-0531-2D-063	0.531				WCMT 1.51.51	1.370	
926-000-010	926-000-009	UD-0562-2D-063	0.562					1.400	
926-000-012	926-000-011	UD-0593-2D-063	0.593					1.430	

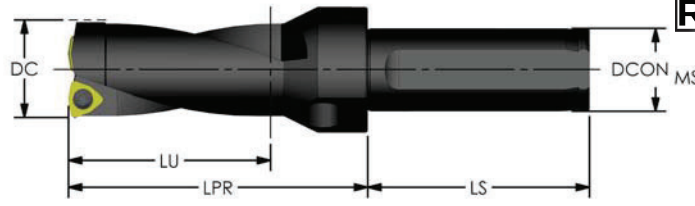
*Coated with ION Nitride (Add -C to the end of designation)



4xD

PRODUCT # Coated	PRODUCT # Uncoated	Designation	DC	DCON MS	LS	LPR	LU	Insert	Screw
926-000-016	926-000-015	UD-0625-4D-063	0.625	0.625	1.687	3.720	2.815	WCMX 1.81.52	MTS-255 (Screw) T-7-S (Wrench)
926-000-020	926-000-019	UD-0656-4D-063	0.656				2.847		
926-000-024	926-000-023	UD-0687-4D-063	0.687				2.878		
926-000-028	926-000-027	UD-0719-4D-063	0.719				2.911		
926-000-032	926-000-031	UD-0750-4D-075	0.750	0.750	2.000	4.763	3.698	WCMX 21.52	MTS-25-DR (Screw) T-8-S (Wrench)
926-000-036	926-000-035	UD-0781-4D-075	0.781				3.729		
926-000-040	926-000-039	UD-0812-4D-075	0.812				3.761		
926-000-044	926-000-043	UD-0844-4D-075	0.844				3.792		
926-000-048	926-000-047	UD-0875-4D-075	0.875				3.824		
926-000-052	926-000-051	UD-0906-4D-075	0.906				3.855		
926-000-056	926-000-055	UD-0937-4D-075	0.937				3.885		
926-000-060	926-000-059	UD-0968-4D-075	0.968				3.918		
926-000-064	926-000-063	UD-1000-4D-100	1.000	1.000	2.375	5.685	4.635	WCMX 2.522	MTS-3-DR (Screw) T-9-S (Wrench)
926-000-068	926-000-067	UD-1031-4D-100	1.031				4.666		
926-000-072	926-000-071	UD-1062-4D-100	1.062				4.696		
926-000-076	926-000-075	UD-1094-4D-100	1.094				4.728		
926-000-080	926-000-079	UD-1125-4D-100	1.125				4.760		
926-000-084	926-000-083	UD-1156-4D-100	1.156				4.792		
926-000-088	926-000-087	UD-1187-4D-100	1.187				4.822		
926-000-092	926-000-091	UD-1219-4D-100	1.219				4.864		

*Coated with ION Nitride (Add -C to the end of designation)



4xD



PRODUCT # Coated	PRODUCT # Uncoated	Designation	DC	DCON MS	LS	LPR	LU	Insert	Screw
926-000-096	926-000-095	UD-1250-4D-125	1.250	1.250	2.619	6.760	5.585	WCMX 32.52	MTS-35-DR (Screw) T-10-S (Wrench)
926-000-100	926-000-099	UD-1312-4D-125	1.312				5.646		
926-000-106	926-000-105	UD-1375-4D-125	1.375				5.708		
926-000-110	926-000-109	UD-1437-4D-125	1.437				5.771		
926-000-114	926-000-113	UD-1500-4D-125	1.500			7.800	6.632		
926-000-118	926-000-117	UD-1562-4D-125	1.562				6.695		
926-000-122	926-000-121	UD-1625-4D-125	1.625				6.757		
926-000-126	926-000-125	UD-1687-4D-125	1.687				6.820		
926-000-130	926-000-129	UD-1750-4D-150	1.750	1.500	2.875	8.900	7.724	WCMX 433	MTS-4-DR (Screw) T-15-S (Wrench)
926-000-134	926-000-133	UD-1812-4D-150	1.812				7.786		
926-000-138	926-000-137	UD-1875-4D-150	1.875				7.849		
926-000-142	926-000-141	UD-1937-4D-150	1.937				7.911		
926-000-146	926-000-145	UD-2000-4D-150	2.000			10.347	9.263		
926-000-150	926-000-149	UD-2125-4D-150	2.125				9.387		
926-000-154	926-000-153	UD-2250-4D-150	2.250				9.512		
926-000-158	926-000-157	UD-2375-4D-150	2.375				9.637		

*Coated with ION Nitride (Add -C to the end of designation)



PRODUCT #	Designation	UD51	UD52	UD2	UD21	UD32
913-000-567	WCMT 1.211-ZX3	•				
913-000-568			•			
913-000-566					•	
913-000-565				•		
913-000-575	WCMT 1.51.51-ZX3	•				
913-000-576			•			
913-000-574					•	
913-000-573				•		
913-000-596	WCMX 1.81.52	•				
913-000-597			•			
913-000-593				•		
913-000-594					•	
913-000-595					•	
913-000-606	WCMX 21.52	•				
913-000-607			•			
913-000-603				•		
913-000-604					•	
913-000-605					•	
913-000-601	WCMX 2.522	•				
913-000-602			•			
913-000-598				•		
913-000-599					•	
913-000-600					•	

PACKAGE SIZE OF 10

PRODUCT #	Designation	UD51	UD52	UD2	UD21	UD32
913-000-611	WCMX 32.52	•				
913-000-612			•			
913-000-608				•		
913-000-609					•	
913-000-610					•	
913-000-616	WCMX 433	•				
913-000-617			•			
913-000-613				•		
913-000-614					•	
913-000-615						•

PACKAGE SIZE OF 10

PRODUCT #	Insert Screw
968-000-087	MTS-184
968-000-088	MTS-2
968-000-092	MTS-255
968-000-082	MTS-25-DR
968-000-084	MTS-3-DR
968-000-083	MTS-35-DR
968-000-085	MTS-4-DR

PACKAGE SIZE OF 5



ISO	MATERIAL	HARDNESS	GRADE	Vc (SFM)*	INDEXABLE DRILL DIAMETER (INCH)		
					0.5620"-0.7499"	0.7500" - 1.4999"	1.5000" - 2.3750"
					Fz = IPR (INCH PER REVOLUTION)*		
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 BHN or ≤ 28 HRC	UD51/UD52	300-800	.0015-.0060	.0025-.0080	.0030-.009
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 17-4 PH	≤ 375 BHN or ≤ 40 HRC		250-700	.0020-.0070	.0025-.0070	.0030-.0080
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 BHN or ≤ 28 HRC	UD32	230-650	.0018-.0040	.0025-.0065	.0030-.0070
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 BHN or ≤ 28 HRC		260-700	.0018-.0040	.0023-.0055	.0030-.0065
K	GRAY IRONS Class 20, 30, 40, 50, 60, G3000, G3500	≤ 220 BHN or ≤ 19 HRC	UD21	285-900	.0025-.0055	.0035-.0070	.0040-.0080
	DUCTILE IRONS D&M series, 250, 300, 350, 400, 60-40-18, 65-45-12	≤ 260 BHN or ≤ 26 HRC		230-700	.0020-.0050	.0028-.0055	.0030-.0060
N	NON-FERROUS Aluminum, Aluminum cast, Brass, Copper, Bronze, Non Metallic	≤ 271 BHN or ≤ 28 HRC	UD2	400-975	.0020-.0075	.0030-.0070	.0045-.0100
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2"	≤ 375 BHN or ≤ 55 HRC	UD32	75-200	.0018-.0065	.0020-.0065	.0030-.0070
S	HR SUPER ALLOYS Inconel 718, Waspaloy, Hastelloy, Inconel 625, Stellite 31, Haynes 25, Rene 41	≤ 275 BHN or ≤ 28 HRC	UD32/UD52	40-200	.0016-.0032	.0020-.0050	.0020-.0050
	TITANIUM 6AL-4V, ASTM 1, 2, 3,6AL-2S	≤ 275 BHN or ≤ 28 HRC		90-350	.0019-.0055	.0020-.0050	.0020-.0065

Recommendations

Productivity and tooling performance is not only influenced by grade and geometry, but also by clamping the tool securely and accurately as possible.

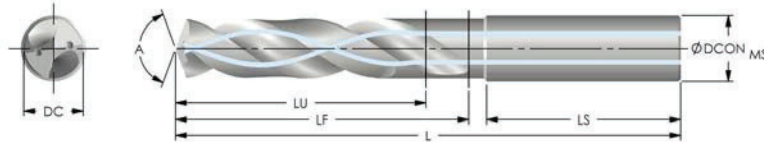
- It is recommended to use precision holders i.e. hydraulic, shrink fit
- It is recommended to use internal coolant – minimum recommended pressure 145 psi

*Speeds & feeds are starting recommendations only. Factors such as machine type, fixture, tooling rigidity, available horsepower, coolant delivery method and others will affect the performance significantly.

ARCH[®]
Cutting Tools

SOLID DRILLS

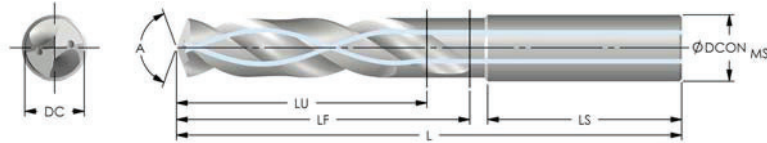
THE COMPLETE TOOL MAKING AUTHORITY[®]



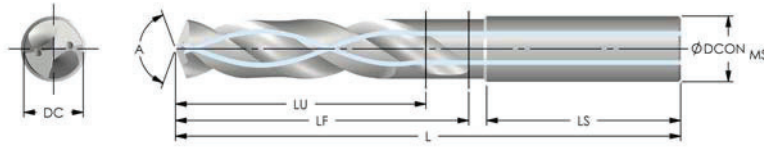
DC	DC	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
#67	0.0320	0.1575 (4mm)	140	0.1181	0.1969	1.1024	2.2835	3XD	928-000-002
#67	0.0320	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	5XD	928-000-240
#67	0.0320	0.1575 (4mm)	140	0.2756	0.3543	1.1024	2.2835	8XD	928-000-478
#66	0.0330	0.1575 (4mm)	140	0.1181	0.1969	1.1024	2.2835	3XD	928-000-003
#66	0.0330	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	5XD	928-000-241
#66	0.0330	0.1575 (4mm)	140	0.2756	0.3543	1.1024	2.2835	8XD	928-000-479
#65	0.0350	0.1575 (4mm)	140	0.1181	0.1969	1.1024	2.2835	3XD	928-000-004
#65	0.0350	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	5XD	928-000-242
#65	0.0350	0.1575 (4mm)	140	0.2756	0.3543	1.1024	2.2835	8XD	928-000-480
#64	0.0360	0.1575 (4mm)	140	0.1181	0.1969	1.1024	2.2835	3XD	928-000-006
#64	0.0360	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	5XD	928-000-244
#64	0.0360	0.1575 (4mm)	140	0.2756	0.3543	1.1024	2.2835	8XD	928-000-482
#63	0.0370	0.1575 (4mm)	140	0.1181	0.1969	1.1024	2.2835	3XD	928-000-007
#63	0.0370	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	5XD	928-000-245
#63	0.0370	0.1575 (4mm)	140	0.2756	0.3543	1.1024	2.2835	8XD	928-000-483
#62	0.0380	0.1575 (4mm)	140	0.1181	0.1969	1.1024	2.2835	3XD	928-000-008
#62	0.0380	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	5XD	928-000-246
#62	0.0380	0.1575 (4mm)	140	0.2756	0.3543	1.1024	2.2835	8XD	928-000-484
#61	0.0390	0.1575 (4mm)	140	0.1181	0.1969	1.1024	2.2835	3XD	928-000-009
#61	0.0390	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	5XD	928-000-247
#61	0.0390	0.1575 (4mm)	140	0.2756	0.3543	1.1024	2.2835	8XD	928-000-485
#60	0.0400	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	3XD	928-000-011
#60	0.0400	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	5XD	928-000-249
#60	0.0400	0.1575 (4mm)	140	0.3937	0.4724	1.1024	2.2835	8XD	928-000-487
#59	0.0410	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	3XD	928-000-012
#59	0.0410	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	5XD	928-000-250
#59	0.0410	0.1575 (4mm)	140	0.3937	0.4724	1.1024	2.2835	8XD	928-000-488
#58	0.0420	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	3XD	928-000-013
#58	0.0420	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	5XD	928-000-251
#58	0.0420	0.1575 (4mm)	140	0.3937	0.4724	1.1024	2.2835	8XD	928-000-489
#57	0.0430	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	3XD	928-000-014
#57	0.0430	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	5XD	928-000-252
#57	0.0430	0.1575 (4mm)	140	0.3937	0.4724	1.1024	2.2835	8XD	928-000-490
#56	0.0465	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	3XD	928-000-017
#56	0.0465	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	5XD	928-000-255
#56	0.0465	0.1575 (4mm)	140	0.3937	0.4724	1.1024	2.2835	8XD	928-000-493
3/64	0.0469	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	3XD	928-000-018
3/64	0.0469	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	5XD	928-000-256
3/64	0.0469	0.1575 (4mm)	140	0.3937	0.4724	1.1024	2.2835	8XD	928-000-494
#55	0.0520	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	3XD	928-000-023
#55	0.0520	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	5XD	928-000-261
#55	0.0520	0.1575 (4mm)	140	0.3937	0.4724	1.1024	2.2835	8XD	928-000-499
#54	0.0550	0.1575 (4mm)	140	0.1969	0.2756	1.1024	2.2835	3XD	928-000-025
#54	0.0550	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	5XD	928-000-263
#54	0.0550	0.1575 (4mm)	140	0.3937	0.4724	1.1024	2.2835	8XD	928-000-501



CARBIDE



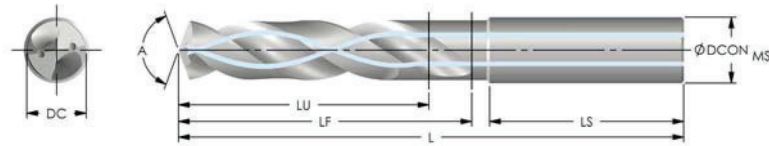
DC	DC	DCNMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
#53	0.0595	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	3XD	928-000-028
#53	0.0595	0.1575 (4mm)	140	0.3543	0.4724	1.1024	2.2835	5XD	928-000-266
#53	0.0595	0.1575 (4mm)	140	0.5906	0.7087	1.1024	2.2835	8XD	928-000-504
1/16	0.0625	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	3XD	928-000-030
1/16	0.0625	0.1575 (4mm)	140	0.3543	0.4724	1.1024	2.2835	5XD	928-000-268
1/16	0.0625	0.1575 (4mm)	140	0.5906	0.7087	1.1024	2.2835	8XD	928-000-506
#52	0.0635	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	3XD	928-000-032
#52	0.0635	0.1575 (4mm)	140	0.3543	0.4724	1.1024	2.2835	5XD	928-000-270
#52	0.0635	0.1575 (4mm)	140	0.5906	0.7087	1.1024	2.2835	8XD	928-000-508
#51	0.0670	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	3XD	928-000-033
#51	0.0670	0.1575 (4mm)	140	0.3543	0.4724	1.1024	2.2835	5XD	928-000-271
#51	0.0670	0.1575 (4mm)	140	0.5906	0.7087	1.1024	2.2835	8XD	928-000-509
#50	0.0700	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	3XD	928-000-034
#50	0.0700	0.1575 (4mm)	140	0.3543	0.4724	1.1024	2.2835	5XD	928-000-272
#50	0.0700	0.1575 (4mm)	140	0.5906	0.7087	1.1024	2.2835	8XD	928-000-510
#49	0.0730	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	3XD	928-000-035
#49	0.0730	0.1575 (4mm)	140	0.3543	0.4724	1.1024	2.2835	5XD	928-000-273
#49	0.0730	0.1575 (4mm)	140	0.5906	0.7087	1.1024	2.2835	8XD	928-000-511
#48	0.0760	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	3XD	928-000-036
#48	0.0760	0.1575 (4mm)	140	0.5512	0.7087	1.1024	2.2835	5XD	928-000-274
#48	0.0760	0.1575 (4mm)	140	0.8661	1.0236	1.1024	2.5984	8XD	928-000-512
5/64	0.0781	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	3XD	928-000-037
5/64	0.0781	0.1575 (4mm)	140	0.5512	0.7087	1.1024	2.2835	5XD	928-000-275
5/64	0.0781	0.1575 (4mm)	140	0.8661	1.0236	1.1024	2.5984	8XD	928-000-513
#47	0.0785	0.1575 (4mm)	140	0.2362	0.3543	1.1024	2.2835	3XD	928-000-038
#47	0.0785	0.1575 (4mm)	140	0.5512	0.7087	1.1024	2.2835	5XD	928-000-276
#47	0.0785	0.1575 (4mm)	140	0.8661	1.0236	1.1024	2.5984	8XD	928-000-514
#46	0.0810	0.1575 (4mm)	140	0.3543	0.5118	1.1024	2.2835	3XD	928-000-040
#46	0.0810	0.1575 (4mm)	140	0.5512	0.7087	1.1024	2.2835	5XD	928-000-278
#46	0.0810	0.1575 (4mm)	140	0.8661	1.0236	1.1024	2.5984	8XD	928-000-516
#45	0.0820	0.1575 (4mm)	140	0.3543	0.5118	1.1024	2.2835	3XD	928-000-041
#45	0.0820	0.1575 (4mm)	140	0.5512	0.7087	1.1024	2.2835	5XD	928-000-279
#45	0.0820	0.1575 (4mm)	140	0.8661	1.0236	1.1024	2.5984	8XD	928-000-517
#44	0.0860	0.1575 (4mm)	140	0.3543	0.5118	1.1024	2.2835	3XD	928-000-042
#44	0.0860	0.1575 (4mm)	140	0.5512	0.7087	1.1024	2.2835	5XD	928-000-280
#44	0.0860	0.1575 (4mm)	140	0.8661	1.0236	1.1024	2.5984	8XD	928-000-518
#43	0.0890	0.1575 (4mm)	140	0.3543	0.5118	1.1024	2.2835	3XD	928-000-043
#43	0.0890	0.1575 (4mm)	140	0.5512	0.7087	1.1024	2.2835	5XD	928-000-281
#43	0.0890	0.1575 (4mm)	140	0.8661	1.0236	1.1024	2.5984	8XD	928-000-519
#42	0.0935	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-044
#42	0.0935	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-282
#42	0.0935	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-520
3/32	0.0938	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-045
3/32	0.0938	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-283
3/32	0.0938	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-521



DC	DC	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
#41	0.0960	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-046
#41	0.0960	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-284
#41	0.0960	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-522
#40	0.0980	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-047
#40	0.0980	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-285
#40	0.0980	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-523
#39	0.0995	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-049
#39	0.0995	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-287
#39	0.0995	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-525
#38	0.1015	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-050
#38	0.1015	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-288
#38	0.1015	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-526
#37	0.1040	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-051
#37	0.1040	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-289
#37	0.1040	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-527
#36	0.1065	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-052
#36	0.1065	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-290
#36	0.1065	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-528
7/64	0.1094	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-053
7/64	0.1094	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-291
7/64	0.1094	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-529
#35	0.1100	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-054
#35	0.1100	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-292
#35	0.1100	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-530
#34	0.1110	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-055
#34	0.1110	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-293
#34	0.1110	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-531
#33	0.1130	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-056
#33	0.1130	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-294
#33	0.1130	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-532
#32	0.1160	0.1575 (4mm)	140	0.4724	0.6693	1.1024	2.2835	3XD	928-000-057
#32	0.1160	0.1575 (4mm)	140	0.6693	0.8661	1.1024	2.2835	5XD	928-000-295
#32	0.1160	0.1575 (4mm)	140	0.9843	1.1811	1.1024	2.5984	8XD	928-000-533
#31	0.1200	0.2362 (6mm)	140	0.5512	0.7874	1.4173	2.4409	3XD	928-000-059
#31	0.1200	0.2362 (6mm)	140	0.9055	1.1024	1.4173	2.5984	5XD	928-000-297
#31	0.1200	0.2362 (6mm)	140	1.2992	1.5748	1.4173	3.0709	8XD	928-000-535
1/8	0.1250	0.2362 (6mm)	140	0.5512	0.7874	1.4173	2.4409	3XD	928-000-060
1/8	0.1250	0.2362 (6mm)	140	0.9055	1.1024	1.4173	2.5984	5XD	928-000-298
1/8	0.1250	0.2362 (6mm)	140	1.2992	1.5748	1.4173	3.0709	8XD	928-000-536
#30	0.1285	0.2362 (6mm)	140	0.5512	0.7874	1.4173	2.4409	3XD	928-000-062
#30	0.1285	0.2362 (6mm)	140	0.9055	1.1024	1.4173	2.5984	5XD	928-000-300
#30	0.1285	0.2362 (6mm)	140	1.2992	1.5748	1.4173	3.0709	8XD	928-000-538
#29	0.1360	0.2362 (6mm)	140	0.5512	0.7874	1.4173	2.4409	3XD	928-000-063
#29	0.1360	0.2362 (6mm)	140	0.9055	1.1024	1.4173	2.5984	5XD	928-000-301
#29	0.1360	0.2362 (6mm)	140	1.2992	1.5748	1.4173	3.0709	8XD	928-000-539

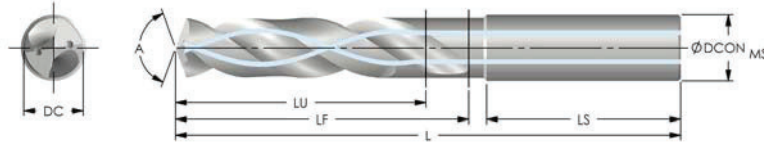


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DC	DC	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
#28	0.1405	0.2362 (6mm)	140	0.5512	0.7874	1.4173	2.4409	3XD	928-000-065
#28	0.1405	0.2362 (6mm)	140	0.9055	1.1024	1.4173	2.5984	5XD	928-000-303
#28	0.1405	0.2362 (6mm)	140	1.2992	1.5748	1.4173	3.0709	8XD	928-000-541
9/64	0.1406	0.2362 (6mm)	140	0.5512	0.7874	1.4173	2.4409	3XD	928-000-066
9/64	0.1406	0.2362 (6mm)	140	0.9055	1.1024	1.4173	2.5984	5XD	928-000-304
9/64	0.1406	0.2362 (6mm)	140	1.2992	1.5748	1.4173	3.0709	8XD	928-000-542
#27	0.1440	0.2362 (6mm)	140	0.5512	0.7874	1.4173	2.4409	3XD	928-000-068
#27	0.1440	0.2362 (6mm)	140	0.9055	1.1024	1.4173	2.5984	5XD	928-000-306
#27	0.1440	0.2362 (6mm)	140	1.2992	1.5748	1.4173	3.0709	8XD	928-000-544
#26	0.1470	0.2362 (6mm)	140	0.5512	0.7874	1.4173	2.4409	3XD	928-000-069
#26	0.1470	0.2362 (6mm)	140	0.9055	1.1024	1.4173	2.5984	5XD	928-000-307
#26	0.1470	0.2362 (6mm)	140	1.2992	1.5748	1.4173	3.0709	8XD	928-000-545
#25	0.1495	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-070
#25	0.1495	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-308
#25	0.1495	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-546
#24	0.1520	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-071
#24	0.1520	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-309
#24	0.1520	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-547
#23	0.1540	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-073
#23	0.1540	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-311
#23	0.1540	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-549
5/32	0.1562	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-074
5/32	0.1562	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-312
5/32	0.1562	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-550
#22	0.1570	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-075
#22	0.1570	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-313
#22	0.1570	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-551
#21	0.1590	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-077
#21	0.1590	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-315
#21	0.1590	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-553
#20	0.1610	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-078
#20	0.1610	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-316
#20	0.1610	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-554
#19	0.1660	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-080
#19	0.1660	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-318
#19	0.1660	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-556
#18	0.1695	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-081
#18	0.1695	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-319
#18	0.1695	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-557
11/64	0.1719	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-082
11/64	0.1719	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-320
11/64	0.1719	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-558
#17	0.1730	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-083
#17	0.1730	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-321
#17	0.1730	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-559

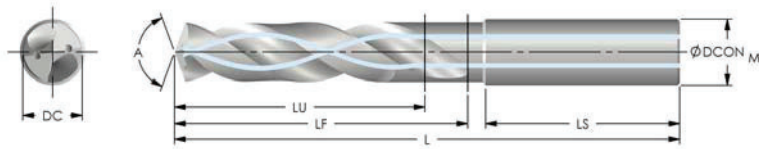
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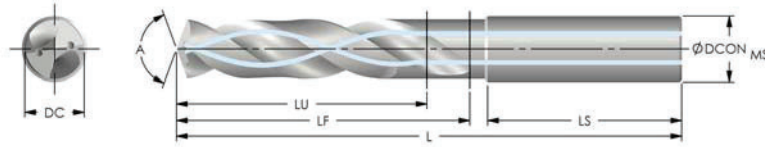
DC	DC	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
#16	0.1770	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-085
#16	0.1770	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-323
#16	0.1770	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-561
#15	0.1800	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-087
#15	0.1800	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-325
#15	0.1800	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-563
#14	0.1820	0.2362 (6mm)	140	0.6693	0.9449	1.4173	2.5984	3XD	928-000-089
#14	0.1820	0.2362 (6mm)	140	1.1417	1.4173	1.4173	2.9134	5XD	928-000-327
#14	0.1820	0.2362 (6mm)	140	1.6142	1.9291	1.4173	3.4252	8XD	928-000-565
3/16	0.1875	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-091
3/16	0.1875	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-329
3/16	0.1875	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-567
#11	0.1910	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-093
#11	0.1910	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-331
#11	0.1910	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-569
#10	0.1935	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-095
#10	0.1935	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-333
#10	0.1935	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-571
#9	0.1960	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-096
#9	0.1960	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-334
#9	0.1960	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-572
#8	0.1990	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-098
#8	0.1990	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-336
#8	0.1990	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-574
#7	0.2010	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-100
#7	0.2010	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-338
#7	0.2010	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-576
13/64	0.2031	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-101
13/64	0.2031	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-339
13/64	0.2031	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-577
#6	0.2040	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-102
#6	0.2040	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-340
#6	0.2040	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-578
#5	0.2055	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-104
#5	0.2055	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-342
#5	0.2055	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-580
#4	0.2090	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-106
#4	0.2090	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-344
#4	0.2090	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-582
#3	0.2130	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-108
#3	0.2130	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-346
#3	0.2130	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-584
7/32	0.2188	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-110
7/32	0.2188	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-348
7/32	0.2188	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-586



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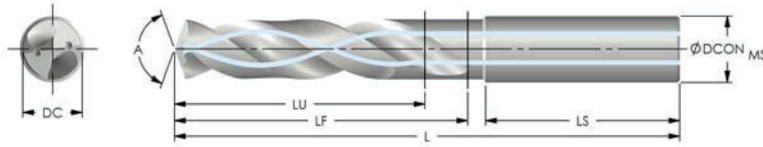
DC	DC	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
#2	0.2210	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-112
#2	0.2210	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-350
#2	0.2210	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-588
#1	0.2280	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-114
#1	0.2280	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-352
#1	0.2280	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-590
A	0.2340	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-117
A	0.2340	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-355
A	0.2340	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-593
15/64	0.2344	0.2362 (6mm)	140	0.7874	1.1024	1.4173	2.5984	3XD	928-000-118
15/64	0.2344	0.2362 (6mm)	140	1.3780	1.7323	1.4173	3.2283	5XD	928-000-356
15/64	0.2344	0.2362 (6mm)	140	1.8898	2.2047	1.4173	3.7008	8XD	928-000-594
B	0.2380	0.3150 (8mm)	140	0.9449	1.3386	1.4173	3.1102	3XD	928-000-120
B	0.2380	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-358
B	0.2380	0.3150 (8mm)	140	2.2441	2.6378	1.4173	4.1339	8XD	928-000-596
C	0.2420	0.3150 (8mm)	140	0.9449	1.3386	1.4173	3.1102	3XD	928-000-122
C	0.2420	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-360
C	0.2420	0.3150 (8mm)	140	2.2441	2.6378	1.4173	4.1339	8XD	928-000-598
D	0.2460	0.3150 (8mm)	140	0.9449	1.3386	1.4173	3.1102	3XD	928-000-124
D	0.2460	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-362
D	0.2460	0.3150 (8mm)	140	2.2441	2.6378	1.4173	4.1339	8XD	928-000-600
E(1/4)	0.2500	0.3150 (8mm)	140	0.9449	1.3386	1.4173	3.1102	3XD	928-000-126
E(1/4)	0.2500	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-364
E(1/4)	0.2500	0.3150 (8mm)	140	2.2441	2.6378	1.4173	4.1339	8XD	928-000-602
F	0.2570	0.3150 (8mm)	140	0.9449	1.3386	1.4173	3.1102	3XD	928-000-129
F	0.2570	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-367
F	0.2570	0.3150 (8mm)	140	2.2441	2.6378	1.4173	4.1339	8XD	928-000-605
G	0.2610	0.3150 (8mm)	140	0.9449	1.3386	1.4173	3.1102	3XD	928-000-131
G	0.2610	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-369
G	0.2610	0.3150 (8mm)	140	2.2441	2.6378	1.4173	4.1339	8XD	928-000-607
17/64	0.2656	0.3150 (8mm)	140	0.9449	1.3386	1.4173	3.1102	3XD	928-000-133
17/64	0.2656	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-371
17/64	0.2656	0.3150 (8mm)	140	2.2441	2.6378	1.4173	4.1339	8XD	928-000-609
H	0.2660	0.3150 (8mm)	140	0.9449	1.3386	1.4173	3.1102	3XD	928-000-134
H	0.2660	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-372
H	0.2660	0.3150 (8mm)	140	2.2441	2.6378	1.4173	4.1339	8XD	928-000-610
I	0.2720	0.3150 (8mm)	140	0.9449	1.3386	1.4173	3.1102	3XD	928-000-137
I	0.2720	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-375
I	0.2720	0.3150 (8mm)	140	2.2441	2.6378	1.4173	4.1339	8XD	928-000-613
J	0.2770	0.3150 (8mm)	140	1.1417	1.6142	1.4173	3.1102	3XD	928-000-139
J	0.2770	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-377
J	0.2770	0.3150 (8mm)	140	2.5197	3.0315	1.4173	4.5276	8XD	928-000-615
K	0.2810	0.3150 (8mm)	140	1.1417	1.6142	1.4173	3.1102	3XD	928-000-141
K	0.2810	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-379
K	0.2810	0.3150 (8mm)	140	2.5197	3.0315	1.4173	4.5276	8XD	928-000-617
9/32	0.2812	0.3150 (8mm)	140	1.1417	1.6142	1.4173	3.1102	3XD	928-000-142
9/32	0.2812	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-380
9/32	0.2812	0.3150 (8mm)	140	2.5197	3.0315	1.4173	4.5276	8XD	928-000-618



DC	DC	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
L	0.2900	0.3150 (8mm)	140	1.1417	1.6142	1.4173	3.1102	3XD	928-000-145
L	0.2900	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-383
L	0.2900	0.3150 (8mm)	140	2.5197	3.0315	1.4173	4.5276	8XD	928-000-621
M	0.2950	0.3150 (8mm)	140	1.1417	1.6142	1.4173	3.1102	3XD	928-000-147
M	0.2950	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-385
M	0.2950	0.3150 (8mm)	140	2.5197	3.0315	1.4173	4.5276	8XD	928-000-623
19/64	0.2969	0.3150 (8mm)	140	1.1417	1.6142	1.4173	3.1102	3XD	928-000-149
19/64	0.2969	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-387
19/64	0.2969	0.3150 (8mm)	140	2.5197	3.0315	1.4173	4.5276	8XD	928-000-625
N	0.3020	0.3150 (8mm)	140	1.1417	1.6142	1.4173	3.1102	3XD	928-000-151
N	0.3020	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-389
N	0.3020	0.3150 (8mm)	140	2.5197	3.0315	1.4173	4.5276	8XD	928-000-627
5/16	0.3125	0.3150 (8mm)	140	1.1417	1.6142	1.4173	3.1102	3XD	928-000-155
5/16	0.3125	0.3150 (8mm)	140	1.6929	2.0866	1.4173	3.5827	5XD	928-000-393
5/16	0.3125	0.3150 (8mm)	140	2.5197	3.0315	1.4173	4.5276	8XD	928-000-631
O	0.3160	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-157
O	0.3160	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-395
O	0.3160	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-633
P	0.3230	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-160
P	0.3230	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-398
P	0.3230	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-636
21/64	0.3281	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-162
21/64	0.3281	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-400
21/64	0.3281	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-638
Q	0.3320	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-164
Q	0.3320	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-402
Q	0.3320	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-640
R	0.3390	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-167
R	0.3390	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-405
R	0.3390	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-643
11/32	0.3438	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-169
11/32	0.3438	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-407
11/32	0.3438	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-645
S	0.3480	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-171
S	0.3480	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-409
S	0.3480	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-647
T	0.3580	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-174
T	0.3580	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-412
T	0.3580	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-650
23/64	0.3594	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-176
23/64	0.3594	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-414
23/64	0.3594	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-652
U	0.3680	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-179
U	0.3680	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-417
U	0.3680	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-655

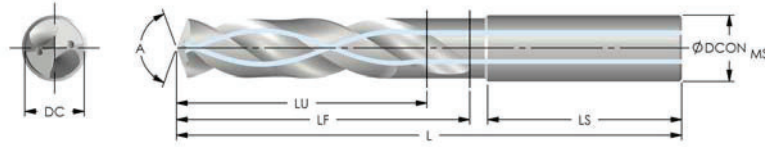


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DC	DC	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
3/8	0.3750	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-182
3/8	0.3750	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-420
3/8	0.3750	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-658
V	0.3770	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-183
V	0.3770	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-421
V	0.3770	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-659
W	0.3860	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-187
W	0.3860	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-425
W	0.3860	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-663
25/64	0.3906	0.3937 (10mm)	140	1.3780	1.8504	1.5748	3.5039	3XD	928-000-189
25/64	0.3906	0.3937 (10mm)	140	1.9291	2.4016	1.5748	4.0551	5XD	928-000-427
25/64	0.3906	0.3937 (10mm)	140	2.9528	3.5039	1.5748	5.1575	8XD	928-000-665
X	0.3970	0.4724 (12mm)	140	1.5748	2.1654	1.7717	4.0157	3XD	928-000-191
X	0.3970	0.4724 (12mm)	140	2.2047	2.7953	1.7717	4.6457	5XD	928-000-429
X	0.3970	0.4724 (12mm)	140	3.6220	4.2520	1.7717	6.1024	8XD	928-000-667
Y	0.4040	0.4724 (12mm)	140	1.5748	2.1654	1.7717	4.0157	3XD	928-000-192
Y	0.4040	0.4724 (12mm)	140	2.2047	2.7953	1.7717	4.6457	5XD	928-000-430
Y	0.4040	0.4724 (12mm)	140	3.6220	4.2520	1.7717	6.1024	8XD	928-000-668
13/32	0.4062	0.4724 (12mm)	140	1.5748	2.1654	1.7717	4.0157	3XD	928-000-193
13/32	0.4062	0.4724 (12mm)	140	2.2047	2.7953	1.7717	4.6457	5XD	928-000-431
13/32	0.4062	0.4724 (12mm)	140	3.6220	4.2520	1.7717	6.1024	8XD	928-000-669
Z	0.4130	0.4724 (12mm)	140	1.5748	2.1654	1.7717	4.0157	3XD	928-000-194
Z	0.4130	0.4724 (12mm)	140	2.2047	2.7953	1.7717	4.6457	5XD	928-000-432
Z	0.4130	0.4724 (12mm)	140	3.6220	4.2520	1.7717	6.1024	8XD	928-000-670
27/64	0.4219	0.4724 (12mm)	140	1.5748	2.1654	1.7717	4.0157	3XD	928-000-196
27/64	0.4219	0.4724 (12mm)	140	2.2047	2.7953	1.7717	4.6457	5XD	928-000-434
27/64	0.4219	0.4724 (12mm)	140	3.6220	4.2520	1.7717	6.1024	8XD	928-000-672
7/16	0.4375	0.4724 (12mm)	140	1.5748	2.1654	1.7717	4.0157	3XD	928-000-198
7/16	0.4375	0.4724 (12mm)	140	2.2047	2.7953	1.7717	4.6457	5XD	928-000-436
7/16	0.4375	0.4724 (12mm)	140	3.6220	4.2520	1.7717	6.1024	8XD	928-000-674
29/64	0.4531	0.4724 (12mm)	140	1.5748	2.1654	1.7717	4.0157	3XD	928-000-200
29/64	0.4531	0.4724 (12mm)	140	2.2047	2.7953	1.7717	4.6457	5XD	928-000-438
29/64	0.4531	0.4724 (12mm)	140	3.6220	4.2520	1.7717	6.1024	8XD	928-000-676
15/32	0.4688	0.4724 (12mm)	140	1.5748	2.1654	1.7717	4.0157	3XD	928-000-201
15/32	0.4688	0.4724 (12mm)	140	2.2047	2.7953	1.7717	4.6457	5XD	928-000-439
15/32	0.4688	0.4724 (12mm)	140	3.6220	4.2520	1.7717	6.1024	8XD	928-000-677
31/64	0.4844	0.5512 (14mm)	140	1.6929	2.3622	1.7717	4.2126	3XD	928-000-203
31/64	0.4844	0.5512 (14mm)	140	2.3622	3.0315	1.7717	4.8819	5XD	928-000-441
31/64	0.4844	0.5512 (14mm)	140	4.3307	5.3150	1.7717	7.1654	8XD	928-000-679
1/2	0.5000	0.5512 (14mm)	140	1.6929	2.3622	1.7717	4.2126	3XD	928-000-205
1/2	0.5000	0.5512 (14mm)	140	2.3622	3.0315	1.7717	4.8819	5XD	928-000-443
1/2	0.5000	0.5512 (14mm)	140	4.3307	5.315	1.7717	7.1654	8XD	928-000-681
33/64	0.5156	0.5512 (14mm)	140	1.6929	2.3622	1.7717	4.2126	3XD	928-000-207
33/64	0.5156	0.5512 (14mm)	140	2.3622	3.0315	1.7717	4.8819	5XD	928-000-445
33/64	0.5156	0.5512 (14mm)	140	4.3307	5.3150	1.7717	7.1654	8XD	928-000-683

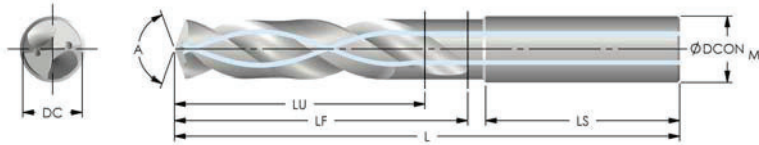
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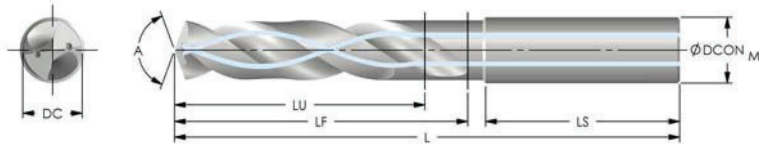
DC	DC	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
17/32	0.5312	0.5512 (14mm)	140	1.6929	2.3622	1.7717	4.2126	3XD	928-000-208
17/32	0.5312	0.5512 (14mm)	140	2.3622	3.0315	1.7717	4.8819	5XD	928-000-446
17/32	0.5312	0.5512 (14mm)	140	4.3307	5.315	1.7717	7.1654	8XD	928-000-684
35/64	0.5469	0.5512 (14mm)	140	1.6929	2.3622	1.7717	4.2126	3XD	928-000-210
35/64	0.5469	0.5512 (14mm)	140	2.3622	3.0315	1.7717	4.8819	5XD	928-000-448
35/64	0.5469	0.5512 (14mm)	140	4.3307	5.315	1.7717	7.1654	8XD	928-000-686
9/16	0.5625	0.6299 (16mm)	140	1.7717	2.5591	1.8898	4.5276	3XD	928-000-212
9/16	0.5625	0.6299 (16mm)	140	2.4803	3.2677	1.8898	5.2362	5XD	928-000-450
9/16	0.5625	0.6299 (16mm)	140	5.0394	6.1024	1.8898	8.0315	8XD	928-000-688
37/64	0.5781	0.6299 (16mm)	140	1.7717	2.5591	1.8898	4.5276	3XD	928-000-214
37/64	0.5781	0.6299 (16mm)	140	2.4803	3.2677	1.8898	5.2362	5XD	928-000-452
37/64	0.5781	0.6299 (16mm)	140	5.0394	6.1024	1.8898	8.0315	8XD	928-000-690
19/32	0.5938	0.6299 (16mm)	140	1.7717	2.5591	1.8898	4.5276	3XD	928-000-216
19/32	0.5938	0.6299 (16mm)	140	2.4803	3.2677	1.8898	5.2362	5XD	928-000-454
19/32	0.5938	0.6299 (16mm)	140	5.0394	6.1024	1.8898	8.0315	8XD	928-000-692
39/64	0.6094	0.6299 (16mm)	140	1.7717	2.5591	1.8898	4.5276	3XD	928-000-217
39/64	0.6094	0.6299 (16mm)	140	2.4803	3.2677	1.8898	5.2362	5XD	928-000-455
39/64	0.6094	0.6299 (16mm)	140	5.0394	6.1024	1.8898	8.0315	8XD	928-000-693
5/8	0.6250	0.6299 (16mm)	140	1.7717	2.5591	1.8898	4.5276	3XD	928-000-219
5/8	0.6250	0.6299 (16mm)	140	2.4803	3.2677	1.8898	5.2362	5XD	928-000-457
5/8	0.6250	0.6299 (16mm)	140	5.0394	6.1024	1.8898	8.0315	8XD	928-000-695
41/64	0.6406	0.7087 (18mm)	140	2.0079	2.8740	1.8898	4.8425	3XD	928-000-221
41/64	0.6406	0.7087 (18mm)	140	2.7953	3.6614	1.8898	5.6299	5XD	928-000-459
41/64	0.6406	0.7087 (18mm)	140	5.6693	6.6929	1.8898	8.7795	8XD	928-000-697
21/32	0.6562	0.7087 (18mm)	140	2.0079	2.8740	1.8898	4.8425	3XD	928-000-223
21/32	0.6562	0.7087 (18mm)	140	2.7953	3.6614	1.8898	5.6299	5XD	928-000-461
21/32	0.6562	0.7087 (18mm)	140	5.6693	6.6929	1.8898	8.7795	8XD	928-000-699
43/64	0.6719	0.7087 (18mm)	140	2.0079	2.874	1.8898	4.8425	3XD	928-000-225
43/64	0.6719	0.7087 (18mm)	140	2.7953	3.6614	1.8898	5.6299	5XD	928-000-463
43/64	0.6719	0.7087 (18mm)	140	5.6693	6.6929	1.8898	8.7795	8XD	928-000-701
11/16	0.6875	0.7087 (18mm)	140	2.0079	2.8740	1.8898	4.8425	3XD	928-000-226
11/16	0.6875	0.7087 (18mm)	140	2.7953	3.6614	1.8898	5.6299	5XD	928-000-464
11/16	0.6875	0.7087 (18mm)	140	5.6693	6.6929	1.8898	8.7795	8XD	928-000-702
45/64	0.7031	0.7087 (18mm)	140	2.0079	2.8740	1.8898	4.8425	3XD	928-000-228
45/64	0.7031	0.7087 (18mm)	140	2.7953	3.6614	1.8898	5.6299	5XD	928-000-466
45/64	0.7031	0.7087 (18mm)	140	5.6693	6.6929	1.8898	8.7795	8XD	928-000-704
23/32	0.7188	0.7874 (20.00mm)	140	2.1654	3.1102	1.9685	5.1969	3XD	928-000-230
23/32	0.7188	0.7874 (20.00mm)	140	3.0315	3.9764	1.9685	6.0630	5XD	928-000-468
23/32	0.7188	0.7874 (20.00mm)	140	6.2992	7.2835	1.9685	9.6457	8XD	928-000-706
47/64	0.7344	0.7874 (20.00mm)	140	2.1654	3.1102	1.9685	5.1969	3XD	928-000-232
47/64	0.7344	0.7874 (20.00mm)	140	3.0315	3.9764	1.9685	6.0630	5XD	928-000-470
47/64	0.7344	0.7874 (20.00mm)	140	6.2992	7.2835	1.9685	9.6457	8XD	928-000-708
3/4	0.7500	0.7874 (20.00mm)	140	2.1654	3.1102	1.9685	5.1969	3XD	928-000-234
3/4	0.7500	0.7874 (20.00mm)	140	3.0315	3.9764	1.9685	6.0630	5XD	928-000-472
3/4	0.7500	0.7874 (20.00mm)	140	6.2992	7.2835	1.9685	9.6457	8XD	928-000-710
49/64	0.7656	0.7874 (20.00mm)	140	2.1654	3.1102	1.9685	5.1969	3XD	928-000-235
49/64	0.7656	0.7874 (20.00mm)	140	3.0315	3.9764	1.9685	6.0630	5XD	928-000-473
49/64	0.7656	0.7874 (20.00mm)	140	6.2992	7.2835	1.9685	9.6457	8XD	928-000-711
25/32	0.7812	0.7874 (20.00mm)	140	2.1654	3.1102	1.9685	5.1969	3XD	928-000-237
25/32	0.7812	0.7874 (20.00mm)	140	3.0315	3.9764	1.9685	6.0630	5XD	928-000-475
25/32	0.7812	0.7874 (20.00mm)	140	6.2992	7.2835	1.9685	9.6457	8XD	928-000-713



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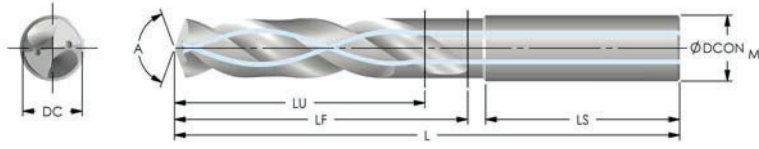
DC (mm)	DC (in)	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
0.80MM	0.80	4.00	140	3.00	5.00	28.00	58.00	3XD	928-000-001
0.80MM	0.80	4.00	140	5.00	7.00	28.00	58.00	5XD	928-000-239
0.80MM	0.80	4.00	140	7.00	9.00	28.00	58.00	8XD	928-000-477
0.90MM	0.90	4.00	140	3.00	5.00	28.00	58.00	3XD	928-000-005
0.90MM	0.90	4.00	140	5.00	7.00	28.00	58.00	5XD	928-000-243
0.90MM	0.90	4.00	140	7.00	9.00	28.00	58.00	8XD	928-000-481
1.00MM	1.00	4.00	140	5.00	7.00	28.00	58.00	3XD	928-000-010
1.00MM	1.00	4.00	140	6.00	9.00	28.00	58.00	5XD	928-000-248
1.00MM	1.00	4.00	140	10.00	12.00	28.00	58.00	8XD	928-000-486
1.10MM	1.10	4.00	140	5.00	7.00	28.00	58.00	3XD	928-000-015
1.10MM	1.10	4.00	140	6.00	9.00	28.00	58.00	5XD	928-000-253
1.10MM	1.10	4.00	140	10.00	12.00	28.00	58.00	8XD	928-000-491
1.12MM	1.12	4.00	140	5.00	7.00	28.00	58.00	3XD	928-000-016
1.12MM	1.12	4.00	140	6.00	9.00	28.00	58.00	5XD	928-000-254
1.12MM	1.12	4.00	140	10.00	12.00	28.00	58.00	8XD	928-000-492
1.20MM	1.20	4.00	140	5.00	7.00	28.00	58.00	3XD	928-000-019
1.20MM	1.20	4.00	140	6.00	9.00	28.00	58.00	5XD	928-000-257
1.20MM	1.20	4.00	140	10.00	12.00	28.00	58.00	8XD	928-000-495
1.25MM	1.25	4.00	140	5.00	7.00	28.00	58.00	3XD	928-000-020
1.25MM	1.25	4.00	140	6.00	9.00	28.00	58.00	5XD	928-000-258
1.25MM	1.25	4.00	140	10.00	12.00	28.00	58.00	8XD	928-000-496
1.27MM	1.27	4.00	140	5.00	7.00	28.00	58.00	3XD	928-000-021
1.27MM	1.27	4.00	140	6.00	9.00	28.00	58.00	5XD	928-000-259
1.27MM	1.27	4.00	140	10.00	12.00	28.00	58.00	8XD	928-000-497
1.30MM	1.30	4.00	140	5.00	7.00	28.00	58.00	3XD	928-000-022
1.30MM	1.30	4.00	140	6.00	9.00	28.00	58.00	5XD	928-000-260
1.30MM	1.30	4.00	140	10.00	12.00	28.00	58.00	8XD	928-000-498
1.35MM	1.35	4.00	140	5.00	7.00	28.00	58.00	3XD	928-000-024
1.35MM	1.35	4.00	140	6.00	9.00	28.00	58.00	5XD	928-000-262
1.35MM	1.35	4.00	140	10.00	12.00	28.00	58.00	8XD	928-000-500
1.45MM	1.45	4.00	140	6.00	9.00	28.00	58.00	3XD	928-000-026
1.45MM	1.45	4.00	140	9.00	12.00	28.00	58.00	5XD	928-000-264
1.45MM	1.45	4.00	140	15.00	18.00	28.00	58.00	8XD	928-000-502
1.50MM	1.50	4.00	140	6.00	9.00	28.00	58.00	3XD	928-000-027
1.50MM	1.50	4.00	140	9.00	12.00	28.00	58.00	5XD	928-000-265
1.50MM	1.50	4.00	140	15.00	18.00	28.00	58.00	8XD	928-000-503
1.55MM	1.55	4.00	140	6.00	9.00	28.00	58.00	3XD	928-000-029
1.55MM	1.55	4.00	140	9.00	12.00	28.00	58.00	5XD	928-000-267
1.55MM	1.55	4.00	140	15.00	18.00	28.00	58.00	8XD	928-000-505
1.60MM	1.60	4.00	140	6.00	9.00	28.00	58.00	3XD	928-000-031
1.60MM	1.60	4.00	140	9.00	12.00	28.00	58.00	5XD	928-000-269
1.60MM	1.60	4.00	140	15.00	18.00	28.00	58.00	8XD	928-000-507
2.00MM	2.00	4.00	140	9.00	13.00	28.00	58.00	3XD	928-000-039
2.00MM	2.00	4.00	140	14.00	18.00	28.00	58.00	5XD	928-000-277
2.00MM	2.00	4.00	140	22.00	26.00	28.00	66.00	8XD	928-000-515



DC (mm)	DC (in)	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
2.50MM	2.50	4.00	140	12.00	17.00	28.00	58.00	3XD	928-000-048
2.50MM	2.50	4.00	140	17.00	22.00	28.00	58.00	5XD	928-000-286
2.50MM	2.50	4.00	140	25.00	30.00	28.00	66.00	8XD	928-000-524
3.00MM	3.00	6.00	140	14.00	20.00	36.00	62.00	3XD	928-000-058
3.00MM	3.00	6.00	140	23.00	28.00	36.00	66.00	5XD	928-000-296
3.00MM	3.00	6.00	140	33.00	40.00	36.00	78.00	8XD	928-000-534
3.20MM	3.20	6.00	140	14.00	20.00	36.00	62.00	3XD	928-000-061
3.20MM	3.20	6.00	140	23.00	28.00	36.00	66.00	5XD	928-000-299
3.20MM	3.20	6.00	140	33.00	40.00	36.00	78.00	8XD	928-000-537
3.50MM	3.50	6.00	140	14.00	20.00	36.00	62.00	3XD	928-000-064
3.50MM	3.50	6.00	140	23.00	28.00	36.00	66.00	5XD	928-000-302
3.50MM	3.50	6.00	140	33.00	40.00	36.00	78.00	8XD	928-000-540
3.60MM	3.60	6.00	140	14.00	20.00	36.00	62.00	3XD	928-000-067
3.60MM	3.60	6.00	140	23.00	28.00	36.00	66.00	5XD	928-000-305
3.60MM	3.60	6.00	140	33.00	40.00	36.00	78.00	8XD	928-000-543
3.90MM	3.90	6.00	140	17.00	24.00	36.00	66.00	3XD	928-000-072
3.90MM	3.90	6.00	140	29.00	36.00	36.00	74.00	5XD	928-000-310
3.90MM	3.90	6.00	140	41.00	49.00	36.00	87.00	8XD	928-000-548
4.00MM	4.00	6.00	140	17.00	24.00	36.00	66.00	3XD	928-000-076
4.00MM	4.00	6.00	140	29.00	36.00	36.00	74.00	5XD	928-000-314
4.00MM	4.00	6.00	140	41.00	49.00	36.00	87.00	8XD	928-000-552
4.10MM	4.10	6.00	140	17.00	24.00	36.00	66.00	3XD	928-000-079
4.10MM	4.10	6.00	140	29.00	36.00	36.00	74.00	5XD	928-000-317
4.10MM	4.10	6.00	140	41.00	49.00	36.00	87.00	8XD	928-000-555
4.40MM	4.40	6.00	140	17.00	24.00	36.00	66.00	3XD	928-000-084
4.40MM	4.40	6.00	140	29.00	36.00	36.00	74.00	5XD	928-000-322
4.40MM	4.40	6.00	140	41.00	49.00	36.00	87.00	8XD	928-000-560
4.50MM	4.50	6.00	140	17.00	24.00	36.00	66.00	3XD	928-000-086
4.50MM	4.50	6.00	140	29.00	36.00	36.00	74.00	5XD	928-000-324
4.50MM	4.50	6.00	140	41.00	49.00	36.00	87.00	8XD	928-000-562
4.60MM	4.60	6.00	140	17.00	24.00	36.00	66.00	3XD	928-000-088
4.60MM	4.60	6.00	140	29.00	36.00	36.00	74.00	5XD	928-000-326
4.60MM	4.60	6.00	140	41.00	49.00	36.00	87.00	8XD	928-000-564
4.70MM	4.70	6.00	140	17.00	24.00	36.00	66.00	3XD	928-000-090
4.70MM	4.70	6.00	140	29.00	36.00	36.00	74.00	5XD	928-000-328
4.70MM	4.70	6.00	140	41.00	49.00	36.00	87.00	8XD	928-000-566
4.80MM	4.80	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-092
4.80MM	4.80	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-330
4.80MM	4.80	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-568
4.90MM	4.90	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-094
4.90MM	4.90	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-332
4.90MM	4.90	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-570
5.00MM	5.00	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-097
5.00MM	5.00	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-335
5.00MM	5.00	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-573

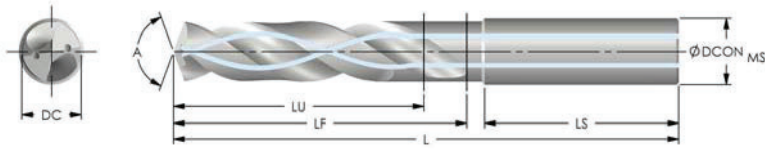


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DC (mm)	DC (in)	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
5.10MM	5.10	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-099
5.10MM	5.10	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-337
5.10MM	5.10	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-575
5.20MM	5.20	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-103
5.20MM	5.20	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-341
5.20MM	5.20	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-579
5.30MM	5.30	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-105
5.30MM	5.30	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-343
5.30MM	5.30	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-581
5.40MM	5.40	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-107
5.40MM	5.40	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-345
5.40MM	5.40	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-583
5.50MM	5.50	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-109
5.50MM	5.50	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-347
5.50MM	5.50	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-585
5.60MM	5.60	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-111
5.60MM	5.60	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-349
5.60MM	5.60	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-587
5.70MM	5.70	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-113
5.70MM	5.70	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-351
5.70MM	5.70	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-589
5.80MM	5.80	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-115
5.80MM	5.80	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-353
5.80MM	5.80	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-591
5.90MM	5.90	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-116
5.90MM	5.90	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-354
5.90MM	5.90	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-592
6.00MM	6.00	6.00	140	20.00	28.00	36.00	66.00	3XD	928-000-119
6.00MM	6.00	6.00	140	35.00	44.00	36.00	82.00	5XD	928-000-357
6.00MM	6.00	6.00	140	48.00	56.00	36.00	94.00	8XD	928-000-595
6.10MM	6.10	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-121
6.10MM	6.10	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-359
6.10MM	6.10	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-597
6.20MM	6.20	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-123
6.20MM	6.20	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-361
6.20MM	6.20	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-599
6.30MM	6.30	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-125
6.30MM	6.30	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-363
6.30MM	6.30	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-601
6.40MM	6.40	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-127
6.40MM	6.40	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-365
6.40MM	6.40	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-603
6.50MM	6.50	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-128
6.50MM	6.50	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-366
6.50MM	6.50	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-604

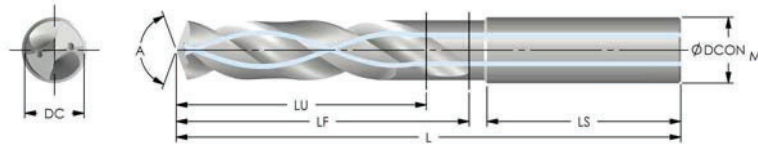
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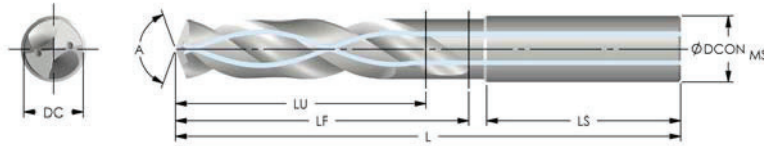
DC (mm)	DC (in)	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
6.60MM	6.60	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-130
6.60MM	6.60	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-368
6.60MM	6.60	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-606
6.70MM	6.70	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-132
6.70MM	6.70	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-370
6.70MM	6.70	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-608
6.80MM	6.80	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-135
6.80MM	6.80	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-373
6.80MM	6.80	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-611
6.90MM	6.90	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-136
6.90MM	6.90	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-374
6.90MM	6.90	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-612
7.00MM	7.00	8.00	140	24.00	34.00	36.00	79.00	3XD	928-000-138
7.00MM	7.00	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-376
7.00MM	7.00	8.00	140	57.00	67.00	36.00	105.00	8XD	928-000-614
7.10MM	7.10	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-140
7.10MM	7.10	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-378
7.10MM	7.10	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-616
7.20MM	7.20	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-143
7.20MM	7.20	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-381
7.20MM	7.20	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-619
7.30MM	7.30	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-144
7.30MM	7.30	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-382
7.30MM	7.30	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-620
7.40MM	7.40	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-146
7.40MM	7.40	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-384
7.40MM	7.40	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-622
7.50MM	7.50	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-148
7.50MM	7.50	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-386
7.50MM	7.50	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-624
7.60MM	7.60	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-150
7.60MM	7.60	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-388
7.60MM	7.60	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-626
7.70MM	7.70	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-152
7.70MM	7.70	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-390
7.70MM	7.70	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-628
7.80MM	7.80	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-153
7.80MM	7.80	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-391
7.80MM	7.80	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-629
7.90MM	7.90	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-154
7.90MM	7.90	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-392
7.90MM	7.90	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-630
8.00MM	8.00	8.00	140	29.00	41.00	36.00	79.00	3XD	928-000-156
8.00MM	8.00	8.00	140	43.00	53.00	36.00	91.00	5XD	928-000-394
8.00MM	8.00	8.00	140	64.00	77.00	36.00	115.00	8XD	928-000-632
8.10MM	8.10	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-158
8.10MM	8.10	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-396
8.10MM	8.10	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-634



CARBIDE



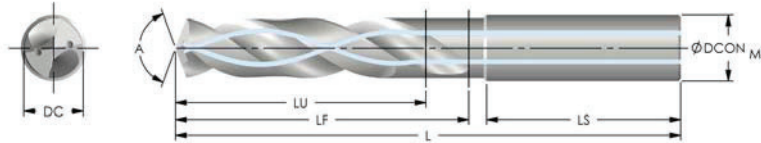
DC (mm)	DC (in)	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
8.20MM	8.20	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-159
8.20MM	8.20	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-397
8.20MM	8.20	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-635
8.30MM	8.30	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-161
8.30MM	8.30	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-399
8.30MM	8.30	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-637
8.40MM	8.40	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-163
8.40MM	8.40	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-401
8.40MM	8.40	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-639
8.50MM	8.50	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-165
8.50MM	8.50	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-403
8.50MM	8.50	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-641
8.60MM	8.60	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-166
8.60MM	8.60	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-404
8.60MM	8.60	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-642
8.70MM	8.70	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-168
8.70MM	8.70	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-406
8.70MM	8.70	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-644
8.80MM	8.80	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-170
8.80MM	8.80	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-408
8.80MM	8.80	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-646
8.90MM	8.90	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-172
8.90MM	8.90	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-410
8.90MM	8.90	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-648
9.00MM	9.00	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-173
9.00MM	9.00	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-411
9.00MM	9.00	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-649
9.10MM	9.10	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-175
9.10MM	9.10	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-413
9.10MM	9.10	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-651
9.20MM	9.20	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-177
9.20MM	9.20	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-415
9.20MM	9.20	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-653
9.30MM	9.30	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-178
9.30MM	9.30	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-416
9.30MM	9.30	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-654
9.40MM	9.40	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-180
9.40MM	9.40	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-418
9.40MM	9.40	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-656
9.50MM	9.50	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-181
9.50MM	9.50	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-419
9.50MM	9.50	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-657
9.60MM	9.60	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-184
9.60MM	9.60	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-422
9.60MM	9.60	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-660



DC (mm)	DC (in)	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
9.70MM	9.70	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-185
9.70MM	9.70	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-423
9.70MM	9.70	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-661
9.80MM	9.80	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-186
9.80MM	9.80	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-424
9.80MM	9.80	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-662
9.90MM	9.90	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-188
9.90MM	9.90	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-426
9.90MM	9.90	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-664
10.00MM	10.00	10.00	140	35.00	47.00	40.00	89.00	3XD	928-000-190
10.00MM	10.00	10.00	140	49.00	61.00	40.00	103.00	5XD	928-000-428
10.00MM	10.00	10.00	140	75.00	89.00	40.00	131.00	8XD	928-000-666
10.50MM	10.50	12.00	140	40.00	55.00	45.00	102.00	3XD	928-000-195
10.50MM	10.50	12.00	140	56.00	71.00	45.00	118.00	5XD	928-000-433
10.50MM	10.50	12.00	140	92.00	108.00	45.00	155.00	8XD	928-000-671
11.00MM	11.00	12.00	140	40.00	55.00	45.00	102.00	3XD	928-000-197
11.00MM	11.00	12.00	140	56.00	71.00	45.00	118.00	5XD	928-000-435
11.00MM	11.00	12.00	140	92.00	108.00	45.00	155.00	8XD	928-000-673
11.50MM	11.50	12.00	140	40.00	55.00	45.00	102.00	3XD	928-000-199
11.50MM	11.50	12.00	140	56.00	71.00	45.00	118.00	5XD	928-000-437
11.50MM	11.50	12.00	140	92.00	108.00	45.00	155.00	8XD	928-000-675
12.00MM	12.00	12.00	140	40.00	55.00	45.00	102.00	3XD	928-000-202
12.00MM	12.00	12.00	140	56.00	71.00	45.00	118.00	5XD	928-000-440
12.00MM	12.00	12.00	140	92.00	108.00	45.00	155.00	8XD	928-000-678
12.50MM	12.50	14.00	140	43.00	60.00	45.00	107.00	3XD	928-000-204
12.50MM	12.50	14.00	140	60.00	77.00	45.00	124.00	5XD	928-000-442
12.50MM	12.50	14.00	140	110.00	135.00	45.00	182.00	8XD	928-000-680
13.00MM	13.00	14.00	140	43.00	60.00	45.00	107.00	3XD	928-000-206
13.00MM	13.00	14.00	140	60.00	77.00	45.00	124.00	5XD	928-000-444
13.00MM	13.00	14.00	140	110.00	135.00	45.00	182.00	8XD	928-000-682
13.50MM	13.50	14.00	140	43.00	60.00	45.00	107.00	3XD	928-000-209
13.50MM	13.50	14.00	140	60.00	77.00	45.00	124.00	5XD	928-000-447
13.50MM	13.50	14.00	140	110.00	135.00	45.00	182.00	8XD	928-000-685
14.00MM	14.00	14.00	140	43.00	60.00	45.00	107.00	3XD	928-000-211
14.00MM	14.00	14.00	140	60.00	77.00	45.00	124.00	5XD	928-000-449
14.00MM	14.00	14.00	140	110.00	135.00	45.00	182.00	8XD	928-000-687
14.50MM	14.50	16.00	140	45.00	65.00	48.00	115.00	3XD	928-000-213
14.50MM	14.50	16.00	140	63.00	83.00	48.00	133.00	5XD	928-000-451
14.50MM	14.50	16.00	140	128.00	155.00	48.00	204.00	8XD	928-000-689
15.00MM	15.00	16.00	140	45.00	65.00	48.00	115.00	3XD	928-000-215
15.00MM	15.00	16.00	140	63.00	83.00	48.00	133.00	5XD	928-000-453
15.00MM	15.00	16.00	140	128.00	155.00	48.00	204.00	8XD	928-000-691
15.50MM	15.50	16.00	140	45.00	65.00	48.00	115.00	3XD	928-000-218
15.50MM	15.50	16.00	140	63.00	83.00	48.00	133.00	5XD	928-000-456
15.50MM	15.50	16.00	140	128.00	155.00	48.00	204.00	8XD	928-000-694



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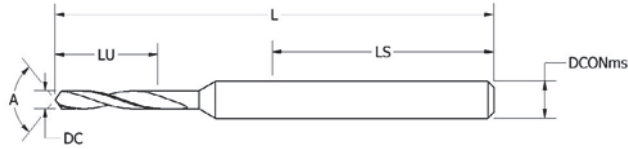


DC (mm)	DC (in)	DCONMS	A	LU	LF	LS	L	LD Ratio	PRODUCT #
16.00MM	16.00	16.00	140	45.00	65.00	48.00	115.00	3XD	928-000-220
16.00MM	16.00	16.00	140	63.00	83.00	48.00	133.00	5XD	928-000-458
16.00MM	16.00	16.00	140	128.00	155.00	48.00	204.00	8XD	928-000-696
16.50MM	16.50	18.00	140	51.00	73.00	48.00	123.00	3XD	928-000-222
16.50MM	16.50	18.00	140	71.00	93.00	48.00	143.00	5XD	928-000-460
16.50MM	16.50	18.00	140	144.00	170.00	48.00	223.00	8XD	928-000-698
17.00MM	17.00	18.00	140	51.00	73.00	48.00	123.00	3XD	928-000-224
17.00MM	17.00	18.00	140	71.00	93.00	48.00	143.00	5XD	928-000-462
17.00MM	17.00	18.00	140	144.00	170.00	48.00	223.00	8XD	928-000-700
17.50MM	17.50	18.00	140	51.00	73.00	48.00	123.00	3XD	928-000-227
17.50MM	17.50	18.00	140	71.00	93.00	48.00	143.00	5XD	928-000-465
17.50MM	17.50	18.00	140	144.00	170.00	48.00	223.00	8XD	928-000-703
18.00MM	18.00	18.00	140	51.00	73.00	48.00	123.00	3XD	928-000-229
18.00MM	18.00	18.00	140	71.00	93.00	48.00	143.00	5XD	928-000-467
18.00MM	18.00	18.00	140	144.00	170.00	48.00	223.00	8XD	928-000-705
18.50MM	18.50	20.00	140	55.00	79.00	50.00	132.00	3XD	928-000-231
18.50MM	18.50	20.00	140	77.00	101.00	50.00	154.00	5XD	928-000-469
18.50MM	18.50	20.00	140	160.00	185.00	50.00	245.00	8XD	928-000-707
19.00MM	19.00	20.00	140	55.00	79.00	50.00	132.00	3XD	928-000-233
19.00MM	19.00	20.00	140	77.00	101.00	50.00	154.00	5XD	928-000-471
19.00MM	19.00	20.00	140	160.00	185.00	50.00	245.00	8XD	928-000-709
19.50MM	19.50	20.00	140	55.00	79.00	50.00	132.00	3XD	928-000-236
19.50MM	19.50	20.00	140	77.00	101.00	50.00	154.00	5XD	928-000-474
19.50MM	19.50	20.00	140	160.00	185.00	50.00	245.00	8XD	928-000-712
20.00MM	20.00	20.00	140	55.00	79.00	50.00	132.00	3XD	928-000-238
20.00MM	20.00	20.00	140	77.00	101.00	50.00	154.00	5XD	928-000-476
20.00MM	20.00	20.00	140	160.00	185.00	50.00	245.00	8XD	928-000-714

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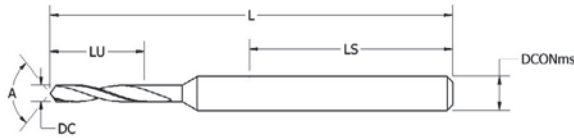


Ø .004"-.025" (.10MM - .64MM)



DC	DC	DC (mm)	DCONms	LU	A	LS	L	UNCOATED
								2 FLUTE
0.0040	# 102	.10mm	0.1250	0.0700	118.0	0.7500	1.5000	925-000-001
0.0050	# 99	.13mm	0.1250	0.0700	118.0	0.7500	1.5000	925-000-002
0.0059	# 97	.15mm	0.1250	0.1200	118.0	0.7500	1.5000	925-000-003
0.0063	# 96	.16mm	0.1250	0.1200	118.0	0.7500	1.5000	925-000-004
0.0067	# 95	.17mm	0.1250	0.1200	118.0	0.7500	1.5000	925-000-005
0.0071	# 94	.18mm	0.1250	0.1500	118.0	0.7500	1.5000	925-000-006
0.0075	# 93	.19mm	0.1250	0.1500	118.0	0.7500	1.5000	925-000-007
0.0079	# 92	.20mm	0.1250	0.1500	118.0	0.7500	1.5000	925-000-008
0.0083	# 91	.21mm	0.1250	0.1500	118.0	0.7500	1.5000	925-000-009
0.0087	# 90	.22mm	0.1250	0.1500	118.0	0.7500	1.5000	925-000-010
0.0091	# 89	.23mm	0.1250	0.2200	118.0	0.7500	1.5000	925-000-011
0.0095	# 88	.24mm	0.1250	0.2200	118.0	0.7500	1.5000	925-000-012
0.0098	.25mm	.25mm	0.1250	0.2200	118.0	0.7500	1.5000	925-000-013
0.0100	# 87	.25mm	0.1250	0.2200	118.0	0.7500	1.5000	925-000-014
0.0105	# 86	.27mm	0.1250	0.2200	118.0	0.7500	1.5000	925-000-015
0.0110	# 85	.28mm	0.1250	0.2200	118.0	0.7500	1.5000	925-000-016
0.0115	# 84	.29mm	0.1250	0.2200	118.0	0.7500	1.5000	925-000-017
0.0118	.30mm	.30mm	0.1250	0.2800	118.0	0.7500	1.5000	925-000-018
0.0120	# 83	.305mm	0.1250	0.2800	118.0	0.7500	1.5000	925-000-019
0.0125	# 82	.32mm	0.1250	0.2800	118.0	0.7500	1.5000	925-000-020
0.0130	# 81	.33mm	0.1250	0.2800	130.0	0.7500	1.5000	925-000-021
0.0135	# 80	.34mm	0.1250	0.2800	130.0	0.7500	1.5000	925-000-022
0.0138	.35mm	.35mm	0.1250	0.2800	130.0	0.7500	1.5000	925-000-023
0.0145	# 79	.37mm	0.1250	0.2800	130.0	0.7500	1.5000	925-000-024
0.0156	1/64"	.396mm	0.1250	0.2950	130.0	0.7500	1.5000	925-000-025
0.0157	.40mm	.40mm	0.1250	0.2950	130.0	0.7500	1.5000	925-000-026
0.0160	# 78	.41mm	0.1250	0.2950	130.0	0.7500	1.5000	925-000-027
0.0177	.45mm	.45mm	0.1250	0.2950	130.0	0.7500	1.5000	925-000-028
0.0180	# 77	.46mm	0.1250	0.2950	130.0	0.7500	1.5000	925-000-029
0.0197	.50mm	.50mm	0.1250	0.3100	130.0	0.7500	1.5000	925-000-030
0.0200	# 76	.51mm	0.1250	0.3100	130.0	0.7500	1.5000	925-000-031
0.0210	# 75	.53mm	0.1250	0.3100	130.0	0.7500	1.5000	925-000-032
0.0217	.55mm	.55mm	0.1250	0.3400	130.0	0.7500	1.5000	925-000-033
0.0225	# 74	.57mm	0.1250	0.3400	130.0	0.7500	1.5000	925-000-034
0.0236	.60mm	.60mm	0.1250	0.3400	130.0	0.7500	1.5000	925-000-035
0.0240	# 73	.61mm	0.1250	0.3400	130.0	0.7500	1.5000	925-000-036
0.0250	# 72	.64mm	0.1250	0.3400	130.0	0.7500	1.5000	925-000-037

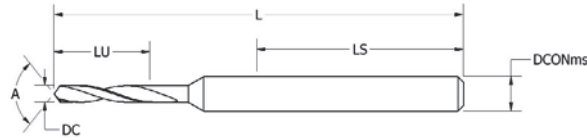
Ø .0256"-.0571" (.65MM - 1.45MM)



DC	DC	DC (mm)	DCONms	LU	A	LS	L	UNCOATED
								2 FLUTE
0.0256	.65mm	.65mm	0.1250	0.3400	130.0	0.7500	1.5000	925-000-038
0.0260	# 71	.66mm	0.1250	0.3400	130.0	0.7500	1.5000	925-000-039
0.0276	.70mm	.70mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-040
0.0280	# 70	.71mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-041
0.0292	# 69	.74mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-042
0.0295	.75mm	.75mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-043
0.0310	# 68	.787mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-044
0.0312	1/32"	.79mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-045
0.0315	.80mm	.80mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-046
0.0320	# 67	.81mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-047
0.0330	# 66	.84mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-048
0.0335	.85mm	.85mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-049
0.0350	# 65	.89mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-050
0.0354	.90mm	.90mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-051
0.0360	# 64	.91mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-052
0.0370	# 63	.94mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-053
0.0374	.95mm	.95mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-054
0.0380	# 62	.97mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-055
0.0390	# 61	.99mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-056
0.0394	1.0mm	1.00mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-057
0.0400	# 60	1.02mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-058
0.0410	# 59	1.04mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-059
0.0413	1.05mm	1.05mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-060
0.0420	# 58	1.07mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-061
0.0420	# 57	1.09mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-062
0.0433	1.10mm	1.10mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-063
0.0440	1.12mm	1.12mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-064
0.0453	1.15mm	1.15mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-065
0.0465	# 56	1.18mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-066
0.0469	3/64"	1.19mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-067
0.0472	1.20mm	1.20mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-068
0.0492	1.25mm	1.25mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-069
0.0512	1.30mm	1.30mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-070
0.0520	# 55	1.32mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-071
0.0531	1.35mm	1.35mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-072
0.0550	# 54	1.397mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-073
0.0551	1.40mm	1.40mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-074
0.0571	1.45mm	1.45mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-075

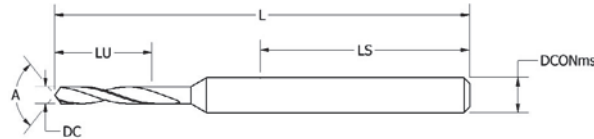


Ø .0591"-0.0925" (1.50MM -2.35MM)



DC	DC	DC (mm)	DCONms	LU	A	LS	L	UNCOATED
								2 FLUTE
0.0591	1.50mm	1.50mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-076
0.0595	# 53	1.51mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-077
0.0610	1.55mm	1.55mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-078
0.0625	1/16"	1.59mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-079
0.0630	1.60mm	1.60mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-080
0.0635	# 52	1.61mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-081
0.0650	1.65mm	1.65mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-082
0.0669	1.70mm	1.699mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-083
0.0670	# 51	1.70mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-084
0.0689	1.75mm	1.75mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-085
0.0700	# 50	1.78mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-086
0.0709	1.80mm	1.80mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-087
0.0728	1.85mm	1.85mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-088
0.0730	# 49	1.85mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-089
0.0748	1.90mm	1.90mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-090
0.0760	# 48	1.93mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-091
0.0768	1.95mm	1.95mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-092
0.0781	5/64"	1.98mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-093
0.0785	# 47	1.99mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-094
0.0787	2.0mm	2.00mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-095
0.0807	2.05mm	2.05mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-096
0.0810	# 46	2.06mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-097
0.0820	# 45	2.08mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-098
0.0827	2.10mm	2.10mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-099
0.0846	2.15mm	2.15mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-100
0.0860	# 44	2.18mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-101
0.0866	2.20mm	2.20mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-102
0.0886	2.25mm	2.25mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-103
0.0890	# 43	2.26mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-104
0.0906	2.30mm	2.30mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-105
0.0925	2.35mm	2.35mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-106

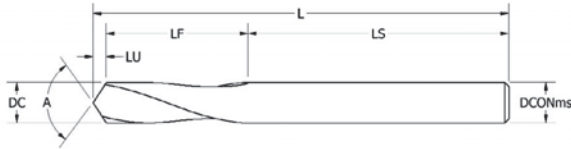
Ø .0935"-.1250" (2.37MM - 3.18MM)



DC	DC	DC (mm)	DCONms	LU	A	LS	L	UNCOATED
								2 FLUTE
0.0935	# 42	2.37mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-107
0.0938	3/32"	2.38mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-108
0.0945	2.40mm	2.40mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-109
0.0960	# 41	2.44mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-110
0.0965	2.45mm	2.45mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-111
0.0980	# 40	2.49mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-112
0.0984	2.50mm	2.50mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-113
0.0995	# 39	2.53mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-114
0.1004	2.55mm	2.55mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-115
0.1015	# 38	2.58mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-116
0.1024	2.60mm	2.60mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-117
0.1040	# 37	2.64mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-118
0.1043	2.65mm	2.65mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-119
0.1063	2.70mm	2.70mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-120
0.1065	# 36	2.71mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-121
0.1083	2.75mm	2.75mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-122
0.1094	7/64"	2.78mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-123
0.1100	# 35	2.79mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-124
0.1102	2.80mm	2.80mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-125
0.1110	# 34	2.82mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-126
0.1122	2.85mm	2.85mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-127
0.1130	# 33	2.87mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-128
0.1142	2.90mm	2.90mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-129
0.1160	# 32	2.946mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-130
0.1161	2.95mm	2.95mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-131
0.1181	3.00mm	3.00mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-132
0.1200	# 31	3.05mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-133
0.1201	3.05mm	3.05mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-134
0.1220	3.10mm	3.10mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-135
0.1240	3.15mm	3.15mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-136
0.1250	1/8"	3.18mm	0.1250	0.4000	130.0	0.7500	1.5000	925-000-137

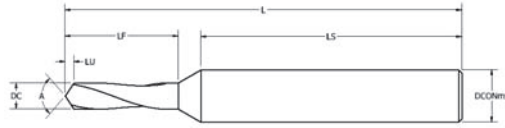


SPOTTING DRILLS

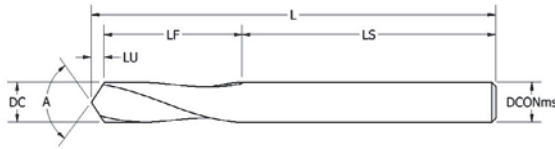


DC	DCONms	LS	L	LF	LU	A	UNCOATED	AITIN COATED
							2 FLUTE	2 FLUTE
0.0300	0.1250	1.1656	1.5000	0.0900	0.0161	82.0	956-000-262	956-000-329
0.0600	0.1250	1.1528	1.5000	0.1800	0.0334	82.0	956-000-286	956-000-347
0.1250	0.1250	1.1250	1.5000	0.3750	0.0702	82.0	956-000-308	956-000-369
0.0050	0.1250	1.1663	1.5000	0.0250	0.0007	90.0	956-000-238	956-000-311
0.0100	0.1250	1.1692	1.5000	0.0350	0.0040	90.0	956-000-242	956-000-315
0.0150	0.1250	1.1720	1.5000	0.0450	0.0065	90.0	956-000-248	956-000-319
0.0200	0.1250	1.1799	1.5000	0.0500	0.0090	90.0	956-000-254	956-000-323
0.0250	0.1250	1.1678	1.5000	0.0750	0.0115	90.0	956-000-255	956-000-324
0.0300	0.1250	1.1656	1.5000	0.0900	0.0140	90.0	956-000-263	956-000-330
0.0312	0.1250	1.1687	1.5000	0.0900	0.0146	90.0	956-000-267	956-000-334
0.0400	0.1250	1.1614	1.5000	0.1200	0.0190	90.0	956-000-272	956-000-335
0.0450	0.1250	1.1592	1.5000	0.1350	0.0215	90.0	956-000-275	956-000-338
0.0215	0.1250	1.1584	1.5000	0.1410	0.0225	90.0	956-000-278	956-000-341
0.0500	0.1250	1.1571	1.5000	0.1500	0.0240	90.0	956-000-279	956-000-342
0.0600	0.1250	1.1528	1.5000	0.1800	0.0290	90.0	956-000-287	956-000-348
0.0625	0.1250	1.1392	1.5000	0.2000	0.0303	90.0	956-000-291	956-000-352
0.0780	0.1250	1.1451	1.5000	0.2340	0.0375	90.0	956-000-294	956-000-355
0.0900	0.1250	1.1400	1.5000	0.2700	0.0435	90.0	956-000-297	956-000-358
0.0938	0.1250	1.1407	1.5000	0.2790	0.0165	90.0	956-000-300	956-000-361
0.1000	0.1250	1.1357	1.5000	0.3000	0.0485	90.0	956-000-302	956-000-363
0.1180	0.1250	1.1280	1.5000	0.3540	0.0575	90.0	956-000-303	956-000-364
0.1250	0.1250	1.1250	1.5000	0.3750	0.0610	90.0	956-000-309	956-000-370
0.0300	0.1250	1.1656	1.5000	0.0900	0.0117	100.0	956-000-258	956-000-325
0.0600	0.1250	1.1528	1.5000	0.1800	0.0243	100.0	956-000-282	956-000-343
0.1250	0.1250	1.1250	1.5000	0.3750	0.0512	100.0	956-000-304	956-000-365

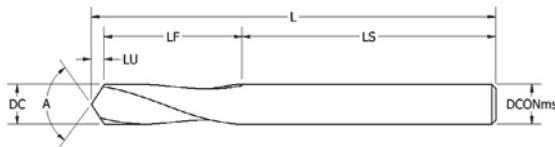
CARBIDE



DC	DCONms	LS	L	LF	LU	A	UNCOATED	AITIN COATED
							2 FLUTE	2 FLUTE
0.0100	0.1250	1.1742	1.5000	0.0300	0.0023	120.0	956-000-239	956-000-312
0.0150	0.1250	1.1720	1.5000	0.0450	0.0038	120.0	956-000-245	956-000-316
0.0200	0.1250	1.1799	1.5000	0.0500	0.0052	120.0	956-000-251	956-000-320
0.0300	0.1250	1.1656	1.5000	0.0900	0.0081	120.0	956-000-259	956-000-326
0.0312	0.1250	1.1687	1.5000	0.0900	0.0084	120.0	956-000-264	956-000-331
0.0450	0.1250	1.1592	1.5000	0.1350	0.0124	120.0	956-000-273	956-000-336
0.0470	0.1250	1.1584	1.5000	0.1410	0.0130	120.0	956-000-276	956-000-339
0.0600	0.1250	1.1528	1.5000	0.1800	0.0167	120.0	956-000-283	956-000-344
0.0625	0.1250	1.1532	1.5000	0.1860	0.0175	120.0	956-000-288	956-000-349
0.0780	0.1250	1.1451	1.5000	0.2340	0.0217	120.0	956-000-292	956-000-353
0.0900	0.1250	1.1400	1.5000	0.2700	0.0158	120.0	956-000-295	956-000-356
0.0938	0.1250	1.1407	1.5000	0.2790	0.0165	120.0	956-000-298	956-000-359
0.1250	0.1250	1.1250	1.5000	0.3750	0.0163	120.0	956-000-305	956-000-366
0.0050	0.1250	1.1663	1.5000	0.0250	0.0007	130.0	956-000-237	956-000-310
0.0100	0.1250	1.1692	1.5000	0.0350	0.0019	130.0	956-000-240	956-000-313
0.0150	0.1250	1.1720	1.5000	0.0450	0.0030	130.0	956-000-246	956-000-317
0.0200	0.1250	1.1799	1.5000	0.0500	0.0042	130.0	956-000-252	956-000-321
0.0312	0.1250	1.1687	1.5000	0.0900	0.0068	130.0	956-000-265	956-000-332
0.0625	0.1250	1.1392	1.5000	0.2000	0.0141	130.0	956-000-289	956-000-350
0.0938	0.1250	1.1407	1.5000	0.2790	0.0212	130.0	956-000-301	956-000-362
0.0100	0.1250	1.1742	1.5000	0.0300	0.0015	140.0	956-000-241	956-000-314
0.0150	0.1250	1.1720	1.5000	0.0450	0.0024	140.0	956-000-247	956-000-318
0.0200	0.1250	1.1799	1.5000	0.0500	0.0042	140.0	956-000-253	956-000-322
0.0300	0.1250	1.1656	1.5000	0.0900	0.0051	140.0	956-000-260	956-000-327
0.0312	0.1250	1.1687	1.5000	0.0900	0.0053	140.0	956-000-266	956-000-333
0.0450	0.1250	1.1592	1.5000	0.1350	0.0078	140.0	956-000-274	956-000-337
0.0470	0.1250	1.1584	1.5000	0.1410	0.0082	140.0	956-000-277	956-000-340
0.0600	0.1250	1.1528	1.5000	0.1800	0.0106	140.0	956-000-284	956-000-345
0.0625	0.1250	1.1532	1.5000	0.1860	0.0110	140.0	956-000-290	956-000-351
0.0780	0.1250	1.1451	1.5000	0.2340	0.0136	140.0	956-000-293	956-000-354
0.0900	0.1250	1.1400	1.5000	0.2700	0.0158	140.0	956-000-296	956-000-357
0.0938	0.1250	1.1407	1.5000	0.2790	0.0165	140.0	956-000-299	956-000-360
0.1250	0.1250	1.1250	1.5000	0.3750	0.0222	140.0	956-000-306	956-000-367
0.0300	0.1250	1.1656	1.5000	0.0900	0.0038	150.0	956-000-261	956-000-328
0.0600	0.1250	1.1528	1.5000	0.1800	0.0078	150.0	956-000-285	956-000-346
0.1250	0.1250	1.1250	1.5000	0.3750	0.0163	150.0	956-000-307	956-000-368

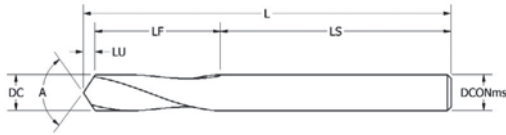


DC	DCONms	LS	L	LF	LU	A	UNCOATED	AITiN COATED
							2 FLUTE	2 FLUTE
0.1250	0.1250	1.1250	1.5000	0.3750	0.0580	90.0	956-000-388	956-000-373
0.1250	0.1250	3.6250	4.0000	0.3750	0.0580	90.0	956-000-383	956-000-380
0.1870	0.1875	1.3750	2.0000	0.6250	0.0880	90.0	956-000-391	956-000-376
0.1870	0.1875	3.3750	4.0000	0.6250	0.0880	90.0	956-000-384	956-000-381
0.2500	0.2500	1.7500	2.5000	0.7500	0.1180	90.0	956-000-394	956-000-379
0.2500	0.2500	5.2500	6.0000	0.7500	0.1180	90.0	956-000-385	956-000-382
0.1250	0.1250	1.1250	1.5000	0.3750	0.0335	120.0	956-000-386	956-000-371
0.1870	0.1875	1.3750	2.0000	0.6250	0.0508	120.0	956-000-389	956-000-374
0.2500	0.2500	1.7500	2.5000	0.7500	0.0681	120.0	956-000-392	956-000-377
0.1250	0.1250	1.1250	1.5000	0.3750	0.0211	140.0	956-000-387	956-000-372
0.1870	0.1875	1.3750	2.0000	0.6250	0.0320	140.0	956-000-390	956-000-375
0.2500	0.2500	1.7500	2.5000	0.7500	0.0429	140.0	956-000-393	956-000-378

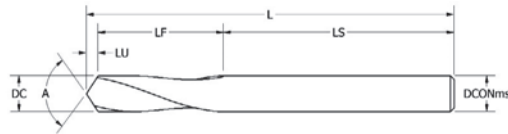


DC	DCONms	LS	L	LF	LU	A	UNCOATED
							2 FLUTE
0.1250	0.1250	1.1250	1.5000	0.3225	0.0525	90.0	956-000-121
0.1875	0.1875	1.4375	2.0000	0.4853	0.0773	90.0	956-000-128
0.2500	0.2500	1.7500	2.5000	0.6465	0.1035	90.0	956-000-115
0.3125	0.3125	1.7500	2.5000	0.6188	0.1313	90.0	956-000-133
0.3750	0.3750	1.7500	2.5000	0.5935	0.1565	90.0	956-000-145
0.5000	0.5000	2.0000	3.0000	0.7900	0.2100	90.0	956-000-109
0.1250	0.1250	1.1250	1.5000	0.3447	0.0303	120.0	956-000-123
0.1875	0.1875	1.4375	2.0000	0.5179	0.0446	120.0	956-000-130
0.2500	0.2500	1.7500	2.5000	0.6902	0.0598	120.0	956-000-117
0.3125	0.3125	1.7500	2.5000	0.6742	0.0758	120.0	956-000-135
0.3750	0.3750	1.7500	2.5000	0.6596	0.0904	120.0	956-000-147
0.5000	0.5000	2.0000	3.0000	0.8788	0.1212	120.0	956-000-111

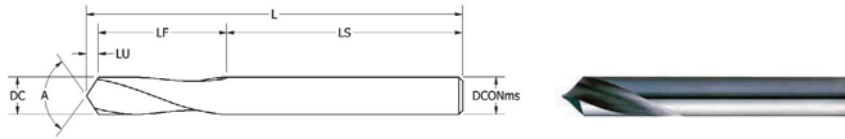
CARBIDE



DC	DCONms	LS	L	LF	LU	82°	90°	90° TiN	120°	120° TiN
0.1250	0.1250	1.1250	1.5000	0.3146	0.0604	956-000-125	956-000-121	956-000-122	956-000-123	956-000-124
0.1875	0.1875	1.4375	2.0000	0.4736	0.0889	956-000-127	956-000-128	956-000-129	956-000-130	956-000-131
0.2500	0.2500	1.7500	2.5000	0.6309	0.1191	956-000-120	956-000-115	956-000-116	956-000-117	956-000-118
0.3125	0.3125	1.7500	2.5000	0.5990	0.1510	956-000-138	956-000-133	956-000-134	956-000-135	956-000-136
0.3750	0.3750	1.7500	2.5000	0.5700	0.1800	956-000-150	956-000-145	956-000-146	956-000-147	956-000-148
0.5000	0.5000	2.0000	3.0000	0.7584	0.2416	956-000-114	956-000-109	956-000-110	956-000-111	956-000-112
0.6250	0.6250	2.5000	3.5000	0.7067	0.2933	956-000-156	956-000-151	956-000-152	956-000-153	956-000-154
0.7500	0.7500	2.8750	4.0000	0.7713	0.3537	956-000-144	956-000-139	956-000-140	956-000-141	956-000-142

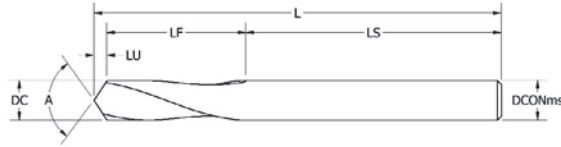


DC	DCONms	LS	L	LF	LU	CAR 142°
0.1250	0.1250	1.1250	1.5000	0.3569	0.0181	956-000-126
0.1875	0.1875	1.4375	2.0000	0.5359	0.0266	956-000-132
0.2500	0.2500	1.7500	2.5000	0.7144	0.0356	956-000-119
0.3125	0.3125	1.7500	2.5000	0.7048	0.0452	956-000-137
0.3750	0.3750	1.7500	2.5000	0.6961	0.0539	956-000-149
0.5000	0.5000	2.0000	3.0000	0.9277	0.0723	956-000-113
0.6250	0.6250	2.5000	3.5000	0.9122	0.0878	956-000-155
0.7500	0.7500	2.8750	4.0000	1.0191	0.1059	956-000-143



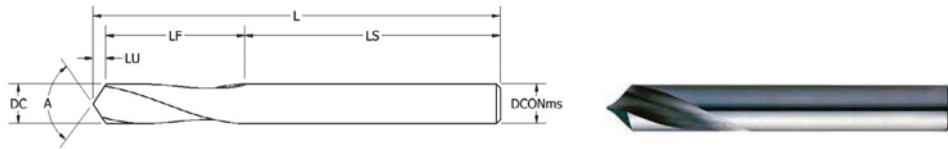
DC	DCONms	LS	L	LF	LU	A	HSS	HSS-TiN	COBALT
0.2500	0.2500	1.6229	2.6271	0.8771	0.1271	82.0	956-000-213	N/A	956-000-214
0.2500	0.2500	3.1229	4.1271	0.8771	0.1271	82.0	956-000-215	N/A	956-000-216
0.2500	0.2500	5.1229	6.1271	0.8771	0.1271	82.0	956-000-217	N/A	956-000-218
0.3750	0.3750	1.8102	3.3148	1.3148	0.1898	82.0	956-000-225	N/A	956-000-226
0.3750	0.3750	3.6852	5.1898	1.3148	0.1898	82.0	956-000-227	N/A	956-000-228
0.3750	0.3750	5.6852	7.1898	1.3148	0.1898	82.0	956-000-229	N/A	956-000-230
0.5000	0.5000	2.1196	4.0054	1.6304	0.2554	82.0	956-000-207	N/A	956-000-208
0.5000	0.5000	4.3696	6.2554	1.6304	0.2554	82.0	956-000-209	N/A	956-000-210
0.5000	0.5000	6.3696	8.2554	1.6304	0.2554	82.0	956-000-211	N/A	956-000-212
0.6250	0.6250	2.0977	4.3750	1.9511	0.3261	82.0	956-000-231	N/A	956-000-232
0.6250	0.6250	5.0489	7.3261	1.9511	0.3261	82.0	956-000-233	N/A	956-000-234
0.6250	0.6250	7.0489	9.3261	1.9511	0.3261	82.0	956-000-235	N/A	956-000-236
0.7500	0.7500	2.7281	5.3969	2.2719	0.3969	82.0	956-000-219	N/A	956-000-220
0.7500	0.7500	5.7281	8.3969	2.2719	0.3969	82.0	956-000-221	N/A	956-000-222
0.7500	0.7500	7.7281	10.3969	2.2719	0.3969	82.0	956-000-223	N/A	956-000-224
1.0000	1.0000	3.4801	6.2699	2.5199	0.2699	82.0	956-000-201	N/A	956-000-202
1.0000	1.0000	5.2122	8.5378	2.7878	0.5378	82.0	956-000-203	N/A	956-000-204
1.0000	1.0000	7.2122	10.5378	2.7878	0.5378	82.0	956-000-205	N/A	956-000-206
0.2500	0.2500	1.6395	2.6105	0.8605	0.1105	90.0	956-000-019	956-000-020	956-000-023
0.2500	0.2500	3.1395	4.1105	0.8605	0.1105	90.0	956-000-021	956-000-022	956-000-026
0.2500	0.2500	5.1395	6.1105	0.8605	0.1105	90.0	956-000-024	956-000-025	956-000-027
0.3750	0.3750	1.8350	3.2900	1.2900	0.1650	90.0	956-000-037	956-000-038	956-000-041
0.3750	0.3750	3.7100	5.1650	1.2900	0.1650	90.0	956-000-039	956-000-040	956-000-044
0.3750	0.3750	5.7100	7.1650	1.2900	0.1650	90.0	956-000-042	956-000-043	956-000-045
0.5000	0.5000	2.1530	3.9720	1.5970	0.2220	90.0	956-000-010	956-000-011	956-000-014
0.5000	0.5000	4.4030	6.2220	1.5970	0.2220	90.0	956-000-012	956-000-013	956-000-017
0.5000	0.5000	6.4030	8.2220	1.5970	0.2220	90.0	956-000-015	956-000-016	956-000-018
0.6250	0.6250	2.1830	4.3750	1.9085	0.2835	90.0	956-000-046	956-000-047	956-000-050
0.6250	0.6250	5.0915	7.2835	1.9085	0.2835	90.0	956-000-048	956-000-049	956-000-053
0.6250	0.6250	7.0915	9.2835	1.9085	0.2835	90.0	956-000-051	956-000-052	956-000-054
0.7500	0.7500	2.7800	5.3450	2.2200	0.3450	90.0	956-000-028	956-000-029	956-000-032
0.7500	0.7500	5.7800	8.3450	2.2200	0.3450	90.0	956-000-030	956-000-031	956-000-035
0.7500	0.7500	7.7800	10.3450	2.2200	0.3450	90.0	956-000-033	956-000-034	956-000-036
1.0000	1.0000	3.2825	6.4675	2.7175	0.4675	90.0	956-000-001	956-000-002	956-000-005
1.0000	1.0000	5.2825	8.4675	2.7175	0.4675	90.0	956-000-003	956-000-004	956-000-008
1.0000	1.0000	7.2825	10.4675	2.7175	0.4675	90.0	956-000-006	956-000-007	956-000-009

HSS
COBALT



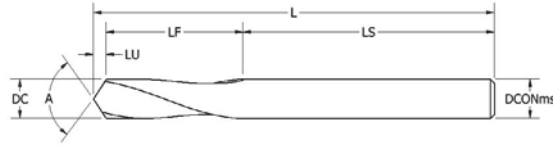
COBALT

DC	DCONms	LS	L	LF	LU	A	HSS	HSS-TIN	COBALT
0.2500	0.2500	1.6395	2.6105	0.8605	0.1105	120.0	956-000-073	956-000-074	956-000-077
0.2500	0.2500	3.1395	4.1105	0.8605	0.1105	120.0	956-000-075	956-000-076	956-000-080
0.2500	0.2500	5.1395	6.1105	0.8605	0.1105	120.0	956-000-078	956-000-079	956-000-081
0.3750	0.3750	1.8350	3.2900	1.2900	0.1650	120.0	956-000-091	956-000-092	956-000-095
0.3750	0.3750	3.7100	5.1650	1.2900	0.1650	120.0	956-000-093	956-000-094	956-000-098
0.3750	0.3750	5.7100	7.1650	1.2900	0.1650	120.0	956-000-096	956-000-097	956-000-099
0.5000	0.5000	2.1530	3.9720	1.5970	0.2220	120.0	956-000-064	956-000-065	956-000-068
0.5000	0.5000	4.4030	6.2220	1.5970	0.2220	120.0	956-000-066	956-000-067	956-000-071
0.5000	0.5000	6.4030	8.2220	1.5970	0.2220	120.0	956-000-069	956-000-070	956-000-072
0.6250	0.6250	2.1830	4.3750	1.9085	0.2835	120.0	956-000-100	956-000-101	956-000-104
0.6250	0.6250	5.0915	7.2835	1.9085	0.2835	120.0	956-000-102	956-000-103	956-000-107
0.6250	0.6250	7.0915	9.2835	1.9085	0.2835	120.0	956-000-105	956-000-106	956-000-108
0.7500	0.7500	2.7800	5.3450	2.2200	0.3450	120.0	956-000-082	956-000-083	956-000-086
0.7500	0.7500	5.7800	8.3450	2.2200	0.3450	120.0	956-000-084	956-000-085	956-000-089
0.7500	0.7500	7.7800	10.3450	2.2200	0.3450	120.0	956-000-087	956-000-088	956-000-090
1.0000	1.0000	3.2825	6.4675	2.7175	0.4675	120.0	956-000-055	956-000-056	956-000-059
1.0000	1.0000	5.2825	8.4675	2.7175	0.4675	120.0	956-000-057	956-000-058	956-000-062
1.0000	1.0000	7.2825	10.4675	2.7175	0.4675	120.0	956-000-060	956-000-061	956-000-063



METRIC

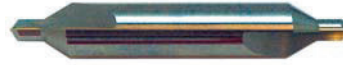
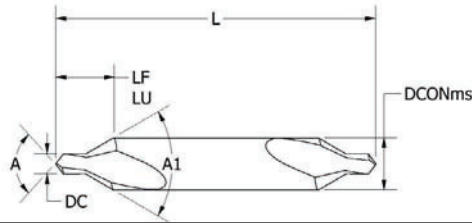
DC	DCONms	LS	L	LF	LU	90°	120°
2.00	2.00	41.00	49.00	7.15	0.85	956-000-157	956-000-170
3.00	3.00	40.00	50.00	8.68	1.32	956-000-158	956-000-171
4.00	4.00	40.00	52.00	10.22	1.78	956-000-159	956-000-172
5.00	5.00	45.00	60.00	12.78	2.22	956-000-160	956-000-173
6.00	6.00	46.00	66.00	17.38	2.62	956-000-161	956-000-174
8.00	8.00	54.00	79.00	21.48	3.52	956-000-162	956-000-175
10.00	10.00	64.00	89.00	20.50	4.50	956-000-163	956-000-176
12.00	12.00	72.00	102.00	24.71	5.29	956-000-164	956-000-177
14.00	14.00	80.00	115.00	28.71	6.29	956-000-165	956-000-178
16.00	16.00	80.00	115.00	27.71	7.29	956-000-166	956-000-179
18.00	18.00	90.00	130.00	31.76	8.24	956-000-167	956-000-180
20.00	20.00	91.00	131.00	30.76	9.24	956-000-168	956-000-181
25.00	25.00	93.00	138.00	33.41	11.59	956-000-169	956-000-182
3.00	3.00	70.00	80.00	8.68	1.32	956-000-183	956-000-192
4.00	4.00	88.00	100.00	10.22	1.78	956-000-184	956-000-193
5.00	5.00	105.00	120.00	12.78	2.22	956-000-185	956-000-194
6.00	6.00	120.00	140.00	17.38	2.62	956-000-186	956-000-195
8.00	8.00	115.00	140.00	21.48	3.52	956-000-187	956-000-196
10.00	10.00	145.00	170.00	20.50	4.50	956-000-188	956-000-197
12.00	12.00	140.00	170.00	24.71	5.29	956-000-189	956-000-198
16.00	16.00	165.00	200.00	27.71	7.29	956-000-190	956-000-199
20.00	20.00	160.00	200.00	30.76	9.24	956-000-191	956-000-200



DC	DCONms	LS	L	LF	LU	A	RH	RH-TiN	LH
0.1250	0.1250	0.8750	1.2500	0.3185	0.0565	90.0	955-000-009	955-000-010	955-000-012
0.1875	0.1875	0.8750	1.3750	0.4148	0.0853	90.0	955-000-015	955-000-016	955-000-018
0.2500	0.2500	0.8750	1.5000	0.5120	0.1130	90.0	955-000-021	955-000-022	955-000-024
0.3125	0.3125	0.8750	1.5000	0.4843	0.1408	90.0	955-000-027	955-000-028	955-000-030
0.3750	0.3750	1.0000	2.0000	0.8305	0.1695	90.0	955-000-039	955-000-040	955-000-042
0.4375	0.4375	1.0000	2.0000	0.8003	0.1998	90.0	955-000-051	955-000-052	955-000-054
0.5000	0.5000	1.0000	2.0000	0.7720	0.2280	90.0	955-000-003	955-000-004	955-000-006
0.5625	0.5625	1.0000	2.0000	0.7433	0.2568	90.0	955-000-063	955-000-064	955-000-066
0.6250	0.6250	1.1250	2.2500	0.8375	0.2875	90.0	955-000-045	955-000-046	955-000-048
0.7500	0.7500	1.1250	2.2500	0.7755	0.3495	90.0	955-000-033	955-000-034	955-000-036
0.8750	0.8750	1.2500	2.5000	0.8425	0.4075	90.0	955-000-057	955-000-058	955-000-060
1.0000	1.0000	1.2500	2.5000	0.7830	0.4670	90.0	955-000-069	955-000-070	955-000-072
1.2500	1.2500	2.0000	4.0000	1.4155	0.5845	90.0	955-000-081	955-000-082	955-000-084
1.5000	1.5000	2.5000	5.0000	1.8005	0.6995	90.0	955-000-075	955-000-076	955-000-078
1.7500	1.7500	2.7500	5.5000	1.9330	0.8170	90.0	955-000-087	955-000-088	955-000-090
0.1250	0.1250	0.8750	1.2500	0.3411	0.0339	118.0	955-000-007	955-000-008	955-000-011
0.1875	0.1875	0.8750	1.3750	0.4488	0.0512	118.0	955-000-013	955-000-014	955-000-017
0.2500	0.2500	0.8750	1.5000	0.5571	0.0679	118.0	955-000-019	955-000-020	955-000-023
0.3125	0.3125	0.8750	1.5000	0.5404	0.0846	118.0	955-000-025	955-000-026	955-000-029
0.3750	0.3750	1.0000	2.0000	0.8982	0.1018	118.0	955-000-037	955-000-038	955-000-041
0.4375	0.4375	1.0000	2.0000	0.8800	0.1200	118.0	955-000-049	955-000-050	955-000-053
0.5000	0.5000	1.0000	2.0000	0.8630	0.1370	118.0	955-000-001	955-000-002	955-000-005
0.5625	0.5625	1.0000	2.0000	0.8457	0.1543	118.0	955-000-061	955-000-062	955-000-065
0.6250	0.6250	1.1250	2.2500	0.9523	0.1727	118.0	955-000-043	955-000-044	955-000-047
0.7500	0.7500	1.1250	2.2500	0.9150	0.2100	118.0	955-000-031	955-000-032	955-000-035
0.8750	0.8750	1.2500	2.5000	1.0051	0.2449	118.0	955-000-055	955-000-056	955-000-059
1.0000	1.0000	1.2500	2.5000	0.9694	0.2806	118.0	955-000-067	955-000-068	955-000-071
1.2500	1.2500	2.0000	4.0000	1.6488	0.3512	118.0	955-000-079	955-000-080	955-000-083
1.5000	1.5000	2.5000	5.0000	2.0797	0.4203	118.0	955-000-073	955-000-074	955-000-077
1.7500	1.7500	2.7500	5.5000	2.2591	0.4909	118.0	955-000-085	955-000-086	955-000-089

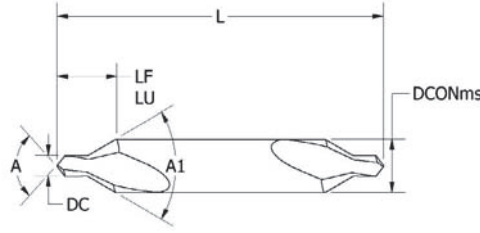


CENTER DRILLS

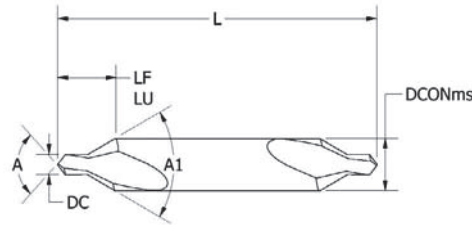


SIZE	DC [in.]	DCONms [in.]	L [in.]	LF/LU [in.]	A [°]	A1 [°]	Material	Hand of Cut	UNCOATED	TiN COATED	TiAlN COATED
									2 FLUTE	2 FLUTE	2 FLUTE
#3-0 - 3/32	0.0200	0.0938	1.1250	0.0888	118.0	60.0	HSS	R	906-000-590	N/A	N/A
#2-0 - 3/32	0.0250	0.0938	1.1250	0.0907	118.0	60.0	HSS	R	906-000-591	N/A	N/A
#0 - 3/32	0.0310	0.0938	1.1250	0.0930	118.0	60.0	HSS	R	906-000-592	N/A	N/A
#5-0 SE	0.0100	0.1250	1.5000	0.1121	118.0	60.0	Carbide	R	906-000-409	906-001-568	906-001-566
#5-0 x 82° SE	0.0100	0.1250	1.5000	0.0786	118.0	82.0	Carbide	R	906-000-410	906-001-571	906-001-569
#5-0 x 90° SE	0.0100	0.1250	1.5000	0.0700	118.0	90.0	Carbide	R	906-000-411	906-001-574	906-001-572
#5-0	0.0100	0.1250	1.2500	0.1121	118.0	60.0	HSS	R	906-000-005	906-000-006	906-000-597
#5-0	0.0100	0.1250	1.2500	0.1121	118.0	60.0	HSS	L	906-000-009	906-000-610	906-000-608
#5-0 x 82°	0.0100	0.1250	1.2500	0.0786	118.0	82.0	HSS	R	906-000-044	906-000-045	906-000-693
#5-0 x 90°	0.0100	0.1250	1.2500	0.0700	118.0	90.0	HSS	R	906-000-010	906-000-011	906-000-612
#5-0	0.0100	0.1250	1.2500	0.1121	118.0	60.0	HSS-Co	R	906-000-008	906-000-606	906-000-604
#5-0	0.0100	0.1250	1.2500	0.1121	118.0	60.0	T-15	R	906-000-007	906-000-602	906-000-600
#4-0 SE	0.0150	0.1250	1.5000	0.1140	118.0	60.0	Carbide	R	906-000-412	906-001-577	906-001-575
#4-0 x 82° SE	0.0150	0.1250	1.5000	0.0820	118.0	82.0	Carbide	R	906-000-413	906-001-580	906-001-578
#4-0 x 90° SE	0.0150	0.1250	1.5000	0.0737	118.0	90.0	Carbide	R	906-000-414	906-001-583	906-001-581
#4-0	0.0150	0.1250	1.2500	0.1140	118.0	60.0	HSS	R	906-000-012	906-000-013	906-000-615
#4-0	0.0150	0.1250	1.2500	0.1140	118.0	60.0	HSS	L	906-000-016	906-000-628	906-000-626
#4-0 x 82°	0.0150	0.1250	1.2500	0.0820	118.0	82.0	HSS	R	906-000-046	906-000-047	906-000-696
#4-0 x 90°	0.0150	0.1250	1.2500	0.0737	118.0	90.0	HSS	R	906-000-017	906-000-018	906-000-630
#4-0	0.0150	0.1250	1.2500	0.1140	118.0	60.0	HSS-Co	R	906-000-015	906-000-624	906-000-622
#4-0	0.0150	0.1250	1.2500	0.1140	118.0	60.0	T-15	R	906-000-014	906-000-620	906-000-618
#3-0 SE	0.0200	0.1250	1.5000	0.1159	118.0	60.0	Carbide	R	906-000-415	906-001-586	906-001-584
#3-0 x 82° SE	0.0200	0.1250	1.5000	0.0854	118.0	82.0	Carbide	R	906-000-416	906-001-589	906-001-587
#3-0 x 90° SE	0.0200	0.1250	1.5000	0.0775	118.0	90.0	Carbide	R	906-000-417	906-001-592	906-001-590
#3-0	0.0200	0.1250	1.2500	0.1159	118.0	60.0	HSS	R	906-000-019	906-000-020	906-000-633
#3-0	0.0200	0.1250	1.2500	0.1159	118.0	60.0	HSS	L	906-000-023	906-000-646	906-000-644
#3-0 x 82°	0.0200	0.1250	1.2500	0.0854	118.0	82.0	HSS	R	906-000-048	906-000-049	906-000-699
#3-0 x 90°	0.0200	0.1250	1.2500	0.0775	118.0	90.0	HSS	R	906-000-024	906-000-025	906-000-648
#3-0	0.0200	0.1250	1.2500	0.1159	118.0	60.0	HSS-Co	R	906-000-022	906-000-642	906-000-640
#3-0	0.0200	0.1250	1.2500	0.1159	118.0	60.0	T-15	R	906-000-021	906-000-638	906-000-636
#2-0	0.0250	0.1250	1.5000	0.1178	118.0	60.0	Carbide	R	906-000-418	906-001-595	906-001-593
#2-0 x 82°	0.0250	0.1250	1.5000	0.0887	118.0	82.0	Carbide	R	906-000-419	906-001-598	906-001-596
#2-0 x 90°	0.0250	0.1250	1.5000	0.0812	118.0	90.0	Carbide	R	906-000-420	906-001-601	906-001-599
#2-0 x 4	0.0250	0.1250	4.0000	0.1178	118.0	60.0	Carbide	R	907-000-185	907-000-655	907-000-653
#2-0 x 6	0.0250	0.1250	6.0000	0.1178	118.0	60.0	Carbide	R	907-000-186	907-000-658	907-000-656
#2-0	0.0250	0.1250	1.2500	0.1178	118.0	60.0	HSS	R	906-000-026	906-000-027	906-000-651
#2-0	0.0250	0.1250	1.2500	0.1178	118.0	60.0	HSS	L	906-000-030	906-000-664	906-000-662
#2-0 x 82°	0.0250	0.1250	1.2500	0.0887	118.0	82.0	HSS	R	906-000-031	906-000-032	906-000-666
#2-0 x 90°	0.0250	0.1250	1.2500	0.0812	118.0	90.0	HSS	R	906-000-033	906-000-034	906-000-669
#2-0	0.0250	0.1250	1.2500	0.1178	118.0	60.0	HSS-Co	R	906-000-029	906-000-660	906-000-658
#2-0	0.0250	0.1250	1.2500	0.1178	118.0	60.0	T-15	R	906-000-028	906-000-656	906-000-654
#0	0.0313	0.1250	1.5000	0.1202	118.0	60.0	Carbide	R	906-000-421	906-001-604	906-001-602
#0 x 82°	0.0313	0.1250	1.5000	0.0929	118.0	82.0	Carbide	R	906-000-422	906-001-607	906-001-605
#0 x 90°	0.0313	0.1250	1.5000	0.0859	118.0	90.0	Carbide	R	906-000-423	906-001-610	906-001-608
#0 x 4	0.0313	0.1250	4.0000	0.1202	118.0	60.0	Carbide	R	907-000-187	907-000-661	907-000-659
#0 x 6	0.0313	0.1250	6.0000	0.1202	118.0	60.0	Carbide	R	907-000-188	907-000-664	907-000-662
#0	0.0313	0.1250	1.2500	0.1202	118.0	60.0	HSS	R	906-000-035	906-000-036	906-000-672
#0	0.0313	0.1250	1.2500	0.1202	118.0	60.0	HSS	L	906-000-039	906-000-685	906-000-683
#0 x 82°	0.0313	0.1250	1.2500	0.0929	118.0	82.0	HSS	R	906-000-040	906-000-041	906-000-687
#0 x 90°	0.0313	0.1250	1.2500	0.0859	118.0	90.0	HSS	R	906-000-042	906-000-043	906-000-690
#0	0.0313	0.1250	1.2500	0.1202	118.0	60.0	HSS-Co	R	906-000-038	906-000-681	906-000-679
#0	0.0313	0.1250	1.2500	0.1202	118.0	60.0	T-15	R	906-000-037	906-000-677	906-000-675
#1	0.0469	0.1250	1.5000	0.1262	118.0	60.0	Carbide	R	906-000-424	906-001-613	906-001-611
#1 x 82°	0.0469	0.1250	1.5000	0.1034	118.0	82.0	Carbide	R	906-000-425	906-001-616	906-001-614
#1 x 90°	0.0469	0.1250	1.5000	0.0976	118.0	90.0	Carbide	R	906-000-426	906-001-619	906-001-617
#1 x 4	0.0469	0.1250	4.0000	0.1262	118.0	60.0	Carbide	R	907-000-189	907-000-668	907-000-666
#1 x 6	0.0469	0.1250	6.0000	0.1262	118.0	60.0	Carbide	R	907-000-190	907-000-671	907-000-669

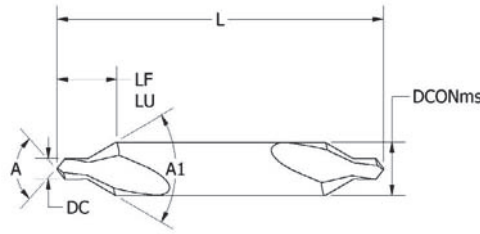
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COBALT
T-15



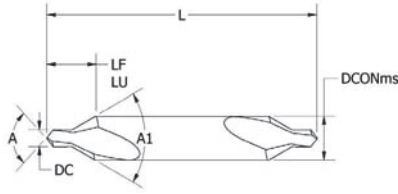
SIZE	DC [in.]	DCONms [in.]	L [in.]	LF/LU [in.]	A [°]	A1 [°]	Material	Hand of Cut	UNCOATED	TIN COATED	TiAIN COATED
									2 FLUTE	2 FLUTE	2 FLUTE
#1	0.0469	0.1250	1.2500	0.1262	118.0	60.0	HSS	R	906-000-060	906-000-061	906-000-717
#1	0.0469	0.1250	1.2500	0.1262	118.0	60.0	HSS	L	906-000-070	906-000-739	906-000-737
#1 x 82°	0.0469	0.1250	1.2500	0.1034	118.0	82.0	HSS	R	906-000-071	906-000-072	906-000-741
#1 x 90°	0.0469	0.1250	1.2500	0.0976	118.0	90.0	HSS	R	906-000-073	906-000-074	906-000-744
#1 x 3	0.0469	0.1250	3.0000	0.1262	118.0	60.0	HSS	R	907-000-041	907-000-042	907-000-324
#1 x 3 x 82°	0.0469	0.1250	3.0000	0.1034	118.0	82.0	HSS	R	907-000-044	907-000-331	907-000-329
#1 x 3 x 90°	0.0469	0.1250	3.0000	0.0976	118.0	90.0	HSS	R	907-000-045	907-000-334	907-000-332
#1 x 4	0.0469	0.1250	4.0000	0.1262	118.0	60.0	HSS	R	907-000-046	907-000-047	907-000-335
#1 x 4 x 82°	0.0469	0.1250	4.0000	0.1034	118.0	82.0	HSS	R	907-000-049	907-000-342	907-000-340
#1 x 4 x 90°	0.0469	0.1250	4.0000	0.0976	118.0	90.0	HSS	R	907-000-050	907-000-345	907-000-343
#1 x 5	0.0469	0.1250	5.0000	0.1262	118.0	60.0	HSS	R	907-000-051	907-000-052	907-000-346
#1 x 5 x 82°	0.0469	0.1250	5.0000	0.1034	118.0	82.0	HSS	R	907-000-054	907-000-353	907-000-351
#1 x 5 x 90°	0.0469	0.1250	5.0000	0.0976	118.0	90.0	HSS	R	907-000-055	907-000-356	907-000-354
#1 x 6	0.0469	0.1250	6.0000	0.1262	118.0	60.0	HSS	R	907-000-056	907-000-057	907-000-357
#1 x 6 x 82°	0.0469	0.1250	6.0000	0.1034	118.0	82.0	HSS	R	907-000-059	907-000-364	907-000-362
#1 x 6 x 90°	0.0469	0.1250	6.0000	0.0976	118.0	90.0	HSS	R	907-000-060	907-000-367	907-000-365
#1 x 8	0.0469	0.1250	8.0000	0.1262	118.0	60.0	HSS	R	907-000-061	907-000-370	907-000-368
#1	0.0469	0.1250	1.2500	0.1262	118.0	60.0	HSS-Co	R	906-000-069	906-000-735	906-000-733
#1 x 3	0.0469	0.1250	3.0000	0.1262	118.0	60.0	HSS-Co	R	907-000-043	907-000-328	907-000-326
#1 x 4	0.0469	0.1250	4.0000	0.1262	118.0	60.0	HSS-Co	R	907-000-048	907-000-339	907-000-337
#1 x 5	0.0469	0.1250	5.0000	0.1262	118.0	60.0	HSS-Co	R	907-000-053	907-000-350	907-000-348
#1 x 6	0.0469	0.1250	6.0000	0.1262	118.0	60.0	HSS-Co	R	907-000-058	907-000-361	907-000-359
#1	0.0469	0.1250	1.2500	0.1262	118.0	60.0	T-15	R	906-000-064	906-000-725	906-000-723
#2	0.0781	0.1875	1.8750	0.1922	118.0	60.0	Carbide	R	906-000-433	906-001-640	906-001-638
#2 x 82°	0.0781	0.1875	1.8750	0.1604	118.0	82.0	Carbide	R	906-000-434	906-001-643	906-001-641
#2 x 90°	0.0781	0.1875	1.8750	0.1522	118.0	90.0	Carbide	R	906-000-435	906-001-646	906-001-644
#2 x 4	0.0781	0.1875	4.0000	0.1922	118.0	60.0	Carbide	R	907-000-191	907-000-675	907-000-673
#2 x 6	0.0781	0.1875	6.0000	0.1922	118.0	60.0	Carbide	R	907-000-192	907-000-678	907-000-676
#2	0.0781	0.1875	1.8750	0.1922	118.0	60.0	HSS	R	906-000-075	906-000-076	906-000-747
#2	0.0781	0.1875	1.8750	0.1922	118.0	60.0	HSS	L	906-000-085	906-000-769	906-000-767
#2 x 82°	0.0781	0.1875	1.8750	0.1604	118.0	82.0	HSS	R	906-000-086	906-000-087	906-000-771
#2 x 90°	0.0781	0.1875	1.8750	0.1522	118.0	90.0	HSS	R	906-000-088	906-000-089	906-000-774
#2 x 3	0.0781	0.1875	3.0000	0.1922	118.0	60.0	HSS	R	907-000-062	907-000-063	907-000-372
#2 x 3 x 82°	0.0781	0.1875	3.0000	0.1604	118.0	82.0	HSS	R	907-000-065	907-000-379	907-000-377
#2 x 3 x 90°	0.0781	0.1875	3.0000	0.1522	118.0	90.0	HSS	R	907-000-066	907-000-382	907-000-380
#2 x 4	0.0781	0.1875	4.0000	0.1922	118.0	60.0	HSS	R	907-000-067	907-000-068	907-000-383
#2 x 4 x 82°	0.0781	0.1875	4.0000	0.1604	118.0	82.0	HSS	R	907-000-070	907-000-391	907-000-389
#2 x 4 x 90°	0.0781	0.1875	4.0000	0.1522	118.0	90.0	HSS	R	907-000-071	907-000-394	907-000-392
#2 x 5	0.0781	0.1875	5.0000	0.1922	118.0	60.0	HSS	R	907-000-072	907-000-073	907-000-395
#2 x 5 x 82°	0.0781	0.1875	5.0000	0.1604	118.0	82.0	HSS	R	907-000-075	907-000-402	907-000-400
#2 x 5 x 90°	0.0781	0.1875	5.0000	0.1522	118.0	90.0	HSS	R	907-000-076	907-000-405	907-000-403
#2 x 6	0.0781	0.1875	6.0000	0.1922	118.0	60.0	HSS	R	907-000-077	907-000-078	907-000-406
#2 x 6 x 82°	0.0781	0.1875	6.0000	0.1604	118.0	82.0	HSS	R	907-000-080	907-000-413	907-000-411
#2 x 6 x 90°	0.0781	0.1875	6.0000	0.1522	118.0	90.0	HSS	R	907-000-081	907-000-416	907-000-414
#2 x 8	0.0781	0.1875	8.0000	0.1922	118.0	60.0	HSS	R	907-000-082	907-000-419	907-000-417
#2	0.0781	0.1875	1.8750	0.1922	118.0	60.0	HSS-Co	R	906-000-084	906-000-765	906-000-763
#2 x 3	0.0781	0.1875	3.0000	0.1922	118.0	60.0	HSS-Co	R	907-000-064	907-000-376	907-000-374
#2 x 4	0.0781	0.1875	4.0000	0.1922	118.0	60.0	HSS-Co	R	907-000-069	907-000-388	907-000-386
#2 x 5	0.0781	0.1875	5.0000	0.1922	118.0	60.0	HSS-Co	R	907-000-074	907-000-399	907-000-397
#2 x 6	0.0781	0.1875	6.0000	0.1922	118.0	60.0	HSS-Co	R	907-000-079	907-000-410	907-000-408
#2	0.0781	0.1875	1.8750	0.1922	118.0	60.0	T-15	R	906-000-079	906-000-755	906-000-753
#3	0.1094	0.2500	2.0000	0.2583	118.0	60.0	Carbide	R	906-000-436	906-001-650	906-001-648
#3 x 82°	0.1094	0.2500	2.0000	0.2174	118.0	82.0	Carbide	R	906-000-437	906-001-653	906-001-651
#3 x 90°	0.1094	0.2500	2.0000	0.2068	118.0	90.0	Carbide	R	906-000-438	906-001-656	906-001-654



SIZE	DC [in.]	DCONms [in.]	L [in.]	LF/LU [in.]	A [°]	A1 [°]	Material	Hand of Cut	UNCOATED	TIN COATED	TIAIN COATED
									2 FLUTE	2 FLUTE	2 FLUTE
#3 x 4	0.1094	0.2500	4.0000	0.2583	118.0	60.0	Carbide	R	907-000-193	907-000-682	907-000-680
#3 x 6	0.1094	0.2500	6.0000	0.2583	118.0	60.0	Carbide	R	907-000-194	907-000-685	907-000-683
#3	0.1094	0.2500	2.0000	0.2583	118.0	60.0	HSS	R	906-000-090	906-000-091	906-000-777
#3	0.1094	0.2500	2.0000	0.2583	118.0	60.0	HSS	L	906-000-100	906-000-799	906-000-797
#3 x 82°	0.1094	0.2500	2.0000	0.2174	118.0	82.0	HSS	R	906-000-101	906-000-102	906-000-801
#3 x 90°	0.1094	0.2500	2.0000	0.2068	118.0	90.0	HSS	R	906-000-103	906-000-104	906-000-804
#3 x 3	0.1094	0.2500	3.0000	0.2583	118.0	60.0	HSS	R	907-000-083	907-000-084	907-000-421
#3 x 3 x 82°	0.1094	0.2500	3.0000	0.2174	118.0	82.0	HSS	R	907-000-086	907-000-428	907-000-426
#3 x 3 x 90°	0.1094	0.2500	3.0000	0.2068	118.0	90.0	HSS	R	907-000-087	907-000-431	907-000-429
#3 x 4	0.1094	0.2500	4.0000	0.2583	118.0	60.0	HSS	R	907-000-088	907-000-089	907-000-432
#3 x 4 x 82°	0.1094	0.2500	4.0000	0.2174	118.0	82.0	HSS	R	907-000-091	907-000-439	907-000-437
#3 x 4 x 90°	0.1094	0.2500	4.0000	0.2068	118.0	90.0	HSS	R	907-000-092	907-000-442	907-000-440
#3 x 5	0.1094	0.2500	5.0000	0.2583	118.0	60.0	HSS	R	907-000-093	907-000-094	907-000-443
#3 x 5 x 82°	0.1094	0.2500	5.0000	0.2174	118.0	82.0	HSS	R	907-000-096	907-000-450	907-000-448
#3 x 5 x 90°	0.1094	0.2500	5.0000	0.2068	118.0	90.0	HSS	R	907-000-097	907-000-453	907-000-451
#3 x 6	0.1094	0.2500	6.0000	0.2583	118.0	60.0	HSS	R	907-000-098	907-000-099	907-000-454
#3 x 6 x 82°	0.1094	0.2500	6.0000	0.2174	118.0	82.0	HSS	R	907-000-101	907-000-461	907-000-459
#3 x 6 x 90°	0.1094	0.2500	6.0000	0.2068	118.0	90.0	HSS	R	907-000-102	907-000-464	907-000-462
#3 x 8	0.1094	0.2500	8.0000	0.2583	118.0	60.0	HSS	R	907-000-103	907-000-467	907-000-465
#3	0.1094	0.2500	2.0000	0.2583	118.0	60.0	HSS-Co	R	906-000-099	906-000-795	906-000-793
#3 x 3	0.1094	0.2500	3.0000	0.2583	118.0	60.0	HSS-Co	R	907-000-085	907-000-425	907-000-423
#3 x 4	0.1094	0.2500	4.0000	0.2583	118.0	60.0	HSS-Co	R	907-000-090	907-000-436	907-000-434
#3 x 5	0.1094	0.2500	5.0000	0.2583	118.0	60.0	HSS-Co	R	907-000-095	907-000-447	907-000-445
#3 x 6	0.1094	0.2500	6.0000	0.2583	118.0	60.0	HSS-Co	R	907-000-100	907-000-458	907-000-456
#3	0.1094	0.2500	2.0000	0.2583	118.0	60.0	T-15	R	906-000-094	906-000-785	906-000-783
#4	0.1250	0.3125	2.1250	0.3184	118.0	60.0	Carbide	R	906-000-439	906-001-659	906-001-657
#4 x 82°	0.1250	0.3125	2.1250	0.2638	118.0	82.0	Carbide	R	906-000-440	906-001-662	906-001-660
#4 x 90°	0.1250	0.3125	2.1250	0.2497	118.0	90.0	Carbide	R	906-000-441	906-001-665	906-001-663
#4 x 4	0.1250	0.3125	4.0000	0.3184	118.0	60.0	Carbide	R	907-000-195	907-000-689	907-000-687
#4 x 6	0.1250	0.3125	6.0000	0.3184	118.0	60.0	Carbide	R	907-000-196	907-000-692	907-000-690
#4	0.1250	0.3125	2.1250	0.3184	118.0	60.0	HSS	R	906-000-105	906-000-106	906-000-807
#4	0.1250	0.3125	2.1250	0.3184	118.0	60.0	HSS	L	906-000-115	906-000-829	906-000-827
#4 x 82°	0.1250	0.3125	2.1250	0.2638	118.0	82.0	HSS	R	906-000-116	906-000-117	906-000-831
#4 x 90°	0.1250	0.3125	2.1250	0.2497	118.0	90.0	HSS	R	906-000-118	906-000-119	906-000-834
#4 x 3	0.1250	0.3125	3.0000	0.3184	118.0	60.0	HSS	R	907-000-104	907-000-105	907-000-469
#4 x 3 x 82°	0.1250	0.3125	3.0000	0.2638	118.0	82.0	HSS	R	907-000-107	907-000-476	907-000-474
#4 x 3 x 90°	0.1250	0.3125	3.0000	0.2497	118.0	90.0	HSS	R	907-000-108	907-000-479	907-000-477
#4 x 4	0.1250	0.3125	4.0000	0.3184	118.0	60.0	HSS	R	907-000-109	907-000-110	907-000-480
#4 x 4 x 82°	0.1250	0.3125	4.0000	0.2638	118.0	82.0	HSS	R	907-000-112	907-000-487	907-000-485
#4 x 4 x 90°	0.1250	0.3125	4.0000	0.2497	118.0	90.0	HSS	R	907-000-113	907-000-490	907-000-488
#4 x 5	0.1250	0.3125	5.0000	0.3184	118.0	60.0	HSS	R	907-000-114	907-000-115	907-000-491
#4 x 5 x 82°	0.1250	0.3125	5.0000	0.2638	118.0	82.0	HSS	R	907-000-117	907-000-498	907-000-496
#4 x 5 x 90°	0.1250	0.3125	5.0000	0.2497	118.0	90.0	HSS	R	907-000-118	907-000-501	907-000-499
#4 x 6	0.1250	0.3125	6.0000	0.3184	118.0	60.0	HSS	R	907-000-119	907-000-120	907-000-502
#4 x 6 x 82°	0.1250	0.3125	6.0000	0.2638	118.0	82.0	HSS	R	907-000-122	907-000-509	907-000-507
#4 x 6 x 90°	0.1250	0.3125	6.0000	0.2497	118.0	90.0	HSS	R	907-000-123	907-000-512	907-000-510
#4 x 8	0.1250	0.3125	8.0000	0.3184	118.0	60.0	HSS	R	907-000-124	907-000-515	907-000-513
#4	0.1250	0.3125	2.1250	0.3184	118.0	60.0	HSS-Co	R	906-000-114	906-000-825	906-000-823
#4 x 3	0.1250	0.3125	3.0000	0.3184	118.0	60.0	HSS-Co	R	907-000-106	907-000-473	907-000-471
#4 x 4	0.1250	0.3125	4.0000	0.3184	118.0	60.0	HSS-Co	R	907-000-111	907-000-484	907-000-482
#4 x 5	0.1250	0.3125	5.0000	0.3184	118.0	60.0	HSS-Co	R	907-000-116	907-000-495	907-000-493
#4 x 6	0.1250	0.3125	6.0000	0.3184	118.0	60.0	HSS-Co	R	907-000-121	907-000-506	907-000-504
#4	0.1250	0.3125	2.1250	0.3184	118.0	60.0	T-15	R	906-000-109	906-000-815	906-000-813
#4½	0.1406	0.3750	2.5000	0.3785	118.0	60.0	HSS	R	906-000-309	906-000-310	906-001-248



SIZE	DC [in.]	DCONms [in.]	L [in.]	LF/LU [in.]	A [°]	A1 [°]	Material	Hand of Cut	UNCOATED	TIN COATED	TiAIN COATED
									2 FLUTE	2 FLUTE	2 FLUTE
#4½	0.1406	0.3750	2.5000	0.3785	118.0	60.0	HSS	L	906-000-315	906-001-267	906-001-265
#4½ x 82°	0.1406	0.3750	2.5000	0.3103	118.0	82.0	HSS	R	906-000-316	906-000-317	906-001-269
#4½ x 90°	0.1406	0.3750	2.5000	0.2927	118.0	90.0	HSS	R	906-000-318	906-000-319	906-001-272
#4½ x 4	0.1406	0.3750	4.0000	0.3785	118.0	60.0	HSS	R	907-000-125	907-000-126	907-000-516
#4½ x 4 x 82°	0.1406	0.3750	4.0000	0.3103	118.0	82.0	HSS	R	907-000-128	907-000-523	907-000-521
#4½ x 4 x 90°	0.1406	0.3750	4.0000	0.2927	118.0	90.0	HSS	R	907-000-129	907-000-526	907-000-524
#4½ x 5	0.1406	0.3750	5.0000	0.3785	118.0	60.0	HSS	R	907-000-130	907-000-131	907-000-527
#4½ x 5 x 82°	0.1406	0.3750	5.0000	0.3103	118.0	82.0	HSS	R	907-000-133	907-000-534	907-000-532
#4½ x 5 x 90°	0.1406	0.3750	5.0000	0.2927	118.0	90.0	HSS	R	907-000-134	907-000-537	907-000-535
#4½ x 6	0.1406	0.3750	6.0000	0.3785	118.0	60.0	HSS	R	907-000-135	907-000-136	907-000-538
#4½ x 6 x 82°	0.1406	0.3750	6.0000	0.3103	118.0	82.0	HSS	R	907-000-138	907-000-545	907-000-543
#4½ x 6 x 90°	0.1406	0.3750	6.0000	0.2927	118.0	90.0	HSS	R	907-000-139	907-000-548	907-000-546
#4½ x 8	0.1406	0.3750	8.0000	0.3785	118.0	60.0	HSS	R	907-000-140	907-000-551	907-000-549
#4½	0.1406	0.3750	2.5000	0.3785	118.0	60.0	HSS-Co	R	906-000-314	906-001-263	906-001-261
#4½ x 4	0.1406	0.3750	4.0000	0.3785	118.0	60.0	HSS-Co	R	907-000-127	907-000-520	907-000-518
#4½ x 5	0.1406	0.3750	5.0000	0.3785	118.0	60.0	HSS-Co	R	907-000-132	907-000-531	907-000-529
#4½ x 6	0.1406	0.3750	6.0000	0.3785	118.0	60.0	HSS-Co	R	907-000-137	907-000-542	907-000-540
#4½	0.1406	0.3750	2.5000	0.3785	118.0	60.0	T-15	R	906-000-313	906-001-256	906-001-254
#5	0.1875	0.4375	2.7500	0.4505	118.0	60.0	Carbide	R	906-000-442	906-001-668	906-001-666
#5 x 82°	0.1875	0.4375	2.7500	0.3778	118.0	82.0	Carbide	R	906-000-443	906-001-671	906-001-669
#5 x 90°	0.1875	0.4375	2.7500	0.3590	118.0	90.0	Carbide	R	906-000-444	906-001-674	906-001-672
#5 x 4	0.1875	0.4375	4.0000	0.4505	118.0	60.0	Carbide	R	907-000-197	907-000-696	907-000-694
#5 x 6	0.1875	0.4375	6.0000	0.4505	118.0	60.0	Carbide	R	907-000-198	907-000-699	907-000-697
#5	0.1875	0.4375	2.7500	0.4505	118.0	60.0	HSS	R	906-000-120	906-000-121	906-000-838
#5	0.1875	0.4375	2.7500	0.4505	118.0	60.0	HSS	L	906-000-130	906-000-860	906-000-858
#5 x 82°	0.1875	0.4375	2.7500	0.3778	118.0	82.0	HSS	R	906-000-131	906-000-132	906-000-862
#5 x 90°	0.1875	0.4375	2.7500	0.3590	118.0	90.0	HSS	R	906-000-133	906-000-134	906-000-865
#5 x 4	0.1875	0.4375	4.0000	0.4505	118.0	60.0	HSS	R	907-000-141	907-000-142	907-000-553
#5 x 4 x 82°	0.1875	0.4375	4.0000	0.3778	118.0	82.0	HSS	R	907-000-144	907-000-560	907-000-558
#5 x 4 x 90°	0.1875	0.4375	4.0000	0.3590	118.0	90.0	HSS	R	907-000-145	907-000-563	907-000-561
#5 x 5	0.1875	0.4375	5.0000	0.4505	118.0	60.0	HSS	R	907-000-146	907-000-147	907-000-564
#5 x 5 x 82°	0.1875	0.4375	5.0000	0.3778	118.0	82.0	HSS	R	907-000-149	907-000-571	907-000-569
#5 x 5 x 90°	0.1875	0.4375	5.0000	0.3590	118.0	90.0	HSS	R	907-000-150	907-000-574	907-000-572
#5 x 6	0.1875	0.4375	6.0000	0.4505	118.0	60.0	HSS	R	907-000-151	907-000-152	907-000-575
#5 x 6 x 82°	0.1875	0.4375	6.0000	0.3778	118.0	82.0	HSS	R	907-000-154	907-000-582	907-000-580
#5 x 6 x 90°	0.1875	0.4375	6.0000	0.3590	118.0	90.0	HSS	R	907-000-155	907-000-585	907-000-583
#5 x 8	0.1875	0.4375	8.0000	0.4505	118.0	60.0	HSS	R	907-000-156	907-000-588	907-000-586
#5	0.1875	0.4375	2.7500	0.4505	118.0	60.0	HSS-Co	R	906-000-129	906-000-856	906-000-854
#5 x 4	0.1875	0.4375	4.0000	0.4505	118.0	60.0	HSS-Co	R	907-000-143	907-000-557	907-000-555
#5 x 5	0.1875	0.4375	5.0000	0.4505	118.0	60.0	HSS-Co	R	907-000-148	907-000-568	907-000-566
#5 x 6	0.1875	0.4375	6.0000	0.4505	118.0	60.0	HSS-Co	R	907-000-153	907-000-579	907-000-577
#5	0.1875	0.4375	2.7500	0.4505	118.0	60.0	T-15	R	906-000-124	906-000-846	906-000-844
#6	0.2188	0.5000	3.0000	0.5165	118.0	60.0	Carbide	R	906-000-445	906-001-677	906-001-675
#6 x 82°	0.2188	0.5000	3.0000	0.4347	118.0	82.0	Carbide	R	906-000-446	906-001-680	906-001-678
#6 x 90°	0.2188	0.5000	3.0000	0.4136	118.0	90.0	Carbide	R	906-000-447	906-001-683	906-001-681
#6 x 4	0.2188	0.5000	4.0000	0.5165	118.0	60.0	Carbide	R	907-000-199	907-000-702	907-000-700
#6 x 6	0.2188	0.5000	6.0000	0.5165	118.0	60.0	Carbide	R	907-000-200	907-000-705	907-000-703
#6	0.2188	0.5000	3.0000	0.5165	118.0	60.0	HSS	R	906-000-135	906-000-136	906-000-868
#6	0.2188	0.5000	3.0000	0.5165	118.0	60.0	HSS	L	906-000-145	906-000-890	906-000-888
#6 x 82°	0.2188	0.5000	3.0000	0.4347	118.0	82.0	HSS	R	906-000-146	906-000-147	906-000-892
#6 x 90°	0.2188	0.5000	3.0000	0.4136	118.0	90.0	HSS	R	906-000-148	906-000-149	906-000-895
#6 x 4	0.2188	0.5000	4.0000	0.5165	118.0	60.0	HSS	R	907-000-157	907-000-158	907-000-589
#6 x 4 x 82°	0.2188	0.5000	4.0000	0.4347	118.0	82.0	HSS	R	907-000-160	907-000-596	907-000-594
#6 x 4 x 90°	0.2188	0.5000	4.0000	0.4136	118.0	90.0	HSS	R	907-000-161	907-000-599	907-000-597



SIZE	DC [in.]	DCONms [in.]	L [in.]	LF/LU [in.]	A [°]	A1 [°]	Material	Hand of Cut	UNCOATED	TiN COATED	TiAIN COATED
									2 FLUTE	2 FLUTE	2 FLUTE
#6 x 5	0.2188	0.5000	5.0000	0.5165	118.0	60.0	HSS	R	907-000-162	907-000-163	907-000-600
#6 x 5 x 82°	0.2188	0.5000	5.0000	0.4347	118.0	82.0	HSS	R	907-000-165	907-000-607	907-000-605
#6 x 5 x 90°	0.2188	0.5000	5.0000	0.4136	118.0	90.0	HSS	R	907-000-166	907-000-610	907-000-608
#6 x 6	0.2188	0.5000	6.0000	0.5165	118.0	60.0	HSS	R	907-000-167	907-000-168	907-000-611
#6 x 6 x 82°	0.2188	0.5000	6.0000	0.4347	118.0	82.0	HSS	R	907-000-170	907-000-618	907-000-616
#6 x 6 x 90°	0.2188	0.5000	6.0000	0.4136	118.0	90.0	HSS	R	907-000-171	907-000-621	907-000-619
#6 x 8	0.2188	0.5000	8.0000	0.5165	118.0	60.0	HSS	R	907-000-172	907-000-624	907-000-622
#6	0.2188	0.5000	3.0000	0.5165	118.0	60.0	HSS-Co	R	906-000-144	906-000-886	906-000-884
#6 x 4	0.2188	0.5000	4.0000	0.5165	118.0	60.0	HSS-Co	R	907-000-159	907-000-593	907-000-591
#6 x 5	0.2188	0.5000	5.0000	0.5165	118.0	60.0	HSS-Co	R	907-000-164	907-000-604	907-000-602
#6 x 6	0.2188	0.5000	6.0000	0.5165	118.0	60.0	HSS-Co	R	907-000-169	907-000-615	907-000-613
#6	0.2188	0.5000	3.0000	0.5165	118.0	60.0	T-15	R	906-000-139	906-000-876	906-000-874
#7	0.2500	0.6250	3.2500	0.6367	118.0	60.0	Carbide	R	906-000-448	906-001-686	906-001-684
#7 x 82°	0.2500	0.6250	3.7500	0.5277	118.0	82.0	Carbide	R	906-000-449	906-001-690	906-001-688
#7 x 90°	0.2500	0.6250	3.7500	0.4995	118.0	90.0	Carbide	R	906-000-450	906-001-693	906-001-691
#7 x 6	0.2500	0.6250	6.0000	0.6367	118.0	60.0	Carbide	R	907-000-201	907-000-708	907-000-706
#7	0.2500	0.6250	3.2500	0.6367	118.0	60.0	HSS	R	906-000-150	906-000-151	906-000-898
#7	0.2500	0.6250	3.2500	0.6367	118.0	60.0	HSS	L	906-000-160	906-000-920	906-000-918
#7 x 82°	0.2500	0.6250	3.2500	0.5277	118.0	82.0	HSS	R	906-000-161	906-000-162	906-000-922
#7 x 90°	0.2500	0.6250	3.2500	0.4995	118.0	90.0	HSS	R	906-000-163	906-000-164	906-000-925
#7 x 6	0.2500	0.6250	6.0000	0.6367	118.0	60.0	HSS	R	907-000-173	907-000-174	907-000-625
#7 x 6 x 82°	0.2500	0.6250	6.0000	0.5277	118.0	82.0	HSS	R	907-000-176	907-000-632	907-000-630
#7 x 6 x 90°	0.2500	0.6250	6.0000	0.4995	118.0	90.0	HSS	R	907-000-177	907-000-635	907-000-633
#7 x 8	0.2500	0.6250	8.0000	0.6367	118.0	60.0	HSS	R	907-000-178	907-000-638	907-000-636
#7	0.2500	0.6250	3.2500	0.6367	118.0	60.0	HSS-Co	R	906-000-159	906-000-916	906-000-914
#7 x 6	0.2500	0.6250	6.0000	0.6367	118.0	60.0	HSS-Co	R	907-000-175	907-000-629	907-000-627
#7	0.2500	0.6250	3.2500	0.6367	118.0	60.0	T-15	R	906-000-154	906-000-906	906-000-904
#8	0.3125	0.7500	3.5000	0.7688	118.0	60.0	Carbide	R	906-000-451	906-001-696	906-001-694
#8 x 82°	0.3125	0.7500	4.0000	0.6416	118.0	82.0	Carbide	R	906-000-452	906-001-699	906-001-697
#8 x 90°	0.3125	0.7500	4.0000	0.6087	118.0	90.0	Carbide	R	906-000-453	906-001-702	906-001-700
#8 x 6	0.3125	0.7500	6.0000	0.7688	118.0	60.0	Carbide	R	907-000-202	907-000-711	907-000-709
#8	0.3125	0.7500	3.5000	0.7688	118.0	60.0	HSS	R	906-000-165	906-000-166	906-000-928
#8	0.3125	0.7500	3.5000	0.7688	118.0	60.0	HSS	L	906-000-175	906-000-950	906-000-948
#8 x 82°	0.3125	0.7500	3.5000	0.6416	118.0	82.0	HSS	R	906-000-176	906-000-177	906-000-952
#8 x 90°	0.3125	0.7500	3.5000	0.6087	118.0	90.0	HSS	R	906-000-178	906-000-179	906-000-955
#8 x 6	0.3125	0.7500	6.0000	0.7688	118.0	60.0	HSS	R	907-000-179	907-000-180	907-000-639
#8 x 6 x 82°	0.3125	0.7500	6.0000	0.6416	118.0	82.0	HSS	R	907-000-182	907-000-646	907-000-644
#8 x 6 x 90°	0.3125	0.7500	6.0000	0.6087	118.0	90.0	HSS	R	907-000-183	907-000-649	907-000-647
#8 x 8	0.3125	0.7500	8.0000	0.7688	118.0	60.0	HSS	R	907-000-184	907-000-652	907-000-650
#8	0.3125	0.7500	3.5000	0.7688	118.0	60.0	HSS-Co	R	906-000-174	906-000-946	906-000-944
#8 x 6	0.3125	0.7500	6.0000	0.7688	118.0	60.0	HSS-Co	R	907-000-181	907-000-643	907-000-641
#8	0.3125	0.7500	3.5000	0.7688	118.0	60.0	T-15	R	906-000-169	906-000-936	906-000-934
#9	0.3438	0.8750	3.6250	0.8890	118.0	60.0	HSS	R	906-000-180	906-000-181	906-000-958
#9	0.3438	0.8750	3.6250	0.8890	118.0	60.0	HSS	L	906-000-186	906-000-974	906-000-972
#9 x 82°	0.3438	0.8750	3.6250	0.7345	118.0	82.0	HSS	R	906-000-187	906-000-188	906-000-976
#9 x 90°	0.3438	0.8750	3.6250	0.6946	118.0	90.0	HSS	R	906-000-189	906-000-190	906-000-979
#9	0.3438	0.8750	3.6250	0.8890	118.0	60.0	HSS-Co	R	906-000-185	906-000-970	906-000-968
#9	0.3438	0.8750	3.6250	0.8890	118.0	60.0	T-15	R	906-000-184	906-000-966	906-000-964
#10	0.3750	1.0000	3.7500	1.0092	118.0	60.0	HSS	R	906-000-191	906-000-192	906-000-982
#10	0.3750	1.0000	3.7500	1.0092	118.0	60.0	HSS	L	906-000-197	906-000-998	906-000-996
#10 x 82°	0.3750	1.0000	3.7500	0.8274	118.0	82.0	HSS	R	906-000-198	906-000-199	906-001-000
#10 x 90°	0.3750	1.0000	3.7500	0.7804	118.0	90.0	HSS	R	906-000-200	906-000-201	906-001-003
#10	0.3750	1.0000	3.7500	1.0092	118.0	60.0	HSS-Co	R	906-000-196	906-000-994	906-000-992
#10	0.3750	1.0000	3.7500	1.0092	118.0	60.0	T-15	R	906-000-195	906-000-990	906-000-988

CARBIDE

HSS

COBALT

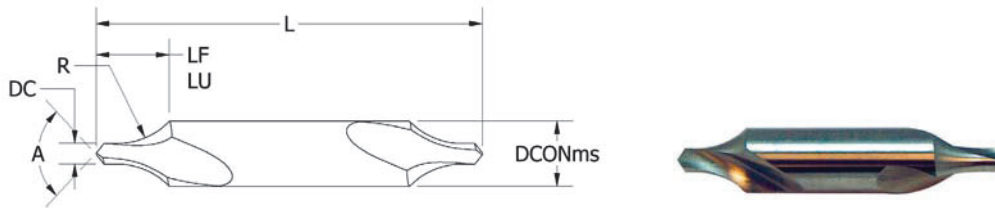
T-15



Center Drill & Countersink Set

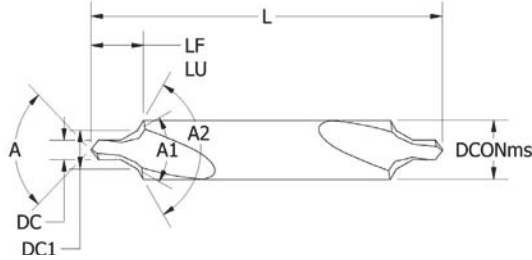
This 5-piece set includes one piece each of the following plain type center drill with a standard 60° included countersink angle.

C'Drills	PKG QTY.	HSS	HSS-TiN	Cobalt	Carbide
#1, #2, #3, #4, #5,	1	906-000-001	906-000-002	906-000-003	906-000-004

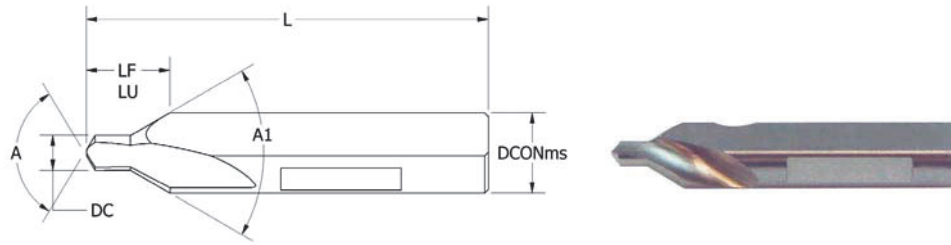


Size	DC [in.]	R [in.]	DCONms [in.]	L [in.]	LF / LU [in.]	A [°]	Material	Hand of Cut	UNCOATED	TiN COATED	TiAIN COATED
#5-0	0.0100	0.0625	0.1250	1.2500	0.0705	118.0	HSS	R	906-000-050	906-000-051	906-000-702
#4-0	0.0150	0.0781	0.1250	1.2500	0.0867	118.0	HSS	R	906-000-052	906-000-053	906-000-705
#3-0	0.0200	0.0938	0.1250	1.2500	0.1020	118.0	HSS	R	906-000-054	906-000-055	906-000-708
#2-0	0.0250	0.1094	0.1250	1.2500	0.1152	118.0	HSS	R	906-000-056	906-000-057	906-000-711
#0	0.0313	0.1250	0.1250	1.2500	0.1257	118.0	HSS	R	906-000-058	906-000-059	906-000-714
#1	0.0469	0.1563	0.1250	1.2500	0.1436	118.0	HSS	R	906-000-062	906-000-063	906-000-720
#2	0.0781	0.2188	0.1875	1.8750	0.2234	118.0	HSS	R	906-000-077	906-000-078	906-000-750
#3	0.1094	0.2813	0.2500	2.0000	0.3021	118.0	HSS	R	906-000-092	906-000-093	906-000-780
#4	0.1250	0.3750	0.3125	2.1250	0.3747	118.0	HSS	R	906-000-107	906-000-108	906-000-810
#4½	0.1406	0.4375	0.3750	2.5000	0.4411	118.0	HSS	R	906-000-311	906-000-312	906-001-251
#5	0.1875	0.5000	0.4375	2.7500	0.5308	118.0	HSS	R	906-000-122	906-000-123	906-000-841
#6	0.2188	0.5625	0.5000	3.0000	0.6011	118.0	HSS	R	906-000-137	906-000-138	906-000-871
#7	0.2500	0.7031	0.6250	3.2500	0.7338	118.0	HSS	R	906-000-152	906-000-153	906-000-901
#8	0.3125	0.8750	0.7500	3.5000	0.8900	118.0	HSS	R	906-000-167	906-000-168	906-000-931
#9	0.3438	1.0000	0.8750	3.6250	1.0227	118.0	HSS	R	906-000-182	906-000-183	906-000-961
#10	0.3750	1.1094	1.0000	3.7500	1.1554	118.0	HSS	R	906-000-193	906-000-194	906-000-985

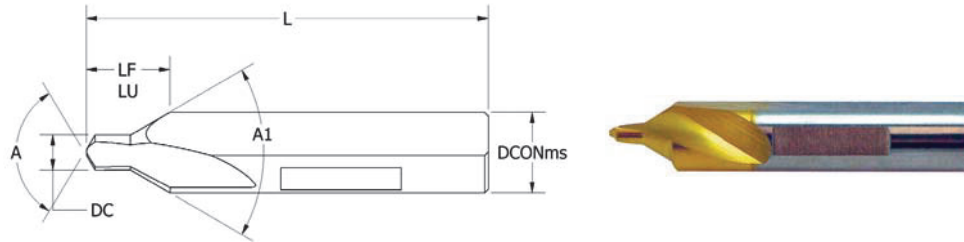
CARBIDE
HSS
COBALT



Size	DC [in.]	DC1 [in.]	DCONms [in.]	L [in.]	LF / LU [in.]	A [°]	A1 [°]	A2 [°]	Material	Hand of Cut	UNCOATED	TIN COATED	TiAIN COATED
#11	0.0469	0.1000	0.1250	1.2500	0.1117	118.0	60.0	120.0	Carbide	R	906-000-427	906-001-622	906-001-620
#11	0.0469	0.1000	0.1250	1.2500	0.1117	118.0	60.0	120.0	HSS	L	906-000-210	906-001-024	906-001-022
#11	0.0469	0.1000	0.1250	1.2500	0.1117	118.0	60.0	120.0	HSS	R	906-000-202	906-000-203	906-001-006
#11	0.0469	0.1000	0.1250	1.2500	0.1117	118.0	60.0	120.0	HSS-E	R	906-000-209	906-001-020	906-001-018
#11	0.0469	0.1000	0.1250	1.2500	0.1117	118.0	60.0	120.0	T-15	R	906-000-204	906-001-011	906-001-009
#12	0.0625	0.1500	0.1875	1.8750	0.1646	118.0	60.0	120.0	Carbide	R	906-000-428	906-001-625	906-001-623
#12	0.0625	0.1500	0.1875	1.8750	0.1646	118.0	60.0	120.0	HSS	L	906-000-219	906-001-045	906-001-043
#12	0.0625	0.1500	0.1875	1.8750	0.1646	118.0	60.0	120.0	HSS	R	906-000-211	906-000-212	906-001-026
#12	0.0625	0.1500	0.1875	1.8750	0.1646	118.0	60.0	120.0	HSS-E	R	906-000-218	906-001-041	906-001-039
#12	0.0625	0.1500	0.1875	1.8750	0.1646	118.0	60.0	120.0	T-15	R	906-000-213	906-001-031	906-001-029
#13	0.0938	0.2000	0.2500	2.0000	0.2234	118.0	60.0	120.0	Carbide	R	906-000-429	906-001-628	906-001-626
#13	0.0938	0.2000	0.2500	2.0000	0.2234	118.0	60.0	120.0	HSS	L	906-000-228	906-001-066	906-001-064
#13	0.0938	0.2000	0.2500	2.0000	0.2234	118.0	60.0	120.0	HSS	R	906-000-220	906-000-221	906-001-047
#13	0.0938	0.2000	0.2500	2.0000	0.2234	118.0	60.0	120.0	HSS-E	R	906-000-227	906-001-062	906-001-060
#13	0.0938	0.2000	0.2500	2.0000	0.2234	118.0	60.0	120.0	T-15	R	906-000-222	906-001-052	906-001-050
#14	0.1094	0.2500	0.3125	2.1250	0.2763	118.0	60.0	120.0	Carbide	R	906-000-430	906-001-631	906-001-629
#14	0.1094	0.2500	0.3125	2.1250	0.2763	118.0	60.0	120.0	HSS	L	906-000-237	906-001-091	906-001-089
#14	0.1094	0.2500	0.3125	2.1250	0.2763	118.0	60.0	120.0	HSS	R	906-000-229	906-000-230	906-001-072
#14	0.1094	0.2500	0.3125	2.1250	0.2763	118.0	60.0	120.0	HSS-E	R	906-000-236	906-001-087	906-001-085
#14	0.1094	0.2500	0.3125	2.1250	0.2763	118.0	60.0	120.0	T-15	R	906-000-231	906-001-077	906-001-075
#15	0.1563	0.3500	0.4375	2.7500	0.3880	118.0	60.0	120.0	Carbide	R	906-000-431	906-001-634	906-001-632
#15	0.1563	0.3500	0.4375	2.7500	0.3880	118.0	60.0	120.0	HSS	L	906-000-246	906-001-112	906-001-110
#15	0.1563	0.3500	0.4375	2.7500	0.3880	118.0	60.0	120.0	HSS	R	906-000-238	906-000-239	906-001-093
#15	0.1563	0.3500	0.4375	2.7500	0.3880	118.0	60.0	120.0	HSS-E	R	906-000-245	906-001-108	906-001-106
#15	0.1563	0.3500	0.4375	2.7500	0.3880	118.0	60.0	120.0	T-15	R	906-000-240	906-001-098	906-001-096
#16	0.1875	0.4000	0.5000	3.0000	0.4469	118.0	60.0	120.0	Carbide	R	906-000-432	906-001-637	906-001-635
#16	0.1875	0.4000	0.5000	3.0000	0.4469	118.0	60.0	120.0	HSS	L	906-000-255	906-001-133	906-001-131
#16	0.1875	0.4000	0.5000	3.0000	0.4469	118.0	60.0	120.0	HSS	R	906-000-247	906-000-248	906-001-114
#16	0.1875	0.4000	0.5000	3.0000	0.4469	118.0	60.0	120.0	HSS-E	R	906-000-254	906-001-129	906-001-127
#16	0.1875	0.4000	0.5000	3.0000	0.4469	118.0	60.0	120.0	T-15	R	906-000-249	906-001-119	906-001-117
#17	0.2188	0.5000	0.6250	3.2500	0.5526	118.0	60.0	120.0	HSS	L	906-000-264	906-001-154	906-001-152
#17	0.2188	0.5000	0.6250	3.2500	0.5526	118.0	60.0	120.0	HSS	R	906-000-256	906-000-257	906-001-135
#17	0.2188	0.5000	0.6250	3.2500	0.5526	118.0	60.0	120.0	HSS-E	R	906-000-263	906-001-150	906-001-148
#17	0.2188	0.5000	0.6250	3.2500	0.5526	118.0	60.0	120.0	T-15	R	906-000-258	906-001-140	906-001-138
#18	0.2500	0.6000	0.7500	3.5000	0.6584	118.0	60.0	120.0	HSS	L	906-000-273	906-001-176	906-001-174
#18	0.2500	0.6000	0.7500	3.5000	0.6584	118.0	60.0	120.0	HSS	R	906-000-265	906-000-266	906-001-156
#18	0.2500	0.6000	0.7500	3.5000	0.6584	118.0	60.0	120.0	HSS-E	R	906-000-272	906-001-172	906-001-170
#18	0.2500	0.6000	0.7500	3.5000	0.6584	118.0	60.0	120.0	T-15	R	906-000-267	906-001-161	906-001-159
#19	0.3125	0.7000	0.8750	3.6250	0.7761	118.0	60.0	120.0	HSS	L	906-000-278	906-001-191	906-001-189
#19	0.3125	0.7000	0.8750	3.6250	0.7761	118.0	60.0	120.0	HSS	R	906-000-274	906-000-275	906-001-178
#19	0.3125	0.7000	0.8750	3.6250	0.7761	118.0	60.0	120.0	HSS-E	R	906-000-277	906-001-187	906-001-185
#19	0.3125	0.7000	0.8750	3.6250	0.7761	118.0	60.0	120.0	T-15	R	906-000-276	906-001-183	906-001-181
#20	0.3750	0.8000	1.0000	3.7500	0.8937	118.0	60.0	120.0	HSS	L	906-000-283	906-001-206	906-001-204
#20	0.3750	0.8000	1.0000	3.7500	0.8937	118.0	60.0	120.0	HSS	R	906-000-279	906-000-280	906-001-193
#20	0.3750	0.8000	1.0000	3.7500	0.8937	118.0	60.0	120.0	HSS-E	R	906-000-282	906-001-202	906-001-200
#20	0.3750	0.8000	1.0000	3.7500	0.8937	118.0	60.0	120.0	T-15	R	906-000-281	906-001-198	906-001-196



DC	DC	DCNms	LU	L	LF	A	A1	HSS	HSS-TiN
0.0469	#1	0.1250	0.1262	1.2500	0.1262	118.0	60.0	906-000-067	906-000-068
0.0781	#2	0.1875	0.1922	1.8750	0.1922	118.0	60.0	906-000-082	906-000-083
0.1094	#3	0.2500	0.2583	2.0000	0.2583	118.0	60.0	906-000-097	906-000-098
0.1250	#4	0.3125	0.3184	2.1250	0.3184	118.0	60.0	906-000-112	906-000-113
0.1875	#5	0.4375	0.4505	2.7500	0.4505	118.0	60.0	906-000-127	906-000-128
0.2188	#6	0.5000	0.5165	3.0000	0.5165	118.0	60.0	906-000-142	906-000-143
0.2500	#7	0.6250	0.6367	3.2500	0.6367	118.0	60.0	906-000-157	906-000-158
0.3125	#8	0.7500	0.7688	3.5000	0.7688	118.0	60.0	906-000-172	906-000-173



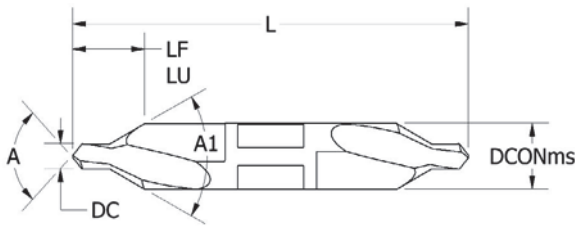
- Bell hey-type single end center drills with a bell tip have flats on their end that accept carbide inserts
- Used on Hey machines for facing a workpiece and creating center holes on it so it can be turned between centers on a lathe
- Have a bell tip with an additional 120° chamfer that bevels the outer edge of the hole to help protect the hole from damage during machining applications
- Commonly used in applications where parts will go through multiple machining passes and there is risk of marring the edges of the center hole
- Set screw flats for locking the center drills into the tool holder



DC	DC	DCNms	DC1	LU	L	LF	A	A1	A2	HSS	HSS-TiN
0.0469	#11	0.1250	0.1000	0.1117	1.2500	0.1117	118.0	60.0	120.0	906-000-207	906-000-208
0.0625	#12	0.1875	0.1500	0.1646	1.8750	0.1646	118.0	60.0	120.0	906-000-216	906-000-217
0.0938	#13	0.2500	0.2000	0.2234	2.0000	0.2234	118.0	60.0	120.0	906-000-225	906-000-226
0.1094	#14	0.3125	0.2500	0.2763	2.1250	0.2763	118.0	60.0	120.0	906-000-234	906-000-235
0.1563	#15	0.4375	0.3500	0.3880	2.7500	0.3880	118.0	60.0	120.0	906-000-243	906-000-244
0.1875	#16	0.5000	0.4000	0.4469	3.0000	0.4469	118.0	60.0	120.0	906-000-252	906-000-253
0.2188	#17	0.6250	0.5000	0.5526	3.2500	0.5526	118.0	60.0	120.0	906-000-261	906-000-262
0.2500	#18	0.7500	0.6000	0.6584	3.5000	0.6584	118.0	60.0	120.0	906-000-270	906-000-271



- Plain hey-type center drills with a bell tip have flats on their end that accept carbide inserts
- Standard choice for creating center holes in a piece of stock to prepare it for turning between centers on a lathe
- Commonly used in applications where parts will go through multiple machining passes and there is risk of marring the edges of the center hole
- Set screw flats for locking the center drills into the tool holder

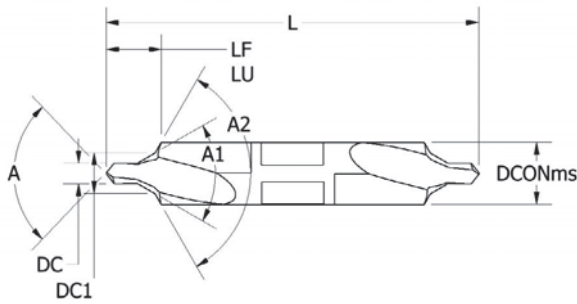


DC	DC	DCNms	LU	L	LF	A	A1	HSS	HSS-TiN
0.0469	#1	0.1250	0.1262	1.2500	0.1262	118.0	60.0	906-000-065	906-000-066
0.0781	#2	0.1875	0.1922	1.8750	0.1922	118.0	60.0	906-000-080	906-000-081
0.1094	#3	0.2500	0.2583	2.0000	0.2583	118.0	60.0	906-000-095	906-000-096
0.1250	#4	0.3125	0.3184	2.1250	0.3184	118.0	60.0	906-000-110	906-000-111
0.1875	#5	0.4375	0.4505	2.7500	0.4505	118.0	60.0	906-000-125	906-000-126
0.2188	#6	0.5000	0.5165	3.0000	0.5165	118.0	60.0	906-000-140	906-000-141
0.2500	#7	0.6250	0.6367	3.2500	0.6367	118.0	60.0	906-000-155	906-000-156
0.3125	#8	0.7500	0.7688	3-1/2	0.7688	118.0	60.0	906-000-170	906-000-171



HSS

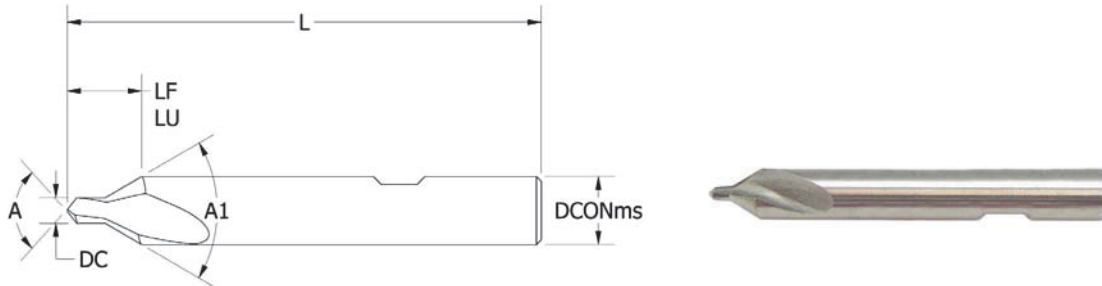
- Bell hey-type double end center drills with a bell tip have flats on their end that accept carbide inserts
- Used on Hey machines for facing a workpiece and creating center holes on it so it can be turned between centers on a lathe
- Have a bell tip with an additional 120° chamfer that bevels the outer edge of the hole to help protect the hole from damage during machining applications
- Commonly used in applications where parts will go through multiple machining passes and there is risk of marring the edges of the center hole
- Set screw flats for locking the center drills into the tool holder



DC	DC	DCONms	DC1	LU	L	LF	A	A1	A2	HSS	HSS-TiN
0.0469	#11	0.1250	0.1000	0.1117	1.2500	0.1117	118.0	60.0	120.0	906-000-205	906-000-206
0.0625	#12	0.1875	0.1500	0.1646	1.8750	0.1646	118.0	60.0	120.0	906-000-214	906-000-215
0.0938	#13	0.2500	0.2000	0.2234	2.0000	0.2234	118.0	60.0	120.0	906-000-223	906-000-224
0.1094	#14	0.3125	0.2500	0.2763	2.1250	0.2763	118.0	60.0	120.0	906-000-232	906-000-233
0.1563	#15	0.4375	0.3500	0.3880	2.7500	0.3880	118.0	60.0	120.0	906-000-241	906-000-242
0.1875	#16	0.5000	0.4000	0.4469	3.0000	0.4469	118.0	60.0	120.0	906-000-250	906-000-251
0.2188	#17	0.6250	0.5000	0.5526	3.2500	0.5526	118.0	60.0	120.0	906-000-259	906-000-260
0.2500	#18	0.7500	0.6000	0.6000	3.5000	0.6000	118.0	60.0	120.0	906-000-268	906-000-269



Jig Bore Type and countersinks are used for producing center holes in components or workpieces which require machining between centers and are manufactured with a locking set screw flat.



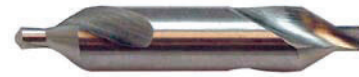
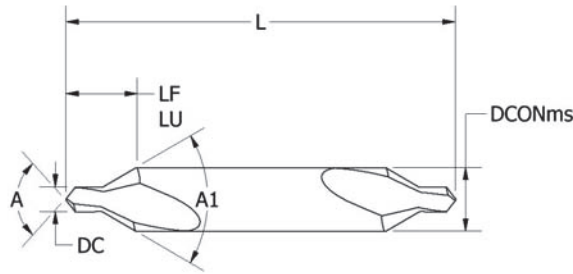
DC	DCONms	LU	L	LF	A	A1	HSS
0.0625	0.3750	0.3486	3.0000	0.3486	118.0	60.0	906-000-291
0.0938	0.3750	0.3606	3.0000	0.3606	118.0	60.0	906-000-294
0.1250	0.3750	0.3725	3.0000	0.3725	118.0	60.0	906-000-292
0.1563	0.3750	0.3844	3.0000	0.3844	118.0	60.0	906-000-295
0.1875	0.3750	0.3964	3.0000	0.3964	118.0	60.0	906-000-293
0.1250	0.5000	0.4807	3.5000	0.4807	118.0	60.0	906-000-285
0.1875	0.5000	0.5046	3.5000	0.5046	118.0	60.0	906-000-286
0.2188	0.5000	0.5165	3.5000	0.5165	118.0	60.0	906-000-287
0.2500	0.5000	0.5285	3.5000	0.5285	118.0	60.0	906-000-284
0.2813	0.5000	0.5404	3.5000	0.5404	118.0	60.0	906-000-288

Jig Bore Center Drill & Countersink Sets

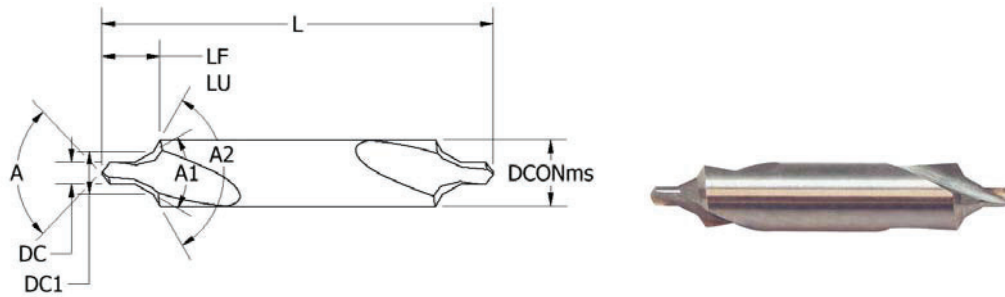
Each 5-piece set includes one piece each of the following jig bore type Center drill and countersinks.



Body Dia.	Point Dia.	Product #
3/8	1/16	906-000-290
	3/32	
	1/8	
	5/32	
	3/16	
1/2	1/8	906-000-289
	3/16	
	7/32	
	1/4	
	9/32	

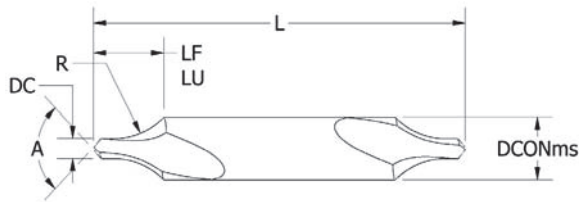


DIN332-A Hole Design	DIN333-A Designation	DC [mm]	DCONms [mm]	L [mm]	LF / LU [mm]	A [°]	A1 [°]	Material	Hand of Cut	UNCOATED	TiN COATED	TiAlN COATED
0,5 x 1,06	0,5 x 3,15	0.50	3.15	25.00	3.09	118.0	60.0	HSS	R	906-000-320	906-001-277	906-001-275
0,5 x 1,06	0,5 x 3,15	0.50	3.15	25.00	0.37	118.0	60.0	HSS-E	R	906-000-334	906-001-331	906-001-329
0,5 x 1,06	0,5 x 3,15	0.50	3.15	25.00	0.37	118.0	60.0	Carb	R	906-000-348	906-001-373	906-001-371
0,8 x 1,7	0,8 x 3,15	0.80	3.15	25.00	3.14	118.0	60.0	HSS	R	906-000-321	906-001-281	906-001-279
0,8 x 1,7	0,8 x 3,15	0.80	3.15	25.00	0.41	118.0	60.0	HSS-E	R	906-000-335	906-001-334	906-001-332
0,8 x 1,7	0,8 x 3,15	0.80	3.15	25.00	0.41	118.0	60.0	Carb	R	906-000-349	906-001-376	906-001-374
1 x 2,12	1 x 3,15	1.00	3.15	31.50	3.16	118.0	60.0	HSS	R	906-000-322	906-001-285	906-001-283
1 x 2,12	1 x 3,15	1.00	3.15	31.50	3.16	118.0	60.0	HSS-E	R	906-000-336	906-001-337	906-001-335
1 x 2,12	1 x 3,15	1.00	3.15	31.50	3.16	118.0	60.0	Carb	R	906-000-350	906-001-379	906-001-377
1,25 x 2,65	1,25 x 3,15	1.25	3.15	31.50	3.25	118.0	60.0	HSS	R	906-000-323	906-001-289	906-001-287
1,25 x 2,65	1,25 x 3,15	1.25	3.15	31.50	3.25	118.0	60.0	HSS-E	R	906-000-337	906-001-340	906-001-338
1,25 x 2,65	1,25 x 3,15	1.25	3.15	31.50	3.25	118.0	60.0	Carb	R	906-000-351	906-001-382	906-001-380
1,6 x 3,35	1,6 x 4	1.60	4.00	35.50	4.08	118.0	60.0	HSS	R	906-000-324	906-001-293	906-001-291
1,6 x 3,35	1,6 x 4	1.60	4.00	35.50	4.08	118.0	60.0	HSS-E	R	906-000-344	906-001-361	906-001-359
1,6 x 3,35	1,6 x 4	1.60	4.00	35.50	4.08	118.0	60.0	Carb	R	906-000-355	906-001-394	906-001-392
2 x 4,25	2 x 5	2.00	5.00	40.00	5.10	118.0	60.0	HSS	R	906-000-325	906-001-297	906-001-295
2 x 4,25	2 x 5	2.00	5.00	40.00	5.10	118.0	60.0	HSS-E	R	906-000-345	906-001-364	906-001-362
2 x 4,25	2 x 5	2.00	5.00	40.00	5.10	118.0	60.0	Carb	R	906-000-356	906-001-397	906-001-395
2,5 x 5,3	2,5 x 6,3	2.50	6.30	45.00	6.39	118.0	60.0	HSS	R	906-000-326	906-001-301	906-001-299
2,5 x 5,3	2,5 x 6,3	2.50	6.30	45.00	6.39	118.0	60.0	HSS-E	R	906-000-346	906-001-367	906-001-365
2,5 x 5,3	2,5 x 6,3	2.50	6.30	45.00	6.39	118.0	60.0	Carb	R	906-000-357	906-001-400	906-001-398
3,15 x 6,7	3,15 x 8	3.15	8.00	50.00	8.10	118.0	60.0	HSS	R	906-000-327	906-001-305	906-001-303
3,15 x 6,7	3,15 x 8	3.15	8.00	50.00	8.10	118.0	60.0	HSS-E	R	906-000-347	906-001-370	906-001-368
3,15 x 6,7	3,15 x 8	3.15	8.00	50.00	8.10	118.0	60.0	Carb	R	906-000-358	906-001-403	906-001-401
4 x 8,5	4 x 10	4.00	10.00	56.00	10.20	118.0	60.0	HSS	R	906-000-328	906-001-309	906-001-307
4 x 8,5	4 x 10	4.00	10.00	56.00	10.20	118.0	60.0	HSS-E	R	906-000-338	906-001-343	906-001-341
4 x 8,5	4 x 10	4.00	10.00	56.00	10.20	118.0	60.0	Carb	R	906-000-352	906-001-385	906-001-383
5 x 10,6	5 x 12,5	5.00	12.50	63.00	12.80	118.0	60.0	HSS	R	906-000-329	906-001-313	906-001-311
5 x 10,6	5 x 12,5	5.00	12.50	63.00	12.80	118.0	60.0	HSS-E	R	906-000-339	906-001-346	906-001-344
5 x 10,6	5 x 12,5	5.00	12.50	63.00	12.80	118.0	60.0	Carb	R	906-000-353	906-001-388	906-001-386
6,3 x 13,2	6,3 x 16	6.30	16.00	71.00	16.40	118.0	60.0	HSS	R	906-000-330	906-001-317	906-001-315
6,3 x 13,2	6,3 x 16	6.30	16.00	71.00	16.40	118.0	60.0	HSS-E	R	906-000-340	906-001-349	906-001-347
6,3 x 13,2	6,3 x 16	6.30	16.00	71.00	16.40	118.0	60.0	Carb	R	906-000-354	906-001-391	906-001-389
8 x 17	8 x 20	8.00	20.00	80.00	20.49	118.0	60.0	HSS	R	906-000-331	906-001-321	906-001-319
8 x 17	8 x 20	8.00	20.00	80.00	20.49	118.0	60.0	HSS-E	R	906-000-341	906-001-352	906-001-350
10 x 21,2	10 x 25	10.00	25.00	100.00	25.79	118.0	60.0	HSS	R	906-000-332	906-001-325	906-001-323
10 x 21,2	10 x 25	10.00	25.00	100.00	25.79	118.0	60.0	HSS-E	R	906-000-342	906-001-355	906-001-353
12,5 x 26,5	12,5 x 31,5	12.50	31.50	125.00	32.95	118.0	60.0	HSS	R	906-000-333	906-001-328	906-001-326
12,5 x 26,5	12,5 x 31,5	12.50	31.50	125.00	32.95	118.0	60.0	HSS-E	R	906-000-343	906-001-358	906-001-356



DIN332-B Hole Design	DIN333-B Designation	DC [mm]	DC1 [mm]	DCNms [mm]	L [mm]	LF / LU [mm]	A [°]	A1 [°]	A2 [°]	Material	Hand of Cut	UNCOATED	TiN COATED	TiAlN COATED
1 x 2,12	1 x 4	1.00	2.12	4.00	35.50	2.81	118.0	60.0	120.0	HSS	R	906-000-359	906-001-407	906-001-405
1 x 2,12	1 x 4	1.00	2.12	4.00	35.50	2.81	118.0	60.0	120.0	HSS-E	R	906-000-377	906-001-470	906-001-468
1,25 x 2,65	1,25 x 5	1.25	2.65	5.00	40.00	3.49	118.0	60.0	120.0	HSS	R	906-000-360	906-001-411	906-001-409
1,25 x 2,65	1,25 x 5	1.25	2.65	5.00	40.00	3.49	118.0	60.0	120.0	HSS-E	R	906-000-378	906-001-473	906-001-471
1,6 x 3,35	1,6 x 6,3	1.60	3.35	6.30	45.00	4.37	118.0	60.0	120.0	HSS	R	906-000-361	906-001-415	906-001-413
1,6 x 3,35	1,6 x 6,3	1.60	3.35	6.30	45.00	4.37	118.0	60.0	120.0	HSS-E	R	906-000-379	906-001-476	906-001-474
2 x 4,25	2 x 8	2.00	4.25	8.00	50.00	5.53	118.0	60.0	120.0	HSS	R	906-000-362	906-001-419	906-001-417
2 x 4,25	2 x 8	2.00	4.25	8.00	50.00	5.53	118.0	60.0	120.0	HSS-E	R	906-000-380	906-001-479	906-001-477
2,5 x 5,3	2,5 x 10	2.50	5.30	10.00	56.00	6.88	118.0	60.0	120.0	HSS	R	906-000-363	906-001-423	906-001-421
2,5 x 5,3	2,5 x 10	2.50	5.30	10.00	56.00	6.88	118.0	60.0	120.0	HSS-E	R	906-000-370	906-001-449	906-001-447
3,15 x 6,7	3,15 x 11,2	3.15	6.70	11.20	60.00	8.27	118.0	60.0	120.0	HSS	R	906-000-364	906-001-427	906-001-425
3,15 x 6,7	3,15 x 11,2	3.15	6.70	11.20	60.00	8.27	118.0	60.0	120.0	HSS-E	R	906-000-371	906-001-452	906-001-450
4 x 8,5	4 x 14	4.00	8.50	14.00	67.00	10.48	118.0	60.0	120.0	HSS	R	906-000-365	906-001-431	906-001-429
4 x 8,5	4 x 14	4.00	8.50	14.00	67.00	10.48	118.0	60.0	120.0	HSS-E	R	906-000-372	906-001-455	906-001-453
5 x 10,6	5 x 18	5.00	10.60	18.00	75.00	13.29	118.0	60.0	120.0	HSS	R	906-000-366	906-001-435	906-001-433
5 x 10,6	5 x 18	5.00	10.60	18.00	75.00	13.29	118.0	60.0	120.0	HSS-E	R	906-000-373	906-001-458	906-001-456
6,3 x 13,2	6,3 x 20	6.30	13.20	20.00	80.00	15.94	118.0	60.0	120.0	HSS	R	906-000-367	906-001-439	906-001-437
6,3 x 13,2	6,3 x 20	6.30	13.20	20.00	80.00	15.94	118.0	60.0	120.0	HSS-E	R	906-000-374	906-001-461	906-001-459
8 x 17	8 x 25	8.00	17.00	25.00	100.00	20.20	118.0	60.0	120.0	HSS	R	906-000-368	906-001-443	906-001-441
8 x 17	8 x 25	8.00	17.00	25.00	100.00	20.20	118.0	60.0	120.0	HSS-E	R	906-000-375	906-001-464	906-001-462
10 x 21,2	10 x 31,5	10.00	21.20	31.50	125.00	25.47	118.0	60.0	120.0	HSS	R	906-000-369	906-001-446	906-001-444
10 x 21,2	10 x 31,5	10.00	21.20	31.50	125.00	25.47	118.0	60.0	120.0	HSS-E	R	906-000-376	906-001-467	906-001-465

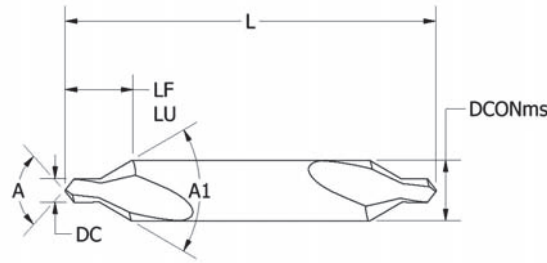
HSS
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DIN332-R Hole Design.	DIN333-R Designation	DC [mm]	R [mm]	DCONms [mm]	L [mm]	LF / LU [mm]	A [°]	Material	Hand of Cut	UNCOATED	TIN COATED	TiAIN COATED
0,5 x 1,05	0,5 x 3,15	0.50	1.60	3.15	25.00	2.12	118.0	HSS	R	906-000-381	906-001-483	906-001-481
0,5 x 1,05	0,5 x 3,15	0.50	1.60	3.15	25.00	2.12	118.0	HSS	R	906-000-395	906-001-526	906-001-524
0,8 x 1,7	0,8 x 3,15	0.80	2.50	3.15	25.00	2.65	118.0	HSS	R	906-000-382	906-001-487	906-001-485
0,8 x 1,7	0,8 x 3,15	0.80	2.50	3.15	25.00	2.65	118.0	HSS	R	906-000-396	906-001-529	906-001-527
1 x 2,12	1 x 3,15	1.00	3.15	3.15	31.50	3.00	118.0	HSS	R	906-000-383	906-001-490	906-001-488
1 x 2,12	1 x 3,15	1.00	3.15	3.15	31.50	3.00	118.0	HSS	R	906-000-397	906-001-532	906-001-530
1,25 x 2,65	1,25 x 3,15	1.25	4.00	3.15	31.50	3.35	118.0	HSS	R	906-000-384	906-001-493	906-001-491
1,25 x 2,65	1,25 x 3,15	1.25	4.00	3.15	31.50	3.35	118.0	HSS	R	906-000-398	906-001-535	906-001-533
1,6 x 3,35	1,6 x 4	1.60	5.00	4.00	35.50	4.25	118.0	HSS	R	906-000-385	906-001-496	906-001-494
1,6 x 3,35	1,6 x 4	1.60	5.00	4.00	35.50	4.25	118.0	HSS	R	906-000-405	906-001-556	906-001-554
10 x 21,2	10 x 25	10.00	31.50	25.00	100.00	26.50	118.0	HSS	R	906-000-393	906-001-520	906-001-518
10 x 21,2	10 x 25	10.00	31.50	25.00	100.00	26.50	118.0	HSS	R	906-000-403	906-001-550	906-001-548
12,5 x 26,5	12,5 x 31,5	12.50	40.00	31.50	125.00	33.50	118.0	HSS	R	906-000-394	906-001-523	906-001-521
12,5 x 26,5	12,5 x 31,5	12.50	40.00	31.50	125.00	33.50	118.0	HSS	R	906-000-404	906-001-553	906-001-551
2 x 4,25	2 x 5	2.00	6.30	5.00	40.00	5.30	118.0	HSS-E	R	906-000-386	906-001-499	906-001-497
2 x 4,25	2 x 5	2.00	6.30	5.00	40.00	5.30	118.0	HSS-E	R	906-000-406	906-001-559	906-001-557
2,5 x 5,3	2,5 x 6,3	2.50	8.00	6.30	45.00	6.70	118.0	HSS-E	R	906-000-387	906-001-502	906-001-500
2,5 x 5,3	2,5 x 6,3	2.50	8.00	6.30	45.00	6.70	118.0	HSS-E	R	906-000-407	906-001-562	906-001-560
3,15 x 6,7	3,15 x 8	3.15	10.00	8.00	50.00	8.50	118.0	HSS-E	R	906-000-388	906-001-505	906-001-503
3,15 x 6,7	3,15 x 8	3.15	10.00	8.00	50.00	8.50	118.0	HSS-E	R	906-000-408	906-001-565	906-001-563
4 x 8,5	4 x 10	4.00	12.50	10.00	56.00	10.60	118.0	HSS-E	R	906-000-389	906-001-508	906-001-506
4 x 8,5	4 x 10	4.00	12.50	10.00	56.00	10.60	118.0	HSS-E	R	906-000-399	906-001-538	906-001-536
5 x 10,6	5 x 12,5	5.00	16.00	12.50	63.00	13.20	118.0	HSS-E	R	906-000-390	906-001-511	906-001-509
5 x 10,6	5 x 12,5	5.00	16.00	12.50	63.00	13.20	118.0	HSS-E	R	906-000-400	906-001-541	906-001-539
6,3 x 13,2	6,3 x 16	6.30	20.00	16.00	71.00	17.00	118.0	HSS-E	R	906-000-391	906-001-514	906-001-512
6,3 x 13,2	6,3 x 16	6.30	20.00	16.00	71.00	17.00	118.0	HSS-E	R	906-000-401	906-001-544	906-001-542
8 x 17	8 x 20	8.00	25.00	20.00	80.00	21.20	118.0	HSS-E	R	906-000-392	906-001-517	906-001-515
8 x 17	8 x 20	8.00	25.00	20.00	80.00	21.20	118.0	HSS-E	R	906-000-402	906-001-547	906-001-545



DC	DCONms	LU	L	LF	A	A1	PRODUCT #
0.75	3.50	3.38	60.00	3.38	118.0	60.0	907-000-001
1.00	4.00	3.90	60.00	3.90	118.0	60.0	907-000-002
1.50	5.00	5.03	60.00	5.03	118.0	60.0	907-000-003
2.00	6.00	5.96	80.00	5.96	118.0	60.0	907-000-004
2.50	8.00	7.86	80.00	7.86	118.0	60.0	907-000-005
3.00	8.00	8.23	80.00	8.23	118.0	60.0	907-000-006
1.00	4.00	3.90	100.0	3.90	118.0	60.0	907-000-007
1.50	5.00	5.03	100.0	5.03	118.0	60.0	907-000-008
2.00	6.00	5.96	100.0	5.96	118.0	60.0	907-000-009
2.50	8.00	7.86	100.0	7.86	118.0	60.0	907-000-010
3.00	8.00	8.23	100.0	8.23	118.0	60.0	907-000-011
3.00	10.00	9.96	100.0	9.96	118.0	60.0	907-000-012
4.00	10.00	10.20	100.0	10.20	118.0	60.0	907-000-013
4.00	12.00	11.93	100.0	11.93	118.0	60.0	907-000-014
5.00	12.00	12.36	100.0	12.36	118.0	60.0	907-000-015
0.75	3.50	3.38	120.0	3.38	118.0	60.0	907-000-016
1.00	4.00	3.90	120.0	3.90	118.0	60.0	907-000-017
1.60	5.00	4.94	120.0	4.94	118.0	60.0	907-000-018
2.00	6.00	5.96	120.0	5.96	118.0	60.0	907-000-019
2.50	8.00	7.86	120.0	7.86	118.0	60.0	907-000-020
3.00	8.00	8.23	120.0	8.23	118.0	60.0	907-000-021
3.00	10.00	9.96	120.0	9.96	118.0	60.0	907-000-022
3.15	10.00	9.83	120.0	9.83	118.0	60.0	907-000-023
3.15	10.00	9.83	120.0	9.83	118.0	60.0	907-000-024
4.00	12.00	11.93	120.0	11.93	118.0	60.0	907-000-025
5.00	14.00	14.09	120.0	14.09	118.0	60.0	907-000-026
1.50	5.00	5.03	150.00	5.03	118.0	60.0	907-000-027
1.00	4.00	3.90	150.0	3.90	118.0	60.0	907-000-028
1.50	5.00	5.03	150.0	5.03	118.0	60.0	907-000-029
2.00	6.00	5.96	150.0	5.96	118.0	60.0	907-000-030
2.50	8.00	7.86	150.0	7.86	118.0	60.0	907-000-031
3.00	8.00	8.23	150.0	8.23	118.0	60.0	907-000-032
3.00	10.00	9.96	150.0	9.96	118.0	60.0	907-000-033
4.00	10.00	10.20	150.0	10.20	118.0	60.0	907-000-034
4.00	12.00	11.93	150.0	11.93	118.0	60.0	907-000-035
6.30	16.00	16.40	150.0	16.40	118.0	60.0	907-000-036
2.00	5.00	5.10	200.0	5.10	118.0	60.0	907-000-037
2.50	6.30	6.39	200.0	6.39	118.0	60.0	907-000-038
3.15	8.00	8.10	200.0	8.10	118.0	60.0	907-000-039
4.00	10.00	10.20	200.0	10.20	118.0	60.0	907-000-040

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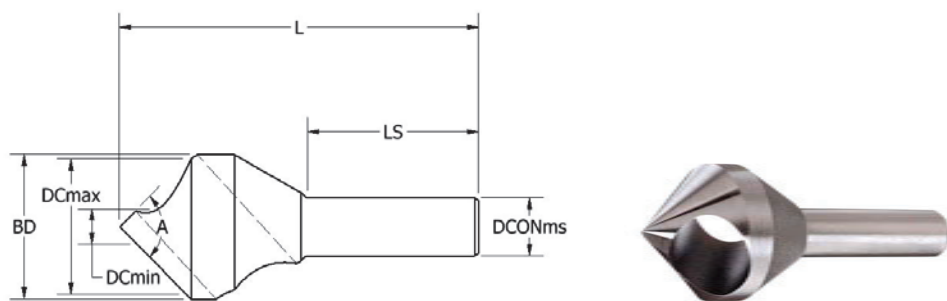


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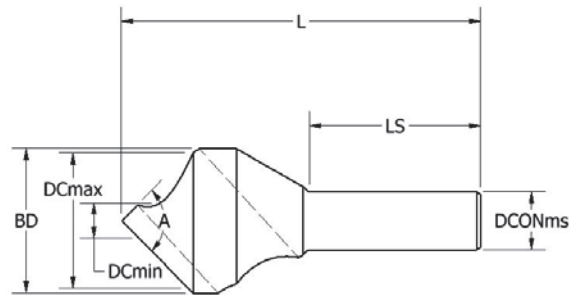
COUNTERSINKS



ZERO-FLUTE

DCONms	BD	LS	L	DCmax	DCmin	A	Uncoated	TiN
0.2500	0.3125	1.2500	1.8750	0.2813	0.1094	60.0	919-000-185	919-000-186
0.2500	0.3750	1.2500	1.8750	0.3438	0.1563	60.0	919-000-187	919-000-188
0.3125	0.5000	1.2500	2.0000	0.4531	0.1719	60.0	919-000-189	919-000-190
0.3750	0.6250	1.3750	2.5000	0.5781	0.1875	60.0	919-000-191	919-000-192
0.3750	0.7500	1.5000	2.7500	0.7031	0.2500	60.0	919-000-193	919-000-194
0.3750	1.0000	1.2500	3.0000	0.8438	0.2969	60.0	919-000-195	919-000-196
0.5000	1.2500	1.5000	3.5000	1.0313	0.4219	60.0	919-000-197	919-000-198
0.2500	0.3125	1.2500	1.6250	0.2813	0.0938	82.0	919-000-202	919-000-203
0.2500	0.3750	1.2500	1.7500	0.3438	0.1406	82.0	919-000-204	919-000-205
0.3125	0.5000	1.2500	1.7500	0.4531	0.1563	82.0	919-000-206	919-000-207
0.3750	0.6250	1.3750	2.1250	0.5781	0.1719	82.0	919-000-208	919-000-209
0.3750	0.7500	1.5000	2.3750	0.7031	0.2031	82.0	919-000-210	919-000-211
0.3750	1.0000	1.2500	2.6250	0.9219	0.2969	82.0	919-000-212	919-000-213
0.5000	1.2500	1.5000	3.1250	1.0938	0.3594	82.0	919-000-214	919-000-215
0.2500	5/16	1.2500	1.6250	1.0938	0.3594	90.0	919-000-219	919-000-220
0.2500	0.3750	1.2500	1.7500	0.3438	0.1406	90.0	919-000-221	919-000-222
0.3125	0.5000	1.2500	1.7500	0.4531	0.1563	90.0	919-000-223	919-000-224
0.3750	0.6250	1.3750	2.1250	0.5781	0.1719	90.0	919-000-225	919-000-226
0.3750	0.7500	1.5000	2.3750	0.7031	0.2031	90.0	919-000-227	919-000-228
0.3750	1.0000	1.2500	2.6250	0.9219	0.2969	90.0	919-000-229	919-000-230
0.5000	1.2500	1.5000	3.1250	1.0938	0.3594	90.0	919-000-231	919-000-232

COBALT



ZERO-FLUTE

DCONms	BD	LS	L	DCmax	DCmin	A	Uncoated	TiN
0.2500	0.3125	1.2500	1.6250	0.2813	0.0938	100.0	919-000-236	919-000-237
0.2500	0.3750	1.2500	1.7500	0.3438	0.1406	100.0	919-000-238	919-000-239
0.3125	0.5000	1.2500	1.7500	0.4531	0.1563	100.0	919-000-240	919-000-241
0.3750	0.6250	1.3750	2.1250	0.5781	0.1719	100.0	919-000-242	919-000-243
0.3750	0.7500	1.5000	2.3750	0.7031	0.2031	100.0	919-000-244	919-000-245
0.3750	1.0000	1.2500	2.6250	0.9219	0.2969	100.0	919-000-246	919-000-247
0.5000	1.2500	1.5000	3.1250	1.1250	0.3594	100.0	919-000-248	919-000-249

Zero Countersink & Deburring Tools Set

Straight Shank, CNC Precision Cam Ground, Cobalt, Chatter-free Cutting Action.

Sets include: 4 piece - 5/16, 3/8, 1/2, 5/8

5 piece - 5/16, 3/8, 1/2, 3/4, 1

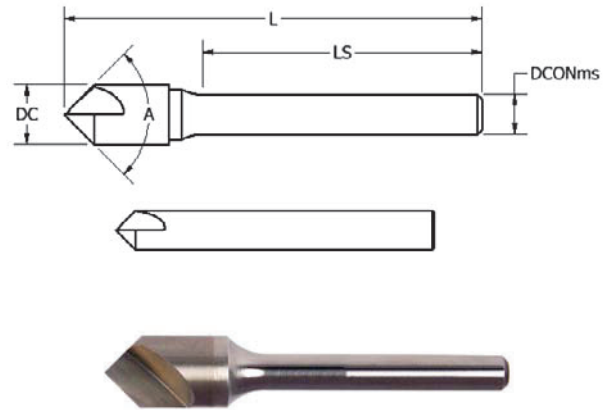


Countersink Angle	4-Piece	5-Piece	5-Piece Coated
60°	919-000-199	919-000-200	919-000-201
82°	919-000-216	919-000-217	919-000-218
90°	919-000-233	919-000-234	919-000-235
100°	919-000-250	919-000-251	919-000-252
Head Diameter	5/16, 3/8, 1/2, 5/8	5/16, 3/8, 1/2, 3/4, 1	5/16, 3/8, 1/2, 3/4, 1

CARBIDE



DC	DCONms	LS	L	A	CARBIDE	CARBIDE-TiALN
0.1250	0.1250	0.7500	1.5000	60.0	919-000-909	919-000-910
0.1875	0.1875	1.0000	2.0000	60.0	919-000-911	919-000-912
0.2500	0.2500	1.0000	2.0000	60.0	919-000-913	919-000-914
0.3750	0.2500	1.7500	2.8750	60.0	919-000-915	919-000-916
0.5000	0.2500	1.6250	2.8750	60.0	919-000-917	919-000-918
0.6250	0.3750	1.6250	3.0000	60.0	919-000-919	919-000-920
0.7500	0.3750	1.5000	3.0000	60.0	919-000-921	919-000-922
1.0000	0.5000	1.5000	3.2500	60.0	919-000-923	919-000-924
1.2500	0.7500	1.5000	3.7500	60.0	919-000-925	919-000-926
0.1250	0.1250	0.7500	1.5000	82.0	919-000-929	919-000-930
0.1875	0.1875	1.0000	2.0000	82.0	919-000-931	919-000-932
0.2500	0.2500	1.0000	2.0000	82.0	919-000-933	919-000-934
0.3750	0.2500	1.7500	2.6250	82.0	919-000-935	919-000-936
0.5000	0.2500	1.6250	2.6250	82.0	919-000-937	919-000-938
0.6250	0.3750	1.6250	2.7500	82.0	919-000-939	919-000-940
0.7500	0.3750	1.5000	2.7500	82.0	919-000-941	919-000-942
1.0000	0.5000	1.5000	3.0000	82.0	919-000-943	919-000-944
1.2500	0.7500	1.5000	3.2500	82.0	919-000-945	919-000-946
0.1250	0.1250	0.7500	1.5000	90.0	919-000-949	919-000-950
0.1875	0.1875	1.0000	2.0000	90.0	919-000-951	919-000-952
0.2500	0.2500	1.0000	2.0000	90.0	919-000-953	919-000-954
0.3750	0.2500	1.7500	2.6250	90.0	919-000-955	919-000-956
0.5000	0.2500	1.6250	2.6250	90.0	919-000-957	919-000-958
0.6250	0.3750	1.6250	2.7500	90.0	919-000-959	919-000-960
0.7500	0.3750	1.5000	2.7500	90.0	919-000-961	919-000-962
1.0000	0.5000	1.5000	3.0000	90.0	919-000-963	919-000-964
1.2500	0.7500	1.5000	3.2500	90.0	919-000-965	919-000-966
0.1250	0.1250	0.7500	1.5000	100.0	919-000-969	919-000-970
0.1875	0.1875	1.0000	2.0000	100.0	919-000-971	919-000-972
0.2500	0.2500	1.0000	2.0000	100.0	919-000-973	919-000-974
0.3750	0.2500	1.7500	2.6250	100.0	919-000-975	919-000-976
0.5000	0.2500	1.6250	2.6250	100.0	919-000-977	919-000-978
0.6250	0.3750	1.6250	2.7500	100.0	919-000-979	919-000-980
0.7500	0.3750	1.5000	2.7500	100.0	919-000-981	919-000-982
1.0000	0.5000	1.5000	3.0000	100.0	919-000-983	919-000-984
1.2500	0.7500	1.5000	3.2500	100.0	919-000-985	919-000-986

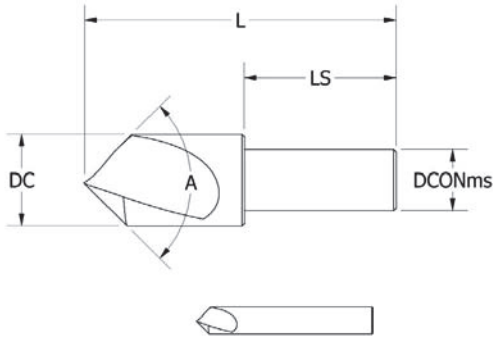


Carbide Countersink Sets

Carbide sets include one 1/4, 3/8, 1/2, 5/8 and 3/4" body diameter with a particular included point angle.



Countersink Angle	Single-Flute KIT#	3-Flute KIT#	6-Flute KIT#
60°	919-000-927	917-000-319	919-001-010
60°	919-000-928	917-000-320	919-001-011
82°	919-000-947	917-000-339	919-001-032
82°	919-000-948	917-000-340	919-001-033
90°	919-000-967	917-000-359	919-001-054
90°	919-000-968	917-000-360	919-001-055
100°	919-000-987	917-000-379	919-001-077
100°	919-000-988	917-000-380	919-001-078

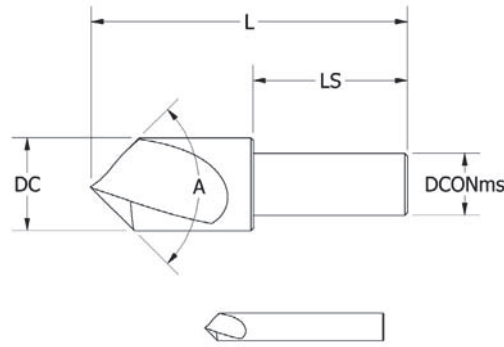


HSS



DC	DCONms	LS	L	A	HSS	HSS-TiN
0.1250	0.1250	0.6250	1.2500	60.0	919-000-107	919-000-108
0.1875	0.1875	0.6875	1.3750	60.0	919-000-095	919-000-096
0.2500	0.2500	0.7500	1.5000	60.0	919-000-083	919-000-084
0.3750	0.2500	0.8750	1.7500	60.0	919-000-167	919-000-168
0.5000	0.2500	1.0000	2.0000	60.0	919-000-071	919-000-072
0.6250	0.3750	1.0000	2.2500	60.0	919-000-259	919-000-260
0.7500	0.5000	1.2500	2.6250	60.0	919-000-155	919-000-156
1.0000	0.5000	1.2500	2.7500	60.0	919-000-059	919-000-060
1.2500	0.5000	1.2500	3.0000	60.0	919-000-143	919-000-144
1.5000	0.7500	1.2500	3.2500	60.0	919-000-131	919-000-132
1.7500	0.7500	1.2500	3.5000	60.0	919-000-179	919-000-180
2.0000	0.7500	1.2500	3.7500	60.0	919-000-119	919-000-120
0.1250	0.1250	0.6250	1.2500	82.0	919-000-109	919-000-110
0.1875	0.1875	0.6875	1.3750	82.0	919-000-097	919-000-098
0.2500	0.2500	0.7500	1.5000	82.0	919-000-085	919-000-086
0.3750	0.2500	0.8750	1.7500	82.0	919-000-169	919-000-170
0.5000	0.2500	1.0000	2.0000	82.0	919-000-073	919-000-074
0.6250	0.3750	1.0000	2.2500	82.0	919-000-261	919-000-262
0.7500	0.5000	1.2500	2.6250	82.0	919-000-157	919-000-158
1.0000	0.5000	1.2500	2.7500	82.0	919-000-061	919-000-062
1.2500	0.5000	1.2500	2.7500	82.0	919-000-145	919-000-146
1.5000	0.7500	1.2500	2.8750	82.0	919-000-133	919-000-134
1.7500	0.7500	1.2500	3.0000	82.0	919-000-181	919-000-182
2.0000	0.7500	1.2500	3.2500	82.0	919-000-121	919-000-122
0.1250	0.1250	0.6250	1.2500	90.0	919-000-111	919-000-112
0.1875	0.1875	0.6875	1.3750	90.0	919-000-099	919-000-100
0.2500	0.2500	0.7500	1.5000	90.0	919-000-087	919-000-088
0.3750	0.2500	0.8750	1.7500	90.0	919-000-171	919-000-172
0.5000	0.2500	1.0000	2.0000	90.0	919-000-075	919-000-076
0.6250	0.3750	1.0000	2.2500	90.0	919-000-263	919-000-264
0.7500	0.5000	1.2500	2.6250	90.0	919-000-159	919-000-160
1.0000	0.5000	1.2500	2.7500	90.0	919-000-063	919-000-064
1.2500	0.5000	1.2500	2.7500	90.0	919-000-147	919-000-148
1.5000	0.7500	1.2500	2.8750	90.0	919-000-135	919-000-136
1.7500	0.7500	1.2500	3.0000	90.0	919-000-183	919-000-184
2.0000	0.7500	1.2500	3.2500	90.0	919-000-123	919-000-124

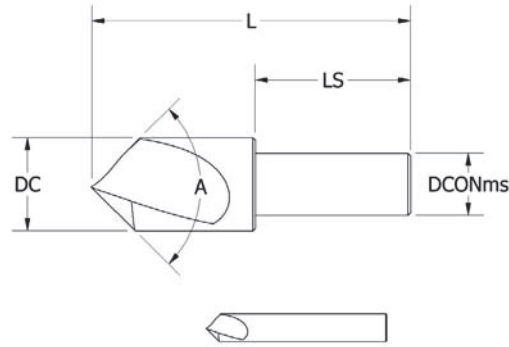
For set information see page 192



DC	DCONms	LS	L	A	HSS	HSS-TIN
0.1250	0.1250	0.6250	1.2500	100.0	919-000-101	919-000-102
0.1875	0.1875	0.6875	1.3750	100.0	919-000-089	919-000-090
0.2500	0.2500	0.7500	1.5000	100.0	919-000-077	919-000-078
0.3750	0.2500	0.8750	1.7500	100.0	919-000-161	919-000-162
0.5000	0.2500	1.0000	2.0000	100.0	919-000-065	919-000-066
0.6250	0.3750	1.0000	2.2500	100.0	919-000-253	919-000-254
0.7500	0.5000	1.2500	2.6250	100.0	919-000-149	919-000-150
1.0000	0.5000	1.2500	2.7500	100.0	919-000-053	919-000-054
1.2500	0.5000	1.2500	2.7500	100.0	919-000-137	919-000-138
1.5000	0.7500	1.2500	2.8750	100.0	919-000-125	919-000-126
1.7500	0.7500	1.2500	3.0000	100.0	919-000-173	919-000-174
0.1250	0.1250	0.6250	1.2500	110.0	919-000-103	919-000-104
0.1875	0.1875	0.6875	1.3750	110.0	919-000-091	919-000-092
0.2500	0.2500	0.7500	1.5000	110.0	919-000-079	919-000-080
0.3750	0.2500	0.8750	1.7500	110.0	919-000-163	919-000-164
0.5000	0.2500	1.0000	2.0000	110.0	919-000-067	919-000-068
0.6250	0.3750	1.0000	2.2500	110.0	919-000-255	919-000-256
0.7500	0.5000	1.2500	2.6250	110.0	919-000-151	919-000-152
1.0000	0.5000	1.2500	2.7500	110.0	919-000-055	919-000-056
1.2500	0.5000	1.2500	2.7500	110.0	919-000-139	919-000-140
1.5000	0.7500	1.2500	2.8750	110.0	919-000-127	919-000-128
1.7500	0.7500	1.2500	3.0000	110.0	919-000-175	919-000-176
2.0000	0.7500	1.2500	3.2500	110.0	919-000-115	919-000-116
0.1250	0.1250	0.6250	1.2500	120.0	919-000-105	919-000-106
0.1875	0.1875	0.6875	1.3750	120.0	919-000-093	919-000-094
0.2500	0.2500	0.7500	1.5000	120.0	919-000-081	919-000-082
0.3750	0.2500	0.8750	1.7500	120.0	919-000-165	919-000-166
0.5000	0.2500	1.0000	2.0000	120.0	919-000-069	919-000-070
0.3750	0.2500	0.8750	1.7500	120.0	919-000-165	919-000-166
0.7500	0.5000	1.2500	2.6250	120.0	919-000-153	919-000-154
1.0000	0.5000	1.2500	2.7500	120.0	919-000-057	919-000-058
1.2500	0.5000	1.2500	2.7500	120.0	919-000-141	919-000-142
1.5000	0.7500	1.2500	2.8750	120.0	919-000-129	919-000-130
1.7500	0.7500	1.2500	3.0000	120.0	919-000-177	919-000-178
2.0000	0.7500	1.2500	3.2500	120.0	919-000-117	919-000-118

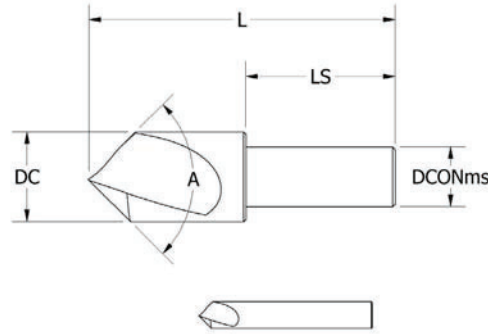
For set information see page 192

HSS



DC	DCONms	LS	L	A	COBALT	COBALT-TiN
0.1250	0.1250	0.6250	1.2500	60.0	919-000-549	919-000-550
0.1875	0.1875	0.6875	1.3750	60.0	919-000-551	919-000-552
0.2500	0.2500	0.7500	1.5000	60.0	919-000-553	919-000-554
0.3750	0.2500	0.8750	1.7500	60.0	919-000-555	919-000-556
0.5000	0.2500	1.0000	2.0000	60.0	919-000-557	919-000-558
0.6250	0.3750	1.0000	2.2500	60.0	919-000-559	919-000-560
0.7500	0.5000	1.2500	2.6250	60.0	919-000-561	919-000-562
1.0000	0.5000	1.2500	2.7500	60.0	919-000-563	919-000-564
1.2500	0.5000	1.2500	3.0000	60.0	919-000-565	919-000-566
1.5000	0.7500	1.2500	3.2500	60.0	919-000-567	919-000-568
1.7500	0.7500	1.2500	3.5000	60.0	919-000-569	919-000-570
2.0000	0.7500	1.2500	3.7500	60.0	919-000-571	919-000-572
0.1250	0.1250	0.6250	1.2500	82.0	919-000-573	919-000-574
0.1875	0.1875	0.6875	1.3750	82.0	919-000-575	919-000-576
0.2500	0.2500	0.7500	1.5000	82.0	919-000-577	919-000-578
0.3750	0.2500	0.8750	1.7500	82.0	919-000-579	919-000-580
0.5000	0.2500	1.0000	2.0000	82.0	919-000-581	919-000-582
0.6250	0.3750	1.0000	2.2500	82.0	919-000-583	919-000-584
0.7500	0.5000	1.2500	2.6250	82.0	919-000-585	919-000-586
1.0000	0.5000	1.2500	2.7500	82.0	919-000-587	919-000-588
1.2500	0.5000	1.2500	2.7500	82.0	919-000-589	919-000-590
1.5000	0.7500	1.2500	2.8750	82.0	919-000-591	919-000-592
1.7500	0.7500	1.2500	3.0000	82.0	919-000-593	919-000-594
2.0000	0.7500	1.2500	3.2500	82.0	919-000-595	919-000-596
0.1250	0.1250	0.6250	1.2500	90.0	919-000-597	919-000-598
0.1875	0.1875	0.6875	1.3750	90.0	919-000-599	919-000-600
0.2500	0.2500	0.7500	1.5000	90.0	919-000-601	919-000-602
0.3750	0.2500	0.8750	1.7500	90.0	919-000-603	919-000-604
0.5000	0.2500	1.0000	2.0000	90.0	919-000-605	919-000-606
0.6250	0.3750	1.0000	2.2500	90.0	919-000-607	919-000-608
0.7500	0.5000	1.2500	2.6250	90.0	919-000-609	919-000-610
1.0000	0.5000	1.2500	2.7500	90.0	919-000-611	919-000-612
1.2500	0.5000	1.2500	2.7500	90.0	919-000-613	919-000-614
1.5000	0.7500	1.2500	2.8750	90.0	919-000-615	919-000-616
1.7500	0.7500	1.2500	3.0000	90.0	919-000-617	919-000-618
2.0000	0.7500	1.2500	3.2500	90.0	919-000-619	919-000-620

For set information see **page 192**



Cobalt

DC	DCONms	LS	L	A	COBALT	COBALT-TiN
0.1250	0.1250	0.6250	1.2500	100.0	919-000-621	919-000-622
0.1875	0.1875	0.6875	1.3750	100.0	919-000-623	919-000-624
0.2500	0.2500	0.7500	1.5000	100.0	919-000-625	919-000-626
0.3750	0.2500	0.8750	1.7500	100.0	919-000-627	919-000-628
0.5000	0.2500	1.0000	2.0000	100.0	919-000-629	919-000-630
0.6250	0.3750	1.0000	2.2500	100.0	919-000-631	919-000-632
0.7500	0.5000	1.2500	2.6250	100.0	919-000-633	919-000-634
1.0000	0.5000	1.2500	2.7500	100.0	919-000-635	919-000-636
1.2500	0.5000	1.2500	2.7500	100.0	919-000-637	919-000-638
1.5000	0.7500	1.2500	2.8750	100.0	919-000-639	919-000-640
1.7500	0.7500	1.2500	3.0000	100.0	919-000-641	919-000-642
2.0000	0.7500	1.2500	3.2500	100.0	919-000-643	919-000-644
0.1250	0.1250	0.6250	1.2500	110.0	919-000-645	919-000-646
0.1875	0.1875	0.6875	1.3750	110.0	919-000-647	919-000-648
0.2500	0.2500	0.7500	1.5000	110.0	919-000-649	919-000-650
0.3750	0.2500	0.8750	1.7500	110.0	919-000-651	919-000-652
0.5000	0.2500	1.0000	2.0000	110.0	919-000-653	919-000-654
0.6250	0.3750	1.0000	2.2500	110.0	919-000-655	919-000-656
0.7500	0.5000	1.2500	2.6250	110.0	919-000-657	919-000-658
1.0000	0.5000	1.2500	2.7500	110.0	919-000-659	919-000-660
1.2500	0.5000	1.2500	2.7500	110.0	919-000-661	919-000-662
1.5000	0.7500	1.2500	2.8750	110.0	919-000-663	919-000-664
1.7500	0.7500	1.2500	3.0000	110.0	919-000-665	919-000-666
2.0000	0.7500	1.2500	3.2500	110.0	919-000-667	919-000-668
0.1250	0.1250	0.6250	1.2500	120.0	919-000-669	919-000-670
0.1875	0.1875	0.6875	1.3750	120.0	919-000-671	919-000-672
0.2500	0.2500	0.7500	1.5000	120.0	919-000-673	919-000-674
0.3750	0.2500	0.8750	1.7500	120.0	919-000-675	919-000-676
0.5000	0.2500	1.0000	2.0000	120.0	919-000-677	919-000-678
0.6250	0.3750	1.0000	2.2500	120.0	919-000-679	919-000-680
0.7500	0.5000	1.2500	2.6250	120.0	919-000-681	919-000-682
1.0000	0.5000	1.2500	2.7500	120.0	919-000-683	919-000-684
1.2500	0.5000	1.2500	2.7500	120.0	919-000-685	919-000-686
1.5000	0.7500	1.2500	2.8750	120.0	919-000-687	919-000-688
1.7500	0.7500	1.2500	3.0000	120.0	919-000-689	919-000-690
2.0000	0.7500	1.2500	3.2500	120.0	919-000-691	919-000-692



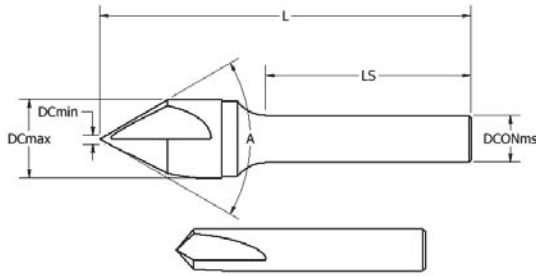
Countersink Angle	HSS KIT#	COBALT KIT#
60°	919-000-050	919-000-044
82°	919-000-051	919-000-045
90°	919-000-052	919-000-046
100°	919-000-047	919-000-041
110°	919-000-048	919-000-042
120°	919-000-049	919-000-043

Single-Flute Countersink Sets Available in HSS & Cobalt

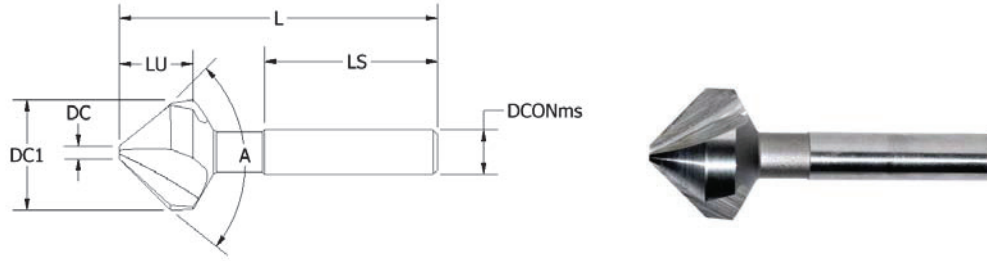
Each 5-piece set includes one piece each of 1/4, 3/8, 1/2, 3/4, and 1" body diameter with a particular included point angle.



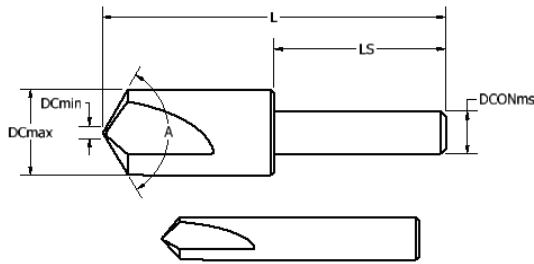
CARBIDE



DCONms	LS	L	DCmax	DCmin	A	CARBIDE	CARBIDE-TiAlN
0.1250	0.7500	1.5000	0.1250	0.0156	60.0	917-000-301	917-000-302
0.1875	1.0000	2.0000	0.1875	0.0313	60.0	917-000-303	917-000-304
0.2500	1.0000	2.0000	0.2500	0.0625	60.0	917-000-305	917-000-306
0.2500	1.7500	2.8750	0.3750	0.0625	60.0	917-000-307	917-000-308
0.2500	1.6250	2.8750	0.5000	0.0625	60.0	917-000-309	917-000-310
0.3750	1.6250	3.0000	0.6250	0.0625	60.0	917-000-311	917-000-312
0.3750	1.5000	3.0000	0.7500	0.0625	60.0	917-000-313	917-000-314
0.5000	1.5000	3.2500	1.0000	0.1250	60.0	917-000-315	917-000-316
0.7500	1.5000	3.2500	1.2500	0.1875	60.0	917-000-317	917-000-318
0.1250	0.7500	1.5000	0.1250	0.0156	82.0	917-000-321	917-000-322
0.1875	1.0000	2.0000	0.1875	0.0313	82.0	917-000-323	917-000-324
0.2500	1.0000	2.0000	0.2500	0.0625	82.0	917-000-325	917-000-326
0.2500	1.7500	2.6250	0.3750	0.0625	82.0	917-000-327	917-000-328
0.2500	1.6250	2.6250	0.5000	0.0625	82.0	917-000-329	917-000-330
0.3750	1.6250	2.7500	0.6250	0.0625	82.0	917-000-331	917-000-332
0.3750	1.5000	2.7500	0.7500	0.0625	82.0	917-000-333	917-000-334
0.5000	1.5000	3.0000	1.0000	0.0938	82.0	917-000-335	917-000-336
0.7500	1.5000	3.2500	1.2500	0.1250	82.0	917-000-337	917-000-338
0.1250	0.7500	1.5000	0.1250	0.0156	90.0	917-000-341	917-000-342
0.1875	1.0000	2.0000	0.1875	0.0313	90.0	917-000-343	917-000-344
0.2500	1.0000	2.0000	0.2500	0.0625	90.0	917-000-345	917-000-346
0.2500	1.7500	2.6250	0.3750	0.0625	90.0	917-000-347	917-000-348
0.2500	1.6250	2.6250	0.5000	0.0625	90.0	917-000-349	917-000-350
0.3750	1.6250	2.7500	0.6250	0.0625	90.0	917-000-351	917-000-352
0.3750	1.5000	2.7500	0.7500	0.0625	90.0	917-000-353	917-000-354
0.5000	1.5000	3.0000	1.0000	0.0938	90.0	917-000-355	917-000-356
0.7500	1.5000	3.2500	1.2500	0.1250	90.0	917-000-357	917-000-358
0.1250	0.7500	1.5000	0.1250	0.0156	100.0	917-000-361	917-000-362
0.1875	1.0000	2.0000	0.1875	0.0313	100.0	917-000-363	917-000-364
0.2500	1.0000	2.0000	0.2500	0.0625	100.0	917-000-365	917-000-366
0.2500	1.7500	2.6250	0.3750	0.0625	100.0	917-000-367	917-000-368
0.2500	1.6250	2.6250	0.5000	0.0625	100.0	917-000-369	917-000-370
0.3750	1.6250	2.7500	0.6250	0.0625	100.0	917-000-371	917-000-372
0.3750	1.5000	2.7500	0.7500	0.0625	100.0	917-000-373	917-000-374
0.5000	1.5000	3.0000	1.0000	0.0625	100.0	917-000-375	917-000-376
0.7500	1.5000	3.2500	1.2500	0.0938	100.0	917-000-377	917-000-378

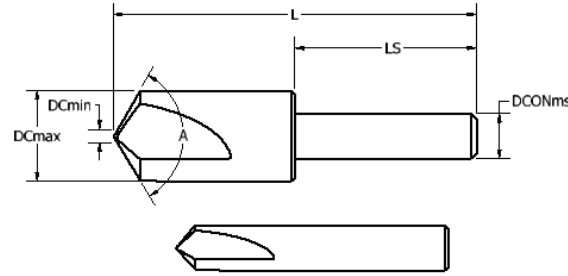


DC	DCONms	DC1	LU	LS	L	A	COBALT
0.0590	0.2031	0.2500	0.2550	1.2500	1.7500	60.0	919-000-265
0.0510	0.2500	0.3125	0.3360	1.2031	1.7500	60.0	919-000-266
0.0870	0.2500	0.3750	0.4060	1.2031	1.7500	60.0	919-000-267
0.0980	0.2500	0.5000	0.5350	1.2500	1.8750	60.0	919-000-268
0.1100	0.3750	0.6250	0.6490	1.5000	2.2500	60.0	919-000-269
0.1180	0.3750	0.7500	0.7500	1.5000	2.5000	60.0	919-000-270
0.1260	0.3750	1.0000	0.9760	1.5000	2.7500	60.0	919-000-271
0.1970	0.5000	1.2500	1.1620	1.7500	3.2500	60.0	919-000-272
0.0590	0.2031	0.2500	0.2000	1.2500	1.7500	82.0	919-000-273
0.0510	0.2500	0.3125	0.2600	1.2031	1.7500	82.0	919-000-274
0.0870	0.2500	0.3750	0.3220	1.2031	1.7500	82.0	919-000-275
0.0980	0.2500	0.5000	0.4180	1.2500	1.8750	82.0	919-000-276
0.1100	0.3750	0.6250	0.4990	1.5000	2.2500	82.0	919-000-277
0.1180	0.3750	0.7500	0.5670	1.5000	2.5000	82.0	919-000-278
0.1260	0.3750	1.0000	0.7210	1.5000	2.7500	82.0	919-000-279
0.1970	0.5000	1.2500	0.8560	1.7500	3.2500	82.0	919-000-280
0.0590	0.2031	0.2500	0.1850	1.2500	1.7500	90.0	919-000-281
0.0510	0.2500	0.3125	0.2400	1.2031	1.7500	90.0	919-000-282
0.0870	0.2500	0.3750	0.3000	1.2031	1.7500	90.0	919-000-283
0.0980	0.2500	0.5000	0.3880	1.2500	1.8750	90.0	919-000-284
0.1100	0.3750	0.6250	0.4610	1.5000	2.2500	90.0	919-000-285
0.1180	0.3750	0.7500	0.5190	1.5000	2.5000	90.0	919-000-286
0.1260	0.3750	1.0000	0.6560	1.5000	2.7500	90.0	919-000-287
0.1970	0.5000	1.2500	0.7770	1.7500	3.2500	90.0	919-000-288
0.0590	0.2031	0.2500	0.1700	1.2500	1.7500	100.0	919-000-289
0.0510	0.2500	0.3125	0.2190	1.2031	1.7500	100.0	919-000-290
0.0870	0.2500	0.3750	0.2770	1.2031	1.7500	100.0	919-000-291
0.0980	0.2500	0.5000	0.3560	1.2500	1.8750	100.0	919-000-292
0.1100	0.3750	0.6250	0.4190	1.5000	2.2500	100.0	919-000-293
0.1180	0.3750	0.7500	0.4680	1.5000	2.5000	100.0	919-000-294
0.1260	0.3750	1.0000	0.5850	1.5000	2.7500	100.0	919-000-295
0.1970	0.5000	1.2500	0.6920	1.7500	3.2500	100.0	919-000-296



DCONms	LS	L	DCmax	DCmin	A	HSS	HSS-TIN
0.2500	0.7500	1.5000	0.2500	0.0625	60.0	917-000-031	917-000-032
0.2500	0.8750	1.7500	0.3750	0.0625	60.0	917-000-055	917-000-056
0.2500	1.0000	2.0000	0.5000	0.0938	60.0	917-000-019	917-000-020
0.3750	1.0000	2.2500	0.6250	0.0938	60.0	917-000-067	917-000-068
0.5000	1.2500	2.6250	0.7500	0.1250	60.0	917-000-043	917-000-044
0.5000	1.2500	2.7500	1.0000	0.1250	60.0	917-000-079	917-000-080
0.5000	1.2500	3.0000	1.2500	0.1250	60.0	917-000-103	917-000-104
0.7500	1.2500	3.2500	1.5000	0.1250	60.0	917-000-121	917-000-122
0.7500	1.2500	3.5000	1.7500	0.1250	60.0	917-000-133	917-000-134
0.7500	1.2500	3.7500	2.0000	0.1250	60.0	917-000-151	917-000-152
0.2500	0.7500	1.5000	0.2500	0.0625	82.0	917-000-033	917-000-034
0.2500	0.8750	1.7500	0.3750	0.0625	82.0	917-000-057	917-000-058
0.2500	1.0000	2.0000	0.5000	0.0625	82.0	917-000-021	917-000-022
0.3750	1.0000	2.2500	0.6250	0.0625	82.0	917-000-069	917-000-070
0.5000	1.2500	2.6250	0.7500	0.0938	82.0	917-000-045	917-000-046
0.5000	1.2500	2.7500	1.0000	0.0938	82.0	917-000-081	917-000-082
0.5000	1.2500	2.7500	1.2500	0.0938	82.0	917-000-105	917-000-106
0.7500	1.2500	2.8750	1.5000	0.0938	82.0	917-000-123	917-000-124
0.7500	1.2500	3.0000	1.7500	0.0938	82.0	917-000-135	917-000-136
0.7500	1.2500	3.2500	2.0000	0.0938	82.0	917-000-153	917-000-154
0.2500	0.7500	1.5000	0.2500	0.0625	90.0	917-000-035	917-000-036
0.2500	0.8750	1.7500	0.3750	0.0625	90.0	917-000-059	917-000-060
0.2500	1.0000	2.0000	0.5000	0.0625	90.0	917-000-023	917-000-024
0.3750	1.0000	2.2500	0.6250	0.0625	90.0	917-000-071	917-000-072
0.5000	1.2500	2.6250	0.7500	0.0938	90.0	917-000-047	917-000-048
0.5000	1.2500	2.7500	1.0000	0.0938	90.0	917-000-083	917-000-084
0.5000	1.2500	2.7500	1.2500	0.0938	90.0	917-000-107	917-000-108
0.7500	1.2500	2.8750	1.5000	0.0938	90.0	917-000-125	917-000-126
0.7500	1.2500	3.0000	1.7500	0.0938	90.0	917-000-137	917-000-138
0.7500	1.2500	3.2500	2.0000	0.0938	90.0	917-000-155	917-000-156

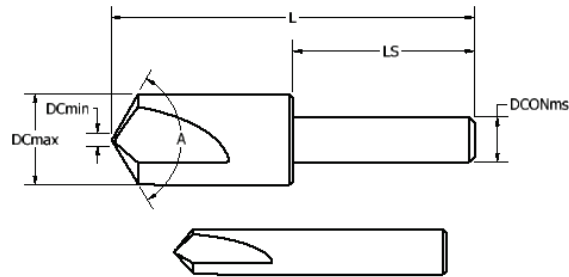
For set information see **page 198**



DCNms	LS	L	DCmax	DCmin	A	HSS	HSS-TiN
0.2500	0.7500	1.5000	0.5000	0.0625	100.0	917-000-025	917-000-026
0.2500	0.8750	1.7500	0.3750	0.0625	100.0	917-000-049	917-000-050
0.2500	1.0000	2.0000	0.5000	0.0625	100.0	917-000-013	917-000-014
0.3750	1.0000	2.2500	0.6250	0.0625	100.0	917-000-061	917-000-062
0.5000	1.2500	2.6250	0.7500	0.0625	100.0	917-000-037	917-000-038
0.5000	1.2500	2.7500	1.0000	0.0625	100.0	917-000-073	917-000-074
0.5000	1.2500	2.7500	1.2500	0.0625	100.0	917-000-097	917-000-098
0.7500	1.2500	2.8750	1.5000	0.0625	100.0	917-000-115	917-000-116
0.7500	1.2500	3.0000	1.7500	0.0625	100.0	917-000-127	917-000-128
0.7500	1.2500	3.2500	2.0000	0.0625	100.0	917-000-145	917-000-146
0.2500	0.7500	1.5000	0.2500	0.0313	110.0	917-000-027	917-000-028
0.2500	0.8750	1.7500	0.3750	0.0313	110.0	917-000-051	917-000-052
0.2500	1.0000	2.0000	0.5000	0.0625	110.0	917-000-015	917-000-016
0.3750	1.0000	2.2500	0.6250	0.0625	110.0	917-000-063	917-000-064
0.5000	1.2500	2.6250	0.7500	0.0625	110.0	917-000-039	917-000-040
0.5000	1.2500	2.7500	1.0000	0.0625	110.0	917-000-075	917-000-076
0.5000	1.2500	2.7500	1.2500	0.0625	110.0	917-000-099	917-000-100
0.7500	1.2500	2.8750	1.5000	0.0625	110.0	917-000-117	917-000-118
0.7500	1.2500	3.0000	1.7500	0.0625	110.0	917-000-129	917-000-130
0.7500	1.2500	3.2500	2.0000	0.0625	110.0	917-000-147	917-000-148
0.2500	0.7500	1.5000	0.2500	0.0313	120.0	917-000-029	917-000-030
0.2500	0.8750	1.7500	0.3750	0.0313	120.0	917-000-053	917-000-054
0.2500	1.0000	2.0000	0.5000	0.0625	120.0	917-000-017	917-000-018
0.3750	1.0000	2.2500	0.6250	0.0625	120.0	917-000-065	917-000-066
0.5000	1.2500	2.6250	0.7500	0.0625	120.0	917-000-041	917-000-042
0.5000	1.2500	2.7500	1.0000	0.0625	120.0	917-000-077	917-000-078
0.5000	1.2500	2.7500	1.2500	0.0625	120.0	917-000-101	917-000-102
0.7500	1.2500	2.8750	1.5000	0.0625	120.0	917-000-119	917-000-120
0.7500	1.2500	3.0000	1.7500	0.0625	120.0	917-000-131	917-000-132
0.7500	1.2500	3.2500	2.0000	0.0625	120.0	917-000-149	917-000-150

For set information see **page 198**

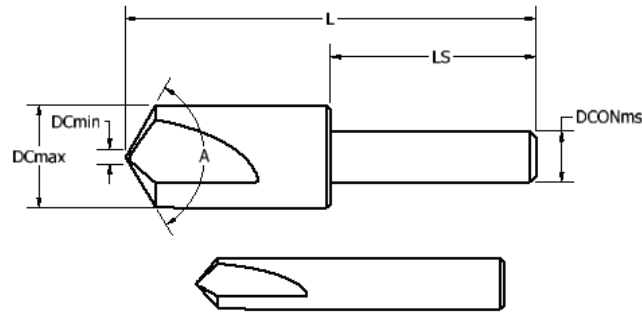
HSS



DCONms	LS	L	DCmax	DCmin	A	COBALT	COBALT-TIN
0.2500	0.7500	1.5000	0.2500	0.0625	60.0	917-000-157	917-000-158
0.2500	0.8750	1.7500	0.3750	0.0625	60.0	917-000-159	917-000-160
0.2500	1.0000	2.0000	0.5000	0.0938	60.0	917-000-161	917-000-162
0.3750	1.0000	2.2500	0.6250	0.0938	60.0	917-000-163	917-000-164
0.5000	1.2500	2.6250	0.7500	0.1250	60.0	917-000-165	917-000-166
0.5000	1.2500	2.7500	1.0000	0.1250	60.0	917-000-167	917-000-168
0.5000	1.2500	3.0000	1.2500	0.1250	60.0	917-000-169	917-000-170
0.7500	1.2500	3.2500	1.5000	0.1250	60.0	917-000-171	917-000-172
0.7500	1.2500	3.5000	1.7500	0.1250	60.0	917-000-173	917-000-174
0.7500	1.2500	3.7500	2.0000	0.1250	60.0	917-000-175	917-000-176
0.2500	0.7500	1.5000	0.2500	0.0625	82.0	917-000-177	917-000-178
0.2500	0.8750	1.7500	0.3750	0.0625	82.0	917-000-179	917-000-180
0.2500	1.0000	2.0000	0.5000	0.0625	82.0	917-000-181	917-000-182
0.3750	1.0000	2.2500	0.6250	0.0625	82.0	917-000-183	917-000-184
0.5000	1.2500	2.7500	0.7500	0.0938	82.0	917-000-185	917-000-186
0.5000	1.2500	2.7500	1.0000	0.0938	82.0	917-000-187	917-000-188
0.5000	2.7500	3.0000	1.2500	0.0938	82.0	917-000-189	917-000-190
0.7500	1.2500	2.8750	1.5000	0.0938	82.0	917-000-191	917-000-192
0.7500	1.2500	3.0000	1.7500	0.0938	82.0	917-000-193	917-000-194
0.7500	1.2500	3.2500	2.0000	0.0938	82.0	917-000-195	917-000-196
0.2500	0.7500	1.5000	0.2500	0.0625	90.0	917-000-197	917-000-198
0.2500	0.8750	1.7500	0.3750	0.0625	90.0	917-000-199	917-000-200
0.2500	1.0000	2.0000	0.5000	0.0625	90.0	917-000-201	917-000-202
0.3750	1.0000	2.2500	0.6250	0.0625	90.0	917-000-203	917-000-204
0.5000	1.2500	2.6250	0.7500	0.0938	90.0	917-000-205	917-000-206
0.5000	1.2500	2.7500	1.0000	0.0938	90.0	917-000-207	917-000-208
0.5000	1.2500	2.7500	1.2500	0.0938	90.0	917-000-209	917-000-210
0.7500	1.2500	2.8750	1.5000	0.0938	90.0	917-000-211	917-000-212
0.7500	1.2500	3.0000	1.7500	0.0938	90.0	917-000-213	917-000-214
0.7500	1.2500	3.2500	2.0000	0.0938	90.0	917-000-215	917-000-216

COBALT

For set information see page 198



COBALT

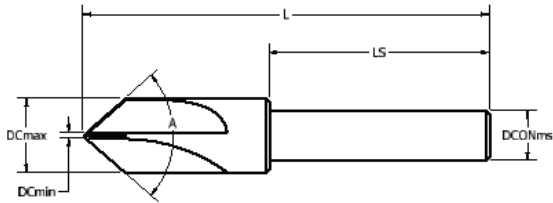
DCONms	LS	L	DCmax	DCmin	A	COBALT	COBALT-TIN
0.2500	0.7500	1.5000	0.2500	0.0625	100.0	917-000-217	917-000-218
0.2500	0.8750	1.7500	0.3750	0.0625	100.0	917-000-219	917-000-220
0.2500	1.0000	2.0000	0.5000	0.0625	100.0	917-000-221	917-000-222
0.3750	1.0000	2.2500	0.6250	0.0625	100.0	917-000-223	917-000-224
0.5000	1.2500	2.6250	0.7500	0.0625	100.0	917-000-225	917-000-226
0.5000	1.2500	2.7500	1.0000	0.0625	100.0	917-000-227	917-000-228
0.5000	1.2500	2.7500	1.2500	0.0625	100.0	917-000-229	917-000-230
0.7500	1.2500	2.8750	1.5000	0.0625	100.0	917-000-231	917-000-232
0.7500	1.2500	3.0000	1.7500	0.0625	100.0	917-000-233	917-000-234
0.7500	1.2500	3.2500	2.0000	0.0625	100.0	917-000-235	917-000-236
0.2500	0.7500	1.5000	0.2500	0.0313	110.0	917-000-237	917-000-238
0.2500	0.8750	1.7500	0.3750	0.0313	110.0	917-000-239	917-000-240
0.2500	1.0000	2.0000	0.5000	0.0625	110.0	917-000-241	917-000-242
0.3750	1.0000	2.2500	0.6250	0.0625	110.0	917-000-243	917-000-244
0.5000	1.2500	2.6250	0.7500	0.0625	110.0	917-000-245	917-000-246
0.5000	1.2500	2.7500	1.0000	0.0625	110.0	917-000-247	917-000-248
0.5000	1.2500	2.7500	1.2500	0.0625	110.0	917-000-249	917-000-250
0.7500	1.2500	2.8750	1.5000	0.0625	110.0	917-000-251	917-000-252
0.7500	1.2500	3.0000	1.7500	0.0625	110.0	917-000-253	917-000-254
0.7500	1.2500	3.2500	2.0000	0.0625	110.0	917-000-255	917-000-256
0.2500	0.7500	1.5000	0.2500	0.0313	120.0	917-000-257	917-000-258
0.2500	0.8750	1.7500	0.3750	0.0313	120.0	917-000-259	917-000-260
0.2500	1.0000	2.0000	0.5000	0.0625	120.0	917-000-261	917-000-262
0.3750	1.0000	2.2500	0.6250	0.0625	120.0	917-000-263	917-000-264
0.5000	1.2500	2.6250	0.7500	0.0625	120.0	917-000-265	917-000-266
0.5000	1.2500	2.7500	1.0000	0.0625	120.0	917-000-267	917-000-268
0.5000	1.2500	2.7500	1.2500	0.0625	120.0	917-000-269	917-000-270
0.7500	1.2500	2.8750	1.5000	0.0625	120.0	917-000-271	917-000-272
0.7500	1.2500	3.0000	1.7500	0.0625	120.0	917-000-273	917-000-274
0.7500	1.2500	3.2500	2.0000	0.0625	120.0	917-000-275	917-000-276



Countersink Angle	HSS KIT#	COBALT KIT#
60°	917-000-004	917-000-010
82°	917-000-005	917-000-011
90°	917-000-006	917-000-012
100°	917-000-001	917-000-007
110°	917-000-002	917-000-008
120°	917-000-003	917-000-009

3-Flute Center Reamer Sets - Available in HSS & Cobalt

Each 5-piece set includes one piece each of 1/4, 3/8, 1/2, 3/4, and 1" body diameter with a particular included point angle.

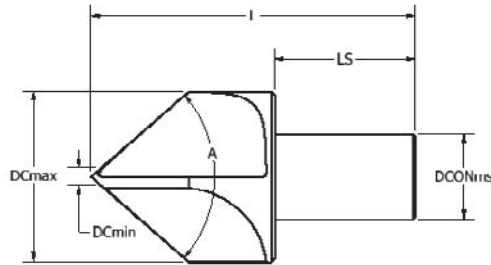


DCONms	LS	L	DCmax	DCmin	A	HSS	HSS-TiN	CO	COBALT-TiN
0.5000	2.2500	3.8750	0.5000	0.1094	60.0	919-000-001	919-000-002	919-000-519	919-000-520
0.5000	2.2500	4.0000	0.6250	0.1563	60.0	919-000-013	919-000-014	919-000-521	919-000-522
0.5000	2.2500	4.1250	0.7500	0.2031	60.0	919-000-007	919-000-008	919-000-523	919-000-524
0.5000	2.2500	4.2500	0.8750	0.2031	60.0	919-000-019	919-000-020	919-000-525	919-000-526
0.5000	2.2500	4.3750	1.0000	0.2031	60.0	919-000-025	919-000-026	919-000-527	919-000-528
0.5000	2.2500	3.8750	0.5000	0.1094	82.0	919-000-003	919-000-004	919-000-529	919-000-530
0.5000	2.2500	4.0000	0.6250	0.1250	82.0	919-000-015	919-000-016	919-000-531	919-000-532
0.5000	2.2500	4.1250	0.7500	0.1406	82.0	919-000-009	919-000-010	919-000-533	919-000-534
0.5000	2.2500	4.2500	0.8750	0.1563	82.0	919-000-021	919-000-022	919-000-535	919-000-536
0.5000	2.2500	4.3750	1.0000	0.1719	82.0	919-000-027	919-000-028	919-000-537	919-000-538
0.5000	2.2500	3.8750	0.5000	0.1094	90.0	919-000-005	919-000-006	919-000-539	919-000-540
0.5000	2.2500	4.0000	0.6250	0.1250	90.0	919-000-017	919-000-018	919-000-541	919-000-542
0.5000	2.2500	4.1250	0.7500	0.1406	90.0	919-000-011	919-000-012	919-000-543	919-000-544
0.5000	2.2500	4.2500	0.8750	0.1563	90.0	919-000-023	919-000-024	919-000-545	919-000-546
0.5000	2.2500	4.3750	1.0000	0.1719	90.0	919-000-029	919-000-030	919-000-547	919-000-548

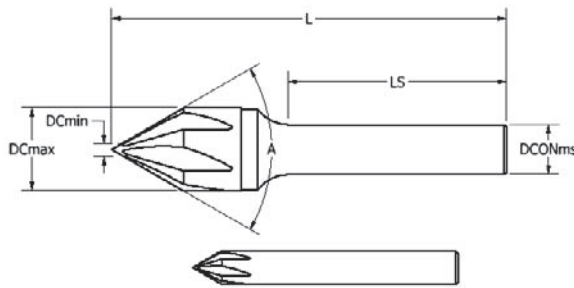
HSS
COBALT



HSS
COBALT

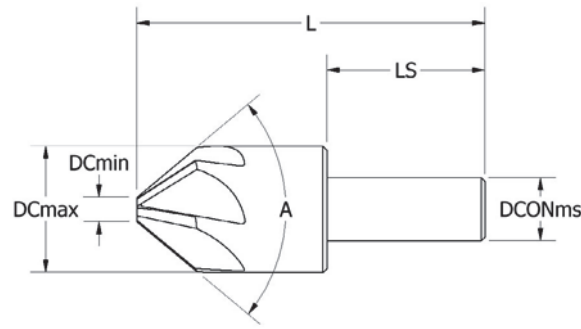


DCONms	LS	L	DCmax	DCmin	A	HSS	HSS-TiN	COBALT	COBALT-TiN
0.5000	1.2500	3.0000	1.2500	0.4375	60.0	917-000-091	917-000-092	917-000-277	917-000-278
0.7500	1.2500	3.2500	1.5000	0.5625	60.0	917-000-085	917-000-086	917-000-279	917-000-280
0.7500	1.2500	3.5000	1.7500	0.5625	60.0	917-000-109	917-000-110	917-000-281	917-000-282
0.7500	1.2500	3.7500	2.0000	0.5625	60.0	917-000-139	917-000-140	917-000-283	917-000-284
0.5000	1.2500	2.7500	1.2500	0.3750	82.0	917-000-093	917-000-094	917-000-285	917-000-286
0.7500	1.2500	2.8750	1.5000	0.5156	82.0	917-000-087	917-000-088	917-000-287	917-000-288
0.7500	1.2500	3.0000	1.7500	0.5156	82.0	917-000-111	917-000-112	917-000-289	917-000-290
0.7500	1.2500	3.2500	2.0000	0.5313	82.0	917-000-141	917-000-142	917-000-291	917-000-292
0.5000	1.2500	2.7500	1.2500	0.3594	90.0	917-000-095	917-000-096	917-000-293	917-000-294
0.7500	1.2500	2.8750	1.5000	0.5000	90.0	917-000-089	917-000-090	917-000-295	917-000-296
0.7500	1.2500	3.0000	1.7500	0.5000	90.0	917-000-113	917-000-114	917-000-297	917-000-298
0.7500	1.2500	3.2500	2.0000	0.5000	90.0	917-000-143	917-000-144	917-000-299	917-000-300



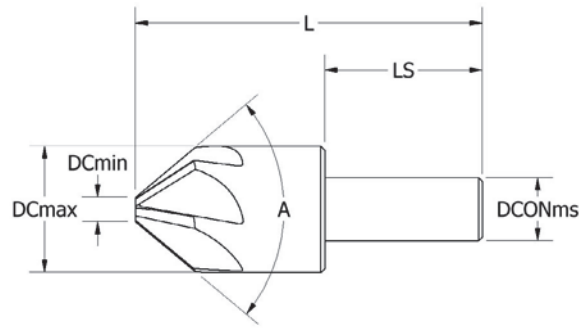
DCONms	LS	L	DCmax	DCmin	A	CARBIDE	CARBIDE-TIALN
0.1250	0.7500	1.5000	0.1250	0.0469	60.0	919-000-989	919-000-990
0.1875	1.0000	2.0000	0.1875	0.0469	60.0	919-000-991	919-000-992
0.2500	1.0000	2.0000	0.2500	0.0625	60.0	919-000-993	919-000-994
0.2500	1.7500	2.7500	0.3750	0.0781	60.0	919-000-995	919-000-996
0.2500	1.6250	2.7500	0.5000	0.0938	60.0	919-000-997	919-000-998
0.3750	1.6250	2.8750	0.6250	0.1094	60.0	919-000-999	919-001-001
0.3750	1.5000	3.0000	0.7500	0.1094	60.0	919-001-002	919-001-003
0.5000	1.5000	3.2500	1.0000	0.1563	60.0	919-001-004	919-001-005
0.7500	1.5000	3.7500	1.2500	0.1563	60.0	919-001-006	919-001-007
0.7500	1.5000	3.7500	1.5000	0.1875	60.0	919-001-008	919-001-009
0.1250	0.7500	1.5000	0.1250	0.0469	82.0	919-001-012	919-001-013
0.1875	1.0000	2.0000	0.1875	0.0625	82.0	919-001-014	919-001-015
0.2500	1.0000	2.0000	0.2500	0.0781	82.0	919-001-016	919-001-017
0.2500	1.7500	2.6250	0.3750	0.1094	82.0	919-001-018	919-001-019
0.2500	1.6250	2.6250	0.5000	0.1250	82.0	919-001-020	919-001-021
0.3750	1.6250	2.7500	0.6250	0.1406	82.0	919-001-022	919-001-023
0.3750	1.5000	2.7500	0.7500	0.1563	82.0	919-001-024	919-001-025
0.5000	1.5000	3.0000	1.0000	0.1719	82.0	919-001-026	919-001-027
0.7500	1.5000	3.2500	1.2500	0.1719	82.0	919-001-028	919-001-029
0.7500	1.5000	3.2500	1.5000	0.1875	82.0	919-001-030	919-001-031
0.1250	0.7500	1.5000	0.1250	0.0469	90.0	919-001-034	919-001-035
0.1875	1.0000	2.0000	0.1875	0.0625	90.0	919-001-036	919-001-037
0.2500	1.0000	2.0000	0.2500	0.0781	90.0	919-001-038	919-001-039
0.2500	1.7500	2.6250	0.3750	0.1094	90.0	919-001-040	919-001-041
0.2500	1.6250	2.6250	0.5000	0.1250	90.0	919-001-042	919-001-043
0.3750	1.6250	2.7500	0.6250	0.1406	90.0	919-001-044	919-001-045
0.3750	1.5000	2.7500	0.7500	0.1563	90.0	919-001-046	919-001-047
0.5000	1.5000	3.0000	1.0000	0.1719	90.0	919-001-048	919-001-049
0.7500	1.5000	3.2500	1.2500	0.1719	90.0	919-001-050	919-001-051
0.7500	1.5000	3.2500	1.5000	0.1875	90.0	919-001-052	919-001-053
0.1250	0.7500	1.5000	0.1250	0.0625	100.0	919-001-056	919-001-057
0.1875	1.0000	2.0000	0.1875	0.0781	100.0	919-001-058	919-001-059
0.2500	1.0000	2.0000	0.2500	0.0781	100.0	919-001-060	919-001-061
0.2500	1.7500	2.6250	0.3750	0.1094	100.0	919-001-062	919-001-063
0.2500	1.6250	2.6250	0.5000	0.1250	100.0	919-001-064	919-001-065
0.3750	1.6250	2.7500	0.6250	0.1563	100.0	919-001-066	919-001-067
0.3750	1.5000	2.7500	0.7500	0.1719	100.0	919-001-068	919-001-069
0.5000	1.5000	3.0000	1.0000	0.1875	100.0	919-001-071	919-001-072
0.7500	1.5000	3.2500	1.2500	0.1875	100.0	919-001-073	919-001-074
0.7500	1.5000	3.2500	1.5000	0.2188	100.0	919-001-075	919-001-076

For set information see page 207



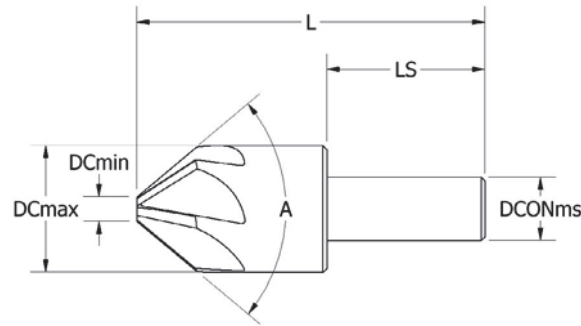
DCONms	LS	L	DCmax	DCmin	A	HSS	HSS-TiN
0.1250	0.6250	1.2500	0.1250	0.0469	60.0	919-000-297	919-000-298
0.1875	0.6875	1.3750	0.1875	0.0625	60.0	919-000-299	919-000-300
0.2500	0.7500	1.5000	0.2500	0.0781	60.0	919-000-301	919-000-302
0.2500	0.8750	1.7500	0.3125	0.0938	60.0	919-000-303	919-000-304
0.2500	0.8750	1.7500	0.3750	0.1250	60.0	919-000-305	919-000-306
0.2500	1.0000	2.0000	0.5000	0.1563	60.0	919-000-307	919-000-308
0.3750	1.0000	2.0000	0.5000	0.1563	60.0	919-000-309	919-000-310
0.2500	1.0000	2.2500	0.6250	0.2031	60.0	919-000-311	919-000-312
0.3750	1.0000	2.2500	0.6250	0.2031	60.0	919-000-313	919-000-314
0.5000	1.2500	2.6250	0.7500	0.2500	60.0	919-000-315	919-000-316
0.5000	1.2500	2.7500	0.8750	0.2813	60.0	919-000-317	919-000-318
0.5000	1.2500	2.7500	1.0000	0.3281	60.0	919-000-319	919-000-320
0.5000	1.2500	3.0000	1.2500	0.4063	60.0	919-000-321	919-000-322
0.7500	1.2500	3.2500	1.5000	0.5000	60.0	919-000-323	919-000-324
0.7500	1.2500	3.5000	1.7500	0.5781	60.0	919-000-325	919-000-326
0.7500	1.2500	3.7500	2.0000	0.6563	60.0	919-000-327	919-000-328
1.0000	1.5000	5.0000	2.5000	0.8281	60.0	919-000-329	919-000-330
1.0000	1.5000	5.2500	3.0000	1.0000	60.0	919-000-331	919-000-332
0.1250	0.6250	1.2500	0.1250	0.0250	82.0	919-000-334	919-000-335
0.1875	0.6875	1.3750	0.1875	0.0313	82.0	919-000-336	919-000-337
0.2500	0.7500	1.5000	0.2500	0.0469	82.0	919-000-338	919-000-339
0.2500	0.8750	1.7500	0.3125	0.0625	82.0	919-000-340	919-000-341
0.2500	0.8750	1.7500	0.3750	0.0781	82.0	919-000-342	919-000-343
0.2500	1.0000	2.0000	0.5000	0.1094	82.0	919-000-344	919-000-345
0.3750	1.0000	2.0000	0.5000	0.1094	82.0	919-000-346	919-000-347
0.2500	1.0000	2.2500	0.6250	0.1250	82.0	919-000-348	919-000-349
0.3750	1.0000	2.2500	0.6250	0.1250	82.0	919-000-350	919-000-351
0.5000	1.2500	2.6250	0.7500	0.1563	82.0	919-000-352	919-000-353
0.5000	1.2500	2.7500	0.8750	0.1719	82.0	919-000-354	919-000-355
0.5000	1.2500	2.7500	1.0000	0.2031	82.0	919-000-356	919-000-357
0.5000	1.2500	2.7500	1.2500	0.2500	82.0	919-000-358	919-000-359
0.7500	1.2500	2.8750	1.5000	0.3125	82.0	919-000-360	919-000-361
0.7500	1.2500	3.0000	1.7500	0.3594	82.0	919-000-362	919-000-363
0.7500	1.2500	3.2500	2.0000	0.4063	82.0	919-000-364	919-000-365
1.0000	1.5000	5.0000	2.5000	0.5000	82.0	919-000-366	919-000-367
1.0000	1.5000	5.2500	3.0000	0.5938	82.0	919-000-368	919-000-369

HSS



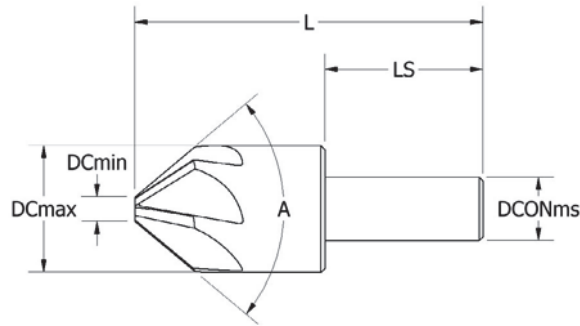
DCONms	LS	L	DCmax	DCmin	A	HSS	Price	HSS-TiN
0.1250	0.6250	1.2500	0.1250	0.0250	90.0	919-000-371	\$8.02	919-000-372
0.1875	0.6875	1.3750	0.1875	0.0313	90.0	919-000-373	\$8.75	919-000-374
0.2500	0.7500	1.5000	0.2500	0.0469	90.0	919-000-375	\$8.90	919-000-376
0.2500	0.8750	1.7500	0.3125	0.0625	90.0	919-000-377	\$10.53	919-000-378
0.2500	0.8750	1.7500	0.3750	0.0781	90.0	919-000-379	\$10.99	919-000-380
0.2500	1.0000	2.0000	0.5000	0.1094	90.0	919-000-381	\$13.51	919-000-382
0.3750	1.0000	2.0000	0.5000	0.1094	90.0	919-000-383	\$13.51	919-000-384
0.2500	1.0000	2.2500	0.6250	0.1250	90.0	919-000-385	\$19.59	919-000-386
0.3750	1.0000	2.2500	0.6250	0.1250	90.0	919-000-387	\$19.59	919-000-388
0.5000	1.2500	2.6250	0.7500	0.1563	90.0	919-000-389	\$26.87	919-000-390
0.5000	1.2500	2.7500	0.8750	0.1719	90.0	919-000-391	\$38.02	919-000-392
0.5000	1.2500	2.7500	1.0000	0.2031	90.0	919-000-393	\$42.29	919-000-394
0.5000	1.2500	2.7500	1.2500	0.2500	90.0	919-000-395	\$64.87	919-000-396
0.7500	1.2500	2.8750	1.5000	0.3125	90.0	919-000-397	\$92.96	919-000-398
0.7500	1.2500	3.0000	1.7500	0.3594	90.0	919-000-399	\$123.65	919-000-400
0.7500	1.2500	3.2500	2.0000	0.4063	90.0	919-000-401	\$157.23	919-000-402
1.0000	1.5000	5.0000	2.5000	0.5000	90.0	919-000-403	\$407.58	919-000-404
1.0000	1.5000	5.2500	3.0000	0.5938	90.0	919-000-405	\$561.76	919-000-406
0.1250	0.6250	1.2500	0.1250	0.0250	100.0	919-000-408	\$8.02	919-000-409
0.1875	0.6875	1.3750	0.1875	0.0313	100.0	919-000-410	\$8.75	919-000-411
0.2500	0.7500	1.5000	0.2500	0.0469	100.0	919-000-412	\$8.90	919-000-413
0.2500	0.8750	1.7500	0.3125	0.0625	100.0	919-000-414	\$10.53	919-000-415
0.2500	0.8750	1.7500	0.3750	0.0781	100.0	919-000-416	\$10.99	919-000-417
0.2500	1.0000	2.0000	0.5000	0.1094	100.0	919-000-418	\$13.51	919-000-419
0.3750	1.0000	2.0000	0.5000	0.1094	100.0	919-000-420	\$13.51	919-000-421
0.2500	1.0000	2.2500	0.6250	0.1250	100.0	919-000-422	\$19.59	919-000-423
0.3750	1.0000	2.2500	0.6250	0.1250	100.0	919-000-424	\$19.59	919-000-425
0.5000	1.2500	2.6250	0.7500	0.1563	100.0	919-000-426	\$26.87	919-000-427
0.5000	1.2500	2.7500	0.8750	0.1719	100.0	919-000-428	\$38.02	919-000-429
0.5000	1.2500	2.7500	1.0000	0.2031	100.0	919-000-430	\$42.29	919-000-431
0.5000	1.2500	2.7500	1.2500	0.2500	100.0	919-000-432	\$64.87	919-000-433
0.7500	1.2500	2.8750	1.5000	0.3125	100.0	919-000-434	\$92.96	919-000-435
0.7500	1.2500	3.0000	1.7500	0.3594	100.0	919-000-436	\$123.65	919-000-437
0.7500	1.2500	3.2500	2.0000	0.4063	100.0	919-000-438	\$157.23	919-000-439
1.0000	1.5000	5.0000	2.5000	0.5000	100.0	919-000-440	\$407.58	919-000-441
1.0000	1.5000	5.0000	2.5000	0.5000	100.0	919-000-442	\$561.76	919-000-443

HSS

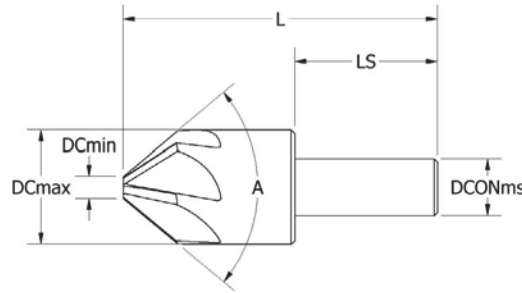


DCONms	LS	L	DCmax	DCmin	A	HSS	HSS-TiN
0.1250	0.6250	1.2500	0.1250	0.0200	110.0	919-000-445	919-000-446
0.1875	0.6875	1.3750	0.1875	0.0313	110.0	919-000-447	919-000-448
0.2500	0.7500	1.5000	0.2500	0.0469	110.0	919-000-449	919-000-450
0.2500	0.8750	1.7500	0.3125	0.0469	110.0	919-000-451	919-000-452
0.2500	0.8750	1.7500	0.3750	0.0625	110.0	919-000-453	919-000-454
0.2500	1.0000	2.0000	0.5000	0.0781	110.0	919-000-455	919-000-456
0.3750	1.0000	2.0000	0.5000	0.0781	110.0	919-000-457	919-000-458
0.2500	1.0000	2.2500	0.6250	0.1094	110.0	919-000-459	919-000-460
0.3750	1.0000	2.2500	0.6250	0.1094	110.0	919-000-461	919-000-462
0.5000	1.2500	2.6250	0.7500	0.1250	110.0	919-000-463	919-000-464
0.5000	1.2500	2.7500	0.8750	0.1406	110.0	919-000-465	919-000-466
0.5000	1.2500	2.7500	1.0000	0.1719	110.0	919-000-467	919-000-468
0.5000	1.2500	2.7500	1.2500	0.2188	110.0	919-000-469	919-000-470
0.7500	1.2500	2.8750	1.5000	0.2500	110.0	919-000-471	919-000-472
0.7500	1.2500	3.0000	1.7500	0.2969	110.0	919-000-473	919-000-474
0.7500	1.2500	3.2500	2.0000	0.3438	110.0	919-000-475	919-000-476
1.0000	1.5000	5.0000	2.5000	0.4375	110.0	919-000-477	919-000-478
1.0000	1.5000	5.2500	3.0000	0.5156	110.0	919-000-479	919-000-480
0.1250	0.6250	1.2500	0.1250	0.0200	120.0	919-000-482	919-000-483
0.1875	0.6875	1.3750	0.1875	0.0313	120.0	919-000-484	919-000-485
0.2500	0.7500	1.5000	0.2500	0.0469	120.0	919-000-486	919-000-487
0.2500	0.8750	1.7500	0.3125	0.0469	120.0	919-000-488	919-000-489
0.2500	0.8750	1.7500	0.3750	0.0625	120.0	919-000-490	919-000-491
0.2500	1.0000	2.0000	0.5000	0.0781	120.0	919-000-492	919-000-493
0.3750	1.0000	2.0000	0.5000	0.0781	120.0	919-000-494	919-000-495
0.2500	1.0000	2.2500	0.6250	0.1094	120.0	919-000-496	919-000-497
0.3750	1.0000	2.2500	0.6250	0.1094	120.0	919-000-498	919-000-499
0.5000	1.2500	2.6250	0.7500	0.1250	120.0	919-000-500	919-000-501
0.5000	1.2500	2.7500	0.8750	0.1406	120.0	919-000-502	919-000-503
0.5000	1.2500	2.7500	1.0000	0.1719	120.0	919-000-504	919-000-505
0.5000	1.2500	2.7500	1.2500	0.2188	120.0	919-000-506	919-000-507
0.7500	1.2500	2.8750	1.5000	0.2500	120.0	919-000-508	919-000-509
0.7500	1.2500	3.0000	1.7500	0.2969	120.0	919-000-510	919-000-511
0.7500	1.2500	3.2500	2.0000	0.3438	120.0	919-000-512	919-000-513
1.0000	1.5000	5.0000	2.5000	0.4375	120.0	919-000-514	919-000-515
1.0000	1.5000	5.2500	3.0000	0.5156	120.0	919-000-516	919-000-517

HSS

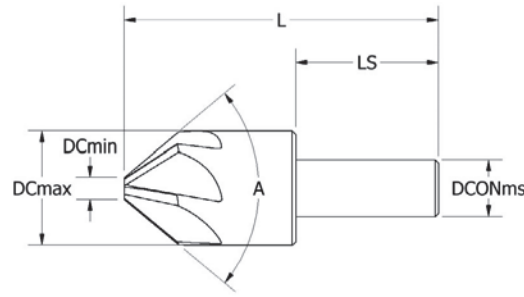


DCONms	LS	L	DCmax	DCmin	A	COBALT	COBALT-TiN
0.1250	0.6250	1.2500	0.1250	0.0469	60.0	919-000-693	919-000-694
0.1875	0.6875	1.3750	0.1875	0.0625	60.0	919-000-695	919-000-696
0.2500	0.7500	1.5000	0.2500	0.0781	60.0	919-000-697	919-000-698
0.2500	0.8750	1.7500	0.3125	0.0938	60.0	919-000-699	919-000-700
0.2500	0.8750	1.7500	0.3750	0.1250	60.0	919-000-701	919-000-702
0.2500	1.0000	2.0000	0.5000	0.1563	60.0	919-000-703	919-000-704
0.3750	1.0000	2.0000	0.5000	0.1563	60.0	919-000-705	919-000-706
0.2500	1.0000	2.2500	0.6250	0.2031	60.0	919-000-707	919-000-708
0.3750	1.0000	2.2500	0.6250	0.2031	60.0	919-000-709	919-000-710
0.5000	1.2500	2.6250	0.7500	0.2500	60.0	919-000-711	919-000-712
0.5000	1.2500	2.7500	0.8750	0.2813	60.0	919-000-713	919-000-714
0.5000	1.2500	2.7500	1.0000	0.3281	60.0	919-000-715	919-000-716
0.5000	1.2500	2.7500	1.2500	0.4063	60.0	919-000-717	919-000-718
0.7500	1.2500	2.8750	1.5000	0.5000	60.0	919-000-719	919-000-720
0.7500	1.2500	3.0000	1.7500	0.5781	60.0	919-000-721	919-000-722
0.7500	1.2500	3.2500	2.0000	0.6563	60.0	919-000-723	919-000-724
1.0000	1.5000	5.0000	2.5000	0.8281	60.0	919-000-725	919-000-726
1.0000	1.5000	5.2500	3.0000	1.0000	60.0	919-000-727	919-000-728
0.1250	0.6250	1.2500	0.1250	0.0250	82.0	919-000-729	919-000-730
0.1875	0.6875	1.3750	0.1875	0.0313	82.0	919-000-731	919-000-732
0.2500	0.7500	1.5000	0.2500	0.0469	82.0	919-000-733	919-000-734
0.2500	0.8750	1.7500	0.3125	0.0625	82.0	919-000-735	919-000-736
0.2500	0.8750	1.7500	0.3750	0.0781	82.0	919-000-737	919-000-738
0.2500	1.0000	2.0000	0.5000	0.1094	82.0	919-000-739	919-000-740
0.3750	1.0000	2.0000	0.5000	0.1094	82.0	919-000-741	919-000-742
0.2500	1.0000	2.2500	0.6250	0.1250	82.0	919-000-743	919-000-744
0.3750	1.0000	2.2500	0.6250	0.1250	82.0	919-000-745	919-000-746
0.5000	1.2500	2.6250	0.7500	0.1563	82.0	919-000-747	919-000-748
0.5000	1.2500	2.7500	0.8750	0.1719	82.0	919-000-749	919-000-750
0.5000	1.2500	2.7500	1.0000	0.2031	82.0	919-000-751	919-000-752
0.5000	1.2500	2.7500	1.2500	0.2500	82.0	919-000-753	919-000-754
0.7500	1.2500	2.8750	1.5000	0.3125	82.0	919-000-755	919-000-756
0.7500	1.2500	3.0000	1.7500	0.3594	82.0	919-000-757	919-000-758
0.7500	1.2500	3.2500	2.0000	0.4063	82.0	919-000-759	919-000-760
1.0000	1.5000	5.0000	2.0000	0.5000	82.0	919-000-761	919-000-762
1.0000	1.5000	5.2500	3.0000	0.5938	82.0	919-000-763	919-000-764



COBALT

DCONms	LS	L	DCmax	DCmin	A	COBALT	COBALT-TIN
0.1250	0.6250	1.2500	0.1250	0.0250	90.0	919-000-765	919-000-766
0.1875	0.6875	1.3750	0.1875	0.0313	90.0	919-000-767	919-000-768
0.2500	0.7500	1.5000	0.2500	0.0469	90.0	919-000-769	919-000-770
0.2500	0.8750	1.7500	0.3125	0.0625	90.0	919-000-771	919-000-772
0.2500	0.8750	1.7500	0.3750	0.0781	90.0	919-000-773	919-000-774
0.2500	1.0000	2.0000	0.5000	0.1094	90.0	919-000-775	919-000-776
0.3750	1.0000	2.0000	0.5000	0.1094	90.0	919-000-777	919-000-778
0.2500	1.0000	2.2500	0.6250	0.1250	90.0	919-000-779	919-000-780
0.3750	1.0000	2.2500	0.6250	0.1250	90.0	919-000-781	919-000-782
0.5000	1.2500	2.6250	0.7500	0.1563	90.0	919-000-783	919-000-784
0.5000	1.2500	2.7500	0.8750	0.1719	90.0	919-000-785	919-000-786
0.5000	1.2500	2.7500	1.0000	0.2031	90.0	919-000-787	919-000-788
0.5000	1.2500	2.7500	1.2500	0.2500	90.0	919-000-789	919-000-790
0.7500	1.2500	2.8750	1.5000	0.3125	90.0	919-000-791	919-000-792
0.7500	1.2500	3.0000	1.7500	0.3594	90.0	919-000-793	919-000-794
0.7500	1.2500	3.2500	2.0000	0.4063	90.0	919-000-795	919-000-796
1.0000	1.5000	5.0000	2.5000	0.5000	90.0	919-000-797	919-000-798
1.0000	1.5000	5.2500	3.0000	0.5938	90.0	919-000-799	919-000-800
0.1250	0.6250	1.2500	0.1250	0.0250	100.0	919-000-801	919-000-802
0.1875	0.6875	1.3750	0.1875	0.0313	100.0	919-000-803	919-000-804
0.2500	0.7500	1.5000	0.2500	0.0469	100.0	919-000-805	919-000-806
0.2500	0.8750	1.7500	0.3125	0.0625	100.0	919-000-807	919-000-808
0.2500	0.8750	1.7500	0.3750	0.0781	100.0	919-000-809	919-000-810
0.2500	1.0000	2.0000	0.5000	0.1094	100.0	919-000-811	919-000-812
0.3750	1.0000	2.0000	0.5000	0.1094	100.0	919-000-813	919-000-814
0.2500	1.0000	2.2500	0.6250	0.1250	100.0	919-000-815	919-000-816
0.3750	1.0000	2.2500	0.6250	0.1250	100.0	919-000-817	919-000-818
0.5000	1.2500	2.6250	0.7500	0.1563	100.0	919-000-819	919-000-820
0.5000	1.2500	2.7500	0.8750	0.1719	100.0	919-000-821	919-000-822
0.5000	1.2500	2.7500	1.0000	0.2031	100.0	919-000-823	919-000-824
0.5000	1.2500	2.7500	1.2500	0.2500	100.0	919-000-825	919-000-826
0.7500	1.2500	2.8750	1.5000	0.3125	100.0	919-000-827	919-000-828
0.7500	1.2500	3.0000	1.7500	0.3594	100.0	919-000-829	919-000-830
0.7500	1.2500	3.2500	2.0000	0.4063	100.0	919-000-831	919-000-832
1.0000	1.5000	5.0000	2.5000	0.5000	100.0	919-000-833	919-000-834
1.0000	1.5000	5.2500	3.0000	0.5938	100.0	919-000-835	919-000-836



DCONms	LS	L	DCmax	DCmin	A	HSS	HSS-TiN
0.1250	0.6250	1.2500	0.1250	0.0200	110.0	919-000-837	919-000-838
0.1875	0.6875	1.3750	0.1875	0.0313	110.0	919-000-839	919-000-840
0.2500	0.7500	1.5000	0.2500	0.0469	110.0	919-000-841	919-000-842
0.2500	0.8750	1.7500	0.3125	0.0469	110.0	919-000-843	919-000-844
0.2500	0.8750	1.7500	0.3750	0.0625	110.0	919-000-845	919-000-846
0.2500	1.0000	2.0000	0.5000	0.0781	110.0	919-000-847	919-000-848
0.3750	1.0000	2.0000	0.5000	0.0781	110.0	919-000-849	919-000-850
0.2500	1.0000	2.2500	0.6250	0.1094	110.0	919-000-851	919-000-852
0.3750	1.0000	2.2500	0.6250	0.1094	110.0	919-000-853	919-000-854
0.5000	1.2500	2.6250	0.7500	0.1250	110.0	919-000-855	919-000-856
0.5000	1.2500	2.7500	0.8750	0.1406	110.0	919-000-857	919-000-858
0.5000	1.2500	2.7500	1.0000	0.1719	110.0	919-000-859	919-000-860
0.5000	1.2500	2.7500	1.2500	0.2188	110.0	919-000-861	919-000-862
0.7500	1.2500	2.8750	1.5000	0.2500	110.0	919-000-863	919-000-864
0.7500	1.2500	3.0000	1.7500	0.2969	110.0	919-000-865	919-000-866
0.7500	1.2500	3.2500	2.0000	0.3438	110.0	919-000-867	919-000-868
1.0000	1.5000	5.0000	2.5000	0.4375	110.0	919-000-869	919-000-870
1.0000	1.5000	5.2500	3.0000	0.5156	110.0	919-000-871	919-000-872
0.1250	0.6250	1.2500	0.1250	0.0200	120.0	919-000-873	919-000-874
0.1875	0.6875	1.3750	0.1875	0.0313	120.0	919-000-875	919-000-876
0.2500	0.7500	1.5000	0.2500	0.0469	120.0	919-000-877	919-000-878
0.2500	0.8750	1.7500	0.3125	0.0469	120.0	919-000-879	919-000-880
0.2500	0.8750	1.7500	0.3750	0.0625	120.0	919-000-881	919-000-882
0.2500	1.0000	2.0000	0.5000	0.0781	120.0	919-000-883	919-000-884
0.3750	1.0000	2.0000	0.5000	0.0781	120.0	919-000-885	919-000-886
0.2500	1.0000	2.2500	0.6250	0.1094	120.0	919-000-887	919-000-888
0.3750	1.0000	2.2500	0.6250	0.1094	120.0	919-000-889	919-000-890
0.5000	1.2500	2.6250	0.7500	0.1250	120.0	919-000-891	919-000-892
0.5000	1.2500	2.7500	0.8750	0.1406	120.0	919-000-893	919-000-894
0.5000	1.2500	2.7500	1.0000	0.1719	120.0	919-000-895	919-000-896
0.5000	1.2500	2.7500	1.2500	0.2188	120.0	919-000-897	919-000-898
0.7500	1.2500	2.8750	1.5000	0.2500	120.0	919-000-899	919-000-900
0.7500	1.2500	3.0000	1.7500	0.2969	120.0	919-000-901	919-000-902
0.7500	1.2500	3.2500	2.0000	0.3438	120.0	919-000-903	919-000-904
1.0000	1.5000	5.0000	2.5000	0.4375	120.0	919-000-905	919-000-906
1.0000	1.5000	5.2500	3.0000	0.5156	120.0	919-000-907	919-000-908



Countersink Angle	HSS KIT #	CO KIT #
60°	919-000-333	919-000-038
82°	919-000-370	919-000-039
90°	919-000-407	919-000-040
100°	919-000-444	919-000-035
110°	919-000-481	919-000-036
120°	919-000-518	919-000-037

6-Flute Countersink Sets Available in HSS & Cobalt

HSS includes 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, and 1" body diameter with a particular included point angle. Cobalt includes 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, and 1" body diameter with a particular included point angle.

ARCH[®]
Cutting Tools

COUNTERBORES

THE COMPLETE TOOL MAKING AUTHORITY[®]

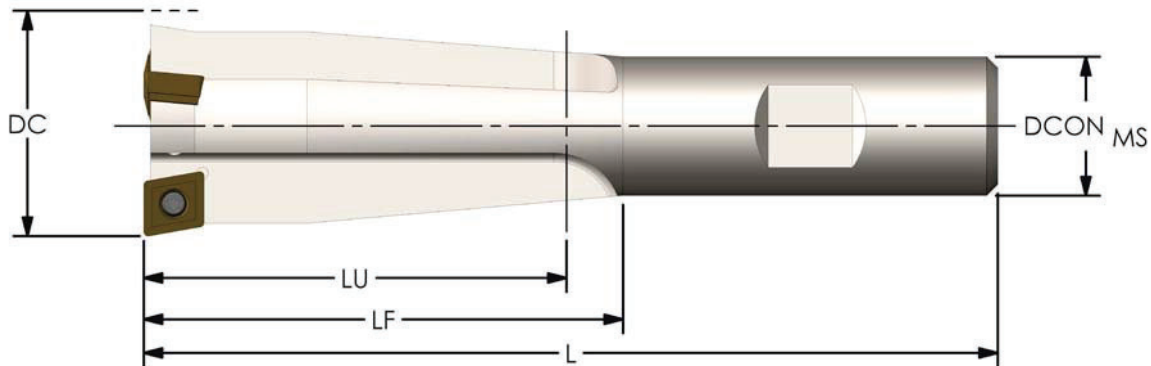


- Diameter range from 0.562" – 0.750" (8mm-20mm) socket head cap screw bore
- Single tool to counterbore, dual chamfer all in one setup* (PC2 series)
- Back boring reduces production time by eliminating second operation* (PC3 series)
- Achieves a true 90° bottom with all PC- series tool holders
- Excellent surface finish can be achieved
- Machining to production dimension without separate fine bore process



PC1

- Diameter range from 0.562" – 0.750" (8mm-20mm) socket head cap screw bore
- Achieves a true 90° bottom with all PC- series tool holders
- Excellent surface finish can be achieved
- Machining to production dimension without separate fine bore process



PRODUCT #	Designation	C'bore Size	DC	DCONMS	LU	L	LF	Insert	Screw	ZC
970-000-001	PC1-312-2-750-04	5/16	0.500	0.750	1.000	3.375	1.345	PD1 042004	PD1-16	2
970-000-003	PC1-375-2-750-04	3/8	0.594	0.750	1.188	3.500	1.470	PD1 042004	PD1-16	2
970-000-005	PC1-437-2-750-05	7/16	0.687	0.750	1.374	3.625	1.595	PD1 052804	PD1-2	2
970-000-007	PC1-500-2-750-06	1/2	0.781	0.750	1.562	3.750	1.720	PD1 063306	PD1-22	2
970-000-008	PC1-625-3-750-06	5/8	1.000	0.750	2.000	4.250	2.220	PD1 063306	PD1-22	3
970-000-010	PC1-750-3-750-07	3/4	1.188	0.750	2.376	4.625	2.595	PD1 074006	PD1-25	3
970-000-002	PC1-315-2-750-04	8mm	0.591	0.750	1.182	3.500	1.470	PD1 042004	PD1-16	2
970-000-004	PC1-394-2-750-05	10mm	0.709	0.750	1.418	3.625	1.595	PD1 052804	PD1-2	2
970-000-006	PC1-472-2-750-06	12mm	0.787	0.750	1.574	3.750	1.720	PD1 063306	PD1-22	2
970-000-009	PC1-630-3-750-06	16mm	1.024	0.750	2.048	4.250	2.220	PD1 063306	PD1-22	3
970-000-011	PC1-787-3-750-07	20mm	1.299	0.750	2.598	4.750	2.720	PD1 074006	PD1-25	3

Recommendations:

Productivity and tooling performance is not only influenced by grade and geometry, but also by clamping the tool securely and accurately as possible.

- It is recommended to use precision holders i.e. hydraulic, shrink fit
- It is recommended to use internal coolant – minimum recommended pressure 145 psi



PRODUCT #	Designation	HP600	HK356	HN300
914-000-085	PD1 042004	•		
914-000-083			•	
914-000-084				•
914-000-088	PD1 052804	•		
914-000-086			•	
914-000-087				•
914-000-091	PD1 063306	•		
914-000-089			•	
914-000-090				•
914-000-094	PD1 074006	•		
914-000-092			•	
914-000-093				•
914-000-097	PD1 094508	•		
914-000-095			•	
914-000-096				•
914-000-100	PD1 125812	•		
914-000-098			•	
914-000-99				•
914-000-103	PD1 156812	•		
914-000-101			•	
914-000-102				•



PD1

PRODUCT #	Insert Screw
968-000-112	PD1-16
968-000-113	PD1-2
968-000-114	PD1-22
968-000-115	PD1-25
968-000-116	PD1-35
968-000-117	PD1-5
968-000-118	PD1-6

PACKAGE SIZE OF 5



PACKAGE SIZE OF 10

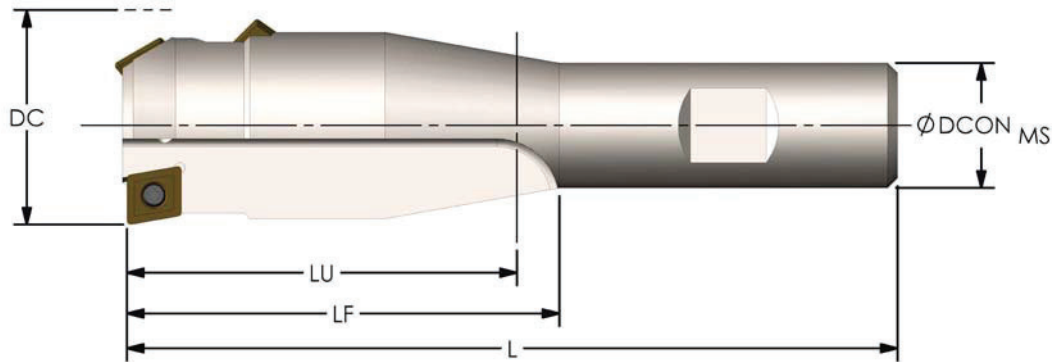
ISO	MATERIAL	HARDNESS	GRADE	Vc (SFM)*	DIAMETER inch (metric)	
					5/16" (8mm) - 1/2" (12mm)	1/2" (12mm) - 3/4" (20mm)
					Fz (INCH PER TOOTH)*	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 BHN or ≤ 28 HRC	HP600	250-675	.0015-.0040	.0020-.0060
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 17-4 PH	≤ 375 BHN or ≤ 40 HRC		200-550	.0020-.0050	.0020-.0075
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 BHN or ≤ 28 HRC	HP600	150-450	.0018-.0025	.0025-.0060
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 BHN or ≤ 28 HRC		100-400	.0018-.0025	.0025-.0060
K	GRAY IRONS Class 20,30,40,50,60,G3000, G3500	≤ 220 BHN or ≤ 19 HRC	HK365	200-700	.0025-.0045	.0035-.0070
	DUCTILE IRONS D&M series, 250,300,350,400,60-40-18,65-45-12	≤ 260 BHN or ≤ 26 HRC		200-600	.0020-.0045	.0025-.0065
N	NON-FERROUS Aluminum, Aluminum cast, Brass, copper, Bronze, Non Metallic"	≤ 271 BHN or ≤ 28 HRC	HN300	300-750	.0020-.0060	.0030-.0090
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375 BHN or ≤ 55 HRC	HP600	60-275	.0018-.0055	.0020-.0060
S	HR SUPER ALLOYS Inconel 718, Waspaloy, Hastelloy, Inconel 625, Stellite 31, Haynes 25, Rene 41	≤ 275 BHN or ≤ 28 HRC	HP600	45-200	.0015-.0030	.0017-.0050
	TITANIUM 6AL-4V, ASTM 1, 2, 3,6AL-2S	≤ 275 BHN or ≤ 28 HRC		75-300	.0019-.0045	.0020-.0060

Speeds & feeds are starting recommendations only. Factors such as machine type, fixture, tooling rigidity, available horsepower, coolant delivery method and others will affect the performance significantly.



PC2

- Diameter range from 0.562" – 0.750" (8mm-20mm) socket head cap screw bore
- Single tool to counterbore, dual chamfer all in one setup* (PC2 series)
- Achieves a true 90° bottom with all PC- series tool holders
- Excellent surface finish can be achieved
- Machining to production dimension without separate fine bore process



PRODUCT #	Designation	C'bore Size	DC	DCONMS	LU	L	LF	Insert	Screw	ZC
970-000-012	PC2-312-3-750-04	5/16	0.500	0.750	1.000	3.375	1.345	PD1 042004	PD1-16	3
970-000-014	PC2-375-3-750-04	3/8	0.594	0.750	1.188	30.500	1.470	PD1 042004	PD1-16	3
970-000-016	PC2-437-3-750-05	7/16	0.687	0.750	1.374	3.625	1.595	PD1 052804	PD1-2	3
970-000-018	PC2-500-3-750-06	1/2	0.781	0.750	1.562	3.750	1.720	PD1 063306	PD1-22	3
970-000-019	PC2-625-3-750-06	5/8	1.000	0.750	2.000	4.250	2.220	PD1 063306	PD1-22	3
970-000-021	PC2-750-3-750-07	3/4	1.188	0.750	2.376	4.625	2.595	PD1 074006	PD1-25	3
970-000-013	PC2-315-3-750-04	8mm	0.591	0.750	1.182	30.500	1.470	PD1 042004	PD1-16	3
970-000-015	PC2-394-3-750-05	10mm	0.709	0.750	1.418	3.625	1.595	PD1 052804	PD1-2	3
970-000-017	PC2-472-3-750-06	12mm	0.787	0.750	1.574	3.750	1.720	PD1 063306	PD1-22	3
970-000-020	PC2-630-3-750-06	16mm	1.024	0.750	2.048	4.250	2.220	PD1 063306	PD1-22	3
970-000-022	PC2-787-3-750-07	20mm	1.299	0.750	2.598	4.750	2.720	PD1 074006	PD1-25	3

Recommendations:

Productivity and tooling performance is not only influenced by grade and geometry, but also by clamping the tool securely and accurately as possible.

- It is recommended to use precision holders i.e. hydraulic, shrink fit
- It is recommended to use internal coolant – minimum recommended pressure 145 psi



PRODUCT #	Designation	HP600	HK356	HN300
914-000-085		•		
914-000-083	PD1 042004		•	
914-000-084				•
914-000-088		•		
914-000-086	PD1 052804		•	
914-000-087				•
914-000-091		•		
914-000-089	PD1 063306		•	
914-000-090				•
914-000-094		•		
914-000-092	PD1 074006		•	
914-000-093				•
914-000-097		•		
914-000-095	PD1 094508		•	
914-000-096				•
914-000-100		•		
914-000-098	PD1 125812		•	
914-000-99				•
914-000-103		•		
914-000-101	PD1 156812		•	
914-000-102				•



PD1

PRODUCT #	Insert Screw
968-000-112	PD1-16
968-000-113	PD1-2
968-000-114	PD1-22
968-000-115	PD1-25
968-000-116	PD1-35
968-000-117	PD1-5
968-000-118	PD1-6

PACKAGE SIZE OF 5



FIGURE 1

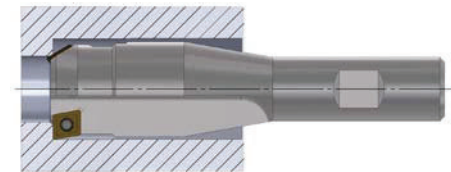


FIGURE 2

PACKAGE SIZE OF 10

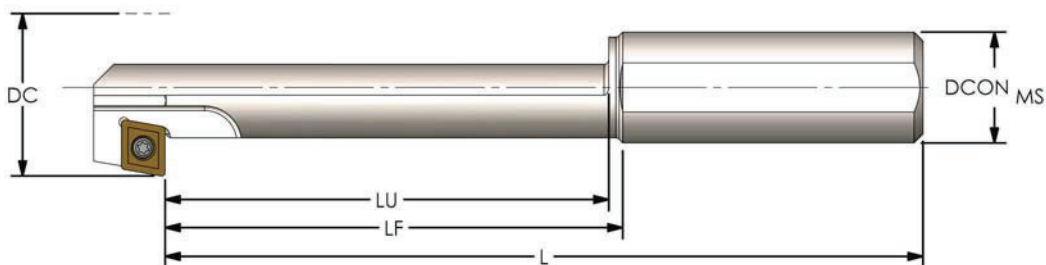
ISO	MATERIAL	HARDNESS	GRADE	Vc (SFM)*	DIAMETER inch (metric)	
					5/16" (8mm) - 1/2" (12mm)	1/2" (12mm) - 3/4" (20mm)
					Fz (INCH PER TOOTH)*	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 BHN or ≤ 28 HRC	HP600	250-675	.0015-.0040	.0020-.0060
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 17-4 PH	≤ 375 BHN or ≤ 40 HRC		200-550	.0020-.0050	.0020-.0075
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 BHN or ≤ 28 HRC	HP600	150-450	.0018-.0025	.0025-.0060
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 BHN or ≤ 28 HRC		100-400	.0018-.0025	.0025-.0060
K	GRAY IRONS Class 20,30,40,50,60,G3000, G3500	≤ 220 BHN or ≤ 19 HRC	HK365	200-700	.0025-.0045	.0035-.0070
	DUCTILE IRONS D&M series, 250,300,350,400,60-40- 18,65-45-12	≤ 260 BHN or ≤ 26 HRC		200-600	.0020-.0045	.0025-.0065
N	NON-FERROUS Aluminum, Aluminum cast, Brass, copper, Bronze, Non Metallic"	≤ 271 BHN or ≤ 28 HRC	HN300	300-750	.0020-.0060	.0030-.0090
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375 BHN or ≤ 55 HRC	HP600	60-275	.0018-.0055	.0020-.0060
S	HR SUPER ALLOYS Inconel 718, Waspaloy, Hastelloy, Inconel 625, Stellite 31, Haynes 25, Rene 41	≤ 275 BHN or ≤ 28 HRC	HP600	45-200	.0015-.0030	.0017-.0050
	TITANIUM 6AL-4V, ASTM 1, 2, 3,6AL-2S	≤ 275 BHN or ≤ 28 HRC		75-300	.0019-.0045	.0020-.0060

Speeds & feeds are starting recommendations only. Factors such as machine type, fixture, tooling rigidity, available horsepower, coolant delivery method and others will affect the performance significantly.



PC3

- Diameter range from 0.562" – 0.750"(8mm-20mm) socket head cap screw bore
- Back boring reduces production time by eliminating second operation* (PC3 series)
- Achieves a true 90° bottom with all PC- series tool holders
- Excellent surface finish can be achieved
- Machining to production dimension without separate fine bore process



PRODUCT #	Designation	C'bore Size	DC	DCONMS	LU	L	LF	Insert	Screw	ZC
970-000-023	PC3-312-1-750-04	5/16	0.500	0.750	1.030	3.375	1.345	PD1 042004	PD1-16	1
970-000-025	PC3-375-1-750-04	3/8	0.594	0.750	1.218	3.500	1.470	PD1 042004	PD1-16	1
970-000-027	PC3-437-1-750-05	7/16	0.687	0.750	1.748	4.000	1.970	PD1 052804	PD1-2	1
970-000-029	PC3-500-1-750-06	1/2	0.781	0.750	1.983	4.250	2.220	PD1 063306	PD1-22	1
970-000-030	PC3-625-1-750-06	5/8	1.000	0.750	2.530	4.750	2.720	PD1 063306	PD1-22	1
970-000-032	PC3-750-1-750-07	3/4	1.188	0.750	3.000	5.125	3.095	PD1 074006	PD1-25	1
970-000-024	PC3-315-1-750-04	8mm	0.591	0.750	1.212	3.500	1.470	PD1 042004	PD1-16	1
970-000-026	PC3-394-1-750-05	10mm	0.709	0.750	1.448	3.750	1.720	PD1 052804	PD1-2	1
970-000-028	PC3-472-1-750-06	12mm	0.787	0.750	1.998	4.250	2.220	PD1 063306	PD1-22	1
970-000-031	PC3-630-1-750-06	16mm	1.024	0.750	2.590	4.750	2.720	PD1 063306	PD1-22	1
970-000-033	PC3-787-1-750-07	20mm	1.299	0.750	3.278	5.375	3.345	PD1 074006	PD1-25	1

Recommendations:

Productivity and tooling performance is not only influenced by grade and geometry, but also by clamping the tool securely and accurately as possible.

- It is recommended to use precision holders i.e. hydraulic, shrink fit
- It is recommended to use internal coolant – minimum recommended pressure 145 psi



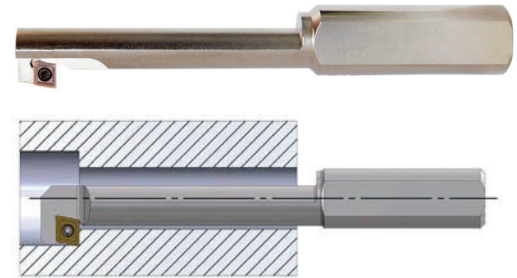
PRODUCT #	Designation	HP600	HK356	HN300
914-000-085		•		
914-000-083	PD1 042004		•	
914-000-084				•
914-000-088		•		
914-000-086	PD1 052804		•	
914-000-087				•
914-000-091		•		
914-000-089	PD1 063306		•	
914-000-090				•
914-000-094		•		
914-000-092	PD1 074006		•	
914-000-093				•
914-000-097		•		
914-000-095	PD1 094508		•	
914-000-096				•
914-000-100		•		
914-000-098	PD1 125812		•	
914-000-99				•
914-000-103		•		
914-000-101	PD1 156812		•	
914-000-102				•



PD1

PRODUCT #	Insert Screw
968-000-112	PD1-16
968-000-113	PD1-2
968-000-114	PD1-22
968-000-115	PD1-25
968-000-116	PD1-35
968-000-117	PD1-5
968-000-118	PD1-6

PACKAGE SIZE OF 5



PACKAGE SIZE OF 10

ISO	MATERIAL	HARDNESS	GRADE	Vc (SFM)*	DIAMETER inch (metric)	
					5/16" (8mm) - 1/2" (12mm)	1/2" (12mm) - 3/4" (20mm)
					Fz (INCH PER TOOTH)*	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 BHN or ≤ 28 HRC	HP600	250-675	.0015-.0040	.0020-.0060
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 17-4 PH	≤ 375 BHN or ≤ 40 HRC		200-550	.0020-.0050	.0020-.0075
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 BHN or ≤ 28 HRC	HP600	150-450	.0018-.0025	.0025-.0060
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 BHN or ≤ 28 HRC		100-400	.0018-.0025	.0025-.0060
K	GRAY IRONS Class 20,30,40,50,60,G3000, G3500	≤ 220 BHN or ≤ 19 HRC	HK365	200-700	.0025-.0045	.0035-.0070
	DUCTILE IRONS D&M series, 250,300,350,400,60-40- 18,65-45-12	≤ 260 BHN or ≤ 26 HRC		200-600	.0020-.0045	.0025-.0065
N	NON-FERROUS Aluminum, Aluminum cast, Brass, copper, Bronze, Non Metallic"	≤ 271 BHN or ≤ 28 HRC	HN300	300-750	.0020-.0060	.0030-.0090
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375 BHN or ≤ 55 HRC	HP600	60-275	.0018-.0055	.0020-.0060
S	HR SUPER ALLOYS Inconel 718, Waspaloy, Hastelloy, Inconel 625, Stellite 31, Haynes 25, Rene 41	≤ 275 BHN or ≤ 28 HRC	HP600	45-200	.0015-.0030	.0017-.0050
	TITANIUM 6AL-4V, ASTM 1, 2, 3,6AL-2S	≤ 275 BHN or ≤ 28 HRC		75-300	.0019-.0045	.0020-.0060

Speeds & feeds are starting recommendations only. Factors such as machine type, fixture, tooling rigidity, available horsepower, coolant delivery method and others will affect the performance significantly.



COBALT

DC	DCONms	D	LU	LS	L	LF	LP	Size/ Application	Assembly Criteria	COBALT
0.1860	0.1563	0.1120	0.5000	1.6250	3.0000	1.3750	0.1875	#4 Nominal	Close Fit	902-000-001
0.2020	0.1563	0.1270	0.5000	1.6250	3.0000	1.3750	0.1875	#4 +1/64 O/S	1/64" Clearance	902-000-002
0.2170	0.1563	0.1430	0.5000	1.6250	3.0000	1.3750	0.1875	#4 +1/32 O/S	1/32" Clearance	902-000-003
0.2050	0.1875	0.1250	0.5000	1.6250	3.0000	1.3750	0.1875	#5 Nominal	Close Fit	902-000-004
0.2210	0.1875	0.1400	0.5000	1.6250	3.0000	1.3750	0.1875	#5 +1/64 O/S	1/64" Clearance	902-000-005
0.2370	0.1875	0.1560	0.5000	1.6250	3.0000	1.3750	0.1875	#5 +1/32 O/S	1/32" Clearance	902-000-006
0.2280	0.2188	0.1380	0.5000	1.6250	3.0000	1.3750	0.2031	#6 Nominal	Close Fit	902-000-007
0.2440	0.2188	0.1530	0.5000	1.6250	3.0000	1.3750	0.2031	#6 +1/64 O/S	1/64" Clearance	902-000-008
0.2600	0.2188	0.1690	0.5000	1.6250	3.0000	1.3750	0.2031	#6 +1/32 O/S	1/32" Clearance	902-000-009
0.2720	0.2500	0.1640	0.5000	1.6250	3.0000	1.3750	0.2500	#8 Nominal	Close Fit	902-000-010
0.2880	0.2500	0.1790	0.5000	1.6250	3.0000	1.3750	0.2500	#8 +1/64 O/S	1/64" Clearance	902-000-011
0.3040	0.2500	0.1950	0.5000	1.6250	3.0000	1.3750	0.2500	#8 +1/32 O/S	1/32" Clearance	902-000-012
0.3140	0.2813	0.1900	0.7813	2.4687	4.5000	2.0313	0.2656	#10 Nominal	Close Fit	902-000-013
0.3300	0.2813	0.2050	0.7813	2.4687	4.5000	2.0313	0.2656	#10 +1/64 O/S	1/64" Clearance	902-000-014
0.3460	0.2813	0.2210	0.7813	2.4687	4.5000	2.0313	0.2656	#10 +1/32 O/S	1/32" Clearance	902-000-015
0.3820	0.3125	0.2500	0.7813	2.4218	4.5000	2.0782	0.3125	1/4" Nominal	Close Fit	902-000-016
0.3980	0.3125	0.2650	0.7813	2.4218	4.5000	2.0782	0.3125	1/4" +1/64 O/S	1/64" Clearance	902-000-017
0.4140	0.3125	0.2810	0.7813	2.4218	4.5000	2.0782	0.3125	1/4" +1/32 O/S	1/32" Clearance	902-000-018
0.4750	0.3750	0.3120	0.7813	2.4218	4.5000	2.0782	0.3594	5/16" Nominal	Close Fit	902-000-019
0.4910	0.3750	0.3280	0.7813	2.4218	4.5000	2.0782	0.3594	5/16" +1/64 O/S	1/64" Clearance	902-000-020
0.5070	0.3750	0.3430	0.7813	2.4218	4.5000	2.0782	0.3594	5/16" +1/32 O/S	1/32" Clearance	902-000-021
0.5720	0.5000	0.3750	0.9063	2.4687	5.0000	2.5313	0.5000	3/8" Nominal	Close Fit	902-000-022
0.5880	0.5000	0.3900	0.9063	2.4687	5.0000	2.5313	0.5000	3/8" +1/64 O/S	1/64" Clearance	902-000-023
0.6040	0.5000	0.4060	0.9063	2.4687	5.0000	2.5313	0.5000	3/8" +1/32 O/S	1/32" Clearance	902-000-024
0.6630	0.5000	0.4370	0.9375	2.5000	5.0000	2.5000	0.5000	7/16" Nominal	Close Fit	902-000-025
0.6790	0.5000	0.4520	0.9375	2.5000	5.0000	2.5000	0.5000	7/16" +1/64 O/S	1/64" Clearance	902-000-026
0.6950	0.5000	0.4680	0.9375	2.5000	5.0000	2.5000	0.5000	7/16" +1/32 O/S	1/32" Clearance	902-000-027
0.7570	0.5000	0.5000	1.0156	3.0468	6.0000	2.9532	0.5000	1/2" Nominal	Close Fit	902-000-028
0.7730	0.5000	0.5150	1.0156	3.0468	6.0000	2.9532	0.5000	1/2" +1/64 O/S	1/64" Clearance	902-000-029
0.7890	0.5000	0.5310	1.0156	3.0468	6.0000	2.9532	0.5000	1/2" +1/32 O/S	1/32" Clearance	902-000-030
0.9450	0.6250	0.6250	1.0156	3.0625	6.0000	2.9375	0.6250	5/8" Nominal	Close Fit	902-000-031
0.9610	0.6250	0.6410	1.0156	3.0625	6.0000	2.9375	0.6250	5/8" +1/64 O/S	1/64" Clearance	902-000-032
0.9770	0.6250	0.6560	1.0156	3.0625	6.0000	2.9375	0.6250	5/8" +1/32 O/S	1/32" Clearance	902-000-033
1.1870	0.7500	0.7660	1.2500	3.0625	7.0000	3.9375	0.7344	3/4" Nominal	Close Fit	902-000-034
1.2030	0.7500	0.7810	1.2500	3.0625	7.0000	3.9375	0.7344	3/4" +1/32 O/S	1/32" Clearance	902-000-035
1.3750	0.8750	0.8910	1.2500	3.0000	7.0000	4.0000	0.8906	7/8" Nominal	Close Fit	902-000-036
1.3910	0.8750	0.9060	1.2500	3.0000	7.0000	4.0000	0.8906	7/8" +1/32 O/S	1/32" Clearance	902-000-037
1.5620	1.0000	1.0160	1.2500	3.0000	7.0000	4.0000	1.0625	1" Nominal	Close Fit	902-000-038
1.5880	1.0000	1.0320	1.2500	3.0000	7.0000	4.0000	1.0625	1" +1/32 O/S	1/32" Clearance	902-000-039



Complete 7-Piece Tool Sets	Assembly Criteria	Product #	Price
#6, #8, #10, 1/4", 5/16", 3/8", 1/2" Nominal	Close Fit	902-000-040	\$413.98
#6, #8, #10, 1/4", 5/16", 3/8", 1/2" +1/64 O/S	1/64" Clearance	902-000-041	\$413.98
#6, #8, #10, 1/4", 5/16", 3/8", 1/2" +1/32 O/S	1/32" Clearance	902-000-042	\$413.98

Precision Cap Screw Counterbores
Integral Pilot, Straight Shank,
CNC Precision Ground,
Cobalt HSS.



DC	DCONms	D	LU	LS	L	LF	LP	Application	COBALT
6.00	5.00	2.50	14.00	31.50	71.00	39.50	3.50	M3 - Before Thread	902-000-043
6.00	5.00	3.20	14.00	31.50	71.00	39.50	3.50	M3 - Fine	902-000-044
6.00	5.00	3.40	14.00	31.50	71.00	39.50	3.50	M3 - Medium	902-000-045
6.50	5.00	2.90	14.00	31.50	71.00	39.50	3.50	M3.5 - Before Thread	902-000-046
6.50	5.00	3.70	14.00	31.50	71.00	39.50	3.50	M3.5 - Fine	902-000-047
6.50	5.00	3.90	14.00	31.50	71.00	39.50	4.00	M3.5 - Medium	902-000-048
8.00	5.00	3.30	14.00	31.50	71.00	39.50	4.50	M4 - Before Thread	902-000-049
8.00	5.00	4.30	14.00	31.50	71.00	39.50	4.50	M4 - Fine	902-000-050
8.00	5.00	4.50	14.00	31.50	71.00	39.50	4.50	M4 - Medium	902-000-051
10.00	8.00	4.20	18.00	35.50	80.00	44.50	4.50	M5 - Before Thread	902-000-052
10.00	8.00	5.30	18.00	35.50	80.00	44.50	4.50	M5 - Fine	902-000-053
10.00	8.00	5.50	18.00	35.50	80.00	44.50	4.50	M5 - Medium	902-000-054
11.00	8.00	5.00	18.00	35.50	80.00	44.50	5.50	M6 - Before Thread	902-000-055
11.00	8.00	6.40	18.00	35.50	80.00	44.50	5.50	M6 - Fine	902-000-056
11.00	8.00	6.60	18.00	35.50	80.00	44.50	7.00	M6 - Medium	902-000-057
15.00	12.50	6.80	22.00	40.00	100.00	60.00	7.00	M8 - Before Thread	902-000-058
15.00	12.50	8.40	22.00	40.00	100.00	60.00	9.00	M8 - Fine	902-000-059
15.00	12.50	9.00	22.00	40.00	100.00	60.00	9.00	M8 - Medium	902-000-060
18.00	12.50	8.50	22.00	40.00	100.00	60.00	9.00	M10 - Before Thread	902-000-061
18.00	12.50	10.50	22.00	40.00	100.00	60.00	11.00	M10 - Fine	902-000-062
18.00	12.50	11.00	22.00	40.00	100.00	60.00	11.00	M10 - Medium	902-000-063
20.00	12.50	10.20	22.00	40.00	100.00	60.00	10.50	M12 - Before Thread	902-000-064
20.00	12.50	13.00	22.00	40.00	100.00	60.00	14.00	M12 - Fine	902-000-065
20.00	12.50	14.00	22.00	40.00	100.00	60.00	14.00	M12 - Medium	902-000-066



Precision Metric Cap Screw Counterbores

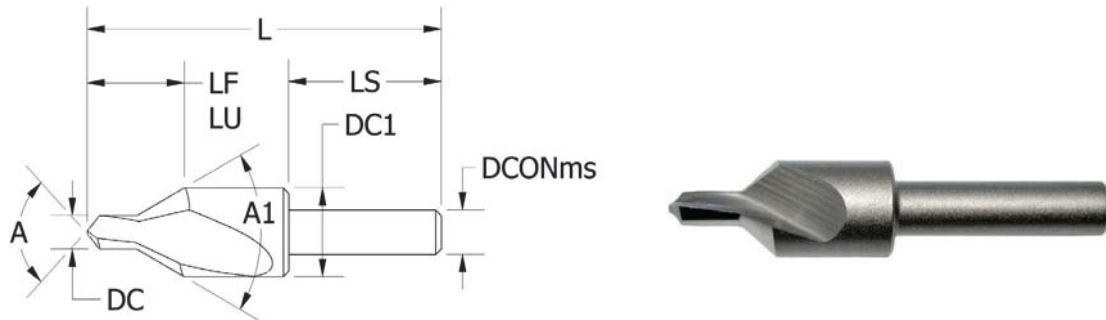
Integral Pilot, Straight Shank, CNC Precision Ground, Cobalt HSS.

Complete 6-Piece Tool Sets	Application	Product #
M3, M4, M5, M6, M8, M10	Before Thread	902-000-067
M3, M4, M5, M6, M8, M10	Fine	902-000-068
M3, M4, M5, M6, M8, M10	Medium	902-000-069

COBALT



COBALT



MACHINE SCREW

DC	DCNms	DC1	LU	LS	L	LF	A	A1	Flat Head Screws Machine Screw
0.1270	0.2500	0.3125	0.3022	0.8750	1.7500	0.3022	118.0	82.0	906-000-296
0.1400	0.2500	0.3125	0.2979	0.8750	1.7500	0.2979	118.0	82.0	906-000-297
0.1660	0.2500	0.3750	0.4144	0.8750	1.7500	0.4144	118.0	82.0	906-000-298
0.1920	0.2500	0.4375	0.4059	1.0000	2.0000	0.4059	118.0	82.0	906-000-299
0.2200	0.2500	0.4375	0.4280	1.0000	2.0000	0.4280	118.0	82.0	906-000-300
0.2520	0.2500	0.5000	0.4488	1.0000	2.0000	0.4488	118.0	82.0	906-000-301
0.3150	0.3750	0.6250	0.5531	1.0000	2.2500	0.5531	118.0	82.0	906-000-302
0.3780	0.5000	0.7500	0.6575	1.2500	2.6250	0.6575	118.0	82.0	906-000-303

SELF TAPPING SCREW

DC	DCNms	DC1	LU	LS	L	LF	A	A1	Flat Head Screws Self-tapping Screw
0.0990	0.2500	0.3125	0.2801	0.8750	1.7500	0.2801	118.0	82.0	906-000-304
0.1160	0.2500	0.3750	0.3214	0.8750	1.7500	0.3214	118.0	82.0	906-000-305
0.1350	0.2500	0.4375	0.3777	1.0000	2.0000	0.3777	118.0	82.0	906-000-306
0.1570	0.2500	0.4375	0.4017	1.0000	2.0000	0.4017	118.0	82.0	906-000-307
0.1840	0.2500	0.5000	0.4554	1.0000	2.0000	0.4554	118.0	82.0	906-000-308



DRILL & CHAMFER MILLS

THE COMPLETE TOOL MAKING AUTHORITY®



EC WELDON SHANK

- Cost effective chamfer milling in all ISO materials
- Increase machine utilization when chamfering in process
- Versatile tool for many different weld prep, hole prep, and chamfer operations
- Value add when machining small batches in different material classes
- Easy indexing with three effective cutting edges

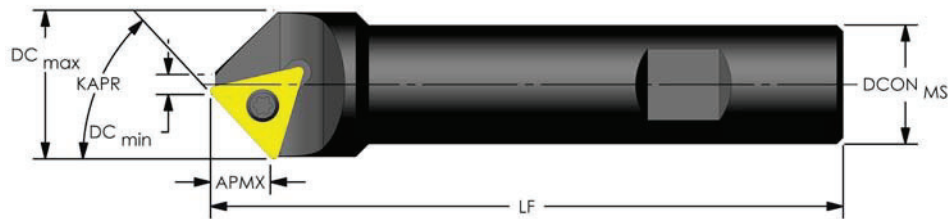


FIGURE 1

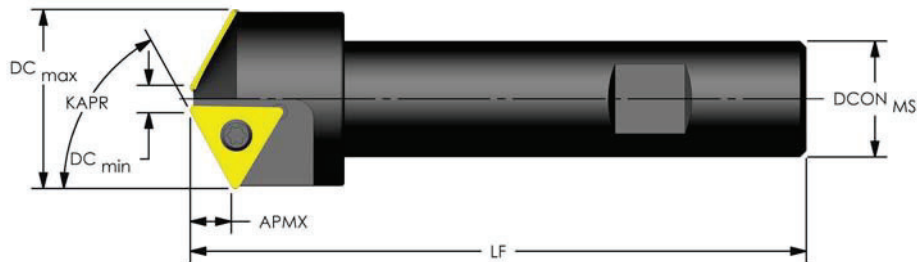


FIGURE 2



PRODUCT #	Designation	Figure	KAPR°	DCmax	DCmin	LF	DCON MS	APMX	Insert	Screw
909-000-520	E05C-D.500-1-.750-3	1	5	0.594	0.500	4.000	0.750	0.568	TCMT 32.52	MTS-35
909-000-521	E10C-D.500-1-.750-3	1	10	0.688	0.500	4.000	0.750	0.558		MTS-35
909-000-522	E15C-D.500-1-.750-3	1	15	0.782	0.500	4.000	0.750	0.546		MTS-35
909-000-523	E15C-D1.00-2-.750-3	2	15	1.280	1.000	4.000	0.750	0.546		MTS-35
909-000-524	E20C-D.375-1-.750-3	1	20	0.750	0.375	4.000	0.750	0.527		MTS-35
909-000-525	E30C-D.250-1-.750-3	1	30	0.800	0.250	4.000	0.750	0.484		MTS-35
909-000-526	E30C-D.750-2-.750-3	2	30	1.300	0.750	4.000	0.750	0.484		MTS-35
909-000-527	E41C-D.188-1-.750-3	1	41	0.914	0.188	4.000	0.750	0.418		MTS-35
909-000-528	E41C-D.562-2-.750-3	2	41	1.288	0.562	4.000	0.750	0.418		MTS-35
909-000-529	E45C-D.188-1-.750-3	1	45	0.972	0.188	4.000	0.750	0.390		MTS-35
909-000-530	E45C-D.500-2-.750-3	2	45	1.290	0.500	4.000	0.750	0.390		MTS-35
909-000-531	E60C-D.188-2-.750-3	2	60	1.160	0.188	4.000	0.750	0.266		MTS-35



PRODUCT #	Designation
913-000-451	TCMT 32.52-ZM1

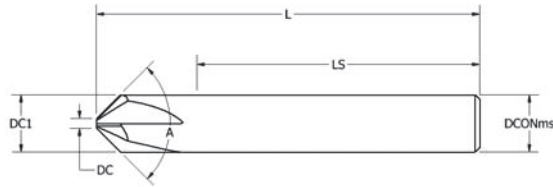
PRODUCT #	Insert Screw
968-000-087	MTS-184
968-000-088	MTS-2
968-000-092	MTS-255
968-000-082	MTS-25-DR
968-000-084	MTS-3-DR
968-000-083	MTS-35-DR
968-000-085	MTS-4-DR

PACKAGE SIZE OF 5

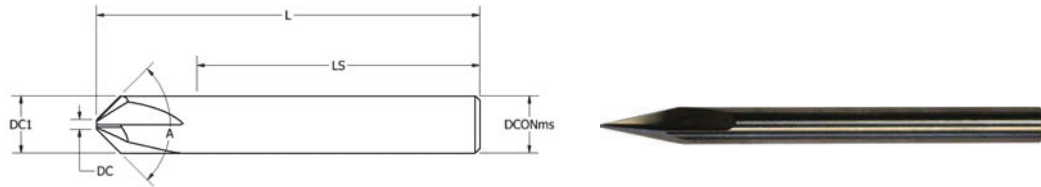
ISO	MATERIAL	HARDNESS	Vc (SFM)*	Fz (INCH PER TOOTH)*
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 BHN or ≤ 28 HRC	220-650	.0032 - .0080
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 17-4 PH	≤ 375 BHN or ≤ 40 HRC	180-500	.0030 - .0065
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 BHN or ≤ 28 HRC	200-450	.0026 - .0065
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 BHN or ≤ 28 HRC	120-350	.0025 - .0075
K	GRAY IRONS Class 20, 30, 40, 50, 60, G3000, G3500	≤ 220 BHN or ≤ 19 HRC	250-700	.0030 - .0100
	DUCTILE IRONS D&M series, 250, 300, 350, 400, 60-40- 18, 65-45-12	≤ 260 BHN or ≤ 26 HRC	150-450	.0030 - .0092
N	NON-FERROUS Aluminum, Aluminum cast, Brass, copper, Bronze, Non Metallic"	≤ 271 BHN or ≤ 28 HRC	250-950	.0050 - .0130
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375 BHN or ≤ 55 HRC	80-250	.0030 - .0065
S	HR SUPER ALLOYS Inconel 718, Waspaloy, Hastelloy, Inconel 625, Stellite 31, Haynes 25, Rene 41	≤ 275 BHN or ≤ 28 HRC	50-160	.0025 - .0060
	TITANIUM 6AL-4V, ASTM 1, 2, 3, 6AL-2S	≤ 275 BHN or ≤ 28 HRC	90-250	.0025 - .0075
* HIGHER VC AND FZ APPLY TO LIGHT/FINISHING ENGAGEMENT				
* LOWER VC AND FZ APPLY TO HEAVY/ROUGHING ENGAGEMENT				

Speeds & feeds are starting recommendations only. Factors such as machine type, fixture, tooling rigidity, available horsepower, coolant delivery method and others will affect the performance significantly.

CARBIDE

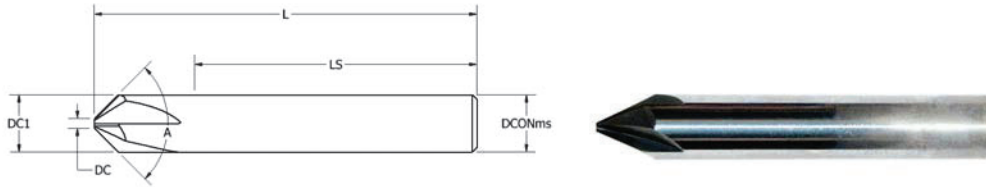


DC	DCONms	DC1	LS	L	A	UNCOATED	AITIN COATED	TIAIN COATED
						2 FLUTE	2 FLUTE	2 FLUTE
0.0060	0.1250	0.1250	0.7500	1.5000	30.0	909-000-198	909-000-342	909-000-249
0.0060	0.1250	0.1250	0.7500	1.5000	40.0	909-000-203	909-000-347	909-000-254
0.0060	0.1250	0.1250	0.7500	1.5000	45.0	909-000-207	909-000-351	909-000-258
0.0060	0.1250	0.1250	0.7500	1.5000	50.0	909-000-209	909-000-353	909-000-260
0.0060	0.1250	0.1250	0.7500	1.5000	60.0	909-000-035	909-000-355	909-000-262
0.0060	0.1250	0.1250	0.7500	1.5000	70.0	909-000-214	909-000-360	909-000-267
0.0060	0.1250	0.1250	0.7500	1.5000	80.0	909-000-215	909-000-361	909-000-268
0.0060	0.1250	0.1250	0.7500	1.5000	82.0	909-000-036	909-000-362	909-000-269
0.0060	0.1250	0.1250	0.7500	1.5000	90.0	909-000-037	909-000-367	909-000-274
0.0060	0.1250	0.1250	0.7500	1.5000	100.0	909-000-033	909-000-326	909-000-233
0.0060	0.1250	0.1250	0.7500	1.5000	110.0	909-000-188	909-000-330	909-000-237
0.0060	0.1250	0.1250	0.7500	1.5000	120.0	909-000-034	909-000-331	909-000-238
0.0060	0.1250	0.1250	0.7500	1.5000	130.0	909-000-192	909-000-336	909-000-243
0.0060	0.1250	0.1250	0.7500	1.5000	140.0	909-000-193	909-000-337	909-000-244
0.0060	0.1250	0.1250	0.7500	1.5000	150.0	909-000-194	909-000-338	909-000-245
0.0060	0.1875	0.1875	1.0000	2.0000	30.0	909-000-199	909-000-343	909-000-250
0.0060	0.1875	0.1875	1.0000	2.0000	40.0	909-000-204	909-000-348	909-000-255
0.0060	0.1875	0.1875	1.0000	2.0000	45.0	909-000-208	909-000-352	909-000-259
0.0060	0.1875	0.1875	1.0000	2.0000	50.0	909-000-210	909-000-354	909-000-261
0.0060	0.1875	0.1875	1.0000	2.0000	60.0	909-000-211	909-000-356	909-000-263
0.0060	0.1875	0.1875	1.0000	2.0000	82.0	909-000-216	909-000-363	909-000-270
0.0060	0.1875	0.1875	1.0000	2.0000	90.0	909-000-219	909-000-368	909-000-275
0.0060	0.1875	0.1875	1.0000	2.0000	120.0	909-000-189	909-000-332	909-000-239
0.0060	0.1875	0.1875	1.2500	2.5000	150.0	909-000-195	909-000-339	909-000-246

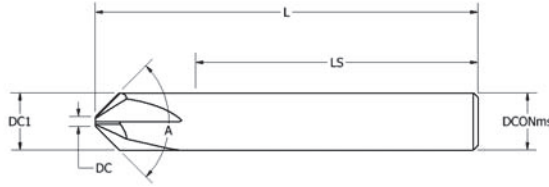


DC	DCONms	DC1	LS	L	A	UNCOATED	AITiN COATED	TiAIN COATED
						2 FLUTE	2 FLUTE	2 FLUTE
0.0400	0.2500	0.2500	1.2500	2.5000	30.0	909-000-200	909-000-344	909-000-251
0.0400	0.2500	0.2500	1.2500	2.5000	40.0	909-000-205	909-000-349	909-000-256
0.0400	0.2500	0.2500	1.2500	2.5000	60.0	909-000-046	909-000-357	909-000-264
0.0400	0.2500	0.2500	1.2500	2.5000	82.0	909-000-050	909-000-364	909-000-271
0.0400	0.2500	0.2500	1.2500	2.5000	90.0	909-000-054	909-000-369	909-000-276
0.0400	0.2500	0.2500	1.2500	2.5000	100.0	909-000-038	909-000-327	909-000-234
0.0400	0.2500	0.2500	1.2500	2.5000	120.0	909-000-042	909-000-333	909-000-240
0.0600	0.3750	0.3750	1.2500	2.5000	30.0	909-000-201	909-000-345	909-000-252
0.0600	0.3750	0.3750	1.2500	2.5000	40.0	909-000-206	909-000-350	909-000-257
0.0600	0.3750	0.3750	1.2500	2.5000	60.0	909-000-061	909-000-358	909-000-265
0.0600	0.3750	0.3750	1.2500	2.5000	82.0	909-000-062	909-000-365	909-000-272
0.0600	0.3750	0.3750	1.2500	2.5000	90.0	909-000-063	909-000-300	909-000-277
0.0600	0.3750	0.3750	1.2500	2.5000	100.0	909-000-059	909-000-328	909-000-235
0.0600	0.3750	0.3750	1.2500	2.5000	120.0	909-000-060	909-000-334	909-000-241
0.0600	0.3750	0.3750	1.2500	2.5000	150.0	909-000-196	909-000-340	909-000-247
0.0800	0.5000	0.5000	1.5000	3.0000	30.0	909-000-202	909-000-346	909-000-253
0.0800	0.5000	0.5000	1.5000	3.0000	60.0	909-000-066	909-000-359	909-000-266
0.0800	0.5000	0.5000	1.5000	3.0000	82.0	909-000-067	909-000-366	909-000-273
0.0800	0.5000	0.5000	1.5000	3.0000	90.0	909-000-068	909-000-371	909-000-278
0.0800	0.5000	0.5000	1.5000	3.0000	100.0	909-000-064	909-000-329	909-000-236
0.0800	0.5000	0.5000	1.5000	3.0000	120.0	909-000-065	909-000-335	909-000-242

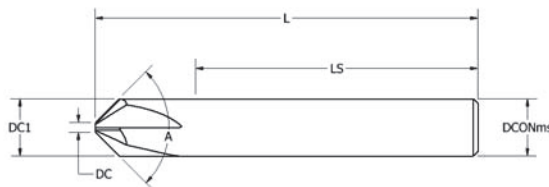
CARBIDE



DC	DCONms	DC1	LS	L	A	UNCOATED	TiAIN COATED
						4 FLUTE	4 FLUTE
0.0250	0.1250	0.1250	0.7500	1.5000	60.0	909-000-071	909-000-286
0.0250	0.1250	0.1250	0.7500	1.5000	82.0	909-000-072	909-000-290
0.0250	0.1250	0.1250	0.7500	1.5000	90.0	909-000-073	909-000-294
0.0250	0.1250	0.1250	0.7500	1.5000	100.0	909-000-069	909-000-279
0.0250	0.1250	0.1250	0.7500	1.5000	120.0	909-000-070	909-000-283
0.0400	0.2500	0.2500	1.2500	2.5000	60.0	909-000-082	909-000-287
0.0400	0.2500	0.2500	1.2500	2.5000	82.0	909-000-086	909-000-291
0.0400	0.2500	0.2500	1.2500	2.5000	90.0	909-000-090	909-000-295
0.0400	0.2500	0.2500	1.2500	2.5000	100.0	909-000-074	909-000-280
0.0400	0.2500	0.2500	1.2500	2.5000	120.0	909-000-078	909-000-079
0.0600	0.3750	0.3750	1.2500	2.5000	60.0	909-000-097	909-000-288
0.0600	0.3750	0.3750	1.2500	2.5000	82.0	909-000-098	909-000-292
0.0600	0.3750	0.3750	1.2500	2.5000	90.0	909-000-099	909-000-296
0.0600	0.3750	0.3750	1.2500	2.5000	100.0	909-000-095	909-000-281
0.0600	0.3750	0.3750	1.2500	2.5000	120.0	909-000-096	909-000-284
0.0800	0.5000	0.5000	1.5000	3.0000	60.0	909-000-108	909-000-109
0.0800	0.5000	0.5000	1.5000	3.0000	82.0	909-000-112	909-000-113
0.0800	0.5000	0.5000	1.5000	3.0000	90.0	909-000-116	909-000-297
0.0800	0.5000	0.5000	1.5000	3.0000	100.0	909-000-100	909-000-282
0.0800	0.5000	0.5000	1.5000	3.0000	120.0	909-000-104	909-000-285

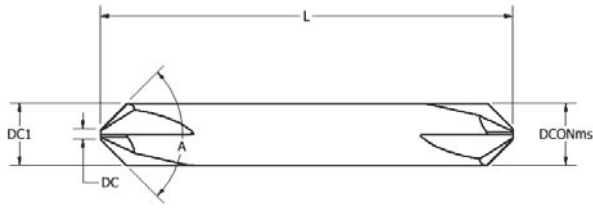


DC	DCNms	DC1	LS	L	A	UNCOATED	AITIN COATED	TiAIN COATED
						3 FLUTE	3 FLUTE	3 FLUTE
0.0600	0.2500	0.2500	1.2500	2.5000	30.0	909-000-404	909-000-376	909-000-302
0.0600	0.3750	0.3750	1.2500	2.5000	30.0	909-000-405	909-000-377	909-000-303
0.0600	0.2500	0.2500	1.2500	2.5000	40.0	909-000-406	909-000-378	909-000-304
0.0600	0.3750	0.3750	1.2500	2.5000	40.0	909-000-407	909-000-379	909-000-305
0.0600	0.2500	0.2500	1.2500	2.5000	45.0	909-000-408	909-000-380	909-000-306
0.0600	0.3750	0.3750	1.2500	2.5000	45.0	909-000-409	909-000-381	909-000-307
0.0600	0.2500	0.2500	1.2500	2.5000	50.0	909-000-410	909-000-382	909-000-308
0.0600	0.3750	0.3750	1.2500	2.5000	50.0	909-000-411	909-000-383	909-000-309
0.0600	0.2500	0.2500	1.2500	2.5000	60.0	909-000-412	909-000-384	909-000-310
0.0600	0.3750	0.3750	1.2500	2.5000	60.0	909-000-413	909-000-385	909-000-311
0.0600	0.2500	0.2500	1.2500	2.5000	82.0	909-000-414	909-000-386	909-000-312
0.0600	0.3750	0.3750	1.2500	2.5000	82.0	909-000-415	909-000-387	909-000-313
0.0600	0.2500	0.2500	1.2500	2.5000	90.0	909-000-416	909-000-388	909-000-314
0.0600	0.3750	0.3750	1.2500	2.5000	90.0	909-000-417	909-000-389	909-000-315
0.0600	0.2500	0.2500	1.2500	2.5000	100.0	909-000-400	909-000-372	909-000-298
0.0600	0.2500	0.2500	1.2500	2.5000	120.0	909-000-401	909-000-373	909-000-299
0.0600	0.3750	0.3750	1.2500	2.5000	120.0	909-000-402	909-000-374	909-000-300
0.0600	0.2500	0.2500	1.2500	2.5000	150.0	909-000-403	909-000-375	909-000-301

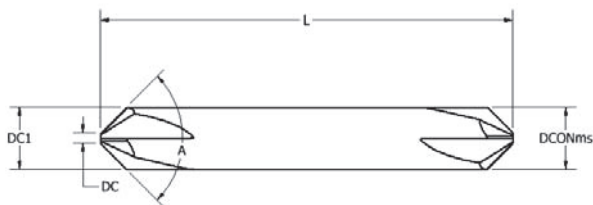


DC	DCNms	DC1	LS	L	A	UNCOATED	AITIN COATED	TiAIN COATED
						4 FLUTE	4 FLUTE	4 FLUTE
0.0800	0.5000	0.5000	1.5000	3.0000	30.0	909-000-421	909-000-393	909-000-319
0.0800	0.5000	0.5000	1.5000	3.0000	40.0	909-000-422	909-000-394	909-000-320
0.0800	0.5000	0.5000	1.5000	3.0000	45.0	909-000-423	909-000-395	909-000-321
0.0800	0.5000	0.5000	1.5000	3.0000	50.0	909-000-424	909-000-396	909-000-322
0.0800	0.5000	0.5000	1.5000	3.0000	60.0	909-000-425	909-000-397	909-000-323
0.0800	0.5000	0.5000	1.5000	3.0000	82.0	909-000-426	909-000-398	909-000-324
0.0800	0.5000	0.5000	1.5000	3.0000	90.0	909-000-427	909-000-399	909-000-325
0.0800	0.5000	0.5000	1.5000	3.0000	100.0	909-000-418	909-000-390	909-000-316
0.0800	0.5000	0.5000	1.5000	3.0000	120.0	909-000-419	909-000-391	909-000-317
0.0800	0.5000	0.5000	1.5000	3.0000	150.0	909-000-420	909-000-392	909-000-318

CARBIDE



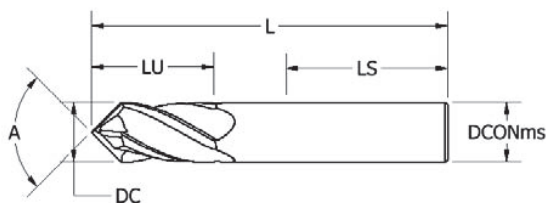
DC	DCONms	DC1	LS	L	60°	82°	90°	100°	120°
0.0060	0.1250	0.1250	1.0000	2.0000	909-000-119	909-000-120	909-000-121	909-000-117	909-000-118
0.0060	0.1875	0.1875	1.2500	2.5000	909-000-124	909-000-125	909-000-126	909-000-122	909-000-123
0.0400	0.2500	0.2500	1.2500	2.5000	909-000-135	909-000-139	909-000-140	909-000-127	909-000-131
0.0600	0.3125	0.3125	1.2500	2.5000	909-000-143	909-000-144	909-000-145	909-000-141	909-000-142
0.0600	0.3750	0.3750	1.2500	2.5000	909-000-148	909-000-149	909-000-150	909-000-146	909-000-147
0.0800	0.5000	0.5000	1.5000	3.0000	909-000-153	909-000-154	909-000-155	909-000-151	909-000-152



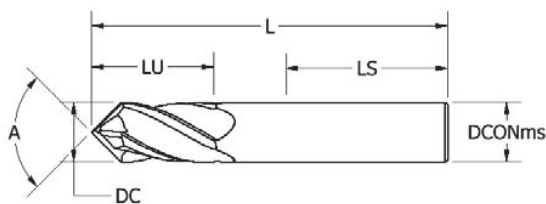
DC	DCONms	DC1	LS	L	60°	82°	90°	100°	120°
0.0250	0.1250	0.1250	1.0000	2.0000	909-000-158	909-000-159	909-000-160	909-000-156	909-000-157
0.0400	0.1875	0.1875	1.2500	2.5000	909-000-163	909-000-164	909-000-165	909-000-161	909-000-162
0.0400	0.2500	0.2500	1.2500	2.5000	909-000-168	909-000-169	909-000-170	909-000-166	909-000-167
0.0600	0.3125	0.3125	1.2500	2.5000	909-000-173	909-000-174	909-000-175	909-000-171	909-000-172
0.0600	0.3750	0.3750	1.2500	2.5000	909-000-178	909-000-179	909-000-180	909-000-176	909-000-177
0.0800	0.5000	0.5000	1.5000	3.0000	909-000-183	909-000-184	909-000-185	909-000-181	909-000-182



CARBIDE

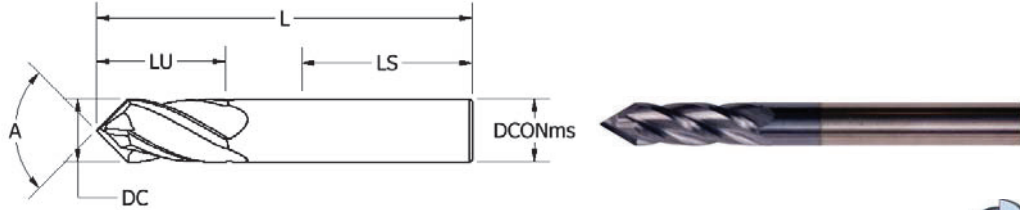


DC	DCONms	LS	L	LU	60°	90°
0.0313	0.1250	1.1338	1.5000	0.1250	933-000-001	933-000-002
0.0625	0.1250	1.1517	1.5000	0.1875	933-000-003	933-000-004
0.0938	0.1250	1.0446	1.5000	0.3750	933-000-005	933-000-006
0.1250	0.1250	0.6250	1.5000	0.5000	933-000-007	933-000-008
0.1875	0.1875	1.0000	2.0000	0.6250	933-000-009	933-000-010
0.2500	0.2500	1.3750	2.5000	0.7500	933-000-011	933-000-012
0.2500	0.2500	1.3750	2.5000	0.7500	933-000-013	933-000-014
0.3750	0.3750	1.1250	2.5000	1.0000	933-000-015	933-000-016
0.4375	0.4375	1.3750	2.7500	1.0000	933-000-017	933-000-018
0.5000	0.5000	1.6250	3.0000	1.0000	933-000-019	933-000-020
0.6250	0.6250	1.8750	3.5000	1.2500	933-000-021	933-000-022
0.7500	0.7500	2.1250	4.0000	1.5000	933-000-023	933-000-024



DC	DCONms	LS	L	LU	60°	90°
0.0313	0.1250	1.1338	1.5000	0.1250	933-000-025	933-000-026
0.0625	0.1250	1.1517	1.5000	0.1875	933-000-027	933-000-028
0.0938	0.1250	1.0446	1.5000	0.3750	933-000-029	933-000-030
0.1250	0.1250	0.6250	1.5000	0.5000	933-000-031	933-000-032
0.1875	0.1875	1.0000	2.0000	0.6250	933-000-033	933-000-034
0.2500	0.2500	1.3750	2.5000	0.7500	933-000-035	933-000-036
0.3125	0.3125	1.3125	2.5000	0.8125	933-000-040	933-000-041
0.3750	0.3750	1.1250	2.5000	1.0000	933-000-042	933-000-043
0.4375	0.4375	1.3750	2.7500	1.0000	933-000-044	933-000-045
0.5000	0.5000	1.6250	3.0000	1.0000	933-000-046	933-000-047
0.6250	0.6250	1.8750	3.5000	1.2500	933-000-048	933-000-049
0.7500	0.7500	2.1250	4.0000	1.5000	933-000-050	933-000-051

CARBIDE



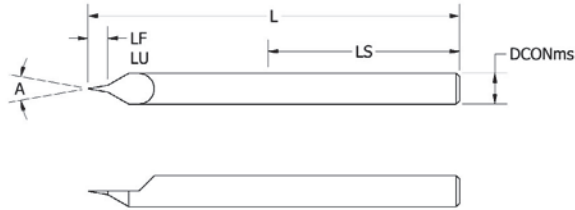
DC	DCONms	LS	L	LU	A	AITiN COATED	
						2 FLUTE	4 FLUTE
0.0313	0.1250	1.1338	1.5000	0.1250	60.0	933-000-066	933-000-104
0.0625	0.1250	1.1517	1.5000	0.1875	60.0	933-000-067	933-000-105
0.0938	0.1250	1.0446	1.5000	0.3750	60.0	933-000-068	933-000-106
0.1250	0.1250	0.6250	1.5000	0.5000	60.0	933-000-069	933-000-107
0.1875	0.1875	1.0000	2.0000	0.6250	60.0	933-000-070	933-000-108
0.2500	0.2500	1.3750	2.5000	0.7500	60.0	933-000-071	933-000-109
0.3125	0.3125	1.3125	2.5000	0.8125	60.0	933-000-072	933-000-110
0.3750	0.3750	1.1250	2.5000	1.0000	60.0	933-000-073	933-000-111
0.4375	0.4375	1.3750	2.7500	1.0000	60.0	933-000-074	933-000-112
0.5000	0.5000	1.6250	3.0000	1.0000	60.0	933-000-075	933-000-113
0.6250	0.6250	1.8750	3.5000	1.2500	60.0	933-000-076	933-000-114
0.7500	0.7500	2.1250	4.0000	1.5000	60.0	933-000-077	933-000-115
0.0313	0.1250	1.1338	1.5000	0.1250	90.0	933-000-078	933-000-116
0.0625	0.1250	1.1517	1.5000	0.1875	90.0	933-000-079	933-000-117
0.0938	0.1250	1.0446	1.5000	0.3750	90.0	933-000-080	933-000-118
0.1250	0.1250	0.6250	1.5000	0.5000	90.0	933-000-081	933-000-119
0.1875	0.1875	1.0000	2.0000	0.6250	90.0	933-000-082	933-000-120
0.2500	0.2500	1.3750	2.5000	0.7500	90.0	933-000-083	933-000-121
0.3125	0.3125	1.3125	2.5000	0.8125	90.0	933-000-084	933-000-122
0.3750	0.3750	1.1250	2.5000	1.0000	90.0	933-000-085	933-000-123
0.4375	0.4375	1.3750	2.7500	1.0000	90.0	933-000-086	933-000-124
0.5000	0.5000	1.6250	3.0000	1.0000	90.0	933-000-087	933-000-125
0.6250	0.6250	1.8750	3.5000	1.2500	90.0	933-000-088	933-000-126
0.7500	0.7500	2.1250	4.0000	1.5000	90.0	933-000-089	933-000-127

ARCH[®]
Cutting Tools

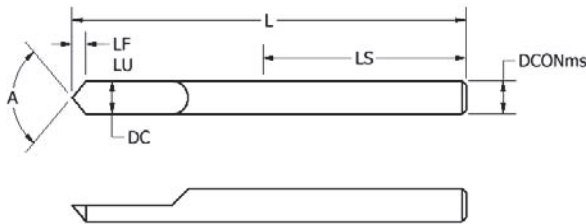
ENGRAVING TOOLS

THE COMPLETE TOOL MAKING AUTHORITY[®]

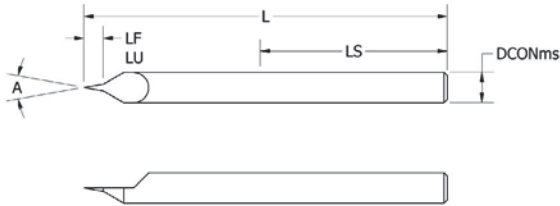
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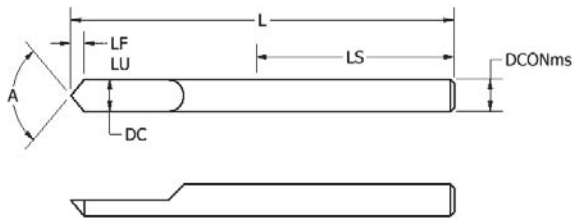
DCONms	LU	LS	L	LF	A	UNCOATED	AITiN COATED
						1 FLUTE	1 FLUTE
0.1250	0.0800	0.7500	1.5000	0.0800	10.0	937-000-002	937-000-135
0.1250	0.0800	0.7500	1.5000	0.0800	15.0	937-000-004	937-000-137
0.1250	0.0800	0.7500	1.5000	0.0800	20.0	937-000-005	937-000-138



DC	DCONms	LU	LS	L	LF	A	UNCOATED	AITiN COATED
							1 FLUTE	1 FLUTE
0.1250	0.1250	0.2330	0.7500	1.5000	0.2330	30.0	937-000-010	937-000-143
0.1250	0.1250	0.1720	0.7500	1.5000	0.1720	40.0	937-000-020	937-000-153
0.1250	0.1250	0.1510	0.7500	1.5000	0.1510	45.0	937-000-026	937-000-159
0.1250	0.1250	0.1340	0.7500	1.5000	0.1340	50.0	937-000-027	937-000-160
0.1250	0.1250	0.1080	0.7500	1.5000	0.1080	60.0	937-000-032	937-000-165
0.1250	0.1250	0.0720	0.7500	1.5000	0.0720	82.0	937-000-038	937-000-171
0.1250	0.1250	0.0630	0.7500	1.5000	0.0630	90.0	937-000-043	937-000-176
0.1250	0.1250	0.0520	0.7500	1.5000	0.0520	100.0	937-000-001	937-000-134
0.1250	0.1250	0.0360	0.7500	1.5000	0.0360	120.0	937-000-003	937-000-136

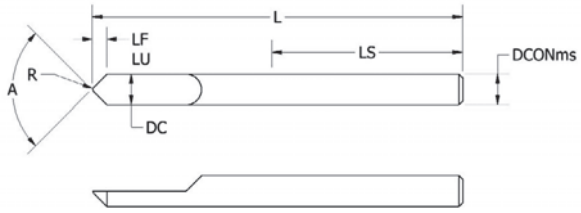


DCONms	LU	LS	L	LF	A	TiAIN COATED	AMORPHOUS DIAMOND
						1 FLUTE	1 FLUTE
0.1250	0.0800	0.7500	1.5000	0.0800	10.0	937-000-062	937-000-050
0.1250	0.0800	0.7500	1.5000	0.0800	15.0	937-000-064	937-000-052
0.1250	0.0800	0.7500	1.5000	0.0800	20.0	937-000-065	937-000-053

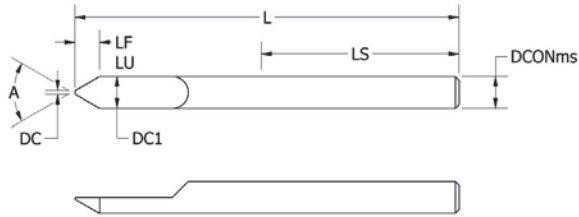


DC	DCONms	LU	LS	L	LF	A	TiAIN COATED	AMORPHOUS DIAMOND
							1 FLUTE	1 FLUTE
0.1250	0.1250	0.2330	0.7500	1.5000	0.2330	30.0	937-000-070	937-000-054
0.1250	0.1250	0.1720	0.7500	1.5000	0.1720	40.0	937-000-080	937-000-055
0.1250	0.1250	0.1510	0.7500	1.5000	0.1510	45.0	937-000-086	937-000-056
0.1250	0.1250	0.1340	0.7500	1.5000	0.1340	50.0	937-000-087	937-000-057
0.1250	0.1250	0.1080	0.7500	1.5000	0.1080	60.0	937-000-092	937-000-058
0.1250	0.1250	0.0720	0.7500	1.5000	0.0720	82..0	937-000-098	937-000-059
0.1250	0.1250	0.0630	0.7500	1.5000	0.0630	90.0	937-000-103	937-000-060
0.1250	0.1250	0.0520	0.7500	1.5000	0.0520	100.0	937-000-061	937-000-049
0.1250	0.1250	0.0360	0.7500	1.5000	0.0360	120.0	937-000-063	937-000-051

CARBIDE

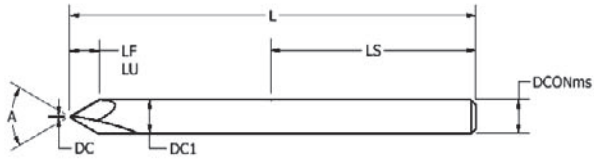


DC	DCONms	LU	LS	L	LF	R	A	UNCOATED	AITiN COATED	TiAIN COATED
								1 FLUTE	1 FLUTE	1 FLUTE
0.1250	0.1250	0.2260	0.7500	1.5000	0.2260	0.0025	30.0	937-000-011	937-000-144	937-000-071
0.1250	0.1250	0.1670	0.7500	1.5000	0.1670	0.0025	40.0	937-000-021	937-000-154	937-000-081
0.1250	0.1250	0.1060	0.7500	1.5000	0.1060	0.0025	60.0	937-000-033	937-000-166	937-000-093
0.1250	0.1250	0.0610	0.7500	1.5000	0.0610	0.0025	90.0	937-000-044	937-000-177	937-000-104
0.1250	0.1250	0.2190	0.7500	1.5000	0.2190	0.0050	30.0	937-000-012	937-000-145	937-000-072
0.1250	0.1250	0.1620	0.7500	1.5000	0.1620	0.0050	40.0	937-000-022	937-000-155	937-000-082
0.1250	0.1250	0.1030	0.7500	1.5000	0.1030	0.0050	60.0	937-000-034	937-000-167	937-000-094
0.1250	0.1250	0.0600	0.7500	1.5000	0.0600	0.0050	90.0	937-000-045	937-000-178	937-000-105
0.1250	0.1250	0.2050	0.7500	1.5000	0.2050	0.0100	30.0	937-000-013	937-000-146	937-000-073
0.1250	0.1250	0.1520	0.7500	1.5000	0.1520	0.0100	40.0	937-000-023	937-000-156	937-000-083
0.1250	0.1250	0.0980	0.7500	1.5000	0.0980	0.0100	60.0	937-000-035	937-000-168	937-000-095
0.1250	0.1250	0.0580	0.7500	1.5000	0.0580	0.0100	90.0	937-000-046	937-000-179	937-000-106
0.1250	0.1250	0.1900	0.7500	1.5000	0.1900	0.0150	30.0	937-000-014	937-000-147	937-000-074
0.1250	0.1250	0.1430	0.7500	1.5000	0.1430	0.0150	40.0	937-000-024	937-000-157	937-000-084
0.1250	0.1250	0.0930	0.7500	1.5000	0.0930	0.0150	60.0	937-000-036	937-000-169	937-000-096
0.1250	0.1250	0.0560	0.7500	1.5000	0.0560	0.0150	90.0	937-000-047	937-000-180	937-000-107
0.1250	0.1250	0.1760	0.7500	1.5000	0.1760	0.0200	30.0	937-000-015	937-000-148	937-000-075
0.1250	0.1250	0.1280	0.7500	1.5000	0.1280	0.0200	40.0	937-000-025	937-000-158	937-000-085
0.1250	0.1250	0.0880	0.7500	1.5000	0.0880	0.0200	60.0	937-000-037	937-000-170	937-000-097
0.1250	0.1250	0.0540	0.7500	1.5000	0.0540	0.0200	90.0	937-000-048	937-000-181	937-000-108

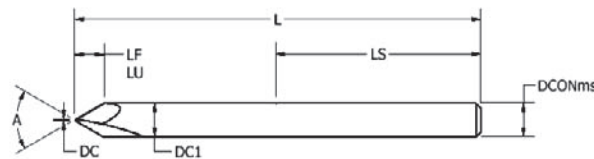


DC	DCONms	DC1	LU	LS	L	LF	A	UNCOATED	AITIN COATED	TiAIN COATED
								1 FLUTE	1 FLUTE	1 FLUTE
0.0050	0.1250	0.1250	0.2240	0.7500	1.5000	0.2240	30.0	937-000-006	937-000-139	937-000-066
0.0050	0.1250	0.1250	0.1650	0.7500	1.5000	0.1650	40.0	937-000-016	937-000-149	937-000-076
0.0050	0.1250	0.1250	0.1040	0.7500	1.5000	0.1040	60.0	937-000-028	937-000-161	937-000-088
0.0050	0.1250	0.1250	0.0600	0.7500	1.5000	0.0600	90.0	937-000-039	937-000-172	937-000-099
0.0100	0.1250	0.1250	0.2150	0.7500	1.5000	0.2150	30.0	937-000-007	937-000-140	937-000-067
0.0100	0.1250	0.1250	0.1580	0.7500	1.5000	0.1580	40.0	937-000-017	937-000-150	937-000-077
0.0100	0.1250	0.1250	0.1000	0.7500	1.5000	0.1000	60.0	937-000-029	937-000-162	937-000-089
0.0100	0.1250	0.1250	0.0580	0.7500	1.5000	0.0580	90.0	937-000-040	937-000-173	937-000-100
0.0150	0.1250	0.1250	0.2050	0.7500	1.5000	0.2050	30.0	937-000-008	937-000-141	937-000-068
0.0150	0.1250	0.1250	0.1510	0.7500	1.5000	0.1510	40.0	937-000-018	937-000-151	937-000-078
0.0150	0.1250	0.1250	0.0950	0.7500	1.5000	0.0950	60.0	937-000-030	937-000-163	937-000-090
0.0150	0.1250	0.1250	0.0550	0.7500	1.5000	0.0550	90.0	937-000-041	937-000-174	937-000-101
0.0200	0.1250	0.1250	0.1960	0.7500	1.5000	0.1960	30.0	937-000-009	937-000-142	937-000-069
0.0200	0.1250	0.1250	0.1440	0.7500	1.5000	0.1440	40.0	937-000-019	937-000-152	937-000-079
0.0200	0.1250	0.1250	0.0910	0.7500	1.5000	0.0910	60.0	937-000-031	937-000-164	937-000-091
0.0200	0.1250	0.1250	0.0530	0.7500	1.5000	0.0530	90.0	937-000-042	937-000-175	937-000-102

CARBIDE



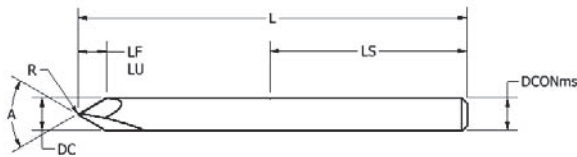
DC	DCONms	DC1	LU	LS	L	LF	A	UNCOATED	AITIN COATED	TIAIN COATED
								2 FLUTE	1 FLUTE	1 FLUTE
0.0050	0.1250	0.1250	0.2240	0.7500	1.5000	0.2240	30.0	947-000-006	947-000-030	937-000-113
0.0050	0.1250	0.1250	0.1650	0.7500	1.5000	0.1650	40.0	947-000-011	947-000-034	937-000-117
0.0050	0.1250	0.1250	0.1040	0.7500	1.5000	0.1040	60.0	947-000-016	947-000-038	937-000-121
0.0050	0.1250	0.1250	0.0600	0.7500	1.5000	0.0600	90.0	947-000-021	947-000-042	937-000-125
0.0050	0.1250	0.1250	0.0350	0.7500	1.5000	0.0350	120.0	947-000-001	947-000-026	937-000-109
0.0100	0.1250	0.1250	0.2150	0.7500	1.5000	0.2150	30.0	947-000-008	947-000-031	937-000-114
0.0100	0.1250	0.1250	0.1580	0.7500	1.5000	0.1580	40.0	947-000-013	947-000-035	937-000-118
0.0100	0.1250	0.1250	0.1000	0.7500	1.5000	0.1000	60.0	947-000-018	947-000-039	937-000-122
0.0100	0.1250	0.1250	0.0580	0.7500	1.5000	0.0580	90.0	947-000-023	947-000-043	937-000-126
0.0100	0.1250	0.1250	0.0330	0.7500	1.5000	0.0330	120.0	947-000-003	947-000-027	937-000-110



For Non-Ferrous Applications



DC	DCONms	DC1	LU	LS	L	LF	A	UNCOATED	DLC COATED
								2 FLUTE	2 FLUTE
0.0050	0.1250	0.1250	0.2240	0.7500	1.5000	0.2240	30.0	947-000-007	937-000-130
0.0050	0.1250	0.1250	0.1650	0.7500	1.5000	0.1650	40.0	947-000-012	937-000-131
0.0050	0.1250	0.1250	0.1040	0.7500	1.5000	0.1040	60.0	947-000-017	937-000-132
0.0050	0.1250	0.1250	0.0600	0.7500	1.5000	0.0600	90.0	947-000-022	937-000-133
0.0050	0.1250	0.1250	0.0350	0.7500	1.5000	0.0350	120.0	947-000-002	937-000-129



DC	DCONms	LU	LS	L	LF	R	A	UNCOATED	AlTiN COATED	TiAlN COATED
								2 FLUTE	2 FLUTE	2 FLUTE
0.1250	0.1250	0.2180	0.7500	1.5000	0.2180	0.0050	30.0	947-000-009	947-000-032	937-000-115
0.1250	0.1250	0.1600	0.7500	1.5000	0.1600	0.0050	40.0	947-000-014	947-000-036	937-000-119
0.1250	0.1250	0.1030	0.7500	1.5000	0.1030	0.0050	60.0	947-000-019	947-000-040	937-000-123
0.1250	0.1250	0.0600	0.7500	1.5000	0.0600	0.0050	90.0	947-000-024	947-000-044	937-000-127
0.1250	0.1250	0.0350	0.7500	1.5000	0.0350	0.0050	120.0	937-000-111	947-000-028	937-000-111
0.1250	0.1250	0.2040	0.7500	1.5000	0.2040	0.0100	30.0	947-000-010	947-000-033	937-000-116
0.1250	0.1250	0.1500	0.7500	1.5000	0.1500	0.0100	40.0	947-000-015	947-000-037	937-000-120
0.1250	0.1250	0.0980	0.7500	1.5000	0.0980	0.0100	60.0	947-000-020	947-000-041	937-000-124
0.1250	0.1250	0.0580	0.7500	1.5000	0.0580	0.0100	90.0	947-000-025	947-000-045	937-000-128
0.1250	0.1250	0.0340	0.7500	1.5000	0.0340	0.0100	120.0	947-000-005	947-000-029	937-000-112