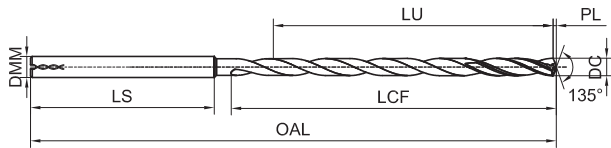


D938-A15C

D938 15D Deep Hole Twist Drill for Plain Steel Machining



Order No.	DC (h7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D938-A15C-0300	3.00	55	95	6	36	50.5	0.62	●
D938-A15C-0310	3.10	67	106	6	36	62.4	0.64	○
D938-A15C-0320	3.20	67	106	6	36	62.2	0.66	○
D938-A15C-0330	3.30	67	106	6	36	62.1	0.68	○
D938-A15C-0340	3.40	67	106	6	36	61.9	0.70	○
D938-A15C-0350	3.50	76	116	6	36	70.8	0.72	●
D938-A15C-0360	3.60	76	116	6	36	70.6	0.75	○
D938-A15C-0370	3.70	76	116	6	36	70.5	0.77	○
D938-A15C-0380	3.80	76	116	6	36	70.3	0.79	○
D938-A15C-0390	3.90	76	116	6	36	70.2	0.81	○
D938-A15C-0400	4.00	76	116	6	36	70.0	0.83	●
D938-A15C-0410	4.10	93	133	6	36	86.9	0.85	○
D938-A15C-0420	4.20	93	133	6	36	86.7	0.87	●
D938-A15C-0430	4.30	93	133	6	36	86.6	0.89	○
D938-A15C-0440	4.40	93	133	6	36	86.4	0.91	○
D938-A15C-0450	4.50	93	133	6	36	86.3	0.93	●
D938-A15C-0460	4.60	93	133	6	36	86.1	0.95	○
D938-A15C-0470	4.70	93	133	6	36	86.0	0.97	○
D938-A15C-0480	4.80	93	133	6	36	85.8	0.99	○
D938-A15C-0490	4.90	93	133	6	36	85.7	1.01	○
D938-A15C-0500	5.00	93	133	6	36	85.5	1.04	●
D938-A15C-0510	5.10	110	150	6	36	102.4	1.06	●
D938-A15C-0520	5.20	110	150	6	36	102.2	1.08	○
D938-A15C-0530	5.30	110	150	6	36	102.1	1.10	○
D938-A15C-0540	5.40	110	150	6	36	101.9	1.12	○

Order No.	DC (h7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D938-A15C-0550	5.50	110	150	6	36	101.8	1.14	●
D938-A15C-0560	5.60	110	150	6	36	101.6	1.16	○
D938-A15C-0570	5.70	110	150	6	36	101.5	1.18	○
D938-A15C-0580	5.80	110	150	6	36	101.3	1.20	○
D938-A15C-0590	5.90	110	150	6	36	101.2	1.22	○
D938-A15C-0600	6.00	110	150	6	36	101.0	1.24	●
D938-A15C-0610	6.10	127	167	8	36	117.9	1.26	○
D938-A15C-0620	6.20	127	167	8	36	117.7	1.28	○
D938-A15C-0630	6.30	127	167	8	36	117.6	1.30	○
D938-A15C-0640	6.40	127	167	8	36	117.4	1.33	○
D938-A15C-0650	6.50	127	167	8	36	117.3	1.35	●
D938-A15C-0660	6.60	127	167	8	36	117.1	1.37	○
D938-A15C-0670	6.70	127	167	8	36	117.0	1.39	○
D938-A15C-0680	6.80	127	167	8	36	116.8	1.41	○
D938-A15C-0690	6.90	127	167	8	36	116.7	1.43	○
D938-A15C-0700	7.00	127	167	8	36	116.5	1.45	●
D938-A15C-0710	7.10	143	183	8	36	132.4	1.47	○
D938-A15C-0720	7.20	143	183	8	36	132.2	1.49	○
D938-A15C-0730	7.30	143	183	8	36	132.1	1.51	○
D938-A15C-0740	7.40	143	183	8	36	131.9	1.53	○
D938-A15C-0750	7.50	143	183	8	36	131.8	1.55	●
D938-A15C-0760	7.60	143	183	8	36	131.6	1.57	○
D938-A15C-0770	7.70	143	183	8	36	131.5	1.59	○
D938-A15C-0780	7.80	143	183	8	36	131.3	1.62	○
D938-A15C-0790	7.90	143	183	8	36	131.2	1.64	○

● Stock ○ Available Upon Order

Notes: Non-standard customization is available for D3-D16 tools

Unit (mm)

Notes: The depth drill uses a drill bit of the same specification as D938-A3C as a pilot drill.

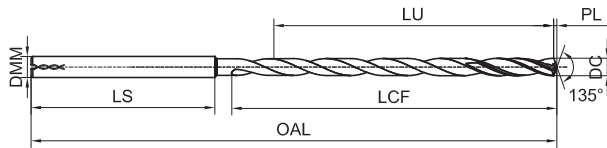
Workpiece Material													
P			M	K		N				S	H		
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
Carbon Steel, Alloy Steel	Alloy Steel, Tool Steel	PH and Ferritic/Martensitic Steel	Stainless Steel	Gray Cast Iron, Nodular Cast Iron	High Alloy Cast Iron	Forged Aluminum Alloy, Cast Aluminum Alloy	Cast 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 ※ P129

D938-A15C

D938 15D Deep Hole Twist Drill for Plain Steel Machining



Continued

Order No.	DC (h7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D938-A15C-0800	8.00	143	183	8	36	131.0	1.66	●
D938-A15C-0810	8.10	160	204	10	40	147.9	1.68	○
D938-A15C-0820	8.20	160	204	10	40	147.7	1.70	○
D938-A15C-0830	8.30	160	204	10	40	147.6	1.72	○
D938-A15C-0840	8.40	160	204	10	40	147.4	1.74	○
D938-A15C-0850	8.50	160	204	10	40	147.3	1.76	●
D938-A15C-0860	8.60	160	204	10	40	147.1	1.78	○
D938-A15C-0870	8.70	160	204	10	40	147.0	1.80	○
D938-A15C-0880	8.80	160	204	10	40	146.8	1.82	○
D938-A15C-0890	8.90	160	204	10	40	146.7	1.84	○
D938-A15C-0900	9.00	160	204	10	40	146.5	1.86	●
D938-A15C-0910	9.10	177	221	10	40	163.4	1.88	○
D938-A15C-0920	9.20	177	221	10	40	163.2	1.91	○
D938-A15C-0930	9.30	177	221	10	40	163.1	1.93	○
D938-A15C-0940	9.40	177	221	10	40	162.9	1.95	○
D938-A15C-0950	9.50	177	221	10	40	162.8	1.97	○
D938-A15C-0960	9.60	177	221	10	40	162.6	1.99	○
D938-A15C-0970	9.70	177	221	10	40	162.5	2.01	○
D938-A15C-0980	9.80	177	221	10	40	162.3	2.03	○
D938-A15C-0990	9.90	177	221	10	40	162.2	2.05	○
D938-A15C-1000	10.00	177	221	10	40	162.0	2.07	●
D938-A15C-1010	10.10	198	247	12	45	182.9	2.09	○

Order No.	DC (h7)	LCF	OAL	DMM (h6)	LS	LU	PL	In Stock
D938-A15C-1020	10.20	198	247	12	45	182.7	2.11	○
D938-A15C-1030	10.30	198	247	12	45	182.6	2.13	○
D938-A15C-1040	10.40	198	247	12	45	182.4	2.15	○
D938-A15C-1050	10.50	198	247	12	45	182.3	2.17	●
D938-A15C-1080	10.80	198	247	12	45	181.8	2.24	○
D938-A15C-1100	11.00	198	247	12	45	181.5	2.28	●
D938-A15C-1120	11.20	214	263	12	45	197.2	2.32	○
D938-A15C-1150	11.50	214	263	12	45	196.8	2.38	○
D938-A15C-1160	11.60	214	263	12	45	196.6	2.40	○
D938-A15C-1170	11.70	214	263	12	45	196.5	2.42	○
D938-A15C-1180	11.80	214	263	12	45	196.3	2.44	○
D938-A15C-1200	12.00	214	263	12	45	196.0	2.49	○
D938-A15C-1210	12.10	248	297	14	45	229.9	2.51	○
D938-A15C-1220	12.20	248	297	14	45	229.7	2.53	○
D938-A15C-1250	12.50	248	297	14	45	229.3	2.59	●
D938-A15C-1280	12.80	248	297	14	45	228.8	2.65	○
D938-A15C-1300	13.00	248	297	14	45	228.5	2.69	○
D938-A15C-1350	13.50	248	297	14	45	227.8	2.80	○
D938-A15C-1380	13.80	248	297	14	45	227.3	2.86	○
D938-A15C-1400	14.00	248	297	14	45	227.0	2.90	○
D938-A15C-1500	15.00	278	330	16	48	255.5	3.11	○

Unit (mm)

● Stock ○ Available Upon Order

Notes: Non-standard customization is available for D3-D16 tools

Notes: The depth drill uses a drill bit of the same specification as D938-A3C as a pilot drill.

Range of Sizes	DC(h7)	DMM(h6)
=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

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 ※ P129

Recommended Cutting Data

D938 Deep Holemaking Twist Drill 8D/12D/15D/20D/25D

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

[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

D938 Deep Holemaking Twist Drill 8D/12D/15D/20D/25D

Workpiece Material		Cutting Speed Vc (m/min)	Feed Fn (mm/rev)			
			Φ10	Φ12	Φ14	Φ16
P	Low-carbon Steel, Long Chips (<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 Steel, Short Chips, Free Cutting Steel (<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 Steel and medium-carbon Steel (<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 Steel, Tool Steel (<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 Steel, Tool Steel (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 Ferritic, Martensitic Steel (<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 Ferritic, Martensitic Steel (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 and Cast Stainless Steel (<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 Steel (<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	Gray 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
	Alloy Cast Iron with Medium Machining Difficulty, 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-to-machine 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

[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.