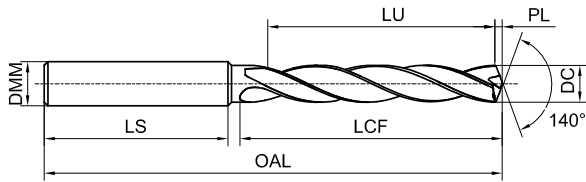


D928-A3N

3D External Coolant Twist Drill for Cast Iron Machining



Order No.	DC (m7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D928-A3N-0300	3.00	20	62	6	36	15.5	0.55	○
D928-A3N-0330	3.30	20	62	6	36	15.1	0.60	○
D928-A3N-0380	3.80	24	66	6	36	18.3	0.69	○
D928-A3N-0400	4.00	24	66	6	36	18.0	0.73	○
D928-A3N-0420	4.20	24	66	6	36	17.7	0.76	○
D928-A3N-0440	4.40	24	66	6	36	17.4	0.80	○
D928-A3N-0500	5.00	28	66	6	36	20.5	0.91	○
D928-A3N-0510	5.10	28	66	6	36	20.4	0.93	○
D928-A3N-0600	6.00	28	66	6	36	19.0	1.09	○
D928-A3N-0650	6.50	34	79	8	36	24.3	1.18	○
D928-A3N-0670	6.70	34	79	8	36	24.0	1.22	○
D928-A3N-0680	6.80	34	79	8	36	23.8	1.24	○
D928-A3N-0690	6.90	34	79	8	36	23.7	1.26	○
D928-A3N-0700	7.00	34	79	8	36	23.5	1.27	○
D928-A3N-0720	7.20	41	79	8	36	30.2	1.31	○

Order No.	DC (m7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D928-A3N-0770	7.70	41	79	8	36	29.5	1.40	○
D928-A3N-0780	7.80	41	79	8	36	29.3	1.42	○
D928-A3N-0800	8.00	41	79	8	36	29.0	1.46	○
D928-A3N-0810	8.10	47	89	10	40	34.9	1.47	○
D928-A3N-0850	8.50	47	89	10	40	34.3	1.55	○
D928-A3N-0870	8.70	47	89	10	40	34.0	1.58	○
D928-A3N-0880	8.80	47	89	10	40	33.8	1.60	○
D928-A3N-0900	9.00	47	89	10	40	33.5	1.64	○
D928-A3N-0910	9.10	47	89	10	40	33.4	1.66	○
D928-A3N-0980	9.80	47	89	10	40	32.3	1.78	○
D928-A3N-1000	10.00	47	89	10	40	32.0	1.82	○
D928-A3N-1020	10.20	55	102	12	45	39.7	1.86	○
D928-A3N-1025	10.25	55	102	12	45	39.6	1.87	○
D928-A3N-1030	10.30	55	102	12	45	39.6	1.87	○
D928-A3N-1040	10.40	55	102	12	45	39.4	1.89	○

● Stock ○ Available Upon Order

Notes: Non-standard customization is available for D3-D20 tools

Unit (mm)

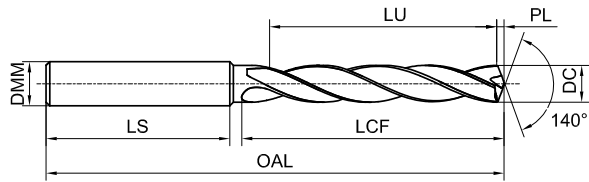
Workpiece Material													
P			M	K		N				S	H		
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
Carbon Steel, Alloy Steel	Alloy Steel, Tool Steel	PH and Ferritic/Martensitic Steel	Stainless Steel	Gray Cast Iron, Nodular Cast Iron	High Alloy Cast Iron	Forged Aluminum Alloy, Cast Aluminum Alloy	Cast Aluminum Alloy	Copper Alloy	Composite Material	High-temperature Alloy	Titanium Alloy	Hardened Steel	Hardened Steel
<35HRC	35-48HRC			<32HRC	35-45HRC	Si < 12%	Si > 12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○				◎	◎								

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P131

D928-A3N

3D External Coolant Twist Drill for Cast Iron Machining



Continued

Order No.	DC (m7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D928-A3N-1050	10.50	55	102	12	45	39.3	1.91	○
D928-A3N-1060	10.60	55	102	12	45	39.1	1.93	○
D928-A3N-1070	10.70	55	102	12	45	39.0	1.95	○
D928-A3N-1080	10.80	55	102	12	45	38.8	1.97	○
D928-A3N-1100	11.00	55	102	12	45	38.5	2.00	○
D928-A3N-1120	11.20	55	102	12	45	38.2	2.04	○
D928-A3N-1150	11.50	55	102	12	45	37.8	2.09	○
D928-A3N-1170	11.70	55	102	12	45	37.5	2.13	○
D928-A3N-1200	12.00	55	102	12	45	37.0	2.18	○
D928-A3N-1250	12.50	60	107	14	45	41.3	2.27	○
D928-A3N-1270	12.70	60	107	14	45	41.0	2.31	○
D928-A3N-1300	13.00	60	107	14	45	40.5	2.37	○
D928-A3N-1400	14.00	60	107	14	45	39.0	2.55	○

Order No.	DC (m7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D928-A3N-1450	14.50	65	115	16	48	43.3	2.64	○
D928-A3N-1500	15.00	65	115	16	48	42.5	2.73	○
D928-A3N-1570	15.70	65	115	16	48	41.5	2.86	○
D928-A3N-1600	16.00	65	115	16	48	41.0	2.91	○
D928-A3N-1610	16.10	73	123	18	48	48.9	2.93	○
D928-A3N-1650	16.50	73	123	18	48	48.3	3.00	○
D928-A3N-1660	16.60	73	123	18	48	48.1	3.02	○
D928-A3N-1700	17.00	73	123	18	48	47.5	3.09	○
D928-A3N-1800	18.00	73	123	18	48	46.0	3.28	○
D928-A3N-1850	18.50	79	131	20	50	51.3	3.37	○
D928-A3N-1900	19.00	79	131	20	50	50.5	3.46	○
D928-A3N-2000	20.00	79	131	20	50	49.0	3.64	○

Unit (mm)

● Stock ○ Available Upon Order

Notes: Non-standard customization is available for D3-D20 tools

Range of Sizes	DC(m7)	DMM(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

Workpiece Material													
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
Carbon Steel, Alloy Steel	Alloy Steel, Tool Steel	PH and Ferritic/Martensitic Steel	Stainless Steel	Gray Cast Iron, Nodular Cast Iron	High Alloy Cast Iron	Forged Aluminum Alloy, Cast Aluminium Alloy	Cast Aluminum Alloy	Copper Alloy	Composite Material	High-temperature Alloy	Titanium Alloy	Hardened Steel	Hardened Steel
<35HRC	35-48HRC			<32HRC	35-45HRC	Si<12%	Si>12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○				◎	◎								

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P131

Recommended Cutting Data

D928 Cast Iron Machining Twist Drill

Workpiece Material		Cutting Speed Vc (m/min)		Feed Fn (mm/rev)				
				Φ3	Φ4	Φ6	Φ8	Φ10
P	Low-carbon Steel, Long Chips (<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 Steel, Short Chips, Free Cutting Steel (<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 Steel and medium-carbon Steel (<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 Steel, Tool Steel (<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	Gray 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
	Alloy Cast Iron with Medium Machining Difficulty, 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-to-machine 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	Forged Aluminum Alloy (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 Aluminum Alloy (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 Aluminum Alloy (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

[Notes]

1. Please use a machine with relatively high rigidity. It is recommended to adopt hydraulic tool holders, thermal expansion tool holders and powerful handles with spring collets.
2. When installing the tool, it is necessary to ensure that the radial bounce of the drill bit tip is less than 0.02mm.
3. This standard cutting condition table is suitable for water-soluble cutting fluids
4. For the tool edge diameter specifications not listed in the table, please refer to the closest edge diameter specifications in the table to select the cutting data. Meanwhile, during the machining process, please adjust the cutting data appropriately according to the actual machining situation.

Recommended Cutting Data

D928 Cast Iron Machining Twist Drill

Workpiece Material		Cutting Speed Vc (m/min)		Feed Fn (mm/rev)				
				Φ12	Φ14	Φ16	Φ18	Φ20
P	Low-carbon Steel, Long Chips (<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 Steel, Short Chips, Free Cutting Steel (<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 Steel and Medium-carbon Steel (<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 Steel, Tool Steel (<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	Gray 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
	Alloy Cast Iron with Medium Machining Difficulty, 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-to-machine 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	Forged Aluminum Alloy (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 Aluminum Alloy (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 Aluminum Alloy (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

[Notes]

1. Please use a machine with relatively high rigidity. It is recommended to adopt hydraulic tool holders, thermal expansion tool holders and powerful handles with spring collets.
2. When installing the tool, it is necessary to ensure that the radial bounce of the drill bit tip is less than 0.02mm.
3. This standard cutting condition table is suitable for water-soluble cutting fluids
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