

MIRACLE DRILLS

CARBIDE

VCHSM

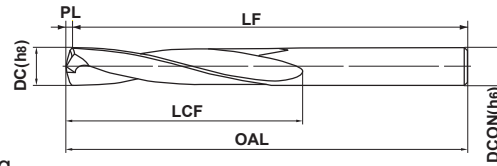
Medium, For hardened material



P	M	K	N	S	H
				Heat Resistant Alloy	Hardened Steel



	DC ≤ 3	3 < DC ≤ 6	6 < DC ≤ 10	10 < DC ≤ 16
0	0	0	0	0
-0.014	-0.018	-0.022	-0.027	-0.027
0	0	0	0	0
-0.009	-0.012	-0.015	-0.018	-0.018



● A suitable geometry for high hardness (60 HRC) material drilling.

Unit : mm

Order Number	DC	LCF	OAL	LF	PL	DCON	Stock
VCHSM D0250	2.5	20.6	55.6	55	0.6	2.5	●
VCHSM D0260	2.6	20.6	55.6	55	0.6	2.6	●
VCHSM D0270	2.7	20.6	55.6	55	0.6	2.7	●
VCHSM D0280	2.8	21.7	60.7	60	0.7	2.8	●
VCHSM D0290	2.9	21.7	60.7	60	0.7	2.9	●
VCHSM D0300	3.0	21.7	60.7	60	0.7	3.0	●
VCHSM D0310	3.1	24.7	60.7	60	0.7	3.1	●
VCHSM D0320	3.2	24.7	60.7	60	0.7	3.2	●
VCHSM D0330	3.3	24.8	60.8	60	0.8	3.3	●
VCHSM D0340	3.4	24.8	60.8	60	0.8	3.4	●
VCHSM D0350	3.5	24.8	60.8	60	0.8	3.5	●
VCHSM D0360	3.6	27.8	60.8	60	0.8	3.6	●
VCHSM D0370	3.7	27.9	60.9	60	0.9	3.7	●
VCHSM D0380	3.8	27.9	60.9	60	0.9	3.8	●
VCHSM D0390	3.9	27.9	60.9	60	0.9	3.9	●
VCHSM D0400	4.0	27.9	60.9	60	0.9	4.0	●
VCHSM D0410	4.1	30.0	64.0	63	1.0	4.1	●
VCHSM D0420	4.2	30.0	64.0	63	1.0	4.2	●
VCHSM D0430	4.3	30.0	64.0	63	1.0	4.3	●
VCHSM D0440	4.4	30.0	64.0	63	1.0	4.4	●
VCHSM D0450	4.5	30.0	64.0	63	1.0	4.5	●
VCHSM D0460	4.6	33.1	69.1	68	1.1	4.6	●
VCHSM D0470	4.7	33.1	69.1	68	1.1	4.7	●
VCHSM D0480	4.8	33.1	69.1	68	1.1	4.8	●
VCHSM D0490	4.9	33.1	69.1	68	1.1	4.9	●
VCHSM D0500	5.0	33.2	69.2	68	1.2	5.0	●
VCHSM D0510	5.1	35.2	73.2	72	1.2	5.1	●
VCHSM D0520	5.2	35.2	73.2	72	1.2	5.2	●
VCHSM D0530	5.3	35.2	73.2	72	1.2	5.3	●
VCHSM D0540	5.4	35.3	73.3	72	1.3	5.4	●
VCHSM D0550	5.5	35.3	73.3	72	1.3	5.5	●
VCHSM D0560	5.6	37.3	75.3	74	1.3	5.6	●
VCHSM D0570	5.7	37.3	75.3	74	1.3	5.7	●
VCHSM D0580	5.8	37.4	75.4	74	1.4	5.8	●
VCHSM D0590	5.9	37.4	75.4	74	1.4	5.9	●
VCHSM D0600	6.0	42.2	82.2	81	1.2	6.0	●
VCHSM D0650	6.5	42.3	82.3	81	1.3	6.5	●
VCHSM D0690	6.9	44.4	84.4	83	1.4	6.9	●
VCHSM D0700	7.0	44.4	84.4	83	1.4	7.0	●
VCHSM D0750	7.5	46.5	88.5	87	1.5	7.5	●

Order Number	DC	LCF	OAL	LF	PL	DCON	Stock
VCHSM D0800	8.0	49.6	91.6	90	1.6	8.0	●
VCHSM D0850	8.5	54.7	97.7	96	1.7	8.5	●
VCHSM D0860	8.6	56.7	99.7	98	1.7	8.6	●
VCHSM D0900	9.0	56.8	99.8	98	1.8	9.0	●
VCHSM D0950	9.5	59.9	103.9	102	1.9	9.5	●
VCHSM D1000	10.0	62.0	107.0	105	2.0	10.0	●
VCHSM D1040	10.4	68.1	114.1	112	2.1	10.4	●
VCHSM D1050	10.5	68.1	114.1	112	2.1	10.5	●
VCHSM D1100	11.0	70.2	116.2	114	2.2	11.0	●
VCHSM D1150	11.5	73.3	120.3	118	2.3	11.5	●
VCHSM D1200	12.0	75.4	123.4	121	2.4	12.0	●
VCHSM D1250	12.5	78.5	137.5	135	2.5	12.5	●
VCHSM D1300	13.0	80.6	139.6	137	2.6	13.0	●
VCHSM D1350	13.5	86.7	146.7	144	2.7	13.5	●
VCHSM D1400	14.0	88.8	149.8	147	2.8	14.0	●
VCHSM D1450	14.5	91.9	153.9	151	2.9	14.5	●
VCHSM D1500	15.0	94.0	156.0	153	3.0	15.0	●
VCHSM D1550	15.5	97.2	160.2	157	3.2	15.5	●
VCHSM D1600	16.0	99.3	163.3	160	3.3	16.0	●

RECOMMENDED CUTTING CONDITIONS

Work Material	Hardened steel AISI H13, AISI 420 etc. (50—55HRC)		Hardened steel AISI D2, Powder high-speed steel etc. (55—60HRC)	
	Revolution (min ⁻¹)	Feed rate (mm/rev)	Revolution (min ⁻¹)	Feed rate (mm/rev)
Dia. DC (mm)				
2.5	1900	0.06	1300	0.04
3.0	1600	0.06	1100	0.04
4.0	1200	0.06	800	0.04
5.0	1000	0.06	600	0.04
6.0	800	0.06	530	0.04
8.0	600	0.07	400	0.05
10.0	480	0.07	320	0.05
12.0	400	0.07	270	0.05
14.0	340	0.07	230	0.05
16.0	300	0.07	200	0.05

- 1) Use rigid machines.
- 2) Collet chuck is recommended to maintain shank condition.
- 3) Use emulsion as cutting fluid.
- 4) Recommended depth of drilling is 3DC (DC:drill diameter) under these cutting conditions.

● : Inventory maintained in Japan. □ : Non stock, produced to order only.