A

SOLID CARBIDE DRILLS



Content of Drills Series

Drills Series	Description and profile		Point Angle	Shank Type	Coating	Drilling Depth	Coolant Type / form	Tool Type	Dimension Range	Hole accuracy class	Dimension Page	Cutting Parameters Page
D918S	3D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlCrN/ TiSiN	3D		D918S-A3N NEW	D3～D20	IT9-10	P017	P069
	3D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlCrN/ TiSiN	3D		D918S-A3C NEW	D3～D20	IT9-10	P018	P069
	5D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlCrN/ TiSiN	5D		D918S-A5N NEW	D3～D20	IT9-10	P019	P069
	5D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlCrN/ TiSiN	5D		D918S-A5C NEW	D3～D20	IT9-10	P020	P069
D968S	3D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlTiN nano	3D		D968S-A3N NEW	D3～D20	IT9-10	P021	P071
	3D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlTiN nano	3D		D968S-A3C NEW	D3～D20	IT9-10	P022	P071
	5D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlTiN nano	5D		D968S-A5N NEW	D3～D20	IT9-10	P023	P071
	5D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlTiN nano	5D		D968S-A5C NEW	D3～D20	IT9-10	P024	P071
D101	90° NC Centre Drill		90°	SHANK DIN 6535HA	TiAlN			D101-AMN	D5～D20		P063	P077
D102	120° NC Centre Drill		120°	SHANK DIN 6535HA	TiAlN			D102-ANN	D5～D20		P064	P077
D103	145° NC Centre Drill		145°	SHANK DIN 6535HA	TiAlN			D103-APN	D5～D20		P065	P077
D918	3D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	TiAlN	3D		D918-A3N	D3～D20	IT9-10	P047	P079
	3D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	TiAlN	3D		D918-A3C	D5～D16	IT9-10	P049	P079
	5D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	TiAlN	5D		D918-A5N	D3～D20	IT9-10	P051	P079
	5D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	TiAlN	5D		D918-A5C	D5～D16	IT9-10	P054	P079
D938	3D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlTiN nano	3D		D938-A3N	D3-D20	IT9-10	P026	P073
	3D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlTiN nano	3D		D938-A3C	D3-D20	IT9-10	P029	P073
	5D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlTiN nano	5D		D938-A5N	D3-D20	IT9-10	P033	P073

◎ Most Suitable ○ Suitable

	工件材料													
	P			M	K		N				S		H	
	1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1 2	3
	Carbon Steels,Alloy Steels	Alloy Steels, Tool Steels	PH and Ferrite/ Martensitic Stainless	Stainless Steel	Cast Iron, Ductile Cast Iron	High Alloy Cast Iron	Wrought Aluminium Alloys, Cast Aluminium Alloys	Cast Aluminium Alloys	Copper Alloys	Composite Material	Heat Resistant Super Alloys	Titanium Alloys	Hardened Steels	Hardened Steels
	<35HRC	35-48HRC			<35HRC	35-45HRC	Si<12%	Si>12%	<200HB		<450HB	<400HB	45-55HRC	55-60HRC
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Content of Drills Series

Drills Series	Description and profile		Point Angle	Shank Type	Coating	Drilling Depth	Coolant Type / form	Tool Type	Dimension Range	Hole accuracy class	Dimension Page	Cutting Parameters Page
D938	5D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlTiN nano	5D	4	D938-A5C	D3-D20	IT9-10	P037	P073
	8D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlTiN nano	8D	4	D938-A8C NEW	D3-D16	IT9-10	P041	P075
	12 DInner Cooling,Twist Drill		135°	SHANK DIN 6535HA	AlTiN nano	12D	4	D938-A12C NEW	D3-D12	IT9-10	P044	P075
	15 DInner Cooling,Twist Drill		135°	SHANK DIN 6535HA	AlTiN nano	15D	4	D938-A15C NEW	D3-D12	IT9-10	P045	P075
D928	3D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlCrN/ TiSiN	3D	2	D928-A3N	D3～D20	IT9-10	P056	P081
	3D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlCrN/ TiSiN	3D	4	D928-A3C	D5～D20	IT9-10	P057	P081
	5D External Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlCrN/ TiSiN	5D	2	D928-A5N	D3～D20	IT9-10	P058	P081
	5D Inner Cooling,Twist Drill		140°	SHANK DIN 6535HA	AlCrN/ TiSiN	5D	4	D928-A5C	D5～D20	IT9-10	P059	P081
D998	3D External Cooling,Twist Drill		140°	SHANK h6	AlTiN nano	3D	2	D998-Y3N	D4～D16	IT9-10	P060	P083
D713	5D External Cooling Straight Flute Drills for Cast Iron		130°	SHANK DIN 6535HA	TiAlN	5D	3	D713-A5N	D4～D20	IT8-9	P061	P084
	5D Inner Cooling Straight Flute Drills for Cast Iron		130°	SHANK DIN 6535HA	TiAlN	5D	4	D713-A5C	D4～D20	IT8-9	P062	P084
D612	Triple-angle Drills		118°	SHANK	U-DIA	3D	1	D612-Y3N	D2.49-D7.94		P066	P085
D973	5D External Cooling,Twist Drill		120°	SHANK	AlCrN/ TiSiN	5D	2	D973-Y5N	D2.5-D8.0		P067	P085
D573	3Flute external Coolant core drills			SHANK	AlCrN/ TiSiN	3D	3	D573-Y3N	D4-D9.3		P068	P085
R733-C	Left Hand Helix Reamer			SHANK	AlCrN/ TiSiN		6	R733-C	D3.26-D12.7		P141	P144
R733-CM	Left Hand Helix Reamer			SHANK	AlCrN/ TiSiN		6	R733-CM	D3.26-D12.7		P142	P144

◎ Most Suitable ○ Suitable

	工件材料													
	P			M	K		N				S		H	
	1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1 2	3
	Carbon Steels,Alloy Steels	Alloy Steels, Tool Steels	PH and Ferrite/ Martensitic Stainless	Stainless Steel	Cast Iron, Ductile Cast Iron	High Alloy Cast Iron	Wrought Aluminium Alloys, Cast Aluminium Alloys	Cast Aluminium Alloys	Copper Alloys	Composite Material	Heat Resistant Super Alloys	Titanium Alloys	Hardened Steels	Hardened Steels
	<35HRC	35-48HRC			<35HRC	35-45HRC	Si<12%	Si>12%	<200HB		<450HB	<400HB	45-55HRC	55-60HRC
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Content of Drills Series

Drills Series	Description and profile		Shank Type	Shank Type	Drilling depth	Tool Type	Dimension Range	Hole accuracy class	Dimension Page	Cutting Parameters Page	
GSD Spade Drills	MCMG Spade insert			GM3225		GSD	D13-D36	IT9-10	P089	P94	
	GSD The Lateral Fixation Type Flange Shank and Helical Flute Holder				3D-12D				P090		
	GSD-S The Lateral Fixation Type Flange Shank and straight Flute Holder				1D-26D				P091		
	GSD-FMT Morse taper shank and Helical Flute Holder				2D-12D				P092		
GHD Indexable Drills	QPMG Drilling insert			GA4230 GS4130		GHD	D14-D51	IT12-13	P115	P117	
	GHD Drilling holder				2D-5D				P101		
SPMG /WCMT Drilling insert	SPMG Drilling insert			GA4230 GS4130		SPMG		IT12-13	P116		
	WCMT Drilling insert			GA4230		WCMT		IT12-13	P116		
GD600 Screw Locking deep drill	GD600 DeepHole Indexable Drills			GA4230 GM3225	MAX 100D	BTA ejector drilling head	D38-D107		P096	P098	
GD602B Brazed deep drill	GD602B DeepHole Indexable Drills				MAX 100D	GD602B	D15.6-D36.2	IT9	P099	P100	
RB/LRB Rough Boring Tool	RB Rough Boring Tool				MAX 7D	RB	D20-D170	IT8-9	P121	P143	
	LRB Rough Boring Tool with big				MAX 4D	LRB	D148-D1260	IT8-9	P126		
FB/LFB Finish Boring Tool	FB Finish Boring Tool Accuracy of adjustment0.01mm				MAX 7D	FB	D20-D203	IT7-8	P127		
	LFB Finish Boring Tool with big diameter Accuracy of adjustment0.01mm				MAX 4D	LFB	D148-D1475	IT7-8	P129		
SFB Micro-Finish Boring Tool	Accuracy of adjustment0.002mm				MAX 7D	SFB	D29-D150	IT7-8	P130		
GBJ/GBH Micro-Finish Boring Tool	Accuracy of adjustment0.001mm					GBJ	D6-D50	IT7-8	P132		
	Accuracy of adjustment0.01mm					GBH	D8-D280	IT7-8	P133		

◎ Most Suitable ○ Suitable

	工件材料												
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	<35HRC	35-48HRC			<35HRC	35-45HRC	Si<12%	Si>12%	<200HB		<450HB	<400HB	45-55HRC	55-60HRC
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Solid Carbide Drills Identification System

D938 –

①

Workpiece Material	①Drills Series	
Steel,Cast Iron,Non-steel Material	D101	Straight Shank 90°NC Centre Drills
	D102	Straight Shank 120°NC Centre Drills
	D103	Straight Shank 145°NC Centre Drills
Steel	D918	Twist Drills for General Purpose
	D938	Twist Drills for Steel
Stainless Steel	D968S	Twist Drills for Stainless Steel
Cast Iron	D928	Twist Drills for Cast Iron
Hardened Steel	D998	Twist Drills for Hardened Steel
Cast Iron	D713	Straight Flute Drills for Cast Iron
Composite Mmaterial	D612	Triple-angle Drills for Composite Mmaterial
	R733-C	Reamer forComposite Mmaterial
Composite and Metal	D973	Twist Drills for Composite and Metal
	D573	Core Drills for Composite and Metal
	R733-CM	Reamer for Composite and Metal

A	5	C –	1200
②	③	④	⑤

②ShankType	
A	DIN6535HA
E	DIN6535HE
B	DIN6535HB
Y	Continuous Parallel Shank
M	Mose Shank

③Drilling Depth	
3	Drilling Depth≤3D
5	Drilling Depth≤5D
8	Drilling Depth≤8D
A	Drilling Depth≤10D
M	90°Point Angle
N	120°Point Angle
P	145°Point Angle

④Coolant Type	
C	Internal Coolant
N	External Coolant

⑤Drill Diameter	
0325	Dia：Φ3.25
0600	Dia：Φ6.00
1200	Dia：Φ12.00

Series Introduce

D918 Twist Drills for General Purpose

- Suitable for drilling steel, stainless steel, cast iron, non-ferrous material.
- Stub chisel, excellent self-center capability.
- curve point, smaller cutting resistance.
- Lip chamfer, higher feed rate, higher efficiency.





D938 Twist Drills for Steel

- Suitable for drilling of Steel（≤ 48HRC）, Cast Iron.
- Unique cutting edge preparation to add strength to the cutting edge, and improve the drilling stability.
- New AlTiN-nano coating, superior wear resistance, longer tool life.
- Straight cutting edge, improves tool strength.

D928 Twist Drills for Cast Iron

- Suitable for drilling cast iron of automobile industry and other industries.
- Wave formed cutting lips provides lowered machining torque.
- Four margin design, improves hole wall quality and accuracy.
- Increased Drills point strength through optimized chisel edge.





D968S High PerformanceTwist Drills for Stainless Steel

- Suitable for high efficient drilling of stainless steel, carbon steel, alloy steel, heat-resistant alloys and titanium alloys and other materials.
- Unique bottom edge design with stronger chip breaking capacity and larger chip holding space.
- New substrate coating—superior toughness and wear resistance.
- Large groove design, with good chip evacuation performance.

Series Introduce

D998Twist Drills for Hardened Steel

- Suitable for drilling hardened steel.
- Large core thickness, small helix angle, high rigidity and strength.
- X-shaped drills tip, excellent self-center capability.
- Radius drills point, excellent hole wall quality.





D713Straight Flute Drills for Cast Iron

- Straight flute design, suitable for drilling cast iron.
- Four margin design, improve hole wall quality and accuracy.
- X-shaped drills tip, excellent self-center capability.

D101/D102/D103 NC Centre Drills

- Suitable for drilling the center hole and chamfer.
- Suitable for drilling steel, cast iron, aluminum alloys, copper alloy.





D973Twist Drills for Composite and Metal

- Suitable for carbon fiber / glass fiber reinforced plastic and metal laminated board material manual holel .
- Suitable for aviation aluminum, titanium alloy, stainless steel metal materialsl .
- Double edge and self centering design increases process stabilityl .
- Hole tolerance:+/-0.025mm（+/-0.001 "）.
- Unique tip design reduces export burrsl .
- Recommended with the use of drilling sleeve.

Series Introduce

D573 Core Drills for Composite and Metal

- Suitable for manual reaming of CFRP / GFRP and metal laminates
- Suitable for aviation aluminum, titanium alloy, stainless steel metal materials
- Three-blade structure and drill tip design to increase processing stability
- Recommended with the use of drilling sleeve
- Hole tolerance:+/-0.025mm（+/-0.001 "）



D612Triple-angle Drill for Composite Material

- Suitable for all kinds of carbon fiber / glass fiber reinforced plastic manual drillingl
- The tool slot is designed for unidirectional and braided belt type CFRP
- The unique tip design ensures smooth and smooth drilling
- Cutting edge sharp can be processed out of excellent export / import quality
- Hole tolerance：+/-0.025mm（+/-0.001 "）



R733-CM Reamer for Composite and Metal

- Suitable for high precision manual reaming of CFRP / GFRP and metal laminates
- Suitable for hole geometric accuracy and processing roughness demanding reaming
- Double ladder design can effectively increase the scope of application
- Hole tolerance: +/- 0.010mm

R733-C Reamer for Composite Material

- Suitable for all kinds of carbon fiber / glass fiber reinforced plastic high precision manual hinge processing
- Suitable for hole geometric accuracy and processing roughness demanding reaming
- Double ladder design can effectively increase the scope of application
- Hole tolerance:±0.010mm



New Products

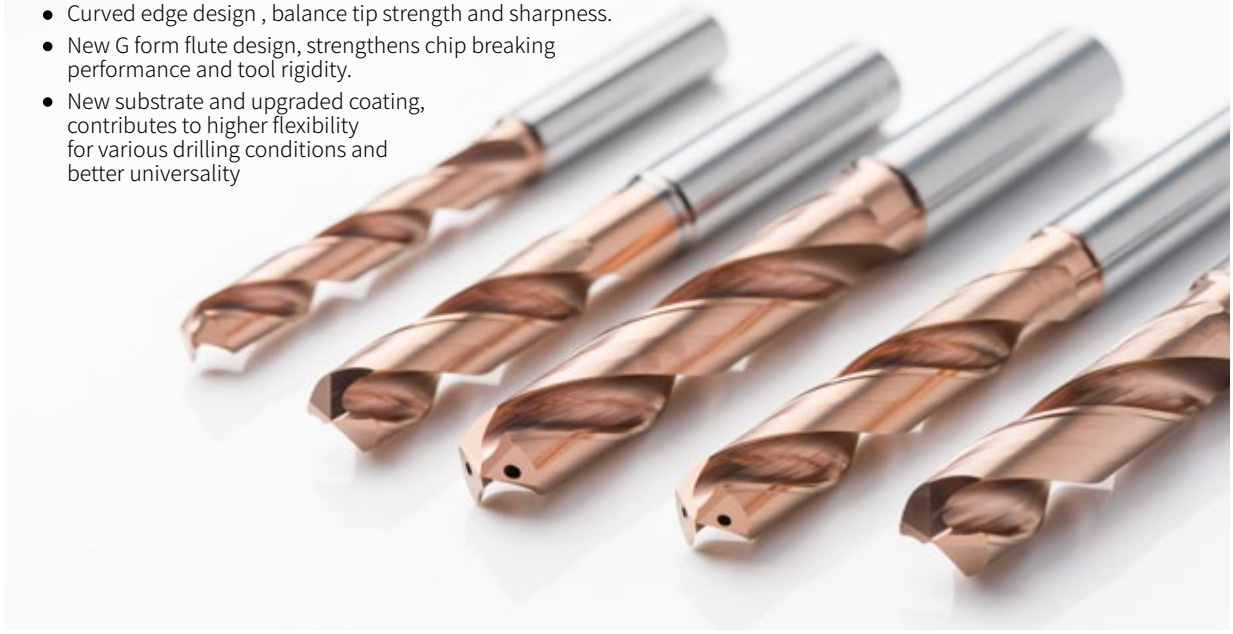
D938 Series
12D-15D Deep-hole Inner Cooling Twist Drill

- Suitable for efficient drilling of Steel, Cast Iron and Stainless steel
- New substrate material, toughness and wear resistance of perfect balance
- Using AlTiN-nano coating and unique post-processing of coating
- Optimize the groove profile and design of drill point, With super self-centering Performance,chip breaking performance and good chip evacuation performance



D918S
High Performance Twist Drills for Steel

- Suitable for drilling mild Steel, Interrupted cutting, defective cooling condition and other severe working condietions.
- Curved edge design , balance tip strength and sharpness.
- New G form flute design, strengthens chip breaking performance and tool rigidity.
- New substrate and upgraded coating, contributes to higher flexibility for various drilling conditions and better universality



Application Summary of Solid Carbide Drills

<table>
<tr><th rowspan="2">ISO</th><th rowspan="2">GESAC Material Group</th><th colspan="5">Internal Coolant Drilling</th><th colspan="3">External Coolant Drilling</th></tr>
<tr><th>3*D</th><th>5*D</th><th>8*D</th><th>12*D</th><th>15*D</th><th>Chamfer/ centre hole</th><th>3*D</th><th>5*D</th></tr>
<tr><td rowspan="3">P</td><td>Carbon Steels, Alloy Steels (<35HRC)</td><td colspan="2" rowspan="3">D918
D938
D918S NEW</td><td rowspan="3">D938</td><td rowspan="3">NEW
D938</td><td rowspan="3">NEW
D938</td><td rowspan="10">D101
D102
D103</td><td colspan="2" rowspan="3">D918
D938
D918S</td></tr>
<tr><td>Alloy Steels (35-48HRC)</td></tr>
<tr><td>PH and Ferrite/Martensitic Stainless (<35HRC)</td></tr>
<tr><td>M</td><td>Stainless Steel</td><td colspan="2">D968S NEW</td><td>Developing</td><td>Developing</td><td></td><td colspan="2">D968S</td></tr>
<tr><td rowspan="2">K</td><td>Cast Iron, Ductile Cast Iron (<32HRC)</td><td colspan="2" rowspan="2">D928
D713</td><td rowspan="2">Developing</td><td rowspan="2">Developing</td><td rowspan="2"></td><td colspan="2" rowspan="2">D928
D713</td></tr>
<tr><td>High Alloy Cast Cast Iron (35-45HRC)</td></tr>
<tr><td rowspan="4">N</td><td>Wrought Aluminium Alloys, Cast Aluminium Alloys</td><td></td><td></td><td rowspan="2">Developing</td><td rowspan="2">Developing</td><td rowspan="2"></td><td colspan="2"></td></tr>
<tr><td>Cast Aluminium Alloys (Si>12%)</td><td colspan="2">D713</td><td colspan="2">D713</td></tr>
<tr><td>Copper Alloys (<200HB)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Composite</td><td></td><td></td><td></td><td></td><td></td><td>D612</td><td></td></tr>
<tr><td rowspan="2">S</td><td>Heat Resistant Super Alloys (<450HB)</td><td colspan="2">D968S</td><td></td><td></td><td></td><td colspan="2">D968S</td></tr>
<tr><td>Titanium Alloys (<400HB)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">H</td><td>Hardened Steels (45-60HRC)</td><td></td><td></td><td></td><td></td><td></td><td>D998</td><td></td></tr>
<tr><td>Hardened Steels (60-65HRC)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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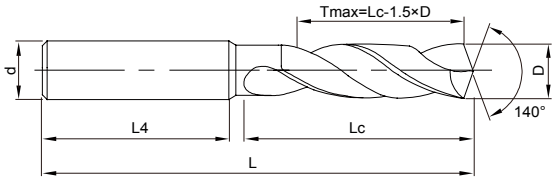
D918S-A3N NEW

High Performance 3D External Cooling Twist Drills For Steel

SHANK DIN 6535HA | AlCrN/TiSiN | 3D





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918S-A3N-0300	3.00	20	36	62	6	●
D918S-A3N-0330	3.30	20	36	62	6	●
D918S-A3N-0400	4.00	24	36	66	6	●
D918S-A3N-0420	4.20	24	36	66	6	●
D918S-A3N-0500	5.00	28	36	66	6	●
D918S-A3N-0600	6.00	28	36	66	6	●
D918S-A3N-0680	6.80	34	36	79	8	●
D918S-A3N-0700	7.00	34	36	79	8	●
D918S-A3N-0800	8.00	41	36	79	8	●
D918S-A3N-0850	8.50	47	40	89	10	●
D918S-A3N-0900	9.00	47	40	89	10	●
D918S-A3N-1000	10.00	47	40	89	10	●
D918S-A3N-1030	10.30	55	45	102	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918S-A3N-1050	10.50	55	45	102	12	●
D918S-A3N-1100	11.00	55	45	102	12	●
D918S-A3N-1200	12.00	55	45	102	12	●
D918S-A3N-1250	12.50	60	45	107	14	○
D918S-A3N-1300	13.00	60	45	107	14	●
D918S-A3N-1400	14.00	60	45	107	14	●
D918S-A3N-1450	14.50	65	48	115	16	●
D918S-A3N-1500	15.00	65	48	115	16	○
D918S-A3N-1600	16.00	65	48	115	16	○
D918S-A3N-1700	17.00	73	48	123	18	○
D918S-A3N-1800	18.00	73	48	123	18	○
D918S-A3N-1900	19.00	79	50	131	20	○
D918S-A3N-2000	20.00	79	50	131	20	○

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

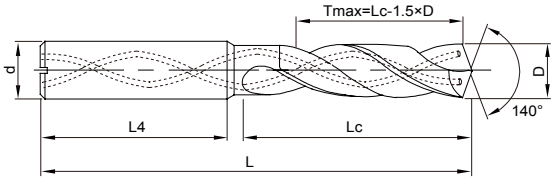
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P069

D918S-A3C NEW

High Performance 3D Inner Cooling Twist Drills For Steel







Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918S-A3C-0300	3.00	20	36	62	6	○
D918S-A3C-0330	3.30	20	36	62	6	○
D918S-A3C-0400	4.00	24	36	66	6	○
D918S-A3C-0420	4.20	24	36	66	6	○
D918S-A3C-0500	5.00	28	36	66	6	○
D918S-A3C-0600	6.00	28	36	66	6	○
D918S-A3C-0680	6.80	34	36	79	8	○
D918S-A3C-0700	7.00	34	36	79	8	○
D918S-A3C-0800	8.00	41	36	79	8	○
D918S-A3C-0850	8.50	47	40	89	10	○
D918S-A3C-0900	9.00	47	40	89	10	○
D918S-A3C-1000	10.00	47	40	89	10	○
D918S-A3C-1030	10.30	55	45	102	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918S-A3C-1050	10.50	55	45	102	12	○
D918S-A3C-1100	11.00	55	45	102	12	○
D918S-A3C-1200	12.00	55	45	102	12	○
D918S-A3C-1250	12.50	60	45	107	14	○
D918S-A3C-1300	13.00	60	45	107	14	○
D918S-A3C-1400	14.00	60	45	107	14	○
D918S-A3C-1450	14.50	65	48	115	16	○
D918S-A3C-1500	15.00	65	48	115	16	○
D918S-A3C-1600	16.00	65	48	115	16	○
D918S-A3C-1700	17.00	73	48	123	18	○
D918S-A3C-1800	18.00	73	48	123	18	○
D918S-A3C-1900	19.00	79	50	131	20	○
D918S-A3C-2000	20.00	79	50	131	20	○

Note：Accept non-standard Customization from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

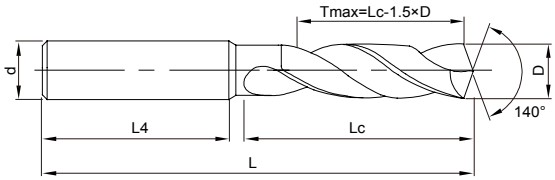
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P069

D918S-A5N NEW

High Performance 5D External Cooling Twist Drills For Steel

SHANK DIN 6535HA | AlCrN/TiSiN | 5D





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918S-A5N-0300	3.00	28	36	66	6	●
D918S-A5N-0350	3.50	28	36	66	6	●
D918S-A5N-0400	4.00	36	36	74	6	●
D918S-A5N-0420	4.20	36	36	74	6	○
D918S-A5N-0500	5.00	44	36	82	6	●
D918S-A5N-0600	6.00	44	36	82	6	○
D918S-A5N-0680	6.80	53	36	91	8	○
D918S-A5N-0700	7.00	53	36	91	8	○
D918S-A5N-0800	8.00	53	36	91	8	○
D918S-A5N-0850	8.50	61	40	103	10	○
D918S-A5N-0900	9.00	61	40	103	10	○
D918S-A5N-1000	10.00	61	40	103	10	○
D918S-A5N-1030	10.30	71	45	118	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918S-A5N-1050	10.50	71	45	118	12	○
D918S-A5N-1100	11.00	71	45	118	12	○
D918S-A5N-1200	12.00	71	45	118	12	○
D918S-A5N-1250	12.50	77	45	124	14	○
D918S-A5N-1300	13.00	77	45	124	14	○
D918S-A5N-1400	14.00	77	45	124	14	○
D918S-A5N-1450	14.50	83	48	133	16	○
D918S-A5N-1500	15.00	83	48	133	16	○
D918S-A5N-1600	16.00	83	48	133	16	○
D918S-A5N-1700	17.00	93	48	143	18	○
D918S-A5N-1800	18.00	93	48	143	18	○
D918S-A5N-1900	19.00	101	50	153	20	○
D918S-A5N-2000	20.00	101	50	153	20	○

Note：Accept non-standard Customization from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

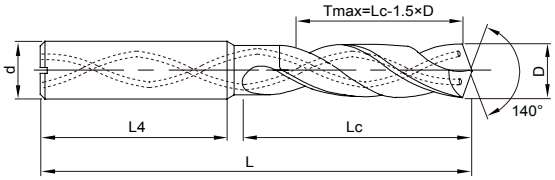
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P069

D918S-A5C NEW

SHANK DIN 6535HA | AlCrN/TiSiN | 5D

High Performance 5D Inner Cooling Twist Drills For Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918S-A5C-0300	3.00	28	36	66	6	●
D918S-A5C-0330	3.30	28	36	66	6	○
D918S-A5C-0400	4.00	36	36	74	6	●
D918S-A5C-0450	4.50	36	36	74	6	●
D918S-A5C-0500	5.00	44	36	82	6	●
D918S-A5C-0550	5.50	44	36	82	6	●
D918S-A5C-0600	6.00	44	36	82	6	○
D918S-A5C-0700	7.00	53	36	91	8	○
D918S-A5C-0800	8.00	53	36	91	8	○
D918S-A5C-0850	8.50	61	40	103	10	○
D918S-A5C-0900	9.00	61	40	103	10	○
D918S-A5C-1000	10.00	61	40	103	10	○
D918S-A5C-1030	10.30	71	45	118	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918S-A5C-1050	10.50	71	45	118	12	○
D918S-A5C-1100	11.00	71	45	118	12	○
D918S-A5C-1200	12.00	71	45	118	12	○
D918S-A5C-1250	12.50	77	45	124	14	○
D918S-A5C-1300	13.00	77	45	124	14	○
D918S-A5C-1400	14.00	77	45	124	14	○
D918S-A5C-1450	14.50	83	48	133	16	○
D918S-A5C-1500	15.00	83	48	133	16	○
D918S-A5C-1600	16.00	83	48	133	16	○
D918S-A5C-1700	17.00	93	48	143	18	○
D918S-A5C-1800	18.00	93	48	143	18	○
D918S-A5C-1900	19.00	101	50	153	20	○
D918S-A5C-2000	20.00	101	50	153	20	○

Note：Accept non-standard Customization from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

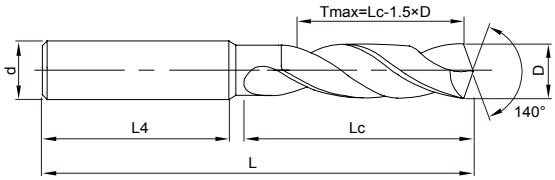
Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P069

D968S-A3N NEW

High Performance 3D External Cooling Twist Drills for Stainless Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D968S-A3N-0100	1.00	7	30	45	4	●
D968S-A3N-0200	2.00	13	36	55	4	●
D968S-A3N-0300	3.00	20	36	62	6	●
D968S-A3N-0330	3.30	20	36	62	6	●
D968S-A3N-0400	4.00	24	36	66	6	●
D968S-A3N-0420	4.20	24	36	66	6	●
D968S-A3N-0500	5.00	28	36	66	6	●
D968S-A3N-0600	6.00	28	36	66	6	●
D968S-A3N-0680	6.80	34	36	79	8	●
D968S-A3N-0700	7.00	34	36	79	8	●
D968S-A3N-0800	8.00	41	36	79	8	●
D968S-A3N-0850	8.50	47	40	89	10	●
D968S-A3N-0900	9.00	47	40	89	10	●
D968S-A3N-1000	10.00	47	40	89	10	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D968S-A3N-1030	10.30	55	45	102	12	○
D968S-A3N-1050	10.50	55	45	102	12	○
D968S-A3N-1100	11.00	55	45	102	12	●
D968S-A3N-1200	12.00	55	45	102	12	●
D968S-A3N-1250	12.50	60	45	107	14	●
D968S-A3N-1300	13.00	60	45	107	14	○
D968S-A3N-1400	14.00	60	45	107	14	●
D968S-A3N-1450	14.50	65	48	115	16	○
D968S-A3N-1500	15.00	65	48	115	16	○
D968S-A3N-1600	16.00	65	48	115	16	○
D968S-A3N-1700	17.00	73	48	123	18	○
D968S-A3N-1800	18.00	73	48	123	18	○
D968S-A3N-1900	19.00	79	50	131	20	○
D968S-A3N-2000	20.00	79	50	131	20	○

Note：Accept non-standard Customization from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Stainless Steel	Heat Resistant Super Alloys (<45HB)	Titanium Alloys (<400HB)
○	◎	○	○

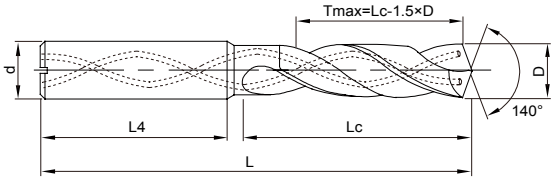
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P071

D968S-A3C NEW

SHANK DIN 6535HA | AlTiN nano | 3D

High Performance 3D Inner Cooling Twist Drills for Stainless Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D968S-A3C-0300	3.00	20	36	62	6	○
D968S-A3C-0330	3.30	20	36	62	6	○
D968S-A3C-0400	4.00	24	36	66	6	○
D968S-A3C-0420	4.20	24	36	66	6	○
D968S-A3C-0500	5.00	28	36	66	6	○
D968S-A3C-0600	6.00	28	36	66	6	○
D968S-A3C-0680	6.80	34	36	79	8	○
D968S-A3C-0700	7.00	34	36	79	8	○
D968S-A3C-0800	8.00	41	36	79	8	○
D968S-A3C-0850	8.50	47	40	89	10	○
D968S-A3C-0900	9.00	47	40	89	10	○
D968S-A3C-1000	10.00	47	40	89	10	○
D968S-A3C-1030	10.30	55	45	102	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D968S-A3C-1050	10.50	55	45	102	12	○
D968S-A3C-1100	11.00	55	45	102	12	○
D968S-A3C-1200	12.00	55	45	102	12	○
D968S-A3C-1250	12.50	60	45	107	14	○
D968S-A3C-1300	13.00	60	45	107	14	○
D968S-A3C-1400	14.00	60	45	107	14	○
D968S-A3C-1450	14.50	65	48	115	16	○
D968S-A3C-1500	15.00	65	48	115	16	○
D968S-A3C-1600	16.00	65	48	115	16	○
D968S-A3C-1700	17.00	73	48	123	18	○
D968S-A3C-1800	18.00	73	48	123	18	○
D968S-A3C-1900	19.00	79	50	131	20	○
D968S-A3C-2000	20.00	79	50	131	20	○

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

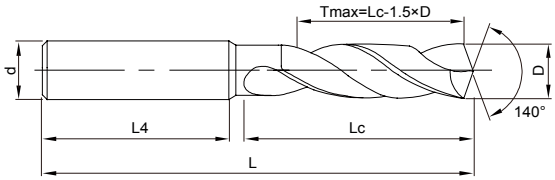
Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Stainless Steel	Heat Resistant Super Alloys (<45HB)	Titanium Alloys (<400HB)
○	◎	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P071

D968S-A5N NEW

High Performance 5D External Cooling Twist Drills for Stainless Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D968S-A5N-0300	3.00	28	36	66	6	○
D968S-A5N-0330	3.30	28	36	66	6	○
D968S-A5N-0400	4.00	36	36	74	6	○
D968S-A5N-0420	4.20	36	36	74	6	○
D968S-A5N-0500	5.00	44	36	82	6	○
D968S-A5N-0600	6.00	44	36	82	6	○
D968S-A5N-0680	6.80	53	36	91	8	○
D968S-A5N-0700	7.00	53	36	91	8	○
D968S-A5N-0800	8.00	53	36	91	8	○
D968S-A5N-0850	8.50	61	40	103	10	○
D968S-A5N-0900	9.00	61	40	103	10	○
D968S-A5N-1000	10.00	61	40	103	10	○
D968S-A5N-1030	10.30	71	45	118	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D968S-A5N-1050	10.50	71	45	118	12	○
D968S-A5N-1100	11.00	71	45	118	12	○
D968S-A5N-1200	12.00	71	45	118	12	○
D968S-A5N-1250	12.50	77	45	124	14	○
D968S-A5N-1300	13.00	77	45	124	14	○
D968S-A5N-1400	14.00	77	45	124	14	○
D968S-A5N-1450	14.50	83	48	133	16	○
D968S-A5N-1500	15.00	83	48	133	16	○
D968S-A5N-1600	16.00	83	48	133	16	○
D968S-A5N-1700	17.00	93	48	143	18	○
D968S-A5N-1800	18.00	93	48	143	18	○
D968S-A5N-1900	19.00	101	50	153	20	○
D968S-A5N-2000	20.00	101	50	153	20	○

Note：Accept non-standard custom from D1 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

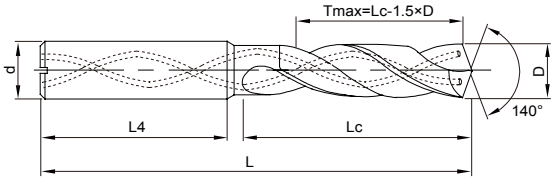
Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Stainless Steel	Heat Resistant Super Alloys (<45HB)	Titanium Alloys (<400HB)
○	◎	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P071

D968S-A5C NEW

High Performance 5D Inner Cooling Twist Drills for Stainless Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D968S-A5C-0300	3.00	28	36	66	6	○
D968S-A5C-0330	3.30	28	36	66	6	○
D968S-A5C-0400	4.00	36	36	74	6	○
D968S-A5C-0420	4.20	36	36	74	6	○
D968S-A5C-0500	5.00	44	36	82	6	○
D968S-A5C-0600	6.00	44	36	82	6	○
D968S-A5C-0680	6.80	53	36	91	8	○
D968S-A5C-0700	7.00	53	36	91	8	○
D968S-A5C-0800	8.00	53	36	91	8	○
D968S-A5C-0850	8.50	61	40	103	10	○
D968S-A5C-0900	9.00	61	40	103	10	○
D968S-A5C-1000	10.00	61	40	103	10	○
D968S-A5C-1030	10.30	71	45	118	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D968S-A5C-1050	10.50	71	45	118	12	○
D968S-A5C-1100	11.00	71	45	118	12	○
D968S-A5C-1200	12.00	71	45	118	12	○
D968S-A5C-1250	12.50	77	45	124	14	○
D968S-A5C-1300	13.00	77	45	124	14	○
D968S-A5C-1400	14.00	77	45	124	14	○
D968S-A5C-1450	14.50	83	48	133	16	○
D968S-A5C-1500	15.00	83	48	133	16	○
D968S-A5C-1600	16.00	83	48	133	16	○
D968S-A5C-1700	17.00	93	48	143	18	○
D968S-A5C-1800	18.00	93	48	143	18	○
D968S-A5C-1900	19.00	101	50	153	20	○
D968S-A5C-2000	20.00	101	50	153	20	○

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

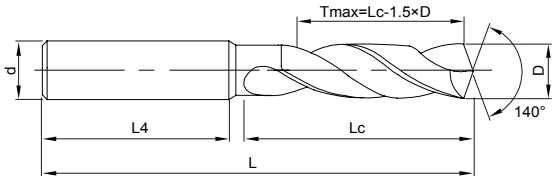
Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Stainless Steel	Heat Resistant Super Alloys (<45HB)	Titanium Alloys (<400HB)
○	◎	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P071

D938-A3N

3D External Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3N-0300	3.00	20	36	62	6	●
D938-A3N-0310	3.10	20	36	62	6	●
D938-A3N-0320	3.20	20	36	62	6	●
D938-A3N-0330	3.30	20	36	62	6	●
D938-A3N-0340	3.40	20	36	62	6	●
D938-A3N-0350	3.50	20	36	62	6	●
D938-A3N-0360	3.60	20	36	62	6	●
D938-A3N-0370	3.70	20	36	62	6	●
D938-A3N-0380	3.80	24	36	66	6	●
D938-A3N-0390	3.90	24	36	66	6	●
D938-A3N-0400	4.00	24	36	66	6	●
D938-A3N-0410	4.10	24	36	66	6	●
D938-A3N-0420	4.20	24	36	66	6	●
D938-A3N-0430	4.30	24	36	66	6	●
D938-A3N-0440	4.40	24	36	66	6	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3N-0450	4.50	24	36	66	6	●
D938-A3N-0460	4.60	24	36	66	6	●
D938-A3N-0470	4.70	24	36	66	6	●
D938-A3N-0480	4.80	28	36	66	6	●
D938-A3N-0490	4.90	28	36	66	6	●
D938-A3N-0500	5.00	28	36	66	6	●
D938-A3N-0510	5.10	28	36	66	6	●
D938-A3N-0520	5.20	28	36	66	6	●
D938-A3N-0530	5.30	28	36	66	6	●
D938-A3N-0540	5.40	28	36	66	6	●
D938-A3N-0550	5.50	28	36	66	6	●
D938-A3N-0560	5.60	28	36	66	6	●
D938-A3N-0570	5.70	28	36	66	6	●
D938-A3N-0580	5.80	28	36	66	6	●
D938-A3N-0590	5.90	28	36	66	6	●

Note：Accept non-standard custom from D1 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

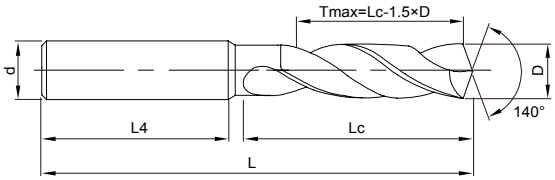
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A3N

3D External Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth



》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3N-0600	6.00	28	36	66	6	●
D938-A3N-0610	6.10	34	36	79	8	●
D938-A3N-0620	6.20	34	36	79	8	●
D938-A3N-0630	6.30	34	36	79	8	●
D938-A3N-0640	6.40	34	36	79	8	●
D938-A3N-0650	6.50	34	36	79	8	●
D938-A3N-0660	6.60	34	36	79	8	●
D938-A3N-0670	6.70	34	36	79	8	●
D938-A3N-0680	6.80	34	36	79	8	●
D938-A3N-0690	6.90	34	36	79	8	●
D938-A3N-0700	7.00	34	36	79	8	●
D938-A3N-0710	7.10	41	36	79	8	●
D938-A3N-0720	7.20	41	36	79	8	●
D938-A3N-0730	7.30	41	36	79	8	●
D938-A3N-0740	7.40	41	36	79	8	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3N-0750	7.50	41	36	79	8	●
D938-A3N-0760	7.60	41	36	79	8	●
D938-A3N-0770	7.70	41	36	79	8	●
D938-A3N-0780	7.80	41	36	79	8	●
D938-A3N-0790	7.90	41	36	79	8	●
D938-A3N-0800	8.00	41	36	79	8	●
D938-A3N-0810	8.10	47	40	89	10	●
D938-A3N-0820	8.20	47	40	89	10	●
D938-A3N-0830	8.30	47	40	89	10	●
D938-A3N-0840	8.40	47	40	89	10	●
D938-A3N-0850	8.50	47	40	89	10	●
D938-A3N-0860	8.60	47	40	89	10	●
D938-A3N-0870	8.70	47	40	89	10	●
D938-A3N-0880	8.80	47	40	89	10	●
D938-A3N-0890	8.90	47	40	89	10	●

Note：Accept non-standard custom from D1 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

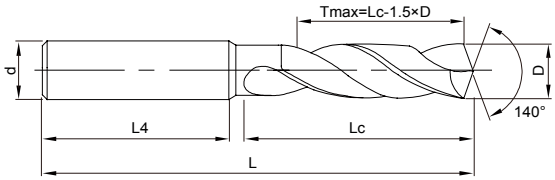
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A3N

3D External Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3N-0900	9.00	47	40	89	10	●
D938-A3N-0910	9.10	47	40	89	10	●
D938-A3N-0920	9.20	47	40	89	10	●
D938-A3N-0925	9.25	47	40	89	10	○
D938-A3N-0930	9.30	47	40	89	10	●
D938-A3N-0940	9.40	47	40	89	10	●
D938-A3N-0950	9.50	47	40	89	10	●
D938-A3N-0960	9.60	47	40	89	10	○
D938-A3N-0970	9.70	47	40	89	10	●
D938-A3N-0980	9.80	47	40	89	10	●
D938-A3N-0990	9.90	47	40	89	10	●
D938-A3N-1000	10.00	47	40	89	10	●
D938-A3N-1010	10.10	55	45	102	12	●
D938-A3N-1020	10.20	55	45	102	12	●
D938-A3N-1030	10.30	55	45	102	12	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3N-1040	10.40	55	45	102	12	●
D938-A3N-1050	10.50	55	45	102	12	●
D938-A3N-1060	10.60	55	45	102	12	●
D938-A3N-1070	10.70	55	45	102	12	●
D938-A3N-1080	10.80	55	45	102	12	●
D938-A3N-1090	10.90	55	45	102	12	●
D938-A3N-1100	11.00	55	45	102	12	●
D938-A3N-1110	11.10	55	45	102	12	●
D938-A3N-1120	11.20	55	45	102	12	●
D938-A3N-1130	11.30	55	45	102	12	●
D938-A3N-1140	11.40	55	45	102	12	●
D938-A3N-1150	11.50	55	45	102	12	●
D938-A3N-1160	11.60	55	45	102	12	○
D938-A3N-1170	11.70	55	45	102	12	○
D938-A3N-1180	11.80	55	45	102	12	●

Note：Accept non-standard custom from D1 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

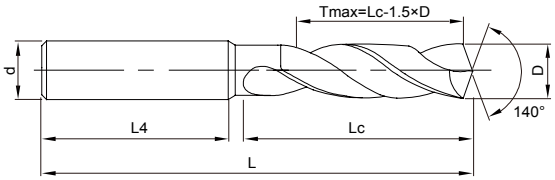
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A3N

3D External Cooling Twist Drills for Steel



Tmax-Recommended Maximum Depth



》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3N-1190	11.90	55	45	102	12	○
D938-A3N-1200	12.00	55	45	102	12	●
D938-A3N-1250	12.50	60	45	107	14	●
D938-A3N-1280	12.80	60	45	107	14	●
D938-A3N-1300	13.00	60	45	107	14	●
D938-A3N-1350	13.50	60	45	107	14	●
D938-A3N-1380	13.80	60	45	107	14	●
D938-A3N-1400	14.00	60	45	107	14	●
D938-A3N-1450	14.50	65	48	115	16	●
D938-A3N-1480	14.80	65	48	115	16	○
D938-A3N-1500	15.00	65	48	115	16	●
D938-A3N-1550	15.50	65	48	115	16	●
D938-A3N-1580	15.80	65	48	115	16	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3N-1600	16.00	65	48	115	16	●
D938-A3N-1650	16.50	73	48	123	18	●
D938-A3N-1680	16.80	73	48	123	18	●
D938-A3N-1700	17.00	73	48	123	18	●
D938-A3N-1750	17.50	73	48	123	18	●
D938-A3N-1780	17.80	73	48	123	18	●
D938-A3N-1800	18.00	73	48	123	18	●
D938-A3N-1850	18.50	79	50	131	20	●
D938-A3N-1880	18.80	79	50	131	20	○
D938-A3N-1900	19.00	79	50	131	20	○
D938-A3N-1950	19.50	79	50	131	20	●
D938-A3N-1980	19.80	79	50	131	20	●
D938-A3N-2000	20.00	79	50	131	20	●

Note：Accept non-standard custom from D1 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

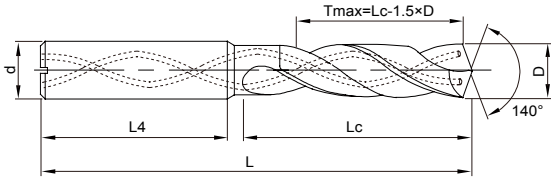
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A3C

3D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3C-0300	3.00	20	36	62	6	●
D938-A3C-0310	3.10	20	36	62	6	●
D938-A3C-0320	3.20	20	36	62	6	●
D938-A3C-0330	3.30	20	36	62	6	●
D938-A3C-0340	3.40	20	36	62	6	●
D938-A3C-0350	3.50	20	36	62	6	●
D938-A3C-0360	3.60	20	36	62	6	●
D938-A3C-0370	3.70	20	36	62	6	●
D938-A3C-0380	3.80	24	36	66	6	●
D938-A3C-0390	3.90	24	36	66	6	●
D938-A3C-0400	4.00	24	36	66	6	●
D938-A3C-0410	4.10	24	36	66	6	●
D938-A3C-0420	4.20	24	36	66	6	●
D938-A3C-0430	4.30	24	36	66	6	●
D938-A3C-0440	4.40	24	36	66	6	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3C-0450	4.50	24	36	66	6	●
D938-A3C-0460	4.60	24	36	66	6	●
D938-A3C-0470	4.70	24	36	66	6	●
D938-A3C-0480	4.80	28	36	66	6	●
D938-A3C-0490	4.90	28	36	66	6	●
D938-A3C-0500	5.00	28	36	66	6	●
D938-A3C-0510	5.10	28	36	66	6	●
D938-A3C-0520	5.20	28	36	66	6	●
D938-A3C-0530	5.30	28	36	66	6	●
D938-A3C-0540	5.40	28	36	66	6	○
D938-A3C-0550	5.50	28	36	66	6	●
D938-A3C-0560	5.60	28	36	66	6	●
D938-A3C-0570	5.70	28	36	66	6	○
D938-A3C-0580	5.80	28	36	66	6	●
D938-A3C-0590	5.90	28	36	66	6	●

Note：Accept non-standard custom from D2to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

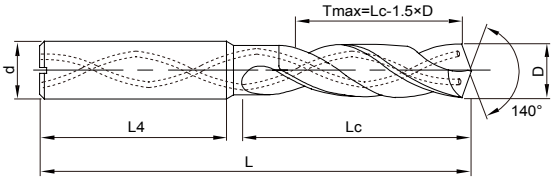
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A3C

3D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3C-0600	6.00	28	36	66	6	●
D938-A3C-0610	6.10	34	36	79	8	●
D938-A3C-0620	6.20	34	36	79	8	●
D938-A3C-0630	6.30	34	36	79	8	○
D938-A3C-0640	6.40	34	36	79	8	●
D938-A3C-0650	6.50	34	36	79	8	●
D938-A3C-0660	6.60	34	36	79	8	●
D938-A3C-0670	6.70	34	36	79	8	●
D938-A3C-0680	6.80	34	36	79	8	●
D938-A3C-0690	6.90	34	36	79	8	●
D938-A3C-0700	7.00	34	36	79	8	●
D938-A3C-0710	7.10	41	36	79	8	○
D938-A3C-0720	7.20	41	36	79	8	●
D938-A3C-0730	7.30	41	36	79	8	●
D938-A3C-0740	7.40	41	36	79	8	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3C-0750	7.50	41	36	79	8	●
D938-A3C-0760	7.60	41	36	79	8	○
D938-A3C-0770	7.70	41	36	79	8	○
D938-A3C-0780	7.80	41	36	79	8	○
D938-A3C-0790	7.90	41	36	79	8	○
D938-A3C-0800	8.00	41	36	79	8	●
D938-A3C-0810	8.10	47	40	89	10	●
D938-A3C-0820	8.20	47	40	89	10	●
D938-A3C-0830	8.30	47	40	89	10	●
D938-A3C-0840	8.40	47	40	89	10	●
D938-A3C-0850	8.50	47	40	89	10	●
D938-A3C-0860	8.60	47	40	89	10	●
D938-A3C-0870	8.70	47	40	89	10	●
D938-A3C-0880	8.80	47	40	89	10	●
D938-A3C-0890	8.90	47	40	89	10	●

Note：Accept non-standard custom from D2to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

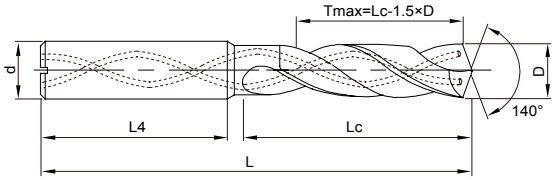
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A3C

3D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3C-0900	9.00	47	40	89	10	●
D938-A3C-0910	9.10	47	40	89	10	○
D938-A3C-0920	9.20	47	40	89	10	○
D938-A3C-0930	9.30	47	40	89	10	●
D938-A3C-0940	9.40	47	40	89	10	●
D938-A3C-0950	9.50	47	40	89	10	●
D938-A3C-0960	9.60	47	40	89	10	○
D938-A3C-0970	9.70	47	40	89	10	●
D938-A3C-0980	9.80	47	40	89	10	●
D938-A3C-0990	9.90	47	40	89	10	●
D938-A3C-1000	10.00	47	40	89	10	●
D938-A3C-1010	10.10	55	45	102	12	●
D938-A3C-1020	10.20	55	45	102	12	●
D938-A3C-1030	10.30	55	45	102	12	●
D938-A3C-1040	10.40	55	45	102	12	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3C-1050	10.50	55	45	102	12	●
D938-A3C-1060	10.60	55	45	102	12	●
D938-A3C-1070	10.70	55	45	102	12	●
D938-A3C-1080	10.80	55	45	102	12	●
D938-A3C-1090	10.90	55	45	102	12	●
D938-A3C-1100	11.00	55	45	102	12	●
D938-A3C-1110	11.10	55	45	102	12	●
D938-A3C-1120	11.20	55	45	102	12	●
D938-A3C-1130	11.30	55	45	102	12	●
D938-A3C-1140	11.40	55	45	102	12	●
D938-A3C-1150	11.50	55	45	102	12	○
D938-A3C-1160	11.60	55	45	102	12	●
D938-A3C-1170	11.70	55	45	102	12	●
D938-A3C-1180	11.80	55	45	102	12	●
D938-A3C-1190	11.90	55	45	102	12	●

Note：Accept non-standard custom from D2to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

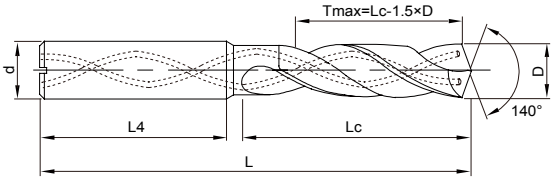
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A3C

3D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3C-1200	12.00	55	45	102	12	●
D938-A3C-1250	12.50	60	45	107	14	●
D938-A3C-1280	12.80	60	45	107	14	●
D938-A3C-1300	13.00	60	45	107	14	●
D938-A3C-1350	13.50	60	45	107	14	●
D938-A3C-1380	13.80	60	45	107	14	○
D938-A3C-1400	14.00	60	45	107	14	●
D938-A3C-1450	14.50	65	48	115	16	●
D938-A3C-1480	14.80	65	48	115	16	●
D938-A3C-1500	15.00	65	48	115	16	●
D938-A3C-1550	15.50	65	48	115	16	○
D938-A3C-1580	15.80	65	48	115	16	○
D938-A3C-1600	16.00	65	48	115	16	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A3C-1650	16.50	73	48	123	18	●
D938-A3C-1680	16.80	73	48	123	18	○
D938-A3C-1700	17.00	73	48	123	18	●
D938-A3C-1750	17.50	73	48	123	18	●
D938-A3C-1780	17.80	73	48	123	18	○
D938-A3C-1800	18.00	73	48	123	18	●
D938-A3C-1850	18.50	79	50	131	20	●
D938-A3C-1880	18.80	79	50	131	20	○
D938-A3C-1900	19.00	79	50	131	20	○
D938-A3C-1950	19.50	79	50	131	20	●
D938-A3C-1980	19.80	79	50	131	20	○
D938-A3C-2000	20.00	79	50	131	20	○

Note：Accept non-standard custom from D2to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

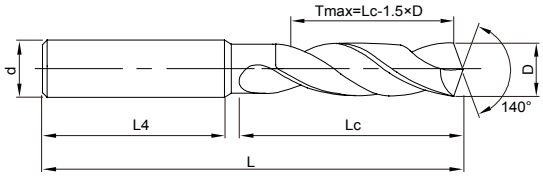
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A5N

5D External Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5N-0300	3.00	28	36	66	6	●
D938-A5N-0310	3.10	28	36	66	6	○
D938-A5N-0320	3.20	28	36	66	6	●
D938-A5N-0330	3.30	28	36	66	6	●
D938-A5N-0340	3.40	28	36	66	6	○
D938-A5N-0350	3.50	28	36	66	6	●
D938-A5N-0360	3.60	28	36	66	6	●
D938-A5N-0370	3.70	28	36	66	6	○
D938-A5N-0380	3.80	36	36	74	6	●
D938-A5N-0390	3.90	36	36	74	6	○
D938-A5N-0400	4.00	36	36	74	6	●
D938-A5N-0410	4.10	36	36	74	6	○
D938-A5N-0420	4.20	36	36	74	6	●
D938-A5N-0430	4.30	36	36	74	6	●
D938-A5N-0440	4.40	36	36	74	6	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5N-0450	4.5	36	36	74	6	●
D938-A5N-0460	4.6	36	36	74	6	○
D938-A5N-0465	4.65	36	36	74	6	○
D938-A5N-0470	4.7	36	36	74	6	○
D938-A5N-0480	4.8	44	36	82	6	●
D938-A5N-0490	4.9	44	36	82	6	○
D938-A5N-0500	5.0	44	36	82	6	●
D938-A5N-0510	5.1	44	36	82	6	●
D938-A5N-0520	5.2	44	36	82	6	●
D938-A5N-0530	5.3	44	36	82	6	○
D938-A5N-0540	5.4	44	36	82	6	○
D938-A5N-0550	5.5	44	36	82	6	●
D938-A5N-0555	5.55	44	36	82	6	○
D938-A5N-0560	5.6	44	36	82	6	●
D938-A5N-0570	5.7	44	36	82	6	○

Note：Accept non-standard custom from D1 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

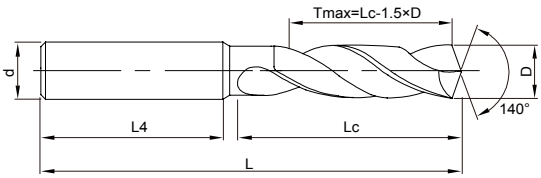
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A5N

5D External Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5N-0580	5.8	44	36	82	6	●
D938-A5N-0590	5.9	44	36	82	6	●
D938-A5N-0600	6.0	44	36	82	6	●
D938-A5N-0610	6.1	53	36	91	8	○
D938-A5N-0620	6.2	53	36	91	8	●
D938-A5N-0630	6.3	53	36	91	8	●
D938-A5N-0640	6.4	53	36	91	8	●
D938-A5N-0650	6.5	53	36	91	8	●
D938-A5N-0660	6.6	53	36	91	8	●
D938-A5N-0670	6.7	53	36	91	8	●
D938-A5N-0680	6.8	53	36	91	8	●
D938-A5N-0690	6.9	53	36	91	8	●
D938-A5N-0700	7.0	53	36	91	8	●
D938-A5N-0710	7.1	53	36	91	8	●
D938-A5N-0720	7.2	53	36	91	8	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5N-0730	7.3	53	36	91	8	○
D938-A5N-0740	7.4	53	36	91	8	●
D938-A5N-0750	7.5	53	36	91	8	●
D938-A5N-0760	7.6	53	36	91	8	○
D938-A5N-0770	7.7	53	36	91	8	●
D938-A5N-0780	7.8	53	36	91	8	●
D938-A5N-0790	7.9	53	36	91	8	○
D938-A5N-0800	8.0	53	36	91	8	●
D938-A5N-0810	8.1	61	40	103	10	○
D938-A5N-0820	8.2	61	40	103	10	●
D938-A5N-0830	8.3	61	40	103	10	○
D938-A5N-0840	8.4	61	40	103	10	●
D938-A5N-0850	8.5	61	40	103	10	●
D938-A5N-0860	8.6	61	40	103	10	●
D938-A5N-0870	8.7	61	40	103	10	●

Note：Accept non-standard custom from D1 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

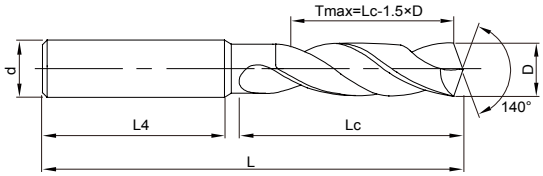
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A5N

5D External Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5N-0880	8.8	61	40	103	10	●
D938-A5N-0890	8.9	61	40	103	10	○
D938-A5N-0900	9.0	61	40	103	10	●
D938-A5N-0910	9.1	61	40	103	10	●
D938-A5N-0920	9.2	61	40	103	10	○
D938-A5N-0930	9.3	61	40	103	10	●
D938-A5N-0940	9.4	61	40	103	10	○
D938-A5N-0950	9.5	61	40	103	10	●
D938-A5N-0960	9.6	61	40	103	10	●
D938-A5N-0970	9.7	61	40	103	10	○
D938-A5N-0980	9.8	61	40	103	10	●
D938-A5N-0990	9.9	61	40	103	10	●
D938-A5N-1000	10.0	61	40	103	10	●
D938-A5N-1010	10.1	71	45	118	12	○
D938-A5N-1020	10.2	71	45	118	12	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5N-1025	10.25	71	45	118	12	○
D938-A5N-1030	10.3	71	45	118	12	●
D938-A5N-1040	10.4	71	45	118	12	○
D938-A5N-1050	10.5	71	45	118	12	●
D938-A5N-1060	10.6	71	45	118	12	●
D938-A5N-1070	10.7	71	45	118	12	●
D938-A5N-1080	10.8	71	45	118	12	○
D938-A5N-1090	10.9	71	45	118	12	○
D938-A5N-1100	11.0	71	45	118	12	●
D938-A5N-1110	11.1	71	45	118	12	●
D938-A5N-1120	11.2	71	45	118	12	●
D938-A5N-1130	11.3	71	45	118	12	○
D938-A5N-1140	11.4	71	45	118	12	●
D938-A5N-1150	11.5	71	45	118	12	○
D938-A5N-1160	11.6	71	45	118	12	●

Note：Accept non-standard custom from D1 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

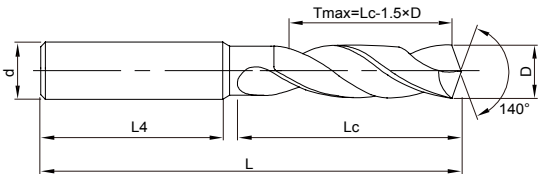
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A5N

5D External Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5N-1170	11.7	71	45	118	12	○
D938-A5N-1180	11.8	71	45	118	12	●
D938-A5N-1190	11.9	71	45	118	12	●
D938-A5N-1200	12.0	71	45	118	12	●
D938-A5N-1220	12.2	77	45	124	14	○
D938-A5N-1230	12.3	77	45	124	14	●
D938-A5N-1240	12.4	77	45	124	14	○
D938-A5N-1250	12.5	77	45	124	14	●
D938-A5N-1280	12.8	77	45	124	14	○
D938-A5N-1300	13.0	77	45	124	14	●
D938-A5N-1350	13.5	77	45	124	14	○
D938-A5N-1380	13.8	77	45	124	14	○
D938-A5N-1400	14.0	77	45	124	14	●
D938-A5N-1430	14.3	83	48	133	16	●
D938-A5N-1450	14.5	83	48	133	16	●
D938-A5N-1460	14.6	83	48	133	16	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5N-1480	14.8	83	48	133	16	○
D938-A5N-1500	15.0	83	48	133	16	○
D938-A5N-1550	15.5	83	48	133	16	○
D938-A5N-1580	15.8	83	48	133	16	○
D938-A5N-1600	16.0	83	48	133	16	●
D938-A5N-1650	16.5	93	48	143	18	○
D938-A5N-1660	16.6	93	48	143	18	●
D938-A5N-1680	16.8	93	48	143	18	○
D938-A5N-1700	17.0	93	48	143	18	●
D938-A5N-1750	17.5	93	48	143	18	●
D938-A5N-1780	17.8	93	48	143	18	○
D938-A5N-1800	18.0	93	48	143	18	○
D938-A5N-1850	18.5	101	50	153	20	○
D938-A5N-1900	19.0	101	50	153	20	○
D938-A5N-1950	19.5	101	50	153	20	○
D938-A5N-2000	20.0	101	50	153	20	

Note：Accept non-standard custom from D1 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

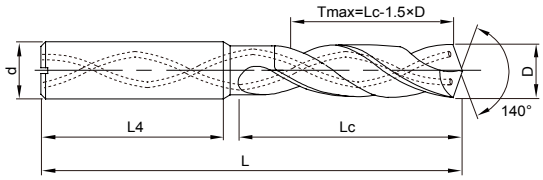
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A5C

5D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5C-0300	3.00	28	36	66	6	●
D938-A5C-0310	3.10	28	36	66	6	●
D938-A5C-0320	3.20	28	36	66	6	●
D938-A5C-0330	3.30	28	36	66	6	●
D938-A5C-0340	3.40	28	36	66	6	●
D938-A5C-0350	3.50	28	36	66	6	●
D938-A5C-0360	3.60	28	36	66	6	●
D938-A5C-0370	3.70	28	36	66	6	●
D938-A5C-0380	3.80	36	36	74	6	●
D938-A5C-0390	3.90	36	36	74	6	●
D938-A5C-0400	4.00	36	36	74	6	●
D938-A5C-0410	4.10	36	36	74	6	●
D938-A5C-0420	4.20	36	36	74	6	●
D938-A5C-0430	4.30	36	36	74	6	●
D938-A5C-0440	4.40	36	36	74	6	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5C-0450	4.50	36	36	74	6	●
D938-A5C-0460	4.60	36	36	74	6	●
D938-A5C-0465	4.65	36	36	74	6	●
D938-A5C-0470	4.70	36	36	74	6	●
D938-A5C-0480	4.80	44	36	82	6	●
D938-A5C-0490	4.90	44	36	82	6	●
D938-A5C-0500	5.00	44	36	82	6	●
D938-A5C-0510	5.10	44	36	82	6	●
D938-A5C-0520	5.20	44	36	82	6	●
D938-A5C-0530	5.30	44	36	82	6	●
D938-A5C-0540	5.40	44	36	82	6	●
D938-A5C-0550	5.50	44	36	82	6	●
D938-A5C-0555	5.55	44	36	82	6	●
D938-A5C-0560	5.60	44	36	82	6	●
D938-A5C-0570	5.70	44	36	82	6	●

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

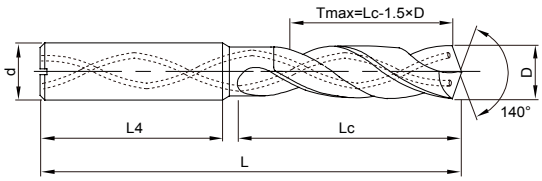
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A5C

5D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5C-0580	5.80	44	36	82	6	●
D938-A5C-0590	5.90	44	36	82	6	●
D938-A5C-0600	6.00	44	36	82	6	●
D938-A5C-0610	6.10	53	36	91	8	●
D938-A5C-0620	6.20	53	36	91	8	●
D938-A5C-0630	6.30	53	36	91	8	●
D938-A5C-0640	6.40	53	36	91	8	●
D938-A5C-0650	6.50	53	36	91	8	●
D938-A5C-0660	6.60	53	36	91	8	●
D938-A5C-0670	6.70	53	36	91	8	●
D938-A5C-0680	6.80	53	36	91	8	●
D938-A5C-0690	6.90	53	36	91	8	●
D938-A5C-0700	7.00	53	36	91	8	●
D938-A5C-0710	7.10	53	36	91	8	●
D938-A5C-0720	7.20	53	36	91	8	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5C-0730	7.30	53	36	91	8	●
D938-A5C-0740	7.40	53	36	91	8	●
D938-A5C-0745	7.45	53	36	91	8	●
D938-A5C-0750	7.50	53	36	91	8	●
D938-A5C-0760	7.60	53	36	91	8	●
D938-A5C-0770	7.70	53	36	91	8	●
D938-A5C-0780	7.80	53	36	91	8	●
D938-A5C-0790	7.90	53	36	91	8	●
D938-A5C-0800	8.00	53	36	91	8	●
D938-A5C-0810	8.10	61	40	103	10	●
D938-A5C-0820	8.20	61	40	103	10	●
D938-A5C-0830	8.30	61	40	103	10	●
D938-A5C-0840	8.40	61	40	103	10	●
D938-A5C-0850	8.50	61	40	103	10	●
D938-A5C-0860	8.60	61	40	103	10	●

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

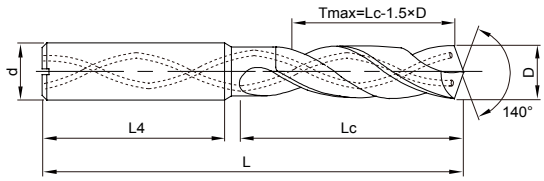
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A5C

5D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5C-0870	8.70	61	40	103	10	●
D938-A5C-0880	8.80	61	40	103	10	●
D938-A5C-0890	8.90	61	40	103	10	●
D938-A5C-0900	9.00	61	40	103	10	●
D938-A5C-0910	9.10	61	40	103	10	●
D938-A5C-0920	9.20	61	40	103	10	○
D938-A5C-0930	9.30	61	40	103	10	●
D938-A5C-0935	9.35	61	40	103	10	●
D938-A5C-0940	9.40	61	40	103	10	●
D938-A5C-0950	9.50	61	40	103	10	●
D938-A5C-0960	9.60	61	40	103	10	○
D938-A5C-0970	9.70	61	40	103	10	●
D938-A5C-0980	9.80	61	40	103	10	●
D938-A5C-0990	9.90	61	40	103	10	●
D938-A5C-1000	10.00	61	40	103	10	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5C-1010	10.10	71	45	118	12	●
D938-A5C-1020	10.20	71	45	118	12	●
D938-A5C-1030	10.30	71	45	118	12	●
D938-A5C-1040	10.40	71	45	118	12	●
D938-A5C-1050	10.50	71	45	118	12	●
D938-A5C-1060	10.60	71	45	118	12	●
D938-A5C-1070	10.70	71	45	118	12	●
D938-A5C-1080	10.80	71	45	118	12	●
D938-A5C-1090	10.90	71	45	118	12	●
D938-A5C-1100	11.00	71	45	118	12	●
D938-A5C-1110	11.10	71	45	118	12	●
D938-A5C-1120	11.20	71	45	118	12	●
D938-A5C-1130	11.30	71	45	118	12	●
D938-A5C-1140	11.40	71	45	118	12	●
D938-A5C-1150	11.50	71	45	118	12	●

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

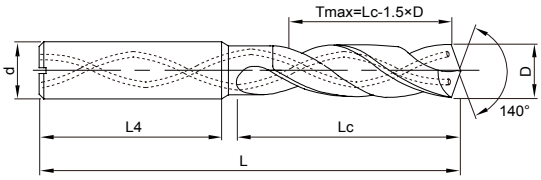
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P073

D938-A5C

5D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5C-1160	11.60	71	45	118	12	○
D938-A5C-1170	11.70	71	45	118	12	●
D938-A5C-1180	11.80	71	45	118	12	●
D938-A5C-1190	11.90	71	45	118	12	●
D938-A5C-1200	12.00	71	45	118	12	●
D938-A5C-1250	12.50	77	45	124	14	●
D938-A5C-1280	12.80	77	45	124	14	○
D938-A5C-1300	13.00	77	45	124	14	●
D938-A5C-1350	13.50	77	45	124	14	●
D938-A5C-1380	13.80	77	45	124	14	●
D938-A5C-1400	14.00	77	45	124	14	●
D938-A5C-1450	14.50	83	48	133	16	●
D938-A5C-1480	14.80	83	48	133	16	●
D938-A5C-1500	15.00	83	48	133	16	●
D938-A5C-1510	15.10	83	48	133	16	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A5C-1550	15.50	83	48	133	16	●
D938-A5C-1580	15.80	83	48	133	16	●
D938-A5C-1600	16.00	83	48	133	16	●
D938-A5C-1650	16.50	93	48	143	18	●
D938-A5C-1680	16.80	93	48	143	18	○
D938-A5C-1700	17.00	93	48	143	18	●
D938-A5C-1750	17.50	93	48	143	18	●
D938-A5C-1780	17.80	93	48	143	18	○
D938-A5C-1800	18.00	93	48	143	18	●
D938-A5C-1850	18.50	101	50	153	20	●
D938-A5C-1880	18.80	101	50	153	20	○
D938-A5C-1900	19.00	101	50	153	20	●
D938-A5C-1950	19.50	101	50	153	20	●
D938-A5C-1980	19.80	101	50	153	20	●
D938-A5C-2000	20.00	101	50	153	20	●

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

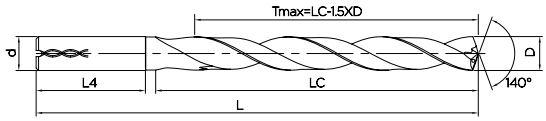
Workpiece Material				
P			K	
1 2 3 4	5	6 7	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P373

D938-A8C

8D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A8C-0300	3.00	34	36	72	6	●
D938-A8C-0310	3.10	34	36	72	6	●
D938-A8C-0320	3.20	34	36	72	6	●
D938-A8C-0330	3.30	34	36	72	6	●
D938-A8C-0340	3.40	34	36	72	6	●
D938-A8C-0350	3.50	34	36	72	6	●
D938-A8C-0360	3.60	34	36	72	6	●
D938-A8C-0370	3.70	34	36	72	6	○
D938-A8C-0380	3.80	43	36	81	6	○
D938-A8C-0390	3.90	43	36	81	6	●
D938-A8C-0400	4.00	43	36	81	6	●
D938-A8C-0410	4.10	43	36	81	6	●
D938-A8C-0420	4.20	43	36	81	6	●
D938-A8C-0430	4.30	43	36	81	6	○
D938-A8C-0440	4.40	43	36	81	6	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A8C-0450	4.50	43	36	81	6	●
D938-A8C-0460	4.60	43	36	81	6	○
D938-A8C-0470	4.70	43	36	81	6	○
D938-A8C-0480	4.80	57	36	95	6	○
D938-A8C-0490	4.90	57	36	95	6	○
D938-A8C-0500	5.00	57	36	95	6	●
D938-A8C-0510	5.10	57	36	95	6	●
D938-A8C-0520	5.20	57	36	95	6	●
D938-A8C-0530	5.30	57	36	95	6	○
D938-A8C-0540	5.40	57	36	95	6	○
D938-A8C-0550	5.50	57	36	95	6	●
D938-A8C-0560	5.60	57	36	95	6	○
D938-A8C-0570	5.70	57	36	95	6	○
D938-A8C-0580	5.80	57	36	95	6	●
D938-A8C-0590	5.90	57	36	95	6	○

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

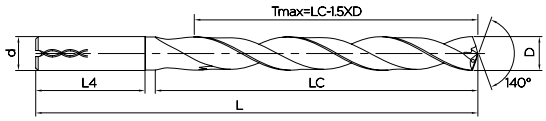
Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P075

D938-A8C

8D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A8C-0600	6.00	57	36	95	6	●
D938-A8C-0610	6.10	76	36	114	8	●
D938-A8C-0620	6.20	76	36	114	8	○
D938-A8C-0630	6.30	76	36	114	8	○
D938-A8C-0640	6.40	76	36	114	8	○
D938-A8C-0650	6.50	76	36	114	8	●
D938-A8C-0660	6.60	76	36	114	8	●
D938-A8C-0670	6.70	76	36	114	8	○
D938-A8C-0680	6.80	76	36	114	8	●
D938-A8C-0690	6.90	76	36	114	8	●
D938-A8C-0700	7.00	76	36	114	8	●
D938-A8C-0710	7.10	76	36	114	8	●
D938-A8C-0720	7.20	76	36	114	8	○
D938-A8C-0730	7.30	76	36	114	8	○

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A8C-0740	7.40	76	36	114	8	●
D938-A8C-0750	7.50	76	36	114	8	●
D938-A8C-0760	7.60	76	36	114	8	○
D938-A8C-0770	7.70	76	36	114	8	○
D938-A8C-0780	7.80	76	36	114	8	○
D938-A8C-0790	7.90	76	36	114	8	●
D938-A8C-0800	8.00	76	36	114	8	●
D938-A8C-0810	8.10	95	40	142	10	○
D938-A8C-0820	8.20	95	40	142	10	●
D938-A8C-0830	8.30	95	40	142	10	○
D938-A8C-0840	8.40	95	40	142	10	○
D938-A8C-0850	8.50	95	40	142	10	●
D938-A8C-0860	8.60	95	40	142	10	○
D938-A8C-0870	8.70	95	40	142	10	●

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

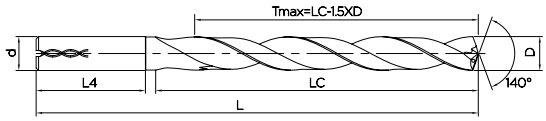
Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P075

D938-A8C

8D Inner Cooling Twist Drills for Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A8C-0880	8.80	95	40	142	10	●
D938-A8C-0890	8.90	95	40	142	10	○
D938-A8C-0900	9.00	95	40	142	10	●
D938-A8C-0930	9.30	95	40	142	10	●
D938-A8C-0950	9.50	95	40	142	10	●
D938-A8C-0980	9.80	95	40	142	10	○
D938-A8C-1000	10.00	95	40	142	10	●
D938-A8C-1020	10.20	114	45	162	12	●
D938-A8C-1030	10.30	114	45	162	12	○
D938-A8C-1050	10.50	114	45	162	12	●
D938-A8C-1080	10.80	114	45	162	12	●
D938-A8C-1100	11.00	114	45	162	12	●
D938-A8C-1120	11.20	114	45	162	12	●
D938-A8C-1150	11.50	114	45	162	12	○
D938-A8C-1180	11.80	114	45	162	12	●

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D938-A8C-1200	12.00	114	45	162	12	●
D938-A8C-1220	12.20	133	45	182	14	○
D938-A8C-1250	12.50	133	45	182	14	●
D938-A8C-1280	12.80	133	45	182	14	○
D938-A8C-1300	13.00	133	45	182	14	●
D938-A8C-1350	13.50	133	45	182	14	●
D938-A8C-1380	13.80	133	45	182	14	●
D938-A8C-1400	14.00	133	45	182	14	●
D938-A8C-1420	14.20	152	48	203	16	○
D938-A8C-1450	14.50	152	48	203	16	○
D938-A8C-1480	14.80	152	48	203	16	●
D938-A8C-1500	15.00	152	48	203	16	●
D938-A8C-1550	15.50	152	48	203	16	●
D938-A8C-1580	15.80	152	48	203	16	●
D938-A8C-1600	16.00	152	48	203	16	●

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

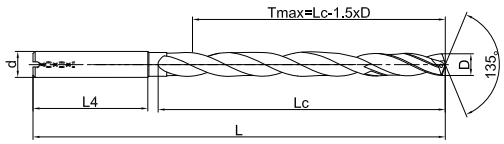
Workpiece Material					
P			M	K	
1234	5	67	123	12	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P075

D938-A12C NEW

12D Twist deep Drills for Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(h7)	Lc	L4	L	d(h6)	Stock
D938-A12C-0300	3	54	36	92	6	○
D938-A12C-0330	3.3	54	36	92	6	○
D938-A12C-0350	3.5	54	36	92	6	●
D938-A12C-0400	4	64	36	102	6	○
D938-A12C-0460	4.6	64	36	102	6	●
D938-A12C-0470	4.7	64	36	102	6	●
D938-A12C-0450	4.8	83	36	121	6	○
D938-A12C-0500	5	83	36	121	6	●
D938-A12C-0550	5.5	83	36	121	6	●
D938-A12C-0560	5.6	83	36	121	6	○
D938-A12C-0600	6	83	36	121	6	○
D938-A12C-0610	6.1	110	36	148	8	○
D938-A12C-0630	6.3	110	36	148	8	○
D938-A12C-0650	6.5	110	36	148	8	○
D938-A12C-0680	6.8	110	36	148	8	○

Ordering Code	D(h7)	Lc	L4	L	d(h6)	Stock
D938-A12C-0700	7	110	36	148	8	○
D938-A12C-0800	8	110	36	148	8	●
D938-A12C-0850	8.5	138	40	180	10	○
D938-A12C-0900	9	138	40	180	10	○
D938-A12C-0980	9.8	138	40	180	10	○
D938-A12C-1000	10	138	40	180	10	○
D938-A12C-1050	10.5	158	45	206	12	○
D938-A12C-1100	11	158	45	206	12	○
D938-A12C-1200	12	158	45	206	12	●
D938-A12C-1250	12.5	182	45	230	14	○
D938-A12C-1300	13	182	45	230	14	○
D938-A12C-1400	14	182	45	230	14	○
D938-A12C-1450	14.5	208	48	230	16	○
D938-A12C-1500	15	208	48	230	16	○
D938-A12C-1600	16	208	48	230	16	○

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(h7)	d(h6)
>3—6	0.000/-0.012	0.000/-0.008
>6—10	0.000/-0.015	0.000/-0.009
>10—18	0.000/-0.018	0.000/-0.011
>18—20	0.000/-0.021	0.000/-0.013

Unit(mm)

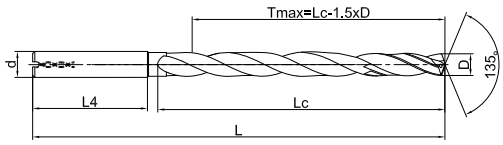
Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P075

D938-A15C NEW

15D Twist deep Drills for Steel





Tmax-Recommended Maximum Depth

Ordering Code	D(h7)	Lc	L4	L	d(h6)	Stock
D938-A15C-0300	3	55	36	95	6	○
D938-A15C-0330	3.3	67	36	106	6	○
D938-A15C-0350	3.5	76	36	116	6	○
D938-A15C-0380	3.8	76	36	116	6	○
D938-A15C-0400	4	76	36	116	6	○
D938-A15C-0420	4.2	93	36	133	6	○
D938-A15C-0450	4.5	93	36	133	6	○
D938-A15C-0450	4.8	93	36	133	6	○
D938-A15C-0500	5	93	36	133	6	○
D938-A15C-0550	5.5	110	36	150	6	○
D938-A15C-0560	5.6	110	36	150	6	○
D938-A15C-0600	6	110	36	150	6	○
D938-A15C-0610	6.1	127	36	167	8	○
D938-A15C-0630	6.3	127	36	167	8	○

Ordering Code	D(h7)	Lc	L4	L	d(h6)	Stock
D938-A15C-0650	6.5	127	36	167	8	○
D938-A15C-0680	6.8	127	36	167	8	○
D938-A15C-0700	7	127	36	167	8	○
D938-A15C-0800	8	143	36	183	8	●
D938-A15C-0850	8.5	160	40	204	10	○
D938-A15C-0900	9	160	40	204	10	●
D938-A15C-0980	9.8	177	40	221	10	○
D938-A15C-1000	10	177	40	221	10	○
D938-A15C-1050	10.5	198	45	247	12	○
D938-A15C-1100	11	198	45	247	12	○
D938-A15C-1200	12	214	45	263	12	○
D938-A15C-1250	12.5	248	45	297	14	○
D938-A15C-1300	13	248	45	297	14	○
D938-A15C-1400	14	248	45	297	14	○

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(h7)	d(h6)
>3—6	0.000/-0.012	0.000/-0.008
>6—10	0.000/-0.015	0.000/-0.009
>10—18	0.000/-0.018	0.000/-0.011
>18—20	0.000/-0.021	0.000/-0.013

Unit(mm)

Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

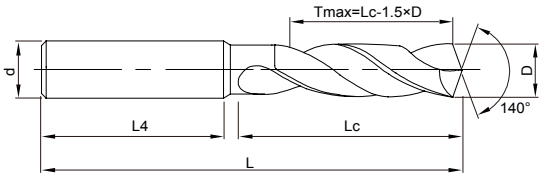
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P075

D918-A3N

3D External Cooling Twist Drills for General Purpose







Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3N-0300	3.00	20	36	62	6	○
D918-A3N-0325	3.25	20	36	62	6	○
D918-A3N-0330	3.30	20	36	62	6	●
D918-A3N-0340	3.40	20	36	62	6	○
D918-A3N-0350	3.50	20	36	62	6	○
D918-A3N-0370	3.70	20	36	62	6	○
D918-A3N-0400	4.00	24	36	66	6	○
D918-A3N-0420	4.20	24	36	66	6	●
D918-A3N-0430	4.30	24	36	66	6	○
D918-A3N-0450	4.50	24	36	66	6	●
D918-A3N-0465	4.65	24	36	66	6	○
D918-A3N-0480	4.80	28	36	66	6	○
D918-A3N-0500	5.00	28	36	66	6	○
D918-A3N-0510	5.10	28	36	66	6	●
D918-A3N-0520	5.20	28	36	66	6	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3N-0550	5.50	28	36	66	6	●
D918-A3N-0560	5.60	28	36	66	6	●
D918-A3N-0580	5.80	28	36	66	6	●
D918-A3N-0600	6.00	28	36	66	6	●
D918-A3N-0610	6.10	34	36	79	8	○
D918-A3N-0620	6.20	34	36	79	8	●
D918-A3N-0630	6.30	34	36	79	8	●
D918-A3N-0650	6.50	34	36	79	8	○
D918-A3N-0660	6.60	34	36	79	8	●
D918-A3N-0680	6.80	34	36	79	8	○
D918-A3N-0690	6.90	34	36	79	8	●
D918-A3N-0700	7.00	34	36	79	8	●
D918-A3N-0720	7.20	41	36	79	8	●
D918-A3N-0740	7.40	41	36	79	8	○
D918-A3N-0750	7.50	41	36	79	8	○

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

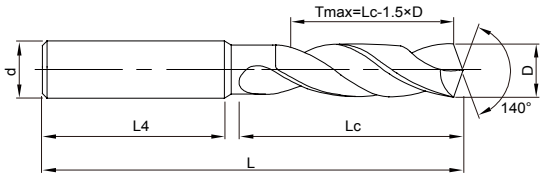
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎		○	○			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P079

D918-A3N

3D External Cooling Twist Drills for General Purpose





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3N-0780	7.80	41	36	79	8	○
D918-A3N-0800	8.00	41	36	79	8	●
D918-A3N-0810	8.10	47	40	89	10	○
D918-A3N-0840	8.40	47	40	89	10	●
D918-A3N-0850	8.50	47	40	89	10	●
D918-A3N-0860	8.60	47	40	89	10	○
D918-A3N-0870	8.70	47	40	89	10	○
D918-A3N-0880	8.80	47	40	89	10	○
D918-A3N-0900	9.00	47	40	89	10	○
D918-A3N-0930	9.30	47	40	89	10	○
D918-A3N-0950	9.50	47	40	89	10	●
D918-A3N-0960	9.60	47	40	89	10	○
D918-A3N-0980	9.80	47	40	89	10	○
D918-A3N-1000	10.00	47	40	89	10	○
D918-A3N-1025	10.25	55	45	102	12	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3N-1040	10.40	55	45	102	12	○
D918-A3N-1050	10.50	55	45	102	12	○
D918-A3N-1060	10.60	55	45	102	12	○
D918-A3N-1080	10.80	55	45	102	12	●
D918-A3N-1100	11.00	55	45	102	12	●
D918-A3N-1120	11.20	55	45	102	12	○
D918-A3N-1150	11.50	55	45	102	12	○
D918-A3N-1180	11.80	55	45	102	12	○
D918-A3N-1200	12.00	55	45	102	12	○
D918-A3N-1225	12.25	60	45	107	14	○
D918-A3N-1250	12.50	60	45	107	14	●
D918-A3N-1270	12.70	60	45	107	14	○
D918-A3N-1275	12.75	60	45	107	14	●
D918-A3N-1280	12.80	60	45	107	14	○
D918-A3N-1300	13.00	60	45	107	14	●

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎		○	○			

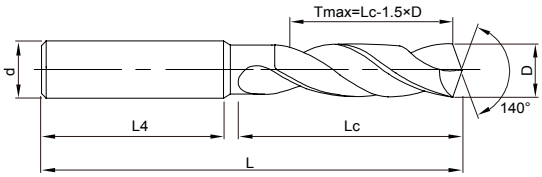
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P076

D918-A3N

SHANK DIN 6535HA | TiAlN | 3D

3D External Cooling Twist Drills for General Purpose





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3N-1310	13.10	60	45	107	14	○
D918-A3N-1350	13.50	60	45	107	14	○
D918-A3N-1380	13.80	60	45	107	14	○
D918-A3N-1400	14.00	60	45	107	14	○
D918-A3N-1425	14.25	65	48	115	16	○
D918-A3N-1450	14.50	65	48	115	16	●
D918-A3N-1475	14.75	65	48	115	16	●
D918-A3N-1480	14.80	65	48	115	16	○
D918-A3N-1500	15.00	65	48	115	16	○
D918-A3N-1510	15.10	65	48	115	16	○
D918-A3N-1550	15.50	65	48	115	16	○
D918-A3N-1580	15.80	65	48	115	16	○
D918-A3N-1600	16.00	65	48	115	16	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3N-1650	16.50	73	48	123	18	○
D918-A3N-1675	16.75	73	48	123	18	○
D918-A3N-1680	16.80	73	48	123	18	○
D918-A3N-1700	17.00	73	48	123	18	○
D918-A3N-1750	17.50	73	48	123	18	●
D918-A3N-1780	17.80	73	48	123	18	○
D918-A3N-1800	18.00	73	48	123	18	○
D918-A3N-1850	18.50	79	50	131	20	○
D918-A3N-1880	18.80	79	50	131	20	○
D918-A3N-1900	19.00	79	50	131	20	○
D918-A3N-1950	19.50	79	50	131	20	○
D918-A3N-1980	19.80	79	50	131	20	○
D918-A3N-2000	20.00	79	50	131	20	○

Note：Accept non-standard custom from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

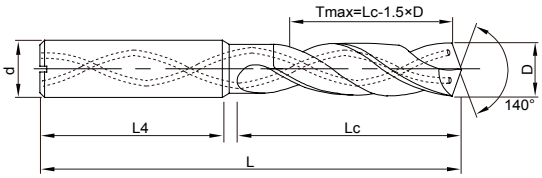
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎		○	○			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P079

D918-A3C

3D Inner Cooling Twist Drills for General Purpose





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3C-0500	5.00	28	36	66	6	○
D918-A3C-0510	5.10	28	36	66	6	○
D918-A3C-0520	5.20	28	36	66	6	○
D918-A3C-0550	5.50	28	36	66	6	○
D918-A3C-0555	5.55	28	36	66	6	○
D918-A3C-0580	5.80	28	36	66	6	○
D918-A3C-0600	6.00	28	36	66	6	○
D918-A3C-0610	6.10	34	36	79	8	○
D918-A3C-0620	6.20	34	36	79	8	○
D918-A3C-0630	6.30	34	36	79	8	○
D918-A3C-0650	6.50	34	36	79	8	○
D918-A3C-0660	6.60	34	36	79	8	●
D918-A3C-0680	6.80	34	36	79	8	○
D918-A3C-0690	6.90	34	36	79	8	○
D918-A3C-0700	7.00	34	36	79	8	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3C-0710	7.10	41	36	79	8	○
D918-A3C-0740	7.40	41	36	79	8	○
D918-A3C-0750	7.50	41	36	79	8	○
D918-A3C-0780	7.80	41	36	79	8	○
D918-A3C-0800	8.00	41	36	79	8	○
D918-A3C-0810	8.10	47	40	89	10	○
D918-A3C-0840	8.40	47	40	89	10	○
D918-A3C-0850	8.50	47	40	89	10	○
D918-A3C-0860	8.60	47	40	89	10	○
D918-A3C-0870	8.70	47	40	89	10	○
D918-A3C-0880	8.80	47	40	89	10	○
D918-A3C-0900	9.00	47	40	89	10	●
D918-A3C-0930	9.30	47	40	89	10	○
D918-A3C-0950	9.50	47	40	89	10	○
D918-A3C-0960	9.60	47	40	89	10	○

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

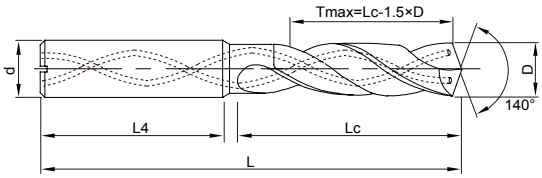
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎	○	○	○	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P079

D918-A3C

3D Inner Cooling Twist Drills for General Purpose





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3C-0980	9.80	47	40	89	10	○
D918-A3C-1000	10.00	47	40	89	10	○
D918-A3C-1025	10.25	55	45	102	12	●
D918-A3C-1040	10.40	55	45	102	12	○
D918-A3C-1050	10.50	55	45	102	12	○
D918-A3C-1060	10.60	55	45	102	12	○
D918-A3C-1080	10.80	55	45	102	12	○
D918-A3C-1100	11.00	55	45	102	12	○
D918-A3C-1120	11.20	55	45	102	12	○
D918-A3C-1150	11.50	55	45	102	12	○
D918-A3C-1180	11.80	55	45	102	12	○
D918-A3C-1200	12.00	55	45	102	12	●
D918-A3C-1225	12.25	60	45	107	14	○
D918-A3C-1250	12.50	60	45	107	14	○
D918-A3C-1270	12.70	60	45	107	14	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A3C-1275	12.75	60	45	107	14	○
D918-A3C-1280	12.80	60	45	107	14	○
D918-A3C-1300	13.00	60	45	107	14	○
D918-A3C-1310	13.10	60	45	107	14	○
D918-A3C-1350	13.50	60	45	107	14	○
D918-A3C-1380	13.80	60	45	107	14	○
D918-A3C-1400	14.00	60	45	107	14	○
D918-A3C-1425	14.25	65	48	115	16	○
D918-A3C-1450	14.50	65	48	115	16	○
D918-A3C-1475	14.75	65	48	115	16	○
D918-A3C-1480	14.80	65	48	115	16	○
D918-A3C-1500	15.00	65	48	115	16	○
D918-A3C-1510	15.10	65	48	115	16	○
D918-A3C-1550	15.50	65	48	115	16	●
D918-A3C-1580	15.80	65	48	115	16	○
D918-A3C-1600	16.00	65	48	115	16	○

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

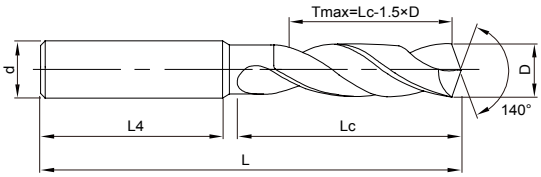
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎	○	○	○	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P079

D918-A5N

5D External Cooling Twist Drills for General Purpose





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5N-0300	3.00	28	36	66	6	●
D918-A5N-0325	3.25	28	36	66	6	○
D918-A5N-0330	3.30	28	36	66	6	○
D918-A5N-0340	3.40	28	36	66	6	●
D918-A5N-0350	3.50	28	36	66	6	●
D918-A5N-0370	3.70	28	36	66	6	○
D918-A5N-0400	4.00	36	36	74	6	○
D918-A5N-0420	4.20	36	36	74	6	●
D918-A5N-0430	4.30	36	36	74	6	●
D918-A5N-0450	4.50	36	36	74	6	○
D918-A5N-0465	4.65	36	36	74	6	○
D918-A5N-0480	4.80	44	36	82	6	○
D918-A5N-0500	5.00	44	36	82	6	●
D918-A5N-0510	5.10	44	36	82	6	●
D918-A5N-0520	5.20	44	36	82	6	●

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5N-0550	5.50	44	36	82	6	●
D918-A5N-0555	5.55	44	36	82	6	●
D918-A5N-0580	5.80	44	36	82	6	●
D918-A5N-0600	6.00	44	36	82	6	●
D918-A5N-0610	6.10	53	36	91	8	○
D918-A5N-0620	6.20	53	36	91	8	●
D918-A5N-0630	6.30	53	36	91	8	○
D918-A5N-0650	6.50	53	36	91	8	○
D918-A5N-0660	6.60	53	36	91	8	○
D918-A5N-0680	6.80	53	36	91	8	●
D918-A5N-0690	6.90	53	36	91	8	○
D918-A5N-0700	7.00	53	36	91	8	●
D918-A5N-0710	7.10	53	36	91	8	○
D918-A5N-0740	7.40	53	36	91	8	○
D918-A5N-0750	7.50	53	36	91	8	○

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎		○	○			

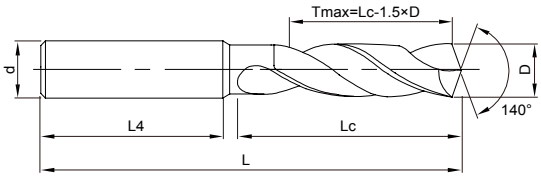
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P079

D918-A5N

SHANK DIN 6535HA | TiAlN | 5D

5D External Cooling Twist Drills for General Purpose





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5N-0780	7.80	53	36	91	8	○
D918-A5N-0800	8.00	53	36	91	8	○
D918-A5N-0810	8.10	61	40	103	10	●
D918-A5N-0840	8.40	61	40	103	10	○
D918-A5N-0850	8.50	61	40	103	10	●
D918-A5N-0860	8.60	61	40	103	10	○
D918-A5N-0870	8.70	61	40	103	10	●
D918-A5N-0880	8.80	61	40	103	10	●
D918-A5N-0900	9.00	61	40	103	10	●
D918-A5N-0930	9.30	61	40	103	10	○
D918-A5N-0950	9.50	61	40	103	10	○
D918-A5N-0970	9.70	61	40	103	10	●
D918-A5N-0980	9.80	61	40	103	10	○
D918-A5N-1000	10.00	61	40	103	10	○
D918-A5N-1025	10.25	71	45	118	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5N-1040	10.40	71	45	118	12	●
D918-A5N-1050	10.50	71	45	118	12	●
D918-A5N-1060	10.60	71	45	118	12	○
D918-A5N-1080	10.80	71	45	118	12	○
D918-A5N-1100	11.00	71	45	118	12	○
D918-A5N-1120	11.20	71	45	118	12	○
D918-A5N-1150	11.50	71	45	118	12	○
D918-A5N-1180	11.80	71	45	118	12	○
D918-A5N-1200	12.00	71	45	118	12	●
D918-A5N-1220	12.20	77	45	124	14	○
D918-A5N-1225	12.25	77	45	124	14	○
D918-A5N-1250	12.50	77	45	124	14	●
D918-A5N-1270	12.70	77	45	124	14	○
D918-A5N-1275	12.75	77	45	124	14	○
D918-A5N-1280	12.80	77	45	124	14	○

Accept non-standard custom from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

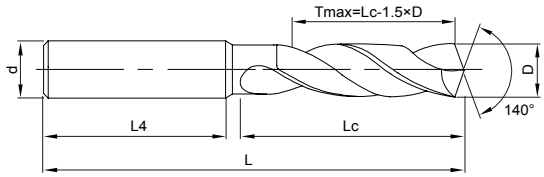
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎		○	○			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P079

D918-A5N

5D External Cooling Twist Drills for General Purpose





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5N-1300	13.00	77	45	124	14	○
D918-A5N-1350	13.50	77	45	124	14	●
D918-A5N-1380	13.80	77	45	124	14	○
D918-A5N-1400	14.00	77	45	124	14	●
D918-A5N-1425	14.25	83	48	133	16	○
D918-A5N-1450	14.50	83	48	133	16	○
D918-A5N-1475	14.75	83	48	133	16	○
D918-A5N-1480	14.80	83	48	133	16	●
D918-A5N-1500	15.00	83	48	133	16	○
D918-A5N-1510	15.10	83	48	133	16	○
D918-A5N-1550	15.50	83	48	133	16	○
D918-A5N-1580	15.80	83	48	133	16	○
D918-A5N-1600	16.00	83	48	133	16	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5N-1650	16.50	93	48	143	18	○
D918-A5N-1675	16.75	93	48	143	18	○
D918-A5N-1680	16.80	93	48	143	18	○
D918-A5N-1700	17.00	93	48	143	18	○
D918-A5N-1750	17.50	93	48	143	18	○
D918-A5N-1780	17.80	93	48	143	18	○
D918-A5N-1800	18.00	93	48	143	18	○
D918-A5N-1850	18.50	101	50	153	20	○
D918-A5N-1900	19.00	101	50	153	20	○
D918-A5N-1950	19.50	101	50	153	20	○
D918-A5N-1980	19.80	101	50	153	20	○
D918-A5N-2000	20.00	101	50	153	20	○

Note：Accept non-standard Customization from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

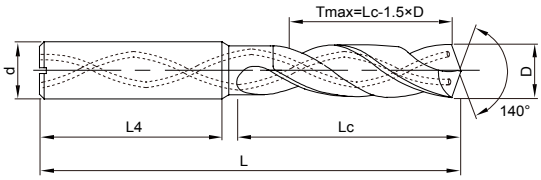
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎		○	○			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P079

D918-A5C

5D Inner Cooling Twist Drills for General Purpose





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5C-0500	5.00	44	36	82	6	○
D918-A5C-0510	5.10	44	36	82	6	○
D918-A5C-0520	5.20	44	36	82	6	○
D918-A5C-0550	5.50	44	36	82	6	○
D918-A5C-0555	5.55	44	36	82	6	○
D918-A5C-0580	5.80	44	36	82	6	○
D918-A5C-0600	6.00	44	36	82	6	○
D918-A5C-0610	6.10	53	36	91	8	○
D918-A5C-0620	6.20	53	36	91	8	○
D918-A5C-0630	6.30	53	36	91	8	○
D918-A5C-0650	6.50	53	36	91	8	○
D918-A5C-0660	6.60	53	36	91	8	○
D918-A5C-0680	6.80	53	36	91	8	○
D918-A5C-0690	6.90	53	36	91	8	○
D918-A5C-0700	7.00	53	36	91	8	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5C-0710	7.10	53	36	91	8	○
D918-A5C-0740	7.40	53	36	91	8	○
D918-A5C-0750	7.50	53	36	91	8	○
D918-A5C-0780	7.80	53	36	91	8	○
D918-A5C-0800	8.00	53	36	91	8	○
D918-A5C-0810	8.10	61	40	103	10	○
D918-A5C-0840	8.40	61	40	103	10	○
D918-A5C-0850	8.50	61	40	103	10	○
D918-A5C-0860	8.60	61	40	103	10	○
D918-A5C-0870	8.70	61	40	103	10	●
D918-A5C-0880	8.80	61	40	103	10	●
D918-A5C-0900	9.00	61	40	103	10	○
D918-A5C-0930	9.30	61	40	103	10	●
D918-A5C-0950	9.50	61	40	103	10	○
D918-A5C-0960	9.60	61	40	103	10	○

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

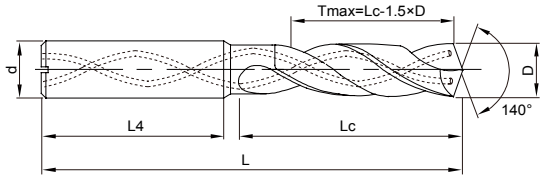
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎	○	○	○	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P079

D918-A5C

5D Inner Cooling Twist Drills for General Purpose





Tmax-Recommended Maximum Depth

》Continue

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5C-0980	9.80	61	40	103	10	○
D918-A5C-1000	10.00	61	40	103	10	○
D918-A5C-1025	10.25	71	45	118	12	○
D918-A5C-1040	10.40	71	45	118	12	○
D918-A5C-1050	10.50	71	45	118	12	○
D918-A5C-1060	10.60	71	45	118	12	●
D918-A5C-1080	10.80	71	45	118	12	○
D918-A5C-1100	11.00	71	45	118	12	○
D918-A5C-1120	11.20	71	45	118	12	○
D918-A5C-1150	11.50	71	45	118	12	●
D918-A5C-1180	11.80	71	45	118	12	○
D918-A5C-1200	12.00	71	45	118	12	○
D918-A5C-1220	12.20	77	45	124	14	○
D918-A5C-1225	12.25	77	45	124	14	○
D918-A5C-1250	12.50	77	45	124	14	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D918-A5C-1270	12.70	77	45	124	14	○
D918-A5C-1275	12.75	77	45	124	14	○
D918-A5C-1280	12.80	77	45	124	14	○
D918-A5C-1300	13.00	77	45	124	14	○
D918-A5C-1350	13.50	77	45	124	14	○
D918-A5C-1380	13.80	77	45	124	14	○
D918-A5C-1400	14.00	77	45	124	14	○
D918-A5C-1425	14.25	83	48	133	16	○
D918-A5C-1450	14.50	83	48	133	16	○
D918-A5C-1475	14.75	83	48	133	16	○
D918-A5C-1480	14.80	83	48	133	16	○
D918-A5C-1500	15.00	83	48	133	16	○
D918-A5C-1510	15.10	83	48	133	16	○
D918-A5C-1550	15.50	83	48	133	16	○
D918-A5C-1580	15.80	83	48	133	16	○
D918-A5C-1600	16.00	83	48	133	16	

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
◎	○	◎	○	○	○	○	○	○

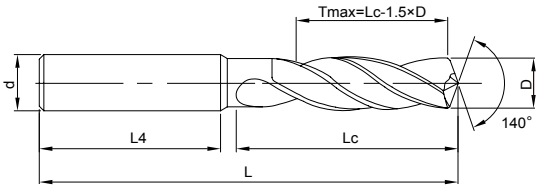
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P079

D928-A3N

3D External Cooling Twist Drills for Cast Iron





Tmax-Recommended Maximum Depth



Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D928-A3N-0300	3.00	20	36	62	6	○
D928-A3N-0330	3.30	20	36	62	6	○
D928-A3N-0400	4.00	24	36	66	6	○
D928-A3N-0420	4.20	24	36	66	6	○
D928-A3N-0500	5.00	28	36	66	6	○
D928-A3N-0600	6.00	28	36	66	6	○
D928-A3N-0680	6.80	34	36	79	8	○
D928-A3N-0700	7.00	34	36	79	8	○
D928-A3N-0800	8.00	41	36	79	8	○
D928-A3N-0850	8.50	47	40	89	10	○
D928-A3N-0900	9.00	47	40	89	10	○
D928-A3N-1000	10.00	47	40	89	10	○
D928-A3N-1025	10.25	55	45	102	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D928-A3N-1050	10.50	55	45	102	12	○
D928-A3N-1100	11.00	55	45	102	12	○
D928-A3N-1200	12.00	55	45	102	12	○
D928-A3N-1250	12.50	60	45	107	14	○
D928-A3N-1300	13.00	60	45	107	14	○
D928-A3N-1400	14.00	60	45	107	14	○
D928-A3N-1450	14.50	65	48	115	16	○
D928-A3N-1500	15.00	65	48	115	16	○
D928-A3N-1600	16.00	65	48	115	16	○
D928-A3N-1700	17.00	73	48	123	18	○
D928-A3N-1800	18.00	73	48	123	18	○
D928-A3N-1900	19.00	79	50	131	20	○
D928-A3N-2000	20.00	79	50	131	20	○

Note：Accept non-standard custom from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

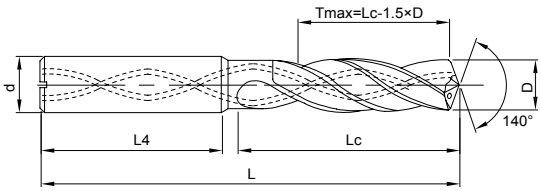
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
○				◎	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P081

D928-A3C

3D Inner Cooling Twist Drills for Cast Iron





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D928-A3C-0500	5.00	28	36	66	6	○
D928-A3C-0600	6.00	28	36	66	6	○
D928-A3C-0680	6.80	34	36	79	8	○
D928-A3C-0700	7.00	34	36	79	8	○
D928-A3C-0800	8.00	41	36	79	8	○
D928-A3C-0850	8.50	47	40	89	10	○
D928-A3C-0900	9.00	47	40	89	10	○
D928-A3C-1000	10.00	47	40	89	10	○
D928-A3C-1025	10.25	55	45	102	12	○
D928-A3C-1050	10.50	55	45	102	12	○
D928-A3C-1100	11.00	55	45	102	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D928-A3C-1200	12.00	55	45	102	12	○
D928-A3C-1250	12.50	60	45	107	14	○
D928-A3C-1300	13.00	60	45	107	14	○
D928-A3C-1400	14.00	60	45	107	14	○
D928-A3C-1450	14.50	65	48	115	16	○
D928-A3C-1500	15.00	65	48	115	16	○
D928-A3C-1600	16.00	65	48	115	16	○
D928-A3C-1700	17.00	73	48	123	18	○
D928-A3C-1800	18.00	73	48	123	18	○
D928-A3C-1900	19.00	79	50	131	20	○
D928-A3C-2000	20.00	79	50	131	20	○

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
○				◎	◎	○	○	

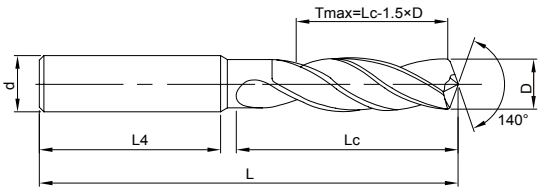
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P081

D928-A5N

5D External Cooling Twist Drills for Cast Iron





Tmax-Recommended Maximum Depth



Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D928-A5N-0300	3.00	28	36	66	6	○
D928-A5N-0330	3.30	28	36	66	6	○
D928-A5N-0400	4.00	36	36	74	6	○
D928-A5N-0420	4.20	36	36	74	6	○
D928-A5N-0500	5.00	44	36	82	6	○
D928-A5N-0600	6.00	44	36	82	6	○
D928-A5N-0680	6.80	53	36	91	8	○
D928-A5N-0700	7.00	53	36	91	8	○
D928-A5N-0800	8.00	53	36	91	8	○
D928-A5N-0850	8.50	61	40	103	10	○
D928-A5N-0900	9.00	61	40	103	10	○
D928-A5N-1000	10.00	61	40	103	10	○
D928-A5N-1025	10.25	71	45	118	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D928-A5N-1050	10.50	71	45	118	12	○
D928-A5N-1100	11.00	71	45	118	12	○
D928-A5N-1200	12.00	71	45	118	12	○
D928-A5N-1250	12.50	77	45	124	14	○
D928-A5N-1300	13.00	77	45	124	14	○
D928-A5N-1400	14.00	77	45	124	14	○
D928-A5N-1450	14.50	83	48	133	16	○
D928-A5N-1500	15.00	83	48	133	16	○
D928-A5N-1600	16.00	83	48	133	16	○
D928-A5N-1700	17.00	93	48	143	18	○
D928-A5N-1800	18.00	93	48	143	18	○
D928-A5N-1900	19.00	101	50	153	20	○
D928-A5N-2000	20.00	101	50	153	20	○

Note：Accept non-standard custom from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
○				◎	◎			

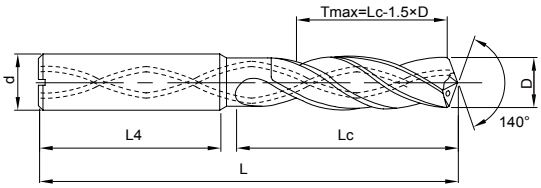
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P081

D928-A5C

5D Inner Cooling Twist Drills for Cast Iron

SHANK DIN 6535HA | AlCrN/TiSiN | 5D





Tmax-Recommended Maximum Depth

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D928-A5C-0500	5.00	44	36	82	6	○
D928-A5C-0600	6.00	44	36	82	6	○
D928-A5C-0680	6.80	53	36	91	8	○
D928-A5C-0700	7.00	53	36	91	8	○
D928-A5C-0800	8.00	53	36	91	8	○
D928-A5C-0850	8.50	61	40	103	10	○
D928-A5C-0900	9.00	61	40	103	10	○
D928-A5C-1000	10.00	61	40	103	10	○
D928-A5C-1025	10.25	71	45	118	12	○
D928-A5C-1050	10.50	71	45	118	12	○
D928-A5C-1100	11.00	71	45	118	12	○

Ordering Code	D(m7)	Lc	L4	L	d(h6)	Stock
D928-A5C-1200	12.00	71	45	118	12	○
D928-A5C-1250	12.50	77	45	124	14	○
D928-A5C-1300	13.00	77	45	124	14	○
D928-A5C-1400	14.00	77	45	124	14	○
D928-A5C-1450	14.50	83	48	133	16	○
D928-A5C-1500	15.00	83	48	133	16	○
D928-A5C-1600	16.00	83	48	133	16	○
D928-A5C-1700	17.00	93	48	143	18	○
D928-A5C-1800	18.00	93	48	143	18	○
D928-A5C-1900	19.00	101	50	153	20	○
D928-A5C-2000	20.00	101	50	153	20	○

Note：Accept non-standard custom from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(m7)	d(h6)
⩾2—3	+0.002/+0.012	0.000/-0.006
>3—6	+0.004/+0.016	0.000/-0.008
>6—10	+0.006/+0.021	0.000/-0.009
>10—18	+0.007/+0.025	0.000/-0.011
>18—20	+0.008/+0.029	0.000/-0.013

Unit(mm)

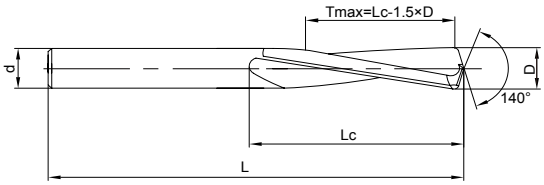
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
○				◎	◎	○	○	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P081

D998-Y3N

3D External Cooling Twist Drills for Hardened Steel



Tmax-Recommended Maximum Depth



Ordering Code	D(h7)	Lc	L	d(h6)	Stock
D998-Y3N-0400	4.0	22	55	4	○
D998-Y3N-0500	5.0	26	62	5	○
D998-Y3N-0600	6.0	28	66	6	○
D998-Y3N-0700	7.0	34	74	7	○
D998-Y3N-0800	8.0	37	79	8	○
D998-Y3N-0900	9.0	40	84	9	○
D998-Y3N-1000	10.0	43	89	10	○

Ordering Code	D(h7)	Lc	L	d(h6)	Stock
D998-Y3N-1100	11.0	47	95	11	○
D998-Y3N-1200	12.0	51	102	12	○
D998-Y3N-1300	13.0	51	102	13	○
D998-Y3N-1400	14.0	54	107	14	○
D998-Y3N-1500	15.0	56	111	15	○
D998-Y3N-1600	16.0	58	115	16	○

Note：Accept non-standard custom from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(h7)	d(h6)
≥2—3	0.000/-0.010	0.000/-0.006
>3—6	0.000/-0.012	0.000/-0.008
>6—10	0.000/-0.015	0.000/-0.009
>10—18	0.000/-0.018	0.000/-0.011
>18—20	0.000/-0.021	0.000/-0.013

Unit(mm)

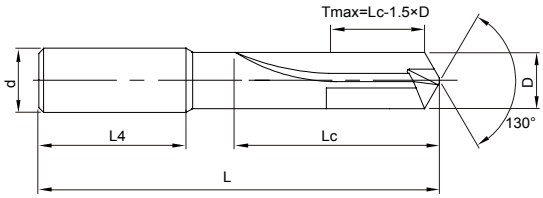
Workpiece Material							
P			M	K		H	
1 2 3 4	5	6	1 2 3	1 2	3	1	2
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Hardened Steels (45-55HRC)	Hardened Steels (55-60HRC)
						◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P083

D713-A5N

5D External Cooling Straight Fluted Drills for Cast Iron



Tmax-Recommended Maximum Depth



Ordering Code	D(k6)	Lc	L4	L	d(h6)	Stock
D713-A5N-0400	4.00	36	36	74	6	○
D713-A5N-0420	4.20	36	36	74	6	○
D713-A5N-0500	5.00	44	36	82	6	○
D713-A5N-0600	6.00	44	36	82	6	○
D713-A5N-0680	6.80	53	36	91	8	○
D713-A5N-0700	7.00	53	36	91	8	○
D713-A5N-0800	8.00	53	36	91	8	○
D713-A5N-0850	8.50	61	40	103	10	○
D713-A5N-0900	9.00	61	40	103	10	○
D713-A5N-1000	10.00	61	40	103	10	○
D713-A5N-1025	10.25	71	45	118	12	○
D713-A5N-1100	11.00	71	45	118	12	○

Ordering Code	D(k6)	Lc	L4	L	d(h6)	Stock
D713-A5N-1200	12.00	71	45	118	12	○
D713-A5N-1300	13.00	77	45	124	14	○
D713-A5N-1400	14.00	77	45	124	14	○
D713-A5N-1500	15.00	83	48	133	16	○
D713-A5N-1550	15.50	83	48	133	16	○
D713-A5N-1600	16.00	83	48	133	16	○
D713-A5N-1700	17.00	93	48	143	18	○
D713-A5N-1750	17.50	93	48	143	18	○
D713-A5N-1800	18.00	93	48	143	18	○
D713-A5N-1950	19.50	101	50	153	20	○
D713-A5N-2000	20.00	101	50	153	20	○

Note：Accept non-standard custom from D2 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(k6)	d(h6)
≥2—3	+0.006/+0.000	0.000/-0.006
>3—6	+0.009/+0.001	0.000/-0.008
>6—10	+0.010/+0.001	0.000/-0.009
>10—18	+0.012/+0.001	0.000/-0.011
>18—20	+0.015/+0.002	0.000/-0.013

Unit(mm)

Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
				◎	◎		◎	

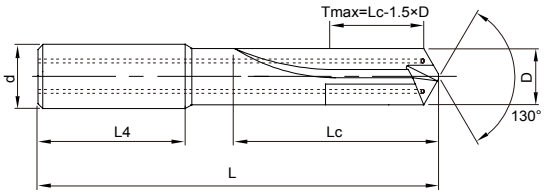
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P084

D713-A5C

5D Inner Cooling Straight Fluted Drills for Cast Iron





Tmax-Recommended Maximum Depth



Ordering Code	D(k6)	Lc	L4	L	d(h6)	Stock
D713-A5C-0400	4.00	36	36	74	6	○
D713-A5C-0420	4.20	36	36	74	6	○
D713-A5C-0500	5.00	44	36	82	6	○
D713-A5C-0600	6.00	44	36	82	6	○
D713-A5C-0680	6.80	53	36	91	8	○
D713-A5C-0700	7.00	53	36	91	8	○
D713-A5C-0800	8.00	53	36	91	8	○
D713-A5C-0850	8.50	61	40	103	10	○
D713-A5C-0900	9.00	61	40	103	10	○
D713-A5C-1000	10.00	61	40	103	10	○
D713-A5C-1025	10.25	71	45	118	12	○
D713-A5C-1100	11.00	71	45	118	12	○

Ordering Code	D(k6)	Lc	L4	L	d(h6)	Stock
D713-A5C-1200	12.00	71	45	118	12	○
D713-A5C-1300	13.00	77	45	124	14	○
D713-A5C-1400	14.00	77	45	124	14	○
D713-A5C-1500	15.00	83	48	133	16	○
D713-A5C-1550	15.50	83	48	133	16	○
D713-A5C-1600	16.00	83	48	133	16	○
D713-A5C-1700	17.00	93	48	143	18	○
D713-A5C-1750	17.50	93	48	143	18	○
D713-A5C-1800	18.00	93	48	143	18	○
D713-A5C-1950	19.50	101	50	153	20	○
D713-A5C-2000	20.00	101	50	153	20	○

Note：Accept non-standard custom from D3 to D20 tool.

● Stock ○ Available upon Order

Nominal Size Range	D(k6)	d(h6)
⩾2—3	+0.006/+0.000	0.000/-0.006
＞3—6	+0.009/+0.001	0.000/-0.008
＞6—10	+0.010/+0.001	0.000/-0.009
＞10—18	+0.012/+0.001	0.000/-0.011
＞18—20	+0.015/+0.002	0.000/-0.013

Unit(mm)

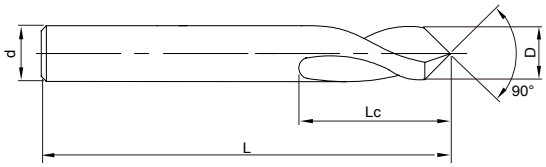
Workpiece Material								
P			M	K		N		
1234	5	6	123	12	3	12	3	4
Carbon Steels、Alloy Steels (＜35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (＜48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (＜32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si⩽12%)	Cast Aluminium Alloys (Si＞12%)	Copper Alloys (＜200HB)
				◎	◎		◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P084

D101-AMN

90°NC Centre Drills





Tmax-Recommended Maximum Depth

Ordering Code	D	Lc	L	d(h6)	Stock
D101-AMN-0500	5.00	10	62	5	●
D101-AMN-0600	6.00	15	66	6	●
D101-AMN-0800	8.00	17	79	8	●
D101-AMN-1000	10.00	20	89	10	●
D101-AMN-1200	12.00	25	102	12	●
D101-AMN-1400	14.00	30	107	14	●
D101-AMN-1600	16.00	35	115	16	●
D101-AMN-2000	20.00	40	131	20	●

Note：Accept non-standard custom from D2 to D20 tool.

Unit(mm)

● Stock ○ Available upon Order

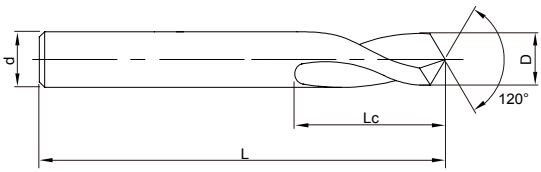
Workpiece Material								
P			M	K		N		
1234	5	6	123	12	3	12	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
○	○	○		◎		◎	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P078

D102-ANN

120°NC Centre Drills





Ordering Code	D	Lc	L	d(h6)	Stock
D102-ANN-0500	5.00	10	62	5	○
D102-ANN-0600	6.00	15	66	6	○
D102-ANN-0800	8.00	17	79	8	○
D102-ANN-1000	10.00	20	89	10	○
D102-ANN-1200	12.00	25	102	12	○
D102-ANN-1400	14.00	30	107	14	○
D102-ANN-1600	16.00	35	115	16	○
D102-ANN-2000	20.00	40	131	20	○

Note：Accept non-standard custom from D2 to D20 tool.

Unit(mm)

● Stock ○ Available upon Order

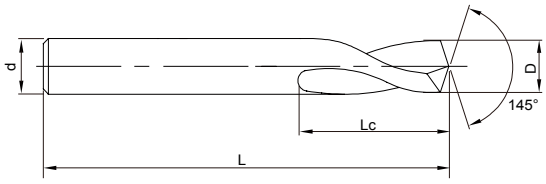
Workpiece Material								
P			M	K		N		
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
○	○	○		◎		◎	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P078

D103-APN

145°NC Centre Drills





Ordering Code	D	Lc	L	d(h6)	Stock
D103-APN-0500	5.00	10	62	5	○
D103-APN-0600	6.00	15	66	6	○
D103-APN-0800	8.00	17	79	8	○
D103-APN-1000	10.00	20	89	10	○
D103-APN-1200	12.00	25	102	12	○
D103-APN-1400	14.00	30	107	14	○
D103-APN-1600	16.00	35	115	16	○
D103-APN-2000	20.00	40	131	20	○

Note：Accept non-standard custom from D2 to D20 tool.

Unit(mm)

● Stock ○ Available upon Order

Workpiece Material								
P			M	K		N		
1234	5	6	123	12	3	12	3	4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)
○	○	○		◎		◎	○	○

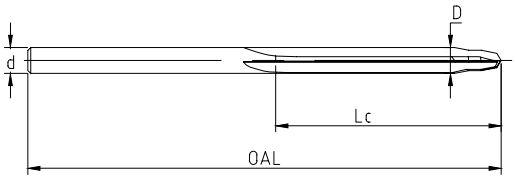
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P078

D612-Y3N

Triple-angle Drills for Composite Material

SHANK U-DIA 3D





Ordering Code	D(mm)	D(in)	Lc	OAL	d	Linenumber /Diameter (in)	Stock
D612-Y3N-0249	2.49	0.0980	15	60	2.49	—	○
D612-Y3N-0270	2.70	0.1063	15	60	2.70	—	○
D612-Y3N-0300	3.00	0.1181	18	60	3.00	—	○
D612-Y3N-0320	3.20	0.1260	20	75	3.20	—	○
D612-Y3N-0326	3.26	0.1283	20	75	3.26	30#	○
D612-Y3N-0400	4.00	0.1575	30	75	4.00	—	○
D612-Y3N-0409	4.09	0.1610	30	75	4.09	20#	○
D612-Y3N-0450	4.50	0.1772	30	75	4.50	16#	○
D612-Y3N-0480	4.80	0.1890	30	75	4.80	12#	○

Ordering Code	D(mm)	D(in)	Lc	OAL	d	Linenumber /Diameter (in)	Stock
D612-Y3N-04826	4.826	0.1900	30	75	4.83	—	○
D612-Y3N-0491	4.91	0.1933	30	75	4.91	10#	○
D612-Y3N-0500	5.00	0.1969	35	100	5.00	—	○
D612-Y3N-0505	5.05	0.1988	35	100	5.05	8#	○
D612-Y3N-0522	5.22	0.2055	35	100	5.22	5#	○
D612-Y3N-0600	6.00	0.2362	40	100	6.00	—	○
D612-Y3N-0635	6.35	0.2500	40	100	6.35	—	○
D612-Y3N-0794	7.94	0.3126	40	100	7.94	—	○

Unit(mm)

Note：Accept non-standard custom from D1.5 to D16 tool.

● Stock ○ Available upon Order

Workpiece Material									
P			M	K		N			
1 2 3 4	5	6	1 2 3	1 2	3	1 2	3	4	5
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Grey Cast Iron、Nodular Cast Iron (<32HRC)	High Alloy Cast Iron (35-45HRC)	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)	Composite Material
									◎

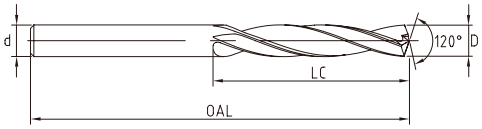
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P085

D973-Y5N

Twist Drills for Composite and Metal

SHANK AlCrN/TiSiN 5D





Ordering Code	D(mm)	D(in)	Lc	OAL	d	Linenumber / Diameter (in)	Stock
D973-Y5N-0250	2.50	0.0984	25	75	2.50	——	○
D973-Y5N-0270	2.70	0.1063	25	75	2.70	——	○
D973-Y5N-0300	3.00	0.1181	25	75	3.00	——	○
D973-Y5N-0310	3.10	0.1220	25	75	3.10	——	○
D973-Y5N-0326	3.26	0.1285	35	75	3.26	30#	○
D973-Y5N-0400	4.00	0.1575	35	100	4.00	——	○
D973-Y5N-0409	4.09	0.1610	40	100	4.09	20#	○
D973-Y5N-0417	4.17	0.1640	40	100	4.17	——	○
D973-Y5N-0470	4.70	0.1850	40	100	4.70	13#	○
D973-Y5N-0483	4.83	0.1900	40	100	4.83	——	○
D973-Y5N-0500	5.00	0.1969	40	100	5.00	——	○
D973-Y5N-0556	5.56	0.2190	40	100	5.56	——	○
D973-Y5N-0595	5.95	0.2344	40	100	5.95	15/64	○
D973-Y5N-0600	6.00	0.2362	40	100	6.00	——	○
D973-Y5N-0635	6.35	0.2500	40	100	6.35	1/4	○
D973-Y5N-0750	7.50	0.2953	45	120	7.50	——	○
D973-Y5N-0794	7.94	0.3125	45	120	7.94	5/16	○

Note：Accept non-standard custom from D2 to D16 tool.

Unit(mm)

● Stock ○ Available upon Order

Workpiece Material								
P			M	N				S
1 2 3 4	5	6	1 2 3	1 2	3	4	5	1 2 3 4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)	Composite Material	Titanium alloy, Heat-resistant Super Alloys
○	○		◎	◎	◎		○	◎

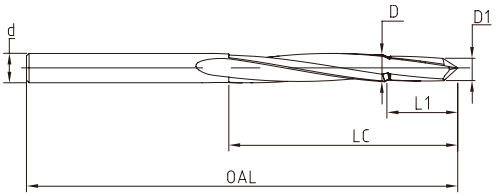
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P085

D573-Y3N

Core Drills for Composite and Metal

SHANK AlCrN/TiSiN 3





Ordering Code	D(mm)	D(in)	D1	L1	Lc	d	OAL	Linenumber / Diameter (in)	Stock
D573-Y3N-0400	4.00	0.157	3.26	8.0	40.0	4.00	80	—	○
D573-Y3N-0409	4.09	0.161	3.37	8.0	40.0	4.09	80	20#	○
D573-Y3N-0417	4.17	0.164	3.37	8.0	40.0	4.17	80	—	○
D573-Y3N-0437	4.37	0.172	4.10	8.0	40.0	4.37	80	17#	○
D573-Y3N-0450	4.50	0.177	4.10	8.0	40.0	4.50	100	—	○
D573-Y3N-0470	4.70	0.185	4.17	8.0	40.0	4.70	100	13#	○
D573-Y3N-0485	4.85	0.191	4.37	8.0	40.0	4.85	100	11#	○
D573-Y3N-0500	5.00	0.197	4.37	10.0	50.0	5.00	100	—	○
D573-Y3N-0518	5.18	0.204	4.85	10.0	50.0	5.18	100	6#	○
D573-Y3N-0556	5.56	0.219	4.70	10.0	50.0	5.56	100	—	○
D573-Y3N-0595	5.95	0.234	5.56	10.0	50.0	5.95	100	—	○
D573-Y3N-0625	6.25	0.246	5.95	10.0	50.0	6.25	100	—	○
D573-Y3N-0754	7.54	0.297	6.35	10.0	50.0	7.54	100	—	○
D573-Y3N-0767	7.67	0.302	6.35	10.0	50.0	7.67	120	—	○
D573-Y3N-0930	9.30	0.366	8.40	10.0	50.0	9.30	120	—	○

Note：Accept non-standard custom from D3 to D16 tool.

Unit(mm)

● Stock ○ Available upon Order

Workpiece Material

P			M	N				S
1 2 3 4	5	6	1 2 3	1 2	3	4	5	1 2 3 4
Carbon Steels、Alloy Steels (<35HRC)	Alloy Steels、Tool Steels (35-48HRC)	PH and Ferrite/ Martensitic Stainless (<48HRC)	Stainless Steel	Wrought Aluminium Alloys, Cast Aluminium Alloys (Si≤12%)	Cast Aluminium Alloys (Si>12%)	Copper Alloys (<200HB)	Composite Material	Titanium alloy, Heat-resistant Super Alloys
○	○		◎	◎	◎		◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P085

Recommended Cutting Data

D918S High Performance Twist Drills for Steel

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ3	Φ4	Φ6	Φ8	Φ10
P	Low-carbon Steels,Long Chipping（＜125HB）	100-80-50	140-100-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Low-carbon Steels，Short Chipping，Free-cutting Steels（＜125HB）	100-75-50	140-100-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	High-carbon Steels,Medium-carbon Steels（＜25HRC）	90-70-45	120-80-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Alloy Steels，Tool Steels.（＜35HRC）	90-70-45	110-80-50	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Alloy Steels，Tool Steels.（35-48HRC）	80-60-40	90-60-40	0.09-0.12-0.14	0.10-0.14-0.17	0.13-0.17-0.22	0.17-0.23-0.29	0.21-0.28-0.35
M	Austenitic Stainless Steels(130- 200HB)	40-30-20	80-60-40	0.05-0.08-0.10	0.06-0.10-0.12	0.07-0.12-0.14	0.08-0.13-0.18	0.09-0.15-0.20
	High-Strength Austenitic Stainless Steels and Cast Stainless Steels（<25HRC）	40-30-20	80-60-40	0.03-0.06-0.08	0.04-0.08-0.10	0.05-0.08-0.10	0.06-0.10-0.12	0.07-0.11-0.14
	Duplex Stainless Steels (<30HRC)	35-25-20	60-45-30	0.03-0.06-0.08	0.04-0.08-0.10	0.05-0.08-0.10	0.06-0.10-0.12	0.07-0.11-0.14
K	Grey Cast Iron (<32HRC)	100-80-60	140-120-60	0.13-0.17-0.20	0.15-0.20-0.23	0.17-0.25-0.30	0.20-0.27-0.35	0.23-0.30-0.40
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（<28HRC)	100-80-60	140-120-60	0.11-0.15-0.18	0.13-0.17-0.20	0.15-0.20-0.25	0.17-0.25-0.32	0.20-0.28-0.36
	Difficult High-alloy Cast Iron，Nodular Cast Iron (<45HRC)	90-70-60	100-90-60	0.06-0.09-0.11	0.08-0.10-0.13	0.10-0.13-0.16	0.12-0.16-0.20	0.14-0.20-0.26

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D918S High Performance Twist Drills for Steel

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ12	Φ14	Φ16	Φ18	Φ20
P	Low-carbon Steels,Long Chipping（<125HB）	100-80-50	140-100-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Low-carbon Steels，Short Chipping，Free-cutting Steels（<125HB）	100-75-50	140-100-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	High-carbon Steels,Medium-carbon Steels（<25HRC）	90-70-45	120-80-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Alloy Steels，Tool Steels.（<35HRC）	90-70-45	110-80-50	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Alloy Steels，Tool Steels.（35-48HRC）	80-60-40	90-60-40	0.22-0.30-0.37	0.26-0.35-0.41	0.28-0.37-0.44	0.31-0.38-0.46	0.31-0.39-0.47
M	Austenitic Stainless Steels(130- 200HB)	40-30-20	80-60-40	0.10-0.17-0.22	0.11-0.18-0.24	0.12-0.20-0.24	0.13-0.22-0.26	0.14-0.24-0.28
	High-Strength Austenitic Stainless Steels and Cast Stainless Steels（<25HRC）	40-30-20	80-60-40	0.08-0.13-0.16	0.09-0.13-0.18	0.10-0.14-0.18	0.10-0.14-0.20	0.12-0.16-0.22
	Duplex Stainless Steels (<30HRC)	35-25-20	60-45-30	0.08-0.13-0.16	0.09-0.13-0.18	0.10-0.14-0.18	0.10-0.14-0.20	0.12-0.16-0.22
K	Grey Cast Iron (<32HRC)	100-80-60	140-120-60	0.25-0.33-0.45	0.28-0.36-0.48	0.30-0.40-0.50	0.32-0.42-0.52	0.35-0.45-0.55
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（<28HRC）	100-80-60	140-120-60	0.22-0.30-0.42	0.24-0.33-0.45	0.25-0.35-0.48	0.28-0.38-0.48	0.30-0.40-0.50
	Difficult High-alloy Cast Iron，Nodular Cast Iron (<45HRC)	90-70-60	100-90-60	0.16-0.22-0.28	0.18-0.24-0.30	0.20-0.26-0.32	0.22-0.28-0.34	0.23-0.28-0.35

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D968S High Performance Twist Drills for Stainless Steel

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ3	Φ4	Φ6	Φ8	Φ10
P	Low-carbon Steels,Long Chipping（<125HB）	100-80-50	140-100-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Low-carbon Steels，Short Chipping，Free-cutting Steels（<125HB）	100-75-50	140-100-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	High-carbon Steels,Medium-carbon Steels（<25HRC）	90-70-45	120-80-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Alloy Steels，Tool Steels.（<35HRC）	90-70-45	110-80-50	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
M	Austenitic Stainless Steels(130- 200HB)	40-30-20	80-60-40	0.05-0.08-0.10	0.06-0.10-0.12	0.07-0.12-0.14	0.08-0.13-0.18	0.09-0.15-0.20
	High-Strength Austenitic Stainless Steels and Cast Stainless Steels（< 25HRC）	40-30-20	80-60-40	0.03-0.06-0.08	0.04-0.08-0.10	0.05-0.08-0.10	0.06-0.10-0.12	0.07-0.11-0.14
	Duplex Stainless Steels（<30HRC）	35-25-20	60-45-30	0.03-0.06-0.08	0.04-0.08-0.10	0.05-0.08-0.10	0.06-0.10-0.12	0.07-0.11-0.14
S	Iron-based Heat-resistant Alloys(160-260HB)	-	50-40-25	0.03-0.05-0.08	0.04-0.07-0.10	0.05-0.09-0.10	0.06-0.10-0.12	0.07-0.12-0.14
	Cobalt-based Heat-resistant AlloysCobalt-based Heat-resistant Alloys（250-450HB）	-	50-40-25	0.03-0.05-0.08	0.04-0.07-0.10	0.05-0.09-0.10	0.06-0.10-0.12	0.07-0.12-0.14
	Nickel-based Heat-resistant Alloys(160-450HB)	-	50-40-25	0.03-0.05-0.07	0.04-0.07-0.09	0.05-0.09-0.10	0.06-0.10-0.12	0.07-0.12-0.14
	Titanium and Titanium Alloys((300-400HB)	-	45-35-20	0.03-0.04-0.06	0.04-0.06-0.08	0.05-0.08-0.10	0.06-0.09-0.11	0.07-0.10-0.12

Remark:
1.Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2.Make sure total indicated run-out(TIR) is less than 0.02mm.
3.The recommended cutting condition is suitable for apply water soluble.
4.If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D968S High Performance Twist Drills for Stainless Steel

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ12	Φ14	Φ16	Φ18	Φ20
P	Low-carbon Steels,Long Chipping（<125HB）	100-80-50	140-100-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Low-carbon Steels，Short Chipping，Free-cutting Steels（<125HB）	100-75-50	140-100-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	High-carbon Steels,Medium-carbon Steels（<25HRC）	90-70-45	120-80-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Alloy Steels，Tool Steels.（<35HRC）	90-70-45	110-80-50	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
M	Austenitic Stainless Steels(130- 200HB)	40-30-20	80-60-40	0.10-0.17-0.22	0.11-0.18-0.24	0.12-0.20-0.24	0.13-0.22-0.26	0.14-0.24-0.28
	High-Strength Austenitic Stainless Steels and Cast Stainless Steels（<25HRC）	40-30-20	80-60-40	0.08-0.13-0.16	0.09-0.13-0.18	0.10-0.14-0.18	0.10-0.14-0.20	0.12-0.16-0.22
	Duplex Stainless Steels（<30HRC）	35-25-20	60-45-30	0.08-0.13-0.16	0.09-0.13-0.18	0.10-0.14-0.18	0.10-0.14-0.20	0.12-0.16-0.22
S	Iron-based Heat-resistant Alloys(160-260HB)	-	50-40-25	0.08-0.14-0.16	0.09-0.15-0.18	0.10-0.17-0.18	0.10-0.16-0.20	0.12-0.18-0.22
	Cobalt-based Heat-resistant AlloysCobalt-based Heat-resistant Alloys（250-450HB）	-	50-40-25	0.08-0.14-0.16	0.09-0.15-0.18	0.10-0.17-0.18	0.10-0.16-0.20	0.12-0.18-0.22
	Nickel-based Heat-resistant Alloys(160-450HB)	-	50-40-25	0.08-0.14-0.16	0.09-0.15-0.18	0.10-0.17-0.18	0.10-0.16-0.20	0.12-0.18-0.22
	Titanium and Titanium Alloys((300-400HB)	-	45-35-20	0.08-0.12-0.14	0.09-0.13-0.16	0.10-0.14-0.16	0.10-0.15-0.18	0.12-0.16-0.20

【Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D938 3D/5D Twist Drills for Steel

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ3	Φ4	Φ6	Φ8	Φ10
P	Low-carbon Steels, Long Chipping（< 125HB）	120-80-50	140-100-60	0.10-0.15-0.20	0.10-0.15-0.20	0.14-0.19-0.25	0.16-0.22-0.32	0.16-0.22-0.35
	Low-carbon Steels，Short Chipping，Free-cutting Steels（< 125HB）	120-75-50	140-100-60	0.10-0.15-0.20	0.10-0.15-0.20	0.14-0.19-0.25	0.16-0.22-0.32	0.16-0.22-0.35
	High-carbon Steels,Medium-carbon Steels（< 25HRC）	120-70-45	120-80-60	0.10-0.15-0.20	0.10-0.15-0.20	0.14-0.19-0.25	0.16-0.22-0.30	0.16-0.22-0.32
	Alloy Steels，Tool Steels.（<35HRC）	100-70-45	110-80-60	0.09-0.13-0.16	0.09-0.13-0.16	0.12-0.17-0.23	0.14-0.20-0.28	0.14-0.20-0.30
	Alloy Steels，Tool Steels.(35-48HRC)	80-60-35	90-60-35	0.08-0.11-0.14	0.08-0.11-0.14	0.08-0.14-0.20	0.09-0.16-0.25	0.09-0.16-0.28
	PH and Ferrite/ Martensitic Steels (<35HRC)	70-50-30	90-60-30	0.05-0.08-0.11	0.05-0.08-0.11	0.07-0.12-0.17	0.08-0.14-0.20	0.08-0.14-0.23
	High-Strength PH and Ferrite/ Martensitic Steels (35-48HRC)	70-45-25	80-50-30	0.04-0.06-0.08	0.04-0.06-0.08	0.06-0.10-0.14	0.08-0.13-0.18	0.08-0.13-0.20
K	Grey Cast Iron (<32HRC)	140-100-60	160-120-60	0.13-0.17-0.20	0.15-0.20-0.23	0.17-0.25-0.30	0.20-0.27-0.35	0.23-0.30-0.40
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（< 28HRC）	120-80-60	140-100-60	0.11-0.15-0.18	0.13-0.17-0.20	0.15-0.20-0.25	0.17-0.25-0.32	0.20-0.28-0.36
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)	100-70-50	100-80-50	0.06-0.09-0.11	0.08-0.10-0.13	0.10-0.13-0.16	0.12-0.16-0.20	0.14-0.20-0.26

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D938 3D/5D Twist Drills for Steel

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ12	Φ14	Φ16	Φ18	Φ20
P	Low-carbon Steels, Long Chipping（< 125HB)	120-80-50	140-100-60	0.18-0.28-0.40	0.22-0.32-0.45	0.22-0.32-0.45	0.25-0.38-0.50	0.25-0.38-0.50
	Low-carbon Steels，Short Chipping，Free-cutting Steels（< 125HB)	120-75-50	140-100-60	0.18-0.28-0.40	0.22-0.32-0.45	0.22-0.32-0.45	0.25-0.38-0.50	0.25-0.38-0.50
	High-carbon Steels,Medium-carbon Steels（< 25HRC)	120-70-45	120-80-60	0.18-0.28-0.38	0.22-0.32-0.45	0.22-0.32-0.45	0.25-0.38-0.50	0.25-0.38-0.50
	Alloy Steels，Tool Steels.（<35HRC)	100-70-45	110-80-60	0.15-0.23-0.34	0.18-0.25-0.38	0.18-0.25-0.38	0.20-0.30-0.40	0.20-0.30-0.40
	Alloy Steels，Tool Steels.（35-48HRC)	80-60-35	90-60-35	0.11-0.19-0.30	0.12-0.22-0.32	0.12-0.22-0.32	0.14-0.24-0.34	0.14-0.24-0.34
	PH and Ferrite/ Martensitic Steels (<35HRC)	70-50-30	90-60-30	0.10-0.18-0.28	0.12-0.20-0.30	0.12-0.20-0.30	0.14-0.24-0.32	0.14-0.24-0.32
	High-Strength PH and Ferrite/ Martensitic Steels (35-48HRC)	70-45-25	80-50-30	0.10-0.18-0.28	0.12-0.20-0.30	0.12-0.20-0.30	0.14-0.24-0.32	0.14-0.24-0.32
K	Grey Cast Iron (<32HRC)	140-100-60	160-120-60	0.25-0.33-0.45	0.28-0.36-0.48	0.30-0.40-0.50	0.32-0.42-0.52	0.35-0.45-0.55
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（<28HRC)	120-80-60	140-100-60	0.22-0.30-0.42	0.24-0.33-0.45	0.25-0.35-0.48	0.28-0.38-0.48	0.30-0.40-0.50
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)	100-70-50	100-80-50	0.16-0.22-0.28	0.18-0.24-0.30	0.20-0.26-0.32	0.22-0.28-0.34	0.23-0.28-0.35

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D938 8D/12D/15D Twist Drills for Steel

Workpiece		Vc (m/min)		fn (mm/rev)			
				Φ3	Φ4	Φ6	Φ8
P	Low-carbon Steels, Long Chipping（< 125HB)		140-100-60	0.10-0.15-0.20	0.10-0.15-0.20	0.14-0.19-0.25	0.16-0.22-0.32
	Low-carbon Steels，Short Chipping，Free-cutting Steels（< 125HB)		140-100-60	0.10-0.15-0.20	0.10-0.15-0.20	0.14-0.19-0.25	0.16-0.22-0.32
	High-carbon Steels,Medium-carbon Steels（< 25HRC)		120-80-60	0.10-0.15-0.20	0.10-0.15-0.20	0.14-0.19-0.25	0.16-0.22-0.30
	Alloy Steels，Tool Steels.（<35HRC)		110-80-60	0.09-0.13-0.16	0.09-0.13-0.16	0.12-0.17-0.23	0.14-0.20-0.28
	Alloy Steels，Tool Steels.(35-48HRC)		90-60-35	0.08-0.11-0.14	0.08-0.11-0.14	0.08-0.14-0.20	0.09-0.16-0.25
	PH and Ferrite/ Martensitic Steels (<35HRC)		90-60-30	0.05-0.08-0.11	0.05-0.08-0.11	0.07-0.12-0.17	0.08-0.14-0.20
	High-Strength PH and Ferrite/ Martensitic Steels (35-48HRC)		80-50-30	0.04-0.06-0.08	0.04-0.06-0.08	0.06-0.10-0.14	0.08-0.13-0.18
M	Austenitic Stainless Steels(130-200HB)		60-50-40	0.04-0.08-0.10	0.04-0.08-0.10	0.06-0.10-0.12	0.06-0.10-0.12
	High-Strength Austenitic Stainless Steels and Cast Stainless Steels（< 25HRC)		60-50-40	0.04-0.06-0.08	0.04-0.06-0.08	0.06-0.08-0.10	0.06-0.08-0.10
	Duplex Stainless Steels（<30HRC)		50-40-30	0.04-0.06-0.08	0.04-0.06-0.08	0.06-0.08-0.10	0.06-0.08-0.10
K	Grey Cast Iron (<32HRC)		160-120-60	0.13-0.17-0.20	0.15-0.20-0.23	0.17-0.25-0.30	0.20-0.27-0.35
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron (<28HRC)		140-100-60	0.11-0.15-0.18	0.13-0.17-0.20	0.15-0.20-0.25	0.17-0.25-0.32
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)		100-80-50	0.06-0.09-0.11	0.08-0.10-0.13	0.10-0.13-0.16	0.12-0.16-0.20

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D938 8D/12D/15D Twist Drills for Steel

Workpiece		Vc (m/min)		fn (mm/rev)			
				Φ10	Φ12	Φ14	Φ16
P	Low-carbon Steels, Long Chipping（< 125HB）		140-100-60	0.16-0.22-0.35	0.18-0.28-0.40	0.22-0.32-0.45	0.22-0.32-0.45
	Low-carbon Steels，Short Chipping，Free-cutting Steels（< 125HB）		140-100-60	0.16-0.22-0.35	0.18-0.28-0.40	0.22-0.32-0.45	0.22-0.32-0.45
	High-carbon Steels,Medium-carbon Steels（< 25HRC）		120-80-60	0.16-0.22-0.32	0.18-0.28-0.38	0.22-0.32-0.45	0.22-0.32-0.45
	Alloy Steels，Tool Steels.（<35HRC）		110-80-60	0.14-0.20-0.30	0.15-0.23-0.34	0.18-0.25-0.38	0.18-0.25-0.38
	Alloy Steels，Tool Steels.（35-48HRC）		90-60-35	0.09-0.16-0.28	0.11-0.19-0.30	0.12-0.22-0.32	0.12-0.22-0.32
	PH and Ferrite/ Martensitic Steels（<35HRC）		90-60-30	0.08-0.14-0.23	0.10-0.18-0.28	0.12-0.20-0.30	0.12-0.20-0.30
	High-Strength PH and Ferrite/ Martensitic Steels（35-48HRC）		80-50-30	0.08-0.13-0.20	0.10-0.18-0.28	0.12-0.20-0.30	0.12-0.20-0.30
M	Austenitic Stainless Steels(130-200HB)		60-50-40	0.08-0.12-0.16	0.08-0.12-0.16	0.10-0.14-0.18	0.10-0.14-0.18
	High-Strength Austenitic Stainless Steels and Cast Stainless Steels（< 25HRC）		60-50-40	0.08-0.10-0.12	0.08-0.10-0.12	0.10-0.12-0.14	0.10-0.12-0.14
	Duplex Stainless Steels（<30HRC）		50-40-30	0.08-0.10-0.12	0.08-0.10-0.12	0.10-0.12-0.14	0.10-0.12-0.14
K	Grey Cast Iron（<32HRC）		160-120-60	0.23-0.30-0.40	0.25-0.33-0.45	0.28-0.36-0.48	0.30-0.40-0.50
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（<28HRC）		140-100-60	0.20-0.28-0.36	0.22-0.30-0.42	0.24-0.33-0.45	0.25-0.35-0.48
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)		100-80-50	0.14-0.20-0.26	0.16-0.22-0.28	0.18-0.24-0.30	0.20-0.26-0.32

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D101/D102/D103 NC Centre Drills

Workpiece		Vc (m/min)		fn (mm/rev)			
				Φ4	Φ6	Φ8	Φ10
P	Low-carbon Steels, Long Chipping（< 125HB）	130-100-60	-	0.12-0.15-0.18	0.14-0.17-0.20	0.16-0.20-0.26	0.18-0.24-0.3
	Low-carbon Steels，Short Chipping，Free-cutting Steels（<125HB）	120-100-60	-	0.10-0.14-0.18	0.14-0.16-0.20	0.16-0.20-0.24	0.18-0.24-0.3
	High-carbon Steels,Medium-carbon Steels（< 25HRC）	110-80-60	-	0.10-0.13-0.16	0.12-0.15-0.18	0.14-0.18-0.22	0.16-0.20-0.24
	Alloy Steels，Tool Steels.（<35HRC）	110-80-60	-	0.10-0.13-0.16	0.12-0.15-0.18	0.14-0.18-0.22	0.16-0.20-0.24
	Alloy Steels，Tool Steels.（35-48HRC）	100-80-60	-	0.10-0.12-0.16	0.12-0.14-0.18	0.14-0.16-0.20	0.16-0.20-0.24
	PH and Ferrite/ Martensitic Steels（<35HRC）	100-80-60	-	0.10-0.12-0.16	0.12-0.14-0.18	0.14-0.16-0.20	0.16-0.20-0.24
K	Grey Cast Iron（<32HRC）	140-120-60	-	0.12-0.20-0.26	0.17-0.26-0.32	0.20-0.32-0.40	0.25-0.30-0.36
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（<28HRC）	130-105-60	-	0.12-0.18-0.24	0.15-0.20-0.27	0.17-0.22-0.30	0.20-0.26-0.32
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)	120-90-60	-	0.10-0.16-0.22	0.10-0.13-0.16	0.13-0.17-0.21	0.15-0.20-0.26
N	Wrought Aluminium Alloys(Si<12%)	150-120-60	-	0.12-0.20-0.26	0.17-0.26-0.32	0.20-0.32-0.40	0.25-0.30-0.36
	Cast Aluminium Alloys(Si<12%)	150-120-60	-	0.12-0.18-0.24	0.15-0.20-0.27	0.17-0.22-0.30	0.20-0.26-0.32
	Cast Aluminium Alloys(Si>12%)	150-120-60	-	0.10-0.13-0.16	0.12-0.15-0.18	0.14-0.18-0.22	0.16-0.20-0.24
	Copper，Copper Alloys（<200HB）	150-120-60	-	0.10-0.12-0.16	0.12-0.14-0.18	0.14-0.16-0.20	0.16-0.20-0.24

【Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D101/D102/D103 NC Centre Drills

Workpiece		Vc (m/min)		fn (mm/rev)			
				Φ12	Φ14	Φ16	Φ20
P	Low-carbon Steels, Long Chipping（< 125HB)	130-100-60	-	0.20-0.26-0.32	0.24-0.30-0.35	0.28-0.34-0.4	0.32-0.38-0.45
	Low-carbon Steels，Short Chipping，Free-cutting Steels (<125HB)	120-100-60	-	0.20-0.26-0.32	0.24-0.28-0.34	0.28-0.34-0.4	0.32-0.38-0.45
	High-carbon Steels,Medium-carbon Steels（< 25HRC)	110-80-60	-	0.18-0.24-0.30	0.20-0.26-0.30	0.22-0.28-0.32	0.26-0.32-0.40
	Alloy Steels，Tool Steels. (<35HRC)	110-80-60	-	0.18-0.24-0.30	0.20-0.26-0.30	0.22-0.28-0.32	0.26-0.32-0.40
	Alloy Steels，Tool Steels. (35-48HRC)	100-80-60	-	0.18-0.24-0.30	0.20-0.26-0.30	0.22-0.28-0.32	0.26-0.32-0.40
	PH and Ferrite/ Martensitic Steels (<35HRC)	100-80-60	-	0.18-0.24-0.30	0.20-0.26-0.30	0.22-0.28-0.32	0.26-0.32-0.40
K	Grey Cast Iron (<32HRC)	140-120-60	-	0.26-0.32-0.38	0.28-0.32-0.40	0.30-0.36-0.42	0.32-0.38-0.44
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron (<28HRC)	130-105-60	-	0.22-0.28-0.34	0.24-0.30-0.36	0.26-0.32-0.38	0.30-0.36-0.42
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)	120-90-60	-	0.17-0.22-0.28	0.19-0.26-0.31	0.20-0.27-0.33	0.28-0.29-0.35
N	Wrought Aluminium Alloys(Si<12%)	150-120-60	-	0.26-0.32-0.38	0.28-0.32-0.40	0.30-0.36-0.42	0.32-0.38-0.44
	Cast Aluminium Alloys(Si<12%)	150-120-60	-	0.22-0.28-0.34	0.24-0.30-0.36	0.26-0.32-0.38	0.30-0.36-0.42
	Cast Aluminium Alloys(Si>12%)	150-120-60	-	0.18-0.24-0.30	0.20-0.26-0.30	0.22-0.28-0.32	0.26-0.32-0.40
	Copper，Copper Alloys（<200HB)	150-120-60	-	0.18-0.24-0.30	0.20-0.26-0.30	0.22-0.28-0.32	0.26-0.32-0.40

【Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D918 Twist Drills for General Purpose

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ3	Φ4	Φ6	Φ8	Φ10
P	Low-carbon Steels, Long Chipping（< 125HB）	100-80-50	140-100-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Low-carbon Steels，Short Chipping，Free-cutting Steels（<125HB）	100-75-50	140-100-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	High-carbon Steels,Medium-carbon Steels（< 25HRC）	90-70-45	120-80-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Alloy Steels，Tool Steels.（<35HRC）	90-70-45	110-80-50	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Alloy Steels，Tool Steels.（35-48HRC）	80-60-40	90-60-40	0.09-0.12-0.14	0.10-0.14-0.17	0.13-0.17-0.22	0.17-0.23-0.29	0.21-0.28-0.35
	PH and Ferrite/ Martensitic Steels（<35HRC）	70-50-30	80-50-30	0.09-0.12-0.14	0.10-0.14-0.17	0.13-0.17-0.22	0.17-0.23-0.29	0.21-0.28-0.35
M	Austenitic Stainless Steels(130-200HB)	-	50-40-20	0.05-0.08-0.10	0.06-0.10-0.12	0.07-0.12-0.14	0.08-0.13-0.18	0.09-0.15-0.20
	High-Strength Austenitic Stainless Steels and Cast Stainless Steels（< 25HRC）	-	55-40-30	0.03-0.06-0.08	0.04-0.08-0.10	0.05-0.08-0.10	0.06-0.10-0.12	0.07-0.11-0.14
	Duplex Stainless Steels（<30HRC）	-	55-40-20	0.03-0.06-0.08	0.04-0.08-0.10	0.05-0.08-0.10	0.06-0.10-0.12	0.07-0.11-0.14
K	Grey Cast Iron（<32HRC）	100-80-60	140-120-60	0.13-0.17-0.21	0.15-0.20-0.26	0.17-0.26-0.32	0.20-0.32-0.40	0.25-0.36-0.42
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（<28HRC）	100-80-60	140-120-60	0.11-0.15-0.18	0.13-0.18-0.22	0.15-0.23-0.27	0.17-0.26-0.38	0.22-0.28-0.38
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)	90-70-60	100-90-60	0.06-0.09-0.11	0.08-0.10-0.13	0.10-0.13-0.16	0.13-0.17-0.21	0.15-0.20-0.26
N	Wrought Aluminium Alloys(Si<12%)	-	315-230-90	0.06-0.09-0.11	0.13-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.20-0.30-0.38
	Cast Aluminium Alloys(Si<12%)	-	315-230-90	0.06-0.09-0.11	0.13-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.20-0.30-0.38
	Cast Aluminium Alloys(Si>12%)	-	270-180-90	0.06-0.09-0.11	0.13-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.20-0.30-0.38
	Copper，Copper Alloys（<200HB）	-	180-135-90	0.06-0.09-0.11	0.13-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.20-0.30-0.38

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D918 Twist Drills for General Purpose

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ12	Φ14	Φ16	Φ18	Φ20
P	Low-carbon Steels, Long Chipping（< 125HB)	100-80-50	140-100-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Low-carbon Steels，Short Chipping，Free-cutting Steels（< 125HB)	100-75-50	140-100-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	High-carbon Steels,Medium-carbon Steels（< 25HRC)	90-70-45	120-80-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Alloy Steels，Tool Steels.（<35HRC)	90-70-45	110-80-50	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Alloy Steels，Tool Steels.(35-48HRC)	80-60-40	90-60-40	0.22-0.30-0.37	0.26-0.35-0.41	0.28-0.37-0.44	0.31-0.38-0.46	0.31-0.39-0.47
	PH and Ferrite/ Martensitic Steels (<35HRC)	70-50-30	80-50-30	0.22-0.30-0.37	0.26-0.35-0.41	0.28-0.37-0.44	0.31-0.38-0.46	0.31-0.39-0.47
M	Austenitic Stainless Steels(130-200HB)	-	50-40-20	0.10-0.17-0.22	0.11-0.18-0.24	0.12-0.20-0.24	0.13-0.22-0.26	0.14-0.24-0.28
	High-Strength Austenitic Stainless Steels and Cast Stainless Steels（< 25HRC)	-	55-40-30	0.08-0.13-0.16	0.09-0.13-0.18	0.10-0.14-0.18	0.10-0.14-0.20	0.12-0.16-0.22
	Duplex Stainless Steels（<30HRC)	-	55-40-20	0.08-0.13-0.16	0.09-0.13-0.18	0.10-0.14-0.18	0.10-0.14-0.20	0.12-0.16-0.22
K	Grey Cast Iron (<32HRC)	100-80-60	140-120-60	0.26-0.38-0.46	0.28-0.40-0.50	0.30-0.42-0.52	0.32-0.44-0.54	0.36-0.48-0.56
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（< 28HRC)	100-80-60	140-120-60	0.22-0.34-0.42	0.24-0.35-0.44	0.26-0.40-0.48	0.30-0.40-0.46	0.34-0.43-0.50
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)	90-70-60	100-90-60	0.17-0.22-0.28	0.19-0.26-0.31	0.20-0.27-0.33	0.23-0.28-0.34	0.23-0.29-0.35
N	Wrought Aluminium Alloys(Si<12%)	-	315-230-90	0.22-0.34-0.42	0.24-0.36-0.44	0.28-0.38-0.46	0.32-0.40-0.48	0.34-0.42-0.48
	Cast Aluminium Alloys(Si<12%)	-	315-230-90	0.22-0.34-0.42	0.24-0.36-0.44	0.28-0.38-0.46	0.32-0.40-0.48	0.34-0.42-0.48
	Cast Aluminium Alloys(Si>12%)	-	270-180-90	0.22-0.34-0.42	0.24-0.36-0.44	0.28-0.38-0.46	0.32-0.40-0.48	0.34-0.42-0.48
	Copper，Copper Alloys（<200HB)	-	180-135-90	0.22-0.34-0.42	0.24-0.36-0.44	0.28-0.38-0.46	0.32-0.40-0.48	0.34-0.42-0.48

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D928 Twist Drills for Cast Iron

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ3	Φ4	Φ6	Φ8	Φ10
P	Low-carbon Steels, Long Chipping（< 125HB）	100-80-50	140-100-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Low-carbon Steels，Short Chipping，Free-cutting Steels（<125HB）	100-75-50	140-100-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	High-carbon Steels,Medium-carbon Steels（< 25HRC）	90-70-45	100-80-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
	Alloy Steels，Tool Steels.（<35HRC）	90-70-45	100-80-60	0.09-0.13-0.16	0.11-0.15-0.19	0.14-0.19-0.23	0.19-0.25-0.31	0.23-0.30-0.38
K	Grey Cast Iron（<32HRC）	100-80-60	160-140-60	0.13-0.17-0.21	0.15-0.20-0.26	0.17-0.26-0.32	0.20-0.32-0.40	0.25-0.36-0.42
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（< 28HRC）	100-80-60	140-120-60	0.11-0.15-0.18	0.13-0.18-0.22	0.15-0.23-0.27	0.17-0.26-0.38	0.22-0.28-0.38
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)	90-70-60	100-90-60	0.06-0.09-0.11	0.08-0.10-0.13	0.10-0.13-0.16	0.13-0.17-0.21	0.15-0.20-0.26
N	Wrought Aluminium Alloys(Si<12%)	-	315-230-90	0.06-0.09-0.11	0.13-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.20-0.30-0.38
	Cast Aluminium Alloys(Si<12%)	-	315-230-90	0.06-0.09-0.11	0.13-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.20-0.30-0.38
	Cast Aluminium Alloys(Si>12%)	-	270-180-90	0.06-0.09-0.11	0.13-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.20-0.30-0.38

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D928 Twist Drills for Cast Iron

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ12	Φ14	Φ16	Φ18	Φ20
P	Low-carbon Steels, Long Chipping（< 125HB)	100-80-50	140-100-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Low-carbon Steels，Short Chipping，Free-cutting Steels（< 125HB)	100-75-50	140-100-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	High-carbon Steels,Medium-carbon Steels（< 25HRC)	90-70-45	100-80-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
	Alloy Steels，Tool Steels.（<35HRC)	90-70-45	100-80-60	0.24-0.33-0.41	0.28-0.38-0.45	0.30-0.42-0.50	0.33-0.42-0.50	0.34-0.43-0.51
K	Grey Cast Iron (<32HRC)	100-80-60	160-140-60	0.26-0.38-0.46	0.28-0.40-0.50	0.30-0.42-0.52	0.32-0.44-0.54	0.36-0.48-0.56
	Moderately Difficult Alloy Cast iron，Nodular Cast Iron（< 28HRC)	100-80-60	140-120-60	0.22-0.34-0.42	0.24-0.35-0.44	0.26-0.40-0.48	0.30-0.40-0.46	0.34-0.43-0.50
	Difficult High-alloy Cast Iron，Nodular Cast Iron(<45HRC)	90-70-60	100-90-60	0.17-0.22-0.28	0.19-0.26-0.31	0.20-0.27-0.33	0.23-0.28-0.34	0.23-0.29-0.35
N	Wrought Aluminium Alloys(Si<12%)	-	315-230-90	0.22-0.34-0.42	0.24-0.36-0.44	0.28-0.38-0.46	0.32-0.40-0.48	0.34-0.42-0.48
	Cast Aluminium Alloys(Si<12%)	-	315-230-90	0.22-0.34-0.42	0.24-0.36-0.44	0.28-0.38-0.46	0.32-0.40-0.48	0.34-0.42-0.48
	Cast Aluminium Alloys(Si>12%)	-	270-180-90	0.22-0.34-0.42	0.24-0.36-0.44	0.28-0.38-0.46	0.32-0.40-0.48	0.34-0.42-0.48

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D998 Twist Drills for Hardened Steel

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ3	Φ4	Φ6	Φ8	Φ10
H	Hardened SteelsHardened Steels（45-55HRC）	40-30-20	-	0.04-0.06-0.08	0.05-0.08-0.10	0.06-0.10-0.13	0.08-0.12-0.15	0.09-0.14-0.16
	Hardened SteelsHardened Steels（55-60HRC）	30-20-15	-	0.03-0.05-0.07	0.03-0.06-0.08	0.04-0.08-0.12	0.06-0.10-0.13	0.08-0.12-0.15

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ12	Φ14	Φ16	-	-
H	Hardened SteelsHardened Steels（45-55HRC）	40-30-20	-	0.10-0.15-0.17	0.10-0.16-0.20	0.10-0.16-0.20	-	-
	Hardened SteelsHardened Steels（55-60HRC）	30-20-15	-	0.09-0.13-0.16	0.10-0.14-0.17	0.10-0.14-0.17	-	-

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D713 Straight Flute Drills for Cast Iron

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ4	Φ6	Φ8	Φ10	Φ12
K	Grey Cast Iron (<32HRC)	100-80-60	140-110-60	0.13-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.20-0.30-0.38	0.22-0.34-0.42
	Moderately Difficult Alloy Cast iron, Nodular Cast Iron（< 28HRC)	100-80-60	120-100-60	0.13-0.18-0.22	0.15-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.22-0.30-0.38
	Difficult High-alloy Cast Iron, Nodular Cast Iron(<45HRC)	90-70-60	100-90-60	0.08-0.10-0.13	0.10-0.13-0.16	0.13-0.17-0.21	0.15-0.20-0.26	0.17-0.22-0.28
N	Cast Aluminium Alloys(Si<12%)	100-80-60	140-110-60	0.13-0.20-0.26	0.16-0.22-0.28	0.18-0.26-0.32	0.20-0.30-0.38	0.22-0.34-0.42

Workpiece		Vc (m/min)		fn (mm/rev)				
				Φ14	Φ16	Φ18	Φ20	-
K	Grey Cast Iron (<32HRC)	100-80-60	140-110-60	0.24-0.36-0.44	0.28-0.38-0.46	0.32-0.40-0.48	0.34-0.42-0.48	-
	Moderately Difficult Alloy Cast iron, Nodular Cast Iron（< 28HRC)	100-80-60	120-100-60	0.24-0.32-0.40	0.26-0.32-0.40	0.28-0.36-0.42	0.30-0.38-0.46	-
	Difficult High-alloy Cast Iron, Nodular Cast Iron(<45HRC)	90-70-60	100-90-60	0.19-0.26-0.31	0.20-0.27-0.33	0.23-0.28-0.34	0.23-0.29-0.35	-
N	Cast Aluminium Alloys(Si<12%)	100-80-60	140-110-60	0.24-0.36-0.44	0.28-0.38-0.46	0.32-0.40-0.48	0.34-0.42-0.48	-

Remark:
1. Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The recommended cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

Recommended Cutting Data

D612 Triple-angle Drill for Composite Material

Application	Workpiece		Vc	fn
			m/min	mm/rev
Drilling	N	CFRP、GFRP	60	0.08

D973 Twist Drills for Composite and Metal

Application	Workpiece		Vc	fn
			m/min	mm/rev
Drilling	N	CFRP+Aluminium Alloys	60	0.08
	N S	CFRP+Titanium alloy	20	0.05
	N	Aluminium Alloys	60	0.08
	S	Titanium alloy	15	0.05
	M	Stainless Steel	15	0.05

D573 Core Drills for Composite and Metal

Application	Workpiece		Vc	fn
			m/min	mm/rev
Drilling	N	CFRP	60	0.08
	N	CFRP+Aluminium Alloys	60	0.08
	N S	CFRP+Titanium alloy	20	0.05
	N	Aluminium Alloys	60	0.08
	S	Titanium alloy	15	0.05
	M	Stainless Steel	15	0.05

Remark:
CFRP：Glass fiber reinforced plastics GFRP：Glass fiber reinforced plastics
1. Please use the pneumatic tools with better rigidity, drill set and ensure processing stability
2. When using the small size cutting tool, reduce the tool feed 20%-30%