

 **MITSUBISHI MATERIALS**

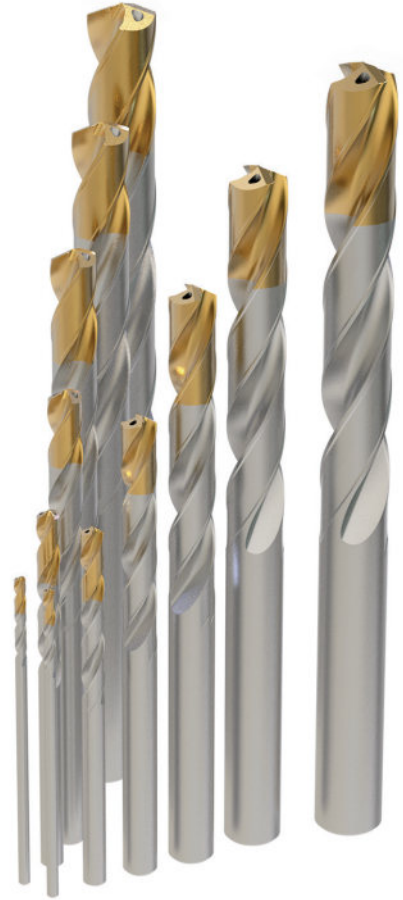
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DVAS

**SOLID CARBIDE
TRISTAR DRILL SERIES**



TOOL NEWS B267A-B

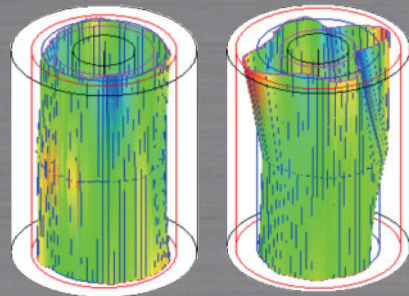
New Drills from Mitsubishi Materials

TRISTAR Drill Series

High Precision - Process Saving - Long Tool Life

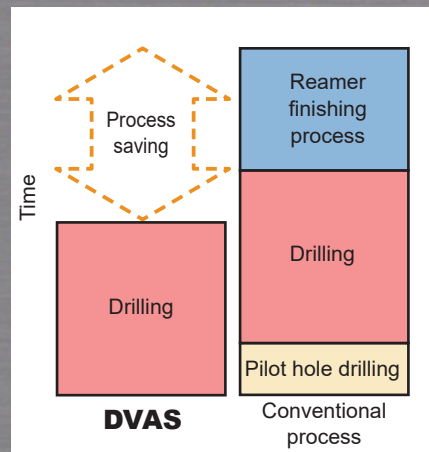
TRISTAR, a new generation drill series from Mitsubishi Materials provides 3 strong advantages.

The second of the Tristar series is a medium diameter drill with 5 technological features for High Precision, Process Saving and Long Tool Life drilling.

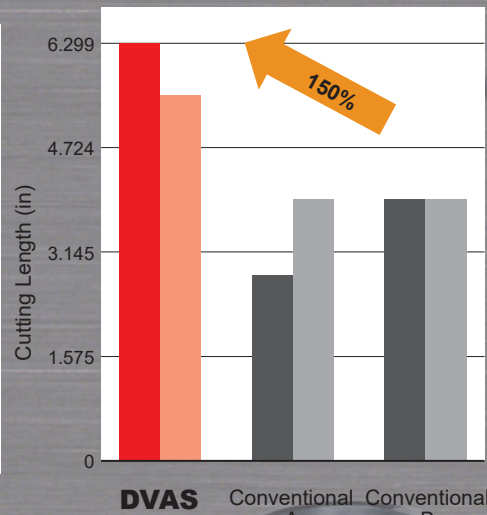


DVAS

3-flute drill



Process reduction image



DVAS Conventional A Conventional B

Hole quality is comparable to 3-flute drills

Centripetal properties and h7 standard shorten the pilot hole and reaming process

Maintains excellent hole quality and has longer tool life than conventional drills

* Depending on the standards and conditions set, you may not get the results you expect.

Solid Carbide Drill TRISTAR Drill Series

DVAS

Setting New Standards for 2-flute Drilling Accuracy

New XR Point Thinning

New point thinning geometry uses centripetal force to maintain positional accuracy and displays high edge strength.

Straight Cutting Edges Reduce Damage

The newly designed straight cutting edge reduces localised damage.

Improved Unique Coolant Hole Shape

TRI-Cooling Technology is applied to all diameters.

Specially Designed Flute Margins Produce High Accuracy

4 margins optimised for high-precision machining.

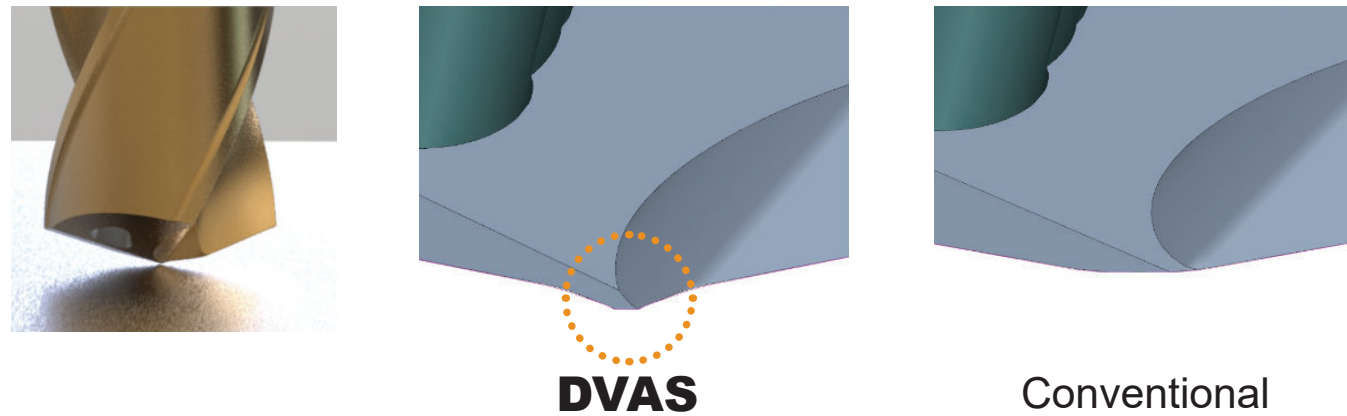
New Grade DP1120

A new grade that combines wear and chipping resistance.



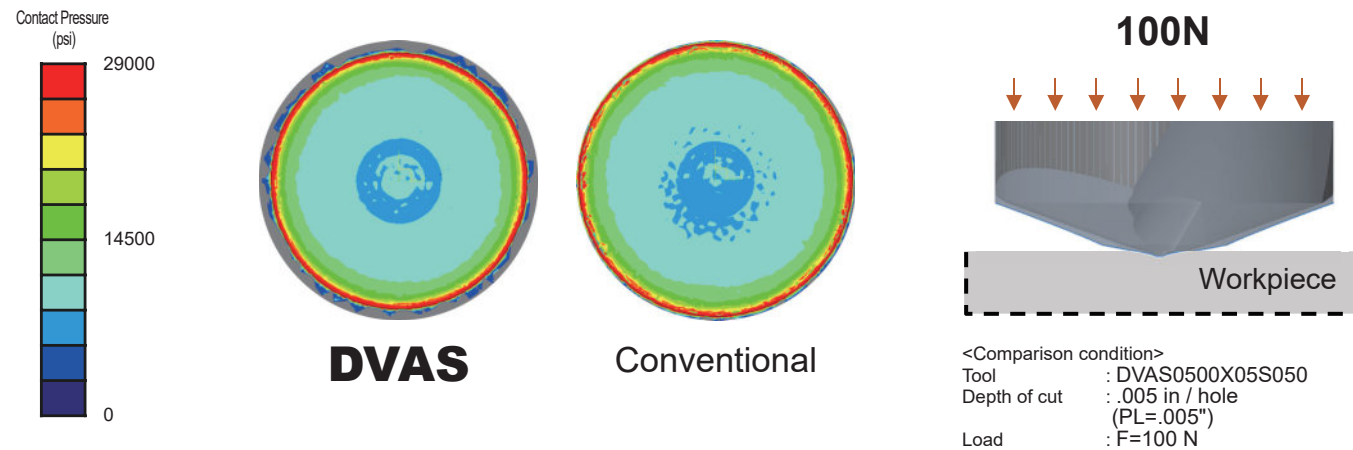
New XR Thinning

The self-centring function provides excellent centripetal motion and ensures stable and accurate initial penetration when drilling flat surfaces.



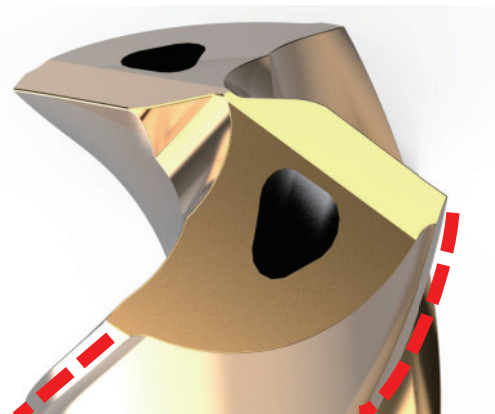
Contact Pressure Comparison (simulation analysis)

DVAS provides stable contact pressure in a concentric pattern, thereby providing accurate positioning and Minimizes wandering during initial penetration.



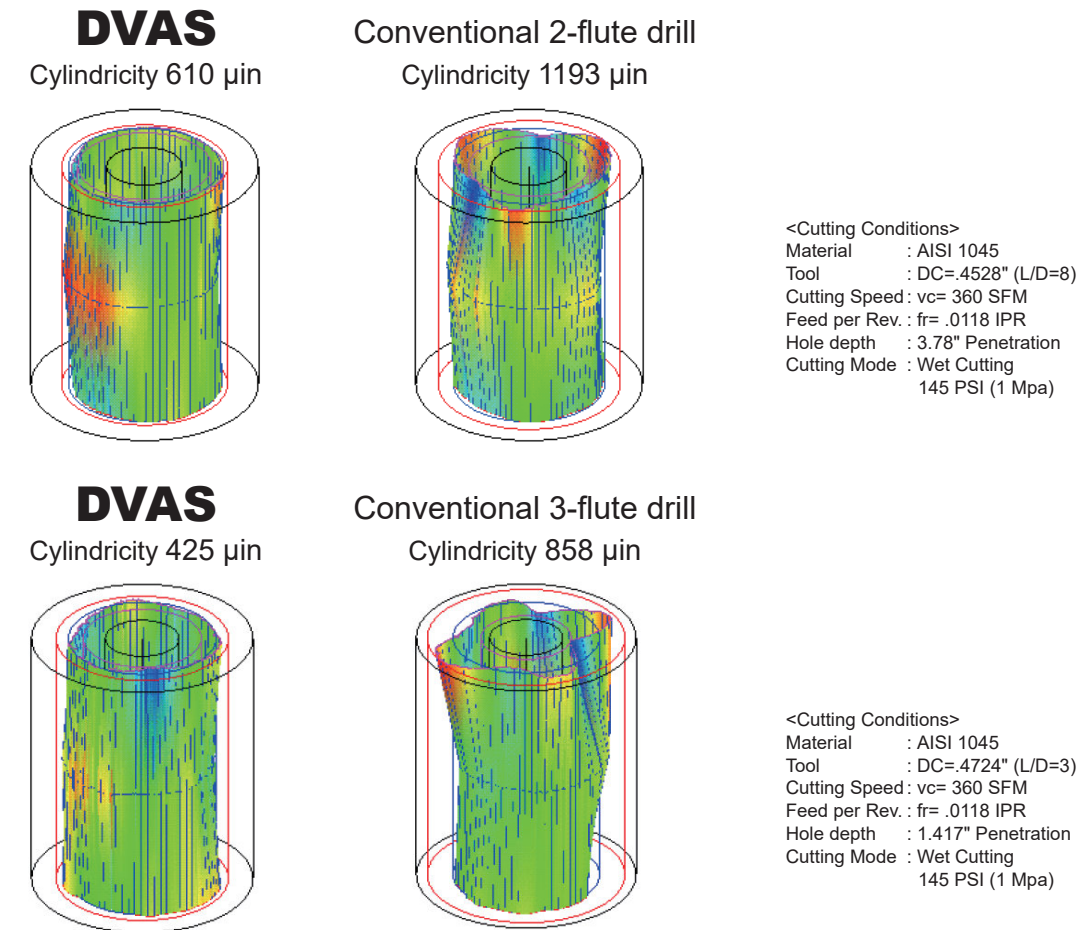
Double Margin Design for Excellent Guiding Performance

The 4 flute margin specification provides excellent machined hole wall surface and accurate hole diameters.



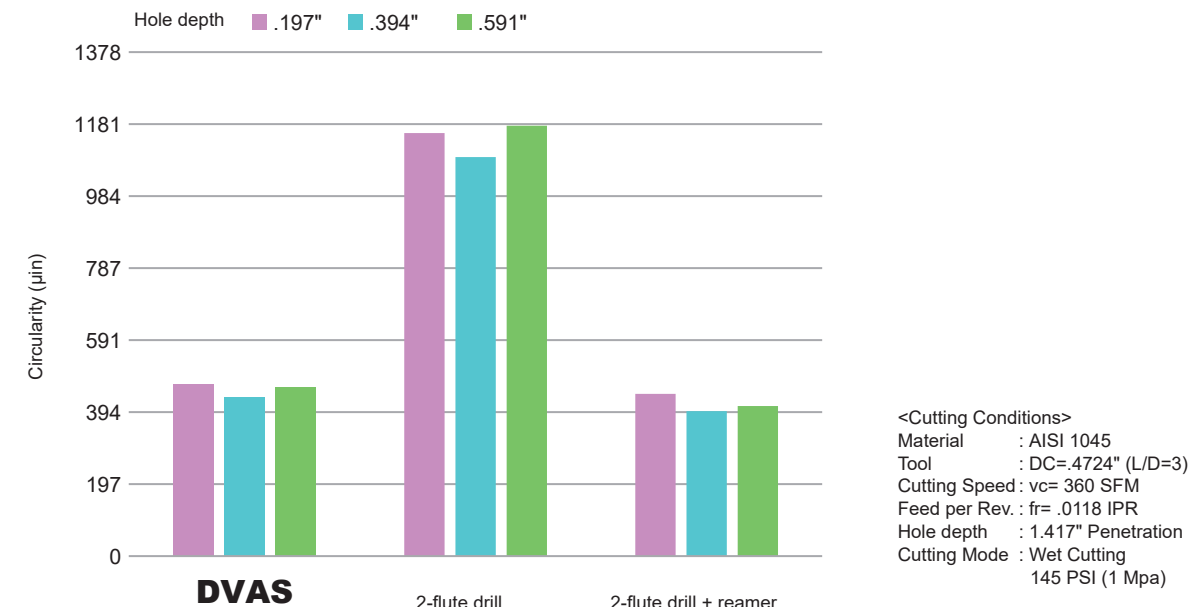
Cylindricity Comparison

Its unique design allows for more precise hole processing than conventional two and three flute drills.



Circularity Comparison

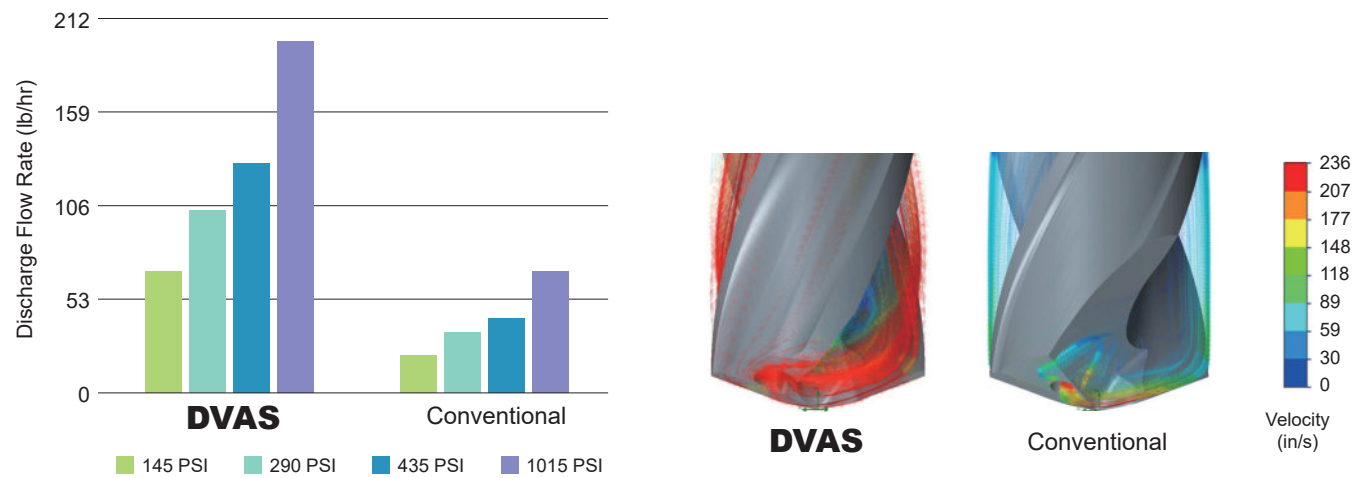
Our unique design allows for highly accurate hole machining with the same circularity as a reamed hole.



Continuously Evolving Coolant Hole Geometry

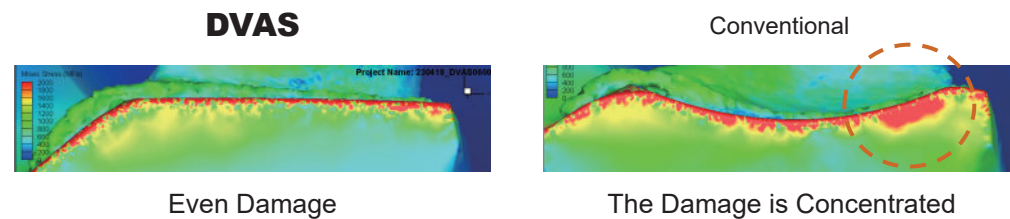
TRI-Cooling Technology is applied to all sizes.

Chip removal and heat dissipation are improved, enabling stable and long tool life.



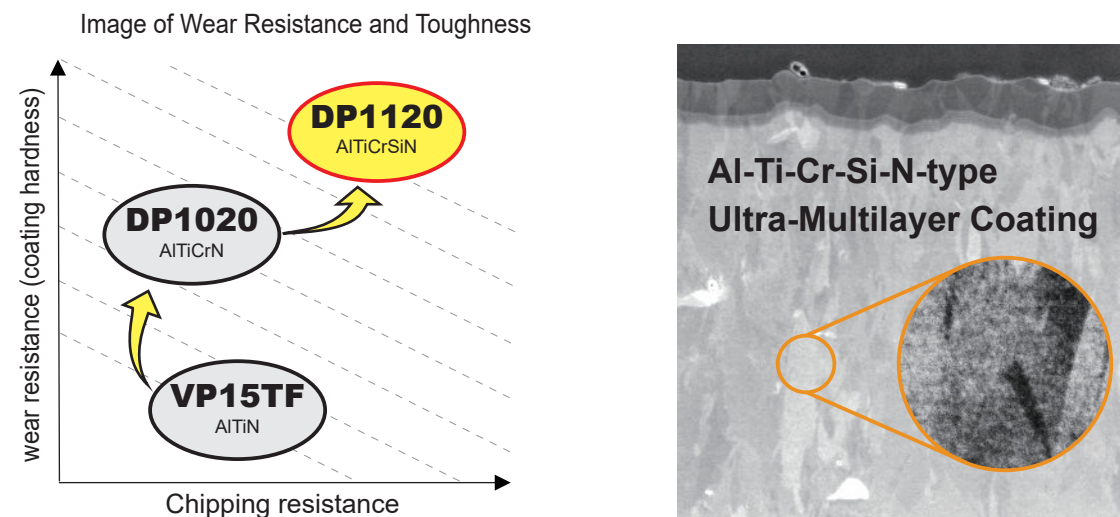
Straight Cutting Edge Reduces Damage

The straight main cutting edge and point thinning geometry are smoothly connected and therefore reduce the risk of abnormal damage.



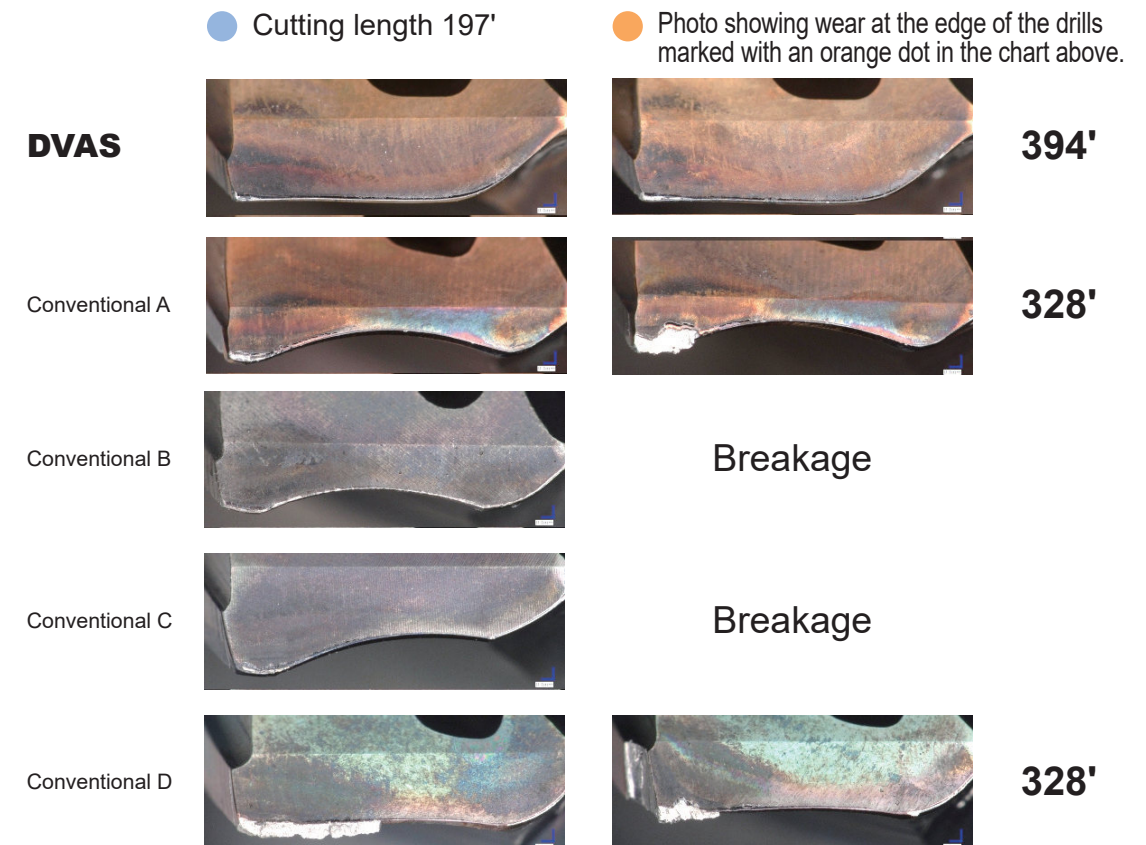
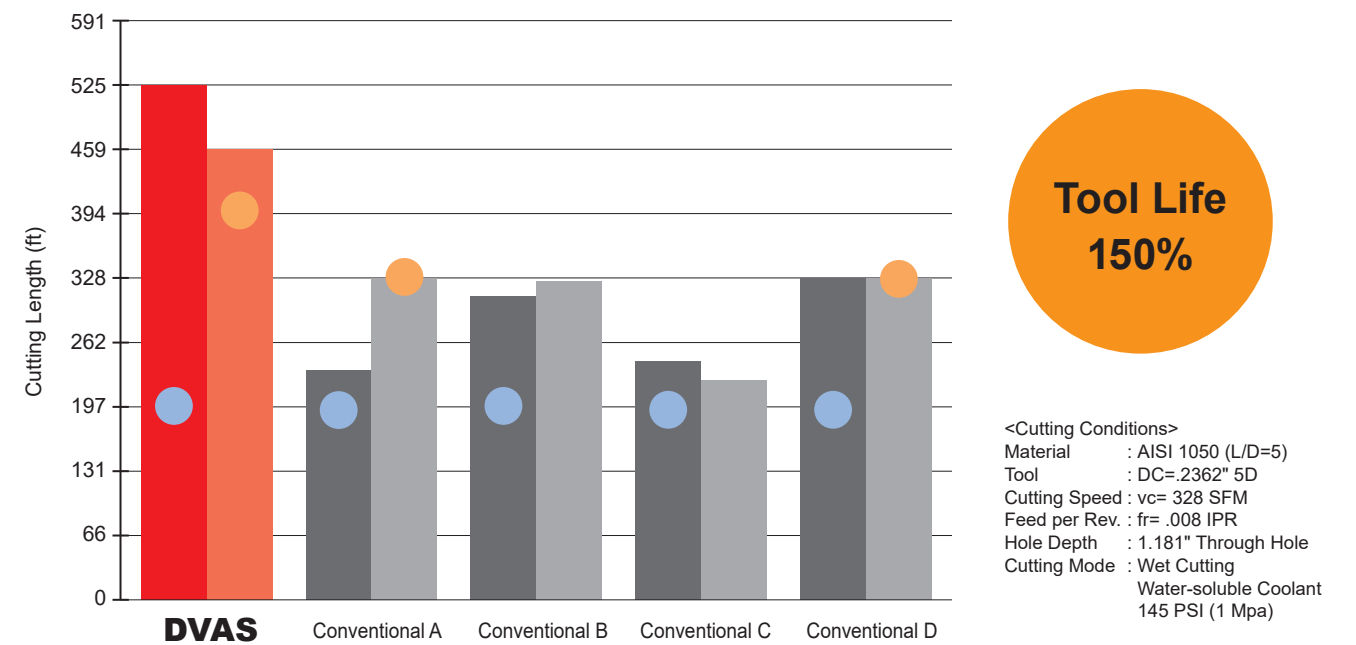
New Grade DP1120

It combines excellent wear and chipping resistance to achieve stable, long tool life.



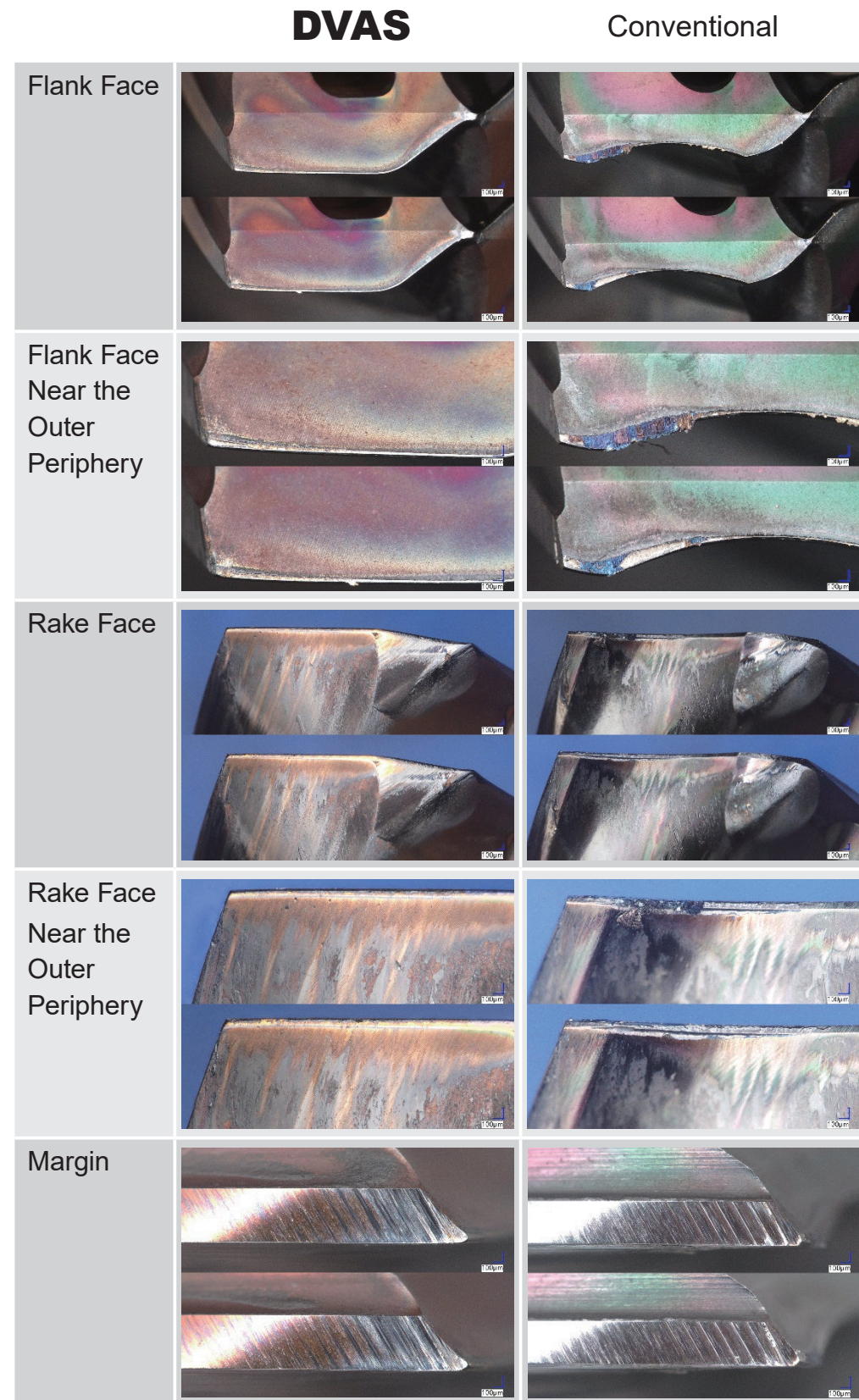
1050 : Comparison Tool Life

The combination of a hard grade substrate, optimum edge geometry and high precision, tool life has been extended by 150%.



1050: Comparative Tool Life in MQL Machining

Exhibits excellent wear resistance, even during MQL machining, where the cutting edge is prone to being subjected to high temperatures.



<Cutting Conditions>
 Material : AISI 1050
 Tool : DC=.3543" (L/D=5)
 Cutting Speed : vc= 328 SFM
 Feed per Rev. : fr= .011 IPR
 Hole Depth : 1.26" Through Hole
 Cutting Mode : MQL

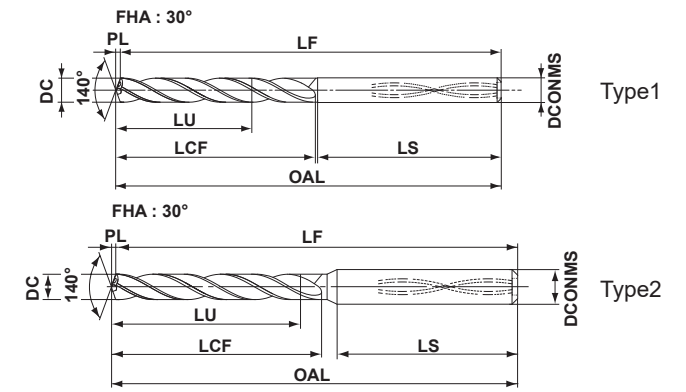
DVAS NEW TRISTAR Drills



P M K N S H



DC=.118"-.236"	.240"-.394"	.398"-.709"	.713"-.787"
0 -.00047	0 -.00059	0 -.00071	0 -.00083
DCONMS=.157-.236"	.276"-.394"	.433"-.709"	.748" .787"
0 -.00031	0 -.00035	0 -.00043	0 -.00051



Metric (mm)	DC					L/D	Order Number	Stock DP1120	LU		LCF		LS		OAL		LF		PL		DCONMS		Type
	Decimal	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
	(in)																						
3.000	.1181					3	DVAS0300X03S040	★	9.5	.374	21.5	.846	52	2.047	76.5	3.012	76	2.992	0.5	.020	4	.157	1
						3	DVAS0300X03S060	●	9.5	.374	21.5	.846	49	1.929	76.5	3.012	76	2.992	0.5	.020	6	.236	2
						5	DVAS0300X05S040	★	15.5	.610	28.5	1.122	56	2.205	87.5	3.445	87	3.425	0.5	.020	4	.157	1
						5	DVAS0300X05S060	●	15.5	.610	28.5	1.122	53	2.087	87.5	3.445	87	3.425	0.5	.020	6	.236	2
						8	DVAS0300X08S040	★	24.5	.965	35.5	1.398	49	1.929	87.5	3.445	87	3.425	0.5	.020	4	.157	1
						8	DVAS0300X08S060	●	24.5	.965	35.5	1.398	46	1.811	87.5	3.445	87	3.425	0.5	.020	6	.236	2
3.048	.1200	31				3	DVAS0305X03S060	●	9.7	.382	21.6	.850	49	1.929	76.6	3.016	76	2.992	0.6	.024	6	.236	2
						5	DVAS0305X05S060	●	15.8	.622	32.6	1.283	49	1.929	87.6	3.449	87	3.425	0.6	.024	6	.236	2
						8	DVAS0305X08S060	●	25.0	.984	41.6	1.638	40	1.575	87.6	3.449	87	3.425	0.6	.024	6	.236	2
3.100	.1220					3	DVAS0310X03S040	★	9.9	.390	21.6	.850	52	2.047	76.6	3.016	76	2.992	0.6	.024	4	.157	1
						3	DVAS0310X03S060	●	9.9	.390	21.6	.850	49	1.929	76.6	3.016	76	2.992	0.6	.024	6	.236	2
						5	DVAS0310X05S040	★	16.1	.634	32.6	1.283	52	2.047	87.6	3.449	87	3.425	0.6	.024	4	.157	1
						5	DVAS0310X05S060	●	16.1	.634	32.6	1.283	49	1.929	87.6	3.449	87	3.425	0.6	.024	6	.236	2
						8	DVAS0310X08S040	★	25.4	1.000	41.6	1.638	43	1.693	87.6	3.449	87	3.425	0.6	.024	4	.157	1
						8	DVAS0310X08S060	●	25.4	1.000	41.6	1.638	40	1.575	87.6	3.449	87	3.425	0.6	.024	6	.236	2
3.175	.1250	1/8				3	DVAS0318X03S060	●	10.1	.398	21.6	.850	49	1.929	76.6	3.016	76	2.992	0.6	.024	6	.236	2
						5	DVAS0318X05S060	●	16.5	.650	32.6	1.283	49	1.929	87.6	3.449	87	3.425	0.6	.024	6	.236	2
						8	DVAS0318X08S060	●	26.0	1.024	41.6	1.638	40	1.575	87.6	3.449	87	3.425	0.6	.024	6	.236	2
3.200	.1260					3	DVAS0320X03S040	★	10.2	.402	21.6	.850	52	2.047	76.6	3.016	76	2.992	0.6	.024	4	.157	1
						3	DVAS0320X03S060	●	10.2	.402	21.6	.850	49	1.929	76.6	3.016	76	2.992	0.6	.024	6	.236	2
						5	DVAS0320X05S040	★	16.6	.654	32.6	1.283	52	2.047	87.6	3.449	87	3.425	0.6	.024	4	.157	1
						5	DVAS0320X05S060	●	16.6	.654	32.6	1.283	49	1.929	87.6	3.449	87	3.425	0.6	.024	6	.236	2
						8	DVAS0320X08S040	★	26.2	1.031	41.6	1.638	43	1.693	87.6	3.449	87	3.425	0.6	.024	4	.157	1
						8	DVAS0320X08S060	●	26.2	1.031	41.6	1.638	40	1.575	87.6	3.449	87	3.425	0.6	.024	6	.236	2
3.300	.1299					3	DVAS0330X03S040	★	10.5	.413	21.6	.850	52	2.047	76.6	3.016	76	2.992	0.6	.024	4	.157	1
						3	DVAS0330X03S060	●	10.5	.413	21.6	.850	49	1.929	76.6	3.016	76	2.992	0.6	.024	6	.236	2
						5	DVAS0330X05S040	★	17.1	.673	32.6	1.283	52	2.047	87.6	3.449	87	3.425	0.6	.024	4	.157	1
						5	DVAS0330X05S060	●	17.1	.673	32.6	1.283	49	1.929	87.6	3.449	87	3.425	0.6	.024	6	.236	2
						8	DVAS0330X08S040	★	27.0	1.063	41.6	1.638	43	1.693	87.6	3.449	87	3.425	0.6	.024	4	.157	1
8	DVAS0330X08S060	●	27.0	1.063	41.6	1.638	40	1.575	87.6	3.449	87	3.425	0.6	.024	6	.236	2						
3.400	.1339					3	DVAS0340X03S040	★	10.8	.425	21.6	.850	52	2.047	76.6	3.016	76	2.992	0.6	.024	4	.157	1
						3	DVAS0340X03S060	●	10.8	.425	21.6	.850	49	1.929	76.6	3.016	76	2.992	0.6	.024	6	.236	2
						5	DVAS0340X05S040	★	17.6	.693	32.6	1.283	52	2.047	87.6	3.449	87	3.425	0.6	.024	4	.157	1
						5	DVAS0340X05S060	●	17.6	.693	32.6	1.283	49	1.929	87.6	3.449	87	3.425	0.6	.024	6	.236	2
						8	DVAS0340X08S040	★	27.8	1.094	41.6	1.638	43	1.693	87.6	3.449	87	3.425	0.6	.024	4	.157	1
						8	DVAS0340X08S060	●	27.8	1.094	41.6	1.638	40	1.575	87.6	3.449	87	3.425	0.6	.024	6	.236	2

DC = Cutting Diameter LU = Usable Length LCF = Length Chip Flute LS = Shank Length LF = Functional Length PL = Point Length DCONMS = Connection Diameter

● : USA Stock ★ : Stocked in Japan

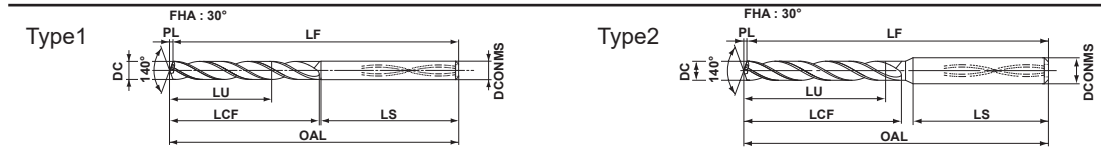
Solid Carbide TRISTAR Drill Series

DVAS NEW
TRISTAR Drills

DC						L/D	Order Number	Stock DP1120	LU		LCF		LS		OAL		LF		PL		DCONMS		Type		
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		mm	in
3.500	.1378					3	DVAS0350X03S040	★	11.1	.437	21.6	.850	52	2.047	76.6	3.016	76	2.992	0.6	.024	4	.157	1		
						3	DVAS0350X03S060	●	11.1	.437	21.6	.850	49	1.929	76.6	3.016	76	2.992	0.6	.024	6	.236	2		
						5	DVAS0350X05S040	★	18.1	.713	32.6	1.283	52	2.047	87.6	3.449	87	3.425	0.6	.024	4	.157	1		
						5	DVAS0350X05S060	●	18.1	.713	32.6	1.283	49	1.929	87.6	3.449	87	3.425	0.6	.024	6	.236	2		
						8	DVAS0350X08S040	★	28.6	1.126	41.6	1.638	43	1.693	87.6	3.449	87	3.425	0.6	.024	4	.157	1		
						8	DVAS0350X08S060	●	28.6	1.126	41.6	1.638	40	1.575	87.6	3.449	87	3.425	0.6	.024	6	.236	2		
3.572	.1407	9/64				3	DVAS0357X03S060	●	11.4	.449	23.7	.933	51	2.008	80.7	3.177	80	3.150	0.7	.028	6	.236	2		
						5	DVAS0357X05S060	●	18.6	.732	36.7	1.445	50	1.969	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
						8	DVAS0357X08S060	●	29.3	1.154	46.7	1.839	40	1.575	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
3.600	.1417					3	DVAS0360X03S040	★	11.5	.453	23.7	.933	54	2.126	80.7	3.177	80	3.150	0.7	.028	4	.157	1		
						3	DVAS0360X03S060	●	11.5	.453	23.7	.933	51	2.008	80.7	3.177	80	3.150	0.7	.028	6	.236	2		
						5	DVAS0360X05S040	★	18.7	.736	36.7	1.445	53	2.087	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						5	DVAS0360X05S060	●	18.7	.736	36.7	1.445	50	1.969	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
						8	DVAS0360X08S040	★	29.5	1.161	46.7	1.839	43	1.693	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						8	DVAS0360X08S060	●	29.5	1.161	46.7	1.839	40	1.575	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
3.660	.1441				*	5	DVAS0366X05S040	★	19.0	.748	36.7	1.445	53	2.087	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						5	DVAS0366X05S060	●	19.0	.748	36.7	1.445	50	1.969	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
3.680	.1449				*	5	DVAS0368X05S040	★	19.1	.752	36.7	1.445	53	2.087	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						5	DVAS0368X05S060	●	19.1	.752	36.7	1.445	51	2.008	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
3.700	.1457			M4.5x.75		3	DVAS0370X03S040	★	11.8	.465	23.7	.933	54	2.126	80.7	3.177	80	3.150	0.7	.028	4	.157	1		
						3	DVAS0370X03S060	●	11.8	.465	23.7	.933	52	2.047	80.7	3.177	80	3.150	0.7	.028	6	.236	2		
						5	DVAS0370X05S040	★	19.2	.756	36.7	1.445	53	2.087	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						5	DVAS0370X05S060	●	19.2	.756	36.7	1.445	51	2.008	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
						8	DVAS0370X08S040	★	30.3	1.193	46.7	1.839	43	1.693	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						8	DVAS0370X08S060	●	30.3	1.193	46.7	1.839	41	1.614	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
3.800	.1496					3	DVAS0380X03S040	★	12.1	.476	23.7	.933	54	2.126	80.7	3.177	80	3.150	0.7	.028	4	.157	1		
						3	DVAS0380X03S060	●	12.1	.476	23.7	.933	52	2.047	80.7	3.177	80	3.150	0.7	.028	6	.236	2		
						5	DVAS0380X05S040	★	19.7	.776	36.7	1.445	53	2.087	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						5	DVAS0380X05S060	●	19.7	.776	36.7	1.445	51	2.008	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
						8	DVAS0380X08S040	★	31.1	1.224	46.7	1.839	43	1.693	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						8	DVAS0380X08S060	●	31.1	1.224	46.7	1.839	41	1.614	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
3.900	.1535					3	DVAS0390X03S040	★	12.4	.488	23.7	.933	54	2.126	80.7	3.177	80	3.150	0.7	.028	4	.157	1		
						3	DVAS0390X03S060	●	12.4	.488	23.7	.933	52	2.047	80.7	3.177	80	3.150	0.7	.028	6	.236	2		
						5	DVAS0390X05S040	★	20.2	.795	36.7	1.445	53	2.087	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						5	DVAS0390X05S060	●	20.2	.795	36.7	1.445	51	2.008	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
						8	DVAS0390X08S040	★	31.9	1.256	46.7	1.839	43	1.693	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						8	DVAS0390X08S060	●	31.9	1.256	46.7	1.839	41	1.614	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
3.969	.1563	5/32				3	DVAS0397X03S060	●	12.6	.496	23.7	.933	52	2.047	80.7	3.177	80	3.150	0.7	.028	6	.236	2		
						5	DVAS0397X05S060	●	20.5	.807	36.7	1.445	51	2.008	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
						8	DVAS0397X08S060	●	32.5	1.280	46.7	1.839	41	1.614	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
4.000	.1575					3	DVAS0400X03S040	★	12.7	.500	23.7	.933	54	2.126	80.7	3.177	80	3.150	0.7	.028	4	.157	1		
						3	DVAS0400X03S060	●	12.7	.500	23.7	.933	52	2.047	80.7	3.177	80	3.150	0.7	.028	6	.236	2		
						5	DVAS0400X05S040	★	20.7	.815	36.7	1.445	53	2.087	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						5	DVAS0400X05S060	●	20.7	.815	36.7	1.445	51	2.008	92.7	3.650	92	3.622	0.7	.028	6	.236	2		
						8	DVAS0400X08S040	★	32.7	1.287	46.7	1.839	43	1.693	92.7	3.650	92	3.622	0.7	.028	4	.157	1		
						8	DVAS0400X08S060	●	32.7	1.287	46.7	1.839	41	1.614	92.7	3.650	92	3.622	0.7	.028	6	.236	2		

* Mark signifies the pilot hole of the metric roll tap.

● : USA Stock ★ : Stocked in Japan



DC						L/D	Order Number	Stock DP1120	LU		LCF		LS		OAL		LF		PL		DCONMS		Type		
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		mm	in
4.039	.1590		21	#10-32		3	DVAS0404X03S060	●	12.8	.504	25.7	1.012	56	2.205	86.7	3.413	86	3.386	0.7	.028	6	.236	2		
						5	DVAS0404X05S060	●	20.9	.823	40.7	1.602	55	2.165	100.7	3.965	100	3.937	0.7	.028	6	.236	2		
						8	DVAS0404X08S060	●	33.0	1.299	52.7	2.075	43	1.693	100.7	3.965	100	3.937	0.7	.028	6	.236	2		
4.100	.1614					3	DVAS0410X03S050	★	13.0	.512	25.7	1.012	58	2.283	86.7	3.413	86	3.386	0.7	.028	5	.197	1		
						3	DVAS0410X03S060	●	13.0	.512	25.7	1.012	56	2.205	86.7	3.413	86	3.386	0.7	.028	6	.236	2		
						5	DVAS0410X05S050	★	21.2	.835	40.7	1.602	57	2.244	100.7	3.965	100	3.937	0.7	.028	5	.197	1		
						5	DVAS0410X05S060	●	21.2	.835	40.7	1.602	55	2.165	100.7	3.965	100	3.937	0.7	.028	6	.236	2		
						8	DVAS0410X08S050	★	33.5	1.319	52.7	2.075	45	1.772	100.7	3.965	100	3.937	0.7	.028	5	.197	1		
						8	DVAS0410X08S060	●	33.5	1.319	52.7	2.075	43	1.693	100.7	3.965	100	3.937	0.7	.028	6	.236	2		
4.200	.1654			M5x.8		3	DVAS0420X03S050	★	13.4	.528	25.8	1.016	58	2.283	86.8	3.417	86	3.386	0.8	.031	5	.197	1		
						3	DVAS0420X03S060	●	13.4	.528	25.8	1.016	56	2.205	86.8	3.417	86	3.386	0.8	.031	6	.236	2		
						5	D																		

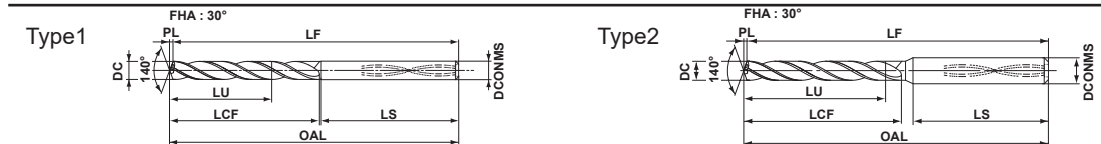
Solid Carbide TRISTAR Drill Series

DVAS NEW
TRISTAR Drills

DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
4.700	.1850		13			3	DVAS0470X03S050	★	15.0	.591	28.9	1.138	59	2.323	90.9	3.579	90	3.543	0.9	.035	5	.197	1	
						3	DVAS0470X03S060	●	15.0	.591	28.9	1.138	58	2.283	90.9	3.579	90	3.543	0.9	.035	6	.236	1	
						5	DVAS0470X05S050	★	24.4	.961	44.9	1.768	58	2.283	105.9	4.169	105	4.134	0.9	.035	5	.197	1	
						5	DVAS0470X05S060	●	24.4	.961	44.9	1.768	57	2.244	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
						8	DVAS0470X08S050	★	38.5	1.516	57.9	2.280	45	1.772	105.9	4.169	105	4.134	0.9	.035	5	.197	1	
						8	DVAS0470X08S060	●	38.5	1.516	57.9	2.280	44	1.732	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
4.763	.1875	3/16				3	DVAS0476X03S060	●	15.2	.598	28.9	1.138	58	2.283	90.9	3.579	90	3.543	0.9	.035	6	.236	1	
						5	DVAS0476X05S060	●	24.7	.972	44.9	1.768	57	2.244	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
						8	DVAS0476X08S060	●	39.0	1.535	57.9	2.280	44	1.732	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
4.800	.1890		12			3	DVAS0480X03S050	★	15.3	.602	28.9	1.138	59	2.323	90.9	3.579	90	3.543	0.9	.035	5	.197	1	
						3	DVAS0480X03S060	●	15.3	.602	28.9	1.138	58	2.283	90.9	3.579	90	3.543	0.9	.035	6	.236	1	
						5	DVAS0480X05S050	★	24.9	.980	44.9	1.768	58	2.283	105.9	4.169	105	4.134	0.9	.035	5	.197	1	
						5	DVAS0480X05S060	●	24.9	.980	44.9	1.768	57	2.244	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
						8	DVAS0480X08S050	★	39.3	1.547	57.9	2.280	45	1.772	105.9	4.169	105	4.134	0.9	.035	5	.197	1	
						8	DVAS0480X08S060	●	39.3	1.547	57.9	2.280	44	1.732	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
4.900	.1929					3	DVAS0490X03S050	★	15.6	.614	28.9	1.138	59	2.323	90.9	3.579	90	3.543	0.9	.035	5	.197	1	
						3	DVAS0490X03S060	●	15.6	.614	28.9	1.138	58	2.283	90.9	3.579	90	3.543	0.9	.035	6	.236	1	
						5	DVAS0490X05S050	★	25.4	1.000	44.9	1.768	58	2.283	105.9	4.169	105	4.134	0.9	.035	5	.197	1	
						5	DVAS0490X05S060	●	25.4	1.000	44.9	1.768	57	2.244	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
						8	DVAS0490X08S050	★	40.1	1.579	57.9	2.280	45	1.772	105.9	4.169	105	4.134	0.9	.035	5	.197	1	
						8	DVAS0490X08S060	●	40.1	1.579	57.9	2.280	44	1.732	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
5.000	.1969		M6x1.0			3	DVAS0500X03S050	★	15.9	.626	28.9	1.138	59	2.323	90.9	3.579	90	3.543	0.9	.035	5	.197	1	
						3	DVAS0500X03S060	●	15.9	.626	28.9	1.138	59	2.323	90.9	3.579	90	3.543	0.9	.035	6	.236	1	
						5	DVAS0500X05S050	★	25.9	1.020	44.9	1.768	58	2.283	105.9	4.169	105	4.134	0.9	.035	5	.197	1	
						5	DVAS0500X05S060	●	25.9	1.020	44.9	1.768	58	2.283	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
						8	DVAS0500X08S050	★	40.9	1.610	57.9	2.280	45	1.772	105.9	4.169	105	4.134	0.9	.035	5	.197	1	
						8	DVAS0500X08S060	●	40.9	1.610	57.9	2.280	45	1.772	105.9	4.169	105	4.134	0.9	.035	6	.236	1	
5.100	.2008		7	1/4-20		3	DVAS0510X03S060	●	16.2	.638	28.9	1.138	51	2.008	82.9	3.264	82	3.228	0.9	.035	6	.236	1	
						5	DVAS0510X05S060	●	26.4	1.039	44.9	1.768	53	2.087	100.9	3.972	100	3.937	0.9	.035	6	.236	1	
						8	DVAS0510X08S060	●	41.7	1.642	61.9	2.437	54	2.126	118.9	4.681	118	4.646	0.9	.035	6	.236	1	
5.160	.2032	13/64				3	DVAS0516X03S060	●	16.4	.646	28.9	1.138	51	2.008	82.9	3.264	82	3.228	0.9	.035	6	.236	1	
						5	DVAS0516X05S060	●	26.7	1.051	44.9	1.768	53	2.087	100.9	3.972	100	3.937	0.9	.035	6	.236	1	
						8	DVAS0516X08S060	●	42.2	1.661	61.9	2.437	54	2.126	118.9	4.681	118	4.646	0.9	.035	6	.236	1	
5.200	.2047					3	DVAS0520X03S060	●	16.5	.650	28.9	1.138	51	2.008	82.9	3.264	82	3.228	0.9	.035	6	.236	1	
						5	DVAS0520X05S060	●	26.9	1.059	44.9	1.768	53	2.087	100.9	3.972	100	3.937	0.9	.035	6	.236	1	
						8	DVAS0520X08S060	●	42.5	1.673	61.9	2.437	54	2.126	118.9	4.681	118	4.646	0.9	.035	6	.236	1	
5.300	.2087		4			3	DVAS0530X03S060	●	16.9	.665	29.0	1.142	51	2.008	83.0	3.268	82	3.228	1.0	.039	6	.236	1	
						5	DVAS0530X05S060	●	27.5	1.083	45.0	1.772	53	2.087	101.0	3.976	100	3.937	1.0	.039	6	.236	1	
						8	DVAS0530X08S060	●	43.4	1.709	62.0	2.441	54	2.126	119.0	4.685	118	4.646	1.0	.039	6	.236	1	
5.400	.2126		3	1/4-28		3	DVAS0540X03S060	●	17.2	.677	29.0	1.142	51	2.008	83.0	3.268	82	3.228	1.0	.039	6	.236	1	
						5	DVAS0540X05S060	●	28.0	1.102	45.0	1.772	53	2.087	101.0	3.976	100	3.937	1.0	.039	6	.236	1	
						8	DVAS0540X08S060	●	44.2	1.740	62.0	2.441	54	2.126	119.0	4.685	118	4.646	1.0	.039	6	.236	1	
5.500	.2165					3	DVAS0550X03S060	●	17.5	.689	29.0	1.142	51	2.008	83.0	3.268	82	3.228	1.0	.039	6	.236	1	
						5	DVAS0550X05S060	●	28.5	1.122	45.0	1.772	53	2.087	101.0	3.976	100	3.937	1.0	.039	6	.236	1	
						8	DVAS0550X08S060	●	45.0	1.772	62.0	2.441	54	2.126	119.0	4.685	118	4.646	1.0	.039	6	.236	1	
5.520	.2174				*	5	DVAS0552X05S060	★	28.6	1.126	49.0	1.929	49	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	1	
5.540	.2182				*	5	DVAS0554X05S060	★	28.7	1.130	49.0	1.929	49	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	1	
5.557	.2188	7/32				3	DVAS0556X03S060	●	17.7	.697	31.0	1.220	49	1.929	83.0	3.268	82	3.228	1.0	.039	6	.236	1	
						5	DVAS0556X05S060	●	28.8	1.134	49.0	1.929	49	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	1	
						8	DVAS0556X08S060	●	45.4	1.787	67.0	2.638	49	1.929	119.0	4.685	118	4.646	1.0	.039	6	.236	1	

* Mark signifies the pilot hole of the metric roll tap.

● : USA Stock ★ : Stocked in Japan



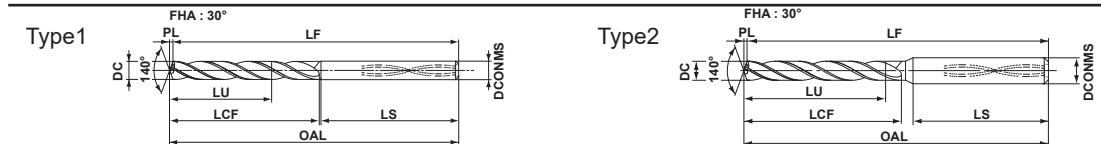
DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
5.600	.2205		2			3	DVAS0560X03S060	●	17.8	.701	31.0	1.220	49	1.929	83.0	3.268	82	3.228	1.0	.039	6	.236	1	
						5	DVAS0560X05S060	●	29.0	1.142	49.0	1.929	49	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	1	
						8	DVAS0560X08S060	●	45.8	1.803	67.0	2.638	49	1.929	119.0	4.685	118	4.646	1.0	.039	6	.236	1	
5.700	.2244					3	DVAS0570X03S060	●	18.1	.713	31.0	1.220	49	1.929	83.0	3.268	82	3.228	1.0	.039	6	.236	1	
						5	DVAS0570X05S060	●	29.5	1.161	49.0	1.929	49	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	1	
						8	DVAS0570X08S060	●	46.6	1.835	67.0	2.638	49	1.929	119.0	4.685	118	4.646	1.0	.039	6	.236	1	
5.800																								

Solid Carbide TRISTAR Drill Series

DVAS NEW
TRISTAR Drills

DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
8.400	.3307						3 DVAS0840X03S090	★	26.7	1.051	44.5	1.752	54	2.126	101.5	3.996	100	3.937	1.5	.059	9	.354	1	
							3 DVAS0840X03S100	●	26.7	1.051	44.5	1.752	53	2.087	101.5	3.996	100	3.937	1.5	.059	10	.394	1	
							5 DVAS0840X05S090	★	43.5	1.713	69.5	2.736	56	2.205	128.5	5.059	127	5.000	1.5	.059	9	.354	1	
							5 DVAS0840X05S100	●	43.5	1.713	69.5	2.736	55	2.165	128.5	5.059	127	5.000	1.5	.059	10	.394	1	
							8 DVAS0840X08S090	★	68.7	2.705	95.5	3.760	57	2.244	155.5	6.122	154	6.063	1.5	.059	9	.354	1	
							8 DVAS0840X08S100	●	68.7	2.705	95.5	3.760	56	2.205	155.5	6.122	154	6.063	1.5	.059	10	.394	1	
8.433	.3320		Q	3/8-24			3 DVAS0843X03S100	●	26.8	1.055	44.5	1.752	53	2.087	101.5	3.996	100	3.937	1.5	.059	10	.394	1	
							5 DVAS0843X05S100	●	43.7	1.720	69.5	2.736	55	2.165	128.5	5.059	127	5.000	1.5	.059	10	.394	1	
							8 DVAS0843X08S100	●	69.0	2.717	95.5	3.760	56	2.205	155.5	6.122	154	6.063	1.5	.059	10	.394	1	
8.500	.3346			M10x1.5			3 DVAS0850X03S090	★	27.0	1.063	44.5	1.752	54	2.126	101.5	3.996	100	3.937	1.5	.059	9	.354	1	
							3 DVAS0850X03S100	●	27.0	1.063	44.5	1.752	53	2.087	101.5	3.996	100	3.937	1.5	.059	10	.394	1	
							5 DVAS0850X05S090	★	44.0	1.732	69.5	2.736	56	2.205	128.5	5.059	127	5.000	1.5	.059	9	.354	1	
							5 DVAS0850X05S100	●	44.0	1.732	69.5	2.736	55	2.165	128.5	5.059	127	5.000	1.5	.059	10	.394	1	
							8 DVAS0850X08S090	★	69.5	2.736	95.5	3.760	57	2.244	155.5	6.122	154	6.063	1.5	.059	9	.354	1	
							8 DVAS0850X08S100	●	69.5	2.736	95.5	3.760	56	2.205	155.5	6.122	154	6.063	1.5	.059	10	.394	1	
8.600	.3386		R				3 DVAS0860X03S090	★	27.4	1.079	46.6	1.835	52	2.047	101.6	4.000	100	3.937	1.6	.063	9	.354	1	
							3 DVAS0860X03S100	●	27.4	1.079	46.6	1.835	51	2.008	101.6	4.000	100	3.937	1.6	.063	10	.394	1	
							5 DVAS0860X05S090	★	44.6	1.756	73.6	2.898	52	2.047	128.6	5.063	127	5.000	1.6	.063	9	.354	1	
							5 DVAS0860X05S100	●	44.6	1.756	73.6	2.898	51	2.008	128.6	5.063	127	5.000	1.6	.063	10	.394	1	
							8 DVAS0860X08S090	★	70.4	2.772	100.6	3.961	52	2.047	155.6	6.126	154	6.063	1.6	.063	9	.354	1	
							8 DVAS0860X08S100	●	70.4	2.772	100.6	3.961	51	2.008	155.6	6.126	154	6.063	1.6	.063	10	.394	1	
8.700	.3425			M10x1.25			3 DVAS0870X03S090	★	27.7	1.091	46.6	1.835	52	2.047	101.6	4.000	100	3.937	1.6	.063	9	.354	1	
							3 DVAS0870X03S100	●	27.7	1.091	46.6	1.835	51	2.008	101.6	4.000	100	3.937	1.6	.063	10	.394	1	
							5 DVAS0870X05S090	★	45.1	1.776	73.6	2.898	52	2.047	128.6	5.063	127	5.000	1.6	.063	9	.354	1	
							5 DVAS0870X05S100	●	45.1	1.776	73.6	2.898	51	2.008	128.6	5.063	127	5.000	1.6	.063	10	.394	1	
							8 DVAS0870X08S090	★	71.2	2.803	100.6	3.961	52	2.047	155.6	6.126	154	6.063	1.6	.063	9	.354	1	
							8 DVAS0870X08S100	●	71.2	2.803	100.6	3.961	51	2.008	155.6	6.126	154	6.063	1.6	.063	10	.394	1	
8.732	.3438	11/32					3 DVAS0873X03S100	●	27.8	1.094	46.6	1.835	51	2.008	101.6	4.000	100	3.937	1.6	.063	10	.394	1	
							5 DVAS0873X05S100	●	45.3	1.783	73.6	2.898	51	2.008	128.6	5.063	127	5.000	1.6	.063	10	.394	1	
							8 DVAS0873X08S100	●	71.4	2.811	100.6	3.961	51	2.008	155.6	6.126	154	6.063	1.6	.063	10	.394	1	
8.800	.3465						3 DVAS0880X03S090	★	28.0	1.102	46.6	1.835	52	2.047	101.6	4.000	100	3.937	1.6	.063	9	.354	1	
							3 DVAS0880X03S100	●	28.0	1.102	46.6	1.835	51	2.008	101.6	4.000	100	3.937	1.6	.063	10	.394	1	
							5 DVAS0880X05S090	★	45.6	1.795	73.6	2.898	52	2.047	128.6	5.063	127	5.000	1.6	.063	9	.354	1	
							5 DVAS0880X05S100	●	45.6	1.795	73.6	2.898	51	2.008	128.6	5.063	127	5.000	1.6	.063	10	.394	1	
							8 DVAS0880X08S090	★	72.0	2.835	100.6	3.961	52	2.047	155.6	6.126	154	6.063	1.6	.063	9	.354	1	
							8 DVAS0880X08S100	●	72.0	2.835	100.6	3.961	51	2.008	155.6	6.126	154	6.063	1.6	.063	10	.394	1	
8.900	.3504						3 DVAS0890X03S090	★	28.3	1.114	46.6	1.835	52	2.047	101.6	4.000	100	3.937	1.6	.063	9	.354	1	
							3 DVAS0890X03S100	●	28.3	1.114	46.6	1.835	51	2.008	101.6	4.000	100	3.937	1.6	.063	10	.394	1	
							5 DVAS0890X05S090	★	46.1	1.815	73.6	2.898	52	2.047	128.6	5.063	127	5.000	1.6	.063	9	.354	1	
							5 DVAS0890X05S100	●	46.1	1.815	73.6	2.898	51	2.008	128.6	5.063	127	5.000	1.6	.063	10	.394	1	
							8 DVAS0890X08S090	★	72.8	2.866	100.6	3.961	52	2.047	155.6	6.126	154	6.063	1.6	.063	9	.354	1	
							8 DVAS0890X08S100	●	72.8	2.866	100.6	3.961	51	2.008	155.6	6.126	154	6.063	1.6	.063	10	.394	1	
9.000	.3543						3 DVAS0900X03S090	★	28.6	1.126	46.6	1.835	52	2.047	101.6	4.000	100	3.937	1.6	.063	9	.354	1	
							3 DVAS0900X03S100	●	28.6	1.126	46.6	1.835	52	2.047	101.6	4.000	100	3.937	1.6	.063	10	.394	1	
							5 DVAS0900X05S090	★	46.6	1.835	73.6	2.898	52	2.047	128.6	5.063	127	5.000	1.6	.063	9	.354	1	
							5 DVAS0900X05S100	●	46.6	1.835	73.6	2.898	52	2.047	128.6	5.063	127	5.000	1.6	.063	10	.394	1	
							8 DVAS0900X08S090	★	73.6	2.898	100.6	3.961	52	2.047	155.6	6.126	154	6.063	1.6	.063	9	.354	1	
							8 DVAS0900X08S100	●	73.6	2.898	100.6	3.961	52	2.047	155.6	6.126	154	6.063	1.6	.063	10	.394	1	

● : USA Stock ★ : Stocked in Japan



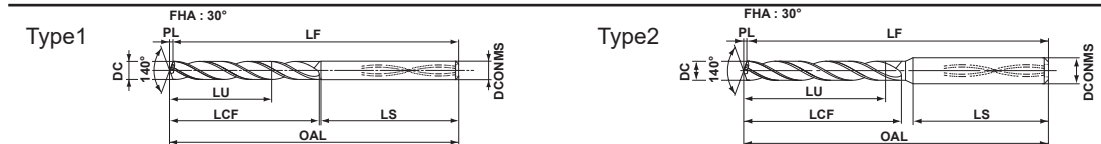
DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
9.100	.3583		T				3 DVAS0910X03S100	●	29.0	1.142	49.7	1.957	55	2.165	107.7	4.240	106	4.173	1.7	.067	10	.394	1	
							5 DVAS0910X05S100	●	47.2	1.858	77.7	3.059	57	2.244	137.7	5.421	136	5.354	1.7	.067	10	.394	1	
							8 DVAS0910X08S100	●	74.5	2.933	106.7	4.201	58	2.283	167.7	6.602	166	6.535	1.7	.067	10	.394	1	
9.129	.3594	23/64					3 DVAS0913X03S100	●	29.1	1.146	49.7	1.957	55	2.165	107.7	4.240	106	4.173	1.7	.067	10	.394	1	
							5 DVAS0913X05S100	●	47.3	1.862	77.7	3.059	57	2.244	137.7	5.421	136	5.354	1.7	.067	10	.394	1	
							8 DVAS0913X08S100	●	74.7	2.941	106.7	4.201	58	2.283	167.7	6.602	166	6.535	1.7	.067	10	.394	1	
9.200	.3622						3 DVAS0920X03S100	●	29.3	1.154	49.7	1.957	55	2.165	107.7	4.240	106	4.173	1.7	.067	10	.394	1	
							5 DVAS0920X05S100	●	47.7	1.878	77.7	3.059	57	2.244	137.7	5.421	136	5.354	1.7	.067	10	.394	1	
							8 DVAS0920X08S100	●	75.3	2.965	106.7	4.201	58	2.283	167.7	6.602	166	6.535	1.7	.067	10	.394	1	
9.240	.3638					*	5 DVAS0924X05S100	★	47.9	1.886	77.7	3.059	57	2.244	137									

Solid Carbide TRISTAR Drill Series

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DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
10.100	.3976						3	DVAS1010X03S110	★	32.1	1.264	54.8	2.157	60	2.362	117.8	4.638	116	4.567	1.8	.071	11	.433	1
							3	DVAS1010X03S120	●	32.1	1.264	54.8	2.157	59	2.323	117.8	4.638	116	4.567	1.8	.071	12	.472	1
							5	DVAS1010X05S110	★	52.3	2.059	85.8	3.378	62	2.441	150.8	5.937	149	5.866	1.8	.071	11	.433	1
							5	DVAS1010X05S120	●	52.3	2.059	85.8	3.378	61	2.402	150.8	5.937	149	5.866	1.8	.071	12	.472	1
							8	DVAS1010X08S110	★	82.6	3.252	117.8	4.638	63	2.480	183.8	7.236	182	7.165	1.8	.071	11	.433	1
							8	DVAS1010X08S120	●	82.6	3.252	117.8	4.638	62	2.441	183.8	7.236	182	7.165	1.8	.071	12	.472	1
10.200	.4016						3	DVAS1020X03S110	★	32.5	1.280	54.9	2.161	60	2.362	117.9	4.642	116	4.567	1.9	.075	11	.433	1
							3	DVAS1020X03S120	●	32.5	1.280	54.9	2.161	59	2.323	117.9	4.642	116	4.567	1.9	.075	12	.472	1
							5	DVAS1020X05S110	★	52.9	2.083	85.9	3.382	62	2.441	150.9	5.941	149	5.866	1.9	.075	11	.433	1
							5	DVAS1020X05S120	●	52.9	2.083	85.9	3.382	61	2.402	150.9	5.941	149	5.866	1.9	.075	12	.472	1
							8	DVAS1020X08S110	★	83.5	3.287	117.9	4.642	63	2.480	183.9	7.240	182	7.165	1.9	.075	11	.433	1
							8	DVAS1020X08S120	●	83.5	3.287	117.9	4.642	62	2.441	183.9	7.240	182	7.165	1.9	.075	12	.472	1
10.300	.4055						3	DVAS1030X03S110	★	32.8	1.291	54.9	2.161	60	2.362	117.9	4.642	116	4.567	1.9	.075	11	.433	1
							3	DVAS1030X03S120	●	32.8	1.291	54.9	2.161	59	2.323	117.9	4.642	116	4.567	1.9	.075	12	.472	1
							5	DVAS1030X05S110	★	53.4	2.102	85.9	3.382	62	2.441	150.9	5.941	149	5.866	1.9	.075	11	.433	1
							5	DVAS1030X05S120	●	53.4	2.102	85.9	3.382	61	2.402	150.9	5.941	149	5.866	1.9	.075	12	.472	1
							8	DVAS1030X08S110	★	84.3	3.319	117.9	4.642	63	2.480	183.9	7.240	182	7.165	1.9	.075	11	.433	1
							8	DVAS1030X08S120	●	84.3	3.319	117.9	4.642	62	2.441	183.9	7.240	182	7.165	1.9	.075	12	.472	1
10.319	.4063	13/32					3	DVAS1032X03S120	●	32.9	1.295	54.9	2.161	59	2.323	117.9	4.642	116	4.567	1.9	.075	12	.472	1
							5	DVAS1032X05S120	●	53.5	2.106	85.9	3.382	61	2.402	150.9	5.941	149	5.866	1.9	.075	12	.472	1
							8	DVAS1032X08S120	●	84.5	3.327	117.9	4.642	62	2.441	183.9	7.240	182	7.165	1.9	.075	12	.472	1
10.400	.4094						3	DVAS1040X03S110	★	33.1	1.303	54.9	2.161	60	2.362	117.9	4.642	116	4.567	1.9	.075	11	.433	1
							3	DVAS1040X03S120	●	33.1	1.303	54.9	2.161	59	2.323	117.9	4.642	116	4.567	1.9	.075	12	.472	1
							5	DVAS1040X05S110	★	53.9	2.122	85.9	3.382	62	2.441	150.9	5.941	149	5.866	1.9	.075	11	.433	1
							5	DVAS1040X05S120	●	53.9	2.122	85.9	3.382	61	2.402	150.9	5.941	149	5.866	1.9	.075	12	.472	1
							8	DVAS1040X08S110	★	85.1	3.350	117.9	4.642	63	2.480	183.9	7.240	182	7.165	1.9	.075	11	.433	1
							8	DVAS1040X08S120	●	85.1	3.350	117.9	4.642	62	2.441	183.9	7.240	182	7.165	1.9	.075	12	.472	1
10.500	.4134						3	DVAS1050X03S110	★	33.4	1.315	54.9	2.161	60	2.362	117.9	4.642	116	4.567	1.9	.075	11	.433	1
							3	DVAS1050X03S120	●	33.4	1.315	54.9	2.161	59	2.323	117.9	4.642	116	4.567	1.9	.075	12	.472	1
							5	DVAS1050X05S110	★	54.4	2.142	85.9	3.382	62	2.441	150.9	5.941	149	5.866	1.9	.075	11	.433	1
							5	DVAS1050X05S120	●	54.4	2.142	85.9	3.382	61	2.402	150.9	5.941	149	5.866	1.9	.075	12	.472	1
							8	DVAS1050X08S110	★	85.9	3.382	117.9	4.642	63	2.480	183.9	7.240	182	7.165	1.9	.075	11	.433	1
							8	DVAS1050X08S120	●	85.9	3.382	117.9	4.642	62	2.441	183.9	7.240	182	7.165	1.9	.075	12	.472	1
10.600	.4173						3	DVAS1060X03S110	★	33.7	1.327	56.9	2.240	58	2.283	117.9	4.642	116	4.567	1.9	.075	11	.433	1
							3	DVAS1060X03S120	●	33.7	1.327	56.9	2.240	57	2.244	117.9	4.642	116	4.567	1.9	.075	12	.472	1
							5	DVAS1060X05S110	★	54.9	2.161	89.9	3.539	58	2.283	150.9	5.941	149	5.866	1.9	.075	11	.433	1
							5	DVAS1060X05S120	●	54.9	2.161	89.9	3.539	57	2.244	150.9	5.941	149	5.866	1.9	.075	12	.472	1
							8	DVAS1060X08S110	★	86.7	3.413	122.9	4.839	58	2.283	183.9	7.240	182	7.165	1.9	.075	11	.433	1
							8	DVAS1060X08S120	●	86.7	3.413	122.9	4.839	57	2.244	183.9	7.240	182	7.165	1.9	.075	12	.472	1
10.700	.4213						3	DVAS1070X03S110	★	34.0	1.339	56.9	2.240	58	2.283	117.9	4.642	116	4.567	1.9	.075	11	.433	1
							3	DVAS1070X03S120	●	34.0	1.339	56.9	2.240	57	2.244	117.9	4.642	116	4.567	1.9	.075	12	.472	1
							5	DVAS1070X05S110	★	55.4	2.181	89.9	3.539	58	2.283	150.9	5.941	149	5.866	1.9	.075	11	.433	1
							5	DVAS1070X05S120	●	55.4	2.181	89.9	3.539	57	2.244	150.9	5.941	149	5.866	1.9	.075	12	.472	1
							8	DVAS1070X08S110	★	87.5	3.445	122.9	4.839	58	2.283	183.9	7.240	182	7.165	1.9	.075	11	.433	1
							8	DVAS1070X08S120	●	87.5	3.445	122.9	4.839	57	2.244	183.9	7.240	182	7.165	1.9	.075	12	.472	1
10.716	.4219	27/64					3	DVAS1072X03S120	●	34.1	1.343	57.0	2.244	57	2.244	118.0	4.646	116	4.567	2.0	.079	12	.472	1
							5	DVAS1072X05S120	●	55.6	2.189	90.0	3.543	57	2.244	151.0	5.945	149	5.866	2.0	.079	12	.472	1
							8	DVAS1072X08S120	●	87.7	3.453	123.0	4.843	57	2.244	184.0	7.244	182	7.165	2.0	.079	12	.472	1

● : USA Stock ★ : Stocked in Japan



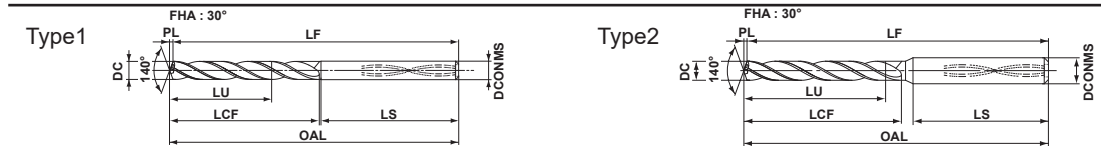
DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
10.800	.4252						3	DVAS1080X03S110	★	34.4	1.354	57.0	2.244	58	2.283	118.0	4.646	116	4.567	2.0	.079	11	.433	1
							3	DVAS1080X03S120	●	34.4	1.354	57.0	2.244	57	2.244	118.0	4.646	116	4.567	2.0	.079	12	.472	1
							5	DVAS1080X05S110	★	56.0	2.205	90.0	3.543	58	2.283	151.0	5.945	149	5.866	2.0	.079	11	.433	1
							5	DVAS1080X05S120	●	56.0	2.205	90.0	3.543	57	2.244	151.0	5.945	149	5.866	2.0	.079	12	.472	1
							8	DVAS1080X08S110	★	88.4	3.480	123.0	4.843	58	2.283	184.0	7.244	182	7.165	2.0	.079	11	.433	1
							8	DVAS1080X08S120	●	88.4	3.480	123.0	4.843	57	2.244	184.0	7.244	182	7.165	2.0	.079	12	.472	1
10.900	.4291						3	DVAS1090X03S110	★	34.7	1.366	57.0	2.244	58	2.283	118.0	4.646	116	4.567	2.0	.079	11	.433	1
							3	DVAS1090X03S120	●	34.7	1.366	57.0	2.244	57	2.244	118.0	4.646	116	4.567	2.0	.079	12	.472	1
							5	DVAS1090X05S110	★	56.5	2.224	90.0	3.543	5										

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DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
11.800	.4646					3	DVAS1180X03S120	●	37.5	1.476	62.1	2.445	59	2.323	124.1	4.886	122	4.803	2.1	.083	12	.472	1	
						5	DVAS1180X05S120	●	61.1	2.406	98.1	3.862	59	2.323	160.1	6.303	158	6.220	2.1	.083	12	.472	1	
						8	DVAS1180X08S120	●	96.5	3.799	134.1	5.280	59	2.323	196.1	7.720	194	7.638	2.1	.083	12	.472	1	
11.900	.4685					3	DVAS1190X03S120	●	37.9	1.492	62.2	2.449	59	2.323	124.2	4.890	122	4.803	2.2	.087	12	.472	1	
						5	DVAS1190X05S120	●	61.7	2.429	98.2	3.866	59	2.323	160.2	6.307	158	6.220	2.2	.087	12	.472	1	
						8	DVAS1190X08S120	●	97.4	3.835	134.2	5.283	59	2.323	196.2	7.724	194	7.638	2.2	.087	12	.472	1	
12.000	.4724			M14x2.0		3	DVAS1200X03S120	●	38.2	1.504	62.2	2.449	59	2.323	124.2	4.890	122	4.803	2.2	.087	12	.472	1	
						5	DVAS1200X05S120	●	62.2	2.449	98.2	3.866	59	2.323	160.2	6.307	158	6.220	2.2	.087	12	.472	1	
						8	DVAS1200X08S120	●	98.2	3.866	134.2	5.283	59	2.323	196.2	7.724	194	7.638	2.2	.087	12	.472	1	
12.100	.4764					3	DVAS1210X03S130	★	38.5	1.516	65.2	2.567	62	2.441	130.2	5.126	128	5.039	2.2	.087	13	.512	1	
						3	DVAS1210X03S140	●	38.5	1.516	65.2	2.567	61	2.402	130.2	5.126	128	5.039	2.2	.087	14	.551	1	
						5	DVAS1210X05S130	★	62.7	2.469	102.2	4.024	64	2.520	169.2	6.661	167	6.575	2.2	.087	13	.512	1	
12.200	.4803					3	DVAS1220X03S130	★	38.8	1.528	65.2	2.567	62	2.441	130.2	5.126	128	5.039	2.2	.087	13	.512	1	
						3	DVAS1220X03S140	●	38.8	1.528	65.2	2.567	61	2.402	130.2	5.126	128	5.039	2.2	.087	14	.551	1	
						5	DVAS1220X05S130	★	63.2	2.488	102.2	4.024	64	2.520	169.2	6.661	167	6.575	2.2	.087	13	.512	1	
12.300	.4843			9/16-12		3	DVAS1230X03S130	★	39.1	1.539	65.2	2.567	62	2.441	130.2	5.126	128	5.039	2.2	.087	13	.512	1	
						3	DVAS1230X03S140	●	39.1	1.539	65.2	2.567	61	2.402	130.2	5.126	128	5.039	2.2	.087	14	.551	1	
						5	DVAS1230X05S130	★	63.7	2.508	102.2	4.024	64	2.520	169.2	6.661	167	6.575	2.2	.087	13	.512	1	
12.400	.4882					3	DVAS1240X03S130	★	39.5	1.555	65.3	2.571	62	2.441	130.3	5.130	128	5.039	2.3	.091	13	.512	1	
						3	DVAS1240X03S140	●	39.5	1.555	65.3	2.571	61	2.402	130.3	5.130	128	5.039	2.3	.091	14	.551	1	
						5	DVAS1240X05S130	★	64.3	2.531	102.3	4.028	64	2.520	169.3	6.665	167	6.575	2.3	.091	13	.512	1	
12.500	.4921			M14x1.5		3	DVAS1250X03S130	★	39.8	1.567	65.3	2.571	62	2.441	130.3	5.130	128	5.039	2.3	.091	13	.512	1	
						3	DVAS1250X03S140	●	39.8	1.567	65.3	2.571	61	2.402	130.3	5.130	128	5.039	2.3	.091	14	.551	1	
						5	DVAS1250X05S130	★	64.8	2.551	102.3	4.028	64	2.520	169.3	6.665	167	6.575	2.3	.091	13	.512	1	
12.600	.4961					3	DVAS1260X03S130	★	40.1	1.579	67.3	2.650	60	2.362	130.3	5.130	128	5.039	2.3	.091	13	.512	1	
						3	DVAS1260X03S140	●	40.1	1.579	67.3	2.650	59	2.323	130.3	5.130	128	5.039	2.3	.091	14	.551	1	
						5	DVAS1260X05S130	★	65.3	2.571	106.3	4.185	60	2.362	169.3	6.665	167	6.575	2.3	.091	13	.512	1	
12.700	.5000			1/2		3	DVAS1270X03S130	★	40.4	1.591	67.3	2.650	60	2.362	130.3	5.130	128	5.039	2.3	.091	13	.512	1	
						3	DVAS1270X03S140	●	40.4	1.591	67.3	2.650	59	2.323	130.3	5.130	128	5.039	2.3	.091	14	.551	1	
						5	DVAS1270X05S130	★	65.8	2.591	106.3	4.185	60	2.362	169.3	6.665	167	6.575	2.3	.091	13	.512	1	
12.800	.5039					3	DVAS1280X03S130	★	40.7	1.602	67.3	2.650	60	2.362	130.3	5.130	128	5.039	2.3	.091	13	.512	1	
						3	DVAS1280X03S140	●	40.7	1.602	67.3	2.650	59	2.323	130.3	5.130	128	5.039	2.3	.091	14	.551	1	
						5	DVAS1280X05S130	★	66.3	2.610	106.3	4.185	60	2.362	169.3	6.665	167	6.575	2.3	.091	13	.512	1	
12.900	.5079					3	DVAS1290X03S130	★	41.0	1.614	67.3	2.650	60	2.362	130.3	5.130	128	5.039	2.3	.091	13	.512	1	
						3	DVAS1290X03S140	●	41.0	1.614	67.3	2.650	59	2.323	130.3	5.130	128	5.039	2.3	.091	14	.551	1	
						5	DVAS1290X05S130	★	66.8	2.630	106.3	4.185	60	2.362	169.3	6.665	167	6.575	2.3	.091	13	.512	1	

● : USA Stock ★ : Stocked in Japan



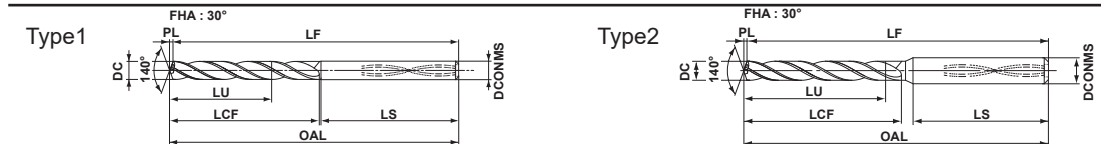
DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
13.000	.5118					3	DVAS1300X03S130	★	41.4	1.630	67.4	2.654	60	2.362	130.4	5.134	128	5.039	2.4	.094	13	.512	1	
						3	DVAS1300X03S140	●	41.4	1.630	67.4	2.654	60	2.362	130.4	5.134	128	5.039	2.4	.094	14	.551	1	
						5	DVAS1300X05S130	★	67.4	2.654	106.4	4.189	60	2.362	169.4	6.669	167	6.575	2.4	.094	13	.512	1	
						5	DVAS1300X05S140	●	67.4	2.654	106.4	4.189	60	2.362	169.4	6.669	167	6.575	2.4	.094	14	.551	1	
						8	DVAS1300X08S130	★	106.4	4.189	145.4	5.724	60	2.362	208.4	8.205	206	8.110	2.4	.094	13	.512	1	
						8	DVAS1300X08S140	●	106.4	4.189	145.4	5.724	60	2.362	208.4	8.205	206	8.110	2.4	.094	14	.551	1	
13.100	.5157			9/16-18		3	DVAS1310X03S140	●	41.7	1.642	70.4	2.772	63	2.480	136.4	5.370	134	5.276	2.4	.094	14	.551	1	
						5	DVAS1310X05S140	●	67.9	2.673	110.4	4.346	65	2.559	178.4	7.024	176	6.929	2.4	.094	14	.551	1	
13.200	.5197					3	DVAS1320X03S140	●	42.0	1.654	70.4	2.772	63	2.480	136.4	5.370	134	5.276	2.4	.094	14	.551	1	
						5	DVAS1320X05S140	●	68.4	2.693	110.4	4.346	65	2.559	178.4	7.024	176	6.929	2.4	.094	14	.551	1	
13.300	.5236					3	DVAS1330X03S140	●	42.3	1.665	70.4	2.772	63	2.480	136.4	5.370	134	5.276	2.4	.094	14	.551	1	
						5	DVAS1330X05S140	●	68.9	2.713	110.4	4.346	65	2.559	178.4	7.024	176	6.929	2.4	.094	14	.551	1	
13.400	.5276					3	DVAS1340X03S140	●	42.6	1.677	70.4	2.772	63	2.480	136.4	5.370	134	5.276	2.4	.094	14	.551	1	
						5	DVAS1340X05S140	●	69.4	2.732	110.4	4.346	65	2.559	178.4	7.024	176	6.929	2.4	.094	14	.551	1	
13.500	.5315			5/8-11		3	DVAS1350X03S140	●	43.0	1.693	70.5	2.776	63	2.480	136.5	5.374	134	5.276	2.5	.098	14	.551	1	
						5	DVAS1350X05S140	●	70.0	2.756	110.5	4.350	65	2.559	178.5	7.028	176	6.929	2.5	.098	14			

Solid Carbide TRISTAR Drill Series

DVAS NEW
TRISTAR Drills

DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
14.500	.5709			M16x1.5		3	DVAS1450X03S150	★	46.1	1.815	75.6	2.976	64	2.520	142.6	5.614	140	5.512	2.6	.102	15	.591	1	
						3	DVAS1450X03S160	●	46.1	1.815	75.6	2.976	63	2.480	142.6	5.614	140	5.512	2.6	.102	16	.630	1	
						5	DVAS1450X05S150	★	75.1	2.957	118.6	4.669	66	2.598	187.6	7.386	185	7.283	2.6	.102	15	.591	1	
						5	DVAS1450X05S160	●	75.1	2.957	118.6	4.669	65	2.559	187.6	7.386	185	7.283	2.6	.102	16	.630	1	
						8	DVAS1450X08S150	★	118.6	4.669	162.6	6.402	62	2.441	227.6	8.961	225	8.858	2.6	.102	15	.591	1	
						8	DVAS1450X08S160	●	118.6	4.669	162.6	6.402	61	2.402	227.6	8.961	225	8.858	2.6	.102	16	.630	1	
14.600	.5748					3	DVAS1460X03S150	★	46.5	1.831	77.7	3.059	62	2.441	142.7	5.618	140	5.512	2.7	.106	15	.591	1	
						3	DVAS1460X03S160	●	46.5	1.831	77.7	3.059	61	2.402	142.7	5.618	140	5.512	2.7	.106	16	.630	1	
						5	DVAS1460X05S150	★	75.7	2.980	122.7	4.831	62	2.441	187.7	7.390	185	7.283	2.7	.106	15	.591	1	
						5	DVAS1460X05S160	●	75.7	2.980	122.7	4.831	61	2.402	187.7	7.390	185	7.283	2.7	.106	16	.630	1	
14.685	.5782	37/64		5/8-18		3	DVAS1468X03S160	●	46.8	1.843	77.7	3.059	61	2.402	142.7	5.618	140	5.512	2.7	.106	16	.630	1	
						5	DVAS1468X05S160	●	76.1	2.996	122.7	4.831	61	2.402	187.7	7.390	185	7.283	2.7	.106	16	.630	1	
						8	DVAS1468X08S160	●	120.2	4.732	167.7	6.602	56	2.205	227.7	8.965	225	8.858	2.7	.106	16	.630	1	
14.700	.5787					3	DVAS1470X03S150	★	46.8	1.843	77.7	3.059	62	2.441	142.7	5.618	140	5.512	2.7	.106	15	.591	1	
						3	DVAS1470X03S160	●	46.8	1.843	77.7	3.059	61	2.402	142.7	5.618	140	5.512	2.7	.106	16	.630	1	
						5	DVAS1470X05S150	★	76.2	3.000	122.7	4.831	62	2.441	187.7	7.390	185	7.283	2.7	.106	15	.591	1	
						5	DVAS1470X05S160	●	76.2	3.000	122.7	4.831	61	2.402	187.7	7.390	185	7.283	2.7	.106	16	.630	1	
14.800	.5827					3	DVAS1480X03S150	★	47.1	1.854	77.7	3.059	62	2.441	142.7	5.618	140	5.512	2.7	.106	15	.591	1	
						3	DVAS1480X03S160	●	47.1	1.854	77.7	3.059	61	2.402	142.7	5.618	140	5.512	2.7	.106	16	.630	1	
						5	DVAS1480X05S150	★	76.7	3.020	122.7	4.831	62	2.441	187.7	7.390	185	7.283	2.7	.106	15	.591	1	
						5	DVAS1480X05S160	●	76.7	3.020	122.7	4.831	61	2.402	187.7	7.390	185	7.283	2.7	.106	16	.630	1	
14.900	.5866					3	DVAS1490X03S150	★	47.4	1.866	77.7	3.059	62	2.441	142.7	5.618	140	5.512	2.7	.106	15	.591	1	
						3	DVAS1490X03S160	●	47.4	1.866	77.7	3.059	61	2.402	142.7	5.618	140	5.512	2.7	.106	16	.630	1	
						5	DVAS1490X05S150	★	77.2	3.039	122.7	4.831	62	2.441	187.7	7.390	185	7.283	2.7	.106	15	.591	1	
						5	DVAS1490X05S160	●	77.2	3.039	122.7	4.831	61	2.402	187.7	7.390	185	7.283	2.7	.106	16	.630	1	
15.000	.5906					3	DVAS1500X03S150	★	47.7	1.878	77.7	3.059	62	2.441	142.7	5.618	140	5.512	2.7	.106	15	.591	1	
						3	DVAS1500X03S160	●	47.7	1.878	77.7	3.059	62	2.441	142.7	5.618	140	5.512	2.7	.106	16	.630	1	
						5	DVAS1500X05S150	★	77.7	3.059	122.7	4.831	62	2.441	187.7	7.390	185	7.283	2.7	.106	15	.591	1	
						5	DVAS1500X05S160	●	77.7	3.059	122.7	4.831	62	2.441	187.7	7.390	185	7.283	2.7	.106	16	.630	1	
						8	DVAS1500X08S150	★	122.7	4.831	167.7	6.602	57	2.244	227.7	8.965	225	8.858	2.7	.106	15	.591	1	
						8	DVAS1500X08S160	●	122.7	4.831	167.7	6.602	57	2.244	227.7	8.965	225	8.858	2.7	.106	16	.630	1	
15.082	.5938	19/32				3	DVAS1508X03S160	●	47.9	1.886	80.7	3.177	64	2.520	147.7	5.815	145	5.709	2.7	.106	16	.630	1	
						5	DVAS1508X05S160	●	78.1	3.075	126.7	4.988	66	2.598	195.7	7.705	193	7.598	2.7	.106	16	.630	1	
						8	DVAS1508X08S160	●	123.3	4.854	173.7	6.839	67	2.638	243.7	9.594	241	9.488	2.7	.106	16	.630	1	
15.100	.5945					3	DVAS1510X03S160	●	48.0	1.890	80.7	3.177	64	2.520	147.7	5.815	145	5.709	2.7	.106	16	.630	1	
						5	DVAS1510X05S160	●	78.2	3.079	126.7	4.988	66	2.598	195.7	7.705	193	7.598	2.7	.106	16	.630	1	
15.200	.5984					3	DVAS1520X03S160	●	48.4	1.906	80.8	3.181	64	2.520	147.8	5.819	145	5.709	2.8	.110	16	.630	1	
						5	DVAS1520X05S160	●	78.8	3.102	126.8	4.992	66	2.598	195.8	7.709	193	7.598	2.8	.110	16	.630	1	
15.300	.6024					3	DVAS1530X03S160	●	48.7	1.917	80.8	3.181	64	2.520	147.8	5.819	145	5.709	2.8	.110	16	.630	1	
						5	DVAS1530X05S160	●	79.3	3.122	126.8	4.992	66	2.598	195.8	7.709	193	7.598	2.8	.110	16	.630	1	
15.400	.6063					3	DVAS1540X03S160	●	49.0	1.929	80.8	3.181	64	2.520	147.8	5.819	145	5.709	2.8	.110	16	.630	1	
						5	DVAS1540X05S160	●	79.8	3.142	126.8	4.992	66	2.598	195.8	7.709	193	7.598	2.8	.110	16	.630	1	
15.479	.6094	39/64				3	DVAS1548X03S160	●	49.2	1.937	80.8	3.181	64	2.520	147.8	5.819	145	5.709	2.8	.110	16	.630	1	
						5	DVAS1548X05S160	●	80.2	3.157	126.8	4.992	66	2.598	195.8	7.709	193	7.598	2.8	.110	16	.630	1	
						8	DVAS1548X08S160	●	126.6	4.984	173.8	6.843	67	2.638	243.8	9.598	241	9.488	2.8	.110	16	.630	1	
15.500	.6102			M18x2.5		3	DVAS1550X03S160	●	49.3	1.941	80.8	3.181	64	2.520	147.8	5.819	145	5.709	2.8	.110	16	.630	1	
						5	DVAS1550X05S160	●	80.3	3.161	126.8	4.992	66	2.598	195.8	7.709	193	7.598	2.8	.110	16	.630	1	
						8	DVAS1550X08S160	●	126.8	4.992	173.8	6.843	67	2.638	243.8	9.598	241	9.488	2.8	.110	16	.630	1	

● : USA Stock ★ : Stocked in Japan



DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
15.600	.6142					3	DVAS1560X03S160	●	49.6	1.953	82.8	3.260	62	2.441	147.8	5.819	145	5.709	2.8	.110	16	.630	1	
						5	DVAS1560X05S160	●	80.8	3.181	130.8	5.150	62	2.441	195.8	7.709	193	7.598	2.8	.110	16	.630	1	
15.700	.6181					3	DVAS1570X03S160	●	50.0	1.969	82.9	3.264	62	2.441	147.9	5.823	145	5.709	2.9	.114	16	.630	1	
						5	DVAS1570X05S160	●	81.4	3.205	130.9	5.154	62	2.441	195.9	7.713	193	7.598	2.9	.114	16	.630	1	
15.800	.6220					3	DVAS1580X03S160	●	50.3	1.980	82.9	3.264	62	2.441	147.9	5.823	145	5.709	2.9	.114	16	.630	1	
						5	DVAS1580X05S160	●	81.9	3.224	130.9	5.154	62	2.441	195.9	7.713	193	7.598	2.9	.114	16	.630	1	
15.875	.6250	5/8				3	DVAS1588X03S160	●	50.5	1.988	82.9</													

Solid Carbide TRISTAR Drill Series

DVAS NEW
TRISTAR Drills

DC						L/D	Order Number	Stock	LU		LCF		LS		OAL		LF		PL		DCONMS		Type	
Metric (mm)	Decimal (in)	Fraction	Wire / Letter	Thread Size	Tap Pilot Hole				DP1120	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		in
										mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
19.254	.7580		Tube Sheet			3	DVAS1925X03S200	●	61.3	2.413	101.5	3.996	64	2.520	168.5	6.634	165	6.496	3.5	.138	20	.787	1	
						5	DVAS1925X05S200	●	99.8	3.929	159.5	6.280	66	2.598	228.5	8.996	225	8.858	3.5	.138	20	.787	1	
19.447	.7657	49/64		7/8-9		3	DVAS1945X03S200	●	61.8	2.433	101.5	3.996	64	2.520	168.5	6.634	165	6.496	3.5	.138	20	.787	1	
						5	DVAS1945X05S200	●	100.7	3.965	159.5	6.280	66	2.598	228.5	8.996	225	8.858	3.5	.138	20	.787	1	
19.500	.7677			M22x2.5		3	DVAS1950X03S200	●	62.0	2.441	101.5	3.996	64	2.520	168.5	6.634	165	6.496	3.5	.138	20	.787	1	
						5	DVAS1950X05S200	●	101.0	3.976	159.5	6.280	66	2.598	228.5	8.996	225	8.858	3.5	.138	20	.787	1	
19.844	.7813	25/32				3	DVAS1984X03S200	●	63.1	2.484	103.6	4.079	62	2.441	168.6	6.638	165	6.496	3.6	.142	20	.787	1	
						5	DVAS1984X05S200	●	102.8	4.047	163.6	6.441	62	2.441	228.6	9.000	225	8.858	3.6	.142	20	.787	1	
20.000	.7874					3	DVAS2000X03S200	●	63.6	2.504	103.6	4.079	62	2.441	168.6	6.638	165	6.496	3.6	.142	20	.787	1	
						5	DVAS2000X05S200	●	103.6	4.079	163.6	6.441	62	2.441	228.6	9.000	225	8.858	3.6	.142	20	.787	1	

Recommended Cutting Conditions

(in)

Material			Mild Steel (<180HB) Carbon Steel, Alloy Steel (180—280HB)			Carbon Steel, Alloy Steel (280—350HB)		
DC		Hole Depth L/D	Cutting Speed vc (Min.—Max.) (SFM)	Revolution n (min.-)	Feed fr (Min.—Max.) (IPR)	Cutting Speed vc (Min.—Max.) (SFM)	Revolution n (min.-)	Feed fr (Min.—Max.) (IPR)
in	mm							
.1181	3.0	3, 5, 8	230 (165 — 295)	7400	.0043 (.0024 — .0059)	195 (130 — 260)	6400	.0043 (.0024 — .0059)
.1575	4.0	3, 5, 8	260 (195 — 330)	6400	.0055 (.0031 — .0079)	230 (165 — 295)	5600	.0055 (.0031 — .0079)
.1969	5.0	3, 5, 8	295 (230 — 360)	5700	.0071 (.0039 — .0098)	230 (165 — 295)	4500	.0071 (.0039 — .0098)
.2362	6.0	3, 5, 8	330 (260 — 395)	5300	.0083 (.0047 — .0118)	260 (195 — 330)	4200	.0083 (.0047 — .0118)
.2756	7.0	3, 5, 8	330 (295 — 425)	4500	.0094 (.0055 — .0130)	295 (230 — 360)	4100	.0094 (.0055 — .0130)
.3150	8.0	3, 5, 8	330 (330 — 460)	4000	.0102 (.0063 — .0138)	295 (230 — 360)	3600	.0102 (.0063 — .0138)
.3543	9.0	3, 5, 8	330 (330 — 460)	3500	.0106 (.0071 — .0142)	330 (260 — 395)	3500	.0106 (.0071 — .0142)
.3937	10.0	3, 5, 8	330 (330 — 460)	3200	.0114 (.0079 — .0146)	330 (260 — 395)	3200	.0114 (.0079 — .0146)
.4331	11.0	3, 5, 8	330 (330 — 460)	2900	.0114 (.0079 — .0146)	330 (260 — 395)	2900	.0114 (.0079 — .0146)
.4724	12.0	3, 5, 8	330 (330 — 460)	2700	.0118 (.0083 — .0150)	330 (260 — 395)	2700	.0118 (.0083 — .0150)
.5512	14.0	3, 5, 8	330 (330 — 460)	2300	.0122 (.0087 — .0154)	330 (260 — 395)	2300	.0122 (.0087 — .0154)
.6299	16.0	3, 5, 8	330 (330 — 460)	2000	.0134 (.0098 — .0165)	330 (260 — 395)	2000	.0134 (.0098 — .0165)
.7087	18.0	3, 5	330 (330 — 460)	1800	.0142 (.0110 — .0173)	330 (260 — 395)	1800	.0142 (.0110 — .0173)
.7874	20.0	3, 5	330 (330 — 460)	1600	.0150 (.0118 — .0177)	330 (260 — 395)	1600	.0150 (.0118 — .0177)

Material			Precipitation Hardening Stainless Steel Ferritic Stainless Steel Martensitic Stainless Steel			Cast Iron Ductile Cast Iron		
DC		Hole Depth L/D	Cutting Speed vc (Min.—Max.) (SFM)	Revolution n (min.-)	Feed fr (Min.—Max.) (IPR)	Cutting Speed vc (Min.—Max.) (SFM)	Revolution n (min.-)	Feed fr (Min.—Max.) (IPR)
in	mm							
.1181	3.0	3, 5, 8	165 (100 — 230)	5300	.0035 (.0024 — .0047)	230 (165 — 295)	7400	.0043 (.0043 — .0059)
.1575	4.0	3, 5, 8	165 (100 — 230)	4000	.0047 (.0031 — .0063)	260 (195 — 330)	6400	.0055 (.0055 — .0079)
.1969	5.0	3, 5, 8	165 (100 — 230)	3200	.0059 (.0039 — .0079)	295 (230 — 360)	5700	.0071 (.0071 — .0098)
.2362	6.0	3, 5, 8	165 (100 — 230)	2700	.0071 (.0047 — .0094)	330 (260 — 395)	5300	.0083 (.0083 — .0118)
.2756	7.0	3, 5, 8	165 (100 — 230)	2300	.0079 (.0055 — .0102)	360 (295 — 425)	5000	.0094 (.0094 — .0130)
.3150	8.0	3, 5, 8	165 (100 — 230)	2000	.0087 (.0063 — .0110)	395 (330 — 460)	4800	.0102 (.0102 — .0138)
.3543	9.0	3, 5, 8	165 (100 — 230)	1800	.0094 (.0071 — .0118)	395 (330 — 460)	4200	.0106 (.0106 — .0142)
.3937	10.0	3, 5, 8	165 (100 — 230)	1600	.0098 (.0079 — .0118)	395 (330 — 460)	3800	.0114 (.0114 — .0146)
.4331	11.0	3, 5, 8	165 (100 — 230)	1400	.0098 (.0079 — .0118)	395 (330 — 460)	3500	.0114 (.0114 — .0146)
.4724	12.0	3, 5, 8	165 (100 — 230)	1300	.0102 (.0083 — .0118)	395 (330 — 460)	3200	.0118 (.0118 — .0150)
.5512	14.0	3, 5, 8	165 (100 — 230)	1100	.0114 (.0087 — .0138)	395 (330 — 460)	2700	.0122 (.0122 — .0154)
.6299	16.0	3, 5, 8	165 (100 — 230)	1000	.0122 (.0098 — .0142)	395 (330 — 460)	2400	.0134 (.0134 — .0165)
.7087	18.0	3, 5	165 (100 — 230)	900	.0130 (.0110 — .0150)	395 (330 — 460)	2100	.0142 (.0142 — .0173)
.7874	20.0	3, 5	165 (100 — 230)	800	.0138 (.0118 — .0157)	395 (330 — 460)	1900	.0150 (.0150 — .0177)

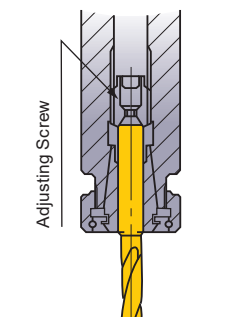
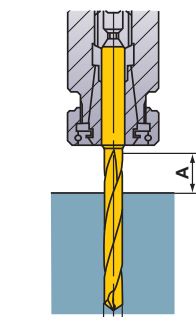
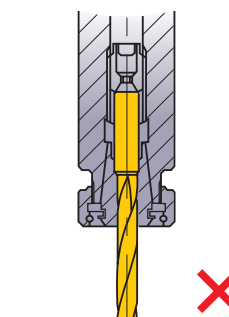
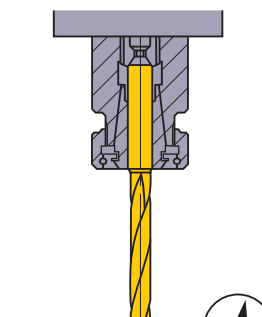
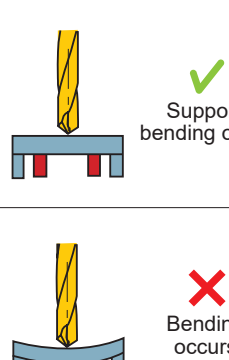
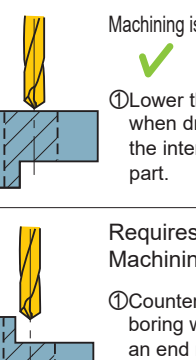
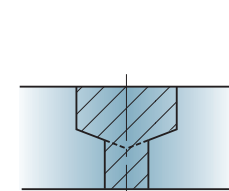
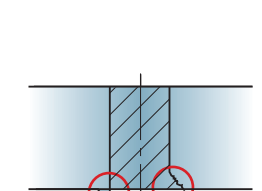
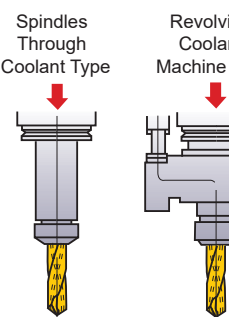
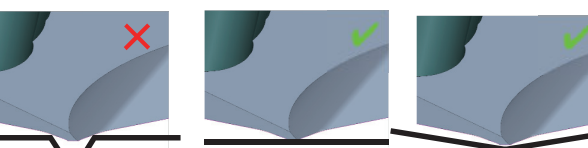
Note 1) Refer to the table above for more details on how to set the cutting conditions according the usage.

Note 2) When using non-water-soluble cutting fluid, reduce the cutting speed to 80% to 90%.

DC = Cutting Diameter LS = Shank Length PL = Point Length
 LU = Usable Length OAL = Overall Length DCONMS = Connection Diameter
 LCF = Length Chip Flute LF = Functional Length

● : USA Stock

OPERATIONAL GUIDANCE

<p>Securing the Drill</p>  <p>Thrust bearing type collet chuck holds the drill securely.</p>	<p>Drill Length</p>  <p>Ensure that the Dimension A is DC x 1.5 or more.</p>	<p>Drill Installation</p>  <p>Do not clamp on the flutes.</p>	<p>Installation Tolerance</p>  <p>Run-out ≤ .0012"</p>
<p>Thin Workpiece</p>  <p>Support if bending occurs</p> <p>Bending occurs</p>	<p>Interrupted Cutting</p>  <p>Machining is Possible</p> <p>① Lower the feed when drilling the interrupted part.</p> <p>Requires Prior Machining</p> <p>① Counter boring with an end mill prior to drilling required.</p>	<p>Stepped Holes</p>  <p>① Divide the two processes. ② Drill the thicker part first. *Tools for counter boring and chamfering can be produced to order.</p>	<p>Burring and Workpiece Chipping</p>  <p>Decrease the feed rate at the end of through cutting.</p>
<p>Through Coolant Type (Internal)</p>  <p>Less than $\phi.118"$: 217.5 PSI-1015 PSI More than $\phi.118"$: 72.5 PSI-1015 PSI More than 435 PSI is recommended.</p>	<p>Coolant Handling</p> <p><When using internal coolant></p> <ol style="list-style-type: none"> 1) Small particles of swarf will jam in the coolant hole of small diameter drills. Always use a fine mesh filter as a preventative measure. 2) Dirt and dust particles adhere to the oil in old coolant and prevent an efficient flow. Exchanging the coolant regularly is recommended. 	<p>Shape of Workpiece During Initial Penetration</p> <p>High-quality hole processing is possible even without pilot holes. If a countersink is required, the countersink angle should be 145° or greater.</p>  <p>Material Material Material</p>	



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FOR YOUR SAFETY

- Don't handle inserts and chips without gloves.
- Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage.
- Please use safety covers and wear safety glasses.
- When using compounded cutting oils, please take fire precautions.
- When attaching inserts or spare parts, please use only the correct wrench or driver.
- When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

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Tools specifications subject to change without notice.

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