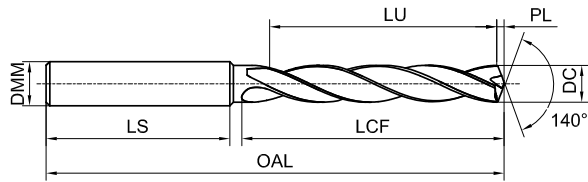


D928-A5N

5D External Coolant Twist Drill for Cast Iron Machining



Order No.	DC (m7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D928-A5N-0300	3.00	28	66	6	36	23.5	0.55	●
D928-A5N-0330	3.30	28	66	6	36	23.1	0.60	●
D928-A5N-0340	3.40	28	66	6	36	22.9	0.62	○
D928-A5N-0400	4.00	36	74	6	36	30.0	0.73	○
D928-A5N-0420	4.20	36	74	6	36	29.7	0.76	○
D928-A5N-0430	4.30	36	74	6	36	29.6	0.78	○
D928-A5N-0480	4.80	44	82	6	36	36.8	0.87	○
D928-A5N-0500	5.00	44	82	6	36	36.5	0.91	●
D928-A5N-0505	5.05	44	82	6	36	36.4	0.92	○
D928-A5N-0510	5.10	44	82	6	36	36.4	0.93	○
D928-A5N-0530	5.30	44	82	6	36	36.1	0.96	○
D928-A5N-0580	5.80	44	82	6	36	35.3	1.06	○
D928-A5N-0600	6.00	44	82	6	36	35.0	1.09	●
D928-A5N-0670	6.70	53	91	8	36	43.0	1.22	○
D928-A5N-0680	6.80	53	91	8	36	42.8	1.24	●
D928-A5N-0700	7.00	53	91	8	36	42.5	1.27	●
D928-A5N-0750	7.50	53	91	8	36	41.8	1.36	○
D928-A5N-0780	7.80	53	91	8	36	41.3	1.42	○
D928-A5N-0800	8.00	53	91	8	36	41.0	1.46	○
D928-A5N-0850	8.50	61	103	10	40	48.3	1.55	○
D928-A5N-0860	8.60	61	103	10	40	48.1	1.57	○

● Stock ○ Available Upon Order

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

Unit (mm)

Order No.	DC (m7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D928-A5N-0870	8.70	61	103	10	40	48.0	1.58	○
D928-A5N-0900	9.00	61	103	10	40	47.5	1.64	○
D928-A5N-0910	9.10	61	103	10	40	47.5	1.66	●
D928-A5N-0970	9.70	61	103	10	40	46.5	1.77	○
D928-A5N-0980	9.80	61	103	10	40	46.3	1.78	○
D928-A5N-1000	10.00	61	103	10	40	46.0	1.82	○
D928-A5N-1025	10.25	71	118	12	45	55.6	1.87	●
D928-A5N-1030	10.30	71	118	12	45	55.6	1.87	○
D928-A5N-1050	10.50	71	118	12	45	55.3	1.91	●
D928-A5N-1070	10.70	71	118	12	45	55.0	1.95	○
D928-A5N-1080	10.80	71	118	12	45	54.8	1.97	○
D928-A5N-1100	11.00	71	118	12	45	54.5	2.00	●
D928-A5N-1110	11.10	71	118	12	45	54.4	2.02	○
D928-A5N-1120	11.20	71	118	12	45	54.2	2.04	○
D928-A5N-1140	11.40	71	118	12	45	53.9	2.07	○
D928-A5N-1180	11.80	71	118	12	45	53.3	2.15	○
D928-A5N-1200	12.00	71	118	12	45	53.0	2.18	○
D928-A5N-1250	12.50	77	124	14	45	58.3	2.27	●
D928-A5N-1300	13.00	77	124	14	45	57.5	2.37	○
D928-A5N-1350	13.50	77	124	14	45	56.8	2.46	○
D928-A5N-1380	13.80	77	124	14	45	57.5	2.51	○

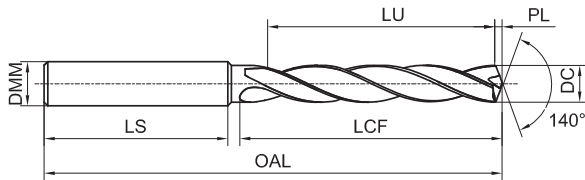
Workpiece Material													
P			M	K		N				S	H		
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
Carbon Steel, Alloy Steel	Alloy Steel, Tool Steel	PH and Ferritic/Martensitic Steel	Stainless Steel	Gray Cast Iron, Nodular Cast Iron	High Alloy Cast Iron	Forged Aluminum Alloy, Cast Aluminum Alloy	Cast 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-A5N

5D External Coolant Twist Drill for Cast Iron Machining



Continued

Order No.	DC (m7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D928-A5N-1400	14.00	77	124	14	45	56.0	2.55	○
D928-A5N-1450	14.50	83	133	16	48	61.3	2.64	○
D928-A5N-1500	15.00	83	133	16	48	60.5	2.73	○
D928-A5N-1600	16.00	83	133	16	48	59.0	2.91	○
D928-A5N-1700	17.00	93	143	18	48	67.5	3.09	○
D928-A5N-1800	18.00	93	143	18	48	66	3.28	○
D928-A5N-1900	19.00	101	153	20	50	72.5	3.46	○
D928-A5N-2000	20.00	101	153	20	50	71	3.64	○

● Stock ○ Available Upon Order

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

Unit (mm)

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 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

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
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.