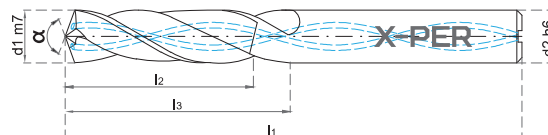


Stock	Order No	Code	d1m7	d2h6	l1	l2	l3
*	69100	M3DF.2.0200.0500.A0138.0090.0000.0120.00.S04M1A05.01	2	4	50	9	12
*	69102	M3DF.2.0210.0550.A0138.0095.0000.0126.00.S04M1A05.01	2,1	4	55	9,5	12,6
*	69104	M3DF.2.0215.0580.A0147.0110.0000.0160.00.S03B1C05.01	2,15	3	58	11	16
*	69106	M3DF.2.0220.0550.A0138.0099.0000.0132.00.S04M1A05.01	2,2	4	55	9,9	13,2
*	69108	M3DF.2.0230.0550.A0138.0104.0000.0138.00.S04M1A05.01	2,3	4	55	10,4	13,8
*	69110	M3DF.2.0240.0550.A0138.0108.0000.0144.00.S04M1A05.01	2,4	4	55	10,8	14,4
*	69112	M3DF.2.0250.0550.A0138.0113.0000.0150.00.S04M1A05.01	2,5	4	55	11,3	15
*	69114	M3DF.2.0260.0550.A0138.0117.0000.0156.00.S04M1A05.01	2,6	4	55	11,7	15,6
*	69116	M3DF.2.0270.0550.A0138.0122.0000.0162.00.S04M1A05.01	2,7	4	55	12,2	16,2
*	69118	M3DF.2.0280.0550.A0138.0126.0000.0168.00.S04M1A05.01	2,8	4	55	12,6	16,8
*	69120	M3DF.2.0290.0550.A0138.0131.0000.0174.00.S04M1A05.01	2,9	4	55	13,1	17,4
*	69122	M3DF.2.0300.0620.A0138.0180.0000.0200.00.S06C1A05.01	3	6	62	18	20
*	69124	M3DF.2.0310.0620.A0138.0180.0000.0200.00.S06C1A05.01	3,1	6	62	18	20
*	69126	M3DF.2.0320.0620.A0138.0180.0000.0200.00.S06C1A05.01	3,2	6	62	18	20
*	69128	M3DF.2.0330.0620.A0138.0180.0000.0200.00.S06C1A05.01	3,3	6	62	18	20
*	69130	M3DF.2.0340.0620.A0138.0180.0000.0200.00.S06C1A05.01	3,4	6	62	18	20
*	69132	M3DF.2.0350.0620.A0138.0180.0000.0200.00.S06C1A05.01	3,5	6	62	18	20
*	69134	M3DF.2.0360.0620.A0138.0180.0000.0200.00.S06C1A05.01	3,6	6	62	18	20
*	69136	M3DF.2.0370.0620.A0138.0180.0000.0200.00.S06C1A05.01	3,7	6	62	18	20
*	69138	M3DF.2.0380.0660.A0138.0220.0000.0240.00.S06A1A05.01	3,8	6	66	22	24
*	69140	M3DF.2.0390.0660.A0138.0220.0000.0240.00.S06A1A05.01	3,9	6	66	22	24
*	69142	M3DF.2.0400.0660.A0138.0220.0000.0240.00.S06A1A05.01	4	6	66	22	24
*	69144	M3DF.2.0410.0660.A0138.0220.0000.0240.00.S06A1A05.01	4,1	6	66	22	24
*	69146	M3DF.2.0420.0660.A0138.0220.0000.0240.00.S06A1A05.01	4,2	6	66	22	24
*	69148	M3DF.2.0430.0660.A0138.0220.0000.0240.00.S06A1A05.01	4,3	6	66	22	24
*	69150	M3DF.2.0440.0660.A0138.0220.0000.0240.00.S06A1A05.01	4,4	6	66	22	24
*	69152	M3DF.2.0450.0660.A0138.0220.0000.0240.00.S06A1A05.01	4,5	6	66	22	24
*	69154	M3DF.2.0460.0660.A0138.0220.0000.0240.00.S06A1A05.01	4,6	6	66	22	24
*	69156	M3DF.2.0470.0660.A0138.0220.0000.0240.00.S06A1A05.01	4,7	6	66	22	24
*	69158	M3DF.2.0480.0660.A0138.0260.0000.0280.00.S06A1A05.01	4,8	6	66	26	28
*	69160	M3DF.2.0490.0660.A0138.0260.0000.0280.00.S06A1A05.01	4,9	6	66	26	28
*	69162	M3DF.2.0500.0660.A0138.0260.0000.0280.00.S06A1A05.01	5	6	66	26	28
*	69164	M3DF.2.0510.0660.A0138.0260.0000.0280.00.S06A1A05.01	5,1	6	66	26	28
*	69166	M3DF.2.0520.0660.A0145.0260.0000.0280.00.S06A1A05.01	5,2	6	66	26	28
*	69168	M3DF.2.0520.0660.A0138.0260.0000.0280.00.S06A1A05.01	5,2	6	66	26	28
*	69170	M3DF.2.0530.0660.A0138.0260.0000.0280.00.S06A1A05.01	5,3	6	66	26	28
*	69172	M3DF.2.0540.0660.A0138.0260.0000.0280.00.S06A1A05.01	5,4	6	66	26	28
*	69174	M3DF.2.0550.0660.A0138.0260.0000.0280.00.S06A1A05.01	5,5	6	66	26	28
*	69176	M3DF.2.0560.0660.A0138.0260.0000.0280.00.S06A1A05.01	5,6	6	66	26	28
*	69178	M3DF.2.0570.0660.A0138.0260.0000.0280.00.S06A1A05.01	5,7	6	66	26	28
*	69180	M3DF.2.0580.0660.A0138.0260.0000.0280.00.S06A1A05.01	5,8	6	66	26	28
*	69182	M3DF.2.0590.0660.A0138.0260.0000.0280.00.S06A1A05.01	5,9	6	66	26	28
*	69184	M3DF.2.0600.0660.A0138.0260.0000.0280.00.S06A1A05.01	6	6	66	26	28
*	69186	M3DF.2.0610.0790.A0138.0320.0000.0340.00.S08A1A05.01	6,1	8	79	32	34
*	69188	M3DF.2.0620.0790.A0138.0320.0000.0340.00.S08A1A05.01	6,2	8	79	32	34
*	69190	M3DF.2.0630.0790.A0138.0320.0000.0340.00.S08A1A05.01	6,3	8	79	32	34
*	69192	M3DF.2.0640.0790.A0138.0320.0000.0340.00.S08A1A05.01	6,4	8	79	32	34
*	69194	M3DF.2.0650.0790.A0138.0320.0000.0340.00.S08A1A05.01	6,5	8	79	32	34
*	69196	M3DF.2.0660.0790.A0138.0320.0000.0340.00.S08A1A05.01	6,6	8	79	32	34
*	69198	M3DF.2.0670.0790.A0138.0320.0000.0340.00.S08A1A05.01	6,7	8	79	32	34
*	69200	M3DF.2.0680.0790.A0138.0320.0000.0340.00.S08A1A05.01	6,8	8	79	32	34

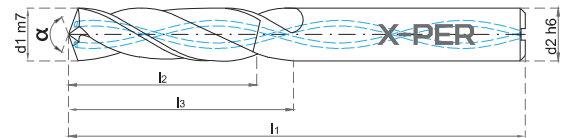
M3DF

3D Drill With
Coolant Holes



M3DF - 3D Drill With Coolant Holes

Stock	Order No	Code	d1m7	d2h6	l1	l2	l3
*	69202	M3DF.2.0690.0790.A0138.0320.0000.0340.00.S08A1A05.01	6,9	8	79	32	34
*	69204	M3DF.2.0700.0790.A0138.0320.0000.0340.00.S08A1A05.01	7	8	79	32	34
*	69206	M3DF.2.0710.0790.A0138.0380.0000.0410.00.S08A1A05.01	7,1	8	79	38	41
*	69208	M3DF.2.0720.0790.A0138.0380.0000.0410.00.S08A1A05.01	7,2	8	79	38	41
*	69210	M3DF.2.0730.0790.A0138.0380.0000.0410.00.S08A1A05.01	7,3	8	79	38	41
*	69212	M3DF.2.0740.0790.A0138.0380.0000.0410.00.S08A1A05.01	7,4	8	79	38	41
*	69214	M3DF.2.0750.0790.A0138.0380.0000.0410.00.S08A1A05.01	7,5	8	79	38	41
*	69216	M3DF.2.0760.0790.A0138.0380.0000.0410.00.S08A1A05.01	7,6	8	79	38	41
*	69218	M3DF.2.0770.0790.A0138.0380.0000.0410.00.S08A1A05.01	7,7	8	79	38	41
*	69220	M3DF.2.0780.0790.A0138.0380.0000.0410.00.S08A1A05.01	7,8	8	79	38	41
*	69222	M3DF.2.0790.0790.A0138.0380.0000.0410.00.S08A1A05.01	7,9	8	79	38	41
*	69224	M3DF.2.0800.0790.A0138.0380.0000.0410.00.S08A1A05.01	8	8	79	38	41
*	69226	M3DF.2.0804.0890.A0142.0380.0000.0420.00.S10A1A05.01	8,04	10	89	38	42
*	69228	M3DF.2.0810.0890.A0138.0430.0000.0470.00.S10A1A05.01	8,1	10	89	43	47
*	69230	M3DF.2.0820.0890.A0138.0430.0000.0470.00.S10A1A05.01	8,2	10	89	43	47
*	69232	M3DF.2.0830.0890.A0138.0430.0000.0470.00.S10A1A05.01	8,3	10	89	43	47
*	69234	M3DF.2.0840.0890.A0138.0430.0000.0470.00.S10A1A05.01	8,4	10	89	43	47
*	69236	M3DF.2.0850.0890.A0138.0430.0000.0470.00.S10A1A05.01	8,5	10	89	43	47
*	69238	M3DF.2.0860.0890.A0138.0430.0000.0470.00.S10A1A05.01	8,6	10	89	43	47
*	69240	M3DF.2.0870.0890.A0138.0430.0000.0470.00.S10A1A05.01	8,7	10	89	43	47
*	69242	M3DF.2.0880.0890.A0138.0430.0000.0470.00.S10A1A05.01	8,8	10	89	43	47
*	69244	M3DF.2.0890.0890.A0138.0430.0000.0470.00.S10A1A05.01	8,9	10	89	43	47
*	69246	M3DF.2.0900.0890.A0138.0430.0000.0470.00.S10A1A05.01	9	10	89	43	47
*	69248	M3DF.2.0910.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,1	10	89	43	47
*	69250	M3DF.2.0920.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,2	10	89	43	47
*	69252	M3DF.2.0925.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,25	10	89	43	47
*	69254	M3DF.2.0930.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,3	10	89	43	47
*	69256	M3DF.2.0940.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,4	10	89	43	47
*	69258	M3DF.2.0950.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,5	10	89	43	47
*	69260	M3DF.2.0960.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,6	10	89	43	47
*	69262	M3DF.2.0970.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,7	10	89	43	47
*	69264	M3DF.2.0980.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,8	10	89	43	47
*	69266	M3DF.2.0990.0890.A0138.0430.0000.0470.00.S10A1A05.01	9,9	10	89	43	47
*	69268	M3DF.2.1000.0890.A0138.0430.0000.0470.00.S10A1A05.01	10	10	89	43	47
*	69270	M3DF.2.1010.1020.A0138.0510.0000.0550.00.S12A1A05.01	10,1	12	102	51	55
*	69272	M3DF.2.1020.1020.A0138.0510.0000.0550.00.S12A1A05.01	10,2	12	102	51	55
*	69274	M3DF.2.1030.1020.A0138.0510.0000.0550.00.S12A1A05.01	10,3	12	102	51	55
*	69276	M3DF.2.1040.1020.A0138.0510.0000.0550.00.S12A1A05.01	10,4	12	102	51	55
*	69278	M3DF.2.1050.1020.A0138.0510.0000.0550.00.S12A1A05.01	10,5	12	102	51	55
*	69280	M3DF.2.1060.1020.A0138.0510.0000.0550.00.S12A1A05.01	10,6	12	102	51	55
*	69282	M3DF.2.1070.1020.A0138.0510.0000.0550.00.S12A1A05.01	10,7	12	102	51	55
*	69284	M3DF.2.1080.1020.A0138.0510.0000.0550.00.S12A1A05.01	10,8	12	102	51	55
*	69286	M3DF.2.1090.1020.A0138.0510.0000.0550.00.S12A1A05.01	10,9	12	102	51	55
*	69288	M3DF.2.1100.1020.A0138.0510.0000.0550.00.S12A1A05.01	11	12	102	51	55
*	69290	M3DF.2.1110.1020.A0138.0510.0000.0550.00.S12A1A05.01	11,1	12	102	51	55
*	69292	M3DF.2.1120.1020.A0138.0510.0000.0550.00.S12A1A05.01	11,2	12	102	51	55
*	69294	M3DF.2.1130.1020.A0138.0510.0000.0550.00.S12A1A05.01	11,3	12	102	51	55
*	69296	M3DF.2.1140.1020.A0138.0510.0000.0550.00.S12A1A05.01	11,4	12	102	51	55
*	69298	M3DF.2.1150.1020.A0138.0510.0000.0550.00.S12A1A05.01	11,5	12	102	51	55
*	69300	M3DF.2.1160.1020.A0138.0510.0000.0550.00.S12A1A05.01	11,6	12	102	51	55
*	69302	M3DF.2.1170.1020.A0138.0510.0000.0550.00.S12A1A05.01	11,7	12	102	51	55
*	69304	M3DF.2.1180.1020.A0138.0510.0000.0550.00.S12A1A05.01	11,8	12	102	51	55



M3DF - 3D Drill With Coolant Holes

Stock	Order No	Code	d1m7	d2h6	l1	l2	l3
*	69306	M3DF.2.1190.1020.A0138.0510.0000.0550.00.S12A1A05.01	11,9	12	102	51	55
*	69308	M3DF.2.1200.1020.A0138.0510.0000.0550.00.S12A1A05.01	12	12	102	51	55
*	69310	M3DF.2.1230.1070.A0138.0530.0000.0600.00.S14A1A05.01	12,3	14	107	53	60
*	69312	M3DF.2.1240.1070.A0138.0530.0000.0600.00.S14A1A05.01	12,4	14	107	53	60
*	69314	M3DF.2.1250.1070.A0138.0530.0000.0600.00.S14A1A05.01	12,5	14	107	53	60
*	69316	M3DF.2.1270.1070.A0138.0530.0000.0600.00.S14A1A05.01	12,7	14	107	53	60
*	69318	M3DF.2.1280.1070.A0138.0530.0000.0600.00.S14A1A05.01	12,8	14	107	53	60
*	69320	M3DF.2.1290.1070.A0138.0530.0000.0600.00.S14A1A05.01	12,9	14	107	53	60
*	69322	M3DF.2.1300.1070.A0138.0530.0000.0600.00.S14A1A05.01	13	14	107	53	60
*	69324	M3DF.2.1330.1070.A0138.0530.0000.0600.00.S14B1A05.01	13,3	14	107	53	60
*	69326	M3DF.2.1350.1070.A0138.0530.0000.0600.00.S14B1A05.01	13,5	14	107	53	60
*	69328	M3DF.2.1370.1070.A0138.0530.0000.0600.00.S14B1A05.01	13,7	14	107	53	60
*	69330	M3DF.2.1380.1070.A0138.0530.0000.0600.00.S14B1A05.01	13,8	14	107	53	60
*	69332	M3DF.2.1400.1070.A0140.0530.0000.0600.00.S14B1A05.01	14	14	107	53	60
*	69334	M3DF.2.1420.1150.A0138.0580.0000.0650.00.S16A1A05.01	14,2	16	115	58	65
*	69336	M3DF.2.1450.1150.A0138.0580.0000.0650.00.S16A1A05.01	14,5	16	115	58	65
*	69338	M3DF.2.1470.1150.A0138.0580.0000.0650.00.S16A1A05.01	14,7	16	115	58	65
*	69340	M3DF.2.1480.1150.A0140.0580.0000.0650.00.S16A1A05.01	14,8	16	115	58	65
*	69342	M3DF.2.1500.1150.A0140.0580.0000.0650.00.S16A1A05.01	15	16	115	58	65
*	69344	M3DF.2.1530.1150.A0140.0580.0000.0650.00.S16A1A05.01	15,3	16	115	58	65
*	69346	M3DF.2.1550.1150.A0140.0580.0000.0650.00.S16A1A05.01	15,5	16	115	58	65
*	69348	M3DF.2.1570.1150.A0140.0580.0000.0650.00.S16A1A05.01	15,7	16	115	58	65
*	69350	M3DF.2.1580.1150.A0140.0580.0000.0650.00.S16A1A05.01	15,8	16	115	58	65
*	69352	M3DF.2.1600.1150.A0140.0580.0000.0650.00.S16A1A05.01	16	16	115	58	65
*	69354	M3DF.2.1650.1230.A0140.0660.0000.0730.00.S18A1A05.01	16,5	18	123	66	73
*	69356	M3DF.2.1680.1230.A0140.0660.0000.0730.00.S18A1A05.01	16,8	18	123	66	73
*	69358	M3DF.2.1700.1230.A0140.0660.0000.0730.00.S18A1A05.01	17	18	123	66	73
*	69360	M3DF.2.1750.1230.A0140.0660.0000.0730.00.S18A1A05.01	17,5	18	123	66	73
*	69362	M3DF.2.1780.1230.A0140.0660.0000.0730.00.S18A1A05.01	17,8	18	123	66	73
*	69364	M3DF.2.1800.1230.A0140.0660.0000.0730.00.S18A1A05.01	18	18	123	66	73
*	69366	M3DF.2.1850.1310.A0140.0720.0000.0790.00.S20A1A05.01	18,5	20	131	72	79
*	69368	M3DF.2.1880.1310.A0140.0720.0000.0790.00.S20A1A05.01	18,8	20	131	72	79
*	69370	M3DF.2.1950.1310.A0140.0720.0000.0790.00.S20A1A05.01	19,5	20	131	72	79
*	69372	M3DF.2.1980.1310.A0140.0720.0000.0790.00.S20A1A05.01	19,8	20	131	72	79
*	69374	M3DF.2.2000.1310.A0140.0720.0000.0790.00.S20A1A05.01	20	20	131	72	79

Cutting Parameters Vc(m/min)

Non-Alloy Steel	120-150	●
Steel	110-140	●
Tempered Steel	110-135	●
Cold-Work Tool Steel	80-110	○
Hot-Work Tool Steel	80-110	○
AISI 304 - 416 - 420	55-65	○
AISI 316 - 440	55-65	○
17-4 PH 15-5 PH	50-55	○
Chrome-Cobalt Alloy	50-55	○
Duplex F51	40-50	○
Super Duplex F55	40-50	○
Grey Cast Iron	100-150	●
Alloy Cast Iron	100-150	●
Precision Cast	90-120	●
Titanium	55-65	○
Titanium Alloys	55-65	○
HRSA	20-30	○
≤ 54 HRC	60-80	○
> 54 HRC	40-55	○

Feed Per Revolution (mm/rev)

0	
3	0,04
4	0,07
5	0,1
6	0,20
7	0,22
8	0,24
9	0,27
10	0,30
12	0,33
14	0,36
16	0,39
18	0,42
20	0,45