GUIDE TO DRILLING TOOLS

●Section organization

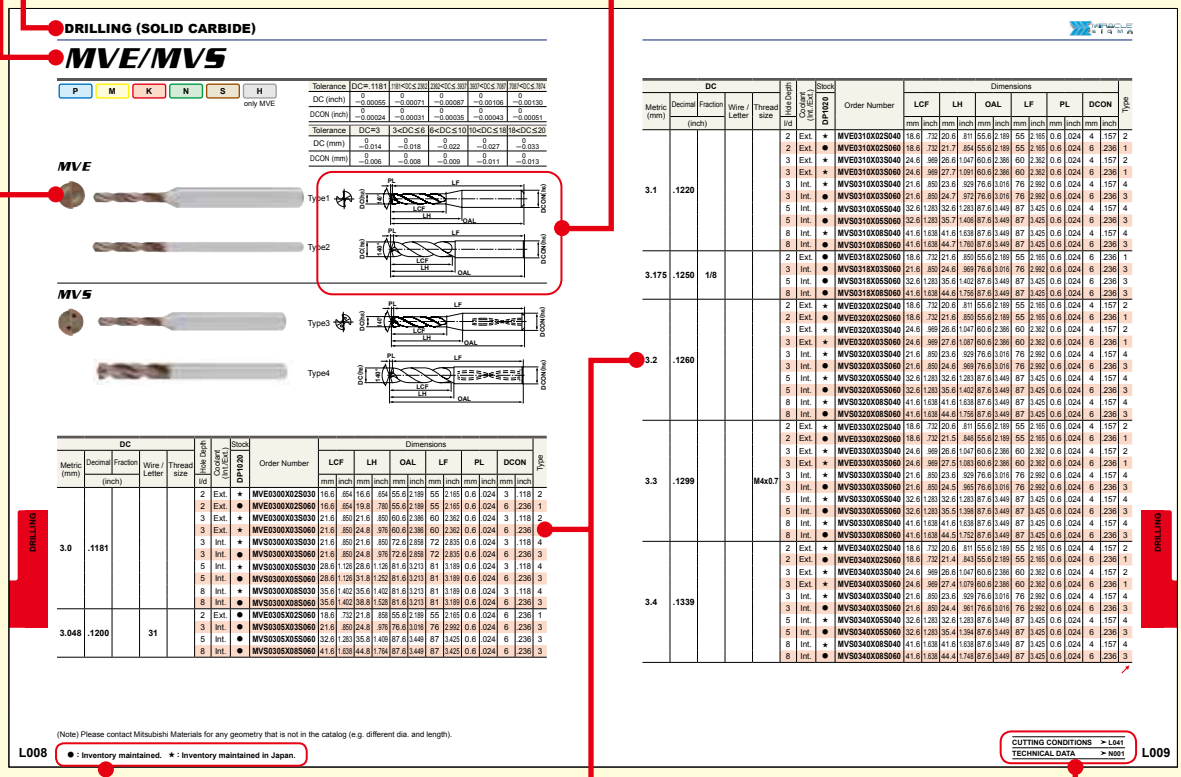
①Organized according to cutting mode for drilling. (Refer to DRILL LIST.)

PHOTO OF PRODUCT

PRODUCT TYPE

PRODUCT SECTION

GEOMETRY



PRODUCT STANDARDS
indicates diameters, order numbers, stock status, numbers of teeth, dimensions, and spare parts for the title product.

PAGE REFERENCE
・TECHNICAL DATA
indicates the reference pages, including the above, on the right hand page of each double-page spread.

LEGEND FOR STOCK STATUS MARK
is shown on the left hand page of each double-page spread.

●To Order: For solid-carbide drill or brazed drill, please specify order number and grade.
For indexable type drill, please specify order number for drill.
For indexable type drill insert, please specify insert number and insert grade.

DRILLING TOOLS

*Arranged by Alphabetical order

Note: Dimension symbols conforming to ISO13399. See pages PR3-PR6 for details.

DRILL SELECTION CHART

Drill Structure	Category	Drill Type	Product Code	Coolant	LU INCH	LU METRIC	Range of Size	Work Material P Carbon Steel Alloy Steel	Work Material M Stainless Steel	Work Material K Cast Iron	Work Material N Light Alloy	Work Material S Heat-resistant Alloy	Work Material H Hardened Steel	Page Dimensions	Page Cutting Conditions	Shape
Solid Carbide	For Micro Size Hole (≤ϕ.1200", ϕ2.95mm)	New Generation for small diameter	NEW MVS MIRACLE SIGMA	Internal	—	2 7 12 20 25 30	**METRIC** ϕ1.0—ϕ2.9 mm	◎	◎	◎	○	○		L006	L043	
		General Use	MWS	Internal	1 5 12	1 5 12 20 25 30	**INCH** ϕ.0200"—ϕ.1200" **METRIC** ϕ0.5—ϕ2.95 mm	◎	◎	◎	○	○		L047	L090	
			MZE	External	2	2 3	**INCH** ϕ.0394"—ϕ.1200" **METRIC** ϕ1.0—ϕ2.9 mm	◎	○	◎	○	○	○	L154 L156	L159	
			MZS	Internal	5	3 5	**INCH** ϕ.0394"—ϕ.1200" **METRIC** ϕ1.0—ϕ2.9 mm	◎	◎	◎	○	○		L154 L156	L161	
			MSE	External	—	5	**METRIC** ϕ0.1—ϕ0.99 mm	◎	○	◎	○	○	○	L148	L149	
		Starter Drill for MSE Type	MSP	External	—	—	**METRIC** ϕ0.1—ϕ3.0 mm	◎	◎	◎	◎	○	◎	L151	L151	
	For General Size Hole (≥ϕ.1200", ϕ3.0mm)	New Generation	MVE MIRACLE SIGMA	External	2 3	2 3	**INCH** ϕ.1200"—ϕ.7874" **METRIC** ϕ3.0—ϕ20.0 mm	◎	○	◎	○	○	○	L008	L041	
			MVS MIRACLE SIGMA	Internal	3 5 8	3 5 8	**INCH** ϕ.1200"—ϕ.7874" **METRIC** ϕ3.0—ϕ20.0 mm	◎	◎	◎	○	○		L008	L043	
		General Use	MWE	External	—	2 3	**METRIC** ϕ3.0—ϕ20.0 mm	◎	○	◎	○	○	○	L057	L088	
			MWS	Internal	5 8	3 5 8	**INCH** ϕ.1250"—ϕ.7874" **METRIC** ϕ3.0—ϕ25.0 mm	◎	◎	◎	○	○		L057 L057	L090	

Drill Structure	Category	Drill Type	Product Code	Coolant	LU INCH	LU METRIC	Range of Size	Work Material P Carbon Steel Alloy Steel	Work Material M Stainless Steel	Work Material K Cast Iron	Work Material N Light Alloy	Work Material S Heat-resistant Alloy	Work Material H Hardened Steel	Page Dimensions	Page Cutting Conditions	Shape
Solid Carbide	For Deep Hole (≥ l/d 10)	MWS Super Long Type	MWS	Internal	15 20 25 30	10 15 20 25 30	**INCH** ϕ.1250"—ϕ.5000" **METRIC** ϕ3.0—ϕ14.0 mm	◎	◎	◎	○	○		L057 L057	L092	
		Solid Gun Drill	MGS	Internal	—	20 — 80	**METRIC** ϕ0.7—ϕ3.0 mm	◎	◎	◎	◎	○	○	L162	L163	
	For Stainless Steel	2 coolant holes	MMS	Internal	—	3 5	**METRIC** ϕ3.0—ϕ20.0 mm		◎					L098	L107	
	For Aluminum or Cast Iron	Helix Angle (10°)	MAE	External	—	3	**METRIC** ϕ3.0—ϕ16.0 mm			○	◎			L142	L147	
			MAS	Internal	3	3 6	**INCH** ϕ.1250"—ϕ.7812" **METRIC** ϕ3.0—ϕ16.0 mm			○	◎			L140 L142	L141 L147	
		4 coolant holes	MNS	Internal	—	5 10 20 30	**METRIC** ϕ3.0—ϕ14.0 mm				◎			L130	L135	
	For Hardened Steel	General Use	MHS	Internal	—	1 — 30	**METRIC** ϕ0.95—ϕ12.0 mm	○	○			○	◎	L110	L126	
	For Wheel Hub	Low Cutting Resistance	MHE	External	1	—	**INCH** ϕ.3937"—ϕ.5906"	◎						L165	L165	
	For CFRP	CVD Diamond Coating	MCS	Internal	—	3	**INCH** ϕ.1719"—ϕ.5010"	For CFRP						L166	L167	

DRILLING

DRILL SELECTION CHART

Drill Structure	Category	Drill Type	Product Code	Coolant	LU INCH	LU METRIC	Range of Size	Work Material P Carbon Steel Alloy Steel	Work Material M Stainless Steel	Work Material K Cast Iron	Work Material N Light Alloy	Work Material S Heat-resistant Alloy	Work Material H Hardened Steel	Page Dimensions	Page Cutting Conditions	Shape
Indexable	For General Use	Indexable Head	STAW	Internal	—	1.5 3 5 8	**METRIC** ϕ10.0—ϕ18.4 mm	◎	○	◎	○			L192	L200	
			TAW	Internal	3 5 8	3 5 8	**INCH** ϕ.5625"—ϕ1.1875" **METRIC** ϕ18.5—ϕ30.0 mm	◎	◎	◎				L202 L208	L210	
		Multi-corner Insert	TAF	Internal	2 3 4	2 3 4	**INCH** ϕ.4680"—ϕ2.2500" **METRIC** ϕ12.0—ϕ56.0 mm	◎	◎	◎	◎			L182 L185	L190	
	New Generation		MVX	Internal	2 — 6	2 — 6	**INCH** ϕ.6870"—ϕ2.5000" **METRIC** ϕ17.0—ϕ63.0 mm	◎	○	◎				L168 L172	L180	
Brazed	For General Use	New Point Type	BRA	Internal	3	3	**INCH** ϕ.3125"—ϕ1.2500" **METRIC** ϕ8.0—ϕ30.0 mm	◎	○	○				L216 L217	L217	
		High Helix (30°)	BRS	Internal	3	3	**INCH** ϕ.5000"—ϕ1.1875" **METRIC** ϕ14.0—ϕ30.0 mm	◎	◎	○				L218 L219	L219	

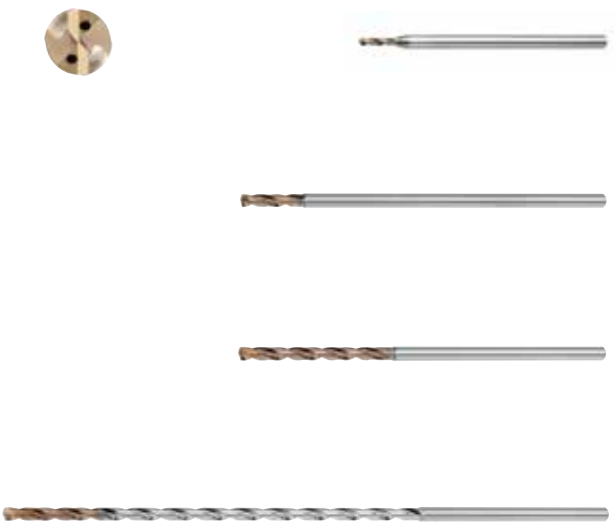
Memo

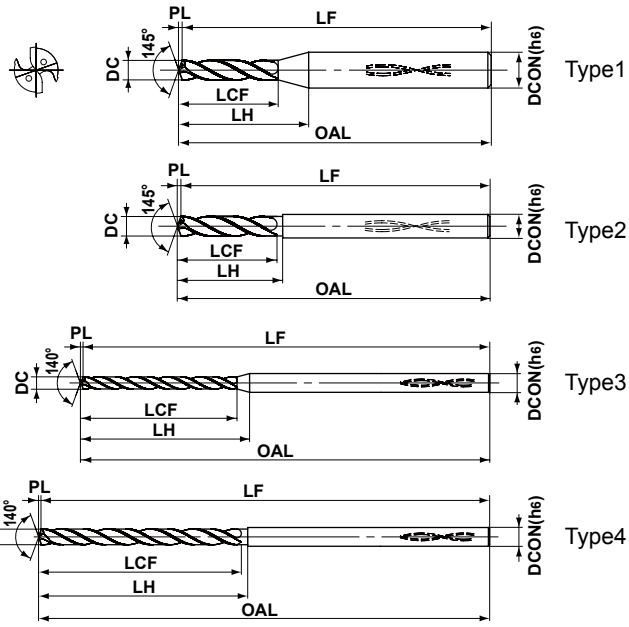
MICRO-MVS

- Straight cutting edge profile improves both chip evacuation and cutting edge strength.
- Double margin offers excellent straightness and high precision.

P M K N S H

Tolerance		1≤DC≤2.9
DC (mm)	MVS-X02-	+0.014 0
	Other than MVS-X02	0 −0.014
DCON (mm)	MVS	0 −0.006





(Internal coolant)

DC (mm)	Hole Depth (l/d)	Stock DP1020	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
1.0	2	●	MVS0100X02S030	5.2	8.9	55.2	55	0.2	3	1
	7	●	MVS0100X07S030	10.2	14.2	55.2	55	0.2	3	3
	12	●	MVS0100X12S030	15.2	19.2	55.2	55	0.2	3	3
	20	●	MVS0100X20S030	24.2	28.2	60.2	60	0.2	3	3
	25	●	MVS0100X25S030	28.2	32.2	66.2	66	0.2	3	3
	30	●	MVS0100X30S030	33.2	37.2	72.2	72	0.2	3	3
1.1	2	●	MVS0110X02S030	5.6	9.1	55.2	55	0.2	3	1
	7	●	MVS0110X07S030	11.2	15.2	55.2	55	0.2	3	3
	12	●	MVS0110X12S030	17.2	21.2	55.2	55	0.2	3	3
	20	●	MVS0110X20S030	25.2	29.2	60.2	60	0.2	3	3
	25	●	MVS0110X25S030	31.2	34.2	66.2	66	0.2	3	3
	30	●	MVS0110X30S030	36.2	40.2	72.2	72	0.2	3	3
1.2	2	●	MVS0120X02S030	6.2	9.6	55.2	55	0.2	3	1
	7	●	MVS0120X07S030	12.2	15.2	55.2	55	0.2	3	3
	12	●	MVS0120X12S030	18.2	21.2	55.2	55	0.2	3	3
	20	●	MVS0120X20S030	28.2	31.2	60.2	60	0.2	3	3
	25	●	MVS0120X25S030	34.2	37.2	66.2	66	0.2	3	3
	30	●	MVS0120X30S030	40.2	43.2	72.2	72	0.2	3	3
1.3	2	●	MVS0130X02S030	6.6	9.8	55.2	55	0.2	3	1
	7	●	MVS0130X07S030	13.2	16.2	55.2	55	0.2	3	3
	12	●	MVS0130X12S030	20.2	23.2	55.2	55	0.2	3	3
	20	●	MVS0130X20S030	30.2	33.2	68.2	68	0.2	3	3
	25	●	MVS0130X25S030	36.2	40.2	74.2	74	0.2	3	3
	30	●	MVS0130X30S030	43.2	46.2	82.2	82	0.2	3	3

(Internal coolant)

DC (mm)	Hole Depth (l/d)	Stock DP1020	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
1.4	2	●	MVS0140X02S030	7.2	10.2	55.2	55	0.2	3	1
	7	●	MVS0140X07S030	14.3	17.3	55.3	55	0.3	3	3
	12	●	MVS0140X12S030	21.3	24.3	55.3	55	0.3	3	3
	20	●	MVS0140X20S030	32.3	35.3	68.3	68	0.3	3	3
	25	●	MVS0140X25S030	39.3	42.3	74.3	74	0.3	3	3
	30	●	MVS0140X30S030	46.3	49.3	82.3	82	0.3	3	3
1.5	2	●	MVS0150X02S030	7.6	10.4	55.2	55	0.2	3	1
	7	●	MVS0150X07S030	15.3	18.3	55.3	55	0.3	3	3
	12	●	MVS0150X12S030	23.3	26.3	55.3	55	0.3	3	3
	20	●	MVS0150X20S030	35.3	37.3	68.3	68	0.3	3	3
	25	●	MVS0150X25S030	42.3	45.3	74.3	74	0.3	3	3
	30	●	MVS0150X30S030	50.3	52.3	82.3	82	0.3	3	3
1.6	2	●	MVS0160X02S030	8.3	10.9	68.3	68	0.3	3	1
	7	●	MVS0160X07S030	16.3	19.3	68.3	68	0.3	3	3
	12	●	MVS0160X12S030	24.3	27.3	68.3	68	0.3	3	3
	20	●	MVS0160X20S030	37.3	39.3	78.3	78	0.3	3	3
	25	●	MVS0160X25S030	45.3	47.3	86.3	86	0.3	3	3
	30	●	MVS0160X30S030	53.3	55.3	95.3	95	0.3	3	3
1.7	2	●	MVS0170X02S030	8.7	11.1	68.3	68	0.3	3	1
	7	●	MVS0170X07S030	17.3	19.3	68.3	68	0.3	3	3
	12	●	MVS0170X12S030	26.3	28.3	68.3	68	0.3	3	3
	20	●	MVS0170X20S030	39.3	42.3	78.3	78	0.3	3	3
	25	●	MVS0170X25S030	48.3	50.3	86.3	86	0.3	3	3
	30	●	MVS0170X30S030	56.3	59.3	95.3	95	0.3	3	3

(Note) The coolant hole of ø5.9mm or less will be round shape.

● : **Inventory maintained.**

(Internal coolant)

DC (mm)	Hole Depth (l/d)	Stock DP1020	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
1.8	2	●	MVS0180X02S030	9.3	11.5	68.3	68	0.3	3	1
	7	●	MVS0180X07S030	18.3	20.3	68.3	68	0.3	3	3
	12	●	MVS0180X12S030	27.3	29.3	68.3	68	0.3	3	3
	20	●	MVS0180X20S030	41.3	44.3	84.3	84	0.3	3	3
	25	●	MVS0180X25S030	50.3	53.3	94.3	94	0.3	3	3
	30	●	MVS0180X30S030	59.3	62.3	102.3	102	0.3	3	3
1.9	2	●	MVS0190X02S030	9.7	11.8	68.3	68	0.3	3	1
	7	●	MVS0190X07S030	19.3	21.3	68.3	68	0.3	3	3
	12	●	MVS0190X12S030	29.3	31.3	68.3	68	0.3	3	3
	20	●	MVS0190X20S030	44.3	46.3	84.3	84	0.3	3	3
	25	●	MVS0190X25S030	53.3	55.3	94.3	94	0.3	3	3
	30	●	MVS0190X30S030	63.3	65.3	102.3	102	0.3	3	3
2.0	2	●	MVS0200X02S030	10.3	12.2	68.3	68	0.3	3	1
	7	●	MVS0200X07S030	20.4	22.4	68.4	68	0.4	3	3
	12	●	MVS0200X12S030	30.4	32.4	68.4	68	0.4	3	3
	20	●	MVS0200X20S030	46.4	48.4	84.4	84	0.4	3	3
	25	●	MVS0200X25S030	56.4	58.4	94.4	94	0.4	3	3
	30	●	MVS0200X30S030	66.4	68.4	102.4	102	0.4	3	3
2.1	2	●	MVS0210X02S030	10.7	12.4	74.3	74	0.3	3	1
	7	●	MVS0210X07S030	21.4	23.4	74.4	74	0.4	3	3
	12	●	MVS0210X12S030	32.4	34.4	74.4	74	0.4	3	3
	20	●	MVS0210X20S030	48.4	50.4	94.4	94	0.4	3	3
	25	●	MVS0210X25S030	59.4	60.4	107.4	107	0.4	3	3
	30	●	MVS0210X30S030	69.4	71.4	118.4	118	0.4	3	3
2.2	2	●	MVS0220X02S030	11.3	12.8	74.3	74	0.3	3	1
	7	●	MVS0220X07S030	22.4	23.4	74.4	74	0.4	3	3
	12	●	MVS0220X12S030	33.4	34.4	74.4	74	0.4	3	3
	20	●	MVS0220X20S030	51.4	52.4	94.4	94	0.4	3	3
	25	●	MVS0220X25S030	62.4	63.4	107.4	107	0.4	3	3
	30	●	MVS0220X30S030	73.4	74.4	118.4	118	0.4	3	3
2.3	2	●	MVS0230X02S030	11.8	13.1	74.4	74	0.4	3	1
	7	●	MVS0230X07S030	23.4	24.4	74.4	74	0.4	3	3
	12	●	MVS0230X12S030	35.4	36.4	74.4	74	0.4	3	3
	20	●	MVS0230X20S030	53.4	54.4	94.4	94	0.4	3	3
	25	●	MVS0230X25S030	64.4	66.4	107.4	107	0.4	3	3
	30	●	MVS0230X30S030	76.4	77.4	118.4	118	0.4	3	3
2.4	2	●	MVS0240X02S030	12.4	13.5	74.4	74	0.4	3	1
	7	●	MVS0240X07S030	24.4	25.4	74.4	74	0.4	3	3
	12	●	MVS0240X12S030	36.4	37.4	74.4	74	0.4	3	3
	20	●	MVS0240X20S030	55.4	56.4	94.4	94	0.4	3	3
	25	●	MVS0240X25S030	67.4	68.4	107.4	107	0.4	3	3
	30	●	MVS0240X30S030	79.4	80.4	118.4	118	0.4	3	3
2.5	2	●	MVS0250X02S030	12.8	13.7	74.4	74	0.4	3	1
	7	●	MVS0250X07S030	25.5	26.5	74.5	74	0.5	3	3
	12	●	MVS0250X12S030	38.5	39.5	74.5	74	0.5	3	3
	20	●	MVS0250X20S030	58.5	59.5	94.5	94	0.5	3	3
	25	●	MVS0250X25S030	70.5	71.5	107.5	107	0.5	3	3
	30	●	MVS0250X30S030	83.5	84.5	118.5	118	0.5	3	3

(Note) The coolant hole of ø5.9mm or less will be round shape.

(Internal coolant)

DC (mm)	Hole Depth (l/d)	Stock DP1020	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
2.6	2	●	MVS0260X02S030	13.4	13.4	81.4	81	0.4	3	2
	7	●	MVS0260X07S030	26.5	26.5	81.5	81	0.5	3	4
	12	●	MVS0260X12S030	39.5	39.5	81.5	81	0.5	3	4
	20	●	MVS0260X20S030	60.5	60.5	103.5	103	0.5	3	4
	25	●	MVS0260X25S030	73.5	73.5	117.5	117	0.5	3	4
	30	●	MVS0260X30S030	86.5	86.5	132.5	132	0.5	3	4
2.7	2	●	MVS0270X02S030	13.8	13.8	81.4	81	0.4	3	2
	7	●	MVS0270X07S030	27.5	27.5	81.5	81	0.5	3	4
	12	●	MVS0270X12S030	41.5	41.5	81.5	81	0.5	3	4
	20	●	MVS0270X20S030	62.5	62.5	103.5	103	0.5	3	4
	25	●	MVS0270X25S030	76.5	76.5	117.5	117	0.5	3	4
	30	●	MVS0270X30S030	89.5	89.5	132.5	132	0.5	3	4
2.8	2	●	MVS0280X02S030	14.4	14.4	81.4	81	0.4	3	2
	7	●	MVS0280X07S030	28.5	28.5	81.5	81	0.5	3	4
	12	●	MVS0280X12S030	42.5	42.5	81.5	81	0.5	3	4
	20	●	MVS0280X20S030	64.5	64.5	103.5	103	0.5	3	4
	25	●	MVS0280X25S030	78.5	78.5	117.5	117	0.5	3	4
	30	●	MVS0280X30S030	92.5	92.5	132.5	132	0.5	3	4
2.9	2	●	MVS0290X02S030	14.9	14.9	81.5	81	0.5	3	2
	7	●	MVS0290X07S030	29.5	29.5	81.5	81	0.5	3	4
	12	●	MVS0290X12S030	44.5	44.5	81.5	81	0.5	3	4
	20	●	MVS0290X20S030	67.5	67.5	103.5	103	0.5	3	4
	25	●	MVS0290X25S030	81.5	81.5	117.5	117	0.5	3	4
	30	●	MVS0290X30S030	96.5	96.5	132.5	132	0.5	3	4

CUTTING CONDITIONS ➤ L043
TECHNICAL DATA ➤ N001

MVE/MVS

P M K N S H

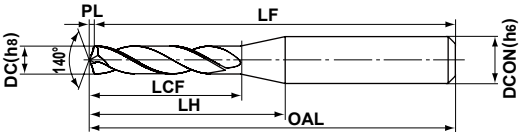
only MVE

Tolerance	DC=.1181	.1181<DC≤.2362	.2362<DC≤.3937	.3937<DC≤.7087	.7087<DC≤.7874
DC (inch)	0 −0.00055	0 −0.00071	0 −0.00087	0 −0.00106	0 −0.00130
DCON (inch)	0 −0.00024	0 −0.00031	0 −0.00035	0 −0.00043	0 −0.00051

Tolerance	DC=3	3<DC≤6	6<DC≤10	10<DC≤18	18<DC≤20
DC (mm)	0 −0.014	0 −0.018	0 −0.022	0 −0.027	0 −0.033
DCON (mm)	0 −0.006	0 −0.008	0 −0.009	0 −0.011	0 −0.013

MVE

Type1



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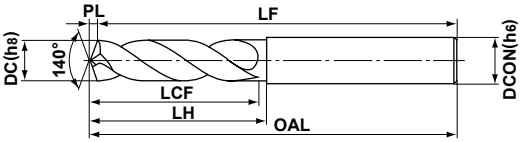
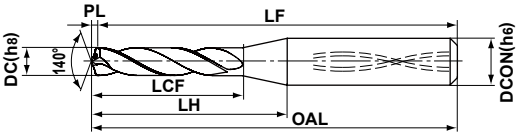
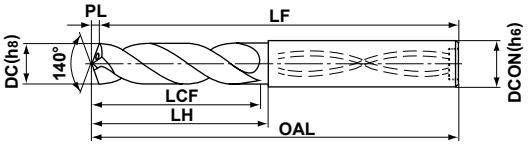


MVS

Type3



Type4



DC: Metric (mm)	DC: Decimal (inch)	DC: Fraction (inch)	Wire / Letter	Thread size	Hole Depth l/d	Coolant (Int./Ext.)	Stock DP1020	Order Number	Dimensions LCF mm	LCF inch	LH mm	LH inch	OAL mm	OAL inch	LF mm	LF inch	PL mm	PL inch	DCON mm	DCON inch	Type
3.0	.1181				2	Ext.	★	MVE0300X02S030	16.6	.654	16.6	.654	55.6	2.189	55	2.165	0.6	.024	3	.118	2
					2	Ext.	●	MVE0300X02S060	16.6	.654	19.8	.780	55.6	2.189	55	2.165	0.6	.024	6	.236	1
					3	Ext.	★	MVE0300X03S030	21.6	.850	21.6	.850	60.6	2.386	60	2.362	0.6	.024	3	.118	2
					3	Ext.	★	MVE0300X03S060	21.6	.850	24.8	.976	60.6	2.386	60	2.362	0.6	.024	6	.236	1
					3	Int.	★	MVS0300X03S030	21.6	.850	21.6	.850	72.6	2.858	72	2.835	0.6	.024	3	.118	4
					3	Int.	●	MVS0300X03S060	21.6	.850	24.8	.976	72.6	2.858	72	2.835	0.6	.024	6	.236	3
					5	Int.	★	MVS0300X05S030	28.6	1.126	28.6	1.126	81.6	3.213	81	3.189	0.6	.024	3	.118	4
					5	Int.	●	MVS0300X05S060	28.6	1.126	31.8	1.252	81.6	3.213	81	3.189	0.6	.024	6	.236	3
					8	Int.	★	MVS0300X08S030	35.6	1.402	35.6	1.402	81.6	3.213	81	3.189	0.6	.024	3	.118	4
					8	Int.	●	MVS0300X08S060	35.6	1.402	38.8	1.528	81.6	3.213	81	3.189	0.6	.024	6	.236	3
3.048	.1200		31		2	Ext.	●	MVE0305X02S060	18.6	.732	21.8	.858	55.6	2.189	55	2.165	0.6	.024	6	.236	1
					3	Int.	●	MVS0305X03S060	21.6	.850	24.8	.976	76.6	3.016	76	2.992	0.6	.024	6	.236	3
					5	Int.	●	MVS0305X05S060	32.6	1.283	35.8	1.409	87.6	3.449	87	3.425	0.6	.024	6	.236	3
					8	Int.	●	MVS0305X08S060	41.6	1.638	44.8	1.764	87.6	3.449	87	3.425	0.6	.024	6	.236	3

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
3.1	.1220				2	Ext.	★	MVE0310X02S040	18.6	.732	20.6	.811	55.6	2.189	55	2.165	0.6	.024	4	.157	2
					2	Ext.	●	MVE0310X02S060	18.6	.732	21.7	.854	55.6	2.189	55	2.165	0.6	.024	6	.236	1
					3	Ext.	★	MVE0310X03S040	24.6	.969	26.6	1.047	60.6	2.386	60	2.362	0.6	.024	4	.157	2
					3	Ext.	★	MVE0310X03S060	24.6	.969	27.7	1.091	60.6	2.386	60	2.362	0.6	.024	6	.236	1
					3	Int.	★	MVS0310X03S040	21.6	.850	23.6	.929	76.6	3.016	76	2.992	0.6	.024	4	.157	4
					3	Int.	●	MVS0310X03S060	21.6	.850	24.7	.972	76.6	3.016	76	2.992	0.6	.024	6	.236	3
					5	Int.	★	MVS0310X05S040	32.6	1.283	32.6	1.283	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					5	Int.	●	MVS0310X05S060	32.6	1.283	35.7	1.406	87.6	3.449	87	3.425	0.6	.024	6	.236	3
					8	Int.	★	MVS0310X08S040	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					8	Int.	●	MVS0310X08S060	41.6	1.638	44.7	1.760	87.6	3.449	87	3.425	0.6	.024	6	.236	3
3.175	.1250	1/8			2	Ext.	●	MVE0318X02S060	18.6	.732	21.6	.850	55.6	2.189	55	2.165	0.6	.024	6	.236	1
					3	Int.	●	MVS0318X03S060	21.6	.850	24.6	.969	76.6	3.016	76	2.992	0.6	.024	6	.236	3
					5	Int.	●	MVS0318X05S060	32.6	1.283	35.6	1.402	87.6	3.449	87	3.425	0.6	.024	6	.236	3
					8	Int.	●	MVS0318X08S060	41.6	1.638	44.6	1.756	87.6	3.449	87	3.425	0.6	.024	6	.236	3
3.2	.1260				2	Ext.	★	MVE0320X02S040	18.6	.732	20.6	.811	55.6	2.189	55	2.165	0.6	.024	4	.157	2
					2	Ext.	●	MVE0320X02S060	18.6	.732	21.6	.850	55.6	2.189	55	2.165	0.6	.024	6	.236	1
					3	Ext.	★	MVE0320X03S040	24.6	.969	26.6	1.047	60.6	2.386	60	2.362	0.6	.024	4	.157	2
					3	Ext.	★	MVE0320X03S060	24.6	.969	27.6	1.087	60.6	2.386	60	2.362	0.6	.024	6	.236	1
					3	Int.	★	MVS0320X03S040	21.6	.850	23.6	.929	76.6	3.016	76	2.992	0.6	.024	4	.157	4
					3	Int.	●	MVS0320X03S060	21.6	.850	24.6	.969	76.6	3.016	76	2.992	0.6	.024	6	.236	3
					5	Int.	★	MVS0320X05S040	32.6	1.283	32.6	1.283	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					5	Int.	●	MVS0320X05S060	32.6	1.283	35.6	1.402	87.6	3.449	87	3.425	0.6	.024	6	.236	3
					8	Int.	★	MVS0320X08S040	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					8	Int.	●	MVS0320X08S060	41.6	1.638	44.6	1.756	87.6	3.449	87	3.425	0.6	.024	6	.236	3
3.3	.1299			M4x0.7	2	Ext.	★	MVE0330X02S040	18.6	.732	20.6	.811	55.6	2.189	55	2.165	0.6	.024	4	.157	2
					2	Ext.	●	MVE0330X02S060	18.6	.732	21.5	.846	55.6	2.189	55	2.165	0.6	.024	6	.236	1
					3	Ext.	★	MVE0330X03S040	24.6	.969	26.6	1.047	60.6	2.386	60	2.362	0.6	.024	4	.157	2
					3	Ext.	★	MVE0330X03S060	24.6	.969	27.5	1.083	60.6	2.386	60	2.362	0.6	.024	6	.236	1
					3	Int.	★	MVS0330X03S040	21.6	.850	23.6	.929	76.6	3.016	76	2.992	0.6	.024	4	.157	4
					3	Int.	●	MVS0330X03S060	21.6	.850	24.5	.965	76.6	3.016	76	2.992	0.6	.024	6	.236	3
					5	Int.	★	MVS0330X05S040	32.6	1.283	32.6	1.283	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					5	Int.	●	MVS0330X05S060	32.6	1.283	35.5	1.398	87.6	3.449	87	3.425	0.6	.024	6	.236	3
					8	Int.	★	MVS0330X08S040	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					8	Int.	●	MVS0330X08S060	41.6	1.638	44.5	1.752	87.6	3.449	87	3.425	0.6	.024	6	.236	3
3.4	.1339				2	Ext.	★	MVE0340X02S040	18.6	.732	20.6	.811	55.6	2.189	55	2.165	0.6	.024	4	.157	2
					2	Ext.	●	MVE0340X02S060	18.6	.732	21.4	.843	55.6	2.189	55	2.165	0.6	.024	6	.236	1
					3	Ext.	★	MVE0340X03S040	24.6	.969	26.6	1.047	60.6	2.386	60	2.362	0.6	.024	4	.157	2
					3	Ext.	★	MVE0340X03S060	24.6	.969	27.4	1.079	60.6	2.386	60	2.362	0.6	.024	6	.236	1
					3	Int.	★	MVS0340X03S040	21.6	.850	23.6	.929	76.6	3.016	76	2.992	0.6	.024	4	.157	4
					3	Int.	●	MVS0340X03S060	21.6	.850	24.4	.961	76.6	3.016	76	2.992	0.6	.024	6	.236	3
					5	Int.	★	MVS0340X05S040	32.6	1.283	32.6	1.283	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					5	Int.	●	MVS0340X05S060	32.6	1.283	35.4	1.394	87.6	3.449	87	3.425	0.6	.024	6	.236	3
					8	Int.	★	MVS0340X08S040	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					8	Int.	●	MVS0340X08S060	41.6	1.638	44.4	1.748	87.6	3.449	87	3.425	0.6	.024	6	.236	3

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
3.5	.1378				2	Ext.	★	MVE0350X02S040	18.6	.732	20.6	.811	55.6	2.189	55	2.165	0.6	.024	4	.157	2
					2	Ext.	●	MVE0350X02S060	18.6	.732	21.3	.839	55.6	2.189	55	2.165	0.6	.024	6	.236	1
					3	Ext.	★	MVE0350X03S040	24.6	.969	26.6	1.047	60.6	2.386	60	2.362	0.6	.024	4	.157	2
					3	Ext.	★	MVE0350X03S060	24.6	.969	27.3	1.075	60.6	2.386	60	2.362	0.6	.024	6	.236	1
					3	Int.	★	MVS0350X03S040	21.6	.850	23.6	.929	76.6	3.016	76	2.992	0.6	.024	4	.157	4
					3	Int.	●	MVS0350X03S060	21.6	.850	24.3	.957	76.6	3.016	76	2.992	0.6	.024	6	.236	3
					5	Int.	★	MVS0350X05S040	32.6	1.283	32.6	1.283	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					5	Int.	●	MVS0350X05S060	32.6	1.283	35.3	1.390	87.6	3.449	87	3.425	0.6	.024	6	.236	3
					8	Int.	★	MVS0350X08S040	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4	.157	4
					8	Int.	●	MVS0350X08S060	41.6	1.638	44.3	1.744	87.6	3.449	87	3.425	0.6	.024	6	.236	3
3.572	.1406	9/64			2	Ext.	●	MVE0357X02S060	20.7	.815	23.3	.917	55.7	2.193	55	2.165	0.7	.028	6	.236	1
					3	Int.	●	MVS0357X03S060	23.7	.933	26.3	1.035	80.7	3.177	80	3.150	0.7	.028	6	.236	3
					5	Int.	●	MVS0357X05S060	36.7	1.445	39.3	1.547	92.7	3.650	92	3.622	0.7	.028	6	.236	3
					8	Int.	●	MVS0357X08S060	46.7	1.839	49.3	1.941	92.7	3.650	92	3.622	0.7	.028	6	.236	3
3.6	.1417				2	Ext.	★	MVE0360X02S040	20.7	.815	20.7	.815	55.7	2.193	55	2.165	0.7	.028	4	.157	2
					2	Ext.	●	MVE0360X02S060	20.7	.815	23.3	.917	55.7	2.193	55	2.165	0.7	.028	6	.236	1
					3	Ext.	★	MVE0360X03S040	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	4	.157	2
					3	Ext.	★	MVE0360X03S060	27.7	1.091	30.3	1.193	60.7	2.390	60	2.362	0.7	.028	6	.236	1
					3	Int.	★	MVS0360X03S040	23.7	.933	23.7	.933	80.7	3.177	80	3.150	0.7	.028	4	.157	4
					3	Int.	●	MVS0360X03S060	23.7	.933	26.3	1.035	80.7	3.177	80	3.150	0.7	.028	6	.236	3
					5	Int.	★	MVS0360X05S040	36.7	1.445	36.7	1.445	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					5	Int.	●	MVS0360X05S060	36.7	1.445	39.3	1.547	92.7	3.650	92	3.622	0.7	.028	6	.236	3
					8	Int.	★	MVS0360X08S040	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					8	Int.	●	MVS0360X08S060	46.7	1.839	49.3	1.941	92.7	3.650	92	3.622	0.7	.028	6	.236	3
3.7	.1457			M4.5x0.75	2	Ext.	★	MVE0370X02S040	20.7	.815	20.7	.815	55.7	2.193	55	2.165	0.7	.028	4	.157	2
					2	Ext.	●	MVE0370X02S060	20.7	.815	23.2	.913	55.7	2.193	55	2.165	0.7	.028	6	.236	1
					3	Ext.	★	MVE0370X03S040	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	4	.157	2
					3	Ext.	★	MVE0370X03S060	27.7	1.091	30.2	1.189	60.7	2.390	60	2.362	0.7	.028	6	.236	1
					3	Int.	★	MVS0370X03S040	23.7	.933	23.7	.933	80.7	3.177	80	3.150	0.7	.028	4	.157	4
					3	Int.	●	MVS0370X03S060	23.7	.933	26.2	1.031	80.7	3.177	80	3.150	0.7	.028	6	.236	3
					5	Int.	★	MVS0370X05S040	36.7	1.445	36.7	1.445	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					5	Int.	●	MVS0370X05S060	36.7	1.445	39.2	1.543	92.7	3.650	92	3.622	0.7	.028	6	.236	3
					8	Int.	★	MVS0370X08S040	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					8	Int.	●	MVS0370X08S060	46.7	1.839	49.2	1.937	92.7	3.650	92	3.622	0.7	.028	6	.236	3
3.8	.1496		25	#10-24	2	Ext.	★	MVE0380X02S040	20.7	.815	20.7	.815	55.7	2.193	55	2.165	0.7	.028	4	.157	2
					2	Ext.	●	MVE0380X02S060	20.7	.815	23.1	.909	55.7	2.193	55	2.165	0.7	.028	6	.236	1
					3	Ext.	★	MVE0380X03S040	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	4	.157	2
					3	Ext.	★	MVE0380X03S060	27.7	1.091	30.1	1.185	60.7	2.390	60	2.362	0.7	.028	6	.236	1
					3	Int.	★	MVS0380X03S040	23.7	.933	23.7	.933	80.7	3.177	80	3.150	0.7	.028	4	.157	4
					3	Int.	●	MVS0380X03S060	23.7	.933	26.1	1.028	80.7	3.177	80	3.150	0.7	.028	6	.236	3
					5	Int.	★	MVS0380X05S040	36.7	1.445	36.7	1.445	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					5	Int.	●	MVS0380X05S060	36.7	1.445	39.1	1.539	92.7	3.650	92	3.622	0.7	.028	6	.236	3
					8	Int.	★	MVS0380X08S040	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					8	Int.	●	MVS0380X08S060	46.7	1.839	49.1	1.933	92.7	3.650	92	3.622	0.7	.028	6	.236	3

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
3.9	.1535				2	Ext.	★	MVE0390X02S040	20.7	.815	20.7	.815	55.7	2.193	55	2.165	0.7	.028	4	.157	2
					2	Ext.	●	MVE0390X02S060	20.7	.815	23.0	.906	55.7	2.193	55	2.165	0.7	.028	6	.236	1
					3	Ext.	★	MVE0390X03S040	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	4	.157	2
					3	Ext.	★	MVE0390X03S060	27.7	1.091	30.0	1.181	60.7	2.390	60	2.362	0.7	.028	6	.236	1
					3	Int.	★	MVS0390X03S040	23.7	.933	23.7	.933	80.7	3.177	80	3.150	0.7	.028	4	.157	4
					3	Int.	●	MVS0390X03S060	23.7	.933	26.0	1.024	80.7	3.177	80	3.150	0.7	.028	6	.236	3
					5	Int.	★	MVS0390X05S040	36.7	1.445	36.7	1.445	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					5	Int.	●	MVS0390X05S060	36.7	1.445	39.0	1.535	92.7	3.650	92	3.622	0.7	.028	6	.236	3
					8	Int.	★	MVS0390X08S040	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					8	Int.	●	MVS0390X08S060	46.7	1.839	49.0	1.929	92.7	3.650	92	3.622	0.7	.028	6	.236	3
3.969	.1562	5/32			2	Ext.	●	MVE0397X02S060	20.7	.815	22.9	.902	55.7	2.193	55	2.165	0.7	.028	6	.236	1
					3	Int.	●	MVS0397X03S060	23.7	.933	25.9	1.020	80.7	3.177	80	3.150	0.7	.028	6	.236	3
					5	Int.	●	MVS0397X05S060	36.7	1.445	38.9	1.531	92.7	3.650	92	3.622	0.7	.028	6	.236	3
					8	Int.	●	MVS0397X08S060	46.7	1.839	48.9	1.925	92.7	3.650	92	3.622	0.7	.028	6	.236	3
4.0	.1575				2	Ext.	★	MVE0400X02S040	20.7	.815	20.7	.815	55.7	2.193	55	2.165	0.7	.028	4	.157	2
					2	Ext.	●	MVE0400X02S060	20.7	.815	22.8	.898	55.7	2.193	55	2.165	0.7	.028	6	.236	1
					3	Ext.	★	MVE0400X03S040	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	4	.157	2
					3	Ext.	★	MVE0400X03S060	27.7	1.091	29.8	1.173	60.7	2.390	60	2.362	0.7	.028	6	.236	1
					3	Int.	★	MVS0400X03S040	23.7	.933	23.7	.933	80.7	3.177	80	3.150	0.7	.028	4	.157	4
					3	Int.	●	MVS0400X03S060	23.7	.933	25.8	1.016	80.7	3.177	80	3.150	0.7	.028	6	.236	3
					5	Int.	★	MVS0400X05S040	36.7	1.445	36.7	1.445	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					5	Int.	●	MVS0400X05S060	36.7	1.445	38.8	1.528	92.7	3.650	92	3.622	0.7	.028	6	.236	3
					8	Int.	★	MVS0400X08S040	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4	.157	4
					8	Int.	●	MVS0400X08S060	46.7	1.839	48.8	1.921	92.7	3.650	92	3.622	0.7	.028	6	.236	3
4.039	.1590		21	#10-32	2	Ext.	●	MVE0404X02S060	22.7	.894	24.8	.976	62.7	2.469	62	2.441	0.7	.028	6	.236	1
					3	Int.	●	MVS0404X03S060	25.7	1.012	27.8	1.094	86.7	3.413	86	3.386	0.7	.028	6	.236	3
					5	Int.	●	MVS0404X05S060	40.7	1.602	42.8	1.685	100.7	3.965	100	3.937	0.7	.028	6	.236	3
					8	Int.	●	MVS0404X08S060	52.7	2.075	54.8	2.157	100.7	3.965	100	3.937	0.7	.028	6	.236	3
4.1	.1614				2	Ext.	★	MVE0410X02S050	22.8	.898	24.8	.976	62.8	2.472	62	2.441	0.8	.031	5	.197	2
					2	Ext.	●	MVE0410X02S060	22.8	.898	24.8	.976	62.8	2.472	62	2.441	0.8	.031	6	.236	1
					3	Ext.	★	MVE0410X03S050	29.8	1.173	31.8	1.252	68.8	2.709	68	2.677	0.8	.031	5	.197	2
					3	Ext.	★	MVE0410X03S060	29.8	1.173	31.8	1.252	68.8	2.709	68	2.677	0.8	.031	6	.236	1
					3	Int.	★	MVS0410X03S050	25.8	1.016	25.8	1.016	86.8	3.417	86	3.386	0.8	.031	5	.197	4
					3	Int.	●	MVS0410X03S060	25.8	1.016	27.8	1.094	86.8	3.417	86	3.386	0.8	.031	6	.236	3
					5	Int.	★	MVS0410X05S050	40.8	1.606	40.8	1.606	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					5	Int.	●	MVS0410X05S060	40.8	1.606	42.8	1.685	100.8	3.969	100	3.937	0.8	.031	6	.236	3
					8	Int.	★	MVS0410X08S050	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					8	Int.	●	MVS0410X08S060	52.8	2.079	54.8	2.157	100.8	3.969	100	3.937	0.8	.031	6	.236	3

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
4.2	.1654			M5x0.8	2	Ext.	★	MVE0420X02S050	22.8	.898	24.8	.976	62.8	2.472	62	2.441	0.8	.031	5	.197	2
					2	Ext.	●	MVE0420X02S060	22.8	.898	24.7	.972	62.8	2.472	62	2.441	0.8	.031	6	.236	1
					3	Ext.	★	MVE0420X03S050	29.8	1.173	31.8	1.252	68.8	2.709	68	2.677	0.8	.031	5	.197	2
					3	Ext.	★	MVE0420X03S060	29.8	1.173	31.7	1.248	68.8	2.709	68	2.677	0.8	.031	6	.236	1
					3	Int.	★	MVS0420X03S050	25.8	1.016	25.8	1.016	86.8	3.417	86	3.386	0.8	.031	5	.197	4
					3	Int.	●	MVS0420X03S060	25.8	1.016	27.7	1.091	86.8	3.417	86	3.386	0.8	.031	6	.236	3
					5	Int.	★	MVS0420X05S050	40.8	1.606	40.8	1.606	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					5	Int.	●	MVS0420X05S060	40.8	1.606	42.7	1.681	100.8	3.969	100	3.937	0.8	.031	6	.236	3
					8	Int.	★	MVS0420X08S050	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					8	Int.	●	MVS0420X08S060	52.8	2.079	54.7	2.154	100.8	3.969	100	3.937	0.8	.031	6	.236	3
4.3	.1693				2	Ext.	★	MVE0430X02S050	22.8	.898	24.8	.976	62.8	2.472	62	2.441	0.8	.031	5	.197	2
					2	Ext.	●	MVE0430X02S060	22.8	.898	24.6	.969	62.8	2.472	62	2.441	0.8	.031	6	.236	1
					3	Ext.	★	MVE0430X03S050	29.8	1.173	31.8	1.252	68.8	2.709	68	2.677	0.8	.031	5	.197	2
					3	Ext.	★	MVE0430X03S060	29.8	1.173	31.6	1.244	68.8	2.709	68	2.677	0.8	.031	6	.236	1
					3	Int.	★	MVS0430X03S050	25.8	1.016	25.8	1.016	86.8	3.417	86	3.386	0.8	.031	5	.197	4
					3	Int.	●	MVS0430X03S060	25.8	1.016	27.6	1.087	86.8	3.417	86	3.386	0.8	.031	6	.236	3
					5	Int.	★	MVS0430X05S050	40.8	1.606	40.8	1.606	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					5	Int.	●	MVS0430X05S060	40.8	1.606	42.6	1.677	100.8	3.969	100	3.937	0.8	.031	6	.236	3
					8	Int.	★	MVS0430X08S050	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					8	Int.	●	MVS0430X08S060	52.8	2.079	54.6	2.150	100.8	3.969	100	3.937	0.8	.031	6	.236	3
4.366	.1719	11/64			2	Ext.	●	MVE0437X02S060	22.8	.898	24.6	.969	62.8	2.472	62	2.441	0.8	.031	6	.236	1
					3	Int.	●	MVS0437X03S060	25.8	1.016	27.6	1.087	86.8	3.417	86	3.386	0.8	.031	6	.236	3
					5	Int.	●	MVS0437X05S060	40.8	1.606	42.6	1.677	100.8	3.969	100	3.937	0.8	.031	6	.236	3
					8	Int.	●	MVS0437X08S060	52.8	2.079	54.6	2.150	100.8	3.969	100	3.937	0.8	.031	6	.236	3
4.4	.1732				2	Ext.	★	MVE0440X02S050	22.8	.898	24.8	.976	62.8	2.472	62	2.441	0.8	.031	5	.197	2
					2	Ext.	●	MVE0440X02S060	22.8	.898	24.5	.965	62.8	2.472	62	2.441	0.8	.031	6	.236	1
					3	Ext.	★	MVE0440X03S050	29.8	1.173	31.8	1.252	68.8	2.709	68	2.677	0.8	.031	5	.197	2
					3	Ext.	★	MVE0440X03S060	29.8	1.173	31.5	1.240	68.8	2.709	68	2.677	0.8	.031	6	.236	1
					3	Int.	★	MVS0440X03S050	25.8	1.016	25.8	1.016	86.8	3.417	86	3.386	0.8	.031	5	.197	4
					3	Int.	●	MVS0440X03S060	25.8	1.016	27.5	1.083	86.8	3.417	86	3.386	0.8	.031	6	.236	3
					5	Int.	★	MVS0440X05S050	40.8	1.606	40.8	1.606	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					5	Int.	●	MVS0440X05S060	40.8	1.606	42.5	1.673	100.8	3.969	100	3.937	0.8	.031	6	.236	3
					8	Int.	★	MVS0440X08S050	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					8	Int.	●	MVS0440X08S060	52.8	2.079	54.5	2.146	100.8	3.969	100	3.937	0.8	.031	6	.236	3
4.5	.1772		16	#12-24	2	Ext.	★	MVE0450X02S050	22.8	.898	24.8	.976	62.8	2.472	62	2.441	0.8	.031	5	.197	2
					2	Ext.	●	MVE0450X02S060	22.8	.898	24.4	.961	62.8	2.472	62	2.441	0.8	.031	6	.236	1
					3	Ext.	★	MVE0450X03S050	29.8	1.173	31.8	1.252	68.8	2.709	68	2.677	0.8	.031	5	.197	2
					3	Ext.	★	MVE0450X03S060	29.8	1.173	31.4	1.236	68.8	2.709	68	2.677	0.8	.031	6	.236	1
					3	Int.	★	MVS0450X03S050	25.8	1.016	25.8	1.016	86.8	3.417	86	3.386	0.8	.031	5	.197	4
					3	Int.	●	MVS0450X03S060	25.8	1.016	27.4	1.079	86.8	3.417	86	3.386	0.8	.031	6	.236	3
					5	Int.	★	MVS0450X05S050	40.8	1.606	40.8	1.606	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					5	Int.	●	MVS0450X05S060	40.8	1.606	42.4	1.669	100.8	3.969	100	3.937	0.8	.031	6	.236	3
					8	Int.	★	MVS0450X08S050	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5	.197	4
					8	Int.	●	MVS0450X08S060	52.8	2.079	54.4	2.142	100.8	3.969	100	3.937	0.8	.031	6	.236	3

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
4.6	.1811				2	Ext.	★	MVE0460X02S050	24.8	.976	24.8	.976	62.8	2.472	62	2.441	0.8	.031	5	.197	2
					2	Ext.	●	MVE0460X02S060	24.8	.976	27.8	1.094	62.8	2.472	62	2.441	0.8	.031	6	.236	2
					3	Ext.	★	MVE0460X03S050	32.8	1.291	32.8	1.291	68.8	2.709	68	2.677	0.8	.031	5	.197	2
					3	Ext.	★	MVE0460X03S060	32.8	1.291	35.8	1.409	68.8	2.709	68	2.677	0.8	.031	6	.236	2
					3	Int.	★	MVS0460X03S050	28.3	1.114	28.3	1.114	90.8	3.575	90	3.543	0.8	.031	5	.197	4
					3	Int.	●	MVS0460X03S060	28.3	1.114	31.3	1.232	90.8	3.575	90	3.543	0.8	.031	6	.236	4
					5	Int.	★	MVS0460X05S050	44.8	1.764	44.8	1.764	105.8	4.165	105	4.134	0.8	.031	5	.197	4
					5	Int.	●	MVS0460X05S060	44.8	1.764	47.8	1.882	105.8	4.165	105	4.134	0.8	.031	6	.236	4
					8	Int.	★	MVS0460X08S050	57.8	2.276	57.8	2.276	105.8	4.165	105	4.134	0.8	.031	5	.197	4
					8	Int.	●	MVS0460X08S060	57.8	2.276	60.8	2.394	105.8	4.165	105	4.134	0.8	.031	6	.236	4
4.7	.1850		13		2	Ext.	★	MVE0470X02S050	24.9	.980	24.9	.980	62.9	2.476	62	2.441	0.9	.035	5	.197	2
					2	Ext.	●	MVE0470X02S060	24.9	.980	27.9	1.098	62.9	2.476	62	2.441	0.9	.035	6	.236	2
					3	Ext.	★	MVE0470X03S050	32.9	1.295	32.9	1.295	68.9	2.713	68	2.677	0.9	.035	5	.197	2
					3	Ext.	★	MVE0470X03S060	32.9	1.295	35.9	1.413	68.9	2.713	68	2.677	0.9	.035	6	.236	2
					3	Int.	★	MVS0470X03S050	28.4	1.118	28.4	1.118	90.9	3.579	90	3.543	0.9	.035	5	.197	4
					3	Int.	●	MVS0470X03S060	28.4	1.118	31.4	1.236	90.9	3.579	90	3.543	0.9	.035	6	.236	4
					5	Int.	★	MVS0470X05S050	44.9	1.768	44.9	1.768	105.9	4.169	105	4.134	0.9	.035	5	.197	4
					5	Int.	●	MVS0470X05S060	44.9	1.768	47.9	1.886	105.9	4.169	105	4.134	0.9	.035	6	.236	4
					8	Int.	★	MVS0470X08S050	57.9	2.280	57.9	2.280	105.9	4.169	105	4.134	0.9	.035	5	.197	4
					8	Int.	●	MVS0470X08S060	57.9	2.280	60.9	2.398	105.9	4.169	105	4.134	0.9	.035	6	.236	4
4.763	.1875	3/16			2	Ext.	●	MVE0476X02S060	24.9	.980	27.9	1.098	62.9	2.476	62	2.441	0.9	.035	6	.236	2
					3	Int.	●	MVS0476X03S060	28.4	1.118	31.4	1.236	90.9	3.579	90	3.543	0.9	.035	6	.236	4
					5	Int.	●	MVS0476X05S060	44.9	1.768	47.9	1.886	105.9	4.169	105	4.134	0.9	.035	6	.236	4
					8	Int.	●	MVS0476X08S060	57.9	2.280	60.9	2.398	105.9	4.169	105	4.134	0.9	.035	6	.236	4
4.8	.1890		12		2	Ext.	★	MVE0480X02S050	24.9	.980	24.9	.980	62.9	2.476	62	2.441	0.9	.035	5	.197	2
					2	Ext.	●	MVE0480X02S060	24.9	.980	27.9	1.098	62.9	2.476	62	2.441	0.9	.035	6	.236	2
					3	Ext.	★	MVE0480X03S050	32.9	1.295	32.9	1.295	68.9	2.713	68	2.677	0.9	.035	5	.197	2
					3	Ext.	★	MVE0480X03S060	32.9	1.295	35.9	1.413	68.9	2.713	68	2.677	0.9	.035	6	.236	2
					3	Int.	★	MVS0480X03S050	28.4	1.118	28.4	1.118	90.9	3.579	90	3.543	0.9	.035	5	.197	4
					3	Int.	●	MVS0480X03S060	28.4	1.118	31.4	1.236	90.9	3.579	90	3.543	0.9	.035	6	.236	4
					5	Int.	★	MVS0480X05S050	44.9	1.768	44.9	1.768	105.9	4.169	105	4.134	0.9	.035	5	.197	4
					5	Int.	●	MVS0480X05S060	44.9	1.768	47.9	1.886	105.9	4.169	105	4.134	0.9	.035	6	.236	4
					8	Int.	★	MVS0480X08S050	57.9	2.280	57.9	2.280	105.9	4.169	105	4.134	0.9	.035	5	.197	4
					8	Int.	●	MVS0480X08S060	57.9	2.280	60.9	2.398	105.9	4.169	105	4.134	0.9	.035	6	.236	4
4.9	.1929				2	Ext.	★	MVE0490X02S050	24.9	.980	24.9	.980	62.9	2.476	62	2.441	0.9	.035	5	.197	2
					2	Ext.	●	MVE0490X02S060	24.9	.980	27.9	1.098	62.9	2.476	62	2.441	0.9	.035	6	.236	2
					3	Ext.	★	MVE0490X03S050	32.9	1.295	32.9	1.295	68.9	2.713	68	2.677	0.9	.035	5	.197	2
					3	Ext.	★	MVE0490X03S060	32.9	1.295	35.9	1.413	68.9	2.713	68	2.677	0.9	.035	6	.236	2
					3	Int.	★	MVS0490X03S050	28.4	1.118	28.4	1.118	90.9	3.579	90	3.543	0.9	.035	5	.197	4
					3	Int.	●	MVS0490X03S060	28.4	1.118	31.4	1.236	90.9	3.579	90	3.543	0.9	.035	6	.236	4
					5	Int.	★	MVS0490X05S050	44.9	1.768	44.9	1.768	105.9	4.169	105	4.134	0.9	.035	5	.197	4
					5	Int.	●	MVS0490X05S060	44.9	1.768	47.9	1.886	105.9	4.169	105	4.134	0.9	.035	6	.236	4
					8	Int.	★	MVS0490X08S050	57.9	2.280	57.9	2.280	105.9	4.169	105	4.134	0.9	.035	5	.197	4
					8	Int.	●	MVS0490X08S060	57.9	2.280	60.9	2.398	105.9	4.169	105	4.134	0.9	.035	6	.236	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
5.0	.1969			M6x1.0	2	Ext.	★	MVE0500X02S050	24.9	.980	24.9	.980	62.9	2.476	62	2.441	0.9	.035	5	.197	2
					2	Ext.	●	MVE0500X02S060	24.9	.980	27.9	1.098	62.9	2.476	62	2.441	0.9	.035	6	.236	2
					3	Ext.	★	MVE0500X03S050	32.9	1.295	32.9	1.295	68.9	2.713	68	2.677	0.9	.035	5	.197	2
					3	Ext.	★	MVE0500X03S060	32.9	1.295	35.9	1.413	68.9	2.713	68	2.677	0.9	.035	6	.236	2
					3	Int.	★	MVS0500X03S050	28.4	1.118	28.4	1.118	90.9	3.579	90	3.543	0.9	.035	5	.197	4
					3	Int.	●	MVS0500X03S060	28.4	1.118	31.4	1.236	90.9	3.579	90	3.543	0.9	.035	6	.236	4
					5	Int.	★	MVS0500X05S050	44.9	1.768	44.9	1.768	105.9	4.169	105	4.134	0.9	.035	5	.197	4
					5	Int.	●	MVS0500X05S060	44.9	1.768	47.9	1.886	105.9	4.169	105	4.134	0.9	.035	6	.236	4
					8	Int.	★	MVS0500X08S050	57.9	2.280	57.9	2.280	105.9	4.169	105	4.134	0.9	.035	5	.197	4
					8	Int.	●	MVS0500X08S060	57.9	2.280	60.9	2.398	105.9	4.169	105	4.134	0.9	.035	6	.236	4
5.1	.2008		7	1/4-20	2	Ext.	●	MVE0510X02S060	26.9	1.059	28.9	1.138	66.9	2.634	66	2.598	0.9	.035	6	.236	2
					3	Ext.	★	MVE0510X03S060	34.9	1.374	36.9	1.453	74.9	2.949	74	2.913	0.9	.035	6	.236	2
					3	Int.	●	MVS0510X03S060	28.4	1.118	30.9	1.217	82.9	3.264	82	3.228	0.9	.035	6	.236	4
					5	Int.	●	MVS0510X05S060	44.9	1.768	48.9	1.925	100.9	3.972	100	3.937	0.9	.035	6	.236	4
					8	Int.	●	MVS0510X08S060	61.9	2.437	66.9	2.634	118.9	4.681	118	4.646	0.9	.035	6	.236	4
5.159	.2031	13/64			2	Ext.	●	MVE0516X02S060	26.9	1.059	28.9	1.138	66.9	2.634	66	2.598	0.9	.035	6	.236	2
					3	Int.	●	MVS0516X03S060	28.4	1.118	30.9	1.217	82.9	3.264	82	3.228	0.9	.035	6	.236	4
					5	Int.	●	MVS0516X05S060	44.9	1.768	48.9	1.925	100.9	3.972	100	3.937	0.9	.035	6	.236	4
					8	Int.	●	MVS0516X08S060	61.9	2.437	66.9	2.634	118.9	4.681	118	4.646	0.9	.035	6	.236	4
5.2	.2047				2	Ext.	●	MVE0520X02S060	27.0	1.063	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	6	.236	2
					3	Ext.	★	MVE0520X03S060	35.0	1.378	37.0	1.457	75.0	2.953	74	2.913	1.0	.039	6	.236	2
					3	Int.	●	MVS0520X03S060	28.5	1.122	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6	.236	4
					5	Int.	●	MVS0520X05S060	45.0	1.772	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	4
					8	Int.	●	MVS0520X08S060	62.0	2.441	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6	.236	4
5.3	.2087				2	Ext.	●	MVE0530X02S060	27.0	1.063	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	6	.236	2
					3	Ext.	★	MVE0530X03S060	35.0	1.378	37.0	1.457	75.0	2.953	74	2.913	1.0	.039	6	.236	2
					3	Int.	●	MVS0530X03S060	28.5	1.122	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6	.236	4
					5	Int.	●	MVS0530X05S060	45.0	1.772	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	4
					8	Int.	●	MVS0530X08S060	62.0	2.441	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6	.236	4
5.4	.2126		3	1/4-28	2	Ext.	●	MVE0540X02S060	27.0	1.063	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	6	.236	2
					3	Ext.	★	MVE0540X03S060	35.0	1.378	37.0	1.457	75.0	2.953	74	2.913	1.0	.039	6	.236	2
					3	Int.	●	MVS0540X03S060	28.5	1.122	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6	.236	4
					5	Int.	●	MVS0540X05S060	45.0	1.772	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	4
					8	Int.	●	MVS0540X08S060	62.0	2.441	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6	.236	4
5.5	.2165				2	Ext.	●	MVE0550X02S060	27.0	1.063	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	6	.236	2
					3	Ext.	★	MVE0550X03S060	35.0	1.378	37.0	1.457	75.0	2.953	74	2.913	1.0	.039	6	.236	2
					3	Int.	●	MVS0550X03S060	28.5	1.122	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6	.236	4
					5	Int.	●	MVS0550X05S060	45.0	1.772	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	4
					8	Int.	●	MVS0550X08S060	62.0	2.441	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6	.236	4
5.556	.2188	7/32			2	Ext.	●	MVE0556X02S060	29.0	1.142	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	6	.236	2
					3	Int.	●	MVS0556X03S060	31.0	1.220	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6	.236	4
					5	Int.	●	MVS0556X05S060	49.0	1.929	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	4
					8	Int.	●	MVS0556X08S060	67.0	2.638	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6	.236	4
5.6	.2205				2	Ext.	●	MVE0560X02S060	29.0	1.142	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	6	.236	2
					3	Ext.	★	MVE0560X03S060	37.0	1.457	37.0	1.457	75.0	2.953	74	2.913	1.0	.039	6	.236	2
					3	Int.	●	MVS0560X03S060	31.0	1.220	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6	.236	4
					5	Int.	●	MVS0560X05S060	49.0	1.929	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	4
					8	Int.	●	MVS0560X08S060	67.0	2.638	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6	.236	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
5.7	.2244				2	Ext.	●	MVE0570X02S060	29.0	1.142	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	6	.236	2
					3	Ext.	★	MVE0570X03S060	37.0	1.457	37.0	1.457	75.0	2.953	74	2.913	1.0	.039	6	.236	2
					3	Int.	●	MVS0570X03S060	31.0	1.220	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6	.236	4
					5	Int.	●	MVS0570X05S060	49.0	1.929	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6	.236	4
					8	Int.	●	MVS0570X08S060	67.0	2.638	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6	.236	4
5.8	.2283		1		2	Ext.	●	MVE0580X02S060	29.1	1.146	29.1	1.146	67.1	2.642	66	2.598	1.1	.043	6	.236	2
					3	Ext.	★	MVE0580X03S060	37.1	1.461	37.1	1.461	75.1	2.957	74	2.913	1.1	.043	6	.236	2
					3	Int.	●	MVS0580X03S060	31.1	1.224	31.1	1.224	83.1	3.272	82	3.228	1.1	.043	6	.236	4
					5	Int.	●	MVS0580X05S060	49.1	1.933	49.1	1.933	101.1	3.980	100	3.937	1.1	.043	6	.236	4
					8	Int.	●	MVS0580X08S060	67.1	2.642	67.1	2.642	119.1	4.689	118	4.646	1.1	.043	6	.236	4
5.9	.2323				2	Ext.	●	MVE0590X02S060	29.1	1.146	29.1	1.146	67.1	2.642	66	2.598	1.1	.043	6	.236	2
					3	Ext.	★	MVE0590X03S060	37.1	1.461	37.1	1.461	75.1	2.957	74	2.913	1.1	.043	6	.236	2
					3	Int.	●	MVS0590X03S060	31.1	1.224	31.1	1.224	83.1	3.272	82	3.228	1.1	.043	6	.236	4
					5	Int.	●	MVS0590X05S060	49.1	1.933	49.1	1.933	101.1	3.980	100	3.937	1.1	.043	6	.236	4
					8	Int.	●	MVS0590X08S060	67.1	2.642	67.1	2.642	119.1	4.689	118	4.646	1.1	.043	6	.236	4
5.953	.2344	15/64			2	Ext.	●	MVE0595X02S060	29.1	1.146	29.1	1.146	67.1	2.642	66	2.598	1.1	.043	6	.236	2
					3	Int.	●	MVS0595X03S060	31.1	1.224	31.1	1.224	83.1	3.272	82	3.228	1.1	.043	6	.236	4
					5	Int.	●	MVS0595X05S060	49.1	1.933	49.1	1.933	101.1	3.980	100	3.937	1.1	.043	6	.236	4
					8	Int.	●	MVS0595X08S060	67.1	2.642	67.1	2.642	119.1	4.689	118	4.646	1.1	.043	6	.236	4
6.0	.2362			M7x1.0	2	Ext.	●	MVE0600X02S060	29.1	1.146	29.1	1.146	67.1	2.642	66	2.598	1.1	.043	6	.236	2
					3	Ext.	★	MVE0600X03S060	37.1	1.461	37.1	1.461	75.1	2.957	74	2.913	1.1	.043	6	.236	2
					3	Int.	●	MVS0600X03S060	31.1	1.224	31.1	1.224	83.1	3.272	82	3.228	1.1	.043	6	.236	4
					5	Int.	●	MVS0600X05S060	49.1	1.933	49.1	1.933	101.1	3.980	100	3.937	1.1	.043	6	.236	4
					8	Int.	●	MVS0600X08S060	67.1	2.642	67.1	2.642	119.1	4.689	118	4.646	1.1	.043	6	.236	4
6.1	.2402				2	Ext.	★	MVE0610X02S070	32.1	1.264	35.1	1.382	75.1	2.957	74	2.913	1.1	.043	7	.276	2
					2	Ext.	●	MVE0610X02S080	32.1	1.264	35.1	1.382	75.1	2.957	74	2.913	1.1	.043	8	.315	2
					3	Ext.	★	MVE0610X03S070	42.1	1.657	45.1	1.776	84.1	3.311	83	3.268	1.1	.043	7	.276	2
					3	Ext.	★	MVE0610X03S080	42.1	1.657	45.1	1.776	84.1	3.311	83	3.268	1.1	.043	8	.315	2
					3	Int.	★	MVS0610X03S070	33.6	1.323	36.1	1.421	89.1	3.508	88	3.465	1.1	.043	7	.276	4
					3	Int.	●	MVS0610X03S080	33.6	1.323	36.1	1.421	89.1	3.508	88	3.465	1.1	.043	8	.315	4
					5	Int.	★	MVS0610X05S070	53.1	2.091	57.1	2.248	110.1	4.335	109	4.291	1.1	.043	7	.276	4
					5	Int.	●	MVS0610X05S080	53.1	2.091	57.1	2.248	110.1	4.335	109	4.291	1.1	.043	8	.315	4
					8	Int.	★	MVS0610X08S070	73.1	2.878	78.1	3.075	131.1	5.161	130	5.118	1.1	.043	7	.276	4
					8	Int.	●	MVS0610X08S080	73.1	2.878	78.1	3.075	131.1	5.161	130	5.118	1.1	.043	8	.315	4
6.2	.2441				2	Ext.	★	MVE0620X02S070	32.1	1.264	35.1	1.382	75.1	2.957	74	2.913	1.1	.043	7	.276	2
					2	Ext.	●	MVE0620X02S080	32.1	1.264	35.1	1.382	75.1	2.957	74	2.913	1.1	.043	8	.315	2
					3	Ext.	★	MVE0620X03S070	42.1	1.657	45.1	1.776	84.1	3.311	83	3.268	1.1	.043	7	.276	2
					3	Ext.	★	MVE0620X03S080	42.1	1.657	45.1	1.776	84.1	3.311	83	3.268	1.1	.043	8	.315	2
					3	Int.	★	MVS0620X03S070	33.6	1.323	36.1	1.421	89.1	3.508	88	3.465	1.1	.043	7	.276	4
					3	Int.	●	MVS0620X03S080	33.6	1.323	36.1	1.421	89.1	3.508	88	3.465	1.1	.043	8	.315	4
					5	Int.	★	MVS0620X05S070	53.1	2.091	57.1	2.248	110.1	4.335	109	4.291	1.1	.043	7	.276	4
					5	Int.	●	MVS0620X05S080	53.1	2.091	57.1	2.248	110.1	4.335	109	4.291	1.1	.043	8	.315	4
					8	Int.	★	MVS0620X08S070	73.1	2.878	78.1	3.075	131.1	5.161	130	5.118	1.1	.043	7	.276	4
					8	Int.	●	MVS0620X08S080	73.1	2.878	78.1	3.075	131.1	5.161	130	5.118	1.1	.043	8	.315	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
6.3	.2480				2	Ext.	★	MVE0630X02S070	32.2	1.268	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	7	.276	2
					2	Ext.	●	MVE0630X02S080	32.2	1.268	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	8	.315	2
					3	Ext.	★	MVE0630X03S070	42.2	1.661	45.2	1.780	84.2	3.315	83	3.268	1.2	.047	7	.276	2
					3	Ext.	★	MVE0630X03S080	42.2	1.661	45.2	1.780	84.2	3.315	83	3.268	1.2	.047	8	.315	2
					3	Int.	★	MVS0630X03S070	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7	.276	4
					3	Int.	●	MVS0630X03S080	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	8	.315	4
					5	Int.	★	MVS0630X05S070	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7	.276	4
					5	Int.	●	MVS0630X05S080	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	8	.315	4
					8	Int.	★	MVS0630X08S070	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7	.276	4
					8	Int.	●	MVS0630X08S080	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	8	.315	4
6.350	.2500	1/4	E		2	Ext.	●	MVE0635X02S080	32.2	1.268	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	8	.315	2
					3	Int.	●	MVS0635X03S080	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	8	.315	4
					5	Int.	●	MVS0635X05S080	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	8	.315	4
					8	Int.	●	MVS0635X08S080	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	8	.315	4
6.4	.2520				2	Ext.	★	MVE0640X02S070	32.2	1.268	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	7	.276	2
					2	Ext.	●	MVE0640X02S080	32.2	1.268	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	8	.315	2
					3	Ext.	★	MVE0640X03S070	42.2	1.661	45.2	1.780	84.2	3.315	83	3.268	1.2	.047	7	.276	2
					3	Ext.	★	MVE0640X03S080	42.2	1.661	45.2	1.780	84.2	3.315	83	3.268	1.2	.047	8	.315	2
					3	Int.	★	MVS0640X03S070	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7	.276	4
					3	Int.	●	MVS0640X03S080	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	8	.315	4
					5	Int.	★	MVS0640X05S070	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7	.276	4
					5	Int.	●	MVS0640X05S080	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	8	.315	4
					8	Int.	★	MVS0640X08S070	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7	.276	4
					8	Int.	●	MVS0640X08S080	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	8	.315	4
6.5	.2559				2	Ext.	★	MVE0650X02S070	32.2	1.268	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	7	.276	2
					2	Ext.	●	MVE0650X02S080	32.2	1.268	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	8	.315	2
					3	Ext.	★	MVE0650X03S070	42.2	1.661	45.2	1.780	84.2	3.315	83	3.268	1.2	.047	7	.276	2
					3	Ext.	★	MVE0650X03S080	42.2	1.661	45.2	1.780	84.2	3.315	83	3.268	1.2	.047	8	.315	2
					3	Int.	★	MVS0650X03S070	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7	.276	4
					3	Int.	●	MVS0650X03S080	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	8	.315	4
					5	Int.	★	MVS0650X05S070	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7	.276	4
					5	Int.	●	MVS0650X05S080	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	8	.315	4
					8	Int.	★	MVS0650X08S070	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7	.276	4
					8	Int.	●	MVS0650X08S080	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	8	.315	4
6.528	.2570		F	5/16-18	2	Ext.	●	MVE0653X02S080	35.2	1.386	37.2	1.465	75.2	2.961	74	2.913	1.2	.047	8	.315	2
					3	Int.	●	MVS0653X03S080	36.2	1.425	38.2	1.504	89.2	3.512	88	3.465	1.2	.047	8	.315	4
					5	Int.	●	MVS0653X05S080	57.2	2.252	59.2	2.331	110.2	4.339	109	4.291	1.2	.047	8	.315	4
					8	Int.	●	MVS0653X08S080	78.2	3.079	80.2	3.157	131.2	5.165	130	5.118	1.2	.047	8	.315	4
6.6	.2598				2	Ext.	★	MVE0660X02S070	35.2	1.386	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	7	.276	2
					2	Ext.	●	MVE0660X02S080	35.2	1.386	37.2	1.465	75.2	2.961	74	2.913	1.2	.047	8	.315	2
					3	Ext.	★	MVE0660X03S070	44.2	1.740	44.2	1.740	84.2	3.315	83	3.268	1.2	.047	7	.276	2
					3	Ext.	★	MVE0660X03S080	44.2	1.740	46.2	1.819	84.2	3.315	83	3.268	1.2	.047	8	.315	2
					3	Int.	★	MVS0660X03S070	36.2	1.425	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7	.276	4
					3	Int.	●	MVS0660X03S080	36.2	1.425	38.2	1.504	89.2	3.512	88	3.465	1.2	.047	8	.315	4
					5	Int.	★	MVS0660X05S070	57.2	2.252	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7	.276	4
					5	Int.	●	MVS0660X05S080	57.2	2.252	59.2	2.331	110.2	4.339	109	4.291	1.2	.047	8	.315	4
					8	Int.	★	MVS0660X08S070	78.2	3.079	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7	.276	4
					8	Int.	●	MVS0660X08S080	78.2	3.079	80.2	3.157	131.2	5.165	130	5.118	1.2	.047	8	.315	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
6.7	.2638			M8x1.25	2	Ext.	★	MVE0670X02S070	35.2	1.386	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	7	.276	2
					2	Ext.	●	MVE0670X02S080	35.2	1.386	37.2	1.465	75.2	2.961	74	2.913	1.2	.047	8	.315	2
					3	Ext.	★	MVE0670X03S070	44.2	1.740	44.2	1.740	84.2	3.315	83	3.268	1.2	.047	7	.276	2
					3	Ext.	★	MVE0670X03S080	44.2	1.740	46.2	1.819	84.2	3.315	83	3.268	1.2	.047	8	.315	2
					3	Int.	★	MVS0670X03S070	36.2	1.425	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7	.276	4
					3	Int.	●	MVS0670X03S080	36.2	1.425	38.2	1.504	89.2	3.512	88	3.465	1.2	.047	8	.315	4
					5	Int.	★	MVS0670X05S070	57.2	2.252	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7	.276	4
					5	Int.	●	MVS0670X05S080	57.2	2.252	59.2	2.331	110.2	4.339	109	4.291	1.2	.047	8	.315	4
					8	Int.	★	MVS0670X08S070	78.2	3.079	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7	.276	4
					8	Int.	●	MVS0670X08S080	78.2	3.079	80.2	3.157	131.2	5.165	130	5.118	1.2	.047	8	.315	4
6.747	.2656	17/64			2	Ext.	●	MVE0675X02S080	35.2	1.386	37.2	1.465	75.2	2.961	74	2.913	1.2	.047	8	.315	2
					3	Int.	●	MVS0675X03S080	36.2	1.425	38.2	1.504	89.2	3.512	88	3.465	1.2	.047	8	.315	4
					5	Int.	●	MVS0675X05S080	57.2	2.252	59.2	2.331	110.2	4.339	109	4.291	1.2	.047	8	.315	4
					8	Int.	●	MVS0675X08S080	78.2	3.079	80.2	3.157	131.2	5.165	130	5.118	1.2	.047	8	.315	4
6.8	.2677				2	Ext.	★	MVE0680X02S070	35.2	1.386	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	7	.276	2
					2	Ext.	●	MVE0680X02S080	35.2	1.386	37.2	1.465	75.2	2.961	74	2.913	1.2	.047	8	.315	2
					3	Ext.	★	MVE0680X03S070	44.2	1.740	44.2	1.740	84.2	3.315	83	3.268	1.2	.047	7	.276	2
					3	Ext.	★	MVE0680X03S080	44.2	1.740	46.2	1.819	84.2	3.315	83	3.268	1.2	.047	8	.315	2
					3	Int.	★	MVS0680X03S070	36.2	1.425	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7	.276	4
					3	Int.	●	MVS0680X03S080	36.2	1.425	38.2	1.504	89.2	3.512	88	3.465	1.2	.047	8	.315	4
					5	Int.	★	MVS0680X05S070	57.2	2.252	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7	.276	4
					5	Int.	●	MVS0680X05S080	57.2	2.252	59.2	2.331	110.2	4.339	109	4.291	1.2	.047	8	.315	4
					8	Int.	★	MVS0680X08S070	78.2	3.079	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7	.276	4
					8	Int.	●	MVS0680X08S080	78.2	3.079	80.2	3.157	131.2	5.165	130	5.118	1.2	.047	8	.315	4
6.9	.2717		I	5/16-24	2	Ext.	★	MVE0690X02S070	35.3	1.390	35.3	1.390	75.3	2.965	74	2.913	1.3	.051	7	.276	2
					2	Ext.	●	MVE0690X02S080	35.3	1.390	37.3	1.469	75.3	2.965	74	2.913	1.3	.051	8	.315	2
					3	Ext.	★	MVE0690X03S070	44.3	1.744	44.3	1.744	84.3	3.319	83	3.268	1.3	.051	7	.276	2
					3	Ext.	★	MVE0690X03S080	44.3	1.744	46.3	1.823	84.3	3.319	83	3.268	1.3	.051	8	.315	2
					3	Int.	★	MVS0690X03S070	36.3	1.429	36.3	1.429	89.3	3.516	88	3.465	1.3	.051	7	.276	4
					3	Int.	●	MVS0690X03S080	36.3	1.429	38.3	1.508	89.3	3.516	88	3.465	1.3	.051	8	.315	4
					5	Int.	★	MVS0690X05S070	57.3	2.256	57.3	2.256	110.3	4.343	109	4.291	1.3	.051	7	.276	4
					5	Int.	●	MVS0690X05S080	57.3	2.256	59.3	2.335	110.3	4.343	109	4.291	1.3	.051	8	.315	4
					8	Int.	★	MVS0690X08S070	78.3	3.083	78.3	3.083	131.3	5.169	130	5.118	1.3	.051	7	.276	4
					8	Int.	●	MVS0690X08S080	78.3	3.083	80.3	3.161	131.3	5.169	130	5.118	1.3	.051	8	.315	4
7.0	.2756			M8x1.0	2	Ext.	★	MVE0700X02S070	35.3	1.390	35.3	1.390	75.3	2.965	74	2.913	1.3	.051	7	.276	2
					2	Ext.	●	MVE0700X02S080	35.3	1.390	37.3	1.469	75.3	2.965	74	2.913	1.3	.051	8	.315	2
					3	Ext.	★	MVE0700X03S070	44.3	1.744	44.3	1.744	84.3	3.319	83	3.268	1.3	.051	7	.276	2
					3	Ext.	★	MVE0700X03S080	44.3	1.744	46.3	1.823	84.3	3.319	83	3.268	1.3	.051	8	.315	2
					3	Int.	★	MVS0700X03S070	36.3	1.429	36.3	1.429	89.3	3.516	88	3.465	1.3	.051	7	.276	4
					3	Int.	●	MVS0700X03S080	36.3	1.429	38.3	1.508	89.3	3.516	88	3.465	1.3	.051	8	.315	4
					5	Int.	★	MVS0700X05S070	57.3	2.256	57.3	2.256	110.3	4.343	109	4.291	1.3	.051	7	.276	4
					5	Int.	●	MVS0700X05S080	57.3	2.256	59.3	2.335	110.3	4.343	109	4.291	1.3	.051	8	.315	4
					8	Int.	★	MVS0700X08S070	78.3	3.083	78.3	3.083	131.3	5.169	130	5.118	1.3	.051	7	.276	4
					8	Int.	●	MVS0700X08S080	78.3	3.083	80.3	3.161	131.3	5.169	130	5.118	1.3	.051	8	.315	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
7.1	.2795				2	Ext.	●	MVE0710X02S080	35.3	1.390	38.3	1.508	80.3	3.161	79	3.110	1.3	.051	8	.315	2
					3	Ext.	★	MVE0710X03S080	46.3	1.823	49.3	1.941	91.3	3.594	90	3.543	1.3	.051	8	.315	2
					3	Int.	●	MVS0710X03S080	38.8	1.528	41.3	1.626	95.3	3.752	94	3.701	1.3	.051	8	.315	4
					5	Int.	●	MVS0710X05S080	61.3	2.413	65.3	2.571	119.3	4.697	118	4.646	1.3	.051	8	.315	4
					8	Int.	●	MVS0710X08S080	84.3	3.319	89.3	3.516	143.3	5.642	142	5.591	1.3	.051	8	.315	4
7.144	.2812	9/32			2	Ext.	●	MVE0714X02S080	35.3	1.390	38.3	1.508	80.3	3.161	79	3.110	1.3	.051	8	.315	2
					3	Int.	●	MVS0714X03S080	38.8	1.528	41.3	1.626	95.3	3.752	94	3.701	1.3	.051	8	.315	4
					5	Int.	●	MVS0714X05S080	61.3	2.413	65.3	2.571	119.3	4.697	118	4.646	1.3	.051	8	.315	4
					8	Int.	●	MVS0714X08S080	84.3	3.319	89.3	3.516	143.3	5.642	142	5.591	1.3	.051	8	.315	4
7.2	.2835				2	Ext.	●	MVE0720X02S080	35.3	1.390	38.3	1.508	80.3	3.161	79	3.110	1.3	.051	8	.315	2
					3	Ext.	★	MVE0720X03S080	46.3	1.823	49.3	1.941	91.3	3.594	90	3.543	1.3	.051	8	.315	2
					3	Int.	●	MVS0720X03S080	38.8	1.528	41.3	1.626	95.3	3.752	94	3.701	1.3	.051	8	.315	4
					5	Int.	●	MVS0720X05S080	61.3	2.413	65.3	2.571	119.3	4.697	118	4.646	1.3	.051	8	.315	4
					8	Int.	●	MVS0720X08S080	84.3	3.319	89.3	3.516	143.3	5.642	142	5.591	1.3	.051	8	.315	4
7.3	.2874				2	Ext.	●	MVE0730X02S080	35.3	1.390	38.3	1.508	80.3	3.161	79	3.110	1.3	.051	8	.315	2
					3	Ext.	★	MVE0730X03S080	46.3	1.823	49.3	1.941	91.3	3.594	90	3.543	1.3	.051	8	.315	2
					3	Int.	●	MVS0730X03S080	38.8	1.528	41.3	1.626	95.3	3.752	94	3.701	1.3	.051	8	.315	4
					5	Int.	●	MVS0730X05S080	61.3	2.413	65.3	2.571	119.3	4.697	118	4.646	1.3	.051	8	.315	4
					8	Int.	●	MVS0730X08S080	84.3	3.319	89.3	3.516	143.3	5.642	142	5.591	1.3	.051	8	.315	4
7.4	.2913				2	Ext.	●	MVE0740X02S080	35.4	1.394	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	8	.315	2
					3	Ext.	★	MVE0740X03S080	46.4	1.827	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	8	.315	2
					3	Int.	●	MVS0740X03S080	38.9	1.531	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8	.315	4
					5	Int.	●	MVS0740X05S080	61.4	2.417	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8	.315	4
					8	Int.	●	MVS0740X08S080	84.4	3.323	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8	.315	4
7.5	.2953				2	Ext.	●	MVE0750X02S080	35.4	1.394	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	8	.315	2
					3	Ext.	★	MVE0750X03S080	46.4	1.827	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	8	.315	2
					3	Int.	●	MVS0750X03S080	38.9	1.531	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8	.315	4
					5	Int.	●	MVS0750X05S080	61.4	2.417	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8	.315	4
					8	Int.	●	MVS0750X08S080	84.4	3.323	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8	.315	4
7.541	.2969	19/64			2	Ext.	●	MVE0754X02S080	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	8	.315	2
					3	Int.	●	MVS0754X03S080	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8	.315	4
					5	Int.	●	MVS0754X05S080	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8	.315	4
					8	Int.	●	MVS0754X08S080	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8	.315	4
7.6	.2992				2	Ext.	●	MVE0760X02S080	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	8	.315	2
					3	Ext.	★	MVE0760X03S080	49.4	1.945	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	8	.315	2
					3	Int.	●	MVS0760X03S080	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8	.315	4
					5	Int.	●	MVS0760X05S080	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8	.315	4
					8	Int.	●	MVS0760X08S080	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8	.315	4
7.7	.3031				2	Ext.	●	MVE0770X02S080	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	8	.315	2
					3	Ext.	★	MVE0770X03S080	49.4	1.945	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	8	.315	2
					3	Int.	●	MVS0770X03S080	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8	.315	4
					5	Int.	●	MVS0770X05S080	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8	.315	4
					8	Int.	●	MVS0770X08S080	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8	.315	4
7.8	.3071				2	Ext.	●	MVE0780X02S080	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	8	.315	2
					3	Ext.	★	MVE0780X03S080	49.4	1.945	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	8	.315	2
					3	Int.	●	MVS0780X03S080	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8	.315	4
					5	Int.	●	MVS0780X05S080	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8	.315	4
					8	Int.	●	MVS0780X08S080	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8	.315	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
7.9	.3110				2	Ext.	●	MVE0790X02S080	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	8	.315	2
					3	Ext.	★	MVE0790X03S080	49.4	1.945	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	8	.315	2
					3	Int.	●	MVS0790X03S080	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8	.315	4
					5	Int.	●	MVS0790X05S080	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8	.315	4
					8	Int.	●	MVS0790X08S080	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8	.315	4
7.938	.3125	5/16		3/8-16	2	Ext.	●	MVE0794X02S080	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	8	.315	2
					3	Int.	●	MVS0794X03S080	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8	.315	4
					5	Int.	●	MVS0794X05S080	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8	.315	4
					8	Int.	●	MVS0794X08S080	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8	.315	4
8.0	.3150				2	Ext.	●	MVE0800X02S080	38.5	1.516	38.5	1.516	80.5	3.169	79	3.110	1.5	.059	8	.315	2
					3	Ext.	★	MVE0800X03S080	49.5	1.949	49.5	1.949	91.5	3.602	90	3.543	1.5	.059	8	.315	2
					3	Int.	●	MVS0800X03S080	41.5	1.634	41.5	1.634	95.5	3.760	94	3.701	1.5	.059	8	.315	4
					5	Int.	●	MVS0800X05S080	65.5	2.579	65.5	2.579	119.5	4.705	118	4.646	1.5	.059	8	.315	4
					8	Int.	●	MVS0800X08S080	89.5	3.524	89.5	3.524	143.5	5.650	142	5.591	1.5	.059	8	.315	4
8.1	.3189				2	Ext.	★	MVE0810X02S090	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	9	.354	2
					2	Ext.	●	MVE0810X02S100	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	10	.394	2
					3	Ext.	★	MVE0810X03S090	54.5	2.146	57.5	2.264	99.5	3.917	98	3.858	1.5	.059	9	.354	2
					3	Ext.	★	MVE0810X03S100	54.5	2.146	57.5	2.264	99.5	3.917	98	3.858	1.5	.059	10	.394	2
					3	Int.	★	MVS0810X03S090	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	9	.354	4
					3	Int.	●	MVS0810X03S100	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	10	.394	4
					5	Int.	★	MVS0810X05S090	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	9	.354	4
					5	Int.	●	MVS0810X05S100	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	10	.394	4
					8	Int.	★	MVS0810X08S090	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	9	.354	4
					8	Int.	●	MVS0810X08S100	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	10	.394	4
8.2	.3228				2	Ext.	★	MVE0820X02S090	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	9	.354	2
					2	Ext.	●	MVE0820X02S100	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	10	.394	2
					3	Ext.	★	MVE0820X03S090	54.5	2.146	57.5	2.264	99.5	3.917	98	3.858	1.5	.059	9	.354	2
					3	Ext.	★	MVE0820X03S100	54.5	2.146	57.5	2.264	99.5	3.917	98	3.858	1.5	.059	10	.394	2
					3	Int.	★	MVS0820X03S090	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	9	.354	4
					3	Int.	●	MVS0820X03S100	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	10	.394	4
					5	Int.	★	MVS0820X05S090	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	9	.354	4
					5	Int.	●	MVS0820X05S100	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	10	.394	4
					8	Int.	★	MVS0820X08S090	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	9	.354	4
					8	Int.	●	MVS0820X08S100	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	10	.394	4
8.3	.3268				2	Ext.	★	MVE0830X02S090	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	9	.354	2
					2	Ext.	●	MVE0830X02S100	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	10	.394	2
					3	Ext.	★	MVE0830X03S090	54.5	2.146	57.5	2.264	99.5	3.917	98	3.858	1.5	.059	9	.354	2
					3	Ext.	★	MVE0830X03S100	54.5	2.146	57.5	2.264	99.5	3.917	98	3.858	1.5	.059	10	.394	2
					3	Int.	★	MVS0830X03S090	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	9	.354	4
					3	Int.	●	MVS0830X03S100	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	10	.394	4
					5	Int.	★	MVS0830X05S090	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	9	.354	4
					5	Int.	●	MVS0830X05S100	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	10	.394	4
					8	Int.	★	MVS0830X08S090	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	9	.354	4
					8	Int.	●	MVS0830X08S100	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	10	.394	4
8.334	.3281	21/64			2	Ext.	●	MVE0833X02S100	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	10	.394	2
					3	Int.	●	MVS0833X03S100	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	10	.394	4
					5	Int.	●	MVS0833X05S100	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	10	.394	4
					8	Int.	●	MVS0833X08S100	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	10	.394	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
8.4	.3307				2	Ext.	★	MVE0840X02S090	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	9	.354	2
					2	Ext.	●	MVE0840X02S100	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	10	.394	2
					3	Ext.	★	MVE0840X03S090	54.5	2.146	57.5	2.264	99.5	3.917	98	3.858	1.5	.059	9	.354	2
					3	Ext.	★	MVE0840X03S100	54.5	2.146	57.5	2.264	99.5	3.917	98	3.858	1.5	.059	10	.394	2
					3	Int.	★	MVS0840X03S090	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	9	.354	4
					3	Int.	●	MVS0840X03S100	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	10	.394	4
					5	Int.	★	MVS0840X05S090	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	9	.354	4
					5	Int.	●	MVS0840X05S100	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	10	.394	4
					8	Int.	★	MVS0840X08S090	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	9	.354	4
					8	Int.	●	MVS0840X08S100	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	10	.394	4
8.433	.3320		Q	3/8-24	2	Ext.	●	MVE0843X02S100	38.5	1.516	41.5	1.634	85.5	3.366	84	3.307	1.5	.059	10	.394	2
					3	Int.	●	MVS0843X03S100	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	10	.394	4
					5	Int.	●	MVS0843X05S100	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	10	.394	4
					8	Int.	●	MVS0843X08S100	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	10	.394	4
8.5	.3346			M10x1.5	2	Ext.	★	MVE0850X02S090	38.6	1.520	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	9	.354	2
					2	Ext.	●	MVE0850X02S100	38.6	1.520	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	10	.394	2
					3	Ext.	★	MVE0850X03S090	54.6	2.150	57.6	2.268	99.6	3.921	98	3.858	1.6	.063	9	.354	2
					3	Ext.	★	MVE0850X03S100	54.6	2.150	57.6	2.268	99.6	3.921	98	3.858	1.6	.063	10	.394	2
					3	Int.	★	MVS0850X03S090	44.1	1.736	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9	.354	4
					3	Int.	●	MVS0850X03S100	44.1	1.736	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	10	.394	4
					5	Int.	★	MVS0850X05S090	69.6	2.740	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9	.354	4
					5	Int.	●	MVS0850X05S100	69.6	2.740	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	10	.394	4
					8	Int.	★	MVS0850X08S090	95.6	3.764	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9	.354	4
					8	Int.	●	MVS0850X08S100	95.6	3.764	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	10	.394	4
8.6	.3386				2	Ext.	★	MVE0860X02S090	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	9	.354	2
					2	Ext.	●	MVE0860X02S100	41.6	1.638	43.6	1.717	85.6	3.370	84	3.307	1.6	.063	10	.394	2
					3	Ext.	★	MVE0860X03S090	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	9	.354	2
					3	Ext.	★	MVE0860X03S100	56.6	2.228	58.6	2.307	99.6	3.921	98	3.858	1.6	.063	10	.394	2
					3	Int.	★	MVS0860X03S090	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9	.354	4
					3	Int.	●	MVS0860X03S100	46.6	1.835	48.6	1.913	101.6	4.000	100	3.937	1.6	.063	10	.394	4
					5	Int.	★	MVS0860X05S090	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9	.354	4
					5	Int.	●	MVS0860X05S100	73.6	2.898	75.6	2.976	128.6	5.063	127	5.000	1.6	.063	10	.394	4
					8	Int.	★	MVS0860X08S090	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9	.354	4
					8	Int.	●	MVS0860X08S100	100.6	3.961	102.6	4.039	155.6	6.126	154	6.063	1.6	.063	10	.394	4
8.7	.3425			M10x1.25	2	Ext.	★	MVE0870X02S090	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	9	.354	2
					2	Ext.	●	MVE0870X02S100	41.6	1.638	43.6	1.717	85.6	3.370	84	3.307	1.6	.063	10	.394	2
					3	Ext.	★	MVE0870X03S090	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	9	.354	2
					3	Ext.	★	MVE0870X03S100	56.6	2.228	58.6	2.307	99.6	3.921	98	3.858	1.6	.063	10	.394	2
					3	Int.	★	MVS0870X03S090	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9	.354	4
					3	Int.	●	MVS0870X03S100	46.6	1.835	48.6	1.913	101.6	4.000	100	3.937	1.6	.063	10	.394	4
					5	Int.	★	MVS0870X05S090	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9	.354	4
					5	Int.	●	MVS0870X05S100	73.6	2.898	75.6	2.976	128.6	5.063	127	5.000	1.6	.063	10	.394	4
					8	Int.	★	MVS0870X08S090	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9	.354	4
					8	Int.	●	MVS0870X08S100	100.6	3.961	102.6	4.039	155.6	6.126	154	6.063	1.6	.063	10	.394	4
8.731	.3438	11/32			2	Ext.	●	MVE0873X02S100	41.6	1.638	43.6	1.717	85.6	3.370	84	3.307	1.6	.063	10	.394	2
					3	Int.	●	MVS0873X03S100	46.6	1.835	48.6	1.913	101.6	4.000	100	3.937	1.6	.063	10	.394	4
					5	Int.	●	MVS0873X05S100	73.6	2.898	75.6	2.976	128.6	5.063	127	5.000	1.6	.063	10	.394	4
					8	Int.	●	MVS0873X08S100	100.6	3.961	102.6	4.039	155.6	6.126	154	6.063	1.6	.063	10	.394	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
8.8	.3465				2	Ext.	★	MVE0880X02S090	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	9	.354	2
					2	Ext.	●	MVE0880X02S100	41.6	1.638	43.6	1.717	85.6	3.370	84	3.307	1.6	.063	10	.394	2
					3	Ext.	★	MVE0880X03S090	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	9	.354	2
					3	Ext.	★	MVE0880X03S100	56.6	2.228	58.6	2.307	99.6	3.921	98	3.858	1.6	.063	10	.394	2
					3	Int.	★	MVS0880X03S090	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9	.354	4
					3	Int.	●	MVS0880X03S100	46.6	1.835	48.6	1.913	101.6	4.000	100	3.937	1.6	.063	10	.394	4
					5	Int.	★	MVS0880X05S090	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9	.354	4
					5	Int.	●	MVS0880X05S100	73.6	2.898	75.6	2.976	128.6	5.063	127	5.000	1.6	.063	10	.394	4
					8	Int.	★	MVS0880X08S090	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9	.354	4
					8	Int.	●	MVS0880X08S100	100.6	3.961	102.6	4.039	155.6	6.126	154	6.063	1.6	.063	10	.394	4
8.9	.3504				2	Ext.	★	MVE0890X02S090	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	9	.354	2
					2	Ext.	●	MVE0890X02S100	41.6	1.638	43.6	1.717	85.6	3.370	84	3.307	1.6	.063	10	.394	2
					3	Ext.	★	MVE0890X03S090	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	9	.354	2
					3	Ext.	★	MVE0890X03S100	56.6	2.228	58.6	2.307	99.6	3.921	98	3.858	1.6	.063	10	.394	2
					3	Int.	★	MVS0890X03S090	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9	.354	4
					3	Int.	●	MVS0890X03S100	46.6	1.835	48.6	1.913	101.6	4.000	100	3.937	1.6	.063	10	.394	4
					5	Int.	★	MVS0890X05S090	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9	.354	4
					5	Int.	●	MVS0890X05S100	73.6	2.898	75.6	2.976	128.6	5.063	127	5.000	1.6	.063	10	.394	4
					8	Int.	★	MVS0890X08S090	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9	.354	4
					8	Int.	●	MVS0890X08S100	100.6	3.961	102.6	4.039	155.6	6.126	154	6.063	1.6	.063	10	.394	4
9.0	.3543				2	Ext.	★	MVE0900X02S090	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	9	.354	2
					2	Ext.	●	MVE0900X02S100	41.6	1.638	43.6	1.717	85.6	3.370	84	3.307	1.6	.063	10	.394	2
					3	Ext.	★	MVE0900X03S090	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	9	.354	2
					3	Ext.	★	MVE0900X03S100	56.6	2.228	58.6	2.307	99.6	3.921	98	3.858	1.6	.063	10	.394	2
					3	Int.	★	MVS0900X03S090	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9	.354	4
					3	Int.	●	MVS0900X03S100	46.6	1.835	48.6	1.913	101.6	4.000	100	3.937	1.6	.063	10	.394	4
					5	Int.	★	MVS0900X05S090	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9	.354	4
					5	Int.	●	MVS0900X05S100	73.6	2.898	75.6	2.976	128.6	5.063	127	5.000	1.6	.063	10	.394	4
					8	Int.	★	MVS0900X08S090	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9	.354	4
					8	Int.	●	MVS0900X08S100	100.6	3.961	102.6	4.039	155.6	6.126	154	6.063	1.6	.063	10	.394	4
9.1	.3583				2	Ext.	●	MVE0910X02S100	41.7	1.642	44.7	1.760	90.7	3.571	89	3.504	1.7	.067	10	.394	2
					3	Ext.	★	MVE0910X03S100	59.7	2.350	62.7	2.469	106.7	4.201	105	4.134	1.7	.067	10	.394	2
					3	Int.	●	MVS0910X03S100	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10	.394	4
					5	Int.	●	MVS0910X05S100	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10	.394	4
					8	Int.	●	MVS0910X08S100	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10	.394	4
9.128	.3594	23/64			2	Ext.	●	MVE0913X02S100	41.7	1.642	44.7	1.760	90.7	3.571	89	3.504	1.7	.067	10	.394	2
					3	Int.	●	MVS0913X03S100	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10	.394	4
					5	Int.	●	MVS0913X05S100	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10	.394	4
					8	Int.	●	MVS0913X08S100	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10	.394	4
9.2	.3622				2	Ext.	●	MVE0920X02S100	41.7	1.642	44.7	1.760	90.7	3.571	89	3.504	1.7	.067	10	.394	2
					3	Ext.	★	MVE0920X03S100	59.7	2.350	62.7	2.469	106.7	4.201	105	4.134	1.7	.067	10	.394	2
					3	Int.	●	MVS0920X03S100	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10	.394	4
					5	Int.	●	MVS0920X05S100	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10	.394	4
					8	Int.	●	MVS0920X08S100	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10	.394	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
9.3	.3661				2	Ext.	●	MVE0930X02S100	41.7	1.642	44.7	1.760	90.7	3.571	89	3.504	1.7	.067	10	.394	2
					3	Ext.	★	MVE0930X03S100	59.7	2.350	62.7	2.469	106.7	4.201	105	4.134	1.7	.067	10	.394	2
					3	Int.	●	MVS0930X03S100	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10	.394	4
					5	Int.	●	MVS0930X05S100	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10	.394	4
					8	Int.	●	MVS0930X08S100	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10	.394	4
9.347	.3680		U	7/16-14	2	Ext.	●	MVE0935X02S100	41.7	1.642	44.7	1.760	90.7	3.571	89	3.504	1.7	.067	10	.394	2
					3	Int.	●	MVS0935X03S100	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10	.394	4
					5	Int.	●	MVS0935X05S100	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10	.394	4
					8	Int.	●	MVS0935X08S100	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10	.394	4
9.4	.3701				2	Ext.	●	MVE0940X02S100	41.7	1.642	44.7	1.760	90.7	3.571	89	3.504	1.7	.067	10	.394	2
					3	Ext.	★	MVE0940X03S100	59.7	2.350	62.7	2.469	106.7	4.201	105	4.134	1.7	.067	10	.394	2
					3	Int.	●	MVS0940X03S100	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10	.394	4
					5	Int.	●	MVS0940X05S100	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10	.394	4
					8	Int.	●	MVS0940X08S100	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10	.394	4
9.5	.3740				2	Ext.	●	MVE0950X02S100	41.7	1.642	44.7	1.760	90.7	3.571	89	3.504	1.7	.067	10	.394	2
					3	Ext.	★	MVE0950X03S100	59.7	2.350	62.7	2.469	106.7	4.201	105	4.134	1.7	.067	10	.394	2
					3	Int.	●	MVS0950X03S100	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10	.394	4
					5	Int.	●	MVS0950X05S100	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10	.394	4
					8	Int.	●	MVS0950X08S100	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10	.394	4
9.525	.3750	3/8			2	Ext.	●	MVE0953X02S100	44.7	1.760	44.7	1.760	90.7	3.571	89	3.504	1.7	.067	10	.394	2
					3	Int.	●	MVS0953X03S100	51.7	2.035	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10	.394	4
					5	Int.	●	MVS0953X05S100	81.7	3.217	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10	.394	4
					8	Int.	●	MVS0953X08S100	111.7	4.398	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10	.394	4
9.6	.3780				2	Ext.	●	MVE0960X02S100	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	10	.394	2
					3	Ext.	★	MVE0960X03S100	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	10	.394	2
					3	Int.	●	MVS0960X03S100	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10	.394	4
					5	Int.	●	MVS0960X05S100	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10	.394	4
					8	Int.	●	MVS0960X08S100	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10	.394	4
9.7	.3819		Tube Sheet		2	Ext.	●	MVE0970X02S100	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	10	.394	2
					3	Ext.	★	MVE0970X03S100	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	10	.394	2
					3	Int.	●	MVS0970X03S100	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10	.394	4
					5	Int.	●	MVS0970X05S100	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10	.394	4
					8	Int.	●	MVS0970X08S100	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10	.394	4
9.8	.3858				2	Ext.	●	MVE0980X02S100	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	10	.394	2
					3	Ext.	★	MVE0980X03S100	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	10	.394	2
					3	Int.	●	MVS0980X03S100	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10	.394	4
					5	Int.	●	MVS0980X05S100	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10	.394	4
					8	Int.	●	MVS0980X08S100	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10	.394	4
9.9	.3898				2	Ext.	●	MVE0990X02S100	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	10	.394	2
					3	Ext.	★	MVE0990X03S100	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	10	.394	2
					3	Int.	●	MVS0990X03S100	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10	.394	4
					5	Int.	●	MVS0990X05S100	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10	.394	4
					8	Int.	●	MVS0990X08S100	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10	.394	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
9.922	.3906	25/64		7/16-20	2	Ext.	●	MVE0992X02S100	44.8	1.764	44.9	1.768	90.8	3.575	89	3.504	1.8	.071	10	.394	2
					3	Int.	●	MVS0992X03S100	51.8	2.039	51.9	2.043	107.8	4.244	106	4.173	1.8	.071	10	.394	4
					5	Int.	●	MVS0992X05S100	81.8	3.220	81.9	3.224	137.8	5.425	136	5.354	1.8	.071	10	.394	4
					8	Int.	●	MVS0992X08S100	111.8	4.402	111.9	4.406	167.8	6.606	166	6.535	1.8	.071	10	.394	4
10.0	.3937				2	Ext.	●	MVE1000X02S100	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	10	.394	2
					3	Ext.	★	MVE1000X03S100	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	10	.394	2
					3	Int.	●	MVS1000X03S100	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10	.394	4
					5	Int.	●	MVS1000X05S100	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10	.394	4
					8	Int.	●	MVS1000X08S100	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10	.394	4
10.1	.3976				2	Ext.	★	MVE1010X02S110	44.8	1.764	47.8	1.882	96.8	3.811	95	3.740	1.8	.071	11	.433	2
					2	Ext.	●	MVE1010X02S120	44.8	1.764	47.8	1.882	96.8	3.811	95	3.740	1.8	.071	12	.472	2
					3	Ext.	★	MVE1010X03S110	67.8	2.669	70.8	2.787	115.8	4.559	114	4.488	1.8	.071	11	.433	2
					3	Ext.	★	MVE1010X03S120	67.8	2.669	70.8	2.787	115.8	4.559	114	4.488	1.8	.071	12	.472	2
					3	Int.	★	MVS1010X03S110	54.3	2.138	56.8	2.236	117.8	4.638	116	4.567	1.8	.071	11	.433	4
					3	Int.	●	MVS1010X03S120	54.3	2.138	56.8	2.236	117.8	4.638	116	4.567	1.8	.071	12	.472	4
					5	Int.	★	MVS1010X05S110	85.8	3.378	89.8	3.535	150.8	5.937	149	5.866	1.8	.071	11	.433	4
					5	Int.	●	MVS1010X05S120	85.8	3.378	89.8	3.535	150.8	5.937	149	5.866	1.8	.071	12	.472	4
					8	Int.	★	MVS1010X08S110	117.8	4.638	122.8	4.835	183.8	7.236	182	7.165	1.8	.071	11	.433	4
					8	Int.	●	MVS1010X08S120	117.8	4.638	122.8	4.835	183.8	7.236	182	7.165	1.8	.071	12	.472	4
10.2	.4016			M12x1.75	2	Ext.	★	MVE1020X02S110	44.9	1.768	47.9	1.886	96.9	3.815	95	3.740	1.9	.075	11	.433	2
					2	Ext.	●	MVE1020X02S120	44.9	1.768	47.9	1.886	96.9	3.815	95	3.740	1.9	.075	12	.472	2
					3	Ext.	★	MVE1020X03S110	67.9	2.673	70.9	2.791	115.9	4.563	114	4.488	1.9	.075	11	.433	2
					3	Ext.	★	MVE1020X03S120	67.9	2.673	70.9	2.791	115.9	4.563	114	4.488	1.9	.075	12	.472	2
					3	Int.	★	MVS1020X03S110	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11	.433	4
					3	Int.	●	MVS1020X03S120	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	12	.472	4
					5	Int.	★	MVS1020X05S110	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11	.433	4
					5	Int.	●	MVS1020X05S120	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	12	.472	4
					8	Int.	★	MVS1020X08S110	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11	.433	4
					8	Int.	●	MVS1020X08S120	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	12	.472	4
10.3	.4055				2	Ext.	★	MVE1030X02S110	44.9	1.768	47.9	1.886	96.9	3.815	95	3.740	1.9	.075	11	.433	2
					2	Ext.	●	MVE1030X02S120	44.9	1.768	47.9	1.886	96.9	3.815	95	3.740	1.9	.075	12	.472	2
					3	Ext.	★	MVE1030X03S110	67.9	2.673	70.9	2.791	115.9	4.563	114	4.488	1.9	.075	11	.433	2
					3	Ext.	★	MVE1030X03S120	67.9	2.673	70.9	2.791	115.9	4.563	114	4.488	1.9	.075	12	.472	2
					3	Int.	★	MVS1030X03S110	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11	.433	4
					3	Int.	●	MVS1030X03S120	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	12	.472	4
					5	Int.	★	MVS1030X05S110	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11	.433	4
					5	Int.	●	MVS1030X05S120	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	12	.472	4
					8	Int.	★	MVS1030X08S110	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11	.433	4
					8	Int.	●	MVS1030X08S120	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	12	.472	4
10.319	.4062	13/32			2	Ext.	●	MVE1032X02S120	44.9	1.768	46.7	1.839	96.9	3.815	95	3.740	1.9	.075	12	.472	2
					3	Int.	●	MVS1032X03S120	54.4	2.142	56.2	2.213	117.9	4.642	116	4.567	1.9	.075	12	.472	4
					5	Int.	●	MVS1032X05S120	85.9	3.382	87.7	3.453	150.9	5.941	149	5.866	1.9	.075	12	.472	4
					8	Int.	●	MVS1032X08S120	117.9	4.642	119.7	4.713	183.9	7.240	182	7.165	1.9	.075	12	.472	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
10.4	.4094				2	Ext.	★	MVE1040X02S110	44.9	1.768	47.9	1.886	96.9	3.815	95	3.740	1.9	.075	11	.433	2
					2	Ext.	●	MVE1040X02S120	44.9	1.768	47.9	1.886	96.9	3.815	95	3.740	1.9	.075	12	.472	2
					3	Ext.	★	MVE1040X03S110	67.9	2.673	70.9	2.791	115.9	4.563	114	4.488	1.9	.075	11	.433	2
					3	Ext.	★	MVE1040X03S120	67.9	2.673	70.9	2.791	115.9	4.563	114	4.488	1.9	.075	12	.472	2
					3	Int.	★	MVS1040X03S110	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11	.433	4
					3	Int.	●	MVS1040X03S120	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	12	.472	4
					5	Int.	★	MVS1040X05S110	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11	.433	4
					5	Int.	●	MVS1040X05S120	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	12	.472	4
					8	Int.	★	MVS1040X08S110	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11	.433	4
					8	Int.	●	MVS1040X08S120	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	12	.472	4
10.5	.4134				2	Ext.	★	MVE1050X02S110	44.9	1.768	47.9	1.886	96.9	3.815	95	3.740	1.9	.075	11	.433	2
					2	Ext.	●	MVE1050X02S120	44.9	1.768	47.9	1.886	96.9	3.815	95	3.740	1.9	.075	12	.472	2
					3	Ext.	★	MVE1050X03S110	67.9	2.673	70.9	2.791	115.9	4.563	114	4.488	1.9	.075	11	.433	2
					3	Ext.	★	MVE1050X03S120	67.9	2.673	70.9	2.791	115.9	4.563	114	4.488	1.9	.075	12	.472	2
					3	Int.	★	MVS1050X03S110	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11	.433	4
					3	Int.	●	MVS1050X03S120	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	12	.472	4
					5	Int.	★	MVS1050X05S110	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11	.433	4
					5	Int.	●	MVS1050X05S120	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	12	.472	4
					8	Int.	★	MVS1050X08S110	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11	.433	4
					8	Int.	●	MVS1050X08S120	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	12	.472	4
10.6	.4173				2	Ext.	★	MVE1060X02S110	48.9	1.925	48.9	1.925	96.9	3.815	95	3.740	1.9	.075	11	.433	2
					2	Ext.	●	MVE1060X02S120	48.9	1.925	49.9	1.965	96.9	3.815	95	3.740	1.9	.075	12	.472	2
					3	Ext.	★	MVE1060X03S110	69.9	2.752	69.9	2.752	115.9	4.563	114	4.488	1.9	.075	11	.433	2
					3	Ext.	★	MVE1060X03S120	69.9	2.752	70.9	2.791	115.9	4.563	114	4.488	1.9	.075	12	.472	2
					3	Int.	★	MVS1060X03S110	56.9	2.240	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11	.433	4
					3	Int.	●	MVS1060X03S120	56.9	2.240	57.9	2.280	117.9	4.642	116	4.567	1.9	.075	12	.472	4
					5	Int.	★	MVS1060X05S110	89.9	3.539	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11	.433	4
					5	Int.	●	MVS1060X05S120	89.9	3.539	90.9	3.579	150.9	5.941	149	5.866	1.9	.075	12	.472	4
					8	Int.	★	MVS1060X08S110	122.9	4.839	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11	.433	4
					8	Int.	●	MVS1060X08S120	122.9	4.839	123.9	4.878	183.9	7.240	182	7.165	1.9	.075	12	.472	4
10.7	.4213				2	Ext.	★	MVE1070X02S110	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	11	.433	2
					2	Ext.	●	MVE1070X02S120	49.0	1.929	50.0	1.969	97.0	3.819	95	3.740	2.0	.079	12	.472	2
					3	Ext.	★	MVE1070X03S110	70.0	2.756	70.0	2.756	116.0	4.567	114	4.488	2.0	.079	11	.433	2
					3	Ext.	★	MVE1070X03S120	70.0	2.756	71.0	2.795	116.0	4.567	114	4.488	2.0	.079	12	.472	2
					3	Int.	★	MVS1070X03S110	57.0	2.244	57.0	2.244	118.0	4.646	116	4.567	2.0	.079	11	.433	4
					3	Int.	●	MVS1070X03S120	57.0	2.244	58.0	2.283	118.0	4.646	116	4.567	2.0	.079	12	.472	4
					5	Int.	★	MVS1070X05S110	90.0	3.543	90.0	3.543	151.0	5.945	149	5.866	2.0	.079	11	.433	4
					5	Int.	●	MVS1070X05S120	90.0	3.543	91.0	3.583	151.0	5.945	149	5.866	2.0	.079	12	.472	4
					8	Int.	★	MVS1070X08S110	123.0	4.843	123.0	4.843	184.0	7.244	182	7.165	2.0	.079	11	.433	4
					8	Int.	●	MVS1070X08S120	123.0	4.843	124.0	4.882	184.0	7.244	182	7.165	2.0	.079	12	.472	4
10.716	.4219	27/64		1/2-13	2	Ext.	●	MVE1072X02S120	49.0	1.929	50.4	1.984	97.0	3.819	95	3.740	2.0	.079	12	.472	2
					3	Int.	●	MVS1072X03S120	57.0	2.244	58.4	2.299	118.0	4.646	116	4.567	2.0	.079	12	.472	4
					5	Int.	●	MVS1072X05S120	90.0	3.543	91.4	3.598	151.0	5.945	149	5.866	2.0	.079	12	.472	4
					8	Int.	●	MVS1072X08S120	123.0	4.843	124.4	4.898	184.0	7.244	182	7.165	2.0	.079	12	.472	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
10.8	.4252			M12x1.25	2	Ext.	★	MVE1080X02S110	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	11	.433	2
					2	Ext.	●	MVE1080X02S120	49.0	1.929	50.0	1.969	97.0	3.819	95	3.740	2.0	.079	12	.472	2
					3	Ext.	★	MVE1080X03S110	70.0	2.756	70.0	2.756	116.0	4.567	114	4.488	2.0	.079	11	.433	2
					3	Ext.	★	MVE1080X03S120	70.0	2.756	71.0	2.795	116.0	4.567	114	4.488	2.0	.079	12	.472	2
					3	Int.	★	MVS1080X03S110	57.0	2.244	57.0	2.244	118.0	4.646	116	4.567	2.0	.079	11	.433	4
					3	Int.	●	MVS1080X03S120	57.0	2.244	58.0	2.283	118.0	4.646	116	4.567	2.0	.079	12	.472	4
					5	Int.	★	MVS1080X05S110	90.0	3.543	90.0	3.543	151.0	5.945	149	5.866	2.0	.079	11	.433	4
					5	Int.	●	MVS1080X05S120	90.0	3.543	91.0	3.583	151.0	5.945	149	5.866	2.0	.079	12	.472	4
					8	Int.	★	MVS1080X08S110	123.0	4.843	123.0	4.843	184.0	7.244	182	7.165	2.0	.079	11	.433	4
					8	Int.	●	MVS1080X08S120	123.0	4.843	124.0	4.882	184.0	7.244	182	7.165	2.0	.079	12	.472	4
10.9	.4291				2	Ext.	★	MVE1090X02S110	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	11	.433	2
					2	Ext.	●	MVE1090X02S120	49.0	1.929	50.0	1.969	97.0	3.819	95	3.740	2.0	.079	12	.472	2
					3	Ext.	★	MVE1090X03S110	70.0	2.756	70.0	2.756	116.0	4.567	114	4.488	2.0	.079	11	.433	2
					3	Ext.	★	MVE1090X03S120	70.0	2.756	71.0	2.795	116.0	4.567	114	4.488	2.0	.079	12	.472	2
					3	Int.	★	MVS1090X03S110	57.0	2.244	57.0	2.244	118.0	4.646	116	4.567	2.0	.079	11	.433	4
					3	Int.	●	MVS1090X03S120	57.0	2.244	58.0	2.283	118.0	4.646	116	4.567	2.0	.079	12	.472	4
					5	Int.	★	MVS1090X05S110	90.0	3.543	90.0	3.543	151.0	5.945	149	5.866	2.0	.079	11	.433	4
					5	Int.	●	MVS1090X05S120	90.0	3.543	91.0	3.583	151.0	5.945	149	5.866	2.0	.079	12	.472	4
					8	Int.	★	MVS1090X08S110	123.0	4.843	123.0	4.843	184.0	7.244	182	7.165	2.0	.079	11	.433	4
					8	Int.	●	MVS1090X08S120	123.0	4.843	124.0	4.882	184.0	7.244	182	7.165	2.0	.079	12	.472	4
11.0	.4331				2	Ext.	★	MVE1100X02S110	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	11	.433	2
					2	Ext.	●	MVE1100X02S120	49.0	1.929	50.0	1.969	97.0	3.819	95	3.740	2.0	.079	12	.472	2
					3	Ext.	★	MVE1100X03S110	70.0	2.756	70.0	2.756	116.0	4.567	114	4.488	2.0	.079	11	.433	2
					3	Ext.	★	MVE1100X03S120	70.0	2.756	71.0	2.795	116.0	4.567	114	4.488	2.0	.079	12	.472	2
					3	Int.	★	MVS1100X03S110	57.0	2.244	57.0	2.244	118.0	4.646	116	4.567	2.0	.079	11	.433	4
					3	Int.	●	MVS1100X03S120	57.0	2.244	58.0	2.283	118.0	4.646	116	4.567	2.0	.079	12	.472	4
					5	Int.	★	MVS1100X05S110	90.0	3.543	90.0	3.543	151.0	5.945	149	5.866	2.0	.079	11	.433	4
					5	Int.	●	MVS1100X05S120	90.0	3.543	91.0	3.583	151.0	5.945	149	5.866	2.0	.079	12	.472	4
					8	Int.	★	MVS1100X08S110	123.0	4.843	123.0	4.843	184.0	7.244	182	7.165	2.0	.079	11	.433	4
					8	Int.	●	MVS1100X08S120	123.0	4.843	124.0	4.882	184.0	7.244	182	7.165	2.0	.079	12	.472	4
11.1	.4370				2	Ext.	●	MVE1110X02S120	49.0	1.929	52.0	2.047	97.0	3.819	95	3.740	2.0	.079	12	.472	2
					3	Ext.	★	MVE1110X03S120	73.0	2.874	76.0	2.992	123.0	4.843	121	4.764	2.0	.079	12	.472	2
					3	Int.	●	MVS1110X03S120	59.5	2.343	62.0	2.441	124.0	4.882	122	4.803	2.0	.079	12	.472	4
					5	Int.	●	MVS1110X05S120	94.0	3.701	98.0	3.858	160.0	6.299	158	6.220	2.0	.079	12	.472	4
					8	Int.	●	MVS1110X08S120	129.0	5.079	134.0	5.276	196.0	7.717	194	7.638	2.0	.079	12	.472	4
11.113	.4375	7/16			2	Ext.	●	MVE1111X02S120	49.0	1.929	52.0	2.047	97.0	3.819	95	3.740	2.0	.079	12	.472	2
					3	Int.	●	MVS1111X03S120	59.5	2.343	62.0	2.441	124.0	4.882	122	4.803	2.0	.079	12	.472	4
					5	Int.	●	MVS1111X05S120	94.0	3.701	98.0	3.858	160.0	6.299	158	6.220	2.0	.079	12	.472	4
					8	Int.	●	MVS1111X08S120	129.0	5.079	134.0	5.276	196.0	7.717	194	7.638	2.0	.079	12	.472	4
11.2	.4409				2	Ext.	●	MVE1120X02S120	49.0	1.929	52.0	2.047	97.0	3.819	95	3.740	2.0	.079	12	.472	2
					3	Ext.	★	MVE1120X03S120	73.0	2.874	76.0	2.992	123.0	4.843	121	4.764	2.0	.079	12	.472	2
					3	Int.	●	MVS1120X03S120	59.5	2.343	62.0	2.441	124.0	4.882	122	4.803	2.0	.079	12	.472	4
					5	Int.	●	MVS1120X05S120	94.0	3.701	98.0	3.858	160.0	6.299	158	6.220	2.0	.079	12	.472	4
					8	Int.	●	MVS1120X08S120	129.0	5.079	134.0	5.276	196.0	7.717	194	7.638	2.0	.079	12	.472	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
11.3	.4449				2	Ext.	●	MVE1130X02S120	49.1	1.933	52.1	2.051	97.1	3.823	95	3.740	2.1	.083	12	.472	2
					3	Ext.	★	MVE1130X03S120	73.1	2.878	76.1	2.996	123.1	4.846	121	4.764	2.1	.083	12	.472	2
					3	Int.	●	MVS1130X03S120	59.6	2.346	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12	.472	4
					5	Int.	●	MVS1130X05S120	94.1	3.705	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12	.472	4
					8	Int.	●	MVS1130X08S120	129.1	5.083	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12	.472	4
11.4	.4488				2	Ext.	●	MVE1140X02S120	49.1	1.933	52.1	2.051	97.1	3.823	95	3.740	2.1	.083	12	.472	2
					3	Ext.	★	MVE1140X03S120	73.1	2.878	76.1	2.996	123.1	4.846	121	4.764	2.1	.083	12	.472	2
					3	Int.	●	MVS1140X03S120	59.6	2.346	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12	.472	4
					5	Int.	●	MVS1140X05S120	94.1	3.705	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12	.472	4
					8	Int.	●	MVS1140X08S120	129.1	5.083	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12	.472	4
11.5	.4528				2	Ext.	●	MVE1150X02S120	49.1	1.933	52.1	2.051	97.1	3.823	95	3.740	2.1	.083	12	.472	2
					3	Ext.	★	MVE1150X03S120	73.1	2.878	76.1	2.996	123.1	4.846	121	4.764	2.1	.083	12	.472	2
					3	Int.	●	MVS1150X03S120	59.6	2.346	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12	.472	4
					5	Int.	●	MVS1150X05S120	94.1	3.705	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12	.472	4
					8	Int.	●	MVS1150X08S120	129.1	5.083	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12	.472	4
11.509	.4531	29/64		1/2-20	2	Ext.	●	MVE1151X02S120	49.1	1.933	49.1	1.933	97.1	3.823	95	3.740	2.1	.083	12	.472	2
					3	Int.	●	MVS1151X03S120	62.1	2.445	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12	.472	4
					5	Int.	●	MVS1151X05S120	98.1	3.862	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12	.472	4
					8	Int.	●	MVS1151X08S120	134.1	5.280	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12	.472	4
11.6	.4567				2	Ext.	●	MVE1160X02S120	49.1	1.933	49.1	1.933	97.1	3.823	95	3.740	2.1	.083	12	.472	2
					3	Ext.	★	MVE1160X03S120	75.1	2.957	75.1	2.957	123.1	4.846	121	4.764	2.1	.083	12	.472	2
					3	Int.	●	MVS1160X03S120	62.1	2.445	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12	.472	4
					5	Int.	●	MVS1160X05S120	98.1	3.862	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12	.472	4
					8	Int.	●	MVS1160X08S120	134.1	5.280	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12	.472	4
11.7	.4606				2	Ext.	●	MVE1170X02S120	49.1	1.933	49.1	1.933	97.1	3.823	95	3.740	2.1	.083	12	.472	2
					3	Ext.	★	MVE1170X03S120	75.1	2.957	75.1	2.957	123.1	4.846	121	4.764	2.1	.083	12	.472	2
					3	Int.	●	MVS1170X03S120	62.1	2.445	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12	.472	4
					5	Int.	●	MVS1170X05S120	98.1	3.862	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12	.472	4
					8	Int.	●	MVS1170X08S120	134.1	5.280	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12	.472	4
11.8	.4646				2	Ext.	●	MVE1180X02S120	49.2	1.937	49.2	1.937	97.2	3.827	95	3.740	2.2	.087	12	.472	2
					3	Ext.	★	MVE1180X03S120	75.2	2.961	75.2	2.961	123.2	4.850	121	4.764	2.2	.087	12	.472	2
					3	Int.	●	MVS1180X03S120	62.2	2.449	62.2	2.449	124.2	4.890	122	4.803	2.2	.087	12	.472	4
					5	Int.	●	MVS1180X05S120	98.2	3.866	98.2	3.866	160.2	6.307	158	6.220	2.2	.087	12	.472	4
					8	Int.	●	MVS1180X08S120	134.2	5.283	134.2	5.283	196.2	7.724	194	7.638	2.2	.087	12	.472	4
11.9	.4685	15/32			2	Ext.	●	MVE1190X02S120	49.2	1.937	49.2	1.937	97.2	3.827	95	3.740	2.2	.087	12	.472	2
					3	Ext.	★	MVE1190X03S120	75.2	2.961	75.2	2.961	123.2	4.850	121	4.764	2.2	.087	12	.472	2
					3	Int.	●	MVS1190X03S120	62.2	2.449	62.2	2.449	124.2	4.890	122	4.803	2.2	.087	12	.472	4
					5	Int.	●	MVS1190X05S120	98.2	3.866	98.2	3.866	160.2	6.307	158	6.220	2.2	.087	12	.472	4
					8	Int.	●	MVS1190X08S120	134.2	5.283	134.2	5.283	196.2	7.724	194	7.638	2.2	.087	12	.472	4
12.0	.4724			M14x2.0	2	Ext.	●	MVE1200X02S120	49.2	1.937	49.2	1.937	97.2	3.827	95	3.740	2.2	.087	12	.472	2
					3	Ext.	★	MVE1200X03S120	75.2	2.961	75.2	2.961	123.2	4.850	121	4.764	2.2	.087	12	.472	2
					3	Int.	●	MVS1200X03S120	62.2	2.449	62.2	2.449	124.2	4.890	122	4.803	2.2	.087	12	.472	4
					5	Int.	●	MVS1200X05S120	98.2	3.866	98.2	3.866	160.2	6.307	158	6.220	2.2	.087	12	.472	4
					8	Int.	●	MVS1200X08S120	134.2	5.283	134.2	5.283	196.2	7.724	194	7.638	2.2	.087	12	.472	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
12.1	.4764				2	Ext.	★	MVE1210X02S130	53.2	2.094	56.2	2.213	104.2	4.102	102	4.016	2.2	.087	13	.512	2
					2	Ext.	●	MVE1210X02S140	53.2	2.094	56.2	2.213	104.2	4.102	102	4.016	2.2	.087	14	.551	2
					3	Ext.	★	MVE1210X03S130	78.2	3.079	81.2	3.197	139.2	5.480	137	5.394	2.2	.087	13	.512	2
					3	Ext.	□	MVE1210X03S140	78.2	3.079	81.2	3.197	139.2	5.480	137	5.394	2.2	.087	14	.551	2
					3	Int.	★	MVS1210X03S130	64.7	2.547	67.2	2.646	130.2	5.126	128	5.039	2.2	.087	13	.512	4
					3	Int.	●	MVS1210X03S140	64.7	2.547	67.2	2.646	130.2	5.126	128	5.039	2.2	.087	14	.551	4
					5	Int.	★	MVS1210X05S130	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	13	.512	4
					5	Int.	●	MVS1210X05S140	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	14	.551	4
					8	Int.	□	MVS1210X08S130	140.2	5.520	145.2	5.717	208.2	8.197	206	8.110	2.2	.087	13	.512	4
					8	Int.	●	MVS1210X08S140	140.2	5.520	145.2	5.717	208.2	8.197	206	8.110	2.2	.087	14	.551	4
12.2	.4803				2	Ext.	★	MVE1220X02S130	53.2	2.094	56.2	2.213	104.2	4.102	102	4.016	2.2	.087	13	.512	2
					2	Ext.	●	MVE1220X02S140	53.2	2.094	56.2	2.213	104.2	4.102	102	4.016	2.2	.087	14	.551	2
					3	Ext.	★	MVE1220X03S130	78.2	3.079	81.2	3.197	139.2	5.480	137	5.394	2.2	.087	13	.512	2
					3	Ext.	□	MVE1220X03S140	78.2	3.079	81.2	3.197	139.2	5.480	137	5.394	2.2	.087	14	.551	2
					3	Int.	★	MVS1220X03S130	64.7	2.547	67.2	2.646	130.2	5.126	128	5.039	2.2	.087	13	.512	4
					3	Int.	●	MVS1220X03S140	64.7	2.547	67.2	2.646	130.2	5.126	128	5.039	2.2	.087	14	.551	4
					5	Int.	★	MVS1220X05S130	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	13	.512	4
					5	Int.	●	MVS1220X05S140	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	14	.551	4
					8	Int.	□	MVS1220X08S130	140.2	5.520	145.2	5.717	208.2	8.197	206	8.110	2.2	.087	13	.512	4
					8	Int.	●	MVS1220X08S140	140.2	5.520	145.2	5.717	208.2	8.197	206	8.110	2.2	.087	14	.551	4
12.3	.4843			9/16-12	2	Ext.	★	MVE1230X02S130	53.2	2.094	56.2	2.213	104.2	4.102	102	4.016	2.2	.087	13	.512	2
					2	Ext.	●	MVE1230X02S140	53.2	2.094	56.2	2.213	104.2	4.102	102	4.016	2.2	.087	14	.551	2
					3	Ext.	★	MVE1230X03S130	78.2	3.079	81.2	3.197	139.2	5.480	137	5.394	2.2	.087	13	.512	2
					3	Ext.	□	MVE1230X03S140	78.2	3.079	81.2	3.197	139.2	5.480	137	5.394	2.2	.087	14	.551	2
					3	Int.	★	MVS1230X03S130	64.7	2.547	67.2	2.646	130.2	5.126	128	5.039	2.2	.087	13	.512	4
					3	Int.	●	MVS1230X03S140	64.7	2.547	67.2	2.646	130.2	5.126	128	5.039	2.2	.087	14	.551	4
					5	Int.	★	MVS1230X05S130	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	13	.512	4
					5	Int.	●	MVS1230X05S140	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	14	.551	4
					8	Int.	□	MVS1230X08S130	140.2	5.520	145.2	5.717	208.2	8.197	206	8.110	2.2	.087	13	.512	4
					8	Int.	●	MVS1230X08S140	140.2	5.520	145.2	5.717	208.2	8.197	206	8.110	2.2	.087	14	.551	4
12.4	.4882				2	Ext.	★	MVE1240X02S130	53.3	2.098	56.3	2.217	104.3	4.106	102	4.016	2.3	.091	13	.512	2
					2	Ext.	●	MVE1240X02S140	53.3	2.098	56.3	2.217	104.3	4.106	102	4.016	2.3	.091	14	.551	2
					3	Ext.	★	MVE1240X03S130	78.3	3.083	81.3	3.201	139.3	5.484	137	5.394	2.3	.091	13	.512	2
					3	Ext.	□	MVE1240X03S140	78.3	3.083	81.3	3.201	139.3	5.484	137	5.394	2.3	.091	14	.551	2
					3	Int.	★	MVS1240X03S130	64.8	2.551	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13	.512	4
					3	Int.	●	MVS1240X03S140	64.8	2.551	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	14	.551	4
					5	Int.	★	MVS1240X05S130	102.3	4.028	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13	.512	4
					5	Int.	●	MVS1240X05S140	102.3	4.028	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	14	.551	4
					8	Int.	□	MVS1240X08S130	140.3	5.524	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	13	.512	4
					8	Int.	●	MVS1240X08S140	140.3	5.524	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	14	.551	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
12.5	.4921			M14x4.5	2	Ext.	★	MVE1250X02S130	53.3	2.098	56.3	2.217	104.3	4.106	102	4.016	2.3	.091	13	.512	2
					2	Ext.	●	MVE1250X02S140	53.3	2.098	56.3	2.217	104.3	4.106	102	4.016	2.3	.091	14	.551	2
					3	Ext.	★	MVE1250X03S130	78.3	3.083	81.3	3.201	139.3	5.484	137	5.394	2.3	.091	13	.512	2
					3	Ext.	□	MVE1250X03S140	78.3	3.083	81.3	3.201	139.3	5.484	137	5.394	2.3	.091	14	.551	2
					3	Int.	★	MVS1250X03S130	64.8	2.551	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13	.512	4
					3	Int.	●	MVS1250X03S140	64.8	2.551	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	14	.551	4
					5	Int.	★	MVS1250X05S130	102.3	4.028	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13	.512	4
					5	Int.	●	MVS1250X05S140	102.3	4.028	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	14	.551	4
					8	Int.	★	MVS1250X08S130	140.3	5.524	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	13	.512	4
					8	Int.	●	MVS1250X08S140	140.3	5.524	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	14	.551	4
12.6	.4961				2	Ext.	★	MVE1260X02S130	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	13	.512	2
					2	Ext.	●	MVE1260X02S140	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	14	.551	2
					3	Ext.	★	MVE1260X03S130	80.3	3.161	80.3	3.161	139.3	5.484	137	5.394	2.3	.091	13	.512	2
					3	Ext.	□	MVE1260X03S140	80.3	3.161	80.3	3.161	139.3	5.484	137	5.394	2.3	.091	14	.551	2
					3	Int.	★	MVS1260X03S130	67.3	2.650	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13	.512	4
					3	Int.	●	MVS1260X03S140	67.3	2.650	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	14	.551	4
					5	Int.	★	MVS1260X05S130	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13	.512	4
					5	Int.	●	MVS1260X05S140	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	14	.551	4
					8	Int.	□	MVS1260X08S130	145.3	5.720	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	13	.512	4
					8	Int.	●	MVS1260X08S140	145.3	5.720	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	14	.551	4
12.7	.5000	1/2			2	Ext.	★	MVE1270X02S130	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	13	.512	2
					2	Ext.	●	MVE1270X02S140	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	14	.551	2
					3	Ext.	★	MVE1270X03S130	80.3	3.161	80.3	3.161	139.3	5.484	137	5.394	2.3	.091	13	.512	2
					3	Ext.	□	MVE1270X03S140	80.3	3.161	80.3	3.161	139.3	5.484	137	5.394	2.3	.091	14	.551	2
					3	Int.	★	MVS1270X03S130	67.3	2.650	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13	.512	4
					3	Int.	●	MVS1270X03S140	67.3	2.650	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	14	.551	4
					5	Int.	★	MVS1270X05S130	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13	.512	4
					5	Int.	●	MVS1270X05S140	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	14	.551	4
					8	Int.	□	MVS1270X08S130	145.3	5.720	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	13	.512	4
					8	Int.	●	MVS1270X08S140	145.3	5.720	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	14	.551	4
12.8	.5039				2	Ext.	★	MVE1280X02S130	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	13	.512	2
					2	Ext.	●	MVE1280X02S140	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	14	.551	2
					3	Ext.	★	MVE1280X03S130	80.3	3.161	80.3	3.161	139.3	5.484	137	5.394	2.3	.091	13	.512	2
					3	Ext.	□	MVE1280X03S140	80.3	3.161	80.3	3.161	139.3	5.484	137	5.394	2.3	.091	14	.551	2
					3	Int.	★	MVS1280X03S130	67.3	2.650	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13	.512	4
					3	Int.	●	MVS1280X03S140	67.3	2.650	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	14	.551	4
					5	Int.	★	MVS1280X05S130	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13	.512	4
					5	Int.	●	MVS1280X05S140	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	14	.551	4
					8	Int.	□	MVS1280X08S130	145.3	5.720	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	13	.512	4
					8	Int.	●	MVS1280X08S140	145.3	5.720	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	14	.551	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only.

NEW

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
12.9	.5079				2	Ext.	★	MVE1290X02S130	53.4	2.102	53.4	2.102	104.4	4.110	102	4.016	2.4	.094	13	.512	2
					2	Ext.	●	MVE1290X02S140	53.4	2.102	53.4	2.102	104.4	4.110	102	4.016	2.4	.094	14	.551	2
					3	Ext.	★	MVE1290X03S130	80.4	3.165	80.4	3.165	139.4	5.488	137	5.394	2.4	.094	13	.512	2
					3	Ext.	□	MVE1290X03S140	80.4	3.165	80.4	3.165	139.4	5.488	137	5.394	2.4	.094	14	.551	2
					3	Int.	★	MVS1290X03S130	67.4	2.654	67.4	2.654	130.4	5.134	128	5.039	2.4	.094	13	.512	4
					3	Int.	●	MVS1290X03S140	67.4	2.654	67.4	2.654	130.4	5.134	128	5.039	2.4	.094	14	.551	4
					5	Int.	★	MVS1290X05S130	106.4	4.189	106.4	4.189	169.4	6.669	167	6.575	2.4	.094	13	.512	4
					5	Int.	●	MVS1290X05S140	106.4	4.189	106.4	4.189	169.4	6.669	167	6.575	2.4	.094	14	.551	4
					8	Int.	□	MVS1290X08S130	145.4	5.724	145.4	5.724	208.4	8.205	206	8.110	2.4	.094	13	.512	4
					8	Int.	●	MVS1290X08S140	145.4	5.724	145.4	5.724	208.4	8.205	206	8.110	2.4	.094	14	.551	4
13.0	.5118				2	Ext.	★	MVE1300X02S130	53.4	2.102	53.4	2.102	104.4	4.110	102	4.016	2.4	.094	13	.512	2
					2	Ext.	●	MVE1300X02S140	53.4	2.102	53.4	2.102	104.4	4.110	102	4.016	2.4	.094	14	.551	2
					3	Ext.	★	MVE1300X03S130	80.4	3.165	80.4	3.165	139.4	5.488	137	5.394	2.4	.094	13	.512	2
					3	Ext.	□	MVE1300X03S140	80.4	3.165	80.4	3.165	139.4	5.488	137	5.394	2.4	.094	14	.551	2
					3	Int.	★	MVS1300X03S130	67.4	2.654	67.4	2.654	130.4	5.134	128	5.039	2.4	.094	13	.512	4
					3	Int.	●	MVS1300X03S140	67.4	2.654	67.4	2.654	130.4	5.134	128	5.039	2.4	.094	14	.551	4
					5	Int.	★	MVS1300X05S130	106.4	4.189	106.4	4.189	169.4	6.669	167	6.575	2.4	.094	13	.512	4
					5	Int.	●	MVS1300X05S140	106.4	4.189	106.4	4.189	169.4	6.669	167	6.575	2.4	.094	14	.551	4
					8	Int.	★	MVS1300X08S130	145.4	5.724	145.4	5.724	208.4	8.205	206	8.110	2.4	.094	13	.512	4
					8	Int.	●	MVS1300X08S140	145.4	5.724	145.4	5.724	208.4	8.205	206	8.110	2.4	.094	14	.551	4
13.1	.5157	33/64		9/16-18	2	Ext.	●	MVE1310X02S140	56.4	2.220	59.4	2.339	109.4	4.307	107	4.213	2.4	.094	14	.551	2
					3	Ext.	★	MVE1310X03S140	86.4	3.402	89.4	3.520	149.4	5.882	147	5.787	2.4	.094	14	.551	2
					3	Int.	●	MVS1310X03S140	69.9	2.752	72.4	2.850	136.4	5.370	134	5.276	2.4	.094	14	.551	4
					5	Int.	●	MVS1310X05S140	110.4	4.346	114.4	4.504	178.4	7.024	176	6.929	2.4	.094	14	.551	4
					8	Int.	●	MVS1310X08S140	151.4	5.961	156.4	6.157	220.4	8.677	218	8.583	2.4	.094	14	.551	4
13.2	.5197				2	Ext.	●	MVE1320X02S140	56.4	2.220	59.4	2.339	109.4	4.307	107	4.213	2.4	.094	14	.551	2
					3	Ext.	★	MVE1320X03S140	86.4	3.402	89.4	3.520	149.4	5.882	147	5.787	2.4	.094	14	.551	2
					3	Int.	●	MVS1320X03S140	69.9	2.752	72.4	2.850	136.4	5.370	134	5.276	2.4	.094	14	.551	4
					5	Int.	●	MVS1320X05S140	110.4	4.346	114.4	4.504	178.4	7.024	176	6.929	2.4	.094	14	.551	4
					8	Int.	●	MVS1320X08S140	151.4	5.961	156.4	6.157	220.4	8.677	218	8.583	2.4	.094	14	.551	4
13.3	.5236				2	Ext.	●	MVE1330X02S140	56.4	2.220	59.4	2.339	109.4	4.307	107	4.213	2.4	.094	14	.551	2
					3	Ext.	★	MVE1330X03S140	86.4	3.402	89.4	3.520	149.4	5.882	147	5.787	2.4	.094	14	.551	2
					3	Int.	●	MVS1330X03S140	69.9	2.752	72.4	2.850	136.4	5.370	134	5.276	2.4	.094	14	.551	4
					5	Int.	●	MVS1330X05S140	110.4	4.346	114.4	4.504	178.4	7.024	176	6.929	2.4	.094	14	.551	4
					8	Int.	●	MVS1330X08S140	151.4	5.961	156.4	6.157	220.4	8.677	218	8.583	2.4	.094	14	.551	4
13.4	.5276				2	Ext.	●	MVE1340X02S140	56.4	2.220	59.4	2.339	109.4	4.307	107	4.213	2.4	.094	14	.551	2
					3	Ext.	★	MVE1340X03S140	86.4	3.402	89.4	3.520	149.4	5.882	147	5.787	2.4	.094	14	.551	2
					3	Int.	●	MVS1340X03S140	69.9	2.752	72.4	2.850	136.4	5.370	134	5.276	2.4	.094	14	.551	4
					5	Int.	●	MVS1340X05S140	110.4	4.346	114.4	4.504	178.4	7.024	176	6.929	2.4	.094	14	.551	4
					8	Int.	●	MVS1340X08S140	151.4	5.961	156.4	6.157	220.4	8.677	218	8.583	2.4	.094	14	.551	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
					2	Ext.	●	MVE1350X02S140	56.5	2.224	59.5	2.343	109.5	4.311	107	4.213	2.5	.098	14	.551	2
					3	Ext.	★	MVE1350X03S140	86.5	3.406	89.5	3.524	149.5	5.886	147	5.787	2.5	.098	14	.551	2
13.5	.5315			5/8-11	3	Int.	●	MVS1350X03S140	70.0	2.756	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14	.551	4
					5	Int.	●	MVS1350X05S140	110.5	4.350	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14	.551	4
					8	Int.	●	MVS1350X08S140	151.5	5.965	156.5	6.161	220.5	8.681	218	8.583	2.5	.098	14	.551	4
					2	Ext.	●	MVE1360X02S140	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	14	.551	2
					3	Ext.	★	MVE1360X03S140	88.5	3.484	88.5	3.484	149.5	5.886	147	5.787	2.5	.098	14	.551	2
13.6	.5354				3	Int.	●	MVS1360X03S140	72.5	2.854	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14	.551	4
					5	Int.	●	MVS1360X05S140	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14	.551	4
					8	Int.	●	MVS1360X08S140	156.5	6.161	156.5	6.161	220.5	8.681	218	8.583	2.5	.098	14	.551	4
					2	Ext.	●	MVE1370X02S140	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	14	.551	2
					3	Ext.	★	MVE1370X03S140	88.5	3.484	88.5	3.484	149.5	5.886	147	5.787	2.5	.098	14	.551	2
13.7	.5394				3	Int.	●	MVS1370X03S140	72.5	2.854	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14	.551	4
					5	Int.	●	MVS1370X05S140	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14	.551	4
					8	Int.	●	MVS1370X08S140	156.5	6.161	156.5	6.161	220.5	8.681	218	8.583	2.5	.098	14	.551	4
					2	Ext.	●	MVE1380X02S140	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	14	.551	2
					3	Ext.	★	MVE1380X03S140	88.5	3.484	88.5	3.484	149.5	5.886	147	5.787	2.5	.098	14	.551	2
13.8	.5433				3	Int.	●	MVS1380X03S140	72.5	2.854	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14	.551	4
					5	Int.	●	MVS1380X05S140	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14	.551	4
					8	Int.	●	MVS1380X08S140	156.5	6.161	156.5	6.161	220.5	8.681	218	8.583	2.5	.098	14	.551	4
					2	Ext.	●	MVE1389X02S140	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	14	.551	2
13.891	.5469	35/64			3	Int.	●	MVS1389X03S140	72.5	2.854	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14	.551	4
					5	Int.	●	MVS1389X05S140	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14	.551	4
					8	Int.	●	MVS1389X08S140	156.5	6.161	156.5	6.161	220.5	8.681	218	8.583	2.5	.098	14	.551	4
					2	Ext.	●	MVE1390X02S140	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	14	.551	2
					3	Ext.	★	MVE1390X03S140	88.5	3.484	88.5	3.484	149.5	5.886	147	5.787	2.5	.098	14	.551	2
13.9	.5472				3	Int.	●	MVS1390X03S140	72.5	2.854	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14	.551	4
					5	Int.	●	MVS1390X05S140	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14	.551	4
					8	Int.	●	MVS1390X08S140	156.5	6.161	156.5	6.161	220.5	8.681	218	8.583	2.5	.098	14	.551	4
					2	Ext.	●	MVE1400X02S140	56.6	2.228	56.6	2.228	109.6	4.315	107	4.213	2.6	.102	14	.551	2
					3	Ext.	★	MVE1400X03S140	88.6	3.488	88.6	3.488	149.6	5.890	147	5.787	2.6	.102	14	.551	2
14.0	.5512			M16x2.0	3	Int.	●	MVS1400X03S140	72.6	2.858	72.6	2.858	136.6	5.378	134	5.276	2.6	.102	14	.551	4
					5	Int.	●	MVS1400X05S140	114.6	4.512	114.6	4.512	178.6	7.031	176	6.929	2.6	.102	14	.551	4
					8	Int.	●	MVS1400X08S140	156.6	6.165	156.6	6.165	220.6	8.685	218	8.583	2.6	.102	14	.551	4
					2	Ext.	★	MVE1410X02S150	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	15	.591	2
					2	Ext.	●	MVE1410X02S160	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	16	.630	2
					3	Ext.	★	MVE1410X03S150	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	15	.591	2
					3	Ext.	□	MVE1410X03S160	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	16	.630	2
					3	Int.	★	MVS1410X03S150	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15	.591	4
14.1	.5551				3	Int.	●	MVS1410X03S160	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	16	.630	4
					5	Int.	★	MVS1410X05S150	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15	.591	4
					5	Int.	●	MVS1410X05S160	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	16	.630	4
					8	Int.	□	MVS1410X08S150	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	15	.591	4
					8	Int.	●	MVS1410X08S160	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	16	.630	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only.

NEW

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
14.2	.5591				2	Ext.	★	MVE1420X02S150	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	15	.591	2
					2	Ext.	●	MVE1420X02S160	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	16	.630	2
					3	Ext.	★	MVE1420X03S150	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	15	.591	2
					3	Ext.	□	MVE1420X03S160	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	16	.630	2
					3	Int.	★	MVS1420X03S150	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15	.591	4
					3	Int.	●	MVS1420X03S160	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	16	.630	4
					5	Int.	★	MVS1420X05S150	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15	.591	4
					5	Int.	●	MVS1420X05S160	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	16	.630	4
					8	Int.	★	MVS1420X08S150	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	15	.591	4
					8	Int.	●	MVS1420X08S160	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	16	.630	4
14.288	.5625	9/16			2	Ext.	●	MVE1429X02S160	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	16	.630	2
					3	Int.	●	MVS1429X03S160	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	16	.630	4
					5	Int.	●	MVS1429X05S160	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	16	.630	4
					8	Int.	●	MVS1429X08S160	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	16	.630	4
14.3	.5630				2	Ext.	★	MVE1430X02S150	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	15	.591	2
					2	Ext.	●	MVE1430X02S160	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	16	.630	2
					3	Ext.	★	MVE1430X03S150	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	15	.591	2
					3	Ext.	□	MVE1430X03S160	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	16	.630	2
					3	Int.	★	MVS1430X03S150	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15	.591	4
					3	Int.	●	MVS1430X03S160	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	16	.630	4
					5	Int.	★	MVS1430X05S150	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15	.591	4
					5	Int.	●	MVS1430X05S160	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	16	.630	4
					8	Int.	□	MVS1430X08S150	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	15	.591	4
					8	Int.	●	MVS1430X08S160	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	16	.630	4
14.4	.5669				2	Ext.	★	MVE1440X02S150	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	15	.591	2
					2	Ext.	●	MVE1440X02S160	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	16	.630	2
					3	Ext.	★	MVE1440X03S150	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	15	.591	2
					3	Ext.	□	MVE1440X03S160	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	16	.630	2
					3	Int.	★	MVS1440X03S150	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15	.591	4
					3	Int.	●	MVS1440X03S160	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	16	.630	4
					5	Int.	★	MVS1440X05S150	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15	.591	4
					5	Int.	●	MVS1440X05S160	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	16	.630	4
					8	Int.	□	MVS1440X08S150	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	15	.591	4
					8	Int.	●	MVS1440X08S160	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	16	.630	4
14.5	.5709			M16x1.5	2	Ext.	★	MVE1450X02S150	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	15	.591	2
					2	Ext.	●	MVE1450X02S160	58.6	2.307	61.6	2.425	113.6	4.472	111	4.370	2.6	.102	16	.630	2
					3	Ext.	★	MVE1450X03S150	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	15	.591	2
					3	Ext.	□	MVE1450X03S160	91.6	3.606	94.6	3.724	155.6	6.126	153	6.024	2.6	.102	16	.630	2
					3	Int.	★	MVS1450X03S150	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15	.591	4
					3	Int.	●	MVS1450X03S160	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	16	.630	4
					5	Int.	★	MVS1450X05S150	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15	.591	4
					5	Int.	●	MVS1450X05S160	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	16	.630	4
					8	Int.	★	MVS1450X08S150	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	15	.591	4
					8	Int.	●	MVS1450X08S160	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	16	.630	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
14.6	.5748				2	Ext.	★	MVE1460X02S150	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	15	.591	2
					2	Ext.	●	MVE1460X02S160	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	16	.630	2
					3	Ext.	★	MVE1460X03S150	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	15	.591	2
					3	Ext.	□	MVE1460X03S160	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	16	.630	2
					3	Int.	★	MVS1460X03S150	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15	.591	4
					3	Int.	●	MVS1460X03S160	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	16	.630	4
					5	Int.	★	MVS1460X05S150	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15	.591	4
					5	Int.	●	MVS1460X05S160	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	16	.630	4
					8	Int.	□	MVS1460X08S150	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	15	.591	4
					8	Int.	●	MVS1460X08S160	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	16	.630	4
14.684	.5781	37/64		5/8-18	2	Ext.	●	MVE1468X02S160	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	16	.630	2
					3	Int.	●	MVS1468X03S160	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	16	.630	4
					5	Int.	●	MVS1468X05S160	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	16	.630	4
					8	Int.	●	MVS1468X08S160	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	16	.630	4
14.7	.5787				2	Ext.	★	MVE1470X02S150	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	15	.591	2
					2	Ext.	●	MVE1470X02S160	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	16	.630	2
					3	Ext.	★	MVE1470X03S150	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	15	.591	2
					3	Ext.	□	MVE1470X03S160	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	16	.630	2
					3	Int.	★	MVS1470X03S150	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15	.591	4
					3	Int.	●	MVS1470X03S160	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	16	.630	4
					5	Int.	★	MVS1470X05S150	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15	.591	4
					5	Int.	●	MVS1470X05S160	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	16	.630	4
					8	Int.	□	MVS1470X08S150	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	15	.591	4
					8	Int.	●	MVS1470X08S160	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	16	.630	4
14.8	.5827				2	Ext.	★	MVE1480X02S150	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	15	.591	2
					2	Ext.	●	MVE1480X02S160	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	16	.630	2
					3	Ext.	★	MVE1480X03S150	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	15	.591	2
					3	Ext.	□	MVE1480X03S160	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	16	.630	2
					3	Int.	★	MVS1480X03S150	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15	.591	4
					3	Int.	●	MVS1480X03S160	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	16	.630	4
					5	Int.	★	MVS1480X05S150	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15	.591	4
					5	Int.	●	MVS1480X05S160	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	16	.630	4
					8	Int.	□	MVS1480X08S150	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	15	.591	4
					8	Int.	●	MVS1480X08S160	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	16	.630	4
14.9	.5866				2	Ext.	★	MVE1490X02S150	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	15	.591	2
					2	Ext.	●	MVE1490X02S160	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	16	.630	2
					3	Ext.	★	MVE1490X03S150	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	15	.591	2
					3	Ext.	□	MVE1490X03S160	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	16	.630	2
					3	Int.	★	MVS1490X03S150	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15	.591	4
					3	Int.	●	MVS1490X03S160	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	16	.630	4
					5	Int.	★	MVS1490X05S150	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15	.591	4
					5	Int.	●	MVS1490X05S160	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	16	.630	4
					8	Int.	□	MVS1490X08S150	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	15	.591	4
					8	Int.	●	MVS1490X08S160	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	16	.630	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only.

NEW

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
15.0	.5906				2	Ext.	★	MVE1500X02S150	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	15	.591	2
					2	Ext.	●	MVE1500X02S160	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	16	.630	2
					3	Ext.	★	MVE1500X03S150	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	15	.591	2
					3	Ext.	□	MVE1500X03S160	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	16	.630	2
					3	Int.	★	MVS1500X03S150	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15	.591	4
					3	Int.	●	MVS1500X03S160	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	16	.630	4
					5	Int.	★	MVS1500X05S150	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15	.591	4
					5	Int.	●	MVS1500X05S160	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	16	.630	4
					8	Int.	★	MVS1500X08S150	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	15	.591	4
					8	Int.	●	MVS1500X08S160	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	16	.630	4
15.081	.5938	19/32			2	Ext.	●	MVE1508X02S160	60.7	2.390	63.7	2.508	117.7	4.634	115	4.528	2.7	.106	16	.630	2
					3	Int.	●	MVS1508X03S160	80.2	3.157	82.7	3.256	147.7	5.815	145	5.709	2.7	.106	16	.630	4
					5	Int.	●	MVS1508X05S160	126.7	4.988	130.7	5.146	195.7	7.705	193	7.598	2.7	.106	16	.630	4
					8	Int.	●	MVS1508X08S160	173.7	6.839	183.7	7.232	243.7	9.594	241	9.488	2.7	.106	16	.630	4
15.1	.5945				2	Ext.	●	MVE1510X02S160	60.8	2.394	63.8	2.512	117.8	4.638	115	4.528	2.8	.110	16	.630	2
					3	Ext.	★	MVE1510X03S160	96.8	3.811	99.8	3.929	162.8	6.409	160	6.299	2.8	.110	16	.630	2
					3	Int.	●	MVS1510X03S160	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16	.630	4
					5	Int.	●	MVS1510X05S160	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16	.630	4
					8	Int.	●	MVS1510X08S160	173.8	6.843	183.8	7.236	243.8	9.598	241	9.488	2.8	.110	16	.630	4
15.2	.5984				2	Ext.	●	MVE1520X02S160	60.8	2.394	63.8	2.512	117.8	4.638	115	4.528	2.8	.110	16	.630	2
					3	Ext.	★	MVE1520X03S160	96.8	3.811	99.8	3.929	162.8	6.409	160	6.299	2.8	.110	16	.630	2
					3	Int.	●	MVS1520X03S160	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16	.630	4
					5	Int.	●	MVS1520X05S160	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16	.630	4
					8	Int.	●	MVS1520X08S160	173.8	6.843	183.8	7.236	243.8	9.598	241	9.488	2.8	.110	16	.630	4
15.3	.6024				2	Ext.	●	MVE1530X02S160	60.8	2.394	63.8	2.512	117.8	4.638	115	4.528	2.8	.110	16	.630	2
					3	Ext.	★	MVE1530X03S160	96.8	3.811	99.8	3.929	162.8	6.409	160	6.299	2.8	.110	16	.630	2
					3	Int.	●	MVS1530X03S160	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16	.630	4
					5	Int.	●	MVS1530X05S160	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16	.630	4
					8	Int.	●	MVS1530X08S160	173.8	6.843	183.8	7.236	243.8	9.598	241	9.488	2.8	.110	16	.630	4
15.4	.6063				2	Ext.	●	MVE1540X02S160	60.8	2.394	63.8	2.512	117.8	4.638	115	4.528	2.8	.110	16	.630	2
					3	Ext.	★	MVE1540X03S160	96.8	3.811	99.8	3.929	162.8	6.409	160	6.299	2.8	.110	16	.630	2
					3	Int.	●	MVS1540X03S160	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16	.630	4
					5	Int.	●	MVS1540X05S160	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16	.630	4
					8	Int.	●	MVS1540X08S160	173.8	6.843	183.8	7.236	243.8	9.598	241	9.488	2.8	.110	16	.630	4
15.478	.6094	39/64			2	Ext.	●	MVE1548X02S160	60.8	2.394	63.8	2.512	117.8	4.638	115	4.528	2.8	.110	16	.630	2
					3	Int.	●	MVS1548X03S160	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16	.630	4
					5	Int.	●	MVS1548X05S160	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16	.630	4
					8	Int.	●	MVS1548X08S160	173.8	6.843	183.8	7.236	243.8	9.598	241	9.488	2.8	.110	16	.630	4
15.5	.6102			M18x2.5	2	Ext.	●	MVE1550X02S160	60.8	2.394	63.8	2.512	117.8	4.638	115	4.528	2.8	.110	16	.630	2
					3	Ext.	★	MVE1550X03S160	96.8	3.811	99.8	3.929	162.8	6.409	160	6.299	2.8	.110	16	.630	2
					3	Int.	●	MVS1550X03S160	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16	.630	4
					5	Int.	●	MVS1550X05S160	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16	.630	4
					8	Int.	●	MVS1550X08S160	173.8	6.843	183.8	7.236	243.8	9.598	241	9.488	2.8	.110	16	.630	4

DRILLING

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
15.6	.6142				2	Ext.	●	MVE1560X02S160	60.8	2.394	60.8	2.394	117.8	4.638	115	4.528	2.8	.110	16	.630	2
					3	Ext.	★	MVE1560X03S160	98.8	3.890	98.8	3.890	162.8	6.409	160	6.299	2.8	.110	16	.630	2
					3	Int.	●	MVS1560X03S160	82.8	3.260	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16	.630	4
					5	Int.	●	MVS1560X05S160	130.8	5.150	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16	.630	4
					8	Int.	●	MVS1560X08S160	178.8	7.039	183.8	7.236	243.8	9.598	241	9.488	2.8	.110	16	.630	4
15.7	.6181				2	Ext.	●	MVE1570X02S160	60.9	2.398	60.9	2.398	117.9	4.642	115	4.528	2.9	.114	16	.630	2
					3	Ext.	★	MVE1570X03S160	98.9	3.894	98.9	3.894	162.9	6.413	160	6.299	2.9	.114	16	.630	2
					3	Int.	●	MVS1570X03S160	82.9	3.264	82.9	3.264	147.9	5.823	145	5.709	2.9	.114	16	.630	4
					5	Int.	●	MVS1570X05S160	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	16	.630	4
					8	Int.	●	MVS1570X08S160	178.9	7.043	183.9	7.240	243.9	9.602	241	9.488	2.9	.114	16	.630	4
15.8	.6220				2	Ext.	●	MVE1580X02S160	60.9	2.398	60.9	2.398	117.9	4.642	115	4.528	2.9	.114	16	.630	2
					3	Ext.	★	MVE1580X03S160	98.9	3.894	98.9	3.894	162.9	6.413	160	6.299	2.9	.114	16	.630	2
					3	Int.	●	MVS1580X03S160	82.9	3.264	82.9	3.264	147.9	5.823	145	5.709	2.9	.114	16	.630	4
					5	Int.	●	MVS1580X05S160	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	16	.630	4
					8	Int.	●	MVS1580X08S160	178.9	7.043	183.9	7.240	243.9	9.602	241	9.488	2.9	.114	16	.630	4
15.875	.6250	5/8			2	Ext.	●	MVE1588X02S160	60.9	2.398	60.9	2.398	117.9	4.642	115	4.528	2.9	.114	16	.630	2
					3	Int.	●	MVS1588X03S160	82.9	3.264	82.9	3.264	147.9	5.823	145	5.709	2.9	.114	16	.630	4
					5	Int.	●	MVS1588X05S160	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	16	.630	4
					8	Int.	●	MVS1588X08S160	178.9	7.043	183.9	7.240	243.9	9.602	241	9.488	2.9	.114	16	.630	4
15.9	.6260				2	Ext.	●	MVE1590X02S160	60.9	2.398	60.9	2.398	117.9	4.642	115	4.528	2.9	.114	16	.630	2
					3	Ext.	★	MVE1590X03S160	98.9	3.894	98.9	3.894	162.9	6.413	160	6.299	2.9	.114	16	.630	2
					3	Int.	●	MVS1590X03S160	82.9	3.264	82.9	3.264	147.9	5.823	145	5.709	2.9	.114	16	.630	4
					5	Int.	●	MVS1590X05S160	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	16	.630	4
					8	Int.	●	MVS1590X08S160	178.9	7.043	183.9	7.240	243.9	9.602	241	9.488	2.9	.114	16	.630	4
16.0	.6299				2	Ext.	●	MVE1600X02S160	60.9	2.398	60.9	2.398	117.9	4.642	115	4.528	2.9	.114	16	.630	2
					3	Ext.	★	MVE1600X03S160	98.9	3.894	98.9	3.894	162.9	6.413	160	6.299	2.9	.114	16	.630	2
					3	Int.	●	MVS1600X03S160	82.9	3.264	82.9	3.264	147.9	5.823	145	5.709	2.9	.114	16	.630	4
					5	Int.	●	MVS1600X05S160	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	16	.630	4
					8	Int.	●	MVS1600X08S160	178.9	7.043	183.9	7.240	243.9	9.602	241	9.488	2.9	.114	16	.630	4
16.1	.6339				2	Ext.	□	MVE1610X02S170	62.9	2.476	62.9	2.476	121.9	4.799	119	4.685	2.9	.114	17	.669	2
					2	Ext.	□	MVE1610X02S180	62.9	2.476	62.9	2.476	121.9	4.799	119	4.685	2.9	.114	18	.709	2
					3	Ext.	□	MVE1610X03S170	104.9	4.130	104.9	4.130	169.9	6.689	167	6.575	2.9	.114	17	.669	2
					3	Ext.	□	MVE1610X03S180	104.9	4.130	104.9	4.130	169.9	6.689	167	6.575	2.9	.114	18	.709	2
					3	Int.	□	MVS1610X03S170	85.4	3.362	87.9	3.461	152.9	6.020	150	5.906	2.9	.114	17	.669	4
					3	Int.	□	MVS1610X03S180	85.4	3.362	87.9	3.461	152.9	6.020	150	5.906	2.9	.114	18	.709	4
					5	Int.	□	MVS1610X05S170	134.9	5.311	138.9	5.469	203.9	8.028	201	7.913	2.9	.114	17	.669	4
					5	Int.	□	MVS1610X05S180	134.9	5.311	138.9	5.469	203.9	8.028	201	7.913	2.9	.114	18	.709	4
16.2	.6378				2	Ext.	★	MVE1620X02S170	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	17	.669	2
					2	Ext.	□	MVE1620X02S180	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	18	.709	2
					3	Ext.	□	MVE1620X03S170	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	17	.669	2
					3	Ext.	□	MVE1620X03S180	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	18	.709	2
					3	Int.	□	MVS1620X03S170	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	17	.669	4
					3	Int.	□	MVS1620X03S180	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	18	.709	4
					5	Int.	□	MVS1620X05S170	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	17	.669	4
					5	Int.	□	MVS1620X05S180	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	18	.709	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
16.272	.6406	41/64			2	Ext.	●	MVE1627X02S180	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	18	.709	2
					3	Int.	●	MVS1627X03S180	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	18	.709	4
					5	Int.	●	MVS1627X05S180	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	18	.709	4
16.3	.6417				2	Ext.	★	MVE1630X02S170	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	17	.669	2
					2	Ext.	□	MVE1630X02S180	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	30	.118	18	.709	2
					3	Ext.	□	MVE1630X03S170	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	17	.669	2
					3	Ext.	□	MVE1630X03S180	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	18	.709	2
					3	Int.	□	MVS1630X03S170	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	17	.669	4
					3	Int.	□	MVS1630X03S180	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	18	.709	4
					5	Int.	□	MVS1630X05S170	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	17	.669	4
					5	Int.	□	MVS1630X05S180	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	18	.709	4
16.4	.6457				2	Ext.	□	MVE1640X02S170	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	17	.669	2
					2	Ext.	□	MVE1640X02S180	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	18	.709	2
					3	Ext.	□	MVE1640X03S170	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	17	.669	2
					3	Ext.	□	MVE1640X03S180	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	18	.709	2
					3	Int.	□	MVS1640X03S170	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	17	.669	4
					3	Int.	□	MVS1640X03S180	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	18	.709	4
					5	Int.	□	MVS1640X05S170	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	17	.669	4
					5	Int.	□	MVS1640X05S180	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	18	.709	4
16.5	.6496			M18x1.5	2	Ext.	★	MVE1650X02S170	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	17	.669	2
					2	Ext.	●	MVE1650X02S180	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	18	.709	2
					3	Ext.	★	MVE1650X03S170	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	17	.669	2
					3	Ext.	□	MVE1650X03S180	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	18	.709	2
					3	Int.	★	MVS1650X03S170	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	17	.669	4
					3	Int.	●	MVS1650X03S180	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	18	.709	4
					5	Int.	★	MVS1650X05S170	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	17	.669	4
					5	Int.	●	MVS1650X05S180	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	18	.709	4
16.6	.6535				2	Ext.	□	MVE1660X02S170	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	17	.669	2
					2	Ext.	□	MVE1660X02S180	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	18	.709	2
					3	Ext.	□	MVE1660X03S170	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	17	.669	2
					3	Ext.	□	MVE1660X03S180	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	18	.709	2
					3	Int.	□	MVS1660X03S170	88.0	3.465	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	17	.669	4
					3	Int.	□	MVS1660X03S180	88.0	3.465	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	18	.709	4
					5	Int.	□	MVS1660X05S170	139.0	5.472	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	17	.669	4
					5	Int.	□	MVS1660X05S180	139.0	5.472	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	18	.709	4
16.669	.6562	21/32		3/4-10	2	Ext.	●	MVE1667X02S180	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	18	.709	2
					3	Int.	●	MVS1667X03S180	88.0	3.465	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	18	.709	4
					5	Int.	●	MVS1667X05S180	139.0	5.472	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	18	.709	4
16.7	.6575				2	Ext.	□	MVE1670X02S170	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	17	.669	2
					2	Ext.	□	MVE1670X02S180	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	18	.709	2
					3	Ext.	□	MVE1670X03S170	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	17	.669	2
					3	Ext.	□	MVE1670X03S180	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	18	.709	2
					3	Int.	□	MVS1670X03S170	88.0	3.465	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	17	.669	4
					3	Int.	□	MVS1670X03S180	88.0	3.465	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	18	.709	4
					5	Int.	□	MVS1670X05S170	139.0	5.472	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	17	.669	4
					5	Int.	□	MVS1670X05S180	139.0	5.472	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	18	.709	4

DRILLING

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
16.8	.6614				2	Ext.	□	MVE1680X02S170	63.1	2.484	63.1	2.484	122.1	4.807	119	4.685	3.1	.122	17	.669	2
					2	Ext.	□	MVE1680X02S180	63.1	2.484	63.1	2.484	122.1	4.807	119	4.685	3.1	.122	18	.709	2
					3	Ext.	□	MVE1680X03S170	105.1	4.138	105.1	4.138	170.1	6.697	167	6.575	3.1	.122	17	.669	2
					3	Ext.	□	MVE1680X03S180	105.1	4.138	105.1	4.138	170.1	6.697	167	6.575	3.1	.122	18	.709	2
					3	Int.	□	MVS1680X03S170	88.1	3.469	88.1	3.469	153.1	6.028	150	5.906	3.1	.122	17	.669	4
					3	Int.	□	MVS1680X03S180	88.1	3.469	88.1	3.469	153.1	6.028	150	5.906	3.1	.122	18	.709	4
					5	Int.	□	MVS1680X05S170	139.1	5.476	139.1	5.476	204.1	8.035	201	7.913	3.1	.122	17	.669	4
					5	Int.	□	MVS1680X05S180	139.1	5.476	139.1	5.476	204.1	8.035	201	7.913	3.1	.122	18	.709	4
16.9	.6654				2	Ext.	□	MVE1690X02S170	63.1	2.484	63.1	2.484	122.1	4.807	119	4.685	3.1	.122	17	.669	2
					2	Ext.	□	MVE1690X02S180	63.1	2.484	63.1	2.484	122.1	4.807	119	4.685	3.1	.122	18	.709	2
					3	Ext.	□	MVE1690X03S170	105.1	4.138	105.1	4.138	170.1	6.697	167	6.575	3.1	.122	17	.669	2
					3	Ext.	□	MVE1690X03S180	105.1	4.138	105.1	4.138	170.1	6.697	167	6.575	3.1	.122	18	.709	2
					3	Int.	□	MVS1690X03S170	88.1	3.469	88.1	3.469	153.1	6.028	150	5.906	3.1	.122	17	.669	4
					3	Int.	□	MVS1690X03S180	88.1	3.469	88.1	3.469	153.1	6.028	150	5.906	3.1	.122	18	.709	4
					5	Int.	□	MVS1690X05S170	139.1	5.476	139.1	5.476	204.1	8.035	201	7.913	3.1	.122	17	.669	4
					5	Int.	□	MVS1690X05S180	139.1	5.476	139.1	5.476	204.1	8.035	201	7.913	3.1	.122	18	.709	4
17.0	.6693		Tube Sheet		2	Ext.	★	MVE1700X02S170	63.1	2.484	63.1	2.484	122.1	4.807	119	4.685	3.1	.122	17	.669	2
					2	Ext.	●	MVE1700X02S180	63.1	2.484	63.1	2.484	122.1	4.807	119	4.685	3.1	.122	18	.709	2
					3	Ext.	★	MVE1700X03S170	105.1	4.138	105.1	4.138	170.1	6.697	167	6.575	3.1	.122	17	.669	2
					3	Ext.	□	MVE1700X03S180	105.1	4.138	105.1	4.138	170.1	6.697	167	6.575	3.1	.122	18	.709	2
					3	Int.	★	MVS1700X03S170	88.1	3.469	88.1	3.469	153.1	6.028	150	5.906	3.1	.122	17	.669	4
					3	Int.	●	MVS1700X03S180	88.1	3.469	88.1	3.469	153.1	6.028	150	5.906	3.1	.122	18	.709	4
					5	Int.	★	MVS1700X05S170	139.1	5.476	139.1	5.476	204.1	8.035	201	7.913	3.1	.122	17	.669	4
					5	Int.	●	MVS1700X05S180	139.1	5.476	139.1	5.476	204.1	8.035	201	7.913	3.1	.122	18	.709	4
17.066	.6719	43/64			2	Ext.	●	MVE1707X02S180	65.1	2.563	65.1	2.563	126.1	4.965	123	4.843	3.1	.122	18	.709	2
					3	Int.	●	MVS1707X03S180	90.6	3.567	93.1	3.665	158.1	6.224	155	6.102	3.1	.122	18	.709	4
					5	Int.	●	MVS1707X05S180	143.1	5.634	147.1	5.791	212.1	8.350	209	8.228	3.1	.122	18	.709	4
17.1	.6732				2	Ext.	□	MVE1710X02S180	65.1	2.563	65.1	2.563	126.1	4.965	123	4.843	3.1	.122	18	.709	2
					3	Ext.	□	MVE1710X03S180	105.1	4.138	105.1	4.138	170.1	6.697	167	6.575	3.1	.122	18	.709	2
					3	Int.	□	MVS1710X03S180	90.6	3.567	93.1	3.665	158.1	6.224	155	6.102	3.1	.122	18	.709	4
					5	Int.	□	MVS1710X05S180	143.1	5.634	147.1	5.791	212.1	8.350	209	8.228	3.1	.122	18	.709	4
17.2	.6772				2	Ext.	□	MVE1720X02S180	65.1	2.563	65.1	2.563	126.1	4.965	123	4.843	3.1	.122	18	.709	2
					3	Ext.	□	MVE1720X03S180	105.1	4.138	105.1	4.138	170.1	6.697	167	6.575	3.1	.122	18	.709	2
					3	Int.	□	MVS1720X03S180	90.6	3.567	93.1	3.665	158.1	6.224	155	6.102	3.1	.122	18	.709	4
					5	Int.	□	MVS1720X05S180	143.1	5.634	147.1	5.791	212.1	8.350	209	8.228	3.1	.122	18	.709	4
17.3	.6811				2	Ext.	□	MVE1730X02S180	65.2	2.567	65.2	2.567	126.2	4.969	123	4.843	3.2	.126	18	.709	2
					3	Ext.	□	MVE1730X03S180	105.2	4.142	105.2	4.142	170.2	6.701	167	6.575	3.2	.126	18	.709	2
					3	Int.	□	MVS1730X03S180	90.7	3.571	93.2	3.669	158.2	6.228	155	6.102	3.2	.126	18	.709	4
					5	Int.	□	MVS1730X05S180	143.2	5.638	147.2	5.795	212.2	8.354	209	8.228	3.2	.126	18	.709	4
17.4	.6850				2	Ext.	□	MVE1740X02S180	65.2	2.567	65.2	2.567	126.2	4.969	123	4.843	3.2	.126	18	.709	2
					3	Ext.	□	MVE1740X03S180	105.2	4.142	105.2	4.142	170.2	6.701	167	6.575	3.2	.126	18	.709	2
					3	Int.	□	MVS1740X03S180	90.7	3.571	93.2	3.669	158.2	6.228	155	6.102	3.2	.126	18	.709	4
					5	Int.	□	MVS1740X05S180	143.2	5.638	147.2	5.795	212.2	8.354	209	8.228	3.2	.126	18	.709	4
17.463	.6875	11/16		3/4-16	2	Ext.	●	MVE1746X02S180	65.2	2.567	65.2	2.567	126.2	4.969	123	4.843	3.2	.126	18	.709	2
					3	Int.	●	MVS1746X03S180	90.7	3.571	93.2	3.669	158.2	6.228	155	6.102	3.2	.126	18	.709	4
					5	Int.	●	MVS1746X05S180	143.2	5.638	147.2	5.795	212.2	8.354	209	8.228	3.2	.126	18	.709	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
17.5	.6890			M20x2.5	2	Ext.	●	MVE1750X02S180	65.2	2.567	65.2	2.567	126.2	4.969	123	4.843	3.2	.126	18	.709	2
					3	Ext.	★	MVE1750X03S180	105.2	4.142	105.2	4.142	170.2	6.701	167	6.575	3.2	.126	18	.709	2
					3	Int.	●	MVS1750X03S180	90.7	3.571	93.2	3.669	158.2	6.228	155	6.102	3.2	.126	18	.709	4
					5	Int.	●	MVS1750X05S180	143.2	5.638	147.2	5.795	212.2	8.354	209	8.228	3.2	.126	18	.709	4
17.6	.6929				2	Ext.	□	MVE1760X02S180	65.2	2.567	65.2	2.567	126.2	4.969	123	4.843	3.2	.126	18	.709	2
					3	Ext.	□	MVE1760X03S180	105.2	4.142	105.2	4.142	170.2	6.701	167	6.575	3.2	.126	18	.709	2
					3	Int.	□	MVS1760X03S180	93.2	3.669	93.2	3.669	158.2	6.228	155	6.102	3.2	.126	18	.709	4
					5	Int.	□	MVS1760X05S180	147.2	5.795	147.2	5.795	212.2	8.354	209	8.228	3.2	.126	18	.709	4
17.7	.6969				2	Ext.	□	MVE1770X02S180	65.2	2.567	65.2	2.567	126.2	4.969	123	4.843	3.2	.126	18	.709	2
					3	Ext.	□	MVE1770X03S180	105.2	4.142	105.2	4.142	170.2	6.701	167	6.575	3.2	.126	18	.709	2
					3	Int.	□	MVS1770X03S180	93.2	3.669	93.2	3.669	158.2	6.228	155	6.102	3.2	.126	18	.709	4
					5	Int.	□	MVS1770X05S180	147.2	5.795	147.2	5.795	212.2	8.354	209	8.228	3.2	.126	18	.709	4
17.8	.7008				2	Ext.	★	MVE1780X02S180	65.2	2.567	65.2	2.567	126.2	4.969	123	4.843	3.2	.126	18	.709	2
					3	Ext.	□	MVE1780X03S180	105.2	4.142	105.2	4.142	170.2	6.701	167	6.575	3.2	.126	18	.709	2
					3	Int.	□	MVS1780X03S180	93.2	3.669	93.2	3.669	158.2	6.228	155	6.102	3.2	.126	18	.709	4
					5	Int.	□	MVS1780X05S180	147.2	5.795	147.2	5.795	212.2	8.354	209	8.228	3.2	.126	18	.709	4
17.859	.7031	45/64			2	Ext.	●	MVE1786X02S180	65.3	2.571	65.3	2.571	126.3	4.972	123	4.843	3.3	.130	18	.709	2
					3	Int.	●	MVS1786X03S180	93.3	3.673	93.3	3.673	158.3	6.232	155	6.102	3.3	.130	18	.709	4
					5	Int.	●	MVS1786X05S180	147.3	5.799	147.3	5.799	212.3	8.358	209	8.228	3.3	.130	18	.709	4
17.9	.7047				2	Ext.	□	MVE1790X02S180	65.3	2.571	65.3	2.571	126.3	4.972	123	4.843	3.3	.130	18	.709	2
					3	Ext.	□	MVE1790X03S180	105.3	4.146	105.3	4.146	170.3	6.705	167	6.575	3.3	.130	18	.709	2
					3	Int.	□	MVS1790X03S180	93.3	3.673	93.3	3.673	158.3	6.232	155	6.102	3.3	.130	18	.709	4
					5	Int.	□	MVS1790X05S180	147.3	5.799	147.3	5.799	212.3	8.358	209	8.228	3.3	.130	18	.709	4
18.0	.7087				2	Ext.	●	MVE1800X02S180	65.3	2.571	65.3	2.571	126.3	4.972	123	4.843	3.3	.130	18	.709	2
					3	Ext.	★	MVE1800X03S180	105.3	4.146	105.3	4.146	170.3	6.705	167	6.575	3.3	.130	18	.709	2
					3	Int.	●	MVS1800X03S180	93.3	3.673	93.3	3.673	158.3	6.232	155	6.102	3.3	.130	18	.709	4
					5	Int.	●	MVS1800X05S180	147.3	5.799	147.3	5.799	212.3	8.358	209	8.228	3.3	.130	18	.709	4
18.1	.7126				2	Ext.	□	MVE1810X02S190	67.3	2.650	67.3	2.650	130.3	5.130	127	5.000	3.3	.130	19	.748	2
					2	Ext.	□	MVE1810X02S200	67.3	2.650	67.3	2.650	130.3	5.130	127	5.000	3.3	.130	20	.787	2
					3	Ext.	□	MVE1810X03S190	117.3	4.618	117.3	4.618	182.3	7.177	179	7.047	3.3	.130	19	.748	2
					3	Ext.	□	MVE1810X03S200	117.3	4.618	117.3	4.618	182.3	7.177	179	7.047	3.3	.130	20	.787	2
					3	Int.	□	MVS1810X03S190	95.8	3.772	98.3	3.870	163.3	6.429	160	6.299	3.3	.130	19	.748	4
					3	Int.	□	MVS1810X03S200	95.8	3.772	98.3	3.870	163.3	6.429	160	6.299	3.3	.130	20	.787	4
					5	Int.	□	MVS1810X05S190	151.3	5.957	155.3	6.114	220.3	8.673	217	8.543	3.3	.130	19	.748	4
					5	Int.	□	MVS1810X05S200	151.3	5.957	155.3	6.114	220.3	8.673	217	8.543	3.3	.130	20	.787	4
18.2	.7165				2	Ext.	□	MVE1820X02S190	67.3	2.650	67.3	2.650	130.3	5.130	127	5.000	3.3	.130	19	.748	2
					2	Ext.	□	MVE1820X02S200	67.3	2.650	67.3	2.650	130.3	5.130	127	5.000	3.3	.130	20	.787	2
					3	Ext.	□	MVE1820X03S190	117.3	4.618	117.3	4.618	182.3	7.177	179	7.047	3.3	.130	19	.748	2
					3	Ext.	□	MVE1820X03S200	117.3	4.618	117.3	4.618	182.3	7.177	179	7.047	3.3	.130	20	.787	2
					3	Int.	□	MVS1820X03S190	95.8	3.772	98.3	3.870	163.3	6.429	160	6.299	3.3	.130	19	.748	4
					3	Int.	□	MVS1820X03S200	95.8	3.772	98.3	3.870	163.3	6.429	160	6.299	3.3	.130	20	.787	4
					5	Int.	□	MVS1820X05S190	151.3	5.957	155.3	6.114	220.3	8.673	217	8.543	3.3	.130	19	.748	4
					5	Int.	□	MVS1820X05S200	151.3	5.957	155.3	6.114	220.3	8.673	217	8.543	3.3	.130	20	.787	4
18.256	.7188	23/32			2	Ext.	●	MVE1826X02S200	67.3	2.650	67.3	2.650	130.3	5.130	127	5.000	3.3	.130	20	.787	2
					3	Int.	●	MVS1826X03S200	95.8	3.772	98.3	3.870	163.3	6.429	160	6.299	3.3	.130	20	.787	4
					5	Int.	●	MVS1826X05S200	151.3	5.957	155.3	6.114	220.3	8.673	217	8.543	3.3	.130	20	.787	4

DRILLING

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
18.3	.7205				2	Ext.	□	MVE1830X02S190	67.3	2.650	67.3	2.650	130.3	5.130	127	5.000	3.3	.130	19	.748	2
					2	Ext.	□	MVE1830X02S200	67.3	2.650	67.3	2.650	130.3	5.130	127	5.000	3.3	.130	20	.787	2
					3	Ext.	□	MVE1830X03S190	117.3	4.618	117.3	4.618	182.3	7.177	179	7.047	3.3	.130	19	.748	2
					3	Ext.	□	MVE1830X03S200	117.3	4.618	117.3	4.618	182.3	7.177	179	7.047	3.3	.130	20	.787	2
					3	Int.	□	MVS1830X03S190	95.8	3.772	98.3	3.870	163.3	6.429	160	6.299	3.3	.130	19	.748	4
					3	Int.	□	MVS1830X03S200	95.8	3.772	98.3	3.870	163.3	6.429	160	6.299	3.3	.130	20	.787	4
					5	Int.	□	MVS1830X05S190	151.3	5.957	155.3	6.114	220.3	8.673	217	8.543	3.3	.130	19	.748	4
					5	Int.	□	MVS1830X05S200	151.3	5.957	155.3	6.114	220.3	8.673	217	8.543	3.3	.130	20	.787	4
18.4	.7244				2	Ext.	□	MVE1840X02S190	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	19	.748	2
					2	Ext.	□	MVE1840X02S200	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	20	.787	2
					3	Ext.	□	MVE1840X03S190	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	19	.748	2
					3	Ext.	□	MVE1840X03S200	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	20	.787	2
					3	Int.	□	MVS1840X03S190	95.9	3.776	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	19	.748	4
					3	Int.	□	MVS1840X03S200	95.9	3.776	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	20	.787	4
					5	Int.	□	MVS1840X05S190	151.4	5.961	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	19	.748	4
					5	Int.	□	MVS1840X05S200	151.4	5.961	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	20	.787	4
18.5	.7283			M20x1.5	2	Ext.	★	MVE1850X02S190	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	19	.748	2
					2	Ext.	●	MVE1850X02S200	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	20	.787	2
					3	Ext.	★	MVE1850X03S190	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	19	.748	2
					3	Ext.	□	MVE1850X03S200	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	20	.787	2
					3	Int.	★	MVS1850X03S190	95.9	3.776	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	19	.748	4
					3	Int.	●	MVS1850X03S200	95.9	3.776	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	20	.787	4
					5	Int.	★	MVS1850X05S190	151.4	5.961	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	19	.748	4
					5	Int.	●	MVS1850X05S200	151.4	5.961	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	20	.787	4
18.6	.7323				2	Ext.	□	MVE1860X02S190	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	19	.748	2
					2	Ext.	□	MVE1860X02S200	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	20	.787	2
					3	Ext.	□	MVE1860X03S190	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	19	.748	2
					3	Ext.	□	MVE1860X03S200	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	20	.787	2
					3	Int.	□	MVS1860X03S190	98.4	3.874	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	19	.748	4
					3	Int.	□	MVS1860X03S200	98.4	3.874	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	20	.787	4
					5	Int.	□	MVS1860X05S190	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	19	.748	4
					5	Int.	□	MVS1860X05S200	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	20	.787	4
18.654	.7344	47/64			2	Ext.	●	MVE1865X02S200	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	20	.787	2
					3	Int.	●	MVS1865X03S200	98.4	3.874	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	20	.787	4
					5	Int.	●	MVS1865X05S200	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	20	.787	4
18.7	.7362				2	Ext.	□	MVE1870X02S190	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	19	.748	2
					2	Ext.	□	MVE1870X02S200	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	20	.787	2
					3	Ext.	□	MVE1870X03S190	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	19	.748	2
					3	Ext.	□	MVE1870X03S200	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	20	.787	2
					3	Int.	□	MVS1870X03S190	98.4	3.874	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	19	.748	4
					3	Int.	□	MVS1870X03S200	98.4	3.874	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	20	.787	4
					5	Int.	□	MVS1870X05S190	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	19	.748	4
					5	Int.	□	MVS1870X05S200	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	20	.787	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only.

NEW

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
18.8	.7402				2	Ext.	□	MVE1880X02S190	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	19	.748	2
					2	Ext.	□	MVE1880X02S200	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	20	.787	2
					3	Ext.	□	MVE1880X03S190	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	19	.748	2
					3	Ext.	□	MVE1880X03S200	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	20	.787	2
					3	Int.	□	MVS1880X03S190	98.4	3.874	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	19	.748	4
					3	Int.	□	MVS1880X03S200	98.4	3.874	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	20	.787	4
					5	Int.	□	MVS1880X05S190	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	19	.748	4
					5	Int.	□	MVS1880X05S200	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	20	.787	4
18.9	.7441				2	Ext.	□	MVE1890X02S190	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	19	.748	2
					2	Ext.	□	MVE1890X02S200	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	20	.787	2
					3	Ext.	□	MVE1890X03S190	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	19	.748	2
					3	Ext.	□	MVE1890X03S200	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	20	.787	2
					3	Int.	□	MVS1890X03S190	98.4	3.874	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	19	.748	4
					3	Int.	□	MVS1890X03S200	98.4	3.874	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	20	.787	4
					5	Int.	□	MVS1890X05S190	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	19	.748	4
					5	Int.	□	MVS1890X05S200	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	20	.787	4
19.0	.7480				2	Ext.	★	MVE1900X02S190	67.5	2.657	67.5	2.657	130.5	5.138	127	5.000	3.5	.138	19	.748	2
					2	Ext.	●	MVE1900X02S200	67.5	2.657	67.5	2.657	130.5	5.138	127	5.000	3.5	.138	20	.787	2
					3	Ext.	★	MVE1900X03S190	117.5	4.626	117.5	4.626	182.5	7.185	179	7.047	3.5	.138	19	.748	2
					3	Ext.	□	MVE1900X03S200	117.5	4.626	117.5	4.626	182.5	7.185	179	7.047	3.5	.138	20	.787	2
					3	Int.	★	MVS1900X03S190	98.5	3.878	98.5	3.878	163.5	6.437	160	6.299	3.5	.138	19	.748	4
					3	Int.	●	MVS1900X03S200	98.5	3.878	98.5	3.878	163.5	6.437	160	6.299	3.5	.138	20	.787	4
					5	Int.	★	MVS1900X05S190	155.5	6.122	155.5	6.122	220.5	8.681	217	8.543	3.5	.138	19	.748	4
					5	Int.	●	MVS1900X05S200	155.5	6.122	155.5	6.122	220.5	8.681	217	8.543	3.5	.138	20	.787	4
19.050	.7500	3/4			2	Ext.	●	MVE1905X02S200	69.5	2.736	69.5	2.736	134.5	5.295	131	5.157	3.5	.138	20	.787	2
					3	Int.	●	MVS1905X03S200	101.0	3.976	103.5	4.075	168.5	6.634	165	6.496	3.5	.138	20	.787	4
					5	Int.	●	MVS1905X05S200	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	20	.787	4
19.1	.7520				2	Ext.	□	MVE1910X02S200	69.5	2.736	69.5	2.736	134.5	5.295	131	5.157	3.5	.138	20	.787	2
					3	Ext.	□	MVE1910X03S200	117.5	4.626	117.5	4.626	182.5	7.185	179	7.047	3.5	.138	20	.787	2
					3	Int.	□	MVS1910X03S200	101.0	3.976	103.5	4.075	168.5	6.634	165	6.496	3.5	.138	20	.787	4
					5	Int.	□	MVS1910X05S200	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	20	.787	4
19.2	.7559				2	Ext.	□	MVE1920X02S200	69.5	2.736	69.5	2.736	134.5	5.295	131	5.157	3.5	.138	20	.787	2
					3	Ext.	□	MVE1920X03S200	117.5	4.626	117.5	4.626	182.5	7.185	179	7.047	3.5	.138	20	.787	2
					3	Int.	□	MVS1920X03S200	101.0	3.976	103.5	4.075	168.5	6.634	165	6.496	3.5	.138	20	.787	4
					5	Int.	□	MVS1920X05S200	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	20	.787	4
19.250	.7579		Tube Sheet		2	Ext.	●	MVE1925X02S200	69.5	2.736	69.5	2.736	134.5	5.295	131	5.157	3.5	.138	20	.787	2
					3	Int.	●	MVS1925X03S200	101.0	3.976	103.5	4.075	168.5	6.634	165	6.496	3.5	.138	20	.787	4
					5	Int.	●	MVS1925X05S200	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	20	.787	4
19.3	.7598				2	Ext.	□	MVE1930X02S200	69.5	2.736	69.5	2.736	134.5	5.295	131	5.157	3.5	.138	20	.787	2
					3	Ext.	□	MVE1930X03S200	117.5	4.626	117.5	4.626	182.5	7.185	179	7.047	3.5	.138	20	.787	2
					3	Int.	□	MVS1930X03S200	101.0	3.976	103.5	4.075	168.5	6.634	165	6.496	3.5	.138	20	.787	4
					5	Int.	□	MVS1930X05S200	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	20	.787	4
19.4	.7638				2	Ext.	□	MVE1940X02S200	69.5	2.736	69.5	2.736	134.5	5.295	131	5.157	3.5	.138	20	.787	2
					3	Ext.	□	MVE1940X03S200	117.5	4.626	117.5	4.626	182.5	7.185	179	7.047	3.5	.138	20	.787	2
					3	Int.	□	MVS1940X03S200	101.0	3.976	103.5	4.075	168.5	6.634	165	6.496	3.5	.138	20	.787	4
					5	Int.	□	MVS1940X05S200	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	20	.787	4

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

MVE/MVS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP1020		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
19.447	.7656	49/64		7/8-9	2	Ext.	●	MVE1945X02S200	69.5	2.736	69.5	2.736	134.5	5.295	131	5.157	3.5	.138	20	.787	2
					3	Int.	●	MVS1945X03S200	101.0	3.976	103.5	4.075	168.5	6.634	165	6.496	3.5	.138	20	.787	4
					5	Int.	●	MVS1945X05S200	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	20	.787	4
19.5	.7677			M22x2.5	2	Ext.	●	MVE1950X02S200	69.6	2.740	69.6	2.740	134.6	5.299	131	5.157	3.6	.142	20	.787	2
					3	Ext.	★	MVE1950X03S200	117.6	4.630	117.6	4.630	182.6	7.189	179	7.047	3.6	.142	20	.787	2
					3	Int.	●	MVS1950X03S200	101.1	3.980	103.6	4.079	168.6	6.638	165	6.496	3.6	.142	20	.787	4
					5	Int.	●	MVS1950X05S200	159.6	6.283	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	20	.787	4
19.6	.7717				2	Ext.	□	MVE1960X02S200	69.6	2.740	69.6	2.740	134.6	5.299	131	5.157	3.6	.142	20	.787	2
					3	Ext.	□	MVE1960X03S200	117.6	4.630	117.6	4.630	182.6	7.189	179	7.047	3.6	.142	20	.787	2
					3	Int.	□	MVS1960X03S200	103.6	4.079	103.6	4.079	168.6	6.638	165	6.496	3.6	.142	20	.787	4
					5	Int.	□	MVS1960X05S200	163.6	6.441	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	20	.787	4
19.7	.7756				2	Ext.	□	MVE1970X02S200	69.6	2.740	69.6	2.740	134.6	5.299	131	5.157	3.6	.142	20	.787	2
					3	Ext.	□	MVE1970X03S200	117.6	4.630	117.6	4.630	182.6	7.189	179	7.047	3.6	.142	20	.787	2
					3	Int.	□	MVS1970X03S200	103.6	4.079	103.6	4.079	168.6	6.638	165	6.496	3.6	.142	20	.787	4
					5	Int.	□	MVS1970X05S200	163.6	6.441	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	20	.787	4
19.8	.7795				2	Ext.	□	MVE1980X02S200	69.6	2.740	69.6	2.740	134.6	5.299	131	5.157	3.6	.142	20	.787	2
					3	Ext.	□	MVE1980X03S200	117.6	4.630	117.6	4.630	182.6	7.189	179	7.047	3.6	.142	20	.787	2
					3	Int.	□	MVS1980X03S200	103.6	4.079	103.6	4.079	168.6	6.638	165	6.496	3.6	.142	20	.787	4
					5	Int.	□	MVS1980X05S200	163.6	6.441	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	20	.787	4
19.844	.7812	25/32			2	Ext.	●	MVE1984X02S200	69.6	2.740	69.6	2.740	134.6	5.299	131	5.157	3.6	.142	20	.787	2
					3	Int.	●	MVS1984X03S200	103.6	4.079	103.6	4.079	168.6	6.638	165	6.496	3.6	.142	20	.787	4
					5	Int.	●	MVS1984X05S200	163.6	6.441	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	20	.787	4
19.9	.7835				2	Ext.	□	MVE1990X02S200	69.6	2.740	69.6	2.740	134.6	5.299	131	5.157	3.6	.142	20	.787	2
					3	Ext.	□	MVE1990X03S200	117.6	4.630	117.6	4.630	182.6	7.189	179	7.047	3.6	.142	20	.787	2
					3	Int.	□	MVS1990X03S200	103.6	4.079	103.6	4.079	168.6	6.638	165	6.496	3.6	.142	20	.787	4
					5	Int.	□	MVS1990X05S200	163.6	6.441	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	20	.787	4
20.0	.7874				2	Ext.	●	MVE2000X02S200	69.6	2.740	69.6	2.740	134.6	5.299	131	5.157	3.6	.142	20	.787	2
					3	Ext.	★	MVE2000X03S200	117.6	4.630	117.6	4.630	182.6	7.189	179	7.047	3.6	.142	20	.787	2
					3	Int.	●	MVS2000X03S200	103.6	4.079	103.6	4.079	168.6	6.638	165	6.496	3.6	.142	20	.787	4
					5	Int.	●	MVS2000X05S200	163.6	6.441	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	20	.787	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

CUTTING CONDITIONS ➤ L041
TECHNICAL DATA ➤ N001

RECOMMENDED CUTTING CONDITIONS

MVE

Work Material	Mild Steel (≤180HB) AISI 1010 etc.		Carbon Steel, Alloy Steel (180—280HB) AISI 1045, 4140 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.1260 **3.2**	215 (165—245)	.0039 (.0024—.0051)	195 (150—230)	.0039 (.0024—.0051)
.1575 **4.0**	230 (180—260)	.0047 (.0031—.0063)	215 (165—245)	.0047 (.0031—.0063)
.1969 **5.0**	230 (180—260)	.0059 (.0039—.0079)	215 (165—245)	.0059 (.0039—.0079)
.2480 **6.3**	265 (195—295)	.0079 (.0051—.0102)	245 (195—280)	.0079 (.0051—.0102)
.3150 **8.0**	280 (215—330)	.0091 (.0071—.0110)	265 (195—295)	.0091 (.0071—.0110)
.3937 **10.0**	295 (230—345)	.0106 (.0087—.0126)	280 (215—330)	.0106 (.0087—.0126)
.4724 **12.0**	310 (245—360)	.0122 (.0110—.0134)	295 (230—345)	.0122 (.0110—.0134)
.6299 **16.0**	330 (260—375)	.0130 (.0110—.0150)	295 (230—345)	.0130 (.0110—.0150)
.7874 **20.0**	330 (260—375)	.0118 (.0118—.0157)	295 (230—345)	.0118 (.0118—.0157)

Work Material	Carbon Steel, Alloy Steel (280—350HB) AISI 4340 etc.		Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.1260 **3.2**	180 (130—215)	.0035 (.0024—.0047)	65 (50—80)	.0028 (.0020—.0031)
.1575 **4.0**	195 (150—230)	.0043 (.0028—.0055)	65 (50—80)	.0031 (.0024—.0039)
.1969 **5.0**	195 (150—230)	.0055 (.0035—.0071)	65 (50—80)	.0039 (.0028—.0051)
.2480 **6.3**	230 (180—260)	.0071 (.0043—.0094)	80 (65—100)	.0051 (.0035—.0067)
.3150 **8.0**	245 (195—280)	.0083 (.0063—.0098)	80 (65—100)	.0055 (.0039—.0071)
.3937 **10.0**	265 (195—295)	.0091 (.0075—.0106)	80 (65—100)	.0063 (.0047—.0075)
.4724 **12.0**	280 (215—330)	.0102 (.0091—.0114)	80 (65—100)	.0071 (.0059—.0079)
.6299 **16.0**	280 (215—330)	.0114 (.0094—.0130)	80 (65—100)	.0075 (.0059—.0091)
.7874 **20.0**	280 (215—330)	.0118 (.0102—.0134)	80 (65—100)	.0079 (.0059—.0094)

Work Material	Gray Cast Iron (≤350MPa) No45B etc.		Ductile Cast Iron (≤450MPa) 60-40-8 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.1260 **3.2**	230 (180—260)	.0039 (.0024—.0051)	215 (165—245)	.0039 (.0024—.0051)
.1575 **4.0**	230 (180—260)	.0047 (.0031—.0063)	215 (165—245)	.0047 (.0031—.0063)
.1969 **5.0**	230 (180—260)	.0059 (.0039—.0079)	215 (165—245)	.0059 (.0039—.0079)
.2480 **6.3**	245 (195—280)	.0079 (.0051—.0102)	230 (180—260)	.0079 (.0051—.0102)
.3150 **8.0**	245 (195—280)	.0098 (.0071—.0122)	230 (180—260)	.0091 (.0071—.0110)
.3937 **10.0**	245 (195—280)	.0114 (.0087—.0138)	230 (180—260)	.0106 (.0087—.0126)
.4724 **12.0**	265 (195—295)	.0130 (.0110—.0146)	245 (195—280)	.0122 (.0110—.0134)
.6299 **16.0**	265 (195—295)	.0138 (.0110—.0165)	245 (195—280)	.0130 (.0110—.0150)
.7874 **20.0**	280 (215—330)	.0146 (.0118—.0173)	265 (195—295)	.0138 (.0118—.0157)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MVE/MVS

RECOMMENDED CUTTING CONDITIONS

MVE

Work Material	Aluminium Alloy (Si<5%) ASTM A6061, 7075 etc.		Heat Resistant Alloy Inconel718 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.1260 **3.2**	265 (195—295)	.0039 (.0024—.0051)	65 (50—80)	.0028 (.0020—.0035)
.1575 **4.0**	265 (195—295)	.0047 (.0031—.0063)	65 (50—80)	.0035 (.0024—.0043)
.1969 **5.0**	265 (195—295)	.0059 (.0039—.0079)	65 (50—80)	.0043 (.0031—.0055)
.2480 **6.3**	295 (230—360)	.0079 (.0051—.0102)	80 (65—100)	.0055 (.0035—.0075)
.3150 **8.0**	295 (230—360)	.0091 (.0071—.0110)	80 (65—100)	.0055 (.0043—.0067)
.3937 **10.0**	295 (230—360)	.0106 (.0087—.0126)	80 (65—100)	.0063 (.0047—.0075)
.4724 **12.0**	330 (260—395)	.0122 (.0110—.0134)	80 (65—100)	.0063 (.0051—.0071)
.6299 **16.0**	330 (260—395)	.0130 (.0110—.0150)	80 (65—100)	.0071 (.0055—.0083)
.7874 **20.0**	360 (280—425)	.0138 (.0118—.0157)	100 (65—115)	.0075 (.0059—.0087)

Work Material	Hardened Steel (40—55HRC) AISI H13, L6 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm		
.1260 **3.2**	65 (50—80)	.0028 (.0020—.0035)
.1575 **4.0**	65 (50—80)	.0035 (.0024—.0043)
.1969 **5.0**	65 (50—80)	.0043 (.0031—.0055)
.2480 **6.3**	80 (65—100)	.0055 (.0035—.0075)
.3150 **8.0**	80 (65—100)	.0055 (.0043—.0067)
.3937 **10.0**	80 (65—100)	.0063 (.0047—.0075)
.4724 **12.0**	80 (65—100)	.0063 (.0051—.0071)
.6299 **16.0**	80 (65—100)	.0071 (.0055—.0083)
.7874 **20.0**	100 (65—115)	.0075 (.0059—.0087)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

RECOMMENDED CUTTING CONDITIONS

MVS

Work Material			Mild Steel (≤180HB) AISI 1010 etc.		Carbon Steel, Alloy Steel (180—280HB) AISI 1045, 4140 etc.	
Drill Dia. **DC** inch	Drill Dia. **DC** mm	**L/D**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0394	**1.0**	**2,7DC**	165 (130—195)	.0016 (.0008—.0020)	165 (130—195)	.0016 (.0008—.0020)
		≥12DC	165 (130—195)	.0008 (.0004—.0012)	130 (100—150)	.0008 (.0004—.0012)
.0591	**1.5**	**2,7DC**	165 (130—195)	.0020 (.0012—.0031)	165 (130—195)	.0020 (.0012—.0031)
		≥12DC	165 (130—195)	.0020 (.0008—.0031)	130 (100—150)	.0020 (.0012—.0031)
.0787	**2.0**	**2,7DC**	165 (130—195)	.0028 (.0016—.0039)	165 (130—195)	.0028 (.0016—.0039)
		≥12DC	165 (130—195)	.0028 (.0016—.0039)	165 (130—195)	.0028 (.0016—.0039)
.0984	**2.5**	**2,7DC**	195 (150—230)	.0035 (.0020—.0051)	195 (150—230)	.0035 (.0020—.0051)
		≥12DC	195 (150—230)	.0035 (.0024—.0051)	165 (130—195)	.0035 (.0024—.0051)
.1260	**3.2**	**3DC,5DC,8DC**	295 (230—345)	.0039 (.0024—.0051)	265 (195—295)	.0039 (.0024—.0051)
.1575	**4.0**	**3DC,5DC,8DC**	330 (260—375)	.0047 (.0031—.0063)	295 (230—345)	.0047 (.0031—.0063)
.1969	**5.0**	**3DC,5DC,8DC**	330 (260—375)	.0059 (.0039—.0079)	295 (230—345)	.0059 (.0039—.0079)
.2480	**6.3**	**3DC,5DC,8DC**	360 (280—410)	.0079 (.0051—.0102)	330 (260—375)	.0079 (.0051—.0102)
.3150	**8.0**	**3DC,5DC,8DC**	395 (310—445)	.0091 (.0071—.0110)	360 (280—410)	.0091 (.0071—.0110)
.3937	**10.0**	**3DC,5DC,8DC**	425 (330—490)	.0106 (.0087—.0126)	395 (310—445)	.0106 (.0087—.0126)
.4724	**12.0**	**3DC,5DC,8DC**	460 (360—525)	.0118 (.0102—.0134)	425 (330—490)	.0118 (.0102—.0134)
.6299	**16.0**	**3DC,5DC,8DC**	525 (410—590)	.0130 (.0106—.0150)	460 (360—525)	.0130 (.0106—.0150)
.7874	**20.0**	**3DC,5DC,8DC**	525 (410—590)	.0138 (.0118—.0157)	460 (360—525)	.0138 (.0118—.0157)

Work Material			Carbon Steel, Alloy Steel (280—350HB) AISI 4340 etc.		Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.	
Drill Dia. **DC** inch	Drill Dia. **DC** mm	**L/D**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0394	**1.0**	**2,7DC**	130 (100—150)	.0016 (.0008—.0020)	100 (65—115)	.0012 (.0008—.0020)
		≥12DC	100 (65—115)	.0008 (.0004—.0012)	100 (65—115)	.0008 (.0004—.0012)
.0591	**1.5**	**2,7DC**	130 (100—150)	.0017 (.0012—.0031)	100 (65—115)	.0020 (.0012—.0028)
		≥12DC	100 (65—115)	.0017 (.0008—.0031)	100 (65—115)	.0020 (.0008—.0031)
.0787	**2.0**	**2,7DC**	130 (100—150)	.0028 (.0016—.0039)	100 (65—115)	.0024 (.0016—.0031)
		≥12DC	165 (130—195)	.0028 (.0016—.0039)	100 (65—115)	.0028 (.0016—.0039)
.0984	**2.5**	**2,7DC**	165 (130—195)	0035 (.0020—.0051)	130 (100—150)	.0031 (.0020—.0039)
		≥12DC	165 (130—195)	0031 (.0020—.0051)	100 (65—115)	.0031 (.0020—.0047)
.1260	**3.2**	**3DC,5DC,8DC**	230 (180—260)	.0039 (.0024—.0051)	130 (100—150)	.0031 (.0024—.0039)
.1575	**4.0**	**3DC,5DC,8DC**	265 (195—295)	.0043 (.0028—.0055)	130 (100—150)	.0035 (.0024—.0043)
.1969	**5.0**	**3DC,5DC,8DC**	265 (195—295)	.0055 (.0035—.0071)	130 (100—150)	.0043 (.0031—.0055)
.2480	**6.3**	**3DC,5DC,8DC**	295 (230—345)	.0071 (.0043—.0094)	165 (130—195)	.0055 (.0035—.0071)
.3150	**8.0**	**3DC,5DC,8DC**	330 (260—375)	.0083 (.0063—.0098)	165 (130—195)	.0059 (.0039—.0075)
.3937	**10.0**	**3DC,5DC,8DC**	360 (280—410)	.0091 (.0075—.0106)	165 (130—195)	.0063 (.0047—.0079)
.4724	**12.0**	**3DC,5DC,8DC**	395 (310—445)	.0102 (.0087—.0114)	195 (150—230)	.0071 (.0059—.0083)
.6299	**16.0**	**3DC,5DC,8DC**	425 (330—490)	.0110 (.0091—.0130)	195 (150—230)	.0075 (.0055—.0094)
.7874	**20.0**	**3DC,5DC,8DC**	425 (330—490)	.0118 (.0102—.0134)	195 (150—230)	.0083 (.0059—.0102)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MVE/MVS

RECOMMENDED CUTTING CONDITIONS

MVS

Work Material			Gray Cast Iron (≤350MPa) No45B etc.		Ductile Cast Iron (≤450MPa) 60-60-8 etc.	
Drill Dia. **DC** inch	Drill Dia. **DC** mm	**L/D**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0394	**1.0**	**2,7DC**	165 (130—195)	.0016 (.0008—.0020)	130 (100—150)	.0016 (.0008—.0020)
		≥12DC	130 (100—150)	.0008 (.0004—.0012)	100 (65—115)	.0008 (.0004—.0012)
.0591	**1.5**	**2,7DC**	165 (130—195)	.0020 (.0012—.0031)	130 (100—150)	.0020 (.0012—.0031)
		≥12DC	130 (100—150)	.0020 (.0012—.0031)	100 (65—115)	.0020 (.0008—.0031)
.0787	**2.0**	**2,7DC**	165 (130—195)	.0028 (.0016—.0039)	130 (100—150)	.0028 (.0016—.0039)
		≥12DC	165 (130—195)	.0028 (.0016—.0039)	165 (130—195)	.0028 (.0016—.0039)
.0984	**2.5**	**2,7DC**	195 (150—230)	.0035 (.0020—.0051)	165 (130—195)	.0035 (.0020—.0051)
		≥12DC	165 (130—195)	.0035 (.0024—.0051)	165 (130—195)	.0031 (.0020—.0047)
.1260	**3.2**	**3DC,5DC,8DC**	295 (230—345)	.0039 (.0024—.0051)	215 (165—245)	.0039 (.0024—.0051)
.1575	**4.0**	**3DC,5DC,8DC**	330 (260—375)	.0047 (.0031—.0063)	215 (165—245)	.0047 (.0031—.0063)
.1969	**5.0**	**3DC,5DC,8DC**	330 (260—375)	.0059 (.0039—.0079)	215 (165—245)	.0059 (.0039—.0079)
.2480	**6.3**	**3DC,5DC,8DC**	360 (280—410)	.0079 (.0051—.0102)	230 (180—260)	.0079 (.0051—.0102)
.3150	**8.0**	**3DC,5DC,8DC**	395 (310—445)	.0098 (.0071—.0122)	230 (180—260)	.0091 (.0071—.0110)
.3937	**10.0**	**3DC,5DC,8DC**	425 (330—490)	.0114 (.0087—.0138)	230 (180—260)	.0106 (.0087—.0126)
.4724	**12.0**	**3DC,5DC,8DC**	460 (360—525)	.0126 (.0102—.0146)	295 (230—345)	.0118 (.0102—.0134)
.6299	**16.0**	**3DC,5DC,8DC**	525 (410—590)	.0138 (.0110—.0165)	295 (230—345)	.0130 (.0110—.0150)
.7874	**20.0**	**3DC,5DC,8DC**	525 (410—590)	.0146 (.0118—.0173)	330 (260—375)	.0138 (.0118—.0157)

Work Material			Aluminium Alloy (Si<5%) ASTM 6061, 7075 etc.		Heat Resistant Alloy Inconel718 etc.	
Drill Dia. **DC** inch	Drill Dia. **DC** mm	**L/D**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0394	**1.0**	**2,7DC**	195 (150—230)	.0020 (.0012—.0031)	35 (15—50)	.0008 (.0004—.0012)
		≥12DC	165 (130—195)	.0020 (.0012—.0031)	35 (15—50)	.0008 (.0004—.0012)
.0591	**1.5**	**2,7DC**	260 (195—295)	.0028 (.0020—.0047)	35 (15—50)	.0012 (.0008—.0016)
		≥12DC	230 (180—260)	.0031 (.0020—.0047)	35 (15—50)	.0012 (.0008—.0016)
.0787	**2.0**	**2,7DC**	295 (230—345)	.0039 (.0024—.0059)	50 (35—65)	.0016 (.0012—.0020)
		≥12DC	260 (195—295)	.0043 (.0024—.0059)	50 (35—65)	.0016 (.0012—.0020)
.0984	**2.5**	**2,7DC**	330 (260—375)	.0051 (.0031—.0079)	50 (35—65)	.0020 (.0016—.0024)
		≥12DC	295 (230—345)	.0055 (.0031—.0079)	50 (35—65)	.0020 (.0016—.0024)
.1260	**3.2**	**3DC,5DC,8DC**	395 (310—460)	.0091 (.0039—.0138)	65 (50—80)	.0028 (.0020—.0035)
.1575	**4.0**	**3DC,5DC,8DC**	395 (310—460)	.0094 (.0047—.0138)	65 (50—80)	.0035 (.0024—.0043)
.1969	**5.0**	**3DC,5DC,8DC**	395 (310—460)	.0098 (.0059—.0138)	65 (50—80)	.0043 (.0031—.0055)
.2480	**6.3**	**3DC,5DC,8DC**	490 (395—560)	.0138 (.0079—.0197)	80 (65—100)	.0051 (.0035—.0063)
.3150	**8.0**	**3DC,5DC,8DC**	490 (395—560)	.0138 (.0079—.0197)	80 (65—100)	.0055 (.0043—.0067)
.3937	**10.0**	**3DC,5DC,8DC**	490 (395—560)	.0197 (.0079—.0315)	80 (65—100)	.0059 (.0047—.0067)
.4724	**12.0**	**3DC,5DC,8DC**	525 (410—590)	.0197 (.0079—.0315)	80 (65—100)	.0063 (.0051—.0071)
.6299	**16.0**	**3DC,5DC,8DC**	525 (410—590)	.0236 (.0079—.0394)	80 (65—100)	.0071 (.0055—.0083)
.7874	**20.0**	**3DC,5DC,8DC**	560 (445—655)	.0236 (.0079—.0394)	100 (65—115)	.0075 (.0059—.0087)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

Memo

MWE/MWS

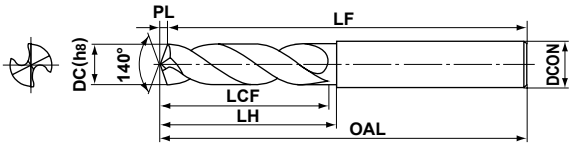
P M K N S H (only MWE)

MWE (External coolant)

Tolerance		DC=3	3<DC≤6	6<DC≤10	10<DC≤18	18<DC≤25
DC (mm)		0 −0.014	0 −0.018	0 −0.022	0 −0.027	0 −0.033
DCON (mm)	MWE-SA/MA	0 −0.014	0 −0.018	0 −0.022	0 −0.027	0 −0.033
	MWE-SB/MB	0 −0.006	0 −0.008	0 −0.009	0 −0.011	0 −0.013

Tolerance		DC=.1181	.1181<DC≤.2	.2362<DC≤.3	.3937<DC≤.7	.7087<DC≤.9843
DC (inch)		0 − .00055	0 − .00071	0 − .00087	0 − .00106	0 − .00130
DCON (inch)	MWE-SA/MA	0 − .00055	0 − .00071	0 − .00087	0 − .00106	0 − .00130
	MWE-SB/MB	0 − .00024	0 − .00031	0 − .00035	0 − .00043	0 − .00051

Type 1



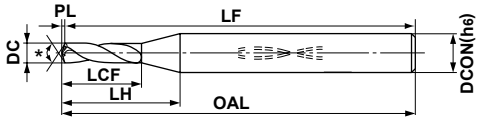
MWS (Internal coolant)

Tolerance	0.5≤DC<1	1≤DC<2.95
DC (mm)	0 +0.009	0 +0.014
DCON (mm)	0 −0.006	0 −0.006

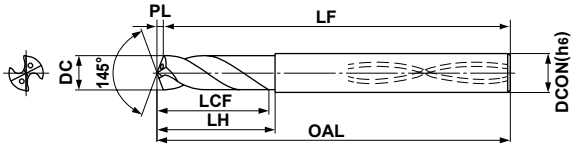
Tolerance	.0197≤DC<.03	.0304≤DC<.1161
DC (inch)	0 + .00035	0 + .00055
DCON (inch)	0 − .00024	0 − .00024

SB Type

Type 2



Type 3

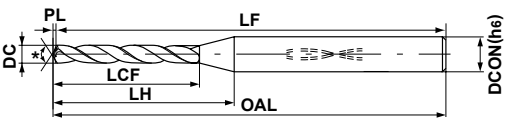


Tolerance	0.5≤DC<1	1≤DC<2.95
DC (mm)	0 −0.009	0 −0.014
DCON (mm)	0 −0.006	0 −0.006

Tolerance	.0197≤DC<.03	.0304≤DC<.1161
DC (inch)	0 + .00035	0 + .00055
DCON (inch)	0 − .00024	0 − .00024

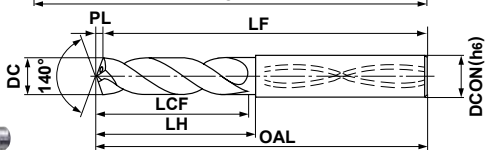
LB/XB Type (ϕ.0200"−ϕ.1200" & ϕ0.50−ϕ2.95mm)

Type 4



DB Type (ϕ.0200"−ϕ.1200" & ϕ0.50−ϕ2.95mm)

Type 5



* Point Angle:Type1 140° for drill diameter ϕ0.50-2.0 and 145° for ϕ2.05-2.95.
Type3 135° for drill diameter ϕ0.50-2.0 and 140° for ϕ2.05-2.95.

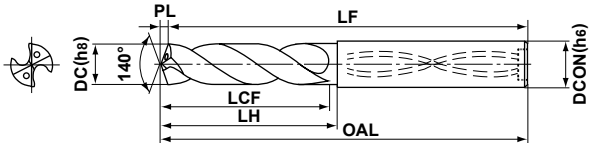
DRILLING

MB/LB/X8DB Type (ϕ.1250"–ϕ.7812" & ϕ3–ϕ25mm)

Tolerance	DC=3	3<DC≤6	6<DC≤10	10<DC≤18	18<DC≤25
DC (mm)	0 −0.014	0 −0.018	0 −0.022	0 −0.027	0 −0.033
DCON (mm)	0 −0.006	0 −0.008	0 −0.009	0 −0.011	0 −0.013

Tolerance	DC=.1181	.1181<DC≤.2	.2362<DC≤.3	.3937<DC≤.7	.7087<DC≤.9843
DC (inch)	0 − .00055	0 − .00071	0 − .00087	0 − .00106	0 − .00130
DCON (inch)	0 − .00024	0 − .00031	0 − .00035	0 − .00043	0 − .00051

Type 6

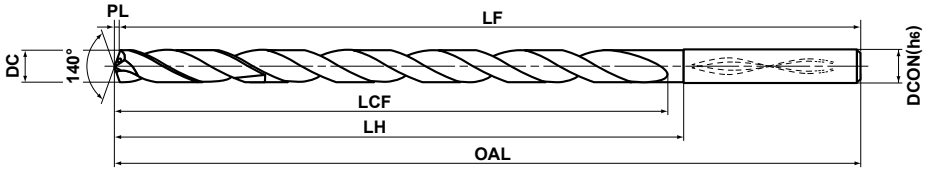


X10DB/X15DB/X20DB/X25DB/X30DB Type (ϕ.1250"–ϕ.5000" & ϕ3–ϕ14mm)

Tolerance	DC=3	3<DC≤6	6<DC≤10	10<DC≤14
DC (mm)	−0.017 −0.031	−0.025 −0.043	−0.033 −0.055	−0.041 −0.068
DCON (mm)	0 −0.006	0 −0.008	0 −0.009	0 −0.011

Tolerance	DC=.1181	.1181<DC≤.2	.2362<DC≤.3	.3937<DC≤.5512
DC (inch)	− .00067 − .00122	− .00098 − .00169	− .00130 − .00217	− .00161 − .00268
DCON (inch)	0 − .00024	0 − .00031	0 − .00035	0 − .00043

Type 7



DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
0.50	.0197				1	Int.	★	MWS0050SB	2.59	.102	7.29	.287	47.09	1.854	47	1.850	0.09	.004	3.0	.118	2
					5	Int.	★	MWS0050LB	8.10	.319	13.10	.516	47.10	1.854	47	1.850	0.10	.004	3.0	.118	4
					12	Int.	★	MWS0050XB	16.10	.634	21.10	.831	47.10	1.854	47	1.850	0.10	.004	3.0	.118	4
0.508	.0200		76		1	Int.	●	MWS00200SB	2.59	.102	7.59	.299	45.09	1.775	45	1.772	0.09	.004	3.175	.125	2
					5	Int.	●	MWS00200LB	8.11	.319	13.11	.516	47.11	1.855	47	1.850	0.11	.004	3.175	.125	4
					12	Int.	●	MWS00200XB	16.11	.634	21.11	.831	47.11	1.855	47	1.850	0.11	.004	3.175	.125	4
0.51	.0201				1	Int.	★	MWS0051SB	2.69	.106	7.29	.287	47.09	1.854	47	1.850	0.09	.004	3.0	.118	2
					5	Int.	★	MWS0051LB	8.11	.319	13.11	.516	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
					12	Int.	★	MWS0051XB	16.11	.634	21.11	.831	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
0.52	.0205				1	Int.	●	MWS0052SB	2.69	.106	7.29	.287	47.09	1.854	47	1.850	0.09	.004	3.0	.118	2
					5	Int.	★	MWS0052LB	8.11	.319	13.11	.516	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
					12	Int.	●	MWS0052XB	16.11	.634	21.11	.831	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
0.53	.0209				1	Int.	★	MWS0053SB	2.70	.106	7.30	.287	47.1	1.854	47	1.850	0.10	.004	3.0	.118	2
					5	Int.	★	MWS0053LB	8.11	.319	13.11	.516	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
					12	Int.	★	MWS0053XB	16.11	.634	21.11	.831	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
0.533	.0210		75		1	Int.	●	MWS00210SB	2.70	.106	7.60	.299	45.1	1.776	45	1.772	0.10	.004	3.175	.125	2
					5	Int.	●	MWS00210LB	8.11	.319	13.01	.512	47.11	1.855	47	1.850	0.11	.004	3.175	.125	4
					12	Int.	●	MWS00210XB	16.11	.634	21.01	.827	47.11	1.855	47	1.850	0.11	.004	3.175	.125	4
0.54	.0213				1	Int.	★	MWS0054SB	2.70	.106	7.30	.287	47.1	1.854	47	1.850	0.10	.004	3.0	.118	2
					5	Int.	★	MWS0054LB	8.11	.319	13.11	.516	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
					12	Int.	★	MWS0054XB	16.11	.634	21.11	.831	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
0.55	.0217				1	Int.	●	MWS0055SB	2.70	.106	7.30	.287	47.10	1.854	47	1.850	0.10	.004	3.0	.118	2
					5	Int.	★	MWS0055LB	8.11	.319	13.11	.516	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
					12	Int.	●	MWS0055XB	16.11	.634	21.11	.831	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained.
★ : Inventory maintained in Japan.

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
0.56	.0220				1	Int.	●	MWS0056SB	3.00	.118	7.60	.299	47.10	1.854	47	1.850	0.10	.004	3.0	.118	2
					5	Int.	★	MWS0056LB	8.12	.320	13.12	.517	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
					12	Int.	●	MWS0056XB	16.12	.635	21.12	.831	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
0.57	.0224				1	Int.	●	MWS0057SB	3.00	.118	7.50	.295	47.10	1.854	47	1.850	0.10	.004	3.0	.118	2
					5	Int.	★	MWS0057LB	8.12	.320	13.12	.517	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
					12	Int.	●	MWS0057XB	16.12	.635	21.12	.831	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
0.572	.0225		74		1	Int.	●	MWS00225SB	3.00	.118	7.90	.311	45.10	1.776	45	1.772	0.10	.004	3.175	.125	2
					5	Int.	●	MWS00225LB	8.12	.320	13.02	.513	47.12	1.855	47	1.850	0.12	.005	3.175	.125	4
					12	Int.	●	MWS00225XB	16.12	.635	21.02	.828	47.12	1.855	47	1.850	0.12	.005	3.175	.125	4
0.58	.0228				1	Int.	★	MWS0058SB	3.01	.119	7.51	.296	47.11	1.855	47	1.850	0.11	.004	3.0	.118	2
					5	Int.	★	MWS0058LB	8.12	.320	13.12	.517	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
					12	Int.	★	MWS0058XB	16.12	.635	21.12	.831	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
0.59	.0232				1	Int.	★	MWS0059SB	3.01	.119	7.51	.296	47.11	1.855	47	1.850	0.11	.004	3.0	.118	2
					5	Int.	★	MWS0059LB	8.12	.320	12.12	.477	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
					12	Int.	★	MWS0059XB	16.12	.635	20.12	.792	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
0.60	.0236				1	Int.	●	MWS0060SB	3.01	.119	7.51	.296	47.11	1.855	47	1.850	0.11	.004	3.0	.118	2
					5	Int.	★	MWS0060LB	8.12	.320	12.12	.477	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
					12	Int.	●	MWS0060XB	16.12	.635	20.12	.792	47.12	1.855	47	1.850	0.12	.005	3.0	.118	4
0.610	.0240		73		1	Int.	●	MWS00240SB	3.21	.126	8.01	.315	45.11	1.776	45	1.772	0.11	.004	3.175	.125	2
					1	Int.	★	MWS0061SB	3.21	.126	7.71	.304	47.11	1.855	47	1.850	0.11	.004	3.0	.118	4
					5	Int.	●	MWS00240LB	8.13	.320	12.93	.509	47.13	1.856	47	1.850	0.13	.005	3.175	.125	4
					5	Int.	★	MWS0061LB	8.13	.320	12.13	.478	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
					12	Int.	●	MWS00240XB	16.13	.635	20.93	.824	47.13	1.856	47	1.850	0.13	.005	3.175	.125	4
					12	Int.	★	MWS0061XB	16.13	.635	20.13	.793	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
0.62	.0244				1	Int.	★	MWS0062SB	3.21	.126	7.61	.300	47.11	1.855	47	1.850	0.11	.004	3.0	.118	2
					5	Int.	★	MWS0062LB	8.13	.320	12.13	.478	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
					12	Int.	★	MWS0062XB	16.13	.635	20.13	.793	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
0.63	.0248				1	Int.	★	MWS0063SB	3.21	.126	7.61	.300	47.11	1.855	47	1.850	0.11	.004	3.0	.118	2
					5	Int.	★	MWS0063LB	8.13	.320	12.13	.478	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
					12	Int.	★	MWS0063XB	16.13	.635	20.13	.793	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
0.635	.0250		72		1	Int.	●	MWS00250SB	3.22	.127	7.92	.312	45.12	1.776	45	1.772	0.12	.005	3.175	.125	2
					5	Int.	●	MWS00250LB	8.13	.320	12.83	.505	47.13	1.856	47	1.850	0.13	.005	3.175	.125	4
					12	Int.	●	MWS00250XB	16.13	.635	20.83	.820	47.13	1.856	47	1.850	0.13	.005	3.175	.125	4
0.64	.0252				1	Int.	★	MWS0064SB	3.22	.127	7.62	.300	47.12	1.855	47	1.850	0.12	.005	3.0	.118	2
					5	Int.	★	MWS0064LB	8.13	.320	12.13	.478	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
					12	Int.	★	MWS0064XB	16.13	.635	20.13	.793	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
0.65	.0256				1	Int.	●	MWS0065SB	3.22	.127	7.62	.300	47.12	1.855	47	1.850	0.12	.005	3.0	.118	2
					5	Int.	★	MWS0065LB	8.13	.320	12.13	.478	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
					12	Int.	●	MWS0065XB	16.13	.635	20.13	.793	47.13	1.856	47	1.850	0.13	.005	3.0	.118	4
0.660	.0260		71		1	Int.	●	MWS00260SB	3.52	.139	8.22	.324	45.12	1.776	45	1.772	0.12	.005	3.175	.125	2
					1	Int.	●	MWS0066SB	3.52	.139	7.92	.312	47.12	1.855	47	1.850	0.12	.005	3.0	.118	2
					5	Int.	●	MWS00260LB	8.14	.320	12.84	.506	47.14	1.856	47	1.850	0.14	.006	3.175	.125	4
					5	Int.	●	MWS0066LB	8.14	.320	12.14	.478	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4
					12	Int.	●	MWS00260XB	16.14	.635	20.84	.820	47.14	1.856	47	1.850	0.14	.006	3.175	.125	4
					12	Int.	★	MWS0066XB	16.14	.635	20.14	.793	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4
0.67	.0264				1	Int.	★	MWS0067SB	3.52	.139	7.82	.308	47.12	1.855	47	1.850	0.12	.005	3.0	.118	2
					5	Int.	★	MWS0067LB	8.14	.320	12.14	.478	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4
					12	Int.	★	MWS0067XB	16.14	.635	20.14	.793	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
0.68	.0268				1	Int.	★	MWS0068SB	3.52	.139	7.82	.308	47.12	1.855	47	1.850	0.12	.005	3.0	.118	2
					5	Int.	★	MWS0068LB	8.14	.320	12.14	.478	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4
					12	Int.	★	MWS0068XB	16.14	.635	20.14	.793	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4
0.69	.0272				1	Int.	★	MWS0069SB	3.53	.139	7.83	.308	47.13	1.856	47	1.850	0.13	.005	3.0	.118	2
					5	Int.	★	MWS0069LB	8.14	.320	12.14	.478	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4
					12	Int.	★	MWS0069XB	16.14	.635	20.14	.793	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4
0.70	.0276				1	Int.	●	MWS0070SB	3.53	.139	7.83	.308	47.13	1.856	47	1.850	0.13	.005	3.0	.118	2
					5	Int.	★	MWS0070LB	8.14	.320	12.14	.478	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4
					12	Int.	★	MWS0070XB	16.14	.635	20.14	.793	47.14	1.856	47	1.850	0.14	.006	3.0	.118	4
0.71	.0280		70		1	Int.	★	MWS0071SB	3.73	.147	8.03	.316	50.13	1.974	50	1.969	0.13	.005	3.0	.118	2
					5	Int.	★	MWS0071LB	20.15	.793	14.15	.557	50.15	1.974	50	1.969	0.15	.006	3.0	.118	4
					12	Int.	★	MWS0071XB	20.15	.793	24.15	.951	50.15	1.974	50	1.969	0.15	.006	3.0	.118	4
0.711	.0280		70		1	Int.	●	MWS00280SB	3.73	.147	8.33	.328	50.13	1.974	50	1.969	0.13	.005	3.175	.125	2
					5	Int.	●	MWS00280LB	10.15	.400	14.75	.581	50.15	1.974	50	1.969	0.15	.006	3.175	.125	4
					12	Int.	●	MWS00280XB	20.15	.793	24.75	.974	50.15	1.974	50	1.969	0.15	.006	3.175	.125	4
0.72	.0283				1	Int.	★	MWS0072SB	3.73	.147	8.03	.316	50.13	1.974	50	1.969	0.13	.005	3.0	.118	2
					5	Int.	★	MWS0072LB	10.15	.400	14.15	.557	50.15	1.974	50	1.969	0.15	.006	3.0	.118	4
					12	Int.	★	MWS0072XB	20.15	.793	24.15	.951	50.15	1.974	50	1.969	0.15	.006	3.0	.118	4
0.73	.0287				1	Int.	★	MWS0073SB	3.73	.147	7.93	.312	50.13	1.974	50	1.969	0.13	.005	3.0	.118	2
					5	Int.	★	MWS0073LB	10.15	.400	14.15	.557	50.15	1.974	50	1.969	0.15	.006	3.0	.118	4
					12	Int.	★	MWS0073XB	20.15	.793	24.15	.951	50.15	1.974	50	1.969	0.15	.006	3.0	.118	4
0.74	.0291				1	Int.	★	MWS0074SB	3.73	.147	7.93	.312	50.13	1.974	50	1.969	0.13	.005	3.0	.118	2
					5	Int.	★	MWS0074LB	10.15	.400	14.15	.557	50.15	1.974	50	1.969	0.15	.006	3.0	.118	4
					12	Int.	★	MWS0074XB	20.15	.793	24.15	.951	50.15	1.974	50	1.969	0.15	.006	3.0	.118	4
0.742	.0292		69		1	Int.	●	MWS00292SB	3.74	.147	8.24	.324	50.14	1.974	50	1.969	0.14	.006	3.175	.125	2
					5	Int.	●	MWS00292LB	10.15	.400	14.65	.577	50.15	1.974	50	1.969	0.15	.006	3.175	.125	4
					12	Int.	●	MWS00292XB	20.15	.793	24.65	.970	50.15	1.974	50	1.969	0.15	.006	3.175	.125	4
0.75	.0295				1	Int.	●	MWS0075SB	3.74	.147	7.94	.313	50.14	1.974	50	1.969	0.14	.006	3.0	.118	2
					5	Int.	●	MWS0075LB	10.16	.400	14.16	.557	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
					12	Int.	●	MWS0075XB	20.16	.794	24.16	.951	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
0.76	.0299				1	Int.	●	MWS0076SB	4.04	.159	8.24	.324	50.14	1.974	50	1.969	0.14	.006	3.0	.118	2
					5	Int.	●	MWS0076LB	10.16	.400	14.16	.557	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
					12	Int.	●	MWS0076XB	20.16	.794	24.16	.951	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
0.77	.0303				1	Int.	★	MWS0077SB	4.04	.159	8.24	.324	50.14	1.974	50	1.969	0.14	.006	3.0	.118	2
					5	Int.	★	MWS0077LB	10.16	.400	14.16	.557	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
					12	Int.	★	MWS0077XB	20.16	.794	24.16	.951	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
0.78	.0307				1	Int.	●	MWS0078SB	4.04	.159	8.14	.320	50.14	1.974	50	1.969	0.14	.006	3.0	.118	2
					5	Int.	★	MWS0078LB	10.16	.400	14.16	.557	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
					12	Int.	●	MWS0078XB	20.16	.794	24.16	.951	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
0.787	.0310		68		1	Int.	●	MWS00310SB	4.04	.159	8.54	.336	50.14	1.974	50	1.969	0.14	.006	3.175	.125	2
					5	Int.	●	MWS00310LB	10.16	.400	14.66	.577	50.16	1.975	50	1.969	0.16	.006	3.175	.125	4
					12	Int.	●	MWS00310XB	20.16	.794	24.66	.971	50.16	1.975	50	1.969	0.16	.006	3.175	.125	4
0.79	.0311				1	Int.	★	MWS0079SB	4.04	.159	8.14	.320	50.14	1.974	50	1.969	0.14	.006	3.0	.118	2
					5	Int.	★	MWS0079LB	10.16	.400	14.16	.557	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
					12	Int.	★	MWS0079XB	20.16	.794	24.16	.951	50.16	1.975	50	1.969	0.16	.006	3.0	.118	4
0.792	.0312	1/32			1	Int.	●	MWS00312SB	4.04	.159	8.44	.332	50.14	1.974	50	1.969	0.14	.006	3.175	.125	2
					5	Int.	●	MWS00312LB	10.16	.400	14.56	.573	50.16	1.975	50	1.969	0.16	.006	3.175	.125	4
					12	Int.	●	MWS00312XB	20.16	.794	24.56	.967	50.16	1.975	50	1.969	0.16	.006	3.175	.125	4

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
0.80	.0315				1	Int.	●	MWS0080SB	4.05	.159	8.15	.321	50.15	1.974	50	1.969	0.15	.006	3.0	.118	2
					5	Int.	●	MWS0080LB	10.17	.400	14.17	.558	50.17	1.975	50	1.969	0.17	.007	3.0	.118	4
					12	Int.	●	MWS0080XB	20.17	.794	24.17	.952	50.17	1.975	50	1.969	0.17	.007	3.0	.118	4
0.81	.0319				1	Int.	★	MWS0081SB	4.25	.167	8.35	.329	50.15	1.974	50	1.969	0.15	.006	3.0	.118	2
					5	Int.	★	MWS0081LB	10.17	.400	14.17	.558	50.17	1.975	50	1.969	0.17	.007	3.0	.118	4
					12	Int.	★	MWS0081XB	20.17	.794	24.17	.952	50.17	1.975	50	1.969	0.17	.007	3.0	.118	4
0.813	.0320		67		1	Int.	●	MWS00320SB	4.25	.167	8.65	.341	50.15	1.974	50	1.969	0.15	.006	3.175	.125	2
					5	Int.	●	MWS00320LB	10.17	.400	14.57	.574	50.17	1.975	50	1.969	0.17	.007	3.175	.125	4
					12	Int.	●	MWS00320XB	20.17	.794	24.57	.967	50.17	1.975	50	1.969	0.17	.007	3.175	.125	4
0.82	.0323				1	Int.	●	MWS0082SB	4.25	.167	8.35	.329	50.15	1.974	50	1.969	0.15	.006	3.0	.118	2
					5	Int.	●	MWS0082LB	10.17	.400	14.17	.558	50.17	1.975	50	1.969	0.17	.007	3.0.	.118	4
					12	Int.	★	MWS0082XB	20.17	.794	24.17	.952	50.17	1.975	50	1.969	0.17	.007	3.0	.118	4
0.83	.0327				1	Int.	●	MWS0083SB	4.25	.167	8.25	.325	50.15	1.974	50	1.969	0.15	.006	3.0	.118	2
					5	Int.	●	MWS0083LB	10.17	.400	14.17	.558	50.17	1.975	50	1.969	0.17	.007	3.0	.118	4
					12	Int.	★	MWS0083XB	20.17	.794	24.17	.952	50.17	1.975	50	1.969	0.17	.007	3.0	.118	4
0.838	.0330		66		1	Int.	●	MWS00330SB	4.25	.167	8.65	.341	50.15	1.974	50	1.969	0.15	.006	3.175	.125	2
					5	Int.	●	MWS00330LB	10.17	.400	14.57	.574	50.17	1.975	50	1.969	0.17	.007	3.175	.125	4
					12	Int.	●	MWS00330XB	20.17	.794	24.57	.967	50.17	1.975	50	1.969	0.17	.007	3.175	.125	4
0.84	.0331				1	Int.	★	MWS0084SB	4.25	.167	8.25	.325	50.15	1.974	50	1.969	0.15	.006	3.0	.118	2
					5	Int.	★	MWS0084LB	10.17	.400	14.17	.558	50.17	1.975	50	1.969	0.17	.007	3.0	.118	4
					12	Int.	★	MWS0084XB	20.17	.794	24.17	.952	50.17	1.975	50	1.969	0.17	.007	3.0	.118	4
0.85	.0335				1	Int.	●	MWS0085SB	4.25	.167	8.25	.325	50.15	1.974	50	1.969	0.15	.006	3.0	.118	2
					5	Int.	●	MWS0085LB	10.18	.401	14.18	.558	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
					12	Int.	★	MWS0085XB	20.18	.794	24.18	.952	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
0.86	.0339				1	Int.	●	MWS0086SB	4.56	.180	8.56	.337	50.16	1.975	50	1.969	0.16	.006	3.0	.118	2
					5	Int.	★	MWS0086LB	10.18	.401	14.18	.558	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
					12	Int.	★	MWS0086XB	20.18	.794	24.18	.952	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
0.87	.0343				1	Int.	★	MWS0087SB	4.56	.180	8.56	.337	50.16	1.975	50	1.969	0.16	.006	3.0	.118	2
					5	Int.	★	MWS0087LB	10.18	.401	14.18	.558	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
					12	Int.	★	MWS0087XB	20.18	.794	24.18	.952	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
0.88	.0346				1	Int.	★	MWS0088SB	4.56	.180	8.56	.337	50.16	1.975	50	1.969	0.16	.006	3.0	.118	2
					5	Int.	★	MWS0088LB	10.18	.401	14.18	.558	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
					12	Int.	★	MWS0088XB	20.18	.794	24.18	.952	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
0.889	.0350		65		1	Int.	●	MWS00350SB	4.56	.180	8.86	.349	50.16	1.975	50	1.969	0.16	.006	3.175	.125	2
					5	Int.	●	MWS00350LB	10.18	.401	14.48	.570	50.18	1.976	50	1.969	0.18	.007	3.175	.125	4
					12	Int.	●	MWS00350XB	20.18	.794	24.48	.964	50.18	1.976	50	1.969	0.18	.007	3.175	.125	4
0.89	.0350		65		1	Int.	★	MWS0089SB	4.56	.180	8.46	.333	50.16	1.975	50	1.969	0.16	.006	3.0	.118	2
					5	Int.	★	MWS0089LB	10.18	.401	14.18	.558	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
					12	Int.	★	MWS0089XB	20.18	.794	24.18	.952	50.18	1.976	50	1.969	0.18	.007	3.0	.118	4
0.90	.0354				1	Int.	●	MWS0090SB	4.56	.180	8.46	.333	50.16	1.975	50	1.969	0.16	.006	3.0	.118	2
					5	Int.	●	MWS0090LB	10.19	.401	14.19	.559	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
					12	Int.	★	MWS0090XB	20.19	.795	24.19	.952	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
0.91	.0358				1	Int.	★	MWS0091SB	4.77	.188	8.67	.341	50.17	1.975	50	1.969	0.17	.007	3.0	.118	2
					5	Int.	★	MWS0091LB	10.19	.401	14.19	.559	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
					12	Int.	★	MWS0091XB	20.19	.795	24.19	.952	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
0.914	.0360		64		1	Int.	●	MWS00360SB	4.77	.188	8.97	.353	50.17	1.975	50	1.969	0.17	.007	3.175	.125	2
					5	Int.	●	MWS00360LB	10.19	.401	14.39	.567	50.19	1.976	50	1.969	0.19	.007	3.175	.125	4
					12	Int.	●	MWS00360XB	20.19	.795	24.39	.960	50.19	1.976	50	1.969	0.19	.007	3.175	.125	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
0.92	.0362				1	Int.	★	MWS0092SB	4.77	.188	8.67	.341	50.17	1.975	50	1.969	0.17	.007	3.0	.118	2
					5	Int.	★	MWS0092LB	10.19	.401	14.19	.559	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
					12	Int.	★	MWS0092XB	20.19	.795	24.19	.952	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
0.93	.0366				1	Int.	●	MWS0093SB	4.77	.188	8.67	.341	50.17	1.975	50	1.969	0.17	.007	3.0	.118	2
					5	Int.	●	MWS0093LB	10.19	.401	14.19	.559	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
					12	Int.	★	MWS0093XB	20.19	.795	24.19	.952	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
0.940	.0370		63		1	Int.	●	MWS00370SB	4.77	.188	8.97	.353	50.17	1.975	50	1.969	0.17	.007	3.175	.125	2
					1	Int.	★	MWS0094SB	4.77	.188	8.57	.337	50.17	1.975	50	1.969	0.17	.007	3.0	.118	2
					5	Int.	●	MWS00370LB	10.19	.401	14.39	.567	50.19	1.976	50	1.969	0.19	.007	3.175	.125	4
					5	Int.	★	MWS0094LB	10.19	.401	14.19	.559	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
					12	Int.	●	MWS00370XB	20.19	.795	24.39	.960	50.19	1.976	50	1.969	0.19	.007	3.175	.125	4
					12	Int.	★	MWS0094XB	20.19	.795	24.19	.952	50.19	1.976	50	1.969	0.19	.007	3.0	.118	4
0.95	.0374				1	Int.	★	MWS0095SB	4.77	.188	8.57	.337	50.17	1.975	50	1.969	0.17	.007	3.0	.118	2
					5	Int.	★	MWS0095LB	10.20	.402	14.20	.559	50.20	1.976	50	1.969	0.20	.008	3.0	.118	4
					12	Int.	★	MWS0095XB	20.20	.795	24.20	.953	50.20	1.976	50	1.969	0.20	.008	3.0	.118	4
0.96	.0378				1	Int.	★	MWS0096SB	5.07	.200	8.87	.349	50.17	1.975	50	1.969	0.17	.007	3.0	.118	2
					5	Int.	★	MWS0096LB	10.20	.402	14.20	.559	50.20	1.976	50	1.969	0.20	.008	3.0	.118	4
					12	Int.	★	MWS0096XB	20.20	.795	24.20	.953	50.20	1.976	50	1.969	0.20	.008	3.0	.118	4
0.965	.0380		62		1	Int.	●	MWS00380SB	5.08	.200	9.18	.361	50.18	1.976	50	1.969	0.18	.007	3.175	.125	2
					5	Int.	●	MWS00380LB	10.20	.402	14.30	.563	50.20	1.976	50	1.969	0.20	.008	3.175	.125	4
					12	Int.	●	MWS00380XB	20.20	.795	24.30	.957	50.20	1.976	50	1.969	0.20	.008	3.175	.125	4
0.97	.0382				1	Int.	●	MWS0097SB	5.08	.200	8.88	.350	50.18	1.976	50	1.969	0.18	.007	3.0	.118	2
					5	Int.	●	MWS0097LB	10.20	.402	14.20	.559	50.20	1.976	50	1.969	0.20	.008	3.0	.118	4
					12	Int.	★	MWS0097XB	20.20	.795	24.20	.953	50.20	1.976	50	1.969	0.20	.008	3.0	.118	4
0.980	.0386				1	Int.	★	MWS0098SB	5.08	.200	8.88	.350	50.18	1.976	50	1.969	0.18	.007	3.0	.118	2
					5	Int.	★	MWS0098LB	10.20	.402	14.20	.559	50.20	1.976	50	1.969	0.20	.008	3.0	.118	4
					12	Int.	★	MWS0098XB	20.20	.795	24.20	.953	50.20	1.976	50	1.969	0.20	.008	3.0	.118	4
0.990	.0390		61		1	Int.	●	MWS0099SB	5.08	.200	8.88	.350	50.18	1.976	50	1.969	0.18	.007	3.0	.118	2
					5	Int.	★	MWS0099LB	10.21	.402	14.21	.559	50.21	1.977	50	1.969	0.21	.008	3.0	.118	4
					12	Int.	★	MWS0099XB	20.21	.796	24.21	.953	50.21	1.977	50	1.969	0.21	.008	3.0	.118	4
0.991	.0390		61		1	Int.	●	MWS00390SB	5.08	.200	9.18	.361	50.18	1.976	50	1.969	0.18	.007	3.175	.125	2
					5	Int.	●	MWS00390LB	10.21	.402	14.31	.563	50.21	1.977	50	1.969	0.21	.008	3.175	.125	4
					12	Int.	●	MWS00390XB	20.21	.796	24.31	.957	50.21	1.977	50	1.969	0.21	.008	3.175	.125	4
1.000	.0394				1	Int.	●	MWS0100SB	5.20	.205	8.9	.350	55.2	2.173	55	2.165	0.2	.008	3.0	.118	2
					5	Int.	●	MWS0100LB	11.20	.441	15.2	.598	55.2	2.173	55	2.165	0.2	.008	3.0	.118	4
					12	Int.	●	MWS0100XB	23.20	.913	27.2	1.071	55.2	2.173	55	2.165	0.2	.008	3.0	.118	4
					20	Int.	●	MWS0100X20DB	24.20	.953	28.2	1.110	60.2	2.370	60	2.362	0.2	.008	3.0	.118	4
					25	Int.	●	MWS0100X25DB	28.20	1.110	32.2	1.268	66.2	2.606	66	2.598	0.2	.008	3.0	.118	4
					30	Int.	●	MWS0100X30DB	33.20	1.307	37.2	1.465	72.2	2.843	72	2.835	0.2	.008	3.0	.118	4
1.001	.0394				1	Int.	●	MWS00394SB	5.20	.205	9.3	.366	55.2	2.173	55	2.165	0.2	.008	3.175	.125	2
					12	Int.	●	MWS00394XB	23.20	.913	27.3	1.075	55.2	2.173	55	2.165	0.2	.008	3.175	.125	4
1.016	.0400		60		1	Int.	●	MWS00400SB	5.20	.205	9.2	.362	55.2	2.173	55	2.165	0.2	.008	3.175	.125	2
					12	Int.	●	MWS00400XB	23.20	.913	27.2	1.071	55.2	2.173	55	2.165	0.2	.008	3.175	.125	4
1.041	.0410		59		1	Int.	●	MWS00410SB	5.40	.213	9.4	.370	55.2	2.173	55	2.165	0.2	.008	3.175	.125	2
					12	Int.	●	MWS00410XB	23.20	.913	27.2	1.071	55.2	2.173	55	2.165	0.2	.008	3.175	.125	4

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
1.050	.0413				1	Int.	●	MWS0105SB	5.4	.213	9.0	.354	55.2	2.173	55	2.165	0.2	.008	3.0	.118	2
					20	Int.	□	MWS0105X20DB	24.2	.953	28.2	1.110	60.2	2.370	60	2.362	0.2	.008	3.0	.118	4
					25	Int.	●	MWS0105X25DB	29.2	1.150	33.2	1.307	66.2	2.606	66	2.598	0.2	.008	3.0	.118	4
					30	Int.	□	MWS0105X30DB	35.2	1.386	38.2	1.504	72.2	2.843	72	2.835	0.2	.008	3.0	.118	4
1.067	.0420		58		1	Int.	●	MWS00420SB	5.4	.213	9.3	.366	55.2	2.173	55	2.165	0.2	.008	3.175	.125	2
					12	Int.	●	MWS00420XB	23.2	.913	27.1	1.067	55.2	2.173	55	2.165	0.2	.008	3.175	.125	4
1.092	.0430		57		1	Int.	●	MWS00430SB	5.6	.220	9.5	.374	55.2	2.173	55	2.165	0.2	.008	3.175	.125	2
					12	Int.	●	MWS00430XB	23.2	.913	27.1	1.067	55.2	2.173	55	2.165	0.2	.008	3.175	.125	4
1.100	.0433				1	Int.	●	MWS0110SB	5.6	.220	9.1	.358	55.2	2.173	55	2.165	0.2	.008	3.0	.118	2
					5	Int.	★	MWS0110LB	17.2	.677	21.2	.835	55.2	2.173	55	2.165	0.2	.008	3.0	.118	4
					12	Int.	●	MWS0110XB	23.2	.913	27.2	1.071	55.2	2.173	55	2.165	0.2	.008	3.0	.118	4
					20	Int.	★	MWS0110X20DB	25.2	.992	29.2	1.150	60.2	2.370	60	2.362	0.2	.008	3.0	.118	4
					25	Int.	●	MWS0110X25DB	31.2	1.228	34.2	1.346	66.2	2.606	66	2.598	0.2	.008	3.0	.118	4
					30	Int.	★	MWS0110X30DB	36.2	1.425	40.2	1.583	72.2	2.843	72	2.835	0.2	.008	3.0	.118	4
1.150	.0453				1	Int.	□	MWS0115SB	5.8	.228	9.3	.366	55.2	2.173	55	2.165	0.2	.008	3.0	.118	2
					20	Int.	□	MWS0115X20DB	26.2	1.031	30.2	1.189	60.2	2.370	60	2.362	0.2	.008	3.0	.118	4
					25	Int.	□	MWS0115X25DB	32.2	1.268	36.2	1.425	66.2	2.606	66	2.598	0.2	.008	3.0	.118	4
					30	Int.	□	MWS0115X30DB	38.2	1.504	41.2	1.622	72.2	2.843	72	2.835	0.2	.008	3.0	.118	4
1.181	.0465		56		1	Int.	●	MWS00465SB	6.2	.244	9.9	.390	55.2	2.173	55	2.165	0.2	.008	3.175	.125	2
					12	Int.	●	MWS00465XB	23.2	.913	26.9	1.059	55.2	2.173	55	2.165	0.2	.008	3.175	.125	4
1.200	.0472				1	Int.	●	MWS0120SB	6.2	.244	9.6	.378	55.2	2.173	55	2.165	0.2	.008	3.0	.118	2
					5	Int.	★	MWS0120LB	17.3	.681	20.3	.799	55.3	2.177	55	2.165	0.3	.012	3.0	.118	4
					12	Int.	●	MWS0120XB	23.3	.917	26.3	1.035	55.3	2.177	55	2.165	0.3	.012	3.0	.118	4
					20	Int.	●	MWS0120X20DB	28.2	1.110	31.2	1.228	60.2	2.370	60	2.362	0.2	.008	3.0	.118	4
					25	Int.	●	MWS0120X25DB	34.2	1.346	37.2	1.465	66.2	2.606	66	2.598	0.2	.008	3.0	.118	4
					30	Int.	●	MWS0120X30DB	40.2	1.583	43.2	1.701	72.2	2.843	72	2.835	0.2	.008	3.0	.118	4
1.250	.0492				1	Int.	●	MWS0125SB	6.4	.252	9.7	.382	55.2	2.173	55	2.165	0.2	.008	3.0	.118	2
					20	Int.	●	MWS0125X20DB	29.2	1.150	32.2	1.268	68.2	2.685	68	2.677	0.2	.008	3.0	.118	4
					25	Int.	□	MWS0125X25DB	35.2	1.386	38.2	1.504	74.2	2.921	74	2.913	0.2	.008	3.0	.118	4
					30	Int.	□	MWS0125X30DB	41.2	1.622	45.2	1.780	82.2	3.236	82	3.228	0.2	.008	3.0	.118	4
1.300	.0512				1	Int.	●	MWS0130SB	6.6	.260	9.8	.386	55.2	2.173	55	2.165	0.2	.008	3.0	.118	2
					5	Int.	★	MWS0130LB	17.3	.681	20.3	.799	55.3	2.177	55	2.165	0.3	.012	3.0	.118	4
					12	Int.	●	MWS0130XB	23.3	.917	26.3	1.035	55.3	2.177	55	2.165	0.3	.012	3.0	.118	4
					20	Int.	●	MWS0130X20DB	30.2	1.189	33.2	1.307	68.2	2.685	68	2.677	0.2	.008	3.0	.118	4
					25	Int.	●	MWS0130X25DB	36.2	1.425	40.2	1.583	74.2	2.921	74	2.913	0.2	.008	3.0	.118	4
					30	Int.	●	MWS0130X30DB	43.2	1.701	46.2	1.819	82.2	3.236	82	3.228	0.2	.008	3.0	.118	4
1.321	.0520		55		1	Int.	●	MWS00520SB	6.6	.260	10.1	.398	55.2	2.173	55	2.165	0.2	.008	3.175	.125	2
					12	Int.	●	MWS00520XB	23.3	.917	26.8	1.055	55.3	2.177	55	2.165	0.3	.012	3.175	.125	4
1.350	.0531				1	Int.	□	MWS0135SB	6.9	.272	10.0	.394	55.3	2.177	55	2.165	0.3	.012	3.0	.118	2
					20	Int.	□	MWS0135X20DB	31.3	1.232	34.3	1.350	68.3	2.689	68	2.677	0.3	.012	3.0	.118	4
					25	Int.	□	MWS0135X25DB	38.3	1.508	41.3	1.626	74.3	2.925	74	2.913	0.3	.012	3.0	.118	4
					30	Int.	□	MWS0135X30DB	45.3	1.783	48.3	1.902	82.3	3.240	82	3.228	0.3	.012	3.0	.118	4
1.397	.0550		54		1	Int.	●	MWS00550SB	7.3	.287	10.6	.417	55.3	2.177	55	2.165	0.3	.012	3.175	.125	2
					12	Int.	●	MWS00550XB	23.3	.917	26.6	1.047	55.3	2.177	55	2.165	0.3	.012	3.175	.125	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
1.400	.0551				1	Int.	●	MWS0140SB	7.3	.287	10.3	.406	55.3	2.177	55	2.165	0.3	.012	3.0	.118	2
					5	Int.	★	MWS0140LB	17.3	.681	20.3	.799	55.3	2.177	55	2.165	0.3	.012	3.0	.118	4
					12	Int.	●	MWS0140XB	23.3	.917	26.3	1.035	55.3	2.177	55	2.165	0.3	.012	3.0	.118	4
					20	Int.	●	MWS0140X20DB	32.3	1.272	35.3	1.390	68.3	2.689	68	2.677	0.3	.012	3.0	.118	4
					25	Int.	●	MWS0140X25DB	39.3	1.547	42.3	1.665	74.3	2.925	74	2.913	0.3	.012	3.0	.118	4
					30	Int.	●	MWS0140X30DB	46.3	1.823	49.3	1.941	82.3	3.240	82	3.228	0.3	.012	3.0	.118	4
1.450	.0571				1	Int.	●	MWS0145SB	7.5	.295	10.4	.409	55.3	2.177	55	2.165	0.3	.012	3.0	.118	2
					20	Int.	●	MWS0145X20DB	33.3	1.311	36.3	1.429	68.3	2.689	68	2.677	0.3	.012	3.0	.118	4
					25	Int.	□	MWS0145X25DB	41.3	1.626	43.3	1.705	74.3	2.925	74	2.913	0.3	.012	3.0	.118	4
					30	Int.	□	MWS0145X30DB	48.3	1.902	51.3	2.020	82.3	3.240	82	3.228	0.3	.012	3.0	.118	4
1.500	.0591			#1-64	1	Int.	●	MWS0150SB	7.7	.303	10.5	.413	55.3	2.177	55	2.165	0.3	.012	3.0	.118	2
					5	Int.	●	MWS0150LB	17.3	.681	20.3	.799	55.3	2.177	55	2.165	0.3	.012	3.0	.118	4
					12	Int.	●	MWS0150XB	23.3	.917	26.3	1.035	55.3	2.177	55	2.165	0.3	.012	3.0	.118	4
					20	Int.	●	MWS0150X20DB	35.3	1.390	37.3	1.469	68.3	2.689	68	2.677	0.3	.012	3.0	.118	4
					25	Int.	●	MWS0150X25DB	42.3	1.665	45.3	1.783	74.3	2.925	74	2.913	0.3	.012	3.0	.118	4
					30	Int.	●	MWS0150X30DB	50.3	1.980	52.3	2.059	82.3	3.240	82	3.228	0.3	.012	3.0	.118	4
1.501	.0591			#1-64	1	Int.	●	MWS00591SB	7.7	.303	10.8	.425	55.3	2.177	55	2.165	0.3	.012	3.175	.125	2
					12	Int.	●	MWS00591XB	23.3	.917	26.4	1.039	55.3	2.177	55	2.165	0.3	.012	3.175	.125	4
1.550	.0610				1	Int.	●	MWS0155SB	7.9	.311	10.6	.417	68.3	2.689	68	2.677	0.3	.012	3.0	.118	2
					20	Int.	●	MWS0155X20DB	36.3	1.429	38.3	1.508	78.3	3.083	78	3.071	0.3	.012	3.0	.118	4
					25	Int.	□	MWS0155X25DB	43.3	1.705	46.3	1.823	86.3	3.398	86	3.386	0.3	.012	3.0	.118	4
					30	Int.	□	MWS0155X30DB	51.3	2.020	54.3	2.138	95.3	3.752	95	3.740	0.3	.012	3.0	.118	4
1.588	.0625	1/16			1	Int.	●	MWS00625SB	8.3	.327	11.3	.445	68.3	2.689	68	2.677	0.3	.012	3.175	.125	2
					12	Int.	●	MWS00625XB	30.3	1.193	33.3	1.311	68.3	2.689	68	2.677	0.3	.012	3.175	.125	4
1.600	.0630				1	Int.	●	MWS0160SB	8.3	.327	10.9	.429	68.3	2.689	68	2.677	0.3	.012	3.0	.118	2
					5	Int.	★	MWS0160LB	22.3	.878	25.3	.996	68.3	2.689	68	2.677	0.3	.012	3.0	.118	4
					12	Int.	●	MWS0160XB	30.3	1.193	33.3	1.311	68.3	2.689	68	2.677	0.3	.012	3.0	.118	4
					20	Int.	●	MWS0160X20DB	37.3	1.469	39.3	1.547	78.3	3.083	78	3.071	0.3	.012	3.0	.118	4
					25	Int.	●	MWS0160X25DB	45.3	1.783	47.3	1.862	86.3	3.398	86	3.386	0.3	.012	3.0	.118	4
					30	Int.	●	MWS0160X30DB	53.3	2.098	55.3	2.177	95.3	3.752	95	3.740	0.3	.012	3.0	.118	4
1.613	.0635		52		1	Int.	●	MWS00635SB	8.3	.327	11.2	.441	68.3	2.689	68	2.677	0.3	.012	3.175	.125	2
					12	Int.	●	MWS00635XB	30.3	1.193	33.2	1.307	68.3	2.689	68	2.677	0.3	.012	3.175	.125	4
1.650	.0650				1	Int.	□	MWS0165SB	8.5	.335	11.0	.433	68.3	2.689	68	2.677	0.3	.012	3.0	.118	2
					20	Int.	□	MWS0165X20DB	38.3	1.508	40.3	1.587	78.3	3.083	78	3.071	0.3	.012	3.0	.118	4
					25	Int.	□	MWS0165X25DB	46.3	1.823	49.3	1.941	86.3	3.398	86	3.386	0.3	.012	3.0	.118	4
					30	Int.	□	MWS0165X30DB	54.3	2.138	57.3	2.256	95.3	3.752	95	3.740	0.3	.012	3.0	.118	4
1.700	.0670		51		1	Int.	●	MWS0170SB	8.7	.343	11.1	.437	68.3	2.689	68	2.677	0.3	.012	3.0	.118	2
					5	Int.	★	MWS0170LB	22.4	.882	24.4	.961	68.4	2.693	68	2.677	0.4	.016	3.0	.118	4
					12	Int.	●	MWS0170XB	30.4	1.197	32.4	1.276	68.4	2.693	68	2.677	0.4	.016	3.0	.118	4
					20	Int.	●	MWS0170X20DB	39.3	1.547	42.3	1.665	78.3	3.083	78	3.071	0.3	.012	3.0	.118	4
					25	Int.	●	MWS0170X25DB	48.3	1.902	50.3	1.980	86.3	3.398	86	3.386	0.3	.012	3.0	.118	4
					30	Int.	★	MWS0170X30DB	56.3	2.217	59.3	2.335	95.3	3.752	95	3.740	0.3	.012	3.0	.118	4
1.702	.0670		51		1	Int.	●	MWS00670SB	8.7	.343	11.4	.449	68.3	2.689	68	2.677	0.3	.012	3.175	.125	2
					12	Int.	●	MWS00670XB	30.4	1.197	33.1	1.303	68.4	2.693	68	2.677	0.4	.016	3.175	.125	4

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
1.750	.0689				1	Int.	●	MWS0175SB	8.9	.350	11.2	.441	68.3	2.689	68	2.677	0.3	.012	3.0	.118	2
					20	Int.	□	MWS0175X20DB	40.3	1.587	43.3	1.705	84.3	3.319	84	3.307	0.3	.012	3.0	.118	4
					25	Int.	□	MWS0175X25DB	49.3	1.941	51.3	2.020	94.3	3.713	94	3.701	0.3	.012	3.0	.118	4
					30	Int.	□	MWS0175X30DB	58.3	2.295	60.3	2.374	102.3	4.028	102	4.016	0.3	.012	3.0	.118	4
1.778	.0700		50	#2-56	1	Int.	●	MWS00700SB	9.3	.366	11.9	.469	68.3	2.689	68	2.677	0.3	.012	3.175	.125	2
					12	Int.	●	MWS00700XB	30.4	1.197	33.0	1.299	68.4	2.693	68	2.677	0.4	.016	3.175	.125	4
1.800	.0709				1	Int.	●	MWS0180SB	9.3	.366	11.5	.453	68.3	2.689	68	2.677	0.3	.012	3.0	.118	2
					5	Int.	★	MWS0180LB	22.4	.882	24.4	.961	68.4	2.693	68	2.677	0.4	.016	3.0	.118	4
					12	Int.	●	MWS0180XB	30.4	1.197	32.4	1.276	68.4	2.693	68	2.677	0.4	.016	3.0	.118	4
					20	Int.	●	MWS0180X20DB	41.3	1.626	44.3	1.744	84.3	3.319	84	3.307	0.3	.012	3.0	.118	4
					25	Int.	●	MWS0180X25DB	50.3	1.980	53.3	2.098	94.3	3.713	94	3.701	0.3	.012	3.0	.118	4
					30	Int.	●	MWS0180X30DB	59.3	2.335	62.3	2.453	102.3	4.028	102	4.016	0.3	.012	3.0	.118	4
1.850	.0728				1	Int.	□	MWS0185SB	9.5	.374	11.6	.457	68.3	2.689	68	2.677	0.3	.012	3.0	.118	2
					20	Int.	□	MWS0185X20DB	43.3	1.705	45.3	1.783	84.3	3.319	84	3.307	0.3	.012	3.0	.118	4
					25	Int.	□	MWS0185X25DB	52.3	2.059	54.3	2.138	94.3	3.713	94	3.701	0.3	.012	3.0	.118	4
					30	Int.	□	MWS0185X30DB	61.3	2.413	63.3	2.492	102.3	4.028	102	4.016	0.3	.012	3.0	.118	4
1.854	.0730		49		1	Int.	●	MWS00730SB	9.5	.374	12.0	.472	68.3	2.689	68	2.677	0.3	.012	3.175	.125	2
					12	Int.	●	MWS00730XB	30.4	1.197	32.9	1.295	68.4	2.693	68	2.677	0.4	.016	3.175	.125	4
1.900	.0748				1	Int.	●	MWS0190SB	9.8	.386	11.9	.469	68.4	2.693	68	2.677	0.4	.016	3.0	.118	2
					5	Int.	★	MWS0190LB	22.4	.882	24.4	.961	68.4	2.693	68	2.677	0.4	.016	3.0	.118	4
					12	Int.	★	MWS0190XB	30.4	1.197	32.4	1.276	68.4	2.693	68	2.677	0.4	.016	3.0	.118	4
					20	Int.	●	MWS0190X20DB	44.4	1.748	46.4	1.827	84.4	3.323	84	3.307	0.4	.016	3.0	.118	4
					25	Int.	●	MWS0190X25DB	53.4	2.102	55.4	2.181	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					30	Int.	●	MWS0190X30DB	63.4	2.496	65.4	2.575	102.4	4.031	102	4.016	0.4	.016	3.0	.118	4
1.930	.0760		48		1	Int.	●	MWS00760SB	10	.394	12.3	.484	68.4	2.693	68	2.677	0.4	.016	3.175	.125	2
					12	Int.	●	MWS00760XB	30.4	1.197	32.7	1.287	68.4	2.693	68	2.677	0.4	.016	3.175	.125	4
1.950	.0768				1	Int.	□	MWS0195SB	10	.394	12.0	.472	68.4	2.693	68	2.677	0.4	.016	3.0	.118	2
					20	Int.	□	MWS0195X20DB	45.4	1.787	47.4	1.866	84.4	3.323	84	3.307	0.4	.016	3.0	.118	4
					25	Int.	□	MWS0195X25DB	55.4	2.181	57.4	2.260	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					30	Int.	□	MWS0195X30DB	64.4	2.535	66.4	2.614	102.4	4.031	102	4.016	0.4	.016	3.0	.118	4
1.994	.0785				1	Int.	●	MWS00785SB	10.4	.409	12.6	.496	68.4	2.693	68	2.677	0.4	.016	3.175	.125	2
					12	Int.	●	MWS00785XB	30.4	1.197	32.6	1.283	68.4	2.693	68	2.677	0.4	.016	3.175	.125	4
2.000	.0787			#3-48	1	Int.	●	MWS0200SB	10.4	.409	12.3	.484	68.4	2.693	68	2.677	0.4	.016	3.0	.118	2
					5	Int.	●	MWS0200LB	22.4	.882	24.4	.961	68.4	2.693	68	2.677	0.4	.016	3.0	.118	4
					12	Int.	●	MWS0200XB	30.4	1.197	32.4	1.276	68.4	2.693	68	2.677	0.4	.016	3.0	.118	4
					20	Int.	●	MWS0200X20DB	46.4	1.827	48.4	1.906	84.4	3.323	84	3.307	0.4	.016	3.0	.118	4
					25	Int.	●	MWS0200X25DB	56.4	2.220	58.4	2.299	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					30	Int.	●	MWS0200X30DB	66.4	2.614	68.4	2.693	102.4	4.031	102	4.016	0.4	.016	3.0	.118	4
2.050	.0807				1	Int.	●	MWS0205SB	10.5	.413	12.3	.484	74.3	2.925	74	2.913	0.3	.012	3.0	.118	2
					20	Int.	□	MWS0205X20DB	47.4	1.866	49.4	1.945	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					25	Int.	□	MWS0205X25DB	57.4	2.260	59.4	2.339	107.4	4.228	107	4.213	0.4	.016	3.0	.118	4
					30	Int.	□	MWS0205X30DB	68.4	2.693	69.4	2.732	118.4	4.661	118	4.646	0.4	.016	3.0	.118	4
2.057	.0810		46		1	Int.	●	MWS00810SB	10.5	.413	12.6	.496	74.3	2.925	74	2.913	0.3	.012	3.175	.125	2
					12	Int.	●	MWS00810XB	38.4	1.512	40.5	1.594	74.4	2.929	74	2.913	0.4	.016	3.175	.125	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

□ : Non stock, produced to order only.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
2.100	.0827				1	Int.	●	MWS0210SB	10.7	.421	12.4	.488	68.3	2.689	68	2.677	0.3	.012	3.0	.118	2
					5	Int.	★	MWS0210LB	28.4	1.118	30.4	1.197	74.4	2.929	74	2.913	0.4	.016	3.0	.118	4
					12	Int.	●	MWS0210XB	38.4	1.512	40.4	1.591	74.4	2.929	74	2.913	0.4	.016	3.0	.118	4
					20	Int.	★	MWS0210X20DB	48.4	1.906	50.4	1.984	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					25	Int.	★	MWS0210X25DB	59.4	2.339	60.4	2.378	107.4	4.228	107	4.213	0.4	.016	3.0	.118	4
					30	Int.	●	MWS0210X30DB	69.4	2.732	71.4	2.811	118.4	4.661	118	4.646	0.4	.016	3.0	.118	4
2.150	.0846				1	Int.	□	MWS0215SB	10.9	.429	12.5	.492	74.3	2.925	74	2.913	0.3	.012	3.0	.118	2
					20	Int.	□	MWS0215X20DB	49.4	1.945	51.4	2.024	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					25	Int.	□	MWS0215X25DB	60.4	2.378	62.4	2.457	107.4	4.228	107	4.213	0.4	.016	3.0	.118	4
					30	Int.	□	MWS0215X30DB	71.4	2.811	73.4	2.890	118.4	4.661	118	4.646	0.4	.016	3.0	.118	4
2.184	.0860		44		1	Int.	●	MWS00860SB	11.3	.445	13.1	.516	74.3	2.925	74	2.913	0.3	.012	3.175	.125	2
					12	Int.	●	MWS00860XB	38.4	1.512	40.2	1.583	74.4	2.929	74	2.913	0.4	.016	3.175	.125	4
2.200	.0866				1	Int.	●	MWS0220SB	11.4	.449	12.9	.508	74.4	2.929	74	2.913	0.4	.016	3.0	.118	2
					5	Int.	★	MWS0220LB	28.4	1.118	29.4	1.157	74.4	2.929	74	2.913	0.4	.016	3.0	.118	4
					12	Int.	●	MWS0220XB	38.4	1.512	39.4	1.551	74.4	2.929	74	2.913	0.4	.016	3.0	.118	4
					20	Int.	★	MWS0220X20DB	51.4	2.024	52.4	2.063	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					25	Int.	★	MWS0220X25DB	62.4	2.457	63.4	2.496	107.4	4.228	107	4.213	0.4	.016	3.0	.118	4
					30	Int.	●	MWS0220X30DB	73.4	2.890	74.4	2.929	118.4	4.661	118	4.646	0.4	.016	3.0	.118	4
2.250	.0886				1	Int.	●	MWS0225SB	11.6	.457	13.0	.512	74.4	2.929	74	2.913	0.4	.016	3.0	.118	2
					20	Int.	□	MWS0225X20DB	52.4	2.063	53.4	2.102	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					25	Int.	□	MWS0225X25DB	63.4	2.496	64.4	2.535	107.4	4.228	107	4.213	0.4	.016	3.0	.118	4
					30	Int.	□	MWS0225X30DB	74.4	2.929	76.4	3.008	118.4	4.661	118	4.646	0.4	.016	3.0	.118	4
2.261	.0890		43	#4-40	1	Int.	●	MWS00890SB	11.6	.457	13.3	.524	74.4	2.929	74	2.913	0.4	.016	3.175	.125	2
					12	Int.	●	MWS00890XB	38.4	1.512	40.1	1.579	74.4	2.929	74	2.913	0.4	.016	3.175	.125	4
2.300	.0906				1	Int.	●	MWS0230SB	11.8	.465	13.1	.516	74.4	2.929	74	2.913	0.4	.016	3.0	.118	2
					5	Int.	★	MWS0230LB	28.4	1.118	29.4	1.157	74.4	2.929	74	2.913	0.4	.016	3.0	.118	4
					12	Int.	●	MWS0230XB	38.4	1.512	39.4	1.551	74.4	2.929	74	2.913	0.4	.016	3.0	.118	4
					20	Int.	●	MWS0230X20DB	53.4	2.102	54.4	2.142	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					25	Int.	●	MWS0230X25DB	64.4	2.535	66.4	2.614	107.4	4.228	107	4.213	0.4	.016	3.0	.118	4
					30	Int.	●	MWS0230X30DB	76.4	3.008	77.4	3.047	118.4	4.661	118	4.646	0.4	.016	3.0	.118	4
2.350	.0925				1	Int.	●	MWS0235SB	12.0	.472	13.2	.520	74.4	2.929	74	2.913	0.4	.016	3.0	.118	2
					20	Int.	●	MWS0235X20DB	54.4	2.142	55.4	2.181	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					25	Int.	□	MWS0235X25DB	66.4	2.614	67.4	2.654	107.4	4.228	107	4.213	0.4	.016	3.0	.118	4
					30	Int.	□	MWS0235X30DB	78.4	3.087	79.4	3.126	118.4	4.661	118	4.646	0.4	.016	3.0	.118	4
2.383	.0938	3/32			1	Int.	●	MWS00938SB	12.4	.488	13.9	.547	74.4	2.929	74	2.913	0.4	.016	3.175	.125	2
					12	Int.	●	MWS00938XB	38.4	1.512	39.9	1.571	74.4	2.929	74	2.913	0.4	.016	3.175	.125	4
2.400	.0945				1	Int.	●	MWS0240SB	12.4	.488	13.5	.531	74.4	2.929	74	2.913	0.4	.016	3.0	.118	2
					5	Int.	★	MWS0240LB	28.4	1.118	29.4	1.157	74.4	2.929	74	2.913	0.4	.016	3.0	.118	4
					12	Int.	●	MWS0240XB	38.4	1.512	39.4	1.551	74.4	2.929	74	2.913	0.4	.016	3.0	.118	4
					20	Int.	●	MWS0240X20DB	55.4	2.181	56.4	2.220	94.4	3.717	94	3.701	0.4	.016	3.0	.118	4
					25	Int.	●	MWS0240X25DB	67.4	2.654	68.4	2.693	107.4	4.228	107	4.213	0.4	.016	3.0	.118	4
					30	Int.	●	MWS0240X30DB	79.4	3.126	80.4	3.165	118.4	4.661	118	4.646	0.4	.016	3.0	.118	4
2.438	.0960		41		1	Int.	●	MWS00960SB	12.6	.496	14.0	.551	74.4	2.929	74	2.913	0.4	.016	3.175	.125	2
					12	Int.	●	MWS00960XB	38.4	1.512	39.8	1.567	74.4	2.929	74	2.913	0.4	.016	3.175	.125	4
2.450	.0965				1	Int.	□	MWS0245SB	12.6	.496	13.6	.535	74.4	2.929	74	2.913	0.4	.016	3.0	.118	2
					20	Int.	□	MWS0245X20DB	56.5	2.224	57.5	2.264	94.5	3.720	94	3.701	0.5	.020	3.0	.118	4
					25	Int.	□	MWS0245X25DB	69.5	2.736	70.5	2.776	107.5	4.232	107	4.213	0.5	.020	3.0	.118	4
					30	Int.	□	MWS0245X30DB	81.5	3.209	82.5	3.248	118.5	4.665	118	4.646	0.5	.020	3.0	.118	4

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
2.500	.0984				1	Int.	●	MWS0250SB	12.8	.504	13.7	.539	74.4	2.929	74	2.913	0.4	.016	3.0	.118	2
					5	Int.	●	MWS0250LB	28.5	1.122	29.5	1.161	74.5	2.933	74	2.913	0.5	.020	3.0	.118	4
					12	Int.	●	MWS0250XB	38.5	1.516	39.5	1.555	74.5	2.933	74	2.913	0.5	.020	3.0	.118	4
					20	Int.	●	MWS0250X20DB	58.5	2.303	59.5	2.343	94.5	3.720	94	3.701	0.5	.020	3.0	.118	4
					25	Int.	●	MWS0250X25DB	70.5	2.776	71.5	2.815	107.5	4.232	107	4.213	0.5	.020	3.0	.118	4
					30	Int.	●	MWS0250X30DB	83.5	3.287	84.5	3.327	118.5	4.665	118	4.646	0.5	.020	3.0	.118	4
2.550	.1004				1	Int.	□	MWS0255SB	13.0	.512	13.0	.512	81.4	3.205	81	3.189	0.4	.016	3.0	.118	3
					20	Int.	□	MWS0255X20DB	59.5	2.343	59.5	2.343	103.5	4.075	103	4.055	0.5	.020	3.0	.118	5
					25	Int.	□	MWS0255X25DB	71.5	2.815	71.5	2.815	117.5	4.626	117	4.606	0.5	.020	3.0	.118	5
					30	Int.	□	MWS0255X30DB	84.5	3.327	84.5	3.327	132.5	5.217	132	5.197	0.5	.020	3.0	.118	5
2.565	.1010				1	Int.	●	MWS01010SB	13.0	.512	13.0	.512	81.4	3.205	81	3.189	0.4	.016	3.175	.125	3
					12	Int.	●	MWS01010XB	45.5	1.791	45.5	1.791	81.5	3.209	81	3.189	0.5	.020	3.175	.125	5
2.600	.1024				1	Int.	●	MWS0260SB	13.4	.528	13.4	.528	81.4	3.205	81	3.189	0.4	.016	3.0	.118	3
					5	Int.	★	MWS0260LB	33.5	1.319	33.5	1.319	81.5	3.209	81	3.189	0.5	.020	3.0	.118	5
					12	Int.	●	MWS0260XB	45.5	1.791	45.5	1.791	81.5	3.209	81	3.189	0.5	.020	3.0	.118	5
					20	Int.	●	MWS0260X20DB	60.5	2.382	60.5	2.382	103.5	4.075	103	4.055	0.5	.020	3.0	.118	5
					25	Int.	●	MWS0260X25DB	73.5	2.894	73.5	2.894	117.5	4.626	117	4.606	0.5	.020	3.0	.118	5
					30	Int.	●	MWS0260X30DB	86.5	3.406	86.5	3.406	132.5	5.217	132	5.197	0.5	.020	3.0	.118	5
2.642	.1040		37	#5-44	1	Int.	●	MWS01040SB	13.6	.535	13.6	.535	81.4	3.205	81	3.189	0.4	.016	3.175	.125	3
					12	Int.	●	MWS01040XB	45.5	1.791	45.5	1.791	81.5	3.209	81	3.189	0.5	.020	3.175	.125	5
2.650	.1043				1	Int.	□	MWS0265SB	13.6	.535	13.6	.535	81.4	3.205	81	3.189	0.4	.016	3.0	.118	3
					20	Int.	□	MWS0265X20DB	61.5	2.421	61.5	2.421	103.5	4.075	103	4.055	0.5	.020	3.0	.118	5
					25	Int.	□	MWS0265X25DB	74.5	2.933	74.5	2.933	117.5	4.626	117	4.606	0.5	.020	3.0	.118	5
					30	Int.	□	MWS0265X30DB	87.5	3.445	87.5	3.445	132.5	5.217	132	5.197	0.5	.020	3.0	.118	5
2.692	.1060				1	Int.	●	MWS01060SB	13.8	.543	13.8	.543	81.4	3.205	81	3.189	0.4	.016	3.175	.125	3
					12	Int.	●	MWS01060XB	45.5	1.791	45.5	1.791	81.5	3.209	81	3.189	0.5	.020	3.175	.125	5
2.700	.1063		36	#6-32	1	Int.	●	MWS0270SB	13.8	.543	13.8	.543	81.4	3.205	81	3.189	0.4	.016	3.0	.118	3
					5	Int.	★	MWS0270LB	33.5	1.319	33.5	1.319	81.5	3.209	81	3.189	0.5	.020	3.0	.118	5
					12	Int.	●	MWS0270XB	45.5	1.791	45.5	1.791	81.5	3.209	81	3.189	0.5	.020	3.0	.118	5
					20	Int.	★	MWS0270X20DB	62.5	2.461	62.5	2.461	103.5	4.075	103	4.055	0.5	.020	3.0	.118	5
					25	Int.	●	MWS0270X25DB	76.5	3.012	76.5	3.012	117.5	4.626	117	4.606	0.5	.020	3.0	.118	5
					30	Int.	●	MWS0270X30DB	89.5	3.524	89.5	3.524	132.5	5.217	132	5.197	0.5	.020	3.0	.118	5
2.750	.1083				1	Int.	□	MWS0275SB	14.0	.551	14.0	.551	81.4	3.205	81	3.189	0.4	.016	3.0	.118	3
					20	Int.	□	MWS0275X20DB	63.5	2.500	63.5	2.500	103.5	4.075	103	4.055	0.5	.020	3.0	.118	5
					25	Int.	□	MWS0275X25DB	77.5	3.051	77.5	3.051	117.5	4.626	117	4.606	0.5	.020	3.0	.118	5
					30	Int.	□	MWS0275X30DB	91.5	3.602	91.5	3.602	132.5	5.217	132	5.197	0.5	.020	3.0	.118	5
2.779	.1094	7/64			1	Int.	●	MWS01094SB	14.4	.567	14.4	.567	81.4	3.205	81	3.189	0.4	.016	3.175	.125	3
					12	Int.	●	MWS01094XB	45.5	1.791	45.5	1.791	81.5	3.209	81	3.189	0.5	.020	3.175	.125	5
2.80	.1102		35		1	Int.	●	MWS0280SB	14.4	.567	14.4	.567	81.4	3.205	81	3.189	0.4	.016	3.0	.118	3
					5	Int.	★	MWS0280LB	33.5	1.319	33.5	1.319	81.5	3.209	81	3.189	0.5	.020	3.0	.118	5
					12	Int.	●	MWS0280XB	45.5	1.791	45.5	1.791	81.5	3.209	81	3.189	0.5	.020	3.0	.118	5
					20	Int.	●	MWS0280X20DB	64.5	2.539	64.5	2.539	103.5	4.075	103	4.055	0.5	.020	3.0	.118	5
					25	Int.	●	MWS0280X25DB	78.5	3.091	78.5	3.091	117.5	4.626	117	4.606	0.5	.020	3.0	.118	5
					30	Int.	●	MWS0280X30DB	92.5	3.642	92.5	3.642	132.5	5.217	132	5.197	0.5	.020	3.0	.118	5
2.85	.1122				1	Int.	□	MWS0285SB	14.7	.579	14.7	.579	81.5	3.209	81	3.189	0.5	.020	3.0	.118	3
					20	Int.	□	MWS0285X20DB	66.5	2.618	66.5	2.618	103.5	4.075	103	4.055	0.5	.020	3.0	.118	5
					25	Int.	□	MWS0285X25DB	80.5	3.169	80.5	3.169	117.5	4.626	117	4.606	0.5	.020	3.0	.118	5
					30	Int.	□	MWS0285X30DB	94.5	3.720	94.5	3.720	132.5	5.217	132	5.197	0.5	.020	3.0	.118	5

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years. □ : Non stock, produced to order only.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
2.90	.1142				1	Int.	●	MWS0290SB	14.9	.587	14.9	.587	81.5	3.209	81	3.189	0.5	.020	3.0	.118	3
					5	Int.	●	MWS0290LB	33.5	1.319	33.5	1.319	81.5	3.209	81	3.189	0.5	.020	3.0	.118	5
					12	Int.	●	MWS0290XB	45.5	1.791	45.5	1.791	81.5	3.209	81	3.189	0.5	.020	3.0	.118	5
					20	Int.	★	MWS0290X20DB	67.5	2.657	67.5	2.657	103.5	4.075	103	4.055	0.5	.020	3.0	.118	5
					25	Int.	★	MWS0290X25DB	81.5	3.209	81.5	3.209	117.5	4.626	117	4.606	0.5	.020	3.0	.118	5
					30	Int.	★	MWS0290X30DB	96.5	3.799	96.5	3.799	132.5	5.217	132	5.197	0.5	.020	3.0	.118	5
2.95	.1161		32		1	Int.	□	MWS0295SB	15.1	.594	15.1	.594	81.5	3.209	81	3.189	0.5	.020	3.0	.118	3
					20	Int.	□	MWS0295X20DB	68.5	2.697	68.5	2.697	103.5	4.075	103	4.055	0.5	.020	3.0	.118	5
					25	Int.	□	MWS0295X25DB	83.5	3.287	83.5	3.287	117.5	4.626	117	4.606	0.5	.020	3.0	.118	5
					30	Int.	□	MWS0295X30DB	97.5	3.839	97.5	3.839	132.5	5.217	132	5.197	0.5	.020	3.0	.118	5
3.0	.1181				2	Ext.	▲	MWE0300SA	16.6	.654	16.6	.654	55.6	2.189	55	2.165	0.6	.024	3.0	.118	1
					3	Ext.	▲	MWE0300MA	21.6	.850	21.6	.850	60.6	2.386	60	2.362	0.6	.024	3.0	.118	1
					3	Int.	▲	MWS0300MB	24.6	.969	24.6	.969	72.6	2.858	72	2.835	0.6	.024	3.0	.118	6
					5	Int.	▲	MWS0300LB	33.6	1.323	33.6	1.323	81.6	3.213	81	3.189	0.6	.024	3.0	.118	6
					8	Int.	▲	MWS0300X8DB	35.6	1.402	35.6	1.402	81.6	3.213	81	3.189	0.6	.024	3.0	.118	6
					10	Int.	★	MWS0300X10DB	39.6	1.559	42.6	1.677	90.6	3.567	90	3.543	0.6	.024	3.0	.118	7
					15	Int.	★	MWS0300X15DB	54.6	2.150	57.6	2.268	105.6	4.157	105	4.134	0.6	.024	3.0	.118	7
					20	Int.	★	MWS0300X20DB	69.6	2.740	72.6	2.858	120.6	4.748	120	4.724	0.6	.024	3.0	.118	7
					25	Int.	★	MWS0300X25DB	84.6	3.331	87.6	3.449	135.6	5.339	135	5.315	0.6	.024	3.0	.118	7
					30	Int.	★	MWS0300X30DB	99.6	3.921	102.6	4.039	150.6	5.929	150	5.906	0.6	.024	3.0	.118	7
3.048	.1200		31		1	Int.	●	MWS01200SB	15.7	.618	15.7	.618	87.5	3.445	87	3.425	0.5	.020	3.175	.125	2
					12	Int.	●	MWS01200XB	52.6	2.071	52.6	2.071	87.6	3.449	87	3.425	0.6	.024	3.175	.125	5
3.1	.1220				2	Ext.	▲	MWE0310SA	18.6	.732	18.6	.732	55.6	2.189	55	2.165	0.6	.024	3.1	.122	1
					3	Ext.	▲	MWE0310MA	24.6	.969	24.6	.969	60.6	2.386	60	2.362	0.6	.024	3.1	.122	1
					3	Int.	▲	MWS0310MB	28.6	1.126	28.6	1.126	76.6	3.016	76	2.992	0.6	.024	4.0	.157	6
					5	Int.	▲	MWS0310LB	39.6	1.559	39.6	1.559	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					8	Int.	▲	MWS0310X8DB	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					10	Int.	★	MWS0310X10DB	46.6	1.835	49.6	1.953	97.6	3.843	97	3.819	0.6	.024	4.0	.157	7
					15	Int.	●	MWS0310X15DB	63.6	2.504	66.6	2.622	114.6	4.512	114	4.488	0.6	.024	4.0	.157	7
					20	Int.	●	MWS0310X20DB	81.6	3.213	84.6	3.331	132.6	5.220	132	5.197	0.6	.024	4.0	.157	7
					25	Int.	★	MWS0310X25DB	98.6	3.882	101.6	4.000	149.6	5.890	149	5.866	0.6	.024	4.0	.157	7
					30	Int.	★	MWS0310X30DB	116.6	4.591	119.6	4.709	167.6	6.598	167	6.575	0.6	.024	4.0	.157	7
3.175	.1250	1/8			5	Int.	▲	MWS01250LB	39.6	1.559	39.6	1.559	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					8	Int.	▲	MWS01250X8DB	39.6	1.559	39.6	1.559	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					15	Int.	●	MWS01250X15DB	63.6	2.504	66.6	2.622	114.6	4.512	114	4.488	0.6	.024	4.0	.157	7
					20	Int.	●	MWS01250X20DB	81.6	3.213	84.6	3.331	132.6	5.220	132	5.197	0.6	.024	4.0	.157	7
					25	Int.	●	MWS01250X25DB	98.6	3.882	101.6	4.000	149.6	5.890	149	5.866	0.6	.024	4.0	.157	7
					30	Int.	●	MWS01250X30DB	116.6	4.591	119.6	4.709	167.6	6.598	167	6.575	0.6	.024	4.0	.157	7
3.2	.1260				2	Ext.	▲	MWE0320SA	18.6	.732	18.6	.732	55.6	2.189	55	2.165	0.6	.024	3.2	.126	1
					3	Ext.	▲	MWE0320MA	24.6	.969	24.6	.969	60.6	2.386	60	2.362	0.6	.024	3.2	.126	1
					3	Int.	▲	MWS0320MB	28.6	1.126	28.6	1.126	76.6	3.016	76	2.992	0.6	.024	4.0	.157	6
					5	Int.	▲	MWS0320LB	39.6	1.559	39.6	1.559	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					8	Int.	▲	MWS0320X8DB	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					10	Int.	●	MWS0320X10DB	46.6	1.835	49.6	1.953	97.6	3.843	97	3.819	0.6	.024	4.0	.157	7
					15	Int.	●	MWS0320X15DB	63.6	2.504	66.6	2.622	114.6	4.512	114	4.488	0.6	.024	4.0	.157	7
					20	Int.	★	MWS0320X20DB	81.6	3.213	84.6	3.331	132.6	5.220	132	5.197	0.6	.024	4.0	.157	7
					25	Int.	★	MWS0320X25DB	98.6	3.882	101.6	4.000	149.6	5.890	149	5.866	0.6	.024	4.0	.157	7
					30	Int.	●	MWS0320X30DB	116.6	4.591	119.6	4.709	167.6	6.598	167	6.575	0.6	.024	4.0	.157	7

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
3.3	.1299			M4x0.7	2	Ext.	▲	MWE0330SA	18.6	.732	18.6	.732	55.6	2.189	55	2.165	0.6	.024	3.3	.130	1
					3	Ext.	▲	MWE0330MA	24.6	.969	24.6	.969	60.6	2.386	60	2.362	0.6	.024	3.3	.130	1
					3	Int.	▲	MWS0330MB	28.6	1.126	28.6	1.126	76.6	3.016	76	2.992	0.6	.024	4.0	.157	6
					5	Int.	▲	MWS0330LB	39.6	1.559	39.6	1.559	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					8	Int.	▲	MWS0330X8DB	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					10	Int.	●	MWS0330X10DB	46.6	1.835	49.6	1.953	97.6	3.843	97	3.819	0.6	.024	4.0	.157	7
					15	Int.	●	MWS0330X15DB	63.6	2.504	66.6	2.622	114.6	4.512	114	4.488	0.6	.024	4.0	.157	7
					20	Int.	●	MWS0330X20DB	81.6	3.213	84.6	3.331	132.6	5.220	132	5.197	0.6	.024	4.0	.157	7
					25	Int.	★	MWS0330X25DB	98.6	3.882	101.6	4.000	149.6	5.890	149	5.866	0.6	.024	4.0	.157	7
					30	Int.	●	MWS0330X30DB	116.6	4.591	119.6	4.709	167.6	6.598	167	6.575	0.6	.024	4.0	.157	7
3.4	.1339				2	Ext.	▲	MWE0340SA	20.6	.811	20.6	.811	55.6	2.189	55	2.165	0.6	.024	3.4	.134	1
					3	Ext.	▲	MWE0340MA	24.6	.969	24.6	.969	60.6	2.386	60	2.362	0.6	.024	3.4	.134	1
					3	Int.	▲	MWS0340MB	28.6	1.126	28.6	1.126	76.6	3.016	76	2.992	0.6	.024	4.0	.157	6
					5	Int.	▲	MWS0340LB	39.6	1.559	39.6	1.559	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					8	Int.	▲	MWS0340X8DB	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					10	Int.	★	MWS0340X10DB	46.6	1.835	49.6	1.953	97.6	3.843	97	3.819	0.6	.024	4.0	.157	7
					15	Int.	●	MWS0340X15DB	63.6	2.504	66.6	2.622	114.6	4.512	114	4.488	0.6	.024	4.0	.157	7
					20	Int.	★	MWS0340X20DB	81.6	3.213	84.6	3.331	132.6	5.220	132	5.197	0.6	.024	4.0	.157	7
					25	Int.	★	MWS0340X25DB	98.6	3.882	101.6	4.000	149.6	5.890	149	5.866	0.6	.024	4.0	.157	7
					30	Int.	★	MWS0340X30DB	116.6	4.591	119.6	4.709	167.6	6.598	167	6.575	0.6	.024	4.0	.157	7
3.5	.1378				2	Ext.	▲	MWE0350SA	20.6	.811	20.6	.811	55.6	2.189	55	2.165	0.6	.024	3.5	.138	1
					3	Ext.	▲	MWE0350MA	24.6	.969	24.6	.969	60.6	2.386	60	2.362	0.6	.024	3.5	.138	1
					3	Int.	▲	MWS0350MB	28.6	1.126	28.6	1.126	76.6	3.016	76	2.992	0.6	.024	4.0	.157	6
					5	Int.	▲	MWS0350LB	39.6	1.559	39.6	1.559	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					8	Int.	▲	MWS0350X8DB	41.6	1.638	41.6	1.638	87.6	3.449	87	3.425	0.6	.024	4.0	.157	6
					10	Int.	●	MWS0350X10DB	46.6	1.835	49.6	1.953	97.6	3.843	97	3.819	0.6	.024	4.0	.157	7
					15	Int.	●	MWS0350X15DB	63.6	2.504	66.6	2.622	114.6	4.512	114	4.488	0.6	.024	4.0	.157	7
					20	Int.	●	MWS0350X20DB	81.6	3.213	84.6	3.331	132.6	5.220	132	5.197	0.6	.024	4.0	.157	7
					25	Int.	●	MWS0350X25DB	98.6	3.882	101.6	4.000	149.6	5.890	149	5.866	0.6	.024	4.0	.157	7
					30	Int.	●	MWS0350X30DB	116.6	4.591	119.6	4.709	167.6	6.598	167	6.575	0.6	.024	4.0	.157	7
3.569	.1405		28		5	Int.	▲	MWS01405LB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
3.571	.1406	9/64			8	Int.	▲	MWS01406X8DB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					15	Int.	●	MWS01406X15DB	72.7	2.862	75.7	2.980	123.7	4.870	123	4.843	0.7	.028	4.0	.157	7
					20	Int.	●	MWS01406X20DB	92.7	3.650	95.7	3.768	143.7	5.657	143	5.630	0.7	.028	4.0	.157	7
					25	Int.	●	MWS01406X25DB	112.7	4.437	115.7	4.555	163.7	6.445	163	6.417	0.7	.028	4.0	.157	7
					30	Int.	●	MWS01406X30DB	132.7	5.224	135.7	5.343	183.7	7.232	183	7.205	0.7	.028	4.0	.157	7
3.600	.1417				2	Ext.	▲	MWE0360SA	20.7	.815	20.7	.815	55.7	2.193	55	2.165	0.7	.028	3.6	.142	1
					3	Ext.	▲	MWE0360MA	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	3.6	.142	1
					3	Int.	▲	MWS0360MB	32.7	1.287	32.7	1.287	80.7	3.177	80	3.150	0.7	.028	4.0	.157	6
					5	Int.	▲	MWS0360LB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					8	Int.	▲	MWS0360X8DB	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					10	Int.	●	MWS0360X10DB	52.7	2.075	55.7	2.193	103.7	4.083	103	4.055	0.7	.028	4.0	.157	7
					15	Int.	★	MWS0360X15DB	72.7	2.862	75.7	2.980	123.7	4.870	123	4.843	0.7	.028	4.0	.157	7
					20	Int.	●	MWS0360X20DB	92.7	3.650	95.7	3.768	143.7	5.657	143	5.630	0.7	.028	4.0	.157	7
					25	Int.	★	MWS0360X25DB	112.7	4.437	115.7	4.555	163.7	6.445	163	6.417	0.7	.028	4.0	.157	7
					30	Int.	★	MWS0360X30DB	132.7	5.224	135.7	5.343	183.7	7.232	183	7.205	0.7	.028	4.0	.157	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
3.700	.1457			M4.5x0.75	2	Ext.	▲	MWE0370SA	20.7	.815	20.7	.815	55.7	2.193	55	2.165	0.7	.028	3.7	.146	1
					3	Ext.	▲	MWE0370MA	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	3.7	.146	1
					3	Int.	▲	MWS0370MB	32.7	1.287	32.7	1.287	80.7	3.177	80	3.150	0.7	.028	4.0	.157	6
					5	Int.	▲	MWS0370LB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					8	Int.	▲	MWS0370X8DB	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					10	Int.	★	MWS0370X10DB	52.7	2.075	55.7	2.193	103.7	4.083	103	4.055	0.7	.028	4.0	.157	7
					15	Int.	●	MWS0370X15DB	72.7	2.862	75.7	2.980	123.7	4.870	123	4.843	0.7	.028	4.0	.157	7
					20	Int.	★	MWS0370X20DB	92.7	3.650	95.7	3.768	143.7	5.657	143	5.630	0.7	.028	4.0	.157	7
					25	Int.	★	MWS0370X25DB	112.7	4.437	115.7	4.555	163.7	6.445	163	6.417	0.7	.028	4.0	.157	7
					30	Int.	●	MWS0370X30DB	132.7	5.224	135.7	5.343	183.7	7.232	183	7.205	0.7	.028	4.0	.157	7
3.797	.1495		25	#10-24	5	Int.	▲	MWS01495LB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					8	Int.	▲	MWS01495X8DB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					15	Int.	●	MWS01495X15DB	72.7	2.862	75.7	2.980	123.7	4.870	123	4.843	0.7	.028	4.0	.157	7
					20	Int.	●	MWS01495X20DB	92.7	3.650	95.7	3.768	143.7	5.657	143	5.630	0.7	.028	4.0	.157	7
					25	Int.	●	MWS01495X25DB	112.7	4.437	115.7	4.555	163.7	6.445	163	6.417	0.7	.028	4.0	.157	7
					30	Int.	●	MWS01495X30DB	132.7	5.224	135.7	5.343	183.7	7.232	183	7.205	0.7	.028	4.0	.157	7
3.800	.1496		25	#10-24	2	Ext.	▲	MWE0380SA	22.7	.894	22.7	.894	55.7	2.193	55	2.165	0.7	.028	3.8	.150	1
					3	Ext.	▲	MWE0380MA	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	3.8	.150	1
					3	Int.	▲	MWS0380MB	32.7	1.287	32.7	1.287	80.7	3.177	80	3.150	0.7	.028	4.0	.157	6
					5	Int.	▲	MWS0380LB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					8	Int.	▲	MWS0380X8DB	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					10	Int.	★	MWS0380X10DB	52.7	2.075	55.7	2.193	103.7	4.083	103	4.055	0.7	.028	4.0	.157	7
					15	Int.	●	MWS0380X15DB	72.7	2.862	75.7	2.980	123.7	4.870	123	4.843	0.7	.028	4.0	.157	7
					20	Int.	●	MWS0380X20DB	92.7	3.650	95.7	3.768	143.7	5.657	143	5.630	0.7	.028	4.0	.157	7
					25	Int.	★	MWS0380X25DB	112.7	4.437	115.7	4.555	163.7	6.445	163	6.417	0.7	.028	4.0	.157	7
					30	Int.	★	MWS0380X30DB	132.7	5.224	135.7	5.343	183.7	7.232	183	7.205	0.7	.028	4.0	.157	7
3.900	.1535				2	Ext.	▲	MWE0390SA	22.7	.894	22.7	.894	55.7	2.193	55	2.165	0.7	.028	3.9	.154	1
					3	Ext.	▲	MWE0390MA	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	3.9	.154	1
					3	Int.	▲	MWS0390MB	32.7	1.287	32.7	1.287	80.7	3.177	80	3.150	0.7	.028	4.0	.157	6
					5	Int.	▲	MWS0390LB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					8	Int.	▲	MWS0390X8DB	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					10	Int.	★	MWS0390X10DB	52.7	2.075	55.7	2.193	103.7	4.083	103	4.055	0.7	.028	4.0	.157	7
					15	Int.	●	MWS0390X15DB	72.7	2.862	75.7	2.980	123.7	4.870	123	4.843	0.7	.028	4.0	.157	7
					20	Int.	●	MWS0390X20DB	92.7	3.650	95.7	3.768	143.7	5.657	143	5.630	0.7	.028	4.0	.157	7
					25	Int.	★	MWS0390X25DB	112.7	4.437	115.7	4.555	163.7	6.445	163	6.417	0.7	.028	4.0	.157	7
					30	Int.	★	MWS0390X30DB	132.7	5.224	135.7	5.343	183.7	7.232	183	7.205	0.7	.028	4.0	.157	7
3.967	.1562	5/32			5	Int.	▲	MWS01562LB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					8	Int.	▲	MWS01562X8DB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					15	Int.	●	MWS01562X15DB	72.7	2.862	75.7	2.980	123.7	4.870	123	4.843	0.7	.028	4.0	.157	7
					20	Int.	●	MWS01562X20DB	92.7	3.650	95.7	3.768	143.7	5.657	143	5.630	0.7	.028	4.0	.157	7
					25	Int.	●	MWS01562X25DB	112.7	4.437	115.7	4.555	163.7	6.445	163	6.417	0.7	.028	4.0	.157	7
					30	Int.	●	MWS01562X30DB	132.7	5.224	135.7	5.343	183.7	7.232	183	7.205	0.7	.028	4.0	.157	7

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
4.000	.1575				2	Ext.	▲	MWE0400SA	22.7	.894	22.7	.894	55.7	2.193	55	2.165	0.7	.028	4.0	.157	1
					3	Ext.	▲	MWE0400MA	27.7	1.091	27.7	1.091	60.7	2.390	60	2.362	0.7	.028	4.0	.157	1
					3	Int.	▲	MWS0400MB	32.7	1.287	32.7	1.287	80.7	3.177	80	3.150	0.7	.028	4.0	.157	6
					5	Int.	▲	MWS0400LB	44.7	1.760	44.7	1.760	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					8	Int.	▲	MWS0400X8DB	46.7	1.839	46.7	1.839	92.7	3.650	92	3.622	0.7	.028	4.0	.157	6
					10	Int.	●	MWS0400X10DB	52.7	2.075	55.7	2.193	103.7	4.083	103	4.055	0.7	.028	4.0	.157	7
					15	Int.	●	MWS0400X15DB	72.7	2.862	75.7	2.980	123.7	4.870	123	4.843	0.7	.028	4.0	.157	7
					20	Int.	●	MWS0400X20DB	92.7	3.650	95.7	3.768	143.7	5.657	143	5.630	0.7	.028	4.0	.157	7
					25	Int.	●	MWS0400X25DB	112.7	4.437	115.7	4.555	163.7	6.445	163	6.417	0.7	.028	4.0	.157	7
					30	Int.	●	MWS0400X30DB	132.7	5.224	135.7	5.343	183.7	7.232	183	7.205	0.7	.028	4.0	.157	7
4.039	.1590		21	#10-32	5	Int.	▲	MWS01590LB	50.7	1.996	50.7	1.996	100.7	3.965	100	3.937	0.7	.028	5.0	.197	6
					8	Int.	▲	MWS01590X8DB	50.7	1.996	50.7	1.996	100.7	3.965	100	3.937	0.7	.028	5.0	.197	6
					15	Int.	●	MWS01590X15DB	81.7	3.217	84.7	3.335	134.7	5.303	134	5.276	0.7	.028	5.0	.197	7
					20	Int.	●	MWS01590X20DB	104.7	4.122	107.7	4.240	157.7	6.209	157	6.181	0.7	.028	5.0	.197	7
					25	Int.	●	MWS01590X25DB	126.7	4.988	129.7	5.106	179.7	7.075	179	7.047	0.7	.028	5.0	.197	7
					30	Int.	●	MWS01590X30DB	149.7	5.894	152.7	6.012	202.7	7.980	202	7.953	0.7	.028	5.0	.197	7
4.100	.1614				2	Ext.	▲	MWE0410SA	22.8	.898	22.8	.898	55.8	2.197	55	2.165	0.8	.031	4.1	.161	1
					3	Ext.	▲	MWE0410MA	29.8	1.173	29.8	1.173	63.8	2.512	63	2.480	0.8	.031	4.1	.161	1
					3	Int.	▲	MWS0410MB	36.8	1.449	36.8	1.449	86.8	3.417	86	3.386	0.8	.031	5.0	.197	6
					5	Int.	▲	MWS0410LB	50.8	2.000	50.8	2.000	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					8	Int.	▲	MWS0410X8DB	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					10	Int.	●	MWS0410X10DB	59.8	2.354	62.8	2.472	112.8	4.441	112	4.409	0.8	.031	5.0	.197	7
					15	Int.	●	MWS0410X15DB	81.8	3.220	84.8	3.339	134.8	5.307	134	5.276	0.8	.031	5.0	.197	7
					20	Int.	●	MWS0410X20DB	104.8	4.126	107.8	4.244	157.8	6.213	157	6.181	0.8	.031	5.0	.197	7
					25	Int.	★	MWS0410X25DB	126.8	4.992	129.8	5.110	179.8	7.079	179	7.047	0.8	.031	5.0	.197	7
					30	Int.	●	MWS0410X30DB	149.8	5.898	152.8	6.016	202.8	7.984	202	7.953	0.8	.031	5.0	.197	7
4.200	.1654			M5x0.8	2	Ext.	▲	MWE0420SA	22.8	.898	22.8	.898	55.8	2.197	55	2.165	0.8	.031	4.2	.165	1
					3	Ext.	▲	MWE0420MA	29.8	1.173	29.8	1.173	63.8	2.512	63	2.480	0.8	.031	4.2	.165	1
					3	Int.	▲	MWS0420MB	36.8	1.449	36.8	1.449	86.8	3.417	86	3.386	0.8	.031	5.0	.197	6
					5	Int.	▲	MWS0420LB	50.8	2.000	50.8	2.000	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					8	Int.	▲	MWS0420X8DB	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					10	Int.	●	MWS0420X10DB	59.8	2.354	62.8	2.472	112.8	4.441	112	4.409	0.8	.031	5.0	.197	7
					15	Int.	●	MWS0420X15DB	81.8	3.220	84.8	3.339	134.8	5.307	134	5.276	0.8	.031	5.0	.197	7
					20	Int.	★	MWS0420X20DB	104.8	4.126	107.8	4.244	157.8	6.213	157	6.181	0.8	.031	5.0	.197	7
					25	Int.	★	MWS0420X25DB	126.8	4.992	129.8	5.110	179.8	7.079	179	7.047	0.8	.031	5.0	.197	7
					30	Int.	★	MWS0420X30DB	149.8	5.898	152.8	6.016	202.8	7.984	202	7.953	0.8	.031	5.0	.197	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
4.300	.1693				2	Ext.	▲	MWE0430SA	24.8	.976	24.8	.976	58.8	2.315	58	2.283	0.8	.031	4.3	.169	1
					3	Ext.	▲	MWE0430MA	29.8	1.173	29.8	1.173	63.8	2.512	63	2.480	0.8	.031	4.3	.169	1
					3	Int.	▲	MWS0430MB	36.8	1.449	36.8	1.449	86.8	3.417	86	3.386	0.8	.031	5.0	.197	6
					5	Int.	▲	MWS0430LB	50.8	2.000	50.8	2.000	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					8	Int.	▲	MWS0430X8DB	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					8	Int.	▲	MWS01693X8DB	50.8	2.000	50.8	2.000	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					10	Int.	●	MWS0430X10DB	59.8	2.354	62.8	2.472	112.8	4.441	112	4.409	0.8	.031	5.0	.197	7
					15	Int.	●	MWS0430X15DB	81.8	3.220	84.8	3.339	134.8	5.307	134	5.276	0.8	.031	5.0	.197	7
					15	Int.	●	MWS01693X15DB	81.8	3.220	84.8	3.339	134.8	5.307	134	5.276	0.8	.031	5.0	.197	7
					20	Int.	●	MWS0430X20DB	104.8	4.126	107.8	4.244	157.8	6.213	157	6.181	0.8	.031	5.0	.197	7
					20	Int.	●	MWS01693X20DB	104.8	4.126	107.8	4.244	157.8	6.213	157	6.181	0.8	.031	5.0	.197	6
					25	Int.	★	MWS0430X25DB	126.8	4.992	129.8	5.110	179.8	7.079	179	7.047	0.8	.031	5.0	.197	7
					25	Int.	●	MWS01693X25DB	126.8	4.992	129.8	5.110	179.8	7.079	179	7.047	0.8	.031	5.0	.197	7
					30	Int.	★	MWS0430X30DB	149.8	5.898	152.8	6.016	202.8	7.984	202	7.953	0.8	.031	5.0	.197	7
					30	Int.	●	MWS01693X30DB	149.8	5.898	152.8	6.016	202.8	7.984	202	7.953	0.8	.031	5.0	.197	7
4.366	.1719	11/64			5	Int.	▲	MWS01719LB	50.8	2.000	50.8	2.000	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					8	Int.	▲	MWS01719X8DB	50.8	2.000	50.8	2.000	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					15	Int.	●	MWS01719X15DB	81.8	3.220	84.8	3.339	134.8	5.307	134	5.276	0.8	.031	5.0	.197	7
					20	Int.	●	MWS01719X20DB	104.8	4.126	107.8	4.244	157.8	6.213	157	6.181	0.8	.031	5.0	.197	7
					25	Int.	●	MWS01719X25DB	126.8	4.992	129.8	5.110	179.8	7.079	179	7.047	0.8	.031	5.0	.197	7
					30	Int.	●	MWS01719X30DB	149.8	5.898	152.8	6.016	202.8	7.984	202	7.953	0.8	.031	5.0	.197	7
4.400	.1732		17		2	Ext.	▲	MWE0440SA	24.8	.976	24.8	.976	58.8	2.315	58	2.283	0.8	.031	4.4	.173	1
					3	Ext.	▲	MWE0440MA	29.8	1.173	29.8	1.173	63.8	2.512	63	2.480	0.8	.031	4.4	.173	1
					3	Int.	▲	MWS0440MB	36.8	1.449	36.8	1.449	86.8	3.417	86	3.386	0.8	.031	5.0	.197	6
					5	Int.	▲	MWS0440LB	50.8	2.000	50.8	2.000	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					8	Int.	▲	MWS0440X8DB	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					10	Int.	★	MWS0440X10DB	59.8	2.354	62.8	2.472	112.8	4.441	112	4.409	0.8	.031	5.0	.197	7
					15	Int.	●	MWS0440X15DB	81.8	3.220	84.8	3.339	134.8	5.307	134	5.276	0.8	.031	5.0	.197	7
					20	Int.	●	MWS0440X20DB	104.8	4.126	107.8	4.244	157.8	6.213	157	6.181	0.8	.031	5.0	.197	7
					25	Int.	★	MWS0440X25DB	126.8	4.992	129.8	5.110	179.8	7.079	179	7.047	0.8	.031	5.0	.197	7
					30	Int.	★	MWS0440X30DB	149.8	5.898	152.8	6.016	202.8	7.984	202	7.953	0.8	.031	5.0	.197	7
4.500	.1772		16	#12-24	2	Ext.	▲	MWE0450SA	24.8	.976	24.8	.976	58.8	2.315	58	2.283	0.8	.031	4.5	.177	1
					3	Ext.	▲	MWE0450MA	29.8	1.173	29.8	1.173	63.8	2.512	63	2.480	0.8	.031	4.5	.177	1
					3	Int.	▲	MWS0450MB	36.8	1.449	36.8	1.449	86.8	3.417	86	3.386	0.8	.031	5.0	.197	6
					5	Int.	▲	MWS0450LB	50.8	2.000	50.8	2.000	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					8	Int.	▲	MWS0450X8DB	52.8	2.079	52.8	2.079	100.8	3.969	100	3.937	0.8	.031	5.0	.197	6
					10	Int.	●	MWS0450X10DB	59.8	2.354	62.8	2.472	112.8	4.441	112	4.409	0.8	.031	5.0	.197	7
					15	Int.	●	MWS0450X15DB	81.8	3.220	84.8	3.339	134.8	5.307	134	5.276	0.8	.031	5.0	.197	7
					20	Int.	●	MWS0450X20DB	104.8	4.126	107.8	4.244	157.8	6.213	157	6.181	0.8	.031	5.0	.197	7
					25	Int.	●	MWS0450X25DB	126.8	4.992	129.8	5.110	179.8	7.079	179	7.047	0.8	.031	5.0	.197	7
					30	Int.	●	MWS0450X30DB	149.8	5.898	152.8	6.016	202.8	7.984	202	7.953	0.8	.031	5.0	.197	7

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
4.600	.1811				2	Ext.	▲	MWE0460SA	24.8	.976	24.8	.976	58.8	2.315	58	2.283	0.8	.031	4.6	.181	1
					3	Ext.	▲	MWE0460MA	32.8	1.291	32.8	1.291	68.8	2.709	68	2.677	0.8	.031	4.6	.181	1
					3	Int.	▲	MWS0460MB	40.8	1.606	40.8	1.606	90.8	3.575	90	3.543	0.8	.031	5.0	.197	6
					5	Int.	▲	MWS0460LB	55.8	2.197	55.8	2.197	105.8	4.165	105	4.134	0.8	.031	5.0	.197	6
					8	Int.	▲	MWS0460X8DB	57.8	2.276	57.8	2.276	105.8	4.165	105	4.134	0.8	.031	5.0	.197	6
					10	Int.	●	MWS0460X10DB	65.8	2.591	68.8	2.709	118.8	4.677	118	4.646	0.8	.031	5.0	.197	7
					15	Int.	●	MWS0460X15DB	90.8	3.575	93.8	3.693	143.8	5.661	143	5.630	0.8	.031	5.0	.197	7
					20	Int.	●	MWS0460X20DB	115.8	4.559	118.8	4.677	168.8	6.646	168	6.614	0.8	.031	5.0	.197	7
					25	Int.	●	MWS0460X25DB	126.8	4.992	143.8	5.661	179.8	7.079	179	7.047	0.8	.031	5.0	.197	7
					30	Int.	★	MWS0460X30DB	165.8	6.528	168.8	6.646	218.8	8.614	218	8.583	0.8	.031	5.0	.197	7
4.700	.1850		13		2	Ext.	▲	MWE0470SA	24.9	.980	24.9	.980	58.9	2.319	58	2.283	0.9	.035	4.7	.185	1
					3	Ext.	▲	MWE0470MA	32.9	1.295	32.9	1.295	68.9	2.713	68	2.677	0.9	.035	4.7	.185	1
					3	Int.	▲	MWS0470MB	40.9	1.610	40.9	1.610	90.9	3.579	90	3.543	0.9	.035	5.0	.197	6
					5	Int.	▲	MWS0470LB	55.9	2.201	55.9	2.201	105.9	4.169	105	4.134	0.9	.035	5.0	.197	6
					8	Int.	▲	MWS0470X8DB	57.9	2.280	57.9	2.280	105.9	4.169	105	4.134	0.9	.035	5.0	.197	6
					10	Int.	★	MWS0470X10DB	65.9	2.594	68.9	2.713	118.9	4.681	118	4.646	0.9	.035	5.0	.197	7
					15	Int.	★	MWS0470X15DB	90.9	3.579	93.9	3.697	143.9	5.665	143	5.630	0.9	.035	5.0	.197	7
					20	Int.	★	MWS0470X20DB	115.9	4.563	118.9	4.681	168.9	6.650	168	6.614	0.9	.035	5.0	.197	7
					25	Int.	★	MWS0470X25DB	140.9	5.547	143.9	5.665	193.9	7.634	193	7.598	0.9	.035	5.0	.197	7
					30	Int.	★	MWS0470X30DB	165.9	6.531	168.9	6.650	218.9	8.618	218	8.583	0.9	.035	5.0	.197	7
4.763	.1875	3/16			5	Int.	▲	MWS01875LB	55.9	2.201	55.9	2.201	105.9	4.169	105	4.134	0.9	.035	5.0	.197	6
					8	Int.	▲	MWS01875X8DB	55.9	2.201	55.9	2.201	105.9	4.169	105	4.134	0.9	.035	5.0	.197	6
					15	Int.	●	MWS01875X15DB	90.9	3.579	93.9	3.697	143.9	5.665	143	5.630	0.9	.035	5.0	.197	7
					20	Int.	●	MWS01875X20DB	115.9	4.563	118.9	4.681	168.9	6.650	168	6.614	0.9	.035	5.0	.197	7
					25	Int.	●	MWS01875X25DB	140.9	5.547	143.9	5.665	193.9	7.634	193	7.598	0.9	.035	5.0	.197	7
					30	Int.	●	MWS01875X30DB	165.9	6.531	168.9	6.650	218.9	8.618	218	8.583	0.9	.035	5.0	.197	7
4.800	.1890		12		2	Ext.	▲	MWE0480SA	26.9	1.059	26.9	1.059	62.9	2.476	62	2.441	0.9	.035	4.8	.189	1
					3	Ext.	▲	MWE0480MA	32.9	1.295	32.9	1.295	68.9	2.713	68	2.677	0.9	.035	4.8	.189	1
					3	Int.	▲	MWS0480MB	40.9	1.610	40.9	1.610	90.9	3.579	90	3.543	0.9	.035	5.0	.197	6
					5	Int.	▲	MWS0480LB	55.9	2.201	55.9	2.201	105.9	4.169	105	4.134	0.9	.035	5.0	.197	6
					8	Int.	▲	MWS0480X8DB	57.9	2.280	57.9	2.280	105.9	4.169	105	4.134	0.9	.035	5.0	.197	6
					10	Int.	★	MWS0480X10DB	65.9	2.594	68.9	2.713	118.9	4.681	118	4.646	0.9	.035	5.0	.197	7
					15	Int.	●	MWS0480X15DB	90.9	3.579	93.9	3.697	143.9	5.665	143	5.630	0.9	.035	5.0	.197	7
					20	Int.	★	MWS0480X20DB	115.9	4.563	118.9	4.681	168.9	6.650	168	6.614	0.9	.035	5.0	.197	7
					25	Int.	★	MWS0480X25DB	140.9	5.547	143.9	5.665	193.9	7.634	193	7.598	0.9	.035	5.0	.197	7
					30	Int.	●	MWS0480X30DB	165.9	6.531	168.9	6.650	218.9	8.618	218	8.583	0.9	.035	5.0	.197	7
4.900	.1929				2	Ext.	▲	MWE0490SA	26.9	1.059	26.9	1.059	62.9	2.476	62	2.441	0.9	.035	4.9	.193	1
					3	Ext.	▲	MWE0490MA	32.9	1.295	32.9	1.295	68.9	2.713	68	2.677	0.9	.035	4.9	.193	1
					3	Int.	▲	MWS0490MB	40.9	1.610	40.9	1.610	90.9	3.579	90	3.543	0.9	.035	5.0	.197	6
					5	Int.	▲	MWS0490LB	55.9	2.201	55.9	2.201	105.9	4.169	105	4.134	0.9	.035	5.0	.197	6
					8	Int.	▲	MWS0490X8DB	57.9	2.280	57.9	2.280	105.9	4.169	105	4.134	0.9	.035	5.0	.197	6
					10	Int.	●	MWS0490X10DB	65.9	2.594	68.9	2.713	118.9	4.681	118	4.646	0.9	.035	5.0	.197	7
					15	Int.	●	MWS0490X15DB	90.9	3.579	93.9	3.697	143.9	5.665	143	5.630	0.9	.035	5.0	.197	7
					20	Int.	★	MWS0490X20DB	115.9	4.563	118.9	4.681	168.9	6.650	168	6.614	0.9	.035	5.0	.197	7
					25	Int.	★	MWS0490X25DB	140.9	5.547	143.9	5.665	193.9	7.634	193	7.598	0.9	.035	5.0	.197	7
					30	Int.	★	MWS0490X30DB	165.9	6.531	168.9	6.650	218.9	8.618	218	8.583	0.9	.035	5.0	.197	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
5.000	.1969			M6x10	2	Ext.	▲	MWE0500SA	26.9	1.059	26.9	1.059	62.9	2.476	62	2.441	0.9	.035	5.0	.197	1
					3	Ext.	▲	MWE0500MA	32.9	1.295	32.9	1.295	68.9	2.713	68	2.677	0.9	.035	5.0	.197	1
					3	Int.	▲	MWS0500MB	28.4	1.118	30.9	1.217	82.9	3.264	82	3.228	0.9	.035	6.0	.236	6
					5	Int.	▲	MWS0500LB	44.9	1.768	48.9	1.925	100.9	3.972	100	3.937	0.9	.035	6.0	.236	6
					8	Int.	▲	MWS0500X8DB	57.9	2.280	57.9	2.280	105.9	4.169	105	4.134	0.9	.035	5.0	.197	6
					10	Int.	●	MWS0500X10DB	65.9	2.594	68.9	2.713	118.9	4.681	118	4.646	0.9	.035	5.0	.197	7
					15	Int.	●	MWS0500X15DB	90.9	3.579	93.9	3.697	143.9	5.665	143	5.630	0.9	.035	5.0	.197	7
					20	Int.	●	MWS0500X20DB	115.9	4.563	118.9	4.681	168.9	6.650	168	6.614	0.9	.035	5.0	.197	7
					25	Int.	●	MWS0500X25DB	140.9	5.547	143.9	5.665	193.9	7.634	193	7.598	0.9	.035	5.0	.197	7
					30	Int.	●	MWS0500X30DB	165.9	6.531	168.9	6.650	218.9	8.618	218	8.583	0.9	.035	5.0	.197	7
5.100	.2008		7	1/4-20	2	Ext.	▲	MWE0510SA	26.9	1.059	26.9	1.059	62.9	2.476	62	2.441	0.9	.035	5.1	.201	1
					3	Ext.	▲	MWE0510MA	34.9	1.374	34.9	1.374	72.9	2.870	72	2.835	0.9	.035	5.1	.201	1
					3	Int.	▲	MWS0510MB	28.4	1.118	30.9	1.217	82.9	3.264	82	3.228	0.9	.035	6.0	.236	6
					5	Int.	▲	MWS0510LB	44.9	1.768	48.9	1.925	100.9	3.972	100	3.937	0.9	.035	6.0	.236	6
					8	Int.	▲	MWS0510X8DB	61.9	2.437	66.9	2.634	118.9	4.681	118	4.646	0.9	.035	6.0	.236	6
					10	Int.	★	MWS0510X10DB	72.9	2.870	75.9	2.988	127.9	5.035	127	5.000	0.9	.035	6.0	.236	6
					15	Int.	●	MWS0510X15DB	99.9	3.933	102.9	4.051	154.9	6.098	154	6.063	0.9	.035	6.0	.236	7
					20	Int.	●	MWS0510X20DB	127.9	5.035	130.9	5.154	182.9	7.201	182	7.165	0.9	.035	6.0	.236	7
					25	Int.	★	MWS0510X25DB	154.9	6.098	157.9	6.217	209.9	8.264	209	8.228	0.9	.035	6.0	.236	7
					30	Int.	★	MWS0510X30DB	182.9	7.201	185.9	7.319	237.9	9.366	237	9.331	0.9	.035	6.0	.236	7
5.159	.2031	13/64			5	Int.	▲	MWS02031LB	44.9	1.768	48.9	1.925	100.9	3.972	100	3.937	0.9	.035	5.954	.234	6
					8	Int.	▲	MWS02031X8DB	61.9	2.437	66.9	2.634	118.9	4.681	118	4.646	0.9	.035	5.954	.234	6
					15	Int.	●	MWS02031X15DB	99.9	3.933	102.9	4.051	154.9	6.098	154	6.063	0.9	.035	5.954	.234	7
					20	Int.	●	MWS02031X20DB	127.9	5.035	130.9	5.154	182.9	7.201	182	7.165	0.9	.035	5.954	.234	7
					25	Int.	●	MWS02031X25DB	154.9	6.098	157.9	6.217	209.9	8.264	209	8.228	0.9	.035	5.954	.234	7
					30	Int.	●	MWS02031X30DB	182.9	7.201	185.9	7.319	237.9	9.366	237	9.331	0.9	.035	5.954	.234	7
5.200	.2047				2	Ext.	▲	MWE0520SA	27.0	1.063	27.0	1.063	63.0	2.480	62	2.441	1.0	.039	5.2	.205	1
					3	Ext.	▲	MWE0520MA	35.0	1.378	35.0	1.378	73.0	2.874	72	2.835	1.0	.039	5.2	.205	1
					3	Int.	▲	MWS0520MB	28.5	1.122	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6.0	.236	6
					5	Int.	▲	MWS0520LB	45.0	1.772	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6.0	.236	6
					8	Int.	▲	MWS0520X8DB	62.0	2.441	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6.0	.236	6
					10	Int.	●	MWS0520X10DB	73.0	2.874	76.0	2.992	128.0	5.039	127	5.000	1.0	.039	6.0	.236	7
					15	Int.	●	MWS0520X15DB	100.0	3.937	103.0	4.055	155.0	6.102	154	6.063	1.0	.039	6.0	.236	7
					20	Int.	★	MWS0520X20DB	128.0	5.039	131.0	5.157	183.0	7.205	182	7.165	1.0	.039	6.0	.236	7
					25	Int.	★	MWS0520X25DB	155.0	6.102	158.0	6.220	210.0	8.268	209	8.228	1.0	.039	6.0	.236	7
					30	Int.	★	MWS0520X30DB	183.0	7.205	186.0	7.323	238.0	9.370	237	9.331	1.0	.039	6.0	.236	7
5.300	.2087		4		2	Ext.	▲	MWE0530SA	27.0	1.063	27.0	1.063	63.0	2.480	62	2.441	1.0	.039	5.3	.209	1
					3	Ext.	▲	MWE0530MA	35.0	1.378	35.0	1.378	73.0	2.874	72	2.835	1.0	.039	5.3	.209	1
					3	Int.	▲	MWS0530MB	28.5	1.122	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6.0	.236	6
					5	Int.	▲	MWS0530LB	45.0	1.772	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6.0	.236	6
					8	Int.	▲	MWS0530X8DB	62.0	2.441	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6.0	.236	6
					10	Int.	●	MWS0530X10DB	73.0	2.874	76.0	2.992	128.0	5.039	127	5.000	1.0	.039	6.0	.236	7
					15	Int.	●	MWS0530X15DB	100.0	3.937	103.0	4.055	155.0	6.102	154	6.063	1.0	.039	6.0	.236	7
					20	Int.	●	MWS0530X20DB	128.0	5.039	131.0	5.157	183.0	7.205	182	7.165	1.0	.039	6.0	.236	7
					25	Int.	●	MWS0530X25DB	155.0	6.102	158.0	6.220	210.0	8.268	209	8.228	1.0	.039	6.0	.236	7
					30	Int.	★	MWS0530X30DB	183.0	7.205	186.0	7.323	238.0	9.370	237	9.331	1.0	.039	6.0	.236	7

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
5.400	.2126				2	Ext.	▲	MWE0540SA	29.0	1.142	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	5.4	.213	1
					3	Ext.	▲	MWE0540MA	35.0	1.378	35.0	1.378	73.0	2.874	72	2.835	1.0	.039	5.4	.213	1
					3	Int.	▲	MWS0540MB	28.5	1.122	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6.0	.236	6
					5	Int.	▲	MWS0540LB	45.0	1.772	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6.0	.236	6
					8	Int.	▲	MWS0540X8DB	62.0	2.441	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6.0	.236	6
					10	Int.	●	MWS0540X10DB	73.0	2.874	76.0	2.992	128.0	5.039	127	5.000	1.0	.039	6.0	.236	7
					15	Int.	●	MWS0540X15DB	100.0	3.937	103.0	4.055	155.0	6.102	154	6.063	1.0	.039	6.0	.236	7
					20	Int.	★	MWS0540X20DB	128.0	5.039	131.0	5.157	183.0	7.205	182	7.165	1.0	.039	6.0	.236	6
					25	Int.	★	MWS0540X25DB	155.0	6.102	158.0	6.220	210.0	8.268	209	8.228	1.0	.039	6.0	.236	7
					30	Int.	★	MWS0540X30DB	183.0	7.205	186.0	7.323	238.0	9.370	237	9.331	1.0	.039	6.0	.236	7
5.410	.2130		3	1/4-28	8	Int.	▲	MWS02130X8DB	62.0	2.441	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	5.954	.234	6
					15	Int.	●	MWS02130X15DB	100.0	3.937	103.0	4.055	155.0	6.102	154	6.063	1.0	.039	5.954	.234	7
					20	Int.	●	MWS02130X20DB	128.0	5.039	131.0	5.157	183.0	7.205	182	7.165	1.0	.039	5.954	.234	7
					25	Int.	●	MWS02130X25DB	155.0	6.102	158.0	6.220	210.0	8.268	209	8.228	1.0	.039	5.954	.234	7
					30	Int.	●	MWS02130X30DB	183.0	7.205	186.0	7.323	238.0	9.370	237	9.331	1.0	.039	5.954	.234	7
5.500	.2165				2	Ext.	▲	MWE0550SA	29.0	1.142	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	5.5	.217	1
					3	Ext.	▲	MWE0550MA	35.0	1.378	35.0	1.378	73.0	2.874	72	2.835	1.0	.039	5.5	.217	1
					3	Int.	▲	MWS0550MB	28.5	1.122	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6.0	.236	6
					5	Int.	▲	MWS0550LB	45.0	1.772	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6.0	.236	6
					8	Int.	▲	MWS0550X8DB	62.0	2.441	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6.0	.236	6
					10	Int.	●	MWS0550X10DB	73.0	2.874	76.0	2.992	128.0	5.039	127	5.000	1.0	.039	6.0	.236	7
					15	Int.	●	MWS0550X15DB	100.0	3.937	103.0	4.055	155.0	6.102	154	6.063	1.0	.039	6.0	.236	7
					20	Int.	●	MWS0550X20DB	128.0	5.039	131.0	5.157	183.0	7.205	182	7.165	1.0	.039	6.0	.236	7
					25	Int.	●	MWS0550X25DB	155.0	6.102	158.0	6.220	210.0	8.268	209	8.228	1.0	.039	6.0	.236	7
					30	Int.	●	MWS0550X30DB	183.0	7.205	186.0	7.323	238.0	9.370	237	9.331	1.0	.039	6.0	.236	7
5.558	.2188	7/32			5	Int.	▲	MWS02188LB	49.0	1.929	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	5.954	.234	6
					8	Int.	▲	MWS02188X8DB	67.0	2.638	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	5.954	.234	6
					15	Int.	●	MWS02188X15DB	109.0	4.291	112.0	4.409	164.0	6.457	163	6.417	1.0	.039	5.954	.234	7
					20	Int.	●	MWS02188X20DB	139.0	5.472	142.0	5.591	194.0	7.638	193	7.598	1.0	.039	5.954	.234	7
					25	Int.	●	MWS02188X25DB	169.0	6.654	172.0	6.772	224.0	8.819	223	8.780	1.0	.039	5.954	.234	7
					30	Int.	●	MWS02188X30DB	199.0	7.835	202.0	7.953	254.0	10.000	253	9.961	1.0	.039	5.954	.234	7
5.600	.2205		2		2	Ext.	▲	MWE0560SA	29.0	1.142	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	5.6	.220	1
					3	Ext.	▲	MWE0560MA	37.0	1.457	37.0	1.457	75.0	2.953	74	2.913	1.0	.039	5.6	.220	1
					3	Int.	▲	MWS0560MB	31.0	1.220	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6.0	.236	6
					5	Int.	▲	MWS0560LB	49.0	1.929	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6.0	.236	6
					8	Int.	▲	MWS0560X8DB	67.0	2.638	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6.0	.236	6
					10	Int.	★	MWS0560X10DB	79.0	3.110	82.0	3.228	134.0	5.276	133	5.236	1.0	.039	6.0	.236	7
					15	Int.	★	MWS0560X15DB	109.0	4.291	112.0	4.409	164.0	6.457	163	6.417	1.0	.039	6.0	.236	7
					20	Int.	★	MWS0560X20DB	139.0	5.472	142.0	5.591	194.0	7.638	193	7.598	1.0	.039	6.0	.236	7
					25	Int.	★	MWS0560X25DB	a.0	6.654	172.0	6.772	224.0	8.819	223	8.780	1.0	.039	6.0	.236	7
					30	Int.	★	MWS0560X30DB	199.0	7.835	202.0	7.953	254.0	10.000	253	9.961	1.0	.039	6.0	.236	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
5.700	.2244				2	Ext.	▲	MWE0570SA	29.0	1.142	29.0	1.142	67.0	2.638	66	2.598	1.0	.039	5.7	.224	1
					3	Ext.	▲	MWE0570MA	37.0	1.457	37.0	1.457	75.0	2.953	74	2.913	1.0	.039	5.7	.224	1
					3	Int.	▲	MWS0570MB	31.0	1.220	31.0	1.220	83.0	3.268	82	3.228	1.0	.039	6.0	.236	6
					5	Int.	▲	MWS0570LB	49.0	1.929	49.0	1.929	101.0	3.976	100	3.937	1.0	.039	6.0	.236	6
					8	Int.	▲	MWS0570X8DB	67.0	2.638	67.0	2.638	119.0	4.685	118	4.646	1.0	.039	6.0	.236	6
					10	Int.	●	MWS0570X10DB	79.0	3.110	82.0	3.228	134.0	5.276	133	5.236	1.0	.039	6.0	.236	7
					15	Int.	●	MWS0570X15DB	109.0	4.291	112.0	4.409	164.0	6.457	163	6.417	1.0	.039	6.0	.236	7
					20	Int.	●	MWS0570X20DB	139.0	5.472	142.0	5.591	194.0	7.638	193	7.598	1.0	.039	6.0	.236	7
					25	Int.	●	MWS0570X25DB	169.0	6.654	172.0	6.772	224.0	8.819	223	8.780	1.0	.039	6.0	.236	7
					30	Int.	★	MWS0570X30DB	199.0	7.835	202.0	7.953	254.0	10.000	253	9.961	1.0	.039	6.0	.236	7
5.800	.2283		1		2	Ext.	▲	MWE0580SA	29.1	1.146	29.1	1.146	67.1	2.642	66	2.598	1.1	.043	5.8	.228	1
					3	Ext.	▲	MWE0580MA	37.1	1.461	37.1	1.461	75.1	2.957	74	2.913	1.1	.043	5.8	.228	1
					3	Int.	▲	MWS0580MB	31.1	1.224	31.1	1.224	83.1	3.272	82	3.228	1.1	.043	6.0	.236	6
					5	Int.	▲	MWS0580LB	49.1	1.933	49.1	1.933	101.1	3.980	100	3.937	1.1	.043	6.0	.236	6
					8	Int.	▲	MWS0580X8DB	67.1	2.642	67.1	2.642	119.1	4.689	118	4.646	1.1	.043	6.0	.236	7
					10	Int.	●	MWS0580X10DB	79.1	3.114	82.1	3.232	134.1	5.280	133	5.236	1.1	.043	6.0	.236	7
					15	Int.	★	MWS0580X15DB	109.1	4.295	112.1	4.413	164.1	6.461	163	6.417	1.1	.043	6.0	.236	7
					20	Int.	●	MWS0580X20DB	139.1	5.476	142.1	5.594	194.1	7.642	193	7.598	1.1	.043	6.0	.236	7
					25	Int.	★	MWS0580X25DB	169.1	6.657	172.1	6.776	224.1	8.823	223	8.780	1.1	.043	6.0	.236	7
					30	Int.	★	MWS0580X30DB	199.1	7.839	202.1	7.957	254.1	10.004	253	9.961	1.1	.043	6.0	.236	7
5.900	.2323				2	Ext.	▲	MWE0590SA	29.1	1.146	29.1	1.146	67.1	2.642	66	2.598	1.1	.043	5.9	.232	1
					3	Ext.	▲	MWE0590MA	37.1	1.461	37.1	1.461	75.1	2.957	74	2.913	1.1	.043	5.9	.232	1
					3	Int.	▲	MWS0590MB	31.1	1.224	31.1	1.224	83.1	3.272	82	3.228	1.1	.043	6.0	.236	6
					5	Int.	▲	MWS0590LB	49.1	1.933	49.1	1.933	101.1	3.980	100	3.937	1.1	.043	6.0	.236	6
					8	Int.	▲	MWS0590X8DB	67.1	2.642	67.1	2.642	119.1	4.689	118	4.646	1.1	.043	6.0	.236	6
					10	Int.	★	MWS0590X10DB	79.1	3.114	82.1	3.232	134.1	5.280	133	5.236	1.1	.043	6.0	.236	7
					15	Int.	★	MWS0590X15DB	109.1	4.295	112.1	4.413	164.1	6.461	163	6.417	1.1	.043	6.0	.236	7
					20	Int.	★	MWS0590X20DB	139.1	5.476	142.1	5.594	194.1	7.642	193	7.598	1.1	.043	6.0	.236	7
					25	Int.	★	MWS0590X25DB	169.1	6.657	172.1	6.776	224.1	8.823	223	8.780	1.1	.043	6.0	.236	7
					30	Int.	★	MWS0590X30DB	199.1	7.839	202.1	7.957	254.1	10.004	253	9.961	1.1	.043	6.0	.236	7
5.954	.2344	15/64	A		5	Int.	▲	MWS02344LB	49.1	1.933	49.1	1.933	101.1	3.980	100	3.937	1.1	.043	5.954	.234	6
					8	Int.	▲	MWS02344X8DB	67.1	2.642	67.1	2.642	119.1	4.689	118	4.646	1.1	.043	5.954	.234	6
					15	Int.	●	MWS02344X15DB	109.1	4.295	112.1	4.413	164.1	6.461	163	6.417	1.1	.043	5.954	.234	7
					20	Int.	●	MWS02344X20DB	139.1	5.476	142.1	5.594	194.1	7.642	193	7.598	1.1	.043	5.954	.234	7
					25	Int.	●	MWS02344X25DB	169.1	6.657	172.1	6.776	224.1	8.823	223	8.780	1.1	.043	5.954	.234	7
					30	Int.	●	MWS02344X30DB	199.1	7.839	202.1	7.957	254.1	10.004	253	9.961	1.1	.043	5.954	.234	7
6.000	.2362			M7x1.0	2	Ext.	▲	MWE0600SA	29.1	1.146	29.1	1.146	67.1	2.642	66	2.598	1.1	.043	6.0	.236	1
					3	Ext.	▲	MWE0600MA	42.1	1.657	42.1	1.657	82.1	3.232	81	3.189	1.1	.043	6.0	.236	1
					3	Int.	▲	MWS0600MB	31.1	1.224	31.1	1.224	83.1	3.272	82	3.228	1.1	.043	6.0	.236	6
					5	Int.	▲	MWS0600LB	49.1	1.933	49.1	1.933	101.1	3.980	100	3.937	1.1	.043	6.0	.236	6
					8	Int.	▲	MWS0600X8DB	67.1	2.642	67.1	2.642	119.1	4.689	118	4.646	1.1	.043	6.0	.236	6
					10	Int.	●	MWS0600X10DB	79.1	3.114	82.1	3.232	134.1	5.280	133	5.236	1.1	.043	6.0	.236	7
					15	Int.	●	MWS0600X15DB	109.1	4.295	112.1	4.413	164.1	6.461	163	6.417	1.1	.043	6.0	.236	7
					20	Int.	●	MWS0600X20DB	139.1	5.476	142.1	5.594	194.1	7.642	193	7.598	1.1	.043	6.0	.236	7
					25	Int.	●	MWS0600X25DB	169.1	6.657	172.1	6.776	224.1	8.823	223	8.780	1.1	.043	6.0	.236	7
					30	Int.	●	MWS0600X30DB	199.1	7.839	202.1	7.957	254.1	10.004	253	9.961	1.1	.043	6.0	.236	7

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
6.100	.2402				2	Ext.	▲	MWE0610SA	32.1	1.264	32.1	1.264	71.1	2.799	70	2.756	1.1	.043	6.1	.240	1
					3	Ext.	▲	MWE0610MA	42.1	1.657	42.1	1.657	82.1	3.232	81	3.189	1.1	.043	6.1	.240	1
					3	Int.	▲	MWS0610MB	33.6	1.323	36.1	1.421	89.1	3.508	88	3.465	1.1	.043	7.0	.276	6
					5	Int.	▲	MWS0610LB	53.1	2.091	57.1	2.248	110.1	4.335	109	4.291	1.1	.043	7.0	.276	6
					8	Int.	▲	MWS0610X8DB	73.1	2.878	78.1	3.075	131.1	5.161	130	5.118	1.1	.043	7.0	.276	6
					10	Int.	★	MWS0610X10DB	86.1	3.390	89.1	3.508	142.1	5.594	141	5.551	1.1	.043	7.0	.276	7
					15	Int.	★	MWS0610X15DB	118.1	4.650	121.1	4.768	174.1	6.854	173	6.811	1.1	.043	7.0	.276	7
					20	Int.	★	MWS0610X20DB	151.1	5.949	154.1	6.067	207.1	8.154	206	8.110	1.1	.043	7.0	.276	7
					25	Int.	★	MWS0610X25DB	169.1	6.657	186.1	7.327	224.1	8.823	223	8.780	1.1	.043	7.0	.276	7
					30	Int.	●	MWS0610X30DB	216.1	8.508	219.1	8.626	272.1	10.713	271	10.669	1.1	.043	7.0	.276	7
6.200	.2441				2	Ext.	▲	MWE0620SA	32.1	1.264	32.1	1.264	71.1	2.799	70	2.756	1.1	.043	6.2	.244	1
					3	Ext.	▲	MWE0620MA	42.1	1.657	42.1	1.657	82.1	3.232	81	3.189	1.1	.043	6.2	.244	1
					3	Int.	▲	MWS0620MB	33.6	1.323	36.1	1.421	89.1	3.508	88	3.465	1.1	.043	7.0	.276	6
					5	Int.	▲	MWS0620LB	53.1	2.091	57.1	2.248	110.1	4.335	109	4.291	1.1	.043	7.0	.276	6
					8	Int.	▲	MWS0620X8DB	73.1	2.878	78.1	3.075	131.1	5.161	130	5.118	1.1	.043	7.0	.276	6
					10	Int.	●	MWS0620X10DB	86.1	3.390	89.1	3.508	142.1	5.594	141	5.551	1.1	.043	7.0	.276	7
					15	Int.	●	MWS0620X15DB	118.1	4.650	121.1	4.768	174.1	6.854	173	6.811	1.1	.043	7.0	.276	7
					20	Int.	●	MWS0620X20DB	151.1	5.949	154.1	6.067	207.1	8.154	206	8.110	1.1	.043	7.0	.276	7
					25	Int.	●	MWS0620X25DB	183.1	7.209	186.1	7.327	239.1	9.413	238	9.370	1.1	.043	7.0	.276	7
					30	Int.	●	MWS0620X30DB	216.1	8.508	219.1	8.626	272.1	10.713	271	10.669	1.1	.043	7.0	.276	7
6.300	.2480				2	Ext.	▲	MWE0630SA	32.2	1.268	32.2	1.268	71.2	2.803	70	2.756	1.2	.047	6.3	.248	1
					3	Ext.	▲	MWE0630MA	42.2	1.661	42.2	1.661	82.2	3.236	81	3.189	1.2	.047	6.3	.248	1
					3	Int.	▲	MWS0630MB	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7.0	.276	6
					5	Int.	▲	MWS0630LB	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7.0	.276	6
					8	Int.	▲	MWS0630X8DB	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7.0	.276	6
					10	Int.	●	MWS0630X10DB	86.2	3.394	89.2	3.512	142.2	5.598	141	5.551	1.2	.047	7.0	.276	7
					15	Int.	★	MWS0630X15DB	118.2	4.654	121.2	4.772	174.2	6.858	173	6.811	1.2	.047	7.0	.276	7
					20	Int.	★	MWS0630X20DB	151.2	5.953	154.2	6.071	207.2	8.157	206	8.110	1.2	.047	7.0	.276	7
					25	Int.	★	MWS0630X25DB	183.2	7.213	186.2	7.331	239.2	9.417	238	9.370	1.2	.047	7.0	.276	7
					30	Int.	★	MWS0630X30DB	216.2	8.512	219.2	8.630	272.2	10.717	271	10.669	1.2	.047	7.0	.276	7
6.350	.2500	1/4	E		5	Int.	▲	MWS02500LB	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	6.746	.266	6
					8	Int.	▲	MWS02500X8DB	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	6.746	.266	6
					15	Int.	●	MWS02500X15DB	118.2	4.654	121.2	4.772	174.2	6.858	173	6.811	1.2	.047	6.746	.266	7
					20	Int.	●	MWS02500X20DB	151.2	5.953	154.2	6.071	207.2	8.157	206	8.110	1.2	.047	6.746	.266	7
					25	Int.	●	MWS02500X25DB	183.2	7.213	186.2	7.331	239.2	9.417	238	9.370	1.2	.047	6.746	.266	7
					30	Int.	●	MWS02500X30DB	216.2	8.512	219.2	8.630	272.2	10.717	271	10.669	1.2	.047	6.746	.266	7
6.400	.2520				2	Ext.	▲	MWE0640SA	32.2	1.268	32.2	1.268	71.2	2.803	70	2.756	1.2	.047	6.4	.252	1
					3	Ext.	▲	MWE0640MA	42.2	1.661	42.2	1.661	82.2	3.236	81	3.189	1.2	.047	6.4	.252	1
					3	Int.	▲	MWS0640MB	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7.0	.276	6
					5	Int.	▲	MWS0640LB	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7.0	.276	6
					8	Int.	▲	MWS0640X8DB	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7.0	.276	6
					10	Int.	●	MWS0640X10DB	86.2	3.394	89.2	3.512	142.2	5.598	141	5.551	1.2	.047	7.0	.276	7
					15	Int.	●	MWS0640X15DB	118.2	4.654	121.2	4.772	174.2	6.858	173	6.811	1.2	.047	7.0	.276	7
					20	Int.	●	MWS0640X20DB	151.2	5.953	154.2	6.071	207.2	8.157	206	8.110	1.2	.047	7.0	.276	7
					25	Int.	●	MWS0640X25DB	183.2	7.213	186.2	7.331	239.2	9.417	238	9.370	1.2	.047	7.0	.276	7
					30	Int.	●	MWS0640X30DB	216.2	8.512	219.2	8.630	272.2	10.717	271	10.669	1.2	.047	7.0	.276	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
6.500	.2559				2	Ext.	▲	MWE0650SA	32.2	1.268	32.2	1.268	71.2	2.803	70	2.756	1.2	.047	6.5	.256	1
					3	Ext.	▲	MWE0650MA	42.2	1.661	42.2	1.661	82.2	3.236	81	3.189	1.2	.047	6.5	.256	1
					3	Int.	▲	MWS0650MB	33.7	1.327	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7.0	.276	6
					5	Int.	▲	MWS0650LB	53.2	2.094	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7.0	.276	6
					8	Int.	▲	MWS0650X8DB	73.2	2.882	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7.0	.276	6
					10	Int.	★	MWS0650X10DB	86.2	3.394	89.2	3.512	142.2	5.598	141	5.551	1.2	.047	7.0	.276	7
					15	Int.	★	MWS0650X15DB	118.2	4.654	121.2	4.772	174.2	6.858	173	6.811	1.2	.047	7.0	.276	7
					20	Int.	●	MWS0650X20DB	151.2	5.953	154.2	6.071	207.2	8.157	206	8.110	1.2	.047	7.0	.276	7
					25	Int.	★	MWS0650X25DB	183.2	7.213	186.2	7.331	239.2	9.417	238	9.370	1.2	.047	7.0	.276	7
					30	Int.	●	MWS0650X30DB	216.2	8.512	219.2	8.630	272.2	10.717	271	10.669	1.2	.047	7.0	.276	7
6.528	.2570		F	5/16-18	5	Int.	▲	MWS02570LB	57.2	2.252	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	6.746	.266	6
					8	Int.	▲	MWS02570X8DB	78.2	3.079	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	6.746	.266	6
					15	Int.	●	MWS02570X15DB	127.2	5.008	130.2	5.126	183.2	7.213	182	7.165	1.2	.047	6.746	.266	7
					20	Int.	●	MWS02570X20DB	162.2	6.386	165.2	6.504	218.2	8.591	217	8.543	1.2	.047	6.746	.266	7
					25	Int.	●	MWS02570X25DB	197.2	7.764	200.2	7.882	253.2	9.969	252	9.921	1.2	.047	6.746	.266	7
					30	Int.	●	MWS02570X30DB	232.2	9.142	235.2	9.260	288.2	11.346	287	11.299	1.2	.047	6.746	.266	7
6.600	.2598				2	Ext.	▲	MWE0660SA	32.2	1.268	32.2	1.268	71.2	2.803	70	2.756	1.2	.047	6.6	.260	1
					3	Ext.	▲	MWE0660MA	44.2	1.740	44.2	1.740	84.2	3.315	83	3.268	1.2	.047	6.6	.260	1
					3	Int.	▲	MWS0660MB	36.2	1.425	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7.0	.276	6
					5	Int.	▲	MWS0660LB	57.2	2.252	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7.0	.276	6
					8	Int.	▲	MWS0660X8DB	78.2	3.079	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7.0	.276	6
					10	Int.	★	MWS0660X10DB	92.2	3.630	95.2	3.748	148.2	5.835	147	5.787	1.2	.047	7.0	.276	7
					15	Int.	●	MWS0660X15DB	127.2	5.008	130.2	5.126	183.2	7.213	182	7.165	1.2	.047	7.0	.276	7
					20	Int.	★	MWS0660X20DB	162.2	6.386	165.2	6.504	218.2	8.591	217	8.543	1.2	.047	7.0	.276	7
					25	Int.	★	MWS0660X25DB	197.2	7.764	200.2	7.882	253.2	9.969	252	9.921	1.2	.047	7.0	.276	7
					30	Int.	★	MWS0660X30DB	232.2	9.142	235.2	9.260	288.2	11.346	287	11.299	1.2	.047	7.0	.276	7
6.700	.2638			M8x1.25	2	Ext.	▲	MWE0670SA	32.2	1.268	32.2	1.268	71.2	2.803	70	2.756	1.2	.047	6.7	.264	1
					3	Ext.	▲	MWE0670MA	44.2	1.740	44.2	1.740	84.2	3.315	83	3.268	1.2	.047	6.7	.264	1
					3	Int.	▲	MWS0670MB	36.2	1.425	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7.0	.276	6
					5	Int.	▲	MWS0670LB	57.2	2.252	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7.0	.276	6
					8	Int.	▲	MWS0670X8DB	78.2	3.079	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7.0	.276	6
					10	Int.	★	MWS0670X10DB	92.2	3.630	95.2	3.748	148.2	5.835	147	5.787	1.2	.047	7.0	.276	7
					15	Int.	●	MWS0670X15DB	127.2	5.008	130.2	5.126	183.2	7.213	182	7.165	1.2	.047	7.0	.276	7
					20	Int.	★	MWS0670X20DB	162.2	6.386	165.2	6.504	218.2	8.591	217	8.543	1.2	.047	7.0	.276	7
					25	Int.	★	MWS0670X25DB	197.2	7.764	200.2	7.882	253.2	9.969	252	9.921	1.2	.047	7.0	.276	7
					30	Int.	★	MWS0670X30DB	232.2	9.142	235.2	9.260	288.2	11.346	287	11.299	1.2	.047	7.0	.276	7
6.746	.2656	17/64			5	Int.	▲	MWS02656LB	57.2	2.252	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	6.746	.266	6
					8	Int.	▲	MWS02656X8DB	78.2	3.079	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	6.746	.266	6
					15	Int.	●	MWS02656X15DB	127.2	5.008	130.2	5.126	183.2	7.213	182	7.165	1.2	.047	6.746	.266	7
					20	Int.	●	MWS02656X20DB	162.2	6.386	165.2	6.504	218.2	8.591	217	8.543	1.2	.047	6.746	.266	7
					25	Int.	●	MWS02656X25DB	197.2	7.764	200.2	7.882	253.2	9.969	252	9.921	1.2	.047	6.746	.266	7
					30	Int.	●	MWS02656X30DB	232.2	9.142	235.2	9.260	288.2	11.346	287	11.299	1.2	.047	6.746	.266	7

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
6.800	.2677				2	Ext.	▲	MWE0680SA	35.2	1.386	35.2	1.386	75.2	2.961	74	2.913	1.2	.047	6.8	.268	1
					3	Ext.	▲	MWE0680MA	44.2	1.740	44.2	1.740	84.2	3.315	83	3.268	1.2	.047	6.8	.268	1
					3	Int.	▲	MWS0680MB	36.2	1.425	36.2	1.425	89.2	3.512	88	3.465	1.2	.047	7.0	.276	6
					5	Int.	▲	MWS0680LB	57.2	2.252	57.2	2.252	110.2	4.339	109	4.291	1.2	.047	7.0	.276	6
					8	Int.	▲	MWS0680X8DB	78.2	3.079	78.2	3.079	131.2	5.165	130	5.118	1.2	.047	7.0	.276	6
					10	Int.	★	MWS0680X10DB	92.2	3.630	95.2	3.748	148.2	5.835	147	5.787	1.2	.047	7.0	.276	7
					15	Int.	●	MWS0680X15DB	127.2	5.008	130.2	5.126	183.2	7.213	182	7.165	1.2	.047	7.0	.276	7
					20	Int.	●	MWS0680X20DB	162.2	6.386	165.2	6.504	218.2	8.591	217	8.543	1.2	.047	7.0	.276	7
					25	Int.	★	MWS0680X25DB	197.2	7.764	200.2	7.882	253.2	9.969	252	9.921	1.2	.047	7.0	.276	7
					30	Int.	★	MWS0680X30DB	232.2	9.142	235.2	9.260	288.2	11.346	287	11.299	1.2	.047	7.0	.276	7
6.900	.2717			5/16-24	2	Ext.	▲	MWE0690SA	35.3	1.390	35.3	1.390	75.3	2.965	74	2.913	1.3	.051	6.9	.272	1
					3	Ext.	▲	MWE0690MA	44.3	1.744	44.3	1.744	84.3	3.319	83	3.268	1.3	.051	6.9	.272	1
					3	Int.	▲	MWS0690MB	36.3	1.429	36.3	1.429	89.3	3.516	88	3.465	1.3	.051	7.0	.276	6
					5	Int.	▲	MWS0690LB	57.3	2.256	57.3	2.256	110.3	4.343	109	4.291	1.3	.051	7.0	.276	6
					8	Int.	▲	MWS0690X8DB	78.3	3.083	78.3	3.083	131.3	5.169	130	5.118	1.3	.051	7.0	.276	6
					10	Int.	★	MWS0690X10DB	92.3	3.634	95.3	3.752	148.3	5.839	147	5.787	1.3	.051	7.0	.276	7
					15	Int.	●	MWS0690X15DB	127.3	5.012	130.3	5.130	183.3	7.217	182	7.165	1.3	.051	7.0	.276	7
					20	Int.	★	MWS0690X20DB	162.3	6.390	165.3	6.508	218.3	8.594	217	8.543	1.3	.051	7.0	.276	7
					25	Int.	★	MWS0690X25DB	197.3	7.768	200.3	7.886	253.3	9.972	252	9.921	1.3	.051	7.0	.276	7
					30	Int.	★	MWS0690X30DB	232.3	9.146	235.3	9.264	288.3	11.350	287	11.299	1.3	.051	7.0	.276	7
6.909	.2720		I	5/16-24	5	Int.	▲	MWS02720LB	57.3	2.256	57.3	2.256	110.3	4.343	109	4.291	1.3	.051	6.909	.272	6
					8	Int.	▲	MWS02720X8DB	78.3	3.083	78.3	3.083	131.3	5.169	130	5.118	1.3	.051	6.909	.272	6
					15	Int.	●	MWS02720X15DB	127.3	5.012	130.3	5.130	183.3	7.217	182	7.165	1.3	.051	6.909	.272	7
					20	Int.	●	MWS02720X20DB	162.3	6.390	165.3	6.508	218.3	8.594	217	8.543	1.3	.051	6.909	.272	7
					25	Int.	●	MWS02720X25DB	197.3	7.768	200.3	7.886	253.3	9.972	252	9.921	1.3	.051	6.909	.272	7
					30	Int.	●	MWS02720X30DB	232.3	9.146	235.3	9.264	288.3	11.350	287	11.299	1.3	.051	6.909	.272	7
7.000	.2756			M8x1.0	2	Ext.	▲	MWE0700SA	35.3	1.390	35.3	1.390	75.3	2.965	74	2.913	1.3	.051	7.0	.276	1
					3	Ext.	▲	MWE0700MA	44.3	1.744	44.3	1.744	84.3	3.319	83	3.268	1.3	.051	7.0	.276	1
					3	Int.	▲	MWS0700MB	36.3	1.429	36.3	1.429	89.3	3.516	88	3.465	1.3	.051	7.0	.276	6
					5	Int.	▲	MWS0700LB	57.3	2.256	57.3	2.256	110.3	4.343	109	4.291	1.3	.051	7.0	.276	6
					8	Int.	▲	MWS0700X8DB	78.3	3.083	78.3	3.083	131.3	5.169	130	5.118	1.3	.051	7.0	.276	6
					10	Int.	●	MWS0700X10DB	92.3	3.634	95.3	3.752	148.3	5.839	147	5.787	1.3	.051	7.0	.276	7
					15	Int.	●	MWS0700X15DB	127.3	5.012	130.3	5.130	183.3	7.217	182	7.165	1.3	.051	7.0	.276	7
					20	Int.	●	MWS0700X20DB	162.3	6.390	165.3	6.508	218.3	8.594	217	8.543	1.3	.051	7.0	.276	7
					25	Int.	●	MWS0700X25DB	197.3	7.768	200.3	7.886	253.3	9.972	252	9.921	1.3	.051	7.0	.276	7
					30	Int.	●	MWS0700X30DB	232.3	9.146	235.3	9.264	288.3	11.350	287	11.299	1.3	.051	7.0	.276	7
7.100	.2795				2	Ext.	▲	MWE0710SA	35.3	1.390	35.3	1.390	75.3	2.965	74	2.913	1.3	.051	7.1	.280	1
					3	Ext.	▲	MWE0710MA	46.3	1.823	46.3	1.823	88.3	3.476	87	3.425	1.3	.051	7.1	.280	1
					3	Int.	▲	MWS0710MB	38.8	1.528	41.3	1.626	95.3	3.752	94	3.701	1.3	.051	8.0	.315	6
					5	Int.	▲	MWS0710LB	61.3	2.413	65.3	2.571	119.3	4.697	118	4.646	1.3	.051	8.0	.315	6
					8	Int.	▲	MWS0710X8DB	84.3	3.319	89.3	3.516	143.3	5.642	142	5.591	1.3	.051	8.0	.315	6
					10	Int.	★	MWS0710X10DB	99.3	3.909	102.3	4.028	156.3	6.154	155	6.102	1.3	.051	8.0	.315	7
					15	Int.	●	MWS0710X15DB	136.3	5.366	139.3	5.484	193.3	7.610	192	7.559	1.3	.051	8.0	.315	7
					20	Int.	★	MWS0710X20DB	174.3	6.862	177.3	6.980	231.3	9.106	230	9.055	1.3	.051	8.0	.315	7
					25	Int.	★	MWS0710X25DB	211.3	8.319	214.3	8.437	268.3	10.563	267	10.512	1.3	.051	8.0	.315	7
					30	Int.	★	MWS0710X30DB	249.3	9.815	252.3	9.933	306.3	12.059	305	12.008	1.3	.051	8.0	.315	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
7.142	.2812	9/32	K		5	Int.	▲	MWS02812LB	61.3	2.413	65.3	2.571	119.3	4.697	118	4.646	1.3	.051	7.938	.313	6
					8	Int.	▲	MWS02812X8DB	84.3	3.319	89.3	3.516	143.3	5.642	142	5.591	1.3	.051	7.938	.313	6
					15	Int.	●	MWS02812X15DB	136.3	5.366	139.3	5.484	193.3	7.610	192	7.559	1.3	.051	7.938	.313	7
					20	Int.	●	MWS02812X20DB	174.3	6.862	177.3	6.980	231.3	9.106	230	9.055	1.3	.051	7.938	.313	7
					25	Int.	●	MWS02812X25DB	211.3	8.319	214.3	8.437	268.3	10.563	267	10.512	1.3	.051	7.938	.313	7
					30	Int.	●	MWS02812X30DB	249.3	9.815	252.3	9.933	306.3	12.059	305	12.008	1.3	.051	7.938	.313	7
7.200	.2835				2	Ext.	▲	MWE0720SA	35.3	1.390	35.3	1.390	75.3	2.965	74	2.913	1.3	.051	7.2	.283	1
					3	Ext.	▲	MWE0720MA	46.3	1.823	46.3	1.823	88.3	3.476	87	3.425	1.3	.051	7.2	.283	1
					3	Int.	▲	MWS0720MB	38.8	1.528	41.3	1.626	95.3	3.752	94	3.701	1.3	.051	8.0	.315	6
					5	Int.	▲	MWS0720LB	61.3	2.413	65.3	2.571	119.3	4.697	118	4.646	1.3	.051	8.0	.315	6
					8	Int.	▲	MWS0720X8DB	84.3	3.319	89.3	3.516	143.3	5.642	142	5.591	1.3	.051	8.0	.315	6
					10	Int.	★	MWS0720X10DB	99.3	3.909	102.3	4.028	156.3	6.154	155	6.102	1.3	.051	8.0	.315	7
					15	Int.	★	MWS0720X15DB	136.3	5.366	139.3	5.484	193.3	7.610	192	7.559	1.3	.051	8.0	.315	7
					20	Int.	●	MWS0720X20DB	174.3	6.862	177.3	6.980	231.3	9.106	230	9.055	1.3	.051	8.0	.315	7
					25	Int.	★	MWS0720X25DB	211.3	8.319	214.3	8.437	268.3	10.563	267	10.512	1.3	.051	8.0	.315	7
					30	Int.	★	MWS0720X30DB	249.3	9.815	252.3	9.933	306.3	12.059	305	12.008	1.3	.051	8.0	.315	7
7.300	.2874				2	Ext.	▲	MWE0730SA	35.3	1.390	35.3	1.390	75.3	2.965	74	2.913	1.3	.051	7.3	.287	1
					3	Ext.	▲	MWE0730MA	46.3	1.823	46.3	1.823	88.3	3.476	87	3.425	1.3	.051	7.3	.287	1
					3	Int.	▲	MWS0730MB	38.8	1.528	41.3	1.626	95.3	3.752	94	3.701	1.3	.051	8.0	.315	6
					5	Int.	▲	MWS0730LB	61.3	2.413	65.3	2.571	119.3	4.697	118	4.646	1.3	.051	8.0	.315	6
					8	Int.	▲	MWS0730X8DB	84.3	3.319	89.3	3.516	143.3	5.642	142	5.591	1.3	.051	8.0	.315	6
					10	Int.	★	MWS0730X10DB	99.3	3.909	102.3	4.028	156.3	6.154	155	6.102	1.3	.051	8.0	.315	7
					15	Int.	●	MWS0730X15DB	136.3	5.366	139.3	5.484	193.3	7.610	192	7.559	1.3	.051	8.0	.315	7
					20	Int.	★	MWS0730X20DB	174.3	6.862	177.3	6.980	231.3	9.106	230	9.055	1.3	.051	8.0	.315	7
					25	Int.	★	MWS0730X25DB	211.3	8.319	214.3	8.437	268.3	10.563	267	10.512	1.3	.051	8.0	.315	7
					30	Int.	★	MWS0730X30DB	249.3	9.815	252.3	9.933	306.3	12.059	305	12.008	1.3	.051	8.0	.315	7
7.400	.2913				2	Ext.	▲	MWE0740SA	35.4	1.394	35.4	1.394	75.4	2.969	74	2.913	1.4	.055	7.4	.291	1
					3	Ext.	▲	MWE0740MA	46.4	1.827	46.4	1.827	88.4	3.480	87	3.425	1.4	.055	7.4	.291	1
					3	Int.	▲	MWS0740MB	38.9	1.531	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8.0	.315	6
					5	Int.	▲	MWS0740LB	61.4	2.417	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8.0	.315	6
					8	Int.	▲	MWS0740X8DB	84.4	3.323	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8.0	.315	6
					10	Int.	★	MWS0740X10DB	99.4	3.913	102.4	4.031	156.4	6.157	155	6.102	1.4	.055	8.0	.315	7
					15	Int.	●	MWS0740X15DB	136.4	5.370	139.4	5.488	193.4	7.614	192	7.559	1.4	.055	8.0	.315	7
					20	Int.	★	MWS0740X20DB	174.4	6.866	177.4	6.984	231.4	9.110	230	9.055	1.4	.055	8.0	.315	7
					25	Int.	★	MWS0740X25DB	211.4	8.323	214.4	8.441	268.4	10.567	267	10.512	1.4	.055	8.0	.315	7
					30	Int.	★	MWS0740X30DB	249.4	9.819	252.4	9.937	306.4	12.063	305	12.008	1.4	.055	8.0	.315	7
7.500	.2953		M		2	Ext.	▲	MWE0750SA	35.4	1.394	35.4	1.394	75.4	2.969	74	2.913	1.4	.055	7.5	.295	1
					3	Ext.	▲	MWE0750MA	46.4	1.827	46.4	1.827	88.4	3.480	87	3.425	1.4	.055	7.5	.295	1
					3	Int.	▲	MWS0750MB	38.9	1.531	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8.0	.315	6
					5	Int.	▲	MWS0750LB	61.4	2.417	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8.0	.315	6
					8	Int.	▲	MWS0750X8DB	84.4	3.323	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8.0	.315	6
					10	Int.	●	MWS0750X10DB	99.4	3.913	102.4	4.031	156.4	6.157	155	6.102	1.4	.055	8.0	.315	7
					15	Int.	●	MWS0750X15DB	136.4	5.370	139.4	5.488	193.4	7.614	192	7.559	1.4	.055	8.0	.315	7
					20	Int.	★	MWS0750X20DB	174.4	6.866	177.4	6.984	231.4	9.110	230	9.055	1.4	.055	8.0	.315	7
					25	Int.	★	MWS0750X25DB	211.4	8.323	214.4	8.441	268.4	10.567	267	10.512	1.4	.055	8.0	.315	7
					30	Int.	★	MWS0750X30DB	249.4	9.819	252.4	9.937	306.4	12.063	305	12.008	1.4	.055	8.0	.315	7

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
7.541	.2969	19/64			5	Int.	▲	MWS02969LB	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	7.938	.313	6
					8	Int.	▲	MWS02969X8DB	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	7.938	.313	6
					15	Int.	●	MWS02969X15DB	145.4	5.724	148.4	5.843	202.4	7.969	201	7.913	1.4	.055	7.938	.313	7
					20	Int.	●	MWS02969X20DB	185.4	7.299	188.4	7.417	242.4	9.543	241	9.488	1.4	.055	7.938	.313	7
					25	Int.	●	MWS02969X25DB	225.4	8.874	228.4	8.992	282.4	11.118	281	11.063	1.4	.055	7.938	.313	7
					30	Int.	●	MWS02969X30DB	265.4	10.449	268.4	10.567	322.4	12.693	321	12.638	1.4	.055	7.938	.313	7
7.600	.2992				2	Ext.	▲	MWE0760SA	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	7.6	.299	1
					3	Ext.	▲	MWE0760MA	49.4	1.945	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	7.6	.299	1
					3	Int.	▲	MWS0760MB	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8.0	.315	6
					5	Int.	▲	MWS0760LB	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8.0	.315	6
					8	Int.	▲	MWS0760X8DB	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8.0	.315	6
					10	Int.	★	MWS0760X10DB	105.4	4.150	108.4	4.268	162.4	6.394	161	6.339	1.4	.055	8.0	.315	7
					15	Int.	★	MWS0760X15DB	145.4	5.724	148.4	5.843	202.4	7.969	201	7.913	1.4	.055	8.0	.315	7
					20	Int.	★	MWS0760X20DB	185.4	7.299	188.4	7.417	242.4	9.543	241	9.488	1.4	.055	8.0	.315	7
					25	Int.	★	MWS0760X25DB	225.4	8.874	228.4	8.992	282.4	11.118	281	11.063	1.4	.055	8.0	.315	7
					30	Int.	★	MWS0760X30DB	265.4	10.449	268.4	10.567	322.4	12.693	321	12.638	1.4	.055	8.0	.315	7
7.700	.3031				2	Ext.	▲	MWE0770SA	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	7.7	.303	1
					3	Ext.	▲	MWE0770MA	49.4	1.945	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	7.7	.303	1
					3	Int.	▲	MWS0770MB	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8.0	.315	6
					5	Int.	▲	MWS0770LB	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8.0	.315	6
					8	Int.	▲	MWS0770X8DB	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8.0	.315	6
					10	Int.	●	MWS0770X10DB	105.4	4.150	108.4	4.268	162.4	6.394	161	6.339	1.4	.055	8.0	.315	7
					15	Int.	●	MWS0770X15DB	145.4	5.724	148.4	5.843	202.4	7.969	201	7.913	1.4	.055	8.0	.315	7
					20	Int.	★	MWS0770X20DB	185.4	7.299	188.4	7.417	242.4	9.543	241	9.488	1.4	.055	8.0	.315	7
					25	Int.	★	MWS0770X25DB	225.4	8.874	228.4	8.992	282.4	11.118	281	11.063	1.4	.055	8.0	.315	7
					30	Int.	★	MWS0770X30DB	265.4	10.449	268.4	10.567	322.4	12.693	321	12.638	1.4	.055	8.0	.315	7
7.800	.3071				2	Ext.	▲	MWE0780SA	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	7.8	.307	1
					3	Ext.	▲	MWE0780MA	49.4	1.945	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	7.8	.307	1
					3	Int.	▲	MWS0780MB	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8.0	.315	6
					5	Int.	▲	MWS0780LB	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8.0	.315	6
					8	Int.	▲	MWS0780X8DB	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8.0	.315	6
					10	Int.	★	MWS0780X10DB	105.4	4.150	108.4	4.268	162.4	6.394	161	6.339	1.4	.055	8.0	.315	7
					15	Int.	●	MWS0780X15DB	145.4	5.724	148.4	5.843	202.4	7.969	201	7.913	1.4	.055	8.0	.315	7
					20	Int.	●	MWS0780X20DB	185.4	7.299	188.4	7.417	242.4	9.543	241	9.488	1.4	.055	8.0	.315	7
					25	Int.	●	MWS0780X25DB	225.4	8.874	228.4	8.992	282.4	11.118	281	11.063	1.4	.055	8.0	.315	7
					30	Int.	★	MWS0780X30DB	265.4	10.449	268.4	10.567	322.4	12.693	321	12.638	1.4	.055	8.0	.315	7
7.900	.3110				2	Ext.	▲	MWE0790SA	38.4	1.512	38.4	1.512	80.4	3.165	79	3.110	1.4	.055	7.9	.311	1
					3	Ext.	▲	MWE0790MA	49.4	1.945	49.4	1.945	91.4	3.598	90	3.543	1.4	.055	7.9	.311	1
					3	Int.	▲	MWS0790MB	41.4	1.630	41.4	1.630	95.4	3.756	94	3.701	1.4	.055	8.0	.315	6
					5	Int.	▲	MWS0790LB	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	8.0	.315	6
					8	Int.	▲	MWS0790X8DB	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	8.0	.315	6
					10	Int.	●	MWS0790X10DB	105.4	4.150	108.4	4.268	162.4	6.394	161	6.339	1.4	.055	8.0	.315	7
					15	Int.	★	MWS0790X15DB	145.4	5.724	148.4	5.843	202.4	7.969	201	7.913	1.4	.055	8.0	.315	7
					20	Int.	★	MWS0790X20DB	185.4	7.299	188.4	7.417	242.4	9.543	241	9.488	1.4	.055	8.0	.315	7
					25	Int.	★	MWS0790X25DB	225.4	8.874	228.4	8.992	282.4	11.118	281	11.063	1.4	.055	8.0	.315	7
					30	Int.	★	MWS0790X30DB	265.4	10.449	268.4	10.567	322.4	12.693	321	12.638	1.4	.055	8.0	.315	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
7.938	.3125	5/16		3/8-16	5	Int.	▲	MWS03125LB	65.4	2.575	65.4	2.575	119.4	4.701	118	4.646	1.4	.055	7.938	.313	6
					8	Int.	▲	MWS03125X8DB	89.4	3.520	89.4	3.520	143.4	5.646	142	5.591	1.4	.055	7.938	.313	6
					15	Int.	●	MWS03125X15DB	145.4	5.724	148.4	5.843	202.4	7.969	201	7.913	1.4	.055	7.938	.313	7
					20	Int.	●	MWS03125X20DB	185.4	7.299	188.4	7.417	242.4	9.543	241	9.488	1.4	.055	7.938	.313	7
					25	Int.	●	MWS03125X25DB	225.4	8.874	228.4	8.992	282.4	11.118	281	11.063	1.4	.055	7.938	.313	7
					30	Int.	●	MWS03125X30DB	265.4	10.449	268.4	10.567	322.4	12.693	321	12.638	1.4	.055	7.938	.313	7
8.000	.3150				2	Ext.	▲	MWE0800SA	38.5	1.516	38.5	1.516	80.5	3.169	79	3.110	1.5	.059	8.0	.315	1
					3	Ext.	▲	MWE0800MA	49.5	1.949	49.5	1.949	91.5	3.602	90	3.543	1.5	.059	8.0	.315	1
					3	Int.	▲	MWS0800MB	41.5	1.634	41.5	1.634	95.5	3.760	94	3.701	1.5	.059	8.0	.315	6
					5	Int.	▲	MWS0800LB	65.5	2.579	65.5	2.579	119.5	4.705	118	4.646	1.5	.059	8.0	.315	6
					8	Int.	▲	MWS0800X8DB	89.5	3.524	89.5	3.524	143.5	5.650	142	5.591	1.5	.059	8.0	.315	6
					10	Int.	●	MWS0800X10DB	105.5	4.154	108.5	4.272	162.5	6.398	161	6.339	1.5	.059	8.0	.315	7
					15	Int.	●	MWS0800X15DB	145.5	5.728	148.5	5.846	202.5	7.972	201	7.913	1.5	.059	8.0	.315	7
					20	Int.	●	MWS0800X20DB	185.5	7.303	188.5	7.421	242.5	9.547	241	9.488	1.5	.059	8.0	.315	7
					25	Int.	★	MWS0800X25DB	225.5	8.878	228.5	8.996	282.5	11.122	281	11.063	1.5	.059	8.0	.315	7
					30	Int.	●	MWS0800X30DB	265.5	10.453	268.5	10.571	322.5	12.697	321	12.638	1.5	.059	8.0	.315	7
8.100	.3189				2	Ext.	▲	MWE0810SA	38.5	1.516	38.5	1.516	80.5	3.169	79	3.110	1.5	.059	8.1	.319	1
					3	Ext.	▲	MWE0810MA	54.5	2.146	54.5	2.146	97.5	3.839	96	3.780	1.5	.059	8.1	.319	1
					3	Int.	▲	MWS0810MB	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	9.0	.354	6
					5	Int.	▲	MWS0810LB	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	9.0	.354	6
					8	Int.	▲	MWS0810X8DB	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	9.0	.354	6
					10	Int.	●	MWS0810X10DB	112.5	4.429	115.5	4.547	170.5	6.713	169	6.654	1.5	.059	9.0	.354	7
					15	Int.	★	MWS0810X15DB	154.5	6.083	157.5	6.201	212.5	8.366	211	8.307	1.5	.059	9.0	.354	7
					20	Int.	★	MWS0810X20DB	197.5	7.776	200.5	7.894	255.5	10.059	254	10.000	1.5	.059	9.0	.354	7
					25	Int.	★	MWS0810X25DB	239.5	9.429	242.5	9.547	297.5	11.713	296	11.654	1.5	.059	9.0	.354	7
					30	Int.	★	MWS0810X30DB	282.5	11.122	285.5	11.240	340.5	13.406	339	13.346	1.5	.059	9.0	.354	7
8.200	.3228		P		2	Ext.	▲	MWE0820SA	38.5	1.516	38.5	1.516	80.5	3.169	79	3.110	1.5	.059	8.2	.323	1
					3	Ext.	▲	MWE0820MA	54.5	2.146	54.5	2.146	97.5	3.839	96	3.780	1.5	.059	8.2	.323	1
					3	Int.	▲	MWS0820MB	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	9.0	.354	6
					5	Int.	▲	MWS0820LB	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	9.0	.354	6
					8	Int.	▲	MWS0820X8DB	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	9.0	.354	6
					10	Int.	★	MWS0820X10DB	112.5	4.429	115.5	4.547	170.5	6.713	169	6.654	1.5	.059	9.0	.354	7
					15	Int.	★	MWS0820X15DB	154.5	6.083	157.5	6.201	212.5	8.366	211	8.307	1.5	.059	9.0	.354	7
					20	Int.	★	MWS0820X20DB	197.5	7.776	200.5	7.894	255.5	10.059	254	10.000	1.5	.059	9.0	.354	7
					25	Int.	★	MWS0820X25DB	239.5	9.429	242.5	9.547	297.5	11.713	296	11.654	1.5	.059	9.0	.354	7
					30	Int.	●	MWS0820X30DB	282.5	11.122	285.5	11.240	340.5	13.406	339	13.346	1.5	.059	9.0	.354	7
8.300	.3268				2	Ext.	▲	MWE0830SA	38.5	1.516	38.5	1.516	80.5	3.169	79	3.110	1.5	.059	8.3	.327	1
					3	Ext.	▲	MWE0830MA	54.5	2.146	54.5	2.146	97.5	3.839	96	3.780	1.5	.059	8.3	.327	1
					3	Int.	▲	MWS0830MB	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	9.0	.354	6
					5	Int.	▲	MWS0830LB	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	9.0	.354	6
					8	Int.	▲	MWS0830X8DB	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	9.0	.354	6
					10	Int.	★	MWS0830X10DB	112.5	4.429	115.5	4.547	170.5	6.713	169	6.654	1.5	.059	9.0	.354	7
					15	Int.	★	MWS0830X15DB	154.5	6.083	157.5	6.201	212.5	8.366	211	8.307	1.5	.059	9.0	.354	7
					20	Int.	★	MWS0830X20DB	197.5	7.776	200.5	7.894	255.5	10.059	254	10.000	1.5	.059	9.0	.354	7
					25	Int.	★	MWS0830X25DB	239.5	9.429	242.5	9.547	297.5	11.713	296	11.654	1.5	.059	9.0	.354	7
					30	Int.	★	MWS0830X30DB	282.5	11.122	285.5	11.240	340.5	13.406	339	13.346	1.5	.059	9.0	.354	7

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
8.334	.3281	21/64			5	Int.	▲	MWS03281LB	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	8.733	.344	6
					8	Int.	▲	MWS03281X8DB	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	8.733	.344	6
					15	Int.	●	MWS03281X15DB	154.5	6.083	157.5	6.201	212.5	8.366	211	8.307	1.5	.059	8.733	.344	7
					20	Int.	●	MWS03281X20DB	197.5	7.776	200.5	7.894	255.5	10.059	254	10.000	1.5	.059	8.733	.344	7
					25	Int.	●	MWS03281X25DB	239.5	9.429	242.5	9.547	297.5	11.713	296	11.654	1.5	.059	8.733	.344	7
8.400	.3307				2	Ext.	▲	MWE0840SA	38.5	1.516	38.5	1.516	80.5	3.169	79	3.110	1.5	.059	8.4	.331	1
					3	Ext.	▲	MWE0840MA	54.5	2.146	54.5	2.146	97.5	3.839	96	3.780	1.5	.059	8.4	.331	1
					3	Int.	▲	MWS0840MB	44.0	1.732	46.5	1.831	101.5	3.996	100	3.937	1.5	.059	9.0	.354	6
					5	Int.	▲	MWS0840LB	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	9.0	.354	6
					8	Int.	▲	MWS0840X8DB	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	9.0	.354	6
					10	Int.	★	MWS0840X10DB	112.5	4.429	115.5	4.547	170.5	6.713	169	6.654	1.5	.059	9.0	.354	7
					15	Int.	★	MWS0840X15DB	154.5	6.083	157.5	6.201	212.5	8.366	211	8.307	1.5	.059	9.0	.354	7
					20	Int.	★	MWS0840X20DB	197.5	7.776	200.5	7.894	255.5	10.059	254	10.000	1.5	.059	9.0	.354	7
					25	Int.	★	MWS0840X25DB	239.5	9.429	242.5	9.547	297.5	11.713	296	11.654	1.5	.059	9.0	.354	7
					30	Int.	★	MWS0840X30DB	282.5	11.122	285.5	11.240	340.5	13.406	339	13.346	1.5	.059	9.0	.354	7
8.433	.3320		Q	3/8-24	5	Int.	▲	MWS03320LB	69.5	2.736	73.5	2.894	128.5	5.059	127	5.000	1.5	.059	8.733	.344	6
					8	Int.	▲	MWS03320X8DB	95.5	3.760	100.5	3.957	155.5	6.122	154	6.063	1.5	.059	8.733	.344	6
					15	Int.	●	MWS03320X15DB	154.5	6.083	157.5	6.201	212.5	8.366	211	8.307	1.5	.059	8.733	.344	7
					20	Int.	●	MWS03320X20DB	197.5	7.776	200.5	7.894	255.5	10.059	254	10.000	1.5	.059	8.733	.344	7
					25	Int.	●	MWS03320X25DB	239.5	9.429	242.5	9.547	297.5	11.713	296	11.654	1.5	.059	8.733	.344	7
8.500	.3346			M10x1.5	2	Ext.	▲	MWE0850SA	38.6	1.520	38.6	1.520	80.6	3.173	79	3.110	1.6	.063	8.5	.335	1
					3	Ext.	▲	MWE0850MA	54.6	2.150	54.6	2.150	97.6	3.843	96	3.780	1.6	.063	8.5	.335	1
					3	Int.	▲	MWS0850MB	44.1	1.736	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9.0	.354	6
					5	Int.	▲	MWS0850LB	69.6	2.740	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9.0	.354	6
					8	Int.	▲	MWS0850X8DB	95.6	3.764	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9.0	.354	6
					10	Int.	●	MWS0850X10DB	112.6	4.433	115.6	4.551	170.6	6.717	169	6.654	1.6	.063	9.0	.354	7
					15	Int.	●	MWS0850X15DB	154.6	6.087	157.6	6.205	212.6	8.370	211	8.307	1.6	.063	9.0	.354	7
					20	Int.	●	MWS0850X20DB	197.6	7.780	200.6	7.898	255.6	10.063	254	10.000	1.6	.063	9.0	.354	7
					25	Int.	★	MWS0850X25DB	239.6	9.433	242.6	9.551	297.6	11.717	296	11.654	1.6	.063	9.0	.354	7
					30	Int.	●	MWS0850X30DB	282.6	11.126	285.6	11.244	340.6	13.409	339	13.346	1.6	.063	9.0	.354	7
8.600	.3386		R		2	Ext.	▲	MWE0860SA	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	8.6	.339	1
					3	Ext.	▲	MWE0860MA	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	8.6	.339	1
					3	Int.	▲	MWS0860MB	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9.0	.354	6
					5	Int.	▲	MWS0860LB	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9.0	.354	6
					8	Int.	▲	MWS0860X8DB	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9.0	.354	6
					10	Int.	★	MWS0860X10DB	118.6	4.669	121.6	4.787	176.6	6.953	175	6.890	1.6	.063	9.0	.354	7
					15	Int.	★	MWS0860X15DB	163.6	6.441	166.6	6.559	221.6	8.724	220	8.661	1.6	.063	9.0	.354	7
					20	Int.	★	MWS0860X20DB	208.6	8.213	211.6	8.331	266.6	10.496	265	10.433	1.6	.063	9.0	.354	7
					25	Int.	★	MWS0860X25DB	253.6	9.984	256.6	10.102	311.6	12.268	310	12.205	1.6	.063	9.0	.354	7
					30	Int.	★	MWS0860X30DB	298.6	11.756	301.6	11.874	356.6	14.039	355	13.976	1.6	.063	9.0	.354	7

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▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
8.700	.3425			M10x1.25	2	Ext.	▲	MWE0870SA	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	8.7	.343	1
					3	Ext.	▲	MWE0870MA	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	8.7	.343	1
					3	Int.	▲	MWS0870MB	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9.0	.354	6
					5	Int.	▲	MWS0870LB	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9.0	.354	6
					8	Int.	▲	MWS0870X8DB	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9.0	.354	6
					10	Int.	●	MWS0870X10DB	118.6	4.669	121.6	4.787	176.6	6.953	175	6.890	1.6	.063	9.0	.354	7
					15	Int.	★	MWS0870X15DB	163.6	6.441	166.6	6.559	221.6	8.724	220	8.661	1.6	.063	9.0	.354	7
					20	Int.	★	MWS0870X20DB	208.6	8.213	211.6	8.331	266.6	10.496	265	10.433	1.6	.063	9.0	.354	7
					25	Int.	★	MWS0870X25DB	253.6	9.984	256.6	10.102	311.6	12.268	310	12.205	1.6	.063	9.0	.354	7
					30	Int.	★	MWS0870X30DB	298.6	11.756	301.6	11.874	356.6	14.039	355	13.976	1.6	.063	9.0	.354	7
8.733	.3438	11/32			5	Int.	▲	MWS03438LB	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	8.733	.344	6
					8	Int.	▲	MWS03438X8DB	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	8.733	.344	6
					15	Int.	●	MWS03438X15DB	163.6	6.441	166.6	6.559	221.6	8.724	220	8.661	1.6	.063	8.733	.344	7
					20	Int.	●	MWS03438X20DB	208.6	8.213	211.6	8.331	266.6	10.496	265	10.433	1.6	.063	8.733	.344	7
					25	Int.	●	MWS03438X25DB	253.6	9.984	256.6	10.102	311.6	12.268	310	12.205	1.6	.063	8.733	.344	7
8.800	.3465				2	Ext.	▲	MWE0880SA	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	8.8	.346	1
					3	Ext.	▲	MWE0880MA	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	8.8	.346	1
					3	Int.	▲	MWS0880MB	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9.0	.354	6
					5	Int.	▲	MWS0880LB	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9.0	.354	6
					8	Int.	▲	MWS0880X8DB	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9.0	.354	6
					10	Int.	★	MWS0880X10DB	118.6	4.669	121.6	4.787	176.6	6.953	175	6.890	1.6	.063	9.0	.354	7
					15	Int.	★	MWS0880X15DB	163.6	6.441	166.6	6.559	221.6	8.724	220	8.661	1.6	.063	9.0	.354	7
					20	Int.	★	MWS0880X20DB	208.6	8.213	211.6	8.331	266.6	10.496	265	10.433	1.6	.063	9.0	.354	7
					25	Int.	★	MWS0880X25DB	253.6	9.984	256.6	10.102	311.6	12.268	310	12.205	1.6	.063	9.0	.354	7
					30	Int.	★	MWS0880X30DB	298.6	11.756	301.6	11.874	356.6	14.039	355	13.976	1.6	.063	9.0	.354	7
8.900	.3504				2	Ext.	▲	MWE0890SA	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	8.9	.350	1
					3	Ext.	▲	MWE0890MA	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	8.9	.350	1
					3	Int.	▲	MWS0890MB	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9.0	.354	6
					5	Int.	▲	MWS0890LB	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9.0	.354	6
					8	Int.	▲	MWS0890X8DB	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9.0	.354	6
					10	Int.	★	MWS0890X10DB	118.6	4.669	121.6	4.787	176.6	6.953	175	6.890	1.6	.063	9.0	.354	7
					15	Int.	★	MWS0890X15DB	163.6	6.441	166.6	6.559	221.6	8.724	220	8.661	1.6	.063	9.0	.354	7
					20	Int.	★	MWS0890X20DB	208.6	8.213	211.6	8.331	266.6	10.496	265	10.433	1.6	.063	9.0	.354	7
					25	Int.	★	MWS0890X25DB	253.6	9.984	256.6	10.102	311.6	12.268	310	12.205	1.6	.063	9.0	.354	7
					30	Int.	★	MWS0890X30DB	298.6	11.756	301.6	11.874	356.6	14.039	355	13.976	1.6	.063	9.0	.354	7
9.000	.3543				2	Ext.	▲	MWE0900SA	41.6	1.638	41.6	1.638	85.6	3.370	84	3.307	1.6	.063	9.0	.354	1
					3	Ext.	▲	MWE0900MA	56.6	2.228	56.6	2.228	99.6	3.921	98	3.858	1.6	.063	9.0	.354	1
					3	Int.	▲	MWS0900MB	46.6	1.835	46.6	1.835	101.6	4.000	100	3.937	1.6	.063	9.0	.354	6
					5	Int.	▲	MWS0900LB	73.6	2.898	73.6	2.898	128.6	5.063	127	5.000	1.6	.063	9.0	.354	6
					8	Int.	▲	MWS0900X8DB	100.6	3.961	100.6	3.961	155.6	6.126	154	6.063	1.6	.063	9.0	.354	6
					10	Int.	●	MWS0900X10DB	118.6	4.669	121.6	4.787	176.6	6.953	175	6.890	1.6	.063	9.0	.354	7
					15	Int.	●	MWS0900X15DB	163.6	6.441	166.6	6.559	221.6	8.724	220	8.661	1.6	.063	9.0	.354	7
					20	Int.	●	MWS0900X20DB	208.6	8.213	211.6	8.331	266.6	10.496	265	10.433	1.6	.063	9.0	.354	7
					25	Int.	★	MWS0900X25DB	253.6	9.984	256.6	10.102	311.6	12.268	310	12.205	1.6	.063	9.0	.354	7
					30	Int.	★	MWS0900X30DB	298.6	11.756	301.6	11.874	356.6	14.039	355	13.976	1.6	.063	9.0	.354	7

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
9.100	.3583		T		2	Ext.	▲	MWE0910SA	41.7	1.642	41.7	1.642	85.7	3.374	84	3.307	1.7	.067	9.1	.358	1
					3	Ext.	▲	MWE0910MA	59.7	2.350	59.7	2.350	103.7	4.083	102	4.016	1.7	.067	9.1	.358	1
					3	Int.	▲	MWS0910MB	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10.0	.394	6
					5	Int.	▲	MWS0910LB	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10.0	.394	6
					8	Int.	▲	MWS0910X8DB	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10.0	.394	6
					10	Int.	★	MWS0910X10DB	125.7	4.949	128.7	5.067	183.7	7.232	182	7.165	1.7	.067	10.0	.394	7
					15	Int.	★	MWS0910X15DB	172.7	6.799	175.7	6.917	230.7	9.083	229	9.016	1.7	.067	10.0	.394	7
					20	Int.	★	MWS0910X20DB	220.7	8.689	223.7	8.807	278.7	10.972	277	10.906	1.7	.067	10.0	.394	7
					25	Int.	★	MWS0910X25DB	267.7	10.539	270.7	10.657	325.7	12.823	324	12.756	1.7	.067	10.0	.394	7
					30	Int.	★	MWS0910X30DB	315.7	12.429	318.7	12.547	373.7	14.713	372	14.646	1.7	.067	10.0	.394	7
9.129	.3594	23/64			5	Int.	▲	MWS03594LB	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	9.921	.391	6
					8	Int.	▲	MWS03594X8DB	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	9.921	.391	6
					15	Int.	●	MWS03594X15DB	172.7	6.799	175.7	6.917	230.7	9.083	229	9.016	1.7	.067	9.921	.391	7
					20	Int.	●	MWS03594X20DB	220.7	8.689	223.7	8.807	278.7	10.972	277	10.906	1.7	.067	9.921	.391	7
					25	Int.	●	MWS03594X25DB	267.7	10.539	270.7	10.657	325.7	12.823	324	12.756	1.7	.067	9.921	.391	7
9.200	.3622				2	Ext.	▲	MWE0920SA	41.7	1.642	41.7	1.642	85.7	3.374	84	3.307	1.7	.067	9.2	.362	1
					3	Ext.	▲	MWE0920MA	59.7	2.350	59.7	2.350	103.7	4.083	102	4.016	1.7	.067	9.2	.362	1
					3	Int.	▲	MWS0920MB	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10.0	.394	6
					5	Int.	▲	MWS0920LB	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10.0	.394	6
					8	Int.	▲	MWS0920X8DB	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10.0	.394	6
					10	Int.	★	MWS0920X10DB	125.7	4.949	128.7	5.067	183.7	7.232	182	7.165	1.7	.067	10.0	.394	7
					15	Int.	★	MWS0920X15DB	172.7	6.799	175.7	6.917	230.7	9.083	229	9.016	1.7	.067	10.0	.394	7
					20	Int.	★	MWS0920X20DB	220.7	8.689	223.7	8.807	278.7	10.972	277	10.906	1.7	.067	10.0	.394	7
					25	Int.	★	MWS0920X25DB	267.7	10.539	270.7	10.657	325.7	12.823	324	12.756	1.7	.067	10.0	.394	7
					30	Int.	★	MWS0920X30DB	315.7	12.429	318.7	12.547	373.7	14.713	372	14.646	1.7	.067	10.0	.394	7
9.300	.3661				2	Ext.	▲	MWE0930SA	41.7	1.642	41.7	1.642	85.7	3.374	84	3.307	1.7	.067	9.3	.366	1
					3	Ext.	▲	MWE0930MA	59.7	2.350	59.7	2.350	103.7	4.083	102	4.016	1.7	.067	9.3	.366	1
					3	Int.	▲	MWS0930MB	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10.0	.394	6
					5	Int.	▲	MWS0930LB	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10.0	.394	6
					8	Int.	▲	MWS0930X8DB	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10.0	.394	6
					10	Int.	●	MWS0930X10DB	125.7	4.949	128.7	5.067	183.7	7.232	182	7.165	1.7	.067	10.0	.394	7
					15	Int.	●	MWS0930X15DB	172.7	6.799	175.7	6.917	230.7	9.083	229	9.016	1.7	.067	10.0	.394	7
					20	Int.	★	MWS0930X20DB	220.7	8.689	223.7	8.807	278.7	10.972	277	10.906	1.7	.067	10.0	.394	7
					25	Int.	★	MWS0930X25DB	267.7	10.539	270.7	10.657	325.7	12.823	324	12.756	1.7	.067	10.0	.394	7
					30	Int.	★	MWS0930X30DB	315.7	12.429	318.7	12.547	373.7	14.713	372	14.646	1.7	.067	10.0	.394	7
9.347	.3680		U	7/16-14	5	Int.	▲	MWS03680LB	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	9.921	.391	6
					8	Int.	▲	MWS03680X8DB	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	9.921	.391	6
					15	Int.	●	MWS03680X15DB	172.7	6.799	175.7	6.917	230.7	9.083	229	9.016	1.7	.067	9.921	.391	7
					20	Int.	●	MWS03680X20DB	220.7	8.689	223.7	8.807	278.7	10.972	277	10.906	1.7	.067	9.921	.391	7
					25	Int.	●	MWS03680X25DB	267.7	10.539	270.7	10.657	325.7	12.823	324	12.756	1.7	.067	9.921	.391	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
9.400	.3701				2	Ext.	▲	MWE0940SA	41.7	1.642	41.7	1.642	85.7	3.374	84	3.307	1.7	.067	9.4	.370	1
					3	Ext.	▲	MWE0940MA	59.7	2.350	59.7	2.350	103.7	4.083	102	4.016	1.7	.067	9.4	.370	1
					3	Int.	▲	MWS0940MB	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10.0	.394	6
					5	Int.	▲	MWS0940LB	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10.0	.394	6
					8	Int.	▲	MWS0940X8DB	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10.0	.394	6
					10	Int.	★	MWS0940X10DB	125.7	4.949	128.7	5.067	183.7	7.232	182	7.165	1.7	.067	10.0	.394	7
					15	Int.	★	MWS0940X15DB	172.7	6.799	175.7	6.917	230.7	9.083	229	9.016	1.7	.067	10.0	.394	7
					20	Int.	★	MWS0940X20DB	220.7	8.689	223.7	8.807	278.7	10.972	277	10.906	1.7	.067	10.0	.394	7
					25	Int.	★	MWS0940X25DB	267.7	10.539	270.7	10.657	325.7	12.823	324	12.756	1.7	.067	10.0	.394	7
					30	Int.	★	MWS0940X30DB	315.7	12.429	318.7	12.547	373.7	14.713	372	14.646	1.7	.067	10.0	.394	7
9.500	.3740				2	Ext.	▲	MWE0950SA	41.7	1.642	41.7	1.642	85.7	3.374	84	3.307	1.7	.067	9.5	.374	1
					3	Ext.	▲	MWE0950MA	59.7	2.350	59.7	2.350	103.7	4.083	102	4.016	1.7	.067	9.5	.374	1
					3	Int.	▲	MWS0950MB	49.2	1.937	51.7	2.035	107.7	4.240	106	4.173	1.7	.067	10.0	.394	6
					5	Int.	▲	MWS0950LB	77.7	3.059	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	10.0	.394	6
					8	Int.	▲	MWS0950X8DB	106.7	4.201	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	10.0	.394	6
					10	Int.	●	MWS0950X10DB	125.7	4.949	128.7	5.067	183.7	7.232	182	7.165	1.7	.067	10.0	.394	7
					15	Int.	★	MWS0950X15DB	172.7	6.799	175.7	6.917	230.7	9.083	229	9.016	1.7	.067	10.0	.394	7
					20	Int.	●	MWS0950X20DB	220.7	8.689	223.7	8.807	278.7	10.972	277	10.906	1.7	.067	10.0	.394	7
					25	Int.	●	MWS0950X25DB	267.7	10.539	270.7	10.657	325.7	12.823	324	12.756	1.7	.067	10.0	.394	7
					30	Int.	●	MWS0950X30DB	315.7	12.429	318.7	12.547	373.7	14.713	372	14.646	1.7	.067	10.0	.394	7
9.525	.3750	3/8			5	Int.	▲	MWS03750LB	81.7	3.217	81.7	3.217	137.7	5.421	136	5.354	1.7	.067	9.921	.391	6
					8	Int.	▲	MWS03750X8DB	111.7	4.398	111.7	4.398	167.7	6.602	166	6.535	1.7	.067	9.921	.391	6
					15	Int.	●	MWS03750X15DB	181.7	7.154	184.7	7.272	239.7	9.437	238	9.370	1.7	.067	9.921	.391	7
					20	Int.	●	MWS03750X20DB	231.7	9.122	234.7	9.240	289.7	11.406	288	11.339	1.7	.067	9.921	.391	7
					25	Int.	●	MWS03750X25DB	281.7	11.091	284.7	11.209	339.7	13.374	338	13.307	1.7	.067	9.921	.391	7
9.600	.3780				2	Ext.	▲	MWE0960SA	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	9.6	.378	1
					3	Ext.	▲	MWE0960MA	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	9.6	.378	1
					3	Int.	▲	MWS0960MB	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10.0	.394	6
					5	Int.	▲	MWS0960LB	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10.0	.394	6
					8	Int.	▲	MWS0960X8DB	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10.0	.394	6
					10	Int.	●	MWS0960X10DB	131.8	5.189	134.8	5.307	189.8	7.472	188	7.402	1.8	.071	10.0	.394	7
					15	Int.	●	MWS0960X15DB	181.8	7.157	184.8	7.276	239.8	9.441	238	9.370	1.8	.071	10.0	.394	7
					20	Int.	★	MWS0960X20DB	231.8	9.126	234.8	9.244	289.8	11.409	288	11.339	1.8	.071	10.0	.394	7
					25	Int.	★	MWS0960X25DB	281.8	11.094	284.8	11.213	339.8	13.378	338	13.307	1.8	.071	10.0	.394	7
					30	Int.	★	MWS0960X30DB	331.8	13.063	334.8	13.181	389.8	15.346	388	15.276	1.8	.071	10.0	.394	7
9.700	.3819		Tube Sheet		2	Ext.	▲	MWE0970SA	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	9.7	.382	1
					3	Ext.	▲	MWE0970MA	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	9.7	.382	1
					3	Int.	▲	MWS0970MB	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10.0	.394	6
					5	Int.	▲	MWS0970LB	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10.0	.394	6
					8	Int.	▲	MWS0970X8DB	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10.0	.394	6
					10	Int.	★	MWS0970X10DB	131.8	5.189	134.8	5.307	189.8	7.472	188	7.402	1.8	.071	10.0	.394	7
					15	Int.	●	MWS0970X15DB	181.8	7.157	184.8	7.276	239.8	9.441	238	9.370	1.8	.071	10.0	.394	7
					20	Int.	★	MWS0970X20DB	231.8	9.126	234.8	9.244	289.8	11.409	288	11.339	1.8	.071	10.0	.394	7
					25	Int.	★	MWS0970X25DB	281.8	11.094	284.8	11.213	339.8	13.378	338	13.307	1.8	.071	10.0	.394	7
					30	Int.	★	MWS0970X30DB	331.8	13.063	334.8	13.181	389.8	15.346	388	15.276	1.8	.071	10.0	.394	7

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MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
9.800	.3858		W		2	Ext.	▲	MWE0980SA	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	9.8	.386	1
					3	Ext.	▲	MWE0980MA	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	9.8	.386	1
					3	Int.	▲	MWS0980MB	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10.0	.394	6
					5	Int.	▲	MWS0980LB	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10.0	.394	6
					8	Int.	▲	MWS0980X8DB	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10.0	.394	6
					10	Int.	●	MWS0980X10DB	131.8	5.189	134.8	5.307	189.8	7.472	188	7.402	1.8	.071	10.0	.394	7
					15	Int.	★	MWS0980X15DB	181.8	7.157	184.8	7.276	239.8	9.441	238	9.370	1.8	.071	10.0	.394	7
					20	Int.	★	MWS0980X20DB	231.8	9.126	234.8	9.244	289.8	11.409	288	11.339	1.8	.071	10.0	.394	7
					25	Int.	★	MWS0980X25DB	281.8	11.094	284.8	11.213	339.8	13.378	338	13.307	1.8	.071	10.0	.394	7
					30	Int.	★	MWS0980X30DB	331.8	13.063	334.8	13.181	389.8	15.346	388	15.276	1.8	.071	10.0	.394	7
9.900	.3898				2	Ext.	▲	MWE0990SA	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	9.9	.390	1
					3	Ext.	▲	MWE0990MA	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	9.9	.390	1
					3	Int.	▲	MWS0990MB	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10.0	.394	6
					5	Int.	▲	MWS0990LB	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10.0	.394	6
					8	Int.	▲	MWS0990X8DB	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10.0	.394	6
					10	Int.	●	MWS0990X10DB	131.8	5.189	134.8	5.307	189.8	7.472	188	7.402	1.8	.071	10.0	.394	7
					15	Int.	★	MWS0990X15DB	181.8	7.157	184.8	7.276	239.8	9.441	238	9.370	1.8	.071	10.0	.394	7
					20	Int.	★	MWS0990X20DB	231.8	9.126	234.8	9.244	289.8	11.409	288	11.339	1.8	.071	10.0	.394	7
					25	Int.	★	MWS0990X25DB	281.8	11.094	284.8	11.213	339.8	13.378	338	13.307	1.8	.071	10.0	.394	7
					30	Int.	★	MWS0990X30DB	331.8	13.063	334.8	13.181	389.8	15.346	388	15.276	1.8	.071	10.0	.394	7
9.921	.3906	25/64		7/16-20	5	Int.	▲	MWS03906LB	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	9.921	.391	6
					8	Int.	▲	MWS03906X8DB	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	9.921	.391	6
					15	Int.	●	MWS03906X15DB	181.8	7.157	184.8	7.276	239.8	9.441	238	9.370	1.8	.071	9.921	.391	7
					20	Int.	●	MWS03906X20DB	231.8	9.126	234.8	9.244	289.8	11.409	288	11.339	1.8	.071	9.921	.391	7
					25	Int.	●	MWS03906X25DB	281.8	11.094	284.8	11.213	339.8	13.378	338	13.307	1.8	.071	9.921	.391	7
10.000	.3937				2	Ext.	▲	MWE1000SA	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	10.0	.394	1
					3	Ext.	▲	MWE1000MA	61.8	2.433	61.8	2.433	106.8	4.205	105	4.134	1.8	.071	10.0	.394	1
					3	Int.	▲	MWS1000MB	51.8	2.039	51.8	2.039	107.8	4.244	106	4.173	1.8	.071	10.0	.394	6
					5	Int.	▲	MWS1000LB	81.8	3.220	81.8	3.220	137.8	5.425	136	5.354	1.8	.071	10.0	.394	6
					8	Int.	▲	MWS1000X8DB	111.8	4.402	111.8	4.402	167.8	6.606	166	6.535	1.8	.071	10.0	.394	6
					10	Int.	●	MWS1000X10DB	131.8	5.189	134.8	5.307	189.8	7.472	188	7.402	1.8	.071	10.0	.394	7
					15	Int.	●	MWS1000X15DB	181.8	7.157	184.8	7.276	239.8	9.441	238	9.370	1.8	.071	10.0	.394	7
					20	Int.	★	MWS1000X20DB	231.8	9.126	234.8	9.244	289.8	11.409	288	11.339	1.8	.071	10.0	.394	7
					25	Int.	★	MWS1000X25DB	281.8	11.094	284.8	11.213	339.8	13.378	338	13.307	1.8	.071	10.0	.394	7
					30	Int.	●	MWS1000X30DB	331.8	13.063	334.8	13.181	389.8	15.346	388	15.276	1.8	.071	10.0	.394	7
10.100	.3976				2	Ext.	▲	MWE1010SA	44.8	1.764	44.8	1.764	90.8	3.575	89	3.504	1.8	.071	10.1	.398	1
					3	Ext.	▲	MWE1010MA	67.8	2.669	67.8	2.669	113.8	4.480	112	4.409	1.8	.071	10.1	.398	1
					3	Int.	▲	MWS1010MB	54.3	2.138	56.8	2.236	117.8	4.638	116	4.567	1.8	.071	11.0	.433	6
					5	Int.	▲	MWS1010LB	85.8	3.378	89.8	3.535	150.8	5.937	149	5.866	1.8	.071	11.0	.433	6
					8	Int.	▲	MWS1010X8DB	117.8	4.638	122.8	4.835	183.8	7.236	182	7.165	1.8	.071	11.0	.433	6
					10	Int.	★	MWS1010X10DB	138.8	5.465	141.8	5.583	202.8	7.984	201	7.913	1.8	.071	11.0	.433	7
					15	Int.	★	MWS1010X15DB	190.8	7.512	193.8	7.630	254.8	10.031	253	9.961	1.8	.071	11.0	.433	7
					20	Int.	★	MWS1010X20DB	243.8	9.598	246.8	9.717	307.8	12.118	306	12.047	1.8	.071	11.0	.433	7
					25	Int.	★	MWS1010X25DB	295.8	11.646	298.8	11.764	359.8	14.165	358	14.094	1.8	.071	11.0	.433	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
10.200	.4016			M12x1.75	2	Ext.	▲	MWE1020SA	44.9	1.768	44.9	1.768	90.9	3.579	89	3.504	1.9	.075	10.2	.402	1
					3	Ext.	▲	MWE1020MA	67.9	2.673	67.9	2.673	113.9	4.484	112	4.409	1.9	.075	10.2	.402	1
					3	Int.	▲	MWS1020MB	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11.0	.433	6
					5	Int.	▲	MWS1020LB	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11.0	.433	6
					8	Int.	▲	MWS1020X8DB	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11.0	.433	6
					10	Int.	★	MWS1020X10DB	138.9	5.469	141.9	5.587	202.9	7.988	201	7.913	1.9	.075	11.0	.433	7
					15	Int.	●	MWS1020X15DB	190.9	7.516	193.9	7.634	254.9	10.035	253	9.961	1.9	.075	11.0	.433	7
					20	Int.	★	MWS1020X20DB	243.9	9.602	246.9	9.720	307.9	12.122	306	12.047	1.9	.075	11.0	.433	7
					25	Int.	★	MWS1020X25DB	295.9	11.650	298.9	11.768	359.9	14.169	358	14.094	1.9	.075	11.0	.433	7
10.300	.4055				2	Ext.	▲	MWE1030SA	44.9	1.768	44.9	1.768	90.9	3.579	89	3.504	1.9	.075	10.3	.406	1
					3	Ext.	▲	MWE1030MA	67.9	2.673	67.9	2.673	113.9	4.484	112	4.409	1.9	.075	10.3	.406	1
					3	Int.	▲	MWS1030MB	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11.0	.433	6
					5	Int.	▲	MWS1030LB	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11.0	.433	6
					8	Int.	▲	MWS1030X8DB	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11.0	.433	6
					10	Int.	★	MWS1030X10DB	138.9	5.469	141.9	5.587	202.9	7.988	201	7.913	1.9	.075	11.0	.433	7
					15	Int.	★	MWS1030X15DB	190.9	7.516	193.9	7.634	254.9	10.035	253	9.961	1.9	.075	11.0	.433	7
					20	Int.	★	MWS1030X20DB	243.9	9.602	246.9	9.720	307.9	12.122	306	12.047	1.9	.075	11.0	.433	7
					25	Int.	★	MWS1030X25DB	295.9	11.650	298.9	11.768	359.9	14.169	358	14.094	1.9	.075	11.0	.433	7
10.317	.4062	13/32			5	Int.	▲	MWS04062LB	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	10.716	.422	6
					8	Int.	▲	MWS04062X8DB	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	10.716	.422	6
					15	Int.	●	MWS04062X15DB	190.9	7.516	193.9	7.634	254.9	10.035	253	9.961	1.9	.075	10.716	.422	7
					20	Int.	●	MWS04062X20DB	243.9	9.602	246.9	9.720	307.9	12.122	306	12.047	1.9	.075	10.716	.422	7
10.400	.4094				2	Ext.	▲	MWE1040SA	44.9	1.768	44.9	1.768	90.9	3.579	89	3.504	1.9	.075	10.4	.409	1
					3	Ext.	▲	MWE1040MA	67.9	2.673	67.9	2.673	113.9	4.484	112	4.409	1.9	.075	10.4	.409	1
					3	Int.	▲	MWS1040MB	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11.0	.433	6
					5	Int.	▲	MWS1040LB	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11.0	.433	6
					8	Int.	▲	MWS1040X8DB	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11.0	.433	6
					10	Int.	★	MWS1040X10DB	138.9	5.469	141.9	5.587	202.9	7.988	201	7.913	1.9	.075	11.0	.433	7
					15	Int.	★	MWS1040X15DB	190.9	7.516	193.9	7.634	254.9	10.035	253	9.961	1.9	.075	11.0	.433	7
					20	Int.	★	MWS1040X20DB	243.9	9.602	246.9	9.720	307.9	12.122	306	12.047	1.9	.075	11.0	.433	7
					25	Int.	★	MWS1040X25DB	295.9	11.650	298.9	11.768	359.9	14.169	358	14.094	1.9	.075	11.0	.433	7
10.500	.4134		Z		2	Ext.	▲	MWE1050SA	44.9	1.768	44.9	1.768	90.9	3.579	89	3.504	1.9	.075	10.5	.413	1
					3	Ext.	▲	MWE1050MA	67.9	2.673	67.9	2.673	113.9	4.484	112	4.409	1.9	.075	10.5	.413	1
					3	Int.	▲	MWS1050MB	54.4	2.142	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11.0	.433	6
					5	Int.	▲	MWS1050LB	85.9	3.382	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11.0	.433	6
					8	Int.	▲	MWS1050X8DB	117.9	4.642	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11.0	.433	6
					10	Int.	★	MWS1050X10DB	138.9	5.469	141.9	5.587	202.9	7.988	201	7.913	1.9	.075	11.0	.433	7
					15	Int.	●	MWS1050X15DB	190.9	7.516	193.9	7.634	254.9	10.035	253	9.961	1.9	.075	11.0	.433	7
					20	Int.	★	MWS1050X20DB	243.9	9.602	246.9	9.720	307.9	12.122	306	12.047	1.9	.075	11.0	.433	7
					25	Int.	★	MWS1050X25DB	295.9	11.650	298.9	11.768	359.9	14.169	358	14.094	1.9	.075	11.0	.433	7
10.600	.4173				2	Ext.	▲	MWE1060SA	44.9	1.768	44.9	1.768	90.9	3.579	89	3.504	1.9	.075	10.6	.417	1
					3	Ext.	▲	MWE1060MA	69.9	2.752	69.9	2.752	115.9	4.563	114	4.488	1.9	.075	10.6	.417	1
					3	Int.	▲	MWS1060MB	56.9	2.240	56.9	2.240	117.9	4.642	116	4.567	1.9	.075	11.0	.433	6
					5	Int.	▲	MWS1060LB	89.9	3.539	89.9	3.539	150.9	5.941	149	5.866	1.9	.075	11.0	.433	6
					8	Int.	▲	MWS1060X8DB	122.9	4.839	122.9	4.839	183.9	7.240	182	7.165	1.9	.075	11.0	.433	6
					10	Int.	●	MWS1060X10DB	144.9	5.705	147.9	5.823	208.9	8.224	207	8.150	1.9	.075	11.0	.433	7
					15	Int.	★	MWS1060X15DB	199.9	7.870	202.9	7.988	263.9	10.390	262	10.315	1.9	.075	11.0	.433	7
					20	Int.	★	MWS1060X20DB	254.9	10.035	257.9	10.154	318.9	12.555	317	12.480	1.9	.075	11.0	.433	7
					25	Int.	★	MWS1060X25DB	309.9	12.201	312.9	12.319	373.9	14.720	372	14.646	1.9	.075	11.0	.433	7

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MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
10.700	.4213				2	Ext.	▲	MWE1070SA	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	10.7	.421	1
					3	Ext.	▲	MWE1070MA	70.0	2.756	70.0	2.756	116.0	4.567	114	4.488	2.0	.079	10.7	.421	1
					3	Int.	▲	MWS1070MB	57.0	2.244	57.0	2.244	118.0	4.646	116	4.567	2.0	.079	11.0	.433	6
					5	Int.	▲	MWS1070LB	90.0	3.543	90.0	3.543	151.0	5.945	149	5.866	2.0	.079	11.0	.433	6
					8	Int.	▲	MWS1070X8DB	123.0	4.843	123.0	4.843	184.0	7.244	182	7.165	2.0	.079	11.0	.433	6
					10	Int.	●	MWS1070X10DB	145.0	5.709	148.0	5.827	209.0	8.228	207	8.150	2.0	.079	11.0	.433	7
					15	Int.	★	MWS1070X15DB	200.0	7.874	203.0	7.992	264.0	10.394	262	10.315	2.0	.079	11.0	.433	7
					20	Int.	●	MWS1070X20DB	255.0	10.039	258.0	10.157	319.0	12.559	317	12.480	2.0	.079	11.0	.433	7
					25	Int.	★	MWS1070X25DB	310.0	12.205	313.0	12.323	374.0	14.724	372	14.646	2.0	.079	11.0	.433	7
10.716	.4219	27/64		1/2-13	5	Int.	▲	MWS04219LB	90.0	3.543	90.0	3.543	151.0	5.945	149	5.866	2.0	.079	10.716	.422	6
					8	Int.	▲	MWS04219X8DB	123.0	4.843	123.0	4.843	184.0	7.244	182	7.165	2.0	.079	10.716	.422	6
					15	Int.	●	MWS04219X15DB	200.0	7.874	203.0	7.992	264.0	10.394	262	10.315	2.0	.079	10.716	.422	7
					20	Int.	●	MWS04219X20DB	255.0	10.039	258.0	10.157	319.0	12.559	317	12.480	2.0	.079	10.716	.422	7
10.800	.4252			M12x1.25	2	Ext.	▲	MWE1080SA	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	10.8	.425	1
					3	Ext.	▲	MWE1080MA	70.0	2.756	70.0	2.756	116.0	4.567	114	4.488	2.0	.079	10.8	.425	1
					3	Int.	▲	MWS1080MB	57.0	2.244	57.0	2.244	118.0	4.646	116	4.567	2.0	.079	11.0	.433	6
					5	Int.	▲	MWS1080LB	90.0	3.543	90.0	3.543	151.0	5.945	149	5.866	2.0	.079	11.0	.433	6
					8	Int.	▲	MWS1080X8DB	123.0	4.843	123.0	4.843	184.0	7.244	182	7.165	2.0	.079	11.0	.433	6
					10	Int.	●	MWS1080X10DB	145.0	5.709	148.0	5.827	209.0	8.228	207	8.150	2.0	.079	11.0	.433	7
					15	Int.	★	MWS1080X15DB	200.0	7.874	203.0	7.992	264.0	10.394	262	10.315	2.0	.079	11.0	.433	7
					20	Int.	●	MWS1080X20DB	255.0	10.039	258.0	10.157	319.0	12.559	317	12.480	2.0	.079	11.0	.433	7
					25	Int.	★	MWS1080X25DB	310.0	12.205	313.0	12.323	374.0	14.724	372	14.646	2.0	.079	11.0	.433	7
10.900	.4291				2	Ext.	▲	MWE1090SA	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	10.9	.429	1
					3	Ext.	▲	MWE1090MA	70.0	2.756	70.0	2.756	116.0	4.567	114	4.488	2.0	.079	10.9	.429	1
					3	Int.	▲	MWS1090MB	57.0	2.244	57.0	2.244	118.0	4.646	116	4.567	2.0	.079	11.0	.433	6
					5	Int.	▲	MWS1090LB	90.0	3.543	90.0	3.543	151.0	5.945	149	5.866	2.0	.079	11.0	.433	6
					8	Int.	▲	MWS1090X8DB	123.0	4.843	123.0	4.843	184.0	7.244	182	7.165	2.0	.079	11.0	.433	7
					10	Int.	●	MWS1090X10DB	145.0	5.709	148.0	5.827	209.0	8.228	207	8.150	2.0	.079	11.0	.433	7
					15	Int.	★	MWS1090X15DB	200.0	7.874	203.0	7.992	264.0	10.394	262	10.315	2.0	.079	11.0	.433	7
					20	Int.	★	MWS1090X20DB	255.0	10.039	258.0	10.157	319.0	12.559	317	12.480	2.0	.079	11.0	.433	7
					25	Int.	★	MWS1090X25DB	310.0	12.205	313.0	12.323	374.0	14.724	372	14.646	2.0	.079	11.0	.433	7
11.000	.4331				2	Ext.	▲	MWE1100SA	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	11.0	.433	1
					3	Ext.	▲	MWE1100MA	70.0	2.756	70.0	2.756	116.0	4.567	114	4.488	2.0	.079	11.0	.433	1
					3	Int.	▲	MWS1100MB	57.0	2.244	57.0	2.244	118.0	4.646	116	4.567	2.0	.079	11.0	.433	6
					5	Int.	▲	MWS1100LB	90.0	3.543	90.0	3.543	151.0	5.945	149	5.866	2.0	.079	11.0	.433	6
					8	Int.	▲	MWS1100X8DB	123.0	4.843	123.0	4.843	184.0	7.244	182	7.165	2.0	.079	11.0	.433	6
					10	Int.	●	MWS1100X10DB	145.0	5.709	148.0	5.827	209.0	8.228	207	8.150	2.0	.079	11.0	.433	7
					15	Int.	●	MWS1100X15DB	200.0	7.874	203.0	7.992	264.0	10.394	262	10.315	2.0	.079	11.0	.433	7
					20	Int.	★	MWS1100X20DB	255.0	10.039	258.0	10.157	319.0	12.559	317	12.480	2.0	.079	11.0	.433	7
					25	Int.	●	MWS1100X25DB	310.0	12.205	313.0	12.323	374.0	14.724	372	14.646	2.0	.079	11.0	.433	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
11.100	.4370				2	Ext.	▲	MWE1110SA	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	11.1	.437	1
					3	Ext.	▲	MWE1110MA	73.0	2.874	73.0	2.874	120.0	4.724	118	4.646	2.0	.079	11.1	.437	1
					3	Int.	▲	MWS1110MB	59.5	2.343	62.0	2.441	124.0	4.882	122	4.803	2.0	.079	12.0	.472	6
					5	Int.	▲	MWS1110LB	94.0	3.701	98.0	3.858	160.0	6.299	158	6.220	2.0	.079	12.0	.472	6
					8	Int.	▲	MWS1110X8DB	129.0	5.079	134.0	5.276	196.0	7.717	194	7.638	2.0	.079	12.0	.472	6
					10	Int.	●	MWS1110X10DB	152.0	5.984	155.0	6.102	217.0	8.543	215	8.465	2.0	.079	12.0	.472	7
					15	Int.	★	MWS1110X15DB	209.0	8.228	212.0	8.346	274.0	10.787	272	10.709	2.0	.079	12.0	.472	7
					20	Int.	●	MWS1110X20DB	267.0	10.512	270.0	10.630	332.0	13.071	330	12.992	2.0	.079	12.0	.472	7
					25	Int.	★	MWS1110X25DB	324.0	12.756	327.0	12.874	389.0	15.315	387	15.236	2.0	.079	12.0	.472	7
11.113	.4375	7/16			5	Int.	▲	MWS04375LB	94.0	3.701	98.0	3.858	160.0	6.299	158	6.220	2.0	.079	11.908	.469	6
					8	Int.	▲	MWS04375X8DB	129.0	5.079	134.0	5.276	196.0	7.717	194	7.638	2.0	.079	11.908	.469	6
					15	Int.	●	MWS04375X15DB	209.0	8.228	212.0	8.346	274.0	10.787	272	10.709	2.0	.079	11.908	.469	7
					20	Int.	●	MWS04375X20DB	267.0	10.512	270.0	10.630	332.0	13.071	330	12.992	2.0	.079	11.908	.469	7
11.200	.4409				2	Ext.	▲	MWE1120SA	49.0	1.929	49.0	1.929	97.0	3.819	95	3.740	2.0	.079	11.2	.441	1
					3	Ext.	▲	MWE1120MA	73.0	2.874	73.0	2.874	120.0	4.724	118	4.646	2.0	.079	11.2	.441	1
					3	Int.	▲	MWS1120MB	59.5	2.343	62.0	2.441	124.0	4.882	122	4.803	2.0	.079	12.0	.472	6
					5	Int.	▲	MWS1120LB	94.0	3.701	98.0	3.858	160.0	6.299	158	6.220	2.0	.079	12.0	.472	6
					8	Int.	▲	MWS1120X8DB	129.0	5.079	134.0	5.276	196.0	7.717	194	7.638	2.0	.079	12.0	.472	6
					10	Int.	★	MWS1120X10DB	152.0	5.984	155.0	6.102	217.0	8.543	215	8.465	2.0	.079	12.0	.472	7
					15	Int.	●	MWS1120X15DB	209.0	8.228	212.0	8.346	274.0	10.787	272	10.709	2.0	.079	12.0	.472	7
					20	Int.	★	MWS1120X20DB	267.0	10.512	270.0	10.630	332.0	13.071	330	12.992	2.0	.079	12.0	.472	7
					25	Int.	★	MWS1120X25DB	324.0	12.756	327.0	12.874	389.0	15.315	387	15.236	2.0	.079	12.0	.472	7
11.300	.4449				2	Ext.	▲	MWE1130SA	49.1	1.933	49.1	1.933	97.1	3.823	95	3.740	2.1	.083	11.3	.445	1
					3	Ext.	▲	MWE1130MA	73.1	2.878	73.1	2.878	120.1	4.728	118	4.646	2.1	.083	11.3	.445	1
					3	Int.	▲	MWS1130MB	59.6	2.346	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12.0	.472	6
					5	Int.	▲	MWS1130LB	94.1	3.705	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12.0	.472	6
					8	Int.	▲	MWS1130X8DB	129.1	5.083	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12.0	.472	6
					10	Int.	★	MWS1130X10DB	152.1	5.988	155.1	6.106	217.1	8.547	215	8.465	2.1	.083	12.0	.472	7
					15	Int.	★	MWS1130X15DB	209.1	8.232	212.1	8.350	274.1	10.791	272	10.709	2.1	.083	12.0	.472	7
					20	Int.	★	MWS1130X20DB	267.1	10.516	270.1	10.634	332.1	13.075	330	12.992	2.1	.083	12.0	.472	7
					25	Int.	★	MWS1130X25DB	324.1	12.760	327.1	12.878	389.1	15.319	387	15.236	2.1	.083	12.0	.472	7
11.400	.4488				2	Ext.	▲	MWE1140SA	49.1	1.933	49.1	1.933	97.1	3.823	95	3.740	2.1	.083	11.4	.449	1
					3	Ext.	▲	MWE1140MA	73.1	2.878	73.1	2.878	120.1	4.728	118	4.646	2.1	.083	11.4	.449	1
					3	Int.	▲	MWS1140MB	59.6	2.346	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12.0	.472	6
					5	Int.	▲	MWS1140LB	94.1	3.705	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12.0	.472	6
					8	Int.	▲	MWS1140X8DB	129.1	5.083	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12.0	.472	6
					10	Int.	★	MWS1140X10DB	152.1	5.988	155.1	6.106	217.1	8.547	215	8.465	2.1	.083	12.0	.472	6
					15	Int.	★	MWS1140X15DB	209.1	8.232	212.1	8.350	274.1	10.791	272	10.709	2.1	.083	12.0	.472	7
					20	Int.	★	MWS1140X20DB	267.1	10.516	270.1	10.634	332.1	13.075	330	12.992	2.1	.083	12.0	.472	7
					25	Int.	★	MWS1140X25DB	324.1	12.760	327.1	12.878	389.1	15.319	387	15.236	2.1	.083	12.0	.472	7

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
11.500	.4528				2	Ext.	▲	MWE1150SA	49.1	1.933	49.1	1.933	97.1	3.823	95	3.740	2.1	.083	11.5	.453	1
					3	Ext.	▲	MWE1150MA	73.1	2.878	73.1	2.878	120.1	4.728	118	4.646	2.1	.083	11.5	.453	1
					3	Int.	▲	MWS1150MB	59.6	2.346	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12.0	.472	6
					5	Int.	▲	MWS1150LB	94.1	3.705	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12.0	.472	6
					8	Int.	▲	MWS1150X8DB	129.1	5.083	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12.0	.472	6
					10	Int.	★	MWS1150X10DB	152.1	5.988	155.1	6.106	217.1	8.547	215	8.465	2.1	.083	12.0	.472	7
					15	Int.	★	MWS1150X15DB	209.1	8.232	212.1	8.350	274.1	10.791	272	10.709	2.1	.083	12.0	.472	7
					20	Int.	★	MWS1150X20DB	267.1	10.516	270.1	10.634	332.1	13.075	330	12.992	2.1	.083	12.0	.472	7
					25	Int.	●	MWS1150X25DB	324.1	12.760	327.1	12.878	389.1	15.319	387	15.236	2.1	.083	12.0	.472	7
11.509	.4531	29/64		1/2-20	5	Int.	▲	MWS04531LB	98.1	3.862	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	11.908	.469	6
					8	Int.	▲	MWS04531X8DB	134.1	5.280	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	11.908	.469	6
					15	Int.	●	MWS04531X15DB	218.1	8.587	221.1	8.705	283.1	11.146	281	11.063	2.1	.083	11.908	.469	7
					20	Int.	●	MWS04531X20DB	278.1	10.949	281.1	11.067	343.1	13.508	341	13.425	2.1	.083	11.908	.469	7
11.600	.4567				2	Ext.	▲	MWE1160SA	49.1	1.933	49.1	1.933	97.1	3.823	95	3.740	2.1	.083	11.6	.457	1
					3	Ext.	▲	MWE1160MA	75.1	2.957	75.1	2.957	123.1	4.846	121	4.764	2.1	.083	11.6	.457	1
					3	Int.	▲	MWS1160MB	62.1	2.445	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12.0	.472	6
					5	Int.	▲	MWS1160LB	98.1	3.862	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12.0	.472	6
					8	Int.	▲	MWS1160X8DB	134.1	5.280	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12.0	.472	6
					10	Int.	★	MWS1160X10DB	158.1	6.224	161.1	6.343	223.1	8.783	221	8.701	2.1	.083	12.0	.472	7
					15	Int.	★	MWS1160X15DB	218.1	8.587	221.1	8.705	283.1	11.146	281	11.063	2.1	.083	12.0	.472	7
					20	Int.	★	MWS1160X20DB	278.1	10.949	281.1	11.067	343.1	13.508	341	13.425	2.1	.083	12.0	.472	7
					25	Int.	★	MWS1160X25DB	338.1	13.311	341.1	13.429	403.1	15.870	401	15.787	2.1	.083	12.0	.472	7
11.700	.4606				2	Ext.	▲	MWE1170SA	49.1	1.933	49.1	1.933	97.1	3.823	95	3.740	2.1	.083	11.7	.461	1
					3	Ext.	▲	MWE1170MA	75.1	2.957	75.1	2.957	123.1	4.846	121	4.764	2.1	.083	11.7	.461	1
					3	Int.	▲	MWS1170MB	62.1	2.445	62.1	2.445	124.1	4.886	122	4.803	2.1	.083	12.0	.472	6
					5	Int.	▲	MWS1170LB	98.1	3.862	98.1	3.862	160.1	6.303	158	6.220	2.1	.083	12.0	.472	6
					8	Int.	▲	MWS1170X8DB	134.1	5.280	134.1	5.280	196.1	7.720	194	7.638	2.1	.083	12.0	.472	6
					10	Int.	★	MWS1170X10DB	158.1	6.224	161.1	6.343	223.1	8.783	221	8.701	2.1	.083	12.0	.472	7
					15	Int.	★	MWS1170X15DB	218.1	8.587	221.1	8.705	283.1	11.146	281	11.063	2.1	.083	12.0	.472	7
					20	Int.	★	MWS1170X20DB	278.1	10.949	281.1	11.067	343.1	13.508	341	13.425	2.1	.083	12.0	.472	7
					25	Int.	★	MWS1170X25DB	338.1	13.311	341.1	13.429	403.1	15.870	401	15.787	2.1	.083	12.0	.472	7
11.800	.4646				2	Ext.	▲	MWE1180SA	49.2	1.937	49.2	1.937	97.2	3.827	95	3.740	2.2	.087	11.8	.465	1
					3	Ext.	▲	MWE1180MA	75.2	2.961	75.2	2.961	123.2	4.850	121	4.764	2.2	.087	11.8	.465	1
					3	Int.	▲	MWS1180MB	62.2	2.449	62.2	2.449	124.2	4.890	122	4.803	2.2	.087	12.0	.472	6
					5	Int.	▲	MWS1180LB	98.2	3.866	98.2	3.866	160.2	6.307	158	6.220	2.2	.087	12.0	.472	6
					8	Int.	▲	MWS1180X8DB	134.2	5.283	134.2	5.283	196.2	7.724	194	7.638	2.2	.087	12.0	.472	6
					10	Int.	★	MWS1180X10DB	158.2	6.228	161.2	6.346	223.2	8.787	221	8.701	2.2	.087	12.0	.472	7
					15	Int.	★	MWS1180X15DB	218.2	8.591	221.2	8.709	283.2	11.150	281	11.063	2.2	.087	12.0	.472	7
					20	Int.	★	MWS1180X20DB	278.2	10.953	281.2	11.071	343.2	13.512	341	13.425	2.2	.087	12.0	.472	7
					25	Int.	●	MWS1180X25DB	338.2	13.315	341.2	13.433	403.2	15.874	401	15.787	2.2	.087	12.0	.472	7
11.900	.4685				2	Ext.	▲	MWE1190SA	53.2	2.094	53.2	2.094	104.2	4.102	102	4.016	2.2	.087	11.9	.469	1
					3	Ext.	▲	MWE1190MA	75.2	2.961	75.2	2.961	123.2	4.850	121	4.764	2.2	.087	11.9	.469	1
					3	Int.	▲	MWS1190MB	62.2	2.449	62.2	2.449	124.2	4.890	122	4.803	2.2	.087	12.0	.472	6
					5	Int.	▲	MWS1190LB	98.2	3.866	98.2	3.866	160.2	6.307	158	6.220	2.2	.087	12.0	.472	6
					8	Int.	▲	MWS1190X8DB	134.2	5.283	134.2	5.283	196.2	7.724	194	7.638	2.2	.087	12.0	.472	6
					10	Int.	●	MWS1190X10DB	158.2	6.228	161.2	6.346	223.2	8.787	221	8.701	2.2	.087	12.0	.472	7
					15	Int.	★	MWS1190X15DB	218.2	8.591	221.2	8.709	283.2	11.150	281	11.063	2.2	.087	12.0	.472	7
					20	Int.	★	MWS1190X20DB	278.2	10.953	281.2	11.071	343.2	13.512	341	13.425	2.2	.087	12.0	.472	7
					25	Int.	★	MWS1190X25DB	338.2	13.315	341.2	13.433	403.2	15.874	401	15.787	2.2	.087	12.0	.472	7

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DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
11.908	.4688	15/32			5	Int.	▲	MWS04688LB	98.2	3.866	98.2	3.866	160.2	6.307	158	6.220	2.2	.087	11.908	.469	6
					8	Int.	▲	MWS04688X8DB	134.2	5.283	134.2	5.283	196.2	7.724	194	7.638	2.2	.087	11.908	.469	6
					15	Int.	●	MWS04688X15DB	218.2	8.591	221.2	8.709	283.2	11.150	281	11.063	2.2	.087	11.908	.469	7
					20	Int.	●	MWS04688X20DB	278.2	10.953	281.2	11.071	343.2	13.512	341	13.425	2.2	.087	11.908	.469	7
12.000	.4724			M14x2.0	2	Ext.	▲	MWE1200SA	53.2	2.094	53.2	2.094	104.2	4.102	102	4.016	2.2	.087	12.0	.472	1
					3	Ext.	▲	MWE1200MA	75.2	2.961	75.2	2.961	123.2	4.850	121	4.764	2.2	.087	12.0	.472	1
					3	Int.	▲	MWS1200MB	62.2	2.449	62.2	2.449	124.2	4.890	122	4.803	2.2	.087	12.0	.472	6
					5	Int.	▲	MWS1200LB	98.2	3.866	98.2	3.866	160.2	6.307	158	6.220	2.2	.087	12.0	.472	6
					8	Int.	▲	MWS1200X8DB	134.2	5.283	134.2	5.283	196.2	7.724	194	7.638	2.2	.087	12.0	.472	6
					10	Int.	●	MWS1200X10DB	158.2	6.228	161.2	6.346	223.2	8.787	221	8.701	2.2	.087	12.0	.472	7
					15	Int.	★	MWS1200X15DB	218.2	8.591	221.2	8.709	283.2	11.150	281	11.063	2.2	.087	12.0	.472	7
					20	Int.	★	MWS1200X20DB	278.2	10.953	281.2	11.071	343.2	13.512	341	13.425	2.2	.087	12.0	.472	7
					25	Int.	●	MWS1200X25DB	338.2	13.315	341.2	13.433	403.2	15.874	401	15.787	2.2	.087	12.0	.472	7
12.100	.4764				2	Ext.	▲	MWE1210SA	53.2	2.094	53.2	2.094	104.2	4.102	102	4.016	2.2	.087	12.1	.476	1
					3	Ext.	▲	MWE1210MA	78.2	3.079	78.2	3.079	137.2	5.402	135	5.315	2.2	.087	12.1	.476	1
					3	Int.	▲	MWS1210MB	64.7	2.547	67.2	2.646	130.2	5.126	128	5.039	2.2	.087	13.0	.512	6
					5	Int.	▲	MWS1210LB	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	13.0	.512	6
					10	Int.	□	MWS1210X10DB	165.2	6.504	168.2	6.622	231.2	9.102	229	9.016	2.2	.087	13.0	.512	7
					15	Int.	□	MWS1210X15DB	227.2	8.945	230.2	9.063	293.2	11.543	291	11.457	2.2	.087	13.0	.512	7
					20	Int.	□	MWS1210X20DB	290.2	11.425	293.2	11.543	356.2	14.024	354	13.937	2.2	.087	13.0	.512	7
12.200	.4803				2	Ext.	▲	MWE1220SA	53.2	2.094	53.2	2.094	104.2	4.102	102	4.016	2.2	.087	12.2	.480	1
					3	Ext.	▲	MWE1220MA	78.2	3.079	78.2	3.079	137.2	5.402	135	5.315	2.2	.087	12.2	.480	1
					3	Int.	▲	MWS1220MB	64.7	2.547	67.2	2.646	130.2	5.126	128	5.039	2.2	.087	13.0	.512	6
					5	Int.	▲	MWS1220LB	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	13.0	.512	6
					10	Int.	□	MWS1220X10DB	165.2	6.504	168.2	6.622	231.2	9.102	229	9.016	2.2	.087	13.0	.512	7
					15	Int.	□	MWS1220X15DB	227.2	8.945	230.2	9.063	293.2	11.543	291	11.457	2.2	.087	13.0	.512	7
					20	Int.	□	MWS1220X20DB	290.2	11.425	293.2	11.543	356.2	14.024	354	13.937	2.2	.087	13.0	.512	7
12.300	.4843			9/16-32	2	Ext.	▲	MWE1230SA	53.2	2.094	53.2	2.094	104.2	4.102	102	4.016	2.2	.087	12.3	.484	1
					3	Ext.	▲	MWE1230MA	78.2	3.079	78.2	3.079	137.2	5.402	135	5.315	2.2	.087	12.3	.484	1
					3	Int.	▲	MWS1230MB	64.7	2.547	67.2	2.646	130.2	5.126	128	5.039	2.2	.087	13.0	.512	6
					5	Int.	▲	MWS1230LB	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	13.0	.512	6
					10	Int.	□	MWS1230X10DB	165.2	6.504	168.2	6.622	231.2	9.102	229	9.016	2.2	.087	13.0	.512	7
					15	Int.	□	MWS1230X15DB	227.2	8.945	230.2	9.063	293.2	11.543	291	11.457	2.2	.087	13.0	.512	7
					20	Int.	□	MWS1230X20DB	290.2	11.425	293.2	11.543	356.2	14.024	354	13.937	2.2	.087	13.0	.512	7
12.304	.4844	31/64		9/16-32	5	Int.	▲	MWS04844LB	102.2	4.024	106.2	4.181	169.2	6.661	167	6.575	2.2	.087	12.7	.500	6
					8	Int.	▲	MWS04844X8DB	140.2	5.520	145.2	5.717	208.2	8.197	206	8.110	2.2	.087	12.7	.500	6
					15	Int.	●	MWS04844X15DB	227.2	8.945	230.2	9.063	293.2	11.543	291	11.457	2.2	.087	12.7	.500	7
12.400	.4882				2	Ext.	▲	MWE1240SA	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	12.4	.488	1
					3	Ext.	▲	MWE1240MA	78.3	3.083	78.3	3.083	137.3	5.406	135	5.315	2.3	.091	12.4	.488	1
					3	Int.	▲	MWS1240MB	64.8	2.551	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13.0	.512	6
					5	Int.	▲	MWS1240LB	102.3	4.028	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13.0	.512	6
					10	Int.	□	MWS1240X10DB	165.3	6.508	168.3	6.626	231.3	9.106	229	9.016	2.3	.091	13.0	.512	7
					15	Int.	□	MWS1240X15DB	227.3	8.949	230.3	9.067	293.3	11.547	291	11.457	2.3	.091	13.0	.512	7
					20	Int.	□	MWS1240X20DB	290.3	11.429	293.3	11.547	356.3	14.028	354	13.937	2.3	.091	13.0	.512	7

CUTTING CONDITIONS ➤ L088
HOW TO USE ➤ L094
TECHNICAL DATA ➤ N001

MWE/MWS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
12.500	.4921			M14x1.5	2	Ext.	▲	MWE1250SA	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	12.5	.492	1
					3	Ext.	▲	MWE1250MA	78.3	3.083	78.3	3.083	137.3	5.406	135	5.315	2.3	.091	12.5	.492	1
					3	Int.	▲	MWS1250MB	64.8	2.551	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13.0	.512	6
					5	Int.	▲	MWS1250LB	102.3	4.028	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13.0	.512	6
					8	Int.	▲	MWS1250X8DB	140.3	5.524	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	13.0	.512	6
					10	Int.	●	MWS1250X10DB	165.3	6.508	168.3	6.626	231.3	9.106	229	9.016	2.3	.091	13.0	.512	7
					15	Int.	●	MWS1250X15DB	227.3	8.949	230.3	9.067	293.3	11.547	291	11.457	2.3	.091	13.0	.512	7
					20	Int.	★	MWS1250X20DB	290.3	11.429	293.3	11.547	356.3	14.028	354	13.937	2.3	.091	13.0	.512	7
12.600	.4961				2	Ext.	▲	MWE1260SA	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	12.6	.496	1
					3	Ext.	▲	MWE1260MA	80.3	3.161	80.3	3.161	139.3	5.484	137	5.394	2.3	.091	12.6	.496	1
					3	Int.	▲	MWS1260MB	67.3	2.650	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13.0	.512	6
					5	Int.	▲	MWS1260LB	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13.0	.512	6
					10	Int.	□	MWS1260X10DB	171.3	6.744	174.3	6.862	237.3	9.343	235	9.252	2.3	.091	13.0	.512	7
					15	Int.	□	MWS1260X15DB	236.3	9.303	239.3	9.421	302.3	11.902	300	11.811	2.3	.091	13.0	.512	7
					20	Int.	□	MWS1260X20DB	301.3	11.862	304.3	11.980	367.3	14.461	365	14.370	2.3	.091	13.0	.512	7
12.700	.5000	1/2			2	Ext.	▲	MWE1270SA	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	12.700	.500	1
					3	Ext.	▲	MWE1270MA	80.3	3.161	80.3	3.161	139.3	5.484	137	5.394	2.3	.091	12.700	.500	1
					3	Int.	▲	MWS1270MB	67.3	2.650	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13.0	.512	6
					5	Int.	▲	MWS05000LB	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	12.700	.500	6
					5	Int.	▲	MWS1270LB	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13.0	.512	6
					8	Int.	▲	MWS05000X8DB	145.3	5.720	145.3	5.720	208.3	8.201	206	8.110	2.3	.091	12.700	.500	6
					10	Int.	□	MWS1270X10DB	171.3	6.744	174.3	6.862	237.3	9.343	235	9.252	2.3	.091	13.0	.512	7
					15	Int.	●	MWS05000X15DB	236.3	9.303	239.3	9.421	302.3	11.902	300	11.811	2.3	.091	12.700	.500	7
					15	Int.	□	MWS1270X15DB	236.3	9.303	239.3	9.421	302.3	11.902	300	11.811	2.3	.091	13.0	.512	7
					20	Int.	●	MWS1270X20DB	301.3	11.862	304.3	11.980	367.3	14.461	365	14.370	2.3	.091	13.0	.512	7
12.8	.5039				2	Ext.	▲	MWE1280SA	53.3	2.098	53.3	2.098	104.3	4.106	102	4.016	2.3	.091	12.8	.504	1
					3	Ext.	▲	MWE1280MA	80.3	3.161	80.3	3.161	139.3	5.484	137	5.394	2.3	.091	12.8	.504	1
					3	Int.	▲	MWS1280MB	67.3	2.650	67.3	2.650	130.3	5.130	128	5.039	2.3	.091	13.0	.512	6
					5	Int.	▲	MWS1280LB	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13.0	.512	6
					10	Int.	□	MWS1280X10DB	171.3	6.744	174.3	6.862	237.3	9.343	235	9.252	2.3	.091	13.0	.512	6
					15	Int.	□	MWS1280X15DB	236.3	9.303	239.3	9.421	302.3	11.902	300	11.811	2.3	.091	13.0	.512	7
					20	Int.	□	MWS1280X20DB	301.3	11.862	304.3	11.980	367.3	14.461	365	14.370	2.3	.091	13.0	.512	7
12.827	.5050		Tube Sheet		5	Int.	▲	MWS05050LB	106.3	4.185	106.3	4.185	169.3	6.665	167	6.575	2.3	.091	13.0	.512	6
12.9	.5079				2	Ext.	▲	MWE1290SA	53.4	2.102	53.4	2.102	104.4	4.110	102	4.016	2.4	.094	12.9	.508	1
					3	Ext.	▲	MWE1290MA	80.4	3.165	80.4	3.165	139.4	5.488	137	5.394	2.4	.094	12.9	.508	1
					3	Int.	▲	MWS1290MB	67.4	2.654	67.4	2.654	130.4	5.134	128	5.039	2.4	.094	13.0	.512	6
					5	Int.	▲	MWS1290LB	106.4	4.189	106.4	4.189	169.4	6.669	167	6.575	2.4	.094	13.0	.512	6
					10	Int.	□	MWS1290X10DB	171.4	6.748	174.4	6.866	237.4	9.346	235	9.252	2.4	.094	13.0	.512	7
					15	Int.	□	MWS1290X15DB	236.4	9.307	239.4	9.425	302.4	11.906	300	11.811	2.4	.094	13.0	.512	7
					20	Int.	□	MWS1290X20DB	301.4	11.866	304.4	11.984	367.4	14.465	365	14.370	2.4	.094	13.0	.512	7

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years. □ : Non stock, produced to order only.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
13.0	.5118				2	Ext.	▲	MWE1300SA	53.4	2.102	53.4	2.102	104.4	4.110	102	4.016	2.4	.094	13.0	.512	1
					3	Ext.	▲	MWE1300MA	80.4	3.165	80.4	3.165	139.4	5.488	137	5.394	2.4	.094	13.0	.512	1
					3	Int.	▲	MWS1300MB	67.4	2.654	67.4	2.654	130.4	5.134	128	5.039	2.4	.094	13.0	.512	6
					5	Int.	▲	MWS1300LB	106.4	4.189	106.4	4.189	169.4	6.669	167	6.575	2.4	.094	13.0	.512	6
					5	Int.	▲	MWS05118LB	106.4	4.189	106.4	4.189	169.4	6.669	167	6.575	2.4	.094	13.0	.512	6
					8	Int.	▲	MWS1300X8DB	145.4	5.724	145.4	5.724	208.4	8.205	206	8.110	2.4	.094	13.0	.512	6
					10	Int.	●	MWS1300X10DB	171.4	6.748	174.4	6.866	237.4	9.346	235	9.252	2.4	.094	13.0	.512	7
					15	Int.	●	MWS1300X15DB	236.4	9.307	239.4	9.425	302.4	11.906	300	11.811	2.4	.094	13.0	.512	7
					20	Int.	★	MWS1300X20DB	301.4	11.866	304.4	11.984	367.4	14.465	365	14.370	2.4	.094	13.0	.512	7
13.096	.5156	33/64		9/16-18	5	Int.	▲	MWS05156LB	110.4	4.346	114.4	4.504	178.4	7.024	176	6.929	2.4	.094	13.891	.547	6
13.1	.5157	33/64		9/16-18	2	Ext.	▲	MWE1310SA	53.4	2.102	53.4	2.102	104.4	4.110	102	4.016	2.4	.094	13.1	.516	1
					3	Ext.	▲	MWE1310MA	86.4	3.402	86.4	3.402	146.4	5.764	144	5.669	2.4	.094	13.1	.516	1
					3	Int.	▲	MWS1310MB	69.9	2.752	72.4	2.850	136.4	5.370	134	5.276	2.4	.094	14.0	.551	6
					5	Int.	▲	MWS1310LB	110.4	4.346	114.4	4.504	178.4	7.024	176	6.929	2.4	.094	14.0	.551	6
					10	Int.	□	MWS1310X10DB	178.4	7.024	181.4	7.142	245.4	9.661	243	9.567	2.4	.094	14.0	.551	7
					15	Int.	□	MWS1310X15DB	245.4	9.661	248.4	9.780	312.4	12.299	310	12.205	2.4	.094	14.0	.551	7
					20	Int.	●	MWS1310X20DB	313.4	12.339	316.4	12.457	380.4	14.976	378	14.882	2.4	.094	14.0	.551	7
13.200	.5197				2	Ext.	▲	MWE1320SA	53.4	2.102	53.4	2.102	104.4	4.110	102	4.016	2.4	.094	13.2	.520	1
					3	Ext.	▲	MWE1320MA	86.4	3.402	86.4	3.402	146.4	5.764	144	5.669	2.4	.094	13.2	.520	1
					3	Int.	▲	MWS1320MB	69.9	2.752	72.4	2.850	136.4	5.370	134	5.276	2.4	.094	14.0	.551	6
					5	Int.	▲	MWS1320LB	110.4	4.346	114.4	4.504	178.4	7.024	176	6.929	2.4	.094	14.0	.551	6
					10	Int.	□	MWS1320X10DB	178.4	7.024	181.4	7.142	245.4	9.661	243	9.567	2.4	.094	14.0	.551	7
					15	Int.	□	MWS1320X15DB	245.4	9.661	248.4	9.780	312.4	12.299	310	12.205	2.4	.094	14.0	.551	7
					20	Int.	□	MWS1320X20DB	313.4	12.339	316.4	12.457	380.4	14.976	378	14.882	2.4	.094	14.0	.551	7
13.300	.5236				2	Ext.	▲	MWE1330SA	56.4	2.220	56.4	2.220	109.4	4.307	107	4.213	2.4	.094	13.3	.524	1
					3	Ext.	▲	MWE1330MA	86.4	3.402	86.4	3.402	146.4	5.764	144	5.669	2.4	.094	13.3	.524	1
					3	Int.	▲	MWS1330MB	69.9	2.752	72.4	2.850	136.4	5.370	134	5.276	2.4	.094	14.0	.551	6
					5	Int.	▲	MWS1330LB	110.4	4.346	114.4	4.504	178.4	7.024	176	6.929	2.4	.094	14.0	.551	6
					10	Int.	●	MWS1330X10DB	178.4	7.024	181.4	7.142	245.4	9.661	243	9.567	2.4	.094	14.0	.551	7
					15	Int.	□	MWS1330X15DB	245.4	9.661	248.4	9.780	312.4	12.299	310	12.205	2.4	.094	14.0	.551	7
					20	Int.	□	MWS1330X20DB	313.4	12.339	316.4	12.457	380.4	14.976	378	14.882	2.4	.094	14.0	.551	7
13.400	.5276				2	Ext.	▲	MWE1340SA	56.4	2.220	56.4	2.220	109.4	4.307	107	4.213	2.4	.094	13.4	.528	1
					3	Ext.	▲	MWE1340MA	86.4	3.402	86.4	3.402	146.4	5.764	144	5.669	2.4	.094	13.4	.528	1
					3	Int.	▲	MWS1340MB	69.9	2.752	72.4	2.850	136.4	5.370	134	5.276	2.4	.094	14.0	.551	6
					5	Int.	▲	MWS1340LB	110.4	4.346	114.4	4.504	178.4	7.024	176	6.929	2.4	.094	14.0	.551	6
					10	Int.	□	MWS1340X10DB	178.4	7.024	181.4	7.142	245.4	9.661	243	9.567	2.4	.094	14.0	.551	7
					15	Int.	□	MWS1340X15DB	245.4	9.661	248.4	9.780	312.4	12.299	310	12.205	2.4	.094	14.0	.551	7
					20	Int.	□	MWS1340X20DB	313.4	12.339	316.4	12.457	380.4	14.976	378	14.882	2.4	.094	14.0	.551	7
13.492	.5312	17/32		5/8-11	5	Int.	▲	MWS05312LB	110.5	4.350	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	13.891	.547	6
13.500	.5315			5/8-11	2	Ext.	▲	MWE1350SA	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	13.5	.531	1
					3	Ext.	▲	MWE1350MA	86.5	3.406	86.5	3.406	146.5	5.768	144	5.669	2.5	.098	13.5	.531	1
					3	Int.	▲	MWS1350MB	70.0	2.756	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14.0	.551	6
					5	Int.	▲	MWS1350LB	110.5	4.350	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14.0	.551	6
					8	Int.	▲	MWS1350X8DB	151.5	5.965	156.5	6.161	220.5	8.681	218	8.583	2.5	.098	14.0	.551	6
					10	Int.	●	MWS1350X10DB	178.5	7.028	181.5	7.146	245.5	9.665	243	9.567	2.5	.098	14.0	.551	7
					15	Int.	●	MWS1350X15DB	245.5	9.665	248.5	9.783	312.5	12.303	310	12.205	2.5	.098	14.0	.551	7
					20	Int.	★	MWS1350X20DB	313.5	12.343	316.5	12.461	380.5	14.980	378	14.882	2.5	.098	14.0	.551	7

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DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
13.600	.5354				2	Ext.	▲	MWE1360SA	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	13.6	.535	1
					3	Ext.	▲	MWE1360MA	88.5	3.484	88.5	3.484	149.5	5.886	147	5.787	2.5	.098	13.6	.535	1
					3	Int.	▲	MWS1360MB	72.5	2.854	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14.0	.551	6
					5	Int.	▲	MWS1360LB	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14.0	.551	6
					10	Int.	□	MWS1360X10DB	184.5	7.264	187.5	7.382	251.5	9.902	249	9.803	2.5	.098	14.0	.551	7
					15	Int.	□	MWS1360X15DB	254.5	10.020	257.5	10.138	321.5	12.657	319	12.559	2.5	.098	14.0	.551	7
					20	Int.	□	MWS1360X20DB	324.5	12.776	327.5	12.894	391.5	15.413	389	15.315	2.5	.098	14.0	.551	7
13.700	.5394				2	Ext.	▲	MWE1370SA	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	13.7	.539	1
					3	Ext.	▲	MWE1370MA	88.5	3.484	88.5	3.484	149.5	5.886	147	5.787	2.5	.098	13.7	.539	1
					3	Int.	▲	MWS1370MB	72.5	2.854	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14.0	.551	6
					5	Int.	▲	MWS1370LB	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14.0	.551	6
					10	Int.	□	MWS1370X10DB	184.5	7.264	187.5	7.382	251.5	9.902	249	9.803	2.5	.098	14.0	.551	7
					15	Int.	□	MWS1370X15DB	254.5	10.020	257.5	10.138	321.5	12.657	319	12.559	2.5	.098	14.0	.551	7
					20	Int.	●	MWS1370X20DB	324.5	12.776	327.5	12.894	391.5	15.413	389	15.315	2.5	.098	14.0	.551	7
13.800	.5433				2	Ext.	▲	MWE1380SA	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	13.8	.543	1
					3	Ext.	▲	MWE1380MA	88.5	3.484	88.5	3.484	149.5	5.886	147	5.787	2.5	.098	13.8	.543	1
					3	Int.	▲	MWS1380MB	72.5	2.854	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14.0	.551	6
					5	Int.	▲	MWS1380LB	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14.0	.551	6
					10	Int.	□	MWS1380X10DB	184.5	7.264	187.5	7.382	251.5	9.902	249	9.803	2.5	.098	14.0	.551	7
					15	Int.	□	MWS1380X15DB	254.5	10.020	257.5	10.138	321.5	12.657	319	12.559	2.5	.098	14.0	.551	7
					20	Int.	□	MWS1380X20DB	324.5	12.776	327.5	12.894	391.5	15.413	389	15.315	2.5	.098	14.0	.551	7
13.891	.5469	35/64			5	Int.	▲	MWS05469LB	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	13.891	.547	6
13.900	.5472				2	Ext.	▲	MWE1390SA	56.5	2.224	56.5	2.224	109.5	4.311	107	4.213	2.5	.098	13.9	.547	1
					3	Ext.	▲	MWE1390MA	88.5	3.484	88.5	3.484	149.5	5.886	147	5.787	2.5	.098	13.9	.547	1
					3	Int.	▲	MWS1390MB	72.5	2.854	72.5	2.854	136.5	5.374	134	5.276	2.5	.098	14.0	.551	6
					5	Int.	▲	MWS1390LB	114.5	4.508	114.5	4.508	178.5	7.028	176	6.929	2.5	.098	14.0	.551	6
					10	Int.	□	MWS1390X10DB	184.5	7.264	187.5	7.382	251.5	9.902	249	9.803	2.5	.098	14.0	.551	7
					15	Int.	□	MWS1390X15DB	254.5	10.020	257.5	10.138	321.5	12.657	319	12.559	2.5	.098	14.0	.551	7
					20	Int.	□	MWS1390X20DB	324.5	12.776	327.5	12.894	391.5	15.413	389	15.315	2.5	.098	14.0	.551	7
14.000	.5512			M16x2.0	2	Ext.	▲	MWE1400SA	56.6	2.228	56.6	2.228	109.6	4.315	107	4.213	2.6	.102	14.0	.551	1
					3	Ext.	▲	MWE1400MA	88.6	3.488	88.6	3.488	149.6	5.890	147	5.787	2.6	.102	14.0	.551	1
					3	Int.	▲	MWS1400MB	72.6	2.858	72.6	2.858	136.6	5.378	134	5.276	2.6	.102	14.0	.551	6
					5	Int.	▲	MWS1400LB	114.6	4.512	114.6	4.512	178.6	7.031	176	6.929	2.6	.102	14.0	.551	6
					8	Int.	▲	MWS1400X8DB	156.6	6.165	156.6	6.165	220.6	8.685	218	8.583	2.6	.102	14.0	.551	6
					10	Int.	●	MWS1400X10DB	184.6	7.268	187.6	7.386	251.6	9.906	249	9.803	2.6	.102	14.0	.551	7
					15	Int.	●	MWS1400X15DB	254.6	10.024	257.6	10.142	321.6	12.661	319	12.559	2.6	.102	14.0	.551	7
					20	Int.	●	MWS1400X20DB	324.6	12.780	327.6	12.898	391.6	15.417	389	15.315	2.6	.102	14.0	.551	7
14.100	.5551				2	Ext.	▲	MWE1410SA	58.6	2.307	58.6	2.307	113.6	4.472	111	4.370	2.6	.102	14.1	.555	1
					3	Ext.	▲	MWE1410MA	91.6	3.606	91.6	3.606	153.6	6.047	151	5.945	2.6	.102	14.1	.555	1
					3	Int.	▲	MWS1410MB	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15.0	.591	6
					5	Int.	▲	MWS1410LB	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15.0	.591	6
14.200	.5591				2	Ext.	▲	MWE1420SA	58.6	2.307	58.6	2.307	113.6	4.472	111	4.370	2.6	.102	14.2	.559	1
					3	Ext.	▲	MWE1420MA	91.6	3.606	91.6	3.606	153.6	6.047	151	5.945	2.6	.102	14.2	.559	1
					3	Int.	▲	MWS1420MB	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15.0	.591	6
					5	Int.	▲	MWS1420LB	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15.0	.591	6
					8	Int.	▲	MWS1420X8DB	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	15.0	.591	6

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ▲ : This item to be discontinued within two years.

□ : Non stock, produced to order only.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
14.288	**.5625**	**9/16**			5	Int.	▲	**MWS05625LB**	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	14.684	.578	6
14.300	**.5630**				3	Ext.	▲	**MWE1430MA**	91.6	3.606	91.6	3.606	153.6	6.047	151	5.945	2.6	.102	14.3	.563	1
					3	Int.	▲	**MWS1430MB**	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15.0	.591	6
					5	Int.	▲	**MWS1430LB**	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15.0	.591	6
14.400	**.5669**				3	Ext.	▲	**MWE1440MA**	91.6	3.606	91.6	3.606	153.6	6.047	151	5.945	2.6	.102	14.4	.567	1
					3	Int.	▲	**MWS1440MB**	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15.0	.591	6
					5	Int.	▲	**MWS1440LB**	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15.0	.591	6
14.500	**.5709**			**M16x1.5**	2	Ext.	▲	**MWE1450SA**	58.6	2.307	58.6	2.307	113.6	4.472	111	4.370	2.6	.102	14.5	.571	1
					3	Ext.	▲	**MWE1450MA**	91.6	3.606	91.6	3.606	153.6	6.047	151	5.945	2.6	.102	14.5	.571	1
					3	Int.	▲	**MWS1450MB**	75.1	2.957	77.6	3.055	142.6	5.614	140	5.512	2.6	.102	15.0	.591	6
					5	Int.	▲	**MWS1450LB**	118.6	4.669	122.6	4.827	187.6	7.386	185	7.283	2.6	.102	15.0	.591	6
					8	Int.	▲	**MWS1450X8DB**	162.6	6.402	167.6	6.598	227.6	8.961	225	8.858	2.6	.102	15.0	.591	6
14.600	**.5748**				3	Ext.	▲	**MWE1460MA**	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	14.6	.575	1
					3	Int.	▲	**MWS1460MB**	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15.0	.591	6
					5	Int.	▲	**MWS1460LB**	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15.0	.591	6
14.684	**.5781**	**37/64**		**5/8-18**	5	Int.	▲	**MWS05781LB**	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	14.684	.578	6
14.700	**.5787**				3	Ext.	▲	**MWE1470MA**	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	14.7	.579	1
					3	Int.	▲	**MWS1470MB**	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15.0	.591	6
					5	Int.	▲	**MWS1470LB**	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15.0	.591	6
14.800	**.5827**				3	Ext.	▲	**MWE1480MA**	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	14.8	.583	1
					3	Int.	▲	**MWS1480MB**	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15.0	.591	6
					5	Int.	▲	**MWS1480LB**	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15.0	.591	6
14.900	**.5866**				3	Ext.	▲	**MWE1490MA**	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	14.9	.587	1
					3	Int.	▲	**MWS1490MB**	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15.0	.591	6
					5	Int.	▲	**MWS1490LB**	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15.0	.591	6
15.000	**.5906**				2	Ext.	▲	**MWE1500SA**	58.7	2.311	58.7	2.311	113.7	4.476	111	4.370	2.7	.106	15.0	.591	1
					3	Ext.	▲	**MWE1500MA**	93.7	3.689	93.7	3.689	155.7	6.130	153	6.024	2.7	.106	15.0	.591	1
					3	Int.	▲	**MWS1500MB**	77.7	3.059	77.7	3.059	142.7	5.618	140	5.512	2.7	.106	15.0	.591	6
					5	Int.	▲	**MWS1500LB**	122.7	4.831	122.7	4.831	187.7	7.390	185	7.283	2.7	.106	15.0	.591	6
					8	Int.	▲	**MWS1500X8DB**	167.7	6.602	167.7	6.602	227.7	8.965	225	8.858	2.7	.106	15.0	.591	6
15.080	**.5937**	**19/32**			5	Int.	▲	**MWS05937LB**	126.7	4.988	130.7	5.146	195.7	7.705	193	7.598	2.7	.106	15.875	.625	6
15.100	**.5945**				3	Ext.	▲	**MWE1510MA**	96.8	3.811	96.8	3.811	159.8	6.291	157	6.181	2.8	.110	15.1	.594	1
					3	Int.	▲	**MWS1510MB**	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16.0	.630	6
					5	Int.	▲	**MWS1510LB**	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16.0	.630	6
15.200	**.5984**				2	Ext.	▲	**MWE1520SA**	60.8	2.394	60.8	2.394	117.8	4.638	115	4.528	2.8	.110	15.2	.598	1
					3	Ext.	▲	**MWE1520MA**	96.8	3.811	96.8	3.811	159.8	6.291	157	6.181	2.8	.110	15.2	.598	1
					3	Int.	▲	**MWS1520MB**	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16.0	.630	6
					5	Int.	▲	**MWS1520LB**	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16.0	.630	6
15.300	**.6024**				3	Ext.	▲	**MWE1530MA**	96.8	3.811	96.8	3.811	159.8	6.291	157	6.181	2.8	.110	15.3	.602	1
					3	Int.	▲	**MWS1530MB**	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16.0	.630	6
					5	Int.	▲	**MWS1530LB**	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16.0	.630	6
15.400	**.6063**				3	Ext.	▲	**MWE1540MA**	96.8	3.811	96.8	3.811	159.8	6.291	157	6.181	2.8	.110	15.4	.606	1
					3	Int.	▲	**MWS1540MB**	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16.0	.630	6
					5	Int.	▲	**MWS1540LB**	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16.0	.630	6

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DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
15.479	.6094	39/64			5	Int.	▲	MWS06094LB	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	15.875	.625	6
15.500	.6102			M18x2.5	2	Ext.	▲	MWE1550SA	60.8	2.394	60.8	2.394	117.8	4.638	115	4.528	2.8	.110	15.5	.610	1
					3	Ext.	▲	MWE1550MA	96.8	3.811	96.8	3.811	159.8	6.291	157	6.181	2.8	.110	15.5	.610	1
					3	Int.	▲	MWS1550MB	80.3	3.161	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16.0	.630	6
					5	Int.	▲	MWS1550LB	126.8	4.992	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16.0	.630	6
					8	Int.	▲	MWS1550X8DB	173.8	6.843	183.8	7.236	243.8	9.598	241	9.488	2.8	.110	16.0	.630	6
15.600	.6142				3	Ext.	▲	MWE1560MA	98.8	3.890	98.8	3.890	162.8	6.409	160	6.299	2.8	.110	15.6	.614	1
					3	Int.	▲	MWS1560MB	82.8	3.260	82.8	3.260	147.8	5.819	145	5.709	2.8	.110	16.0	.630	6
					5	Int.	▲	MWS1560LB	130.8	5.150	130.8	5.150	195.8	7.709	193	7.598	2.8	.110	16.0	.630	6
15.700	.6181				3	Ext.	▲	MWE1570MA	98.9	3.894	98.9	3.894	162.9	6.413	160	6.299	2.9	.114	15.7	.618	1
					3	Int.	▲	MWS1570MB	82.9	3.264	82.9	3.264	147.9	5.823	145	5.709	2.9	.114	16.0	.630	6
					5	Int.	▲	MWS1570LB	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	16.0	.630	6
15.800	.6220				3	Ext.	▲	MWE1580MA	98.9	3.894	98.9	3.894	162.9	6.413	160	6.299	2.9	.114	15.8	.622	1
					3	Int.	▲	MWS1580MB	82.9	3.264	82.9	3.264	147.9	5.823	145	5.709	2.9	.114	16.0	.630	6
					5	Int.	▲	MWS1580LB	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	16.0	.630	6
15.875	.6250	5/8			5	Int.	▲	MWS06250LB	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	15.875	.625	6
15.900	.6260				3	Ext.	▲	MWE1590MA	98.9	3.894	98.9	3.894	162.9	6.413	160	6.299	2.9	.114	15.9	.626	1
					3	Int.	▲	MWS1590MB	82.9	3.264	82.9	3.264	147.9	5.823	145	5.709	2.9	.114	16.0	.630	6
					5	Int.	▲	MWS1590LB	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	16.0	.630	6
16.000	.6299				2	Ext.	▲	MWE1600SA	60.9	2.398	60.9	2.398	117.9	4.642	115	4.528	2.9	.114	16.0	.630	1
					3	Ext.	▲	MWE1600MA	98.9	3.894	98.9	3.894	162.9	6.413	160	6.299	2.9	.114	16.0	.630	1
					3	Int.	▲	MWS1600MB	82.9	3.264	82.9	3.264	147.9	5.823	145	5.709	2.9	.114	16.0	.630	6
					5	Int.	▲	MWS1600LB	130.9	5.154	130.9	5.154	195.9	7.713	193	7.598	2.9	.114	16.0	.630	6
					8	Int.	▲	MWS1600X8DB	178.9	7.043	183.9	7.240	243.9	9.602	241	9.488	2.9	.114	16.0	.630	6
16.078	.6330				5	Int.	▲	MWS06330LB	134.9	5.311	138.9	5.469	203.9	8.028	201	7.913	2.9	.114	16.67	.656	6
16.200	.6378				2	Ext.	▲	MWE1620SA	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	16.2	.638	1
16.271	.6406	41/64			5	Int.	▲	MWS06406LB	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	16.67	.656	6
16.300	.6417				2	Ext.	▲	MWE1630SA	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	16.3	.642	1
16.500	.6496			M18x1.5	2	Ext.	▲	MWE1650SA	63.0	2.480	63.0	2.480	122.0	4.803	119	4.685	3.0	.118	16.5	.650	1
					3	Ext.	▲	MWE1650MA	105.0	4.134	105.0	4.134	170.0	6.693	167	6.575	3.0	.118	16.5	.650	1
					3	Int.	▲	MWS1650MB	85.5	3.366	88.0	3.465	153.0	6.024	150	5.906	3.0	.118	17.0	.669	6
					5	Int.	▲	MWS1650LB	135.0	5.315	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	17.0	.669	6
16.670	.6563	21/32		3/4-10	5	Int.	▲	MWS06563LB	139.0	5.472	139.0	5.472	204.0	8.031	201	7.913	3.0	.118	16.67	.656	6
17.000	.6693		Tube Sheet		2	Ext.	▲	MWE1700SA	63.1	2.484	63.1	2.484	122.1	4.807	119	4.685	3.1	.122	17.0	.669	1
					3	Ext.	▲	MWE1700MA	105.1	4.138	105.1	4.138	170.1	6.697	167	6.575	3.1	.122	17.0	.669	1
					3	Int.	▲	MWS1700MB	88.1	3.469	88.1	3.469	153.1	6.028	150	5.906	3.1	.122	17.0	.669	6
					5	Int.	▲	MWS1700LB	139.1	5.476	139.1	5.476	204.1	8.035	201	7.913	3.1	.122	17.0	.669	6
17.064	.6718	43/64			5	Int.	▲	MWS06718LB	143.1	5.634	147.1	5.791	212.1	8.350	209	8.228	3.1	.122	17.859	.703	6
17.100	.6732				3	Int.	▲	MWS1710MB	90.6	3.567	93.1	3.665	158.1	6.224	155	6.102	3.1	.122	18.0	.709	6
17.463	.6875	11/16		3/4-16	5	Int.	▲	MWS06875LB	143.2	5.638	147.2	5.795	212.2	8.354	209	8.228	3.2	.126	17.859	.703	6
17.500	.6890			M20x2.5	2	Ext.	▲	MWE1750SA	65.2	2.567	65.2	2.567	126.2	4.969	123	4.843	3.2	.126	17.5	.689	1
					3	Ext.	▲	MWE1750MA	105.2	4.142	105.2	4.142	170.2	6.701	167	6.575	3.2	.126	17.5	.689	1
					3	Int.	▲	MWS1750MB	90.7	3.571	93.2	3.669	158.2	6.228	155	6.102	3.2	.126	18.0	.709	6
					5	Int.	▲	MWS1750LB	143.2	5.638	147.2	5.795	212.2	8.354	209	8.228	3.2	.126	18.0	.709	6
17.800	.7008				2	Ext.	▲	MWE1780SA	65.2	2.567	65.2	2.567	126.2	4.969	123	4.843	3.2	.126	17.8	.701	1
17.859	.7031	45/64			5	Int.	▲	MWS07031LB	147.3	5.799	147.3	5.799	212.3	8.358	209	8.228	3.3	.130	17.859	.703	6

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained. ★ : Inventory maintained in Japan.

▲ : This item to be discontinued within two years.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		VP15TF		LCF		LH		OAL		LF		PL		DCON		
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
18.000	.7087				2	Ext.	▲	MWE1800SA	65.3	2.571	65.3	2.571	126.3	4.972	123	4.843	3.3	.130	18.0	.709	1
					3	Ext.	▲	MWE1800MA	105.3	4.146	105.3	4.146	170.3	6.705	167	6.575	3.3	.130	18.0	.709	1
					3	Int.	▲	MWS1800MB	93.3	3.673	93.3	3.673	158.3	6.232	155	6.102	3.3	.130	18.0	.709	6
					5	Int.	▲	MWS1800LB	147.3	5.799	147.3	5.799	212.3	8.358	209	8.228	3.3	.130	18.0	.709	6
18.258	.7188	23/32			5	Int.	▲	MWS07188LB	151.3	5.957	155.3	6.114	220.3	8.673	217	8.543	3.3	.130	18.654	.734	6
18.500	.7283			M20x1.5	2	Ext.	▲	MWE1850SA	67.4	2.654	67.4	2.654	130.4	5.134	127	5.000	3.4	.134	18.5	.728	1
					3	Ext.	▲	MWE1850MA	117.4	4.622	117.4	4.622	182.4	7.181	179	7.047	3.4	.134	18.5	.728	1
					3	Int.	▲	MWS1850MB	95.9	3.776	98.4	3.874	163.4	6.433	160	6.299	3.4	.134	19.0	.748	6
					5	Int.	▲	MWS1850LB	151.4	5.961	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	19.0	.748	6
18.654	.7344	47/64			5	Int.	▲	MWS07344LB	155.4	6.118	155.4	6.118	220.4	8.677	217	8.543	3.4	.134	18.654	.734	6
19.000	.7480				2	Ext.	▲	MWE1900SA	67.5	2.657	67.5	2.657	130.5	5.138	127	5.000	3.5	.138	19.0	.748	1
					3	Ext.	▲	MWE1900MA	117.5	4.626	117.5	4.626	182.5	7.185	179	7.047	3.5	.138	19.0	.748	1
					3	Int.	▲	MWS1900MB	98.5	3.878	98.5	3.878	163.5	6.437	160	6.299	3.5	.138	19.0	.748	6
					5	Int.	▲	MWS1900LB	155.5	6.122	155.5	6.122	220.5	8.681	217	8.543	3.5	.138	19.0	.748	6
19.050	.7500	3/4			5	Int.	▲	MWS07500LB	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	19.842	.781	6
19.253	.7580		Tube Sheet		5	Int.	▲	MWS07580LB	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	19.842	.781	6
19.446	.7656	49/64		7/8-9	5	Int.	▲	MWS07656LB	159.5	6.280	163.5	6.437	228.5	8.996	225	8.858	3.5	.138	19.842	.781	6
19.500	.7677			M22x2.5	2	Ext.	▲	MWE1950SA	69.6	2.740	69.6	2.740	134.6	5.299	131	5.157	3.6	.142	19.5	.768	1
					3	Ext.	▲	MWE1950MA	117.6	4.630	117.6	4.630	182.6	7.189	179	7.047	3.6	.142	19.5	.768	1
					3	Int.	▲	MWS1950MB	101.1	3.980	103.6	4.079	168.6	6.638	165	6.496	3.6	.142	20.0	.787	6
					5	Int.	▲	MWS1950LB	159.6	6.283	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	20.0	.787	6
19.842	.7812	25/32			5	Int.	▲	MWS07812LB	163.6	6.441	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	19.842	.781	6
20.000	.7874				2	Ext.	▲	MWE2000SA	69.6	2.740	69.6	2.740	134.6	5.299	131	5.157	3.6	.142	20.0	.787	1
					3	Ext.	▲	MWE2000MA	117.6	4.630	117.6	4.630	182.6	7.189	179	7.047	3.6	.142	20.0	.787	1
					3	Int.	▲	MWS2000MB	103.6	4.079	103.6	4.079	168.6	6.638	165	6.496	3.6	.142	20.0	.787	6
					5	Int.	▲	MWS2000LB	163.6	6.441	163.6	6.441	228.6	9.000	225	8.858	3.6	.142	20.0	.787	6
20.500	.8071				3	Int.	★	MWS2050MB	106.7	4.201	108.7	4.280	179.7	7.075	176	6.929	3.7	.146	21.0	.827	6
					5	Int.	★	MWS2050LB	169.7	6.681	171.7	6.760	242.7	9.555	239	9.409	3.7	.146	21.0	.827	6
21.000	.8268				3	Int.	★	MWS2100MB	108.8	4.283	108.8	4.283	179.8	7.079	176	6.929	3.8	.150	21.0	.827	6
					5	Int.	★	MWS2100LB	171.8	6.764	171.8	6.764	242.8	9.559	239	9.409	3.8	.150	21.0	.827	6
21.500	.8465				3	Int.	●	MWS2150MB	111.9	4.406	113.9	4.484	185.9	7.319	182	7.165	3.9	.154	22.0	.866	6
					5	Int.	★	MWS2150LB	177.9	7.004	179.9	7.083	251.9	9.917	248	9.764	3.9	.154	22.0	.866	6
22.000	.8661				3	Int.	★	MWS2200MB	114.0	4.488	114.0	4.488	186.0	7.323	182	7.165	4.0	.157	22.0	.866	6
					5	Int.	★	MWS2200LB	180.0	7.087	180.0	7.087	252.0	9.921	248	9.764	4.0	.157	22.0	.866	6
22.500	.8858				3	Int.	★	MWS2250MB	119.1	4.689	119.1	4.689	192.1	7.563	188	7.402	4.1	.161	23.0	.906	6
					5	Int.	★	MWS2250LB	186.1	7.327	188.1	7.406	261.1	10.280	257	10.118	4.1	.161	23.0	.906	6
23.000	.9055				3	Int.	★	MWS2300MB	119.2	4.693	119.2	4.693	192.2	7.567	188	7.402	4.2	.165	23.0	.906	6
					5	Int.	●	MWS2300LB	188.2	7.409	188.2	7.409	261.2	10.283	257	10.118	4.2	.165	23.0	.906	6
23.500	.9252				3	Int.	★	MWS2350MB	122.3	4.815	124.3	4.894	198.3	7.807	194	7.638	4.3	.169	24.0	.945	6
					5	Int.	★	MWS2350LB	194.3	7.650	196.3	7.728	270.3	10.642	266	10.472	4.3	.169	24.0	.945	6
24.000	.9449				3	Int.	★	MWS2400MB	124.4	4.898	124.4	4.898	198.4	7.811	194	7.638	4.4	.173	24.0	.945	6
					5	Int.	★	MWS2400LB	196.4	7.732	196.4	7.732	270.4	10.646	266	10.472	4.4	.173	24.0	.945	6
24.500	.9646				3	Int.	★	MWS2450MB	127.5	5.020	129.5	5.098	204.5	8.051	200	7.874	4.5	.177	25.0	.984	6
					5	Int.	★	MWS2450LB	202.5	7.972	204.5	8.051	274.5	10.807	270	10.630	4.5	.177	25.0	.984	6
25.000	.9843				3	Int.	★	MWS2500MB	129.6	5.102	129.6	5.102	204.6	8.055	200	7.874	4.6	.181	25.0	.984	6
					5	Int.	★	MWS2500LB	204.6	8.055	204.6	8.055	274.6	10.811	270	10.630	4.6	.181	25.0	.984	6

DRILLING

MWE/MWS

RECOMMENDED CUTTING CONDITIONS

MWE

Work Material		Mild Steel (≤180HB) AISI 1010 etc.		Carbon Steel, Alloy Steel (180—280HB) AISI 1045, 4140 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	**3.0**	215 (165—230)	.0039 (.0024—.0051)	195 (150—215)	.0039 (.0024—.0051)
.1575	**4.0**	230 (180—245)	.0047 (.0031—.0063)	215 (165—230)	.0047 (.0031—.0063)
.1969	**5.0**	230 (180—245)	.0059 (.0039—.0079)	215 (165—230)	.0059 (.0039—.0079)
.2480	**6.3**	260 (195—280)	.0079 (.0051—.0102)	245 (195—260)	.0079 (.0051—.0102)
.3150	**8.0**	280 (215—295)	.0091 (.0071—.0110)	260 (195—280)	.0091 (.0071—.0110)
.3937	**10.0**	295 (230—310)	.0106 (.0087—.0126)	280 (215—295)	.0106 (.0087—.0126)
.4724	**12.0**	310 (245—330)	.0122 (.0110—.0134)	295 (230—310)	.0122 (.0110—.0134)
.6299	**16.0**	330 (260—360)	.0130 (.0110—.0150)	295 (230—310)	.0130 (.0110—.0150)
.7874	**20.0**	330 (260—360)	.0138 (.0118—.0157)	295 (230—310)	.0138 (.0118—.0157)

Work Material		Carbon Steel, Alloy Steel (280—350HB) AISI 4340 etc.		Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	**3.0**	180 (130—195)	.0035 (.0024—.0047)	65 (50—80)	.0028 (.0020—.0031)
.1575	**4.0**	195 (150—215)	.0043 (.0028—.0055)	65 (50—80)	.0031 (.0024—.0039)
.1969	**5.0**	195 (150—215)	.0055 (.0035—.0071)	65 (50—80)	.0039 (.0028—.0051)
.2480	**6.3**	230 (180—245)	.0071 (.0043—.0094)	80 (65—100)	.0051 (.0035—.0067)
.3150	**8.0**	245 (195—260)	.0083 (.0063—.0098)	80 (65—100)	.0055 (.0039—.0071)
.3937	**10.0**	260 (195—280)	.0091 (.0075—.0106)	80 (65—100)	.0063 (.0047—.0075)
.4724	**12.0**	280 (215—295)	.0102 (.0091—.0114)	80 (65—100)	.0071 (.0059—.0079)
.6299	**16.0**	280 (215—295)	.0114 (.0094—.0130)	80 (65—100)	.0075 (.0059—.0091)
.7874	**20.0**	280 (215—295)	.0118 (.0102—.0134)	80 (65—100)	.0079 (.0059—.0094)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

RECOMMENDED CUTTING CONDITIONS

MWE

Work Material		Gray Cast Iron (≤350MPa) No45B etc.		Ductile Cast Iron (≤450MPa) 60-40-8 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	**3.0**	230 (180—245)	.0039 (.0024—.0051)	215 (165—230)	.0039 (.0024—.0051)
.1575	**4.0**	230 (180—245)	.0047 (.0031—.0063)	215 (165—230)	.0047 (.0031—.0063)
.1969	**5.0**	230 (180—245)	.0059 (.0039—.0079)	215 (165—230)	.0059 (.0039—.0079)
.2480	**6.3**	245 (195—260)	.0079 (.0051—.0102)	230 (180—245)	.0079 (.0051—.0102)
.3150	**8.0**	245 (195—260)	.0098 (.0071—.0122)	230 (180—245)	.0091 (.0071—.0110)
.3937	**10.0**	245 (195—260)	.0114 (.0087—.0138)	230 (180—245)	.0106 (.0087—.0126)
.4724	**12.0**	260 (195—280)	.0130 (.0110—.0146)	245 (195—260)	.0122 (.0110—.0134)
.6299	**16.0**	260 (195—280)	.0138 (.0110—.0165)	245 (195—260)	.0130 (.0110—.0150)
.7874	**20.0**	280 (215—295)	.0146 (.0118—.0173)	260 (195—280)	.0138 (.0118—.0157)

Work Material		Aluminium Alloy (Si<5%) ASTM A6061, A7075 etc.		Heat Resistant Alloy Inconel718 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	**3.0**	260 (195—280)	.0039 (.0024—.0051)	65 (50—80)	.0028 (.0020—.0035)
.1575	**4.0**	260 (195—280)	.0047 (.0031—.0063)	65 (50—80)	.0035 (.0024—.0043)
.1969	**5.0**	260 (195—280)	.0059 (.0039—.0079)	65 (50—80)	.0043 (.0031—.0055)
.2480	**6.3**	295 (230—310)	.0079 (.0051—.0102)	80 (65—100)	.0055 (.0035—.0075)
.3150	**8.0**	295 (230—310)	.0091 (.0071—.0110)	80 (65—100)	.0055 (.0043—.0067)
.3937	**10.0**	295 (230—310)	.0106 (.0087—.0126)	80 (65—100)	.0063 (.0047—.0075)
.4724	**12.0**	330 (260—360)	.0122 (.0110—.0134)	80 (65—100)	.0063 (.0051—.0071)
.6299	**16.0**	330 (260—360)	.0130 (.0110—.0150)	80 (65—100)	.0071 (.0055—.0083)
.7874	**20.0**	360 (280—395)	.0138 (.0118—.0157)	100 (65—115)	.0075 (.0059—.0087)

Work Material		Hardened Steel (40—55HRC) AISI H13, L6 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm		
.1181	**3.0**	65 (50—80)	.0028 (.0020—.0035)
.1575	**4.0**	65 (50—80)	.0035 (.0024—.0043)
.1969	**5.0**	65 (50—80)	.0043 (.0031—.0055)
.2480	**6.3**	80 (65—100)	.0055 (.0035—.0075)
.3150	**8.0**	80 (65—100)	.0055 (.0043—.0067)
.3937	**10.0**	80 (65—100)	.0063 (.0047—.0075)
.4724	**12.0**	80 (65—100)	.0063 (.0051—.0071)
.6299	**16.0**	80 (65—100)	.0071 (.0055—.0083)
.7874	**20.0**	100 (65—115)	.0075 (.0059—.0087)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MWE/MWS

RECOMMENDED CUTTING CONDITIONS

MWS SB/MB/LB/XB/DB Type (l/d<10)

Work Material		Mild Steel (≤180HB) AISI 1010 etc.		Carbon Steel, Alloy Steel (180—280HB) AISI 1045, 4140 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0197	**0.50**	130 (100—150)	.0004 (.0002—.0006)	130 (100—150)	.0004 (.0002—.0006)
.0248	**0.63**	130 (100—150)	.0006 (.0003—.0008)	130 (100—150)	.0006 (.0003—.0008)
.0315	**0.80**	150 (115—165)	.0011 (.0006—.0016)	150 (115—165)	.0011 (.0006—.0016)
.0394	**1.00**	165 (130—180)	.0014 (.0008—.0020)	165 (130—180)	.0014 (.0008—.0020)
.0472	**1.20**	165 (130—180)	.0018 (.0012—.0024)	165 (130—180)	.0018 (.0012—.0024)
.0630	**1.60**	165 (130—180)	.0022 (.0014—.0031)	165 (130—180)	.0022 (.0014—.0031)
.0787	**2.00**	165 (130—180)	.0028 (.0016—.0039)	165 (130—180)	.0028 (.0016—.0039)
.0984	**2.50**	195 (150—230)	.0033 (.0020—.0049)	195 (150—215)	.0033 (.0020—.0049)
.1260	**3.20**	295 (230—330)	.0039 (.0024—.0051)	260 (195—295)	.0039 (.0024—.0051)
.1575	**4.00**	330 (260—360)	.0047 (.0031—.0063)	295 (230—330)	.0047 (.0031—.0063)
.1969	**5.00**	330 (260—360)	.0059 (.0039—.0079)	295 (230—330)	.0059 (.0039—.0079)
.2480	**6.30**	360 (280—395)	.0079 (.0051—.0102)	330 (260—360)	.0079 (.0051—.0102)
.3150	**8.00**	395 (310—425)	.0091 (.0071—.0110)	360 (280—395)	.0091 (.0071—.0110)
.3937	**10.00**	425 (330—460)	.0106 (.0087—.0126)	395 (310—425)	.0106 (.0087—.0126)
.4724	**12.00**	460 (360—490)	.0118 (.0102—.0134)	425 (330—460)	.0118 (.0102—.0134)
.6299	**16.00**	525 (410—560)	.0130 (.0106—.0150)	460 (360—490)	.0130 (.0106—.0150)
.7874	**20.00**	525 (410—560)	.0138 (.0118—.0157)	460 (360—490)	.0138 (.0118—.0157)
.9843	**25.00**	525 (410—560)	.0138 (.0118—.0157)	460 (360—490)	.0138 (.0118—.0157)

Work Material		Carbon Steel, Alloy Steel (280—350HB) AISI 4340 etc.		Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0197	**0.50**	100 (65—115)	.0004 (.0002—.0006)	65 (50—80)	.0003 (.0002—.0004)
.0248	**0.63**	100 (65—115)	.0006 (.0003—.0008)	65 (50—80)	.0004 (.0003—.0005)
.0315	**0.80**	115 (80—130)	.0011 (.0006—.0016)	80 (65—100)	.0008 (.0006—.0010)
.0394	**1.00**	130 (100—150)	.0014 (.0008—.0020)	100 (65—115)	.0012 (.0008—.0017)
.0472	**1.20**	130 (100—150)	.0018 (.0012—.0024)	100 (65—115)	.0016 (.0012—.0021)
.0630	**1.60**	130 (100—150)	.0022 (.0014—.0031)	100 (65—115)	.0020 (.0014—.0028)
.0787	**2.00**	130 (100—150)	.0028 (.0016—.0039)	100 (65—115)	.0024 (.0016—.0031)
.0984	**2.50**	165 (130—180)	.0033 (.0020—.0049)	130 (100—150)	.0030 (.0020—.0039)
.1260	**3.20**	230 (180—260)	.0039 (.0024—.0051)	130 (100—150)	.0031 (.0024—.0039)
.1575	**4.00**	260 (195—295)	.0043 (.0028—.0055)	130 (100—150)	.0035 (.0024—.0043)
.1969	**5.00**	260 (195—295)	.0055 (.0035—.0071)	130 (100—150)	.0043 (.0031—.0055)
.2480	**6.30**	295 (230—330)	.0071 (.0043—.0094)	165 (130—180)	.0055 (.0035—.0071)
.3150	**8.00**	330 (260—360)	.0083 (.0063—.0098)	165 (130—180)	.0059 (.0039—.0075)
.3937	**10.00**	360 (280—395)	.0091 (.0075—.0106)	165 (130—180)	.0063 (.0047—.0079)
.4724	**12.00**	395 (310—425)	.0102 (.0087—.0114)	195 (150—230)	.0071 (.0059—.0083)
.6299	**16.00**	425 (330—460)	.0110 (.0091—.0130)	195 (150—230)	.0075 (.0055—.0094)
.7874	**20.00**	425 (330—460)	.0118 (.0102—.0134)	195 (150—230)	.0083 (.0059—.0102)
.9843	**25.00**	425 (330—460)	.0126 (.0110—.0138)	195 (150—230)	.0083 (.0067—.0098)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

RECOMMENDED CUTTING CONDITIONS

MWS SB/MB/LB/XB/DB Type (l/d<10)

Work Material		Gray Cast Iron (≤350MPa) No45B etc.		Ductile Cast Iron (≤450MPa) 60-40-8 etc.	
Drill Dia. **DC** inch	mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0197	**0.50**	130 (100—150)	.0004 (.0002—.0006)	100 (65—115)	.0004 (.0002—.0006)
.0248	**0.63**	130 (100—150)	.0006 (.0003—.0008)	100 (65—115)	.0006 (.0003—.0008)
.0315	**0.80**	150 (115—165)	.0011 (.0006—.0016)	115 (80—130)	.0011 (.0006—.0016)
.0394	**1.00**	165 (130—180)	.0014 (.0008—.0020)	130 (100—150)	.0014 (.0008—.0020)
.0472	**1.20**	165 (130—180)	.0018 (.0012—.0024)	130 (100—150)	.0018 (.0012—.0024)
.0630	**1.60**	165 (130—180)	.0022 (.0014—.0031)	130 (100—150)	.0022 (.0014—.0031)
.0787	**2.00**	165 (130—180)	.0028 (.0016—.0039)	130 (100—150)	.0028 (.0016—.0039)
.0984	**2.50**	195 (150—215)	.0033 (.0020—.0049)	165 (130—180)	.0033 (.0020—.0049)
.1260	**3.20**	295 (230—310)	.0039 (.0024—.0051)	215 (165—230)	.0039 (.0024—.0051)
.1575	**4.00**	330 (260—360)	.0047 (.0031—.0063)	215 (165—230)	.0047 (.0031—.0063)
.1969	**5.00**	330 (260—360)	.0059 (.0039—.0079)	215 (165—230)	.0059 (.0039—.0079)
.2480	**6.30**	360 (280—395)	.0079 (.0051—.0102)	230 (180—245)	.0079 (.0051—.0102)
.3150	**8.00**	395 (310—425)	.0098 (.0071—.0122)	230 (180—245)	.0091 (.0071—.0110)
.3937	**10.00**	425 (330—460)	.0114 (.0087—.0138)	230 (180—245)	.0106 (.0087—.0126)
.4724	**12.00**	460 (360—490)	.0126 (.0102—.0146)	295 (230—310)	.0118 (.0102—.0134)
.6299	**16.00**	525 (410—575)	.0138 (.0110—.0165)	295 (230—310)	.0130 (.0110—.0150)
.7874	**20.00**	525 (410—575)	.0146 (.0118—.0173)	330 (260—360)	.0138 (.0118—.0157)
.9843	**25.00**	525 (410—575)	.0146 (.0118—.0173)	330 (260—360)	.0138 (.0118—.0157)

Work Material		Aluminium Alloy (Si<5%) ASTM A6061, A7075 etc.		Heat Resistant Alloy Inconel718 etc.	
Drill Dia. **DC** inch	mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0197	**0.50**	130 (100—150)	.0006 (.0003—.0008)	35 (15—50)	.0002 (.0002—.0003)
.0248	**0.63**	130 (100—150)	.0008 (.0005—.0012)	35 (15—50)	.0003 (.0003—.0004)
.0315	**0.80**	150 (115—165)	.0014 (.0009—.0020)	35 (15—50)	.0006 (.0005—.0008)
.0394	**1.00**	195 (150—215)	.0020 (.0012—.0030)	35 (15—50)	.0008 (.0006—.0011)
.0472	**1.20**	230 (180—245)	.0026 (.0018—.0035)	35 (15—50)	.0010 (.0009—.0013)
.0630	**1.60**	260 (195—280)	.0033 (.0021—.0047)	35 (15—50)	.0012 (.0010—.0016)
.0787	**2.00**	295 (230—310)	.0041 (.0024—.0059)	50 (35—65)	.0016 (.0013—.0020)
.0984	**2.50**	330 (260—360)	.0053 (.0030—.0079)	50 (35—65)	.0020 (.0016—.0024)
.1260	**3.20**	395 (310—425)	.0091 (.0039—.0138)	65 (50—80)	.0028 (.0020—.0035)
.1575	**4.00**	395 (310—425)	.0094 (.0047—.0138)	65 (50—80)	.0035 (.0024—.0043)
.1969	**5.00**	395 (310—425)	.0098 (.0059—.0138)	65 (50—80)	.0043 (.0031—.0055)
.2480	**6.30**	490 (395—540)	.0138 (.0079—.0197)	80 (65—100)	.0051 (.0035—.0063)
.3150	**8.00**	490 (395—540)	.0138 (.0079—.0197)	80 (65—100)	.0055 (.0043—.0067)
.3937	**10.00**	490 (395—540)	.0197 (.0079—.0315)	80 (65—100)	.0059 (.0047—.0067)
.4724	**12.00**	525 (410—575)	.0197 (.0079—.0315)	80 (65—100)	.0063 (.0051—.0071)
.6299	**16.00**	525 (410—575)	.0236 (.0079—.0394)	80 (65—100)	.0071 (.0055—.0083)
.7874	**20.00**	560 (445—605)	.0236 (.0079—.0394)	100 (65—115)	.0075 (.0059—.0087)
.9843	**25.00**	560 (445—605)	.0236 (.0079—.0394)	100 (65—115)	.0075 (.0059—.0087)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MWE/MWS

RECOMMENDED CUTTING CONDITIONS

MWS DB Type (l/d≥10)

Work Material		Mild Steel (≤180HB) AISI 1010 etc.		Carbon Steel, Alloy Steel (180—280HB) AISI 1045, 4140 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0394	**1.0**	165 (130—180)	.0008 (.0004—.0012)	130 (100—130)	.0008 (.0004—.0012)
.0472	**1.2**	165 (130—180)	.0010 (.0006—.0015)	130 (100—130)	.0010 (.0006—.0015)
.0630	**1.6**	165 (130—180)	.0022 (.0013—.0031)	130 (100—130)	.0022 (.0013—.0031)
.0787	**2.0**	195 (150—215)	.0028 (.0016—.0039)	165 (130—180)	.0028 (.0016—.0039)
.0984	**2.5**	195 (150—215)	.0035 (.0025—.0049)	165 (130—180)	.0035 (.0022—.0049)
.1260	**3.2**	295 (230—310)	.0039 (.0024—.0051)	260 (195—280)	.0039 (.0024—.0051)
.1575	**4.0**	295 (230—310)	.0047 (.0031—.0063)	260 (195—280)	.0047 (.0031—.0063)
.1969	**5.0**	295 (230—310)	.0059 (.0039—.0079)	260 (195—280)	.0059 (.0039—.0079)
.2480	**6.3**	360 (280—395)	.0079 (.0051—.0102)	295 (230—310)	.0079 (.0051—.0102)
.3150	**8.0**	360 (280—395)	.0091 (.0071—.0110)	295 (230—310)	.0091 (.0071—.0110)
.3937	**10.0**	360 (280—395)	.0102 (.0079—.0126)	295 (230—310)	.0102 (.0079—.0126)
.4724	**12.0**	425 (330—460)	.0118 (.0098—.0134)	360 (280—395)	.0118 (.0098—.0134)
.6299	**16.0**	425 (330—460)	.0122 (.0094—.0150)	360 (280—395)	.0122 (.0094—.0150)

Work Material		Carbon Steel, Alloy Steel (280—350HB) AISI 4340 etc.		Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0394	**1.0**	100 (65—100)	.0006 (.0004—.0011)	100 (65—115)	.0006 (.0004—.0011)
.0472	**1.2**	100 (65—100)	.0008 (.0005—.0014)	100 (65—115)	.0008 (.0005—.0014)
.0630	**1.6**	100 (65—100)	.0020 (.0011—.0030)	100 (65—115)	.0020 (.0011—.0030)
.0787	**2.0**	165 (130—180)	.0026 (.0013—.0037)	100 (65—115)	.0026 (.0013—.0037)
.0984	**2.5**	165 (130—180)	.0031 (.0018—.0047)	130 (100—150)	.0031 (.0018—.0047)
.1260	**3.2**	230 (180—245)	.0035 (.0020—.0047)	130 (100—150)	.0028 (.0020—.0035)
.1575	**4.0**	230 (180—245)	.0043 (.0028—.0059)	130 (100—150)	.0031 (.0024—.0039)
.1969	**5.0**	230 (180—245)	.0055 (.0035—.0075)	130 (100—150)	.0039 (.0028—.0047)
.2480	**6.3**	260 (195—280)	.0071 (.0043—.0098)	165 (130—180)	.0047 (.0031—.0063)
.3150	**8.0**	260 (195—280)	.0083 (.0059—.0102)	165 (130—180)	.0055 (.0039—.0067)
.3937	**10.0**	260 (195—280)	.0091 (.0059—.0118)	165 (130—180)	.0059 (.0047—.0071)
.4724	**12.0**	295 (230—310)	.0098 (.0075—.0122)	195 (150—230)	.0067 (.0055—.0075)
.6299	**16.0**	295 (230—310)	.0110 (.0075—.0142)	195 (150—230)	.0071 (.0051—.0087)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

RECOMMENDED CUTTING CONDITIONS

MWS DB Type (l/d≥10)

Work Material		Gray Cast Iron (≤350MPa) No45B etc.		Ductile Cast Iron (≤450MPa) 60-40-8 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0394	**1.0**	130 (100—130)	.0008 (.0004—.0012)	100 (65—100)	.0006 (.0004—.0011)
.0472	**1.2**	130 (100—130)	.0010 (.0006—.0015)	100 (65—100)	.0008 (.0005—.0014)
.0630	**1.6**	130 (100—130)	.0022 (.0013—.0031)	100 (65—100)	.0020 (.0011—.0030)
.0787	**2.0**	165 (130—180)	.0028 (.0016—.0039)	165 (130—180)	.0026 (.0013—.0037)
.0984	**2.5**	165 (130—180)	.0035 (.0022—.0049)	165 (130—180)	.0031 (.0018—.0047)
.1260	**3.2**	295 (230—310)	.0039 (.0024—.0051)	165 (130—180)	.0035 (.0020—.0047)
.1575	**4.0**	295 (230—310)	.0047 (.0031—.0063)	165 (130—180)	.0043 (.0028—.0059)
.1969	**5.0**	295 (230—310)	.0059 (.0039—.0079)	165 (130—180)	.0055 (.0035—.0075)
.2480	**6.3**	360 (280—395)	.0079 (.0051—.0102)	195 (150—215)	.0071 (.0043—.0098)
.3150	**8.0**	360 (280—395)	.0091 (.0071—.0110)	195 (150—215)	.0083 (.0059—.0102)
.3937	**10.0**	360 (280—395)	.0102 (.0079—.0126)	195 (150—215)	.0091 (.0059—.0118)
.4724	**12.0**	425 (330—460)	.0118 (.0098—.0134)	260 (195—280)	.0098 (.0075—.0122)
.6299	**16.0**	425 (330—460)	.0122 (.0094—.0150)	260 (195—280)	.0110 (.0075—.0142)

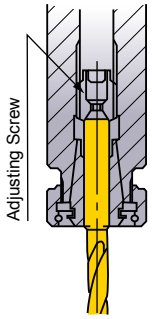
Work Material		Aluminium Alloy (Si<5%) AISI A6061, A7075 etc.		Heat Resistant Alloy Inconel718 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0394	**1.0**	165 (130—180)	.0020 (.0012—.0030)	35 (15—50)	.0008 (.0006—.0011)
.0472	**1.2**	195 (150—215)	.0026 (.0018—.0035)	35 (15—50)	.0010 (.0009—.0013)
.0630	**1.6**	230 (180—245)	.0033 (.0021—.0047)	35 (15—50)	.0012 (.0010—.0016)
.0787	**2.0**	260 (195—280)	.0041 (.0024—.0059)	50 (35—65)	.0016 (.0013—.0020)
.0984	**2.5**	295 (230—310)	.0053 (.0030—.0079)	50 (35—65)	.0020 (.0016—.0024)
.1260	**3.2**	330 (260—360)	.0091 (.0039—.0138)	65 (50—80)	.0028 (.0020—.0035)
.1575	**4.0**	330 (260—360)	.0094 (.0047—.0138)	65 (50—80)	.0035 (.0024—.0043)
.1969	**5.0**	330 (260—360)	.0098 (.0059—.0138)	65 (50—80)	.0043 (.0031—.0055)
.2480	**6.3**	425 (330—460)	.0138 (.0079—.0197)	65 (50—80)	.0051 (.0035—.0063)
.3150	**8.0**	425 (330—460)	.0138 (.0079—.0197)	65 (50—80)	.0055 (.0043—.0063)
.3937	**10.0**	425 (330—460)	.0197 (.0079—.0315)	65 (50—80)	.0059 (.0047—.0067)
.4724	**12.0**	460 (360—490)	.0197 (.0079—.0315)	65 (50—80)	.0063 (.0051—.0071)
.6299	**16.0**	460 (360—490)	.0197 (.0079—.0315)	65 (50—80)	.0067 (.0055—.0075)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MWE/MWS

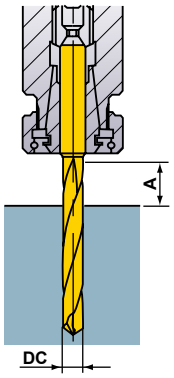
OPERATIONAL GUIDANCE FOR THE MWS DRILLS (Φ.0200"-Φ.1200" & Φ0.50-Φ2.95mm)

Drill Holding



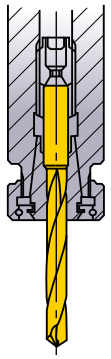
Thrust bearing type collet chuck holds the drill securely.

Drill Length



A ≥ DC x 2

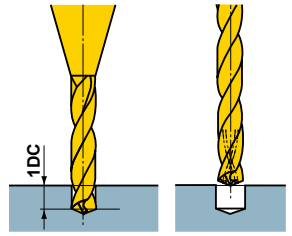
Drill Installation



NG

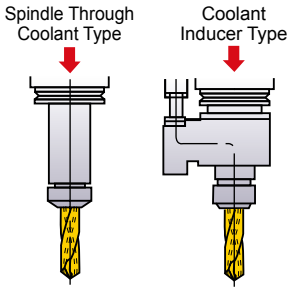
Do not clamp on the flutes.

Drill Installation



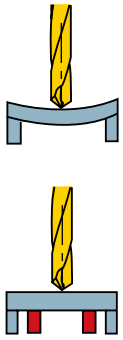
①A pilot hole must proceed application of XB or DB drill.
②Use SB drill for pilot hole.
③Depending on cutting conditions peck feeding may be necessary.

Through Coolant Type



Recommended coolant pressure:
≥ 435 PSI (3MPa)
At least 220 PSI (1.5MPa) is required.

Thin Workpiece



If Bending Occurs

NG

Support the Workpiece

Good

Coolant Handling

1) Small particles of swarf will jam in the oil hole of small diameter drills. Always use a fine mesh filter as a preventative measure.

2) Dirt and dust particles adhere to the oil in old coolant and prevent an efficient flow. Regular coolant exchange is recommended.

CAUTIONS FOR USE

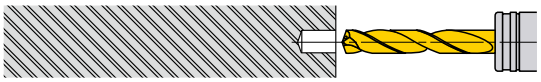
- Please use a fine mesh filter (mesh≤3 micron) for coolant to prevent jamming in the oil hole.
- For deep drilling with the long type drill, machining a pilot hole is recommended.
  (Otherwise, centrifugal forces may cause drill breakage.)

OPERATIONAL GUIDANCE FOR THE MWS...DB DRILL (Φ.125"-Φ.500" & Φ3.0-Φ14.0mm) (L/D≥10)

FLAT FACE DRILLING

●Drilling a blind hole

1. Drilling a pilot hole

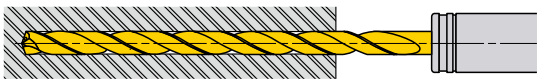


①Use a drill with the same or larger point angle than the MWS...DB type. Mitsubishi type MZE, MZS, MWE or MWS drill is recommended.
②Use a drill with the same diameter as the deep hole drill.
③Drill depth : Approx 1DC or deeper.
④Ensure a high precision hole is drilled for the pilot.

2. Initial cutting with the long type drill

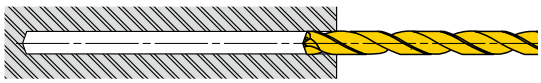
①Penetrate the pilot hole at a low revolution. (Cutting speed 65-100 SFM, feed rate .008-.012 IPR)
②Stop the long type drill .039-.118 inch short of the pilot hole bottom.

3. Drill the deep hole



①Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.

4. Drill retraction

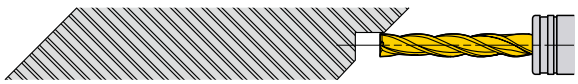


①After drilling, lower the cutting revolution about .039-.079 inch short of the hole end. (Cutting speed of around 65-100 SFM)
②Retract the drill to the pilot hole depth starting point at a feed rate of 120 inch/min.
③Finally clear the hole at a cutting speed of 65-100 SFM and feed rate of .008-.012 IPR.

IRREGULAR FACE DRILLING

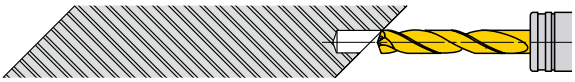
●Drilling and breaking through on irregular faces or angles

1. Spot facing



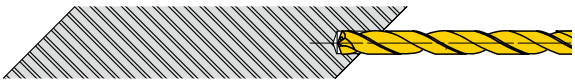
①Machine a flat on the irregular face by using an end mill or drill capable of spot facing. Make the spot face diameter the same size as the required deep hole diameter.

2. Drilling a pilot hole



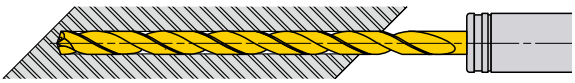
①Use a drill with the same or larger point angle than the MWS...DB type. Mitsubishi type MZE, MZS, MWE or MWS drill is recommended.
②Use a drill with the same diameter as the deep hole drill.
③Drill depth : Approx 1DC or deeper.
④Ensure a high precision hole is drilled for the pilot.

3. Initial cutting with the long type drill



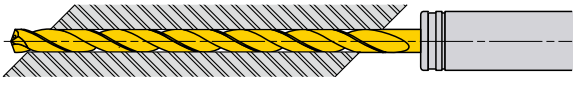
①Penetrate the pilot hole at a low revolution. (Cutting speed 65-100 SFM, feed rate .008-.012 IPR)
②Stop the long type drill .039-.118 inch short of the pilot hole bottom.

4. Drill the deep hole



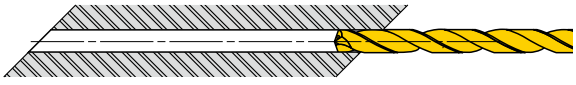
①Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.

5. Breaking through



①When breaking through, the cutting edge can be damaged.
②A feed rate of .002-.004 IPR is recommended.

6. Drill retraction



①Finally clear the hole at a cutting speed of 65-100 SFM.
②Retract the drill to the pilot hole depth starting point at a feed rate of 120 inch/min.

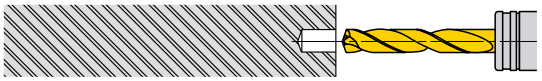
MWE/MWS

OPERATIONAL GUIDANCE FOR THE MICRO-MWS DRILL (Φ.0200"-Φ.1200" & Φ0.50-Φ2.95mm) (L/D≥10)

FLAT FACE DRILLING

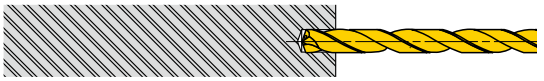
●Drilling a blind hole

1. Drilling a pilot hole



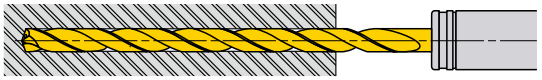
①Use the SB type drill.
②Use a drill with the same diameter as the deep hole drill.
③Drill depth : Approx 1DC.
④Ensure a high precision hole is drilled for the guide pilot.

2. Initial cutting with the long type drill



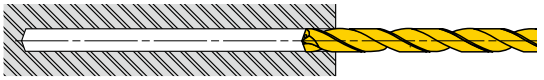
①Penetrate the pilot hole at a low revolution. (Revolution speed 500-1000 min^{-1}, feed rate .008-.012 IPR)
②Stop the long type drill .020-.039 inch short of the pilot hole bottom.

3. Drill the deep hole



①Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.

4. Drill retraction

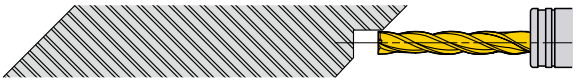


①After drilling, lower the cutting revolution about .020-.039 inch short of the hole end. (Revolution speed of around 500-1000 min^{-1})
②Retract the drill to the pilot hole depth starting point at a feed rate of 120 inch/min.
③Finally clear the hole at a cutting speed of 65-100 SFM and feed rate of .008-.012 IPR.

IRREGULAR FACE DRILLING

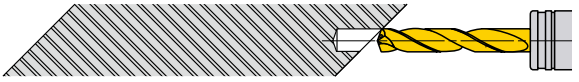
●Drilling and breaking through on irregular faces or angles

1. Spot facing



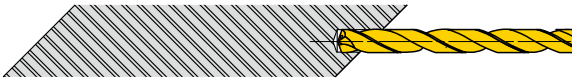
①Machine a flat on the irregular face by using an end mill or drill capable of spot facing. Make the spot face diameter the same size as the required deep hole diameter.

2. Drilling a pilot hole



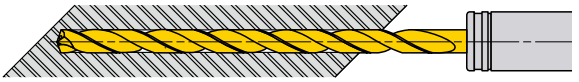
①Use a drill with the same or larger point angle than XB or DB type. The MWS-SB type is recommended.
②Ensure a high precision hole is drilled for the pilot.
③Drill depth : Approx 1DC.

3. Initial cutting with the long type drill



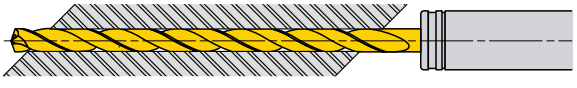
①Penetrate the pilot hole at a low revolution. (Revolution speed 500-1000 min^{-1}, feed rate .008-.012 IPR)
②Stop the long type drill .020-.039 inch short of the pilot hole bottom.

4. Drill the deep hole



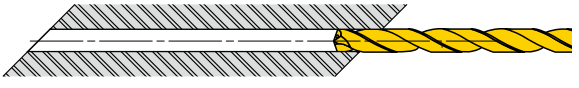
①Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.

5. Breaking through



①When breaking through, the cutting edge can be damaged.
②Feed rate should be half the normal feed.

6. Drill retraction



①Finally clear the hole at a revolution speed of 500-1000 min^{-1}.
②Retract the drill to the pilot hole depth starting point at a feed rate of 120 inch/min.

Memo

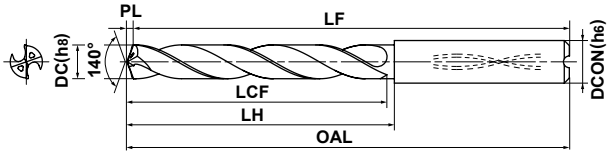
MMS

- New grade DP7020 and a unique margin, developed specifically for stainless steel, complement high flow coolant holes.
- Long drill life and high efficiency drilling in stainless steel.

P | **M** | K | N | S | H

Tolerance	DC=.1181	.1181<DC≤.2362	.2362<DC≤.3937	.3937<DC≤.7087	.7087<DC≤.7874
DC (inch)	0 −0.00055	0 −0.00071	0 −0.00087	0 −0.00106	0 −0.00130
DCON (inch)		0 −0.00031	0 −0.00035	0 −0.00043	0 −0.00051

Tolerance	DC=3	3<DC≤6	6<DC≤10	10<DC≤18	18<DC≤20
DC (mm)	0 −0.014	0 −0.018	0 −0.022	0 −0.027	0 −0.033
DCON (mm)		0 −0.008	0 −0.009	0 −0.011	0 −0.013



*When looking at coating the color can vary depending on the direction of viewing. This does not have any effect on the performance of the drill.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions											
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
3.0	.1181				3	Int.	●	MMS0300X3DB	21.6	.850	23.6	.929	70.6	2.780	70	2.756	0.6	.024	6	.236
					5	Int.	●	MMS0300X5DB	28.6	1.126	31.6	1.244	78.6	3.094	78	3.071	0.6	.024	6	.236
3.048	.1200		31		3	Int.	●	MMS0305X3D060	21.6	.850	23.6	.929	70.6	2.780	70	2.756	0.6	.024	6	.236
					5	Int.	●	MMS0305X5D060	28.6	1.126	31.6	1.244	78.6	3.094	78	3.071	0.6	.024	6	.236
3.1	.1220				3	Int.	●	MMS0310X3DB	21.6	.850	23.6	.929	70.6	2.780	70	2.756	0.6	.024	6	.236
					5	Int.	●	MMS0310X5DB	28.6	1.126	31.6	1.244	78.6	3.094	78	3.071	0.6	.024	6	.236
3.175	.1250	1/8			3	Int.	●	MMS0318X3D060	21.6	.850	23.6	.929	70.6	2.780	70	2.756	0.6	.024	6	.236
					5	Int.	●	MMS0318X5D060	28.6	1.126	31.6	1.244	78.6	3.094	78	3.071	0.6	.024	6	.236
3.2	.1260				3	Int.	●	MMS0320X3DB	21.6	.850	23.6	.929	70.6	2.780	70	2.756	0.6	.024	6	.236
					5	Int.	●	MMS0320X5DB	28.6	1.126	31.6	1.244	78.6	3.094	78	3.071	0.6	.024	6	.236
3.3	.1299			M4x0.7	3	Int.	●	MMS0330X3DB	21.6	.850	23.6	.929	70.6	2.780	70	2.756	0.6	.024	6	.236
					5	Int.	●	MMS0330X5DB	28.6	1.126	31.6	1.244	78.6	3.094	78	3.071	0.6	.024	6	.236
3.4	.1339				3	Int.	●	MMS0340X3DB	21.6	.850	23.6	.929	70.6	2.780	70	2.756	0.6	.024	6	.236
					5	Int.	●	MMS0340X5DB	28.6	1.126	31.6	1.244	78.6	3.094	78	3.071	0.6	.024	6	.236
3.5	.1378				3	Int.	●	MMS0350X3DB	21.6	.850	23.6	.929	70.6	2.780	70	2.756	0.6	.024	6	.236
					5	Int.	●	MMS0350X5DB	28.6	1.126	31.6	1.244	78.6	3.094	78	3.071	0.6	.024	6	.236
3.572	.1406	9/64			3	Int.	●	MMS0357X3D060	22.7	.894	23.7	.933	70.7	2.783	70	2.756	0.7	.028	6	.236
					5	Int.	●	MMS0357X5D060	30.7	1.209	31.7	1.248	78.7	3.098	78	3.071	0.7	.028	6	.236
3.6	.1417				3	Int.	●	MMS0360X3DB	22.7	.894	23.7	.933	70.7	2.783	70	2.756	0.7	.028	6	.236
					5	Int.	●	MMS0360X5DB	30.7	1.209	31.7	1.248	78.7	3.098	78	3.071	0.7	.028	6	.236
3.7	.1457			M4.5x0.75	3	Int.	●	MMS0370X3DB	22.7	.894	23.7	.933	70.7	2.783	70	2.756	0.7	.028	6	.236
					5	Int.	●	MMS0370X5DB	30.7	1.209	31.7	1.248	78.7	3.098	78	3.071	0.7	.028	6	.236
3.8	.1496		25	#10-24	3	Int.	●	MMS0380X3DB	22.7	.894	23.7	.933	70.7	2.783	70	2.756	0.7	.028	6	.236
					5	Int.	●	MMS0380X5DB	30.7	1.209	31.7	1.248	78.7	3.098	78	3.071	0.7	.028	6	.236
3.9	.1535				3	Int.	●	MMS0390X3DB	22.7	.894	23.7	.933	70.7	2.783	70	2.756	0.7	.028	6	.236
					5	Int.	●	MMS0390X5DB	30.7	1.209	31.7	1.248	78.7	3.098	78	3.071	0.7	.028	6	.236
3.969	.1562	5/32			3	Int.	●	MMS0397X3D060	22.7	.894	23.7	.933	70.7	2.783	70	2.756	0.7	.028	6	.236
					5	Int.	●	MMS0397X5D060	30.7	1.209	31.7	1.248	78.7	3.098	78	3.071	0.7	.028	6	.236
4.0	.1575				3	Int.	●	MMS0400X3DB	22.7	.894	23.7	.933	70.7	2.783	70	2.756	0.7	.028	6	.236
					5	Int.	●	MMS0400X5DB	30.7	1.209	31.7	1.248	78.7	3.098	78	3.071	0.7	.028	6	.236
4.039	.1590		21	#10-32	3	Int.	●	MMS0404X3D060	24.7	.972	26.7	1.051	73.7	2.902	73	2.874	0.7	.028	6	.236
					5	Int.	●	MMS0404X5D060	33.7	1.327	35.7	1.406	82.7	3.256	82	3.228	0.7	.028	6	.236
4.1	.1614				3	Int.	●	MMS0410X3DB	24.8	.976	26.8	1.055	73.8	2.906	73	2.874	0.8	.031	6	.236
					5	Int.	●	MMS0410X5DB	33.8	1.331	35.8	1.409	82.8	3.260	82	3.228	0.8	.031	6	.236

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions											
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
4.2	.1654			M5x0.8	3	Int.	●	MMS0420X3DB	24.8	.976	26.8	1.055	73.8	2.906	73	2.874	0.8	.031	6	.236
					5	Int.	●	MMS0420X5DB	33.8	1.331	35.8	1.409	82.8	3.260	82	3.228	0.8	.031	6	.236
4.3	.1693				3	Int.	●	MMS0430X3DB	24.8	.976	26.8	1.055	73.8	2.906	73	2.874	0.8	.031	6	.236
					5	Int.	●	MMS0430X5DB	33.8	1.331	35.8	1.409	82.8	3.260	82	3.228	0.8	.031	6	.236
4.366	.1719	11/64			3	Int.	●	MMS0437X3D060	24.8	.976	26.8	1.055	73.8	2.906	73	2.874	0.8	.031	6	.236
					5	Int.	●	MMS0437X5D060	33.8	1.331	35.8	1.409	82.8	3.260	82	3.228	0.8	.031	6	.236
4.4	.1732				3	Int.	●	MMS0440X3DB	24.8	.976	26.8	1.055	73.8	2.906	73	2.874	0.8	.031	6	.236
					5	Int.	●	MMS0440X5DB	33.8	1.331	35.8	1.409	82.8	3.260	82	3.228	0.8	.031	6	.236
4.5	.1772		16	#12-24	3	Int.	●	MMS0450X3DB	24.8	.976	26.8	1.055	73.8	2.906	73	2.874	0.8	.031	6	.236
					5	Int.	●	MMS0450X5DB	33.8	1.331	35.8	1.409	82.8	3.260	82	3.228	0.8	.031	6	.236
4.6	.1811				3	Int.	●	MMS0460X3DB	25.8	1.016	28.8	1.134	75.8	2.984	75	2.953	0.8	.031	6	.236
					5	Int.	●	MMS0460X5DB	35.8	1.409	38.8	1.528	85.8	3.378	85	3.346	0.8	.031	6	.236
4.7	.1850		13		3	Int.	●	MMS0470X3DB	25.9	1.020	28.9	1.138	75.9	2.988	75	2.953	0.9	.035	6	.236
					5	Int.	●	MMS0470X5DB	35.9	1.413	38.9	1.531	85.9	3.382	85	3.346	0.9	.035	6	.236
4.763	.1875	3/16			3	Int.	●	MMS0476X3D060	25.9	1.020	28.9	1.138	75.9	2.988	75	2.953	0.9	.035	6	.236
					5	Int.	●	MMS0476X5D060	35.9	1.413	38.9	1.531	85.9	3.382	85	3.346	0.9	.035	6	.236
4.8	.1890				3	Int.	●	MMS0480X3DB	25.9	1.020	28.9	1.138	75.9	2.988	75	2.953	0.9	.035	6	.236
					5	Int.	●	MMS0480X5DB	35.9	1.413	38.9	1.531	85.9	3.382	85	3.346	0.9	.035	6	.236
4.9	.1929				3	Int.	●	MMS0490X3DB	25.9	1.020	28.9	1.138	75.9	2.988	75	2.953	0.9	.035	6	.236
					5	Int.	●	MMS0490X5DB	35.9	1.413	38.9	1.531	85.9	3.382	85	3.346	0.9	.035	6	.236
5.0	.1969			M6x1.0	3	Int.	●	MMS0500X3DB	25.9	1.020	28.9	1.138	75.9	2.988	75	2.953	0.9	.035	6	.236
					5	Int.	●	MMS0500X5DB	35.9	1.413	38.9	1.531	85.9	3.382	85	3.346	0.9	.035	6	.236
5.1	.2008		7	1/4-20	3	Int.	●	MMS0510X3DB	28.9	1.138	30.9	1.217	81.9	3.224	81	3.189	0.9	.035	6	.236
					5	Int.	●	MMS0510X5DB	39.9	1.571	42.9	1.689	89.9	3.539	89	3.504	0.9	.035	6	.236
5.159	.2031	13/64			3	Int.	●	MMS0516X3D060	28.9	1.138	30.9	1.217	81.9	3.224	81	3.189	0.9	.035	6	.236
					5	Int.	●	MMS0516X5D060	39.9	1.571	42.9	1.689	89.9	3.539	89	3.504	0.9	.035	6	.236
5.2	.2047				3	Int.	●	MMS0520X3DB	29.0	1.142	31.0	1.220	82.0	3.228	81	3.189	1.0	.039	6	.236
					5	Int.	●	MMS0520X5DB	40.0	1.575	43.0	1.693	90.0	3.543	89	3.504	1.0	.039	6	.236
5.3	.2087				3	Int.	●	MMS0530X3DB	29.0	1.142	31.0	1.220	82.0	3.228	81	3.189	1.0	.039	6	.236
					5	Int.	●	MMS0530X5DB	40.0	1.575	43.0	1.693	90.0	3.543	89	3.504	1.0	.039	6	.236
5.4	.2126		3	1/4-28	3	Int.	●	MMS0540X3DB	29.0	1.142	31.0	1.220	82.0	3.228	81	3.189	1.0	.039	6	.236
					5	Int.	●	MMS0540X5DB	40.0	1.575	43.0	1.693	90.0	3.543	89	3.504	1.0	.039	6	.236
5.5	.2165				3	Int.	●	MMS0550X3DB	29.0	1.142	31.0	1.220	820	3.228	81	3.189	1.0	.039	6	.236
					5	Int.	●	MMS0550X5DB	40.0	1.575	43.0	1.693	90.0	3.543	89	3.504	1.0	.039	6	.236
5.556	.2188	7/32			3	Int.	●	MMS0556X3D060	31.0	1.220	31.0	1.220	82.0	3.228	81	3.189	1.0	.039	6	.236
					5	Int.	●	MMS0556X5D060	43.0	1.693	43.0	1.693	90.0	3.543	89	3.504	1.0	.039	6	.236
5.6	.2205				3	Int.	●	MMS0560X3DB	31.0	1.220	31.0	1.220	82.0	3.228	81	3.189	1.0	.039	6	.236
					5	Int.	●	MMS0560X5DB	43.0	1.693	43.0	1.693	90.0	3.543	89	3.504	1.0	.039	6	.236
5.7	.2244				3	Int.	●	MMS0570X3DB	31.0	1.220	31.0	1.220	82.0	3.228	81	3.189	1.0	.039	6	.236
					5	Int.	●	MMS0570X5DB	43.0	1.693	43.0	1.693	90.0	3.543	89	3.504	1.0	.039	6	.236
5.8	.2283		1		3	Int.	●	MMS0580X3DB	31.1	1.224	31.1	1.224	82.1	3.232	81	3.189	1.1	.043	6	.236
					5	Int.	●	MMS0580X5DB	43.1	1.697	43.1	1.697	90.1	3.547	89	3.504	1.1	.043	6	.236
5.9	.2323				3	Int.	●	MMS0590X3DB	31.1	1.224	31.1	1.224	82.1	3.232	81	3.189	1.1	.043	6	.236
					5	Int.	●	MMS0590X5DB	43.1	1.697	43.1	1.697	90.1	3.547	89	3.504	1.1	.043	6	.236
5.953	.2344	15/64			3	Int.	●	MMS0595X3D060	31.1	1.224	31.1	1.224	82.1	3.232	81	3.189	1.1	.043	6	.236
					5	Int.	●	MMS0595X5D060	43.1	1.697	43.1	1.697	90.1	3.547	89	3.504	1.1	.043	6	.236
6.0	.2362			M7x1.0	3	Int.	●	MMS0600X3DB	31.1	1.224	31.1	1.224	82.1	3.232	81	3.189	1.1	.043	6	.236
					5	Int.	●	MMS0600X5DB	43.1	1.697	43.1	1.697	90.1	3.547	89	3.504	1.1	.043	6	.236

MMS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions									
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
6.1	.2402				3	Int.	●	MMS0610X3DB	34.1	1.343	36.1	1.421	87.1	3.429	86	3.386	1.1	.043	8	.315
					5	Int.	●	MMS0610X5DB	47.1	1.854	49.1	1.933	96.1	3.783	95	3.740	1.1	.043	8	.315
6.2	.2441				3	Int.	●	MMS0620X3DB	34.1	1.343	36.1	1.421	87.1	3.429	86	3.386	1.1	.043	8	.315
					5	Int.	●	MMS0620X5DB	47.1	1.854	49.1	1.933	96.1	3.783	95	3.740	1.1	.043	8	.315
6.3	.2480				3	Int.	●	MMS0630X3DB	34.2	1.346	36.2	1.425	87.2	3.433	86	3.386	1.2	.047	8	.315
					5	Int.	●	MMS0630X5DB	47.2	1.858	49.2	1.937	96.2	3.787	95	3.740	1.2	.047	8	.315
6.350	.2500	1/4	E		3	Int.	●	MMS0635X3D080	34.2	1.346	36.2	1.425	87.2	3.433	86	3.386	1.2	.047	8	.315
					5	Int.	●	MMS0635X5D080	47.2	1.858	49.2	1.937	96.2	3.787	95	3.740	1.2	.047	8	.315
6.4	.2520				3	Int.	●	MMS0640X3DB	34.2	1.346	36.2	1.425	87.2	3.433	86	3.386	1.2	.047	8	.315
					5	Int.	●	MMS0640X5DB	47.2	1.858	49.2	1.937	96.2	3.787	95	3.740	1.2	.047	8	.315
6.5	.2559				3	Int.	●	MMS0650X3DB	34.2	1.346	36.2	1.425	87.2	3.433	86	3.386	1.2	.047	8	.315
					5	Int.	●	MMS0650X5DB	47.2	1.858	49.2	1.937	96.2	3.787	95	3.740	1.2	.047	8	.315
6.528	.2570		F	5/16-18	3	Int.	●	MMS0653X3D080	36.2	1.425	38.2	1.504	91.2	3.591	90	3.543	1.2	.047	8	.315
					5	Int.	●	MMS0653X5D080	50.2	1.976	52.2	2.055	99.2	3.906	98	3.858	1.2	.047	8	.315
6.6	.2598				3	Int.	●	MMS0660X3DB	36.2	1.425	38.2	1.504	91.2	3.591	90	3.543	1.2	.047	8	.315
					5	Int.	●	MMS0660X5DB	50.2	1.976	52.2	2.055	99.2	3.906	98	3.858	1.2	.047	8	.315
6.7	.2638			M8x1.25	3	Int.	●	MMS0670X3DB	36.2	1.425	38.2	1.504	91.2	3.591	90	3.543	1.2	.047	8	.315
					5	Int.	●	MMS0670X5DB	50.2	1.976	52.2	2.055	99.2	3.906	98	3.858	1.2	.047	8	.315
6.747	.2656	17/64			3	Int.	●	MMS0675X3D080	36.2	1.425	38.2	1.504	91.2	3.591	90	3.543	1.2	.047	8	.315
					5	Int.	●	MMS0675X5D080	50.2	1.976	52.2	2.055	99.2	3.906	98	3.858	1.2	.047	8	.315
6.8	.2677				3	Int.	●	MMS0680X3DB	36.2	1.425	38.2	1.504	91.2	3.591	90	3.543	1.2	.047	8	.315
					5	Int.	●	MMS0680X5DB	50.2	1.976	52.2	2.055	99.2	3.906	98	3.858	1.2	.047	8	.315
6.9	.2717		I	5/16-24	3	Int.	●	MMS0690X3DB	36.3	1.429	38.3	1.508	91.3	3.594	90	3.543	1.3	.051	8	.315
					5	Int.	●	MMS0690X5DB	50.3	1.980	52.3	2.059	99.3	3.909	98	3.858	1.3	.051	8	.315
7.0	.2756			M8x1.0	3	Int.	●	MMS0700X3DB	36.3	1.429	38.3	1.508	91.3	3.594	90	3.543	1.3	.051	8	.315
					5	Int.	●	MMS0700X5DB	50.3	1.980	52.3	2.059	99.3	3.909	98	3.858	1.3	.051	8	.315
7.1	.2795				3	Int.	●	MMS0710X3DB	39.3	1.547	40.3	1.587	91.3	3.594	90	3.543	1.3	.051	8	.315
					5	Int.	●	MMS0710X5DB	54.3	2.138	57.3	2.256	104.3	4.106	103	4.055	1.3	.051	8	.315
7.144	.2812	9/32			3	Int.	●	MMS0714X3D080	39.3	1.547	40.3	1.587	91.3	3.594	90	3.543	1.3	.051	8	.315
					5	Int.	●	MMS0714X5D080	54.3	2.138	57.3	2.256	104.3	4.106	103	4.055	1.3	.051	8	.315
7.2	.2835				3	Int.	●	MMS0720X3DB	39.3	1.547	40.3	1.587	91.3	3.594	90	3.543	1.3	.051	8	.315
					5	Int.	●	MMS0720X5DB	54.3	2.138	57.3	2.256	104.3	4.106	103	4.055	1.3	.051	8	.315
7.3	.2874				3	Int.	●	MMS0730X3DB	39.3	1.547	40.3	1.587	91.3	3.594	90	3.543	1.3	.051	8	.315
					5	Int.	●	MMS0730X5DB	54.3	2.138	57.3	2.256	104.3	4.106	103	4.055	1.3	.051	8	.315
7.4	.2913				3	Int.	●	MMS0740X3DB	39.4	1.551	40.4	1.591	91.4	3.598	90	3.543	1.4	.055	8	.315
					5	Int.	●	MMS0740X5DB	54.4	2.142	57.4	2.260	104.4	4.110	103	4.055	1.4	.055	8	.315
7.5	.2953				3	Int.	●	MMS0750X3DB	39.4	1.551	40.4	1.591	91.4	3.598	90	3.543	1.4	.055	8	.315
					5	Int.	●	MMS0750X5DB	54.4	2.142	57.4	2.260	104.4	4.110	103	4.055	1.4	.055	8	.315
7.541	.2969	19/64			3	Int.	●	MMS0754X3D080	41.4	1.630	41.4	1.630	91.4	3.598	90	3.543	1.4	.055	8	.315
					5	Int.	●	MMS0754X5D080	57.4	2.260	57.4	2.260	104.4	4.110	103	4.055	1.4	.055	8	.315
7.6	.2992				3	Int.	●	MMS0760X3DB	41.4	1.630	41.4	1.630	91.4	3.598	90	3.543	1.4	.055	8	.315
					5	Int.	●	MMS0760X5DB	57.4	2.260	57.4	2.260	104.4	4.110	103	4.055	1.4	.055	8	.315
7.7	.3031				3	Int.	●	MMS0770X3DB	41.4	1.630	41.4	1.630	91.4	3.598	90	3.543	1.4	.055	8	.315
					5	Int.	●	MMS0770X5DB	57.4	2.260	57.4	2.260	104.4	4.110	103	4.055	1.4	.055	8	.315
7.8	.3071				3	Int.	●	MMS0780X3DB	41.4	1.630	41.4	1.630	91.4	3.598	90	3.543	1.4	.055	8	.315
					5	Int.	●	MMS0780X5DB	57.4	2.260	57.4	2.260	104.4	4.110	103	4.055	1.4	.055	8	.315
7.9	.3110				3	Int.	●	MMS0790X3DB	41.4	1.630	41.4	1.630	91.4	3.598	90	3.543	1.4	.055	8	.315
					5	Int.	●	MMS0790X5DB	57.4	2.260	57.4	2.260	104.4	4.110	103	4.055	1.4	.055	8	.315

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions											
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
7.938	.3125	5/16		3/8-16	3	Int.	●	MMS0794X3D080	41.4	1.630	41.4	1.630	91.4	3.598	90	3.543	1.4	.055	8	.315
					5	Int.	●	MMS0794X5D080	57.4	2.260	57.4	2.260	104.4	4.110	103	4.055	1.4	.055	8	.315
8.0	.3150				3	Int.	●	MMS0800X3DB	41.5	1.634	41.5	1.634	91.5	3.602	90	3.543	1.5	.059	8	.315
					5	Int.	●	MMS0800X5DB	57.5	2.264	57.5	2.264	104.5	4.114	103	4.055	1.5	.059	8	.315
8.1	.3189				3	Int.	●	MMS0810X3DB	44.5	1.752	46.5	1.831	97.5	3.839	96	3.780	1.5	.059	10	.394
					5	Int.	●	MMS0810X5DB	61.5	2.421	63.5	2.500	114.5	4.508	113	4.449	1.5	.059	10	.394
8.2	.3228				3	Int.	●	MMS0820X3DB	44.5	1.752	46.5	1.831	97.5	3.839	96	3.780	1.5	.059	10	.394
					5	Int.	●	MMS0820X5DB	61.5	2.421	63.5	2.500	114.5	4.508	113	4.449	1.5	.059	10	.394
8.3	.3268				3	Int.	●	MMS0830X3DB	44.5	1.752	46.5	1.831	97.5	3.839	96	3.780	1.5	.059	10	.394
					5	Int.	●	MMS0830X5DB	61.5	2.421	63.5	2.500	114.5	4.508	113	4.449	1.5	.059	10	.394
8.334	.3281	21/64			3	Int.	●	MMS0833X3D100	44.5	1.752	46.5	1.831	97.5	3.839	96	3.780	1.5	.059	10	.394
					5	Int.	●	MMS0833X5D100	61.5	2.421	63.5	2.500	114.5	4.508	113	4.449	1.5	.059	10	.394
8.4	.3307				3	Int.	●	MMS0840X3DB	44.5	1.752	46.5	1.831	97.5	3.839	96	3.780	1.5	.059	10	.394
					5	Int.	●	MMS0840X5DB	61.5	2.421	63.5	2.500	114.5	4.508	113	4.449	1.5	.059	10	.394
8.433	.3320		Q	3/8-24	3	Int.	●	MMS0843X3D100	44.5	1.752	46.5	1.831	97.5	3.839	96	3.780	1.5	.059	10	.394
					5	Int.	●	MMS0843X5D100	61.5	2.421	63.5	2.500	114.5	4.508	113	4.449	1.5	.059	10	.394
8.5	.3346			M10x1.5	3	Int.	●	MMS0850X3DB	44.6	1.756	46.6	1.835	97.6	3.843	96	3.780	1.6	.063	10	.394
					5	Int.	●	MMS0850X5DB	61.6	2.425	63.6	2.504	114.6	4.512	113	4.449	1.6	.063	10	.394
8.6	.3386				3	Int.	●	MMS0860X3DB	46.6	1.835	48.6	1.913	102.6	4.039	101	3.976	1.6	.063	10	.394
					5	Int.	●	MMS0860X5DB	64.6	2.543	66.6	2.622	117.6	4.630	116	4.567	1.6	.063	10	.394
8.7	.3425			M10x1.25	3	Int.	●	MMS0870X3DB	46.6	1.835	48.6	1.913	102.6	4.039	101	3.976	1.6	.063	10	.394
					5	Int.	●	MMS0870X5DB	64.6	2.543	66.6	2.622	117.6	4.630	116	4.567	1.6	.063	10	.394
8.731	.3438	11/32			3	Int.	●	MMS0873X3D100	46.6	1.835	48.6	1.913	102.6	4.039	101	3.976	1.6	.063	10	.394
					5	Int.	●	MMS0873X5D100	64.6	2.543	66.6	2.622	117.6	4.630	116	4.567	1.6	.063	10	.394
8.8	.3465				3	Int.	●	MMS0880X3DB	46.6	1.835	48.6	1.913	102.6	4.039	101	3.976	1.6	.063	10	.394
					5	Int.	●	MMS0880X5DB	64.6	2.543	66.6	2.622	117.6	4.630	116	4.567	1.6	.063	10	.394
8.9	.3504				3	Int.	●	MMS0890X3DB	46.6	1.835	48.6	1.913	102.6	4.039	101	3.976	1.6	.063	10	.394
					5	Int.	●	MMS0890X5DB	64.6	2.543	66.6	2.622	117.6	4.630	116	4.567	1.6	.063	10	.394
9.0	.3543				3	Int.	●	MMS0900X3DB	46.6	1.835	48.6	1.913	102.6	4.039	101	3.976	1.6	.063	10	.394
					5	Int.	●	MMS0900X5DB	64.6	2.543	66.6	2.622	117.6	4.630	116	4.567	1.6	.063	10	.394
9.1	.3583				3	Int.	●	MMS0910X3DB	49.7	1.957	51.7	2.035	102.7	4.043	101	3.976	1.7	.067	10	.394
					5	Int.	●	MMS0910X5DB	68.7	2.705	71.7	2.823	122.7	4.831	121	4.764	1.7	.067	10	.394
9.128	.3594	23/64			3	Int.	●	MMS0913X3D100	49.7	1.957	51.7	2.035	102.7	4.043	101	3.976	1.7	.067	10	.394
					5	Int.	●	MMS0913X5D100	68.7	2.705	71.7	2.823	122.7	4.831	121	4.764	1.7	.067	10	.394
9.2	.3622				3	Int.	●	MMS0920X3DB	49.7	1.957	51.7	2.035	102.7	4.043	101	3.976	1.7	.067	10	.394
					5	Int.	●	MMS0920X5DB	68.7	2.705	71.7	2.823	122.7	4.831	121	4.764	1.7	.067	10	.394
9.3	.3661				3	Int.	●	MMS0930X3DB	49.7	1.957	51.7	2.035	102.7	4.043	101	3.976	1.7	.067	10	.394
					5	Int.	●	MMS0930X5DB	68.7	2.705	71.7	2.823	122.7	4.831	121	4.764	1.7	.067	10	.394
9.347	.3680		U	7/16-14	3	Int.	●	MMS0935X3D100	49.7	1.957	51.7	2.035	102.7	4.043	101	3.976	1.7	.067	10	.394
					5	Int.	●	MMS0935X5D100	68.7	2.705	71.7	2.823	122.7	4.831	121	4.764	1.7	.067	10	.394
9.4	.3701				3	Int.	●	MMS0940X3DB	49.7	1.957	51.7	2.035	102.7	4.043	101	3.976	1.7	.067	10	.394
					5	Int.	●	MMS0940X5DB	68.7	2.705	71.7	2.823	122.7	4.831	121	4.764	1.7	.067	10	.394
9.5	.3740				3	Int.	●	MMS0950X3DB	49.7	1.957	51.7	2.035	102.7	4.043	101	3.976	1.7	.067	10	.394
					5	Int.	●	MMS0950X5DB	68.7	2.705	71.7	2.823	122.7	4.831	121	4.764	1.7	.067	10	.394
9.525	.3750	3/8			3	Int.	●	MMS0953X3D100	51.7	2.035	51.7	2.035	102.7	4.043	101	3.976	1.7	.067	10	.394
					5	Int.	●	MMS0953X5D100	71.7	2.823	71.7	2.823	122.7	4.831	121	4.764	1.7	.067	10	.394
9.6	.3780				3	Int.	●	MMS0960X3DB	51.8	2.039	51.8	2.039	102.8	4.047	101	3.976	1.8	.071	10	.394
					5	Int.	●	MMS0960X5DB	71.8	2.827	71.8	2.827	122.8	4.835	121	4.764	1.8	.071	10	.394

CUTTING CONDITIONS ➤ L107 TECHNICAL DATA ➤ N001

MMS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions									
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
9.7	.3819		Tube Sheet		3	Int.	●	MMS0970X3DB	51.8	2.039	51.8	2.039	102.8	4.047	101	3.976	1.8	.071	10	.394
					5	Int.	●	MMS0970X5DB	71.8	2.827	71.8	2.827	122.8	4.835	121	4.764	1.8	.071	10	.394
9.8	.3858				3	Int.	●	MMS0980X3DB	51.8	2.039	51.8	2.039	102.8	4.047	101	3.976	1.8	.071	10	.394
					5	Int.	●	MMS0980X5DB	71.8	2.827	71.8	2.827	122.8	4.835	121	4.764	1.8	.071	10	.394
9.9	.3898				3	Int.	●	MMS0990X3DB	51.8	2.039	51.8	2.039	102.8	4.047	101	3.976	1.8	.071	10	.394
					5	Int.	●	MMS0990X5DB	71.8	2.827	71.8	2.827	122.8	4.835	121	4.764	1.8	.071	10	.394
9.922	.3906	25/64		7/16-20	3	Int.	●	MMS0992X3D100	51.8	2.039	51.8	2.039	102.8	4.047	101	3.976	1.8	.071	10	.394
					5	Int.	●	MMS0992X5D100	71.8	2.827	71.8	2.827	122.8	4.835	121	4.764	1.8	.071	10	.394
10.0	.3937				3	Int.	●	MMS1000X3DB	51.8	2.039	51.8	2.039	102.8	4.047	101	3.976	1.8	.071	10	.394
					5	Int.	●	MMS1000X5DB	71.8	2.827	71.8	2.827	122.8	4.835	121	4.764	1.8	.071	10	.394
10.1	.3976				3	Int.	●	MMS1010X3DB	54.8	2.157	56.8	2.236	112.8	4.441	111	4.370	1.8	.071	12	.472
					5	Int.	●	MMS1010X5DB	75.8	2.984	79.8	3.142	135.8	5.346	134	5.276	1.8	.071	12	.472
10.2	.4016			M12x1.75	3	Int.	●	MMS1020X3DB	54.9	2.161	56.9	2.240	112.9	4.445	111	4.370	1.9	.075	12	.472
					5	Int.	●	MMS1020X5DB	75.9	2.988	79.9	3.146	135.9	5.350	134	5.276	1.9	.075	12	.472
10.3	.4055				3	Int.	●	MMS1030X3DB	54.9	2.161	56.9	2.240	112.9	4.445	111	4.370	1.9	.075	12	.472
					5	Int.	●	MMS1030X5DB	75.9	2.988	79.9	3.146	135.9	5.350	134	5.276	1.9	.075	12	.472
10.319	.4062	13/32			3	Int.	●	MMS1032X3D120	54.9	2.161	56.9	2.240	112.9	4.445	111	4.370	1.9	.075	12	.472
					5	Int.	●	MMS1032X5D120	75.9	2.988	79.9	3.146	135.9	5.350	134	5.276	1.9	.075	12	.472
10.4	.4094				3	Int.	●	MMS1040X3DB	54.9	2.161	56.9	2.240	112.9	4.445	111	4.370	1.9	.075	12	.472
					5	Int.	●	MMS1040X5DB	75.9	2.988	79.9	3.146	135.9	5.350	134	5.276	1.9	.075	12	.472
10.5	.4134				3	Int.	●	MMS1050X3DB	54.9	2.161	56.9	2.240	112.9	4.445	111	4.370	1.9	.075	12	.472
					5	Int.	●	MMS1050X5DB	75.9	2.988	79.9	3.146	135.9	5.350	134	5.276	1.9	.075	12	.472
10.6	.4173				3	Int.	●	MMS1060X3DB	56.9	2.240	57.9	2.280	117.9	4.642	116	4.567	1.9	.075	12	.472
					5	Int.	●	MMS1060X5DB	78.9	3.106	79.9	3.146	135.9	5.350	134	5.276	1.9	.075	12	.472
10.7	.4213				3	Int.	●	MMS1070X3DB	57.0	2.244	58.0	2.283	118.0	4.646	116	4.567	2.0	.079	12	.472
					5	Int.	●	MMS1070X5DB	79.0	3.110	80.0	3.150	136.0	5.354	134	5.276	2.0	.079	12	.472
10.716	.4219	27/64		1/2-13	3	Int.	●	MMS1072X3D120	57.0	2.244	58.0	2.283	118.0	4.646	116	4.567	2.0	.079	12	.472
					5	Int.	●	MMS1072X5D120	79.0	3.110	80.0	3.150	136.0	5.354	134	5.276	2.0	.079	12	.472
10.8	.4252			M12X1.25	3	Int.	●	MMS1080X3DB	57.0	2.244	58.0	2.283	118.0	4.646	116	4.567	2.0	.079	12	.472
					5	Int.	●	MMS1080X5DB	79.0	3.110	80.0	3.150	136.0	5.354	134	5.276	2.0	.079	12	.472
10.9	.4291				3	Int.	●	MMS1090X3DB	57.0	2.244	58.0	2.283	118.0	4.646	116	4.567	2.0	.079	12	.472
					5	Int.	●	MMS1090X5DB	79.0	3.110	80.0	3.150	136.0	5.354	134	5.276	2.0	.079	12	.472
11.0	.4331				3	Int.	●	MMS1100X3DB	57.0	2.244	58.0	2.283	118.0	4.646	116	4.567	2.0	.079	12	.472
					5	Int.	●	MMS1100X5DB	79.0	3.110	80.0	3.150	136.0	5.354	134	5.276	2.0	.079	12	.472
11.1	.4370				3	Int.	●	MMS1110X3DB	60.0	2.362	62.0	2.441	118.0	4.646	116	4.567	2.0	.079	12	.472
					5	Int.	●	MMS1110X5DB	83.0	3.268	86.0	3.386	142.0	5.591	140	5.512	2.0	.079	12	.472
11.113	.4375	7/16			3	Int.	●	MMS1111X3D120	60.0	2.362	62.0	2.441	118.0	4.646	116	4.567	2.0	.079	12	.472
					5	Int.	●	MMS1111X5D120	83.0	3.268	86.0	3.386	142.0	5.591	140	5.512	2.0	.079	12	.472
11.2	.4409				3	Int.	●	MMS1120X3DB	60.0	2.362	62.0	2.441	118.0	4.646	116	4.567	2.0	.079	12	.472
					5	Int.	●	MMS1120X5DB	83.0	3.268	86.0	3.386	142.0	5.591	140	5.512	2.0	.079	12	.472
11.3	.4449				3	Int.	●	MMS1130X3DB	60.1	2.366	62.1	2.445	118.1	4.650	116	4.567	2.1	.083	12	.472
					5	Int.	●	MMS1130X5DB	83.1	3.272	86.1	3.390	142.1	5.594	140	5.512	2.1	.083	12	.472
11.4	.4488				3	Int.	●	MMS1140X3DB	60.1	2.366	62.1	2.445	118.1	4.650	116	4.567	2.1	.083	12	.472
					5	Int.	●	MMS1140X5DB	83.1	3.272	86.1	3.390	142.1	5.594	140	5.512	2.1	.083	12	.472
11.5	.4528				3	Int.	●	MMS1150X3DB	60.1	2.366	62.1	2.445	118.1	4.650	116	4.567	2.1	.083	12	.472
					5	Int.	●	MMS1150X5DB	83.1	3.272	86.1	3.390	142.1	5.594	140	5.512	2.1	.083	12	.472
11.509	.4531	29/64		1/2-20	3	Int.	●	MMS1151X3D120	62.1	2.445	62.1	2.445	118.1	4.650	116	4.567	2.1	.083	12	.472
					5	Int.	●	MMS1151X5D120	86.1	3.390	86.1	3.390	142.1	5.594	140	5.512	2.1	.083	12	.472

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained.

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions											
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
11.6	.4567				3	Int.	●	MMS1160X3DB	62.1	2.445	62.1	2.445	118.1	4.650	116	4.567	2.1	.083	12	.472
					5	Int.	●	MMS1160X5DB	86.1	3.390	86.1	3.390	142.1	5.594	140	5.512	2.1	.083	12	.472
11.7	.4606				3	Int.	●	MMS1170X3DB	62.1	2.445	62.1	2.445	118.1	4.650	116	4.567	2.1	.083	12	.472
					5	Int.	●	MMS1170X5DB	86.1	3.390	86.1	3.390	142.1	5.594	140	5.512	2.1	.083	12	.472
11.8	.4646				3	Int.	●	MMS1180X3DB	62.2	2.449	62.2	2.449	118.2	4.654	116	4.567	2.2	.087	12	.472
					5	Int.	●	MMS1180X5DB	86.2	3.394	86.2	3.394	142.2	5.598	140	5.512	2.2	.087	12	.472
11.9	.4685	15/32			3	Int.	●	MMS1190X3DB	62.2	2.449	62.2	2.449	118.2	4.654	116	4.567	2.2	.087	12	.472
					5	Int.	●	MMS1190X5DB	86.2	3.394	86.2	3.394	142.2	5.598	140	5.512	2.2	.087	12	.472
12.0	.4724			M14x2.0	3	Int.	●	MMS1200X3DB	62.2	2.449	62.2	2.449	118.2	4.654	116	4.567	2.2	.087	12	.472
					5	Int.	●	MMS1200X5DB	86.2	3.394	86.2	3.394	142.2	5.598	140	5.512	2.2	.087	12	.472
12.1	.4764				3	Int.	●	MMS1210X3DB	65.2	2.567	68.2	2.685	124.2	4.890	122	4.803	2.2	.087	14	.551
					5	Int.	●	MMS1210X5DB	90.2	3.551	94.2	3.709	150.2	5.913	148	5.827	2.2	.087	14	.551
12.2	.4803				3	Int.	●	MMS1220X3DB	65.2	2.567	68.2	2.685	124.2	4.890	122	4.803	2.2	.087	14	.551
					5	Int.	●	MMS1220X5DB	90.2	3.551	94.2	3.709	150.2	5.913	148	5.827	2.2	.087	14	.551
12.3	.4843	31/64		9/16-12	3	Int.	●	MMS1230X3DB	65.2	2.567	68.2	2.685	124.2	4.890	122	4.803	2.2	.087	14	.551
					5	Int.	●	MMS1230X5DB	90.2	3.551	94.2	3.709	150.2	5.913	148	5.827	2.2	.087	14	.551
12.4	.4882				3	Int.	●	MMS1240X3DB	65.3	2.571	68.3	2.689	124.3	4.894	122	4.803	2.3	.091	14	.551
					5	Int.	●	MMS1240X5DB	90.3	3.555	94.3	3.713	150.3	5.917	148	5.827	2.3	.091	14	.551
12.5	.4921			M14x1.5	3	Int.	●	MMS1250X3DB	65.3	2.571	68.3	2.689	124.3	4.894	122	4.803	2.3	.091	14	.551
					5	Int.	●	MMS1250X5DB	90.3	3.555	94.3	3.713	150.3	5.917	148	5.827	2.3	.091	14	.551
12.6	.4961				3	Int.	●	MMS1260X3DB	67.3	2.650	68.3	2.689	124.3	4.894	122	4.803	2.3	.091	14	.551
					5	Int.	●	MMS1260X5DB	93.3	3.673	94.3	3.713	150.3	5.917	148	5.827	2.3	.091	14	.551
12.7	.5000	1/2			3	Int.	●	MMS1270X3DB	67.3	2.650	68.3	2.689	124.3	4.894	122	4.803	2.3	.091	14	.551
					5	Int.	●	MMS1270X5DB	93.3	3.673	94.3	3.713	150.3	5.917	148	5.827	2.3	.091	14	.551
12.8	.5039				3	Int.	●	MMS1280X3DB	67.3	2.650	68.3	2.689	124.3	4.894	122	4.803	2.3	.091	14	.551
					5	Int.	●	MMS1280X5DB	93.3	3.673	94.3	3.713	150.3	5.917	148	5.827	2.3	.091	14	.551
12.9	.5079				3	Int.	●	MMS1290X3DB	67.4	2.654	68.4	2.693	124.4	4.898	122	4.803	2.4	.094	14	.551
					5	Int.	●	MMS1290X5DB	93.4	3.677	94.4	3.717	150.4	5.921	148	5.827	2.4	.094	14	.551
13.0	.5118				3	Int.	●	MMS1300X3DB	67.4	2.654	68.4	2.693	124.4	4.898	122	4.803	2.4	.094	14	.551
					5	Int.	●	MMS1300X5DB	93.4	3.677	94.4	3.717	150.4	5.921	148	5.827	2.4	.094	14	.551
13.1	.5157	33/64		9/16-18	3	Int.	●	MMS1310X3DB	70.4	2.772	72.4	2.850	128.4	5.055	126	4.961	2.4	.094	14	.551
					5	Int.	●	MMS1310X5DB	97.4	3.835	100.4	3.953	156.4	6.157	154	6.063	2.4	.094	14	.551
13.2	.5197				3	Int.	●	MMS1320X3DB	70.4	2.772	72.4	2.850	128.4	5.055	126	4.961	2.4	.094	14	.551
					5	Int.	●	MMS1320X5DB	97.4	3.835	100.4	3.953	156.4	6.157	154	6.063	2.4	.094	14	.551
13.3	.5236				3	Int.	●	MMS1330X3DB	70.4	2.772	72.4	2.850	128.4	5.055	126	4.961	2.4	.094	14	.551
					5	Int.	●	MMS1330X5DB	97.4	3.835	100.4	3.953	156.4	6.157	154	6.063	2.4	.094	14	.551
13.4	.5276				3	Int.	●	MMS1340X3DB	70.4	2.772	72.4	2.850	128.4	5.055	126	4.961	2.4	.094	14	.551
					5	Int.	●	MMS1340X5DB	97.4	3.835	100.4	3.953	156.4	6.157	154	6.063	2.4	.094	14	.551
13.5	.5315	17/32		5/8-11	3	Int.	●	MMS1350X3DB	70.5	2.776	72.5	2.854	128.5	5.059	126	4.961	2.5	.098	14	.551
					5	Int.	●	MMS1350X5DB	97.5	3.839	100.5	3.957	156.5	6.161	154	6.063	2.5	.098	14	.551
13.6	.5354				3	Int.	●	MMS1360X3DB	72.5	2.854	72.5	2.854	128.5	5.059	126	4.961	2.5	.098	14	.551
					5	Int.	●	MMS1360X5DB	100.5	3.957	100.5	3.957	156.5	6.161	154	6.063	2.5	.098	14	.551
13.7	.5394				3	Int.	●	MMS1370X3DB	72.5	2.854	72.5	2.854	128.5	5.059	126	4.961	2.5	.098	14	.551
					5	Int.	●	MMS1370X5DB	100.5	3.957	100.5	3.957	156.5	6.161	154	6.063	2.5	.098	14	.551
13.8	.5433				3	Int.	●	MMS1380X3DB	72.5	2.854	72.5	2.854	128.5	5.059	126	4.961	2.5	.098	14	.551
					5	Int.	●	MMS1380X5DB	100.5	3.957	100.5	3.957	156.5	6.161	154	6.063	2.5	.098	14	.551
13.891	.5469	35/64			3	Int.	●	MMS1389X3D140	72.5	2.854	72.5	2.854	128.5	5.059	126	4.961	2.5	.098	14	.551
					5	Int.	●	MMS1389X5D140	100.5	3.957	100.5	3.957	156.5	6.161	154	6.063	2.5	.098	14	.551

CUTTING CONDITIONS ➤ L107 TECHNICAL DATA ➤ N001

MMS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions									
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
13.9	.5472				3	Int.	●	MMS1390X3DB	72.5	2.854	72.5	2.854	128.5	5.059	126	4.961	2.5	.098	14	.551
					5	Int.	●	MMS1390X5DB	100.5	3.957	100.5	3.957	156.5	6.161	154	6.063	2.5	.098	14	.551
14.0	.5512			M16x2.0	3	Int.	●	MMS1400X3DB	72.6	2.858	72.6	2.858	128.6	5.063	126	4.961	2.6	.102	14	.551
					5	Int.	●	MMS1400X5DB	100.6	3.961	100.6	3.961	156.6	6.165	154	6.063	2.6	.102	14	.551
14.1	.5551				3	Int.	●	MMS1410X3DB	75.6	2.976	78.6	3.094	137.6	5.417	135	5.315	2.6	.102	16	.630
					5	Int.	●	MMS1410X5DB	104.6	4.118	108.6	4.276	167.6	6.598	165	6.496	2.6	.102	16	.630
14.2	.5591				3	Int.	●	MMS1420X3DB	75.6	2.976	78.6	3.094	137.6	5.417	135	5.315	2.6	.102	16	.630
					5	Int.	●	MMS1420X5DB	104.6	4.118	108.6	4.276	167.6	6.598	165	6.496	2.6	.102	16	.630
14.288	.5625	9/16			3	Int.	●	MMS1429X3D160	75.6	2.976	78.6	3.094	137.6	5.417	135	5.315	2.6	.102	16	.630
					5	Int.	●	MMS1429X5D160	104.6	4.118	108.6	4.276	167.6	6.598	165	6.496	2.6	.102	16	.630
14.3	.5630				3	Int.	●	MMS1430X3DB	75.6	2.976	78.6	3.094	137.6	5.417	135	5.315	2.6	.102	16	.630
					5	Int.	●	MMS1430X5DB	104.6	4.118	108.6	4.276	167.6	6.598	165	6.496	2.6	.102	16	.630
14.4	.5670				3	Int.	●	MMS1440X3DB	75.6	2.976	78.6	3.094	137.6	5.417	135	5.315	2.6	.102	16	.630
					5	Int.	●	MMS1440X5DB	104.6	4.118	108.6	4.276	167.6	6.598	165	6.496	2.6	.102	16	.630
14.5	.5709			M16x1.5	3	Int.	●	MMS1450X3DB	75.6	2.976	78.6	3.094	137.6	5.417	135	5.315	2.6	.102	16	.630
					5	Int.	●	MMS1450X5DB	104.6	4.118	108.6	4.276	167.6	6.598	165	6.496	2.6	.102	16	.630
14.6	.5748				3	Int.	●	MMS1460X3DB	77.7	3.059	78.7	3.098	137.7	5.421	135	5.315	2.7	.106	16	.630
					5	Int.	●	MMS1460X5DB	107.7	4.240	108.7	4.280	167.7	6.602	165	6.496	2.7	.106	16	.630
14.684	.5781	37/64		5/8-18	3	Int.	●	MMS1468X3D160	77.7	3.059	78.7	3.098	137.7	5.421	135	5.315	2.7	.106	16	.630
					5	Int.	●	MMS1468X5D160	107.7	4.240	108.7	4.280	167.7	6.602	165	6.496	2.7	.106	16	.630
14.7	.5787				3	Int.	●	MMS1470X3DB	77.7	3.059	78.7	3.098	137.7	5.421	135	5.315	2.7	.106	16	.630
					5	Int.	●	MMS1470X5DB	107.7	4.240	108.7	4.280	167.7	6.602	165	6.496	2.7	.106	16	.630
14.8	.5827				3	Int.	●	MMS1480X3DB	77.7	3.059	78.7	3.098	137.7	5.421	135	5.315	2.7	.106	16	.630
					5	Int.	●	MMS1480X5DB	107.7	4.240	108.7	4.280	167.7	6.602	165	6.496	2.7	.106	16	.630
14.9	.5866				3	Int.	●	MMS1490X3DB	77.7	3.059	78.7	3.098	137.7	5.421	135	5.315	2.7	.106	16	.630
					5	Int.	●	MMS1490X5DB	107.7	4.240	108.7	4.280	167.7	6.602	165	6.496	2.7	.106	16	.630
15.0	.5906				3	Int.	●	MMS1500X3DB	77.7	3.059	78.7	3.098	137.7	5.421	135	5.315	2.7	.106	16	.630
					5	Int.	●	MMS1500X5DB	107.7	4.240	108.7	4.280	167.7	6.602	165	6.496	2.7	.106	16	.630
15.081	.5938	19/32			3	Int.	●	MMS1508X3D160	80.7	3.177	82.7	3.256	141.7	5.579	139	5.472	2.7	.106	16	.630
					5	Int.	●	MMS1508X5D160	111.7	4.398	114.7	4.516	173.7	6.839	171	6.732	2.7	.106	16	.630
15.1	.5945				3	Int.	●	MMS1510X3DB	80.8	3.181	82.8	3.260	141.8	5.583	139	5.472	2.8	.110	16	.630
					5	Int.	●	MMS1510X5DB	111.8	4.402	114.8	4.520	173.8	6.843	171	6.732	2.8	.110	16	.630
15.2	.5984				3	Int.	●	MMS1520X3DB	80.8	3.181	82.8	3.260	141.8	5.583	139	5.472	2.8	.110	16	.630
					5	Int.	●	MMS1520X5DB	111.8	4.402	114.8	4.520	173.8	6.843	171	6.732	2.8	.110	16	.630
15.3	.6024				3	Int.	●	MMS1530X3DB	80.8	3.181	82.8	3.260	141.8	5.583	139	5.472	2.8	.110	16	.630
					5	Int.	●	MMS1530X5DB	111.8	4.402	114.8	4.520	173.8	6.843	171	6.732	2.8	.110	16	.630
15.4	.6063				3	Int.	●	MMS1540X3DB	80.8	3.181	82.8	3.260	141.8	5.583	139	5.472	2.8	.110	16	.630
					5	Int.	●	MMS1540X5DB	111.8	4.402	114.8	4.520	173.8	6.843	171	6.732	2.8	.110	16	.630
15.478	.6094	39/64			3	Int.	●	MMS1548X3D160	80.8	3.181	82.8	3.260	141.8	5.583	139	5.472	2.8	.110	16	.630
					5	Int.	●	MMS1548X5D160	111.8	4.402	114.8	4.520	173.8	6.843	171	6.732	2.8	.110	16	.630
15.5	.6102			M18x2.5	3	Int.	●	MMS1550X3DB	80.8	3.181	82.8	3.260	141.8	5.583	139	5.472	2.8	.110	16	.630
					5	Int.	●	MMS1550X5DB	111.8	4.402	114.8	4.520	173.8	6.843	171	6.732	2.8	.110	16	.630
15.6	.6142				3	Int.	●	MMS1560X3DB	82.8	3.260	82.8	3.260	141.8	5.583	139	5.472	2.8	.110	16	.630
					5	Int.	●	MMS1560X5DB	114.8	4.520	114.8	4.520	173.8	6.843	171	6.732	2.8	.110	16	.630
15.7	.6181				3	Int.	●	MMS1570X3DB	82.9	3.264	82.9	3.264	141.9	5.587	139	5.472	2.9	.114	16	.630
					5	Int.	●	MMS1570X5DB	114.9	4.524	114.9	4.524	173.9	6.846	171	6.732	2.9	.114	16	.630
15.8	.6220				3	Int.	●	MMS1580X3DB	82.9	3.264	82.9	3.264	141.9	5.587	139	5.472	2.9	.114	16	.630
					5	Int.	●	MMS1580X5DB	114.9	4.524	114.9	4.524	173.9	6.846	171	6.732	2.9	.114	16	.630

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions											
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
15.875	.6250	5/8			3	Int.	●	MMS1588X3D160	82.9	3.264	82.9	3.264	141.9	5.587	139	5.472	2.9	.114	16	.630
					5	Int.	●	MMS1588X5D160	114.9	4.524	114.9	4.524	173.9	6.846	171	6.732	2.9	.114	16	.630
15.9	.6260				3	Int.	●	MMS1590X3DB	82.9	3.264	82.9	3.264	141.9	5.587	139	5.472	2.9	.114	16	.630
					5	Int.	●	MMS1590X5DB	114.9	4.524	114.9	4.524	173.9	6.846	171	6.732	2.9	.114	16	.630
16.0	.6299				3	Int.	●	MMS1600X3DB	82.9	3.264	82.9	3.264	141.9	5.587	139	5.472	2.9	.114	16	.630
					5	Int.	●	MMS1600X5DB	114.9	4.524	114.9	4.524	173.9	6.846	171	6.732	2.9	.114	16	.630
16.1	.6339				3	Int.	□	MMS1610X3DB	85.9	3.382	88.9	3.500	147.9	5.823	145	5.709	2.9	.114	18	.709
					5	Int.	□	MMS1610X5DB	118.9	4.681	122.9	4.839	181.9	7.161	179	7.047	2.9	.114	18	.709
16.2	.6378				3	Int.	□	MMS1620X3DB	86.0	3.386	89.0	3.504	148.0	5.827	145	5.709	3.0	.118	18	.709
					5	Int.	□	MMS1620X5DB	119.0	4.685	123.0	4.843	182.0	7.165	179	7.047	3.0	.118	18	.709
16.272	.6406	41/64			3	Int.	●	MMS1627X3D180	86.0	3.386	89.0	3.504	148.0	5.827	145	5.709	3.0	.118	18	.709
					5	Int.	●	MMS1627X5D180	119.0	4.685	123.0	4.843	182.0	7.165	179	7.047	3.0	.118	18	.709
16.3	.6417				3	Int.	□	MMS1630X3DB	86.0	3.386	89.0	3.504	148.0	5.827	145	5.709	3.0	.118	18	.709
					5	Int.	□	MMS1630X5DB	119.0	4.685	123.0	4.843	182.0	7.165	179	7.047	3.0	.118	18	.709
16.4	.6457				3	Int.	□	MMS1640X3DB	86.0	3.386	89.0	3.504	148.0	5.827	145	5.709	3.0	.118	18	.709
					5	Int.	□	MMS1640X5DB	119.0	4.685	123.0	4.843	182.0	7.165	179	7.047	3.0	.118	18	.709
16.5	.6496			M18x1.5	3	Int.	●	MMS1650X3DB	86.0	3.386	89.0	3.504	148.0	5.827	145	5.709	3.0	.118	18	.709
					5	Int.	●	MMS1650X5DB	119.0	4.685	123.0	4.843	182.0	7.165	179	7.047	3.0	.118	18	.709
16.6	.6535				3	Int.	□	MMS1660X3DB	88.0	3.465	89.0	3.504	148.0	5.827	145	5.709	3.0	.118	18	.709
					5	Int.	□	MMS1660X5DB	122.0	4.803	123.0	4.843	182.0	7.165	179	7.047	3.0	.118	18	.709
16.669	.6562	21/32		3/4-10	3	Int.	●	MMS1667X3D180	88.0	3.465	89.0	3.504	148.0	5.827	145	5.709	3.0	.118	18	.709
					5	Int.	●	MMS1667X5D180	122.0	4.803	123.0	4.843	182.0	7.165	179	7.047	3.0	.118	18	.709
16.7	.6575				3	Int.	□	MMS1670X3DB	88.0	3.465	89.0	3.504	148.0	5.827	145	5.709	3.0	.118	18	.709
					5	Int.	□	MMS1670X5DB	122.0	4.803	123.0	4.843	182.0	7.165	179	7.047	3.0	.118	18	.709
16.8	.6614				3	Int.	□	MMS1680X3DB	88.1	3.469	89.1	3.508	148.1	5.831	145	5.709	3.1	.122	18	.709
					5	Int.	□	MMS1680X5DB	122.1	4.807	123.1	4.846	182.1	7.169	179	7.047	3.1	.122	18	.709
16.9	.6654				3	Int.	□	MMS1690X3DB	88.1	3.469	89.1	3.508	148.1	5.831	145	5.709	3.1	.122	18	.709
					5	Int.	□	MMS1690X5DB	122.1	4.807	123.1	4.846	182.1	7.169	179	7.047	3.1	.122	18	.709
17.0	.6693		Tube Sheet		3	Int.	●	MMS1700X3DB	88.1	3.469	89.1	3.508	148.1	5.831	145	5.709	3.1	.122	18	.709
					5	Int.	●	MMS1700X5DB	122.1	4.807	123.1	4.846	182.1	7.169	179	7.047	3.1	.122	18	.709
17.066	.6719	43/64			3	Int.	●	MMS1707X3D180	91.1	3.587	93.1	3.665	152.1	5.988	149	5.866	3.1	.122	18	.709
					5	Int.	●	MMS1707X5D180	126.1	4.965	129.1	5.083	188.1	7.406	185	7.283	3.1	.122	18	.709
17.1	.6732				3	Int.	□	MMS1710X3DB	91.1	3.587	93.1	3.665	152.1	5.988	149	5.866	3.1	.122	18	.709
					5	Int.	□	MMS1710X5DB	126.1	4.965	129.1	5.083	188.1	7.406	185	7.283	3.1	.122	18	.709
17.2	.6772				3	Int.	□	MMS1720X3DB	91.1	3.587	93.1	3.665	152.1	5.988	149	5.866	3.1	.122	18	.709
					5	Int.	□	MMS1720X5DB	126.1	4.965	129.1	5.083	188.1	7.406	185	7.283	3.1	.122	18	.709
17.3	.6811				3	Int.	□	MMS1730X3DB	91.2	3.591	93.2	3.669	152.2	5.992	149	5.866	3.2	.126	18	.709
					5	Int.	□	MMS1730X5DB	126.2	4.969	129.2	5.087	188.2	7.409	185	7.283	3.2	.126	18	.709
17.4	.6850				3	Int.	□	MMS1740X3DB	91.2	3.591	93.2	3.669	152.2	5.992	149	5.866	3.2	.126	18	.709
					5	Int.	□	MMS1740X5DB	126.2	4.969	129.2	5.087	188.2	7.409	185	7.283	3.2	.126	18	.709
17.463	.6875	11/16		3/4-16	3	Int.	●	MMS1746X3D180	91.2	3.591	93.2	3.669	152.2	5.992	149	5.866	3.2	.126	18	.709
					5	Int.	●	MMS1746X5D180	126.2	4.969	129.2	5.087	188.2	7.409	185	7.283	3.2	.126	18	.709
17.5	.6890			M20x2.5	3	Int.	●	MMS1750X3DB	91.2	3.591	93.2	3.669	152.2	5.992	149	5.866	3.2	.126	18	.709
					5	Int.	●	MMS1750X5DB	126.2	4.969	129.2	5.087	188.2	7.409	185	7.283	3.2	.126	18	.709
17.6	.6929				3	Int.	□	MMS1760X3DB	93.2	3.669	93.2	3.669	152.2	5.992	149	5.866	3.2	.126	18	.709
					5	Int.	□	MMS1760X5DB	129.2	5.087	129.2	5.087	188.2	7.409	185	7.283	3.2	.126	18	.709
17.7	.6969				3	Int.	□	MMS1770X3DB	93.2	3.669	93.2	3.669	152.2	5.992	149	5.866	3.2	.126	18	.709
					5	Int.	□	MMS1770X5DB	129.2	5.087	129.2	5.087	188.2	7.409	185	7.283	3.2	.126	18	.709

CUTTING CONDITIONS ➤ L107 TECHNICAL DATA ➤ N001

MMS

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions									
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
17.8	.7008				3	Int.	□	MMS1780X3DB	93.2	3.669	93.2	3.669	152.2	5.992	149	5.866	3.2	.126	18	.709
					5	Int.	□	MMS1780X5DB	129.2	5.087	129.2	5.087	188.2	7.409	185	7.283	3.2	.126	18	.709
17.859	.7031	45/64			3	Int.	●	MMS1786X3D180	93.3	3.673	93.3	3.673	152.3	5.996	149	5.866	3.3	.130	18	.709
					5	Int.	●	MMS1786X5D180	129.3	5.091	129.3	5.091	188.3	7.413	185	7.283	3.3	.130	18	.709
17.9	.7047				3	Int.	□	MMS1790X3DB	93.3	3.673	93.3	3.673	152.3	5.996	149	5.866	3.3	.130	18	.709
					5	Int.	□	MMS1790X5DB	129.3	5.091	129.3	5.091	188.3	7.413	185	7.283	3.3	.130	18	.709
18.0	.7087				3	Int.	●	MMS1800X3DB	93.3	3.673	93.3	3.673	152.3	5.996	149	5.866	3.3	.130	18	.709
					5	Int.	●	MMS1800X5DB	129.3	5.091	129.3	5.091	188.3	7.413	185	7.283	3.3	.130	18	.709
18.1	.7126				3	Int.	□	MMS1810X3DB	96.3	3.791	99.3	3.909	160.3	6.311	157	6.181	3.3	.130	20	.787
					5	Int.	□	MMS1810X5DB	133.3	5.248	137.3	5.406	198.3	7.807	195	7.677	3.3	.130	20	.787
18.2	.7165				3	Int.	□	MMS1820X3DB	96.3	3.791	99.3	3.909	160.3	6.311	157	6.181	3.3	.130	20	.787
					5	Int.	□	MMS1820X5DB	133.3	5.248	137.3	5.406	198.3	7.807	195	7.677	3.3	.130	20	.787
18.256	.7188	23/32			3	Int.	●	MMS1826X3D200	96.3	3.791	99.3	3.909	160.3	6.311	157	6.181	3.3	.130	20	.787
					5	Int.	●	MMS1826X5D200	133.3	5.248	137.3	5.406	198.3	7.807	195	7.677	3.3	.130	20	.787
18.3	.7205				3	Int.	□	MMS1830X3DB	96.3	3.791	99.3	3.909	160.3	6.311	157	6.181	3.3	.130	20	.787
					5	Int.	□	MMS1830X5DB	133.3	5.248	137.3	5.406	198.3	7.807	195	7.677	3.3	.130	20	.787
18.4	.7244				3	Int.	□	MMS1840X3DB	96.4	3.795	99.4	3.913	160.4	6.315	157	6.181	3.4	.134	20	.787
					5	Int.	□	MMS1840X5DB	133.4	5.252	137.4	5.409	198.4	7.811	195	7.677	3.4	.134	20	.787
18.5	.7283			M20x1.5	3	Int.	●	MMS1850X3DB	96.4	3.795	99.4	3.913	160.4	6.315	157	6.181	3.4	.134	20	.787
					5	Int.	●	MMS1850X5DB	133.4	5.252	137.4	5.409	198.4	7.811	195	7.677	3.4	.134	20	.787
18.6	.7323				3	Int.	□	MMS1860X3DB	98.4	3.874	99.4	3.913	160.4	6.315	157	6.181	3.4	.134	20	.787
					5	Int.	□	MMS1860X5DB	136.4	5.370	137.4	5.409	198.4	7.811	195	7.677	3.4	.134	20	.787
18.654	.7344	47/64			3	Int.	●	MMS1865X3D200	98.4	3.874	99.4	3.913	160.4	6.315	157	6.181	3.4	.134	20	.787
					5	Int.	●	MMS1865X5D200	136.4	5.370	137.4	5.409	198.4	7.811	195	7.677	3.4	.134	20	.787
18.7	.7362				3	Int.	□	MMS1870X3DB	98.4	3.874	99.4	3.913	160.4	6.315	157	6.181	3.4	.134	20	.787
					5	Int.	□	MMS1870X5DB	136.4	5.370	137.4	5.409	198.4	7.811	195	7.677	3.4	.134	20	.787
18.8	.7402				3	Int.	□	MMS1880X3DB	98.4	3.874	99.4	3.913	160.4	6.315	157	6.181	3.4	.134	20	.787
					5	Int.	□	MMS1880X5DB	136.4	5.370	137.4	5.409	198.4	7.811	195	7.677	3.4	.134	20	.787
18.9	.7441				3	Int.	□	MMS1890X3DB	98.4	3.874	99.4	3.913	160.4	6.315	157	6.181	3.4	.134	20	.787
					5	Int.	□	MMS1890X5DB	136.4	5.370	137.4	5.409	198.4	7.811	195	7.677	3.4	.134	20	.787
19.0	.7480				3	Int.	●	MMS1900X3DB	98.5	3.878	99.5	3.917	160.5	6.319	157	6.181	3.5	.138	20	.787
					5	Int.	●	MMS1900X5DB	136.5	5.374	137.5	5.413	198.5	7.815	195	7.677	3.5	.138	20	.787
19.050	.7500	3/4			3	Int.	●	MMS1905X3D200	101.5	3.996	103.5	4.075	164.5	6.476	161	6.339	3.5	.138	20	.787
					5	Int.	●	MMS1905X5D200	140.5	5.531	143.5	5.650	204.5	8.051	201	7.913	3.5	.138	20	.787
19.1	.7520				3	Int.	□	MMS1910X3DB	101.5	3.996	103.5	4.075	164.5	6.476	161	6.339	3.5	.138	20	.787
					5	Int.	□	MMS1910X5DB	140.5	5.531	143.5	5.650	204.5	8.051	201	7.913	3.5	.138	20	.787
19.2	.7559				3	Int.	□	MMS1920X3DB	101.5	3.996	103.5	4.075	164.5	6.476	161	6.339	3.5	.138	20	.787
					5	Int.	□	MMS1920X5DB	140.5	5.531	143.5	5.650	204.5	8.051	201	7.913	3.5	.138	20	.787
19.250	.7579		Tube Sheet		3	Int.	●	MMS1925X3D200	101.5	3.996	103.5	4.075	164.5	6.476	161	6.339	3.5	.138	20	.787
					5	Int.	●	MMS1925X5D200	140.5	5.531	143.5	5.650	204.5	8.051	201	7.913	3.5	.138	20	.787
19.3	.7598				3	Int.	□	MMS1930X3DB	101.5	3.996	103.5	4.075	164.5	6.476	161	6.339	3.5	.138	20	.787
					5	Int.	□	MMS1930X5DB	140.5	5.531	143.5	5.650	204.5	8.051	201	7.913	3.5	.138	20	.787
19.4	.7638				3	Int.	□	MMS1940X3DB	101.5	3.996	103.5	4.075	164.5	6.476	161	6.339	3.5	.138	20	.787
					5	Int.	□	MMS1940X5DB	140.5	5.531	143.5	5.650	204.5	8.051	201	7.913	3.5	.138	20	.787
19.447	.7656	49/64		7/8-9	3	Int.	●	MMS1945X3D200	101.5	3.996	103.5	4.075	164.5	6.476	161	6.339	3.5	.138	20	.787
					5	Int.	●	MMS1945X5D200	140.5	5.531	143.5	5.650	204.5	8.051	201	7.913	3.5	.138	20	.787
19.5	.7677			M22x2.5	3	Int.	●	MMS1950X3DB	101.6	4.000	103.6	4.079	164.6	6.480	161	6.339	3.6	.142	20	.787
					5	Int.	●	MMS1950X5DB	140.6	5.535	143.6	5.654	204.6	8.055	201	7.913	3.6	.142	20	.787

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

DC					Hole Depth	Coolant (Int./Ext.)	Stock	Order Number	Dimensions											
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d		DP7020		LCF		LH		OAL		LF		PL		DCON	
									mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
19.6	.7717				3	Int.	□	MMS1960X3DB	103.6	4.079	103.6	4.079	164.6	6.480	161	6.339	3.6	.142	20	.787
					5	Int.	□	MMS1960X5DB	143.6	5.654	143.6	5.654	204.6	8.055	201	7.913	3.6	.142	20	.787
19.7	.7756				3	Int.	□	MMS1970X3DB	103.6	4.079	103.6	4.079	164.6	6.480	161	6.339	3.6	.142	20	.787
					5	Int.	□	MMS1970X5DB	143.6	5.654	143.6	5.654	204.6	8.055	201	7.913	3.6	.142	20	.787
19.8	.7795				3	Int.	□	MMS1980X3DB	103.6	4.079	103.6	4.079	164.6	6.480	161	6.339	3.6	.142	20	.787
					5	Int.	□	MMS1980X5DB	143.6	5.654	143.6	5.654	204.6	8.055	201	7.913	3.6	.142	20	.787
19.844	.7812	25/32			3	Int.	●	MMS1984X3D200	103.6	4.079	103.6	4.079	164.6	6.480	161	6.339	3.6	.142	20	.787
					5	Int.	●	MMS1984X5D200	143.6	5.654	143.6	5.654	204.6	8.055	201	7.913	3.6	.142	20	.787
19.9	.7835				3	Int.	□	MMS1990X3DB	103.6	4.079	103.6	4.079	164.6	6.480	161	6.339	3.6	.142	20	.787
					5	Int.	□	MMS1990X5DB	143.6	5.654	143.6	5.654	204.6	8.055	201	7.913	3.6	.142	20	.787
20.0	.7874				3	Int.	●	MMS2000X3DB	103.6	4.079	103.6	4.079	164.6	6.480	161	6.339	3.6	.142	20	.787
					5	Int.	●	MMS2000X5DB	143.6	5.654	143.6	5.654	204.6	8.055	201	7.913	3.6	.142	20	.787

RECOMMENDED CUTTING CONDITIONS

MMS

Work Material	Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.		Austenitic Stainless Steel (>200HB) AISI 304LN, 316LN etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.1181 **3.0**	260 (195—330)	.0051 (.0031—.0071)	195 (150—260)	.0039 (.0020—.0059)
.1575 **4.0**	260 (195—330)	.0059 (.0039—.0079)	195 (150—260)	.0047 (.0031—.0071)
.1969 **5.0**	260 (195—330)	.0059 (.0039—.0079)	195 (150—260)	.0047 (.0031—.0071)
.2480 **6.3**	260 (195—330)	.0067 (.0047—.0087)	195 (150—260)	.0059 (.0039—.0079)
.3150 **8.0**	260 (195—330)	.0075 (.0055—.0094)	195 (150—260)	.0067 (.0047—.0087)
.3937 **10.0**	195 (150—230)	.0079 (.0059—.0098)	165 (130—195)	.0071 (.0051—.0091)
.4724 **12.0**	195 (150—230)	.0083 (.0063—.0102)	165 (130—195)	.0075 (.0055—.0094)
.6299 **16.0**	195 (150—230)	.0087 (.0067—.0106)	165 (130—195)	.0079 (.0059—.0098)
.7874 **20.0**	195 (150—230)	.0091 (.0071—.0110)	165 (130—195)	.0083 (.0063—.0102)

Work Material	Duplex Steel (≤280HB) AISI 329 etc.		Ferritic, Martensitic Stainless Steel (≤200HB) AISI 410, 430 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.1181 **3.0**	165 (130—195)	.0039 (.0020—.0059)	260 (195—330)	.0051 (.0031—.0071)
.1575 **4.0**	165 (130—195)	.0047 (.0031—.0071)	260 (195—330)	.0059 (.0039—.0079)
.1969 **5.0**	165 (130—195)	.0047 (.0031—.0071)	260 (195—330)	.0059 (.0039—.0079)
.2480 **6.3**	165 (130—195)	.0059 (.0039—.0079)	260 (195—330)	.0067 (.0047—.0087)
.3150 **8.0**	165 (130—195)	.0067 (.0047—.0087)	260 (195—330)	.0075 (.0055—.0094)
.3937 **10.0**	130 (100—165)	.0071 (.0051—.0091)	195 (150—260)	.0079 (.0059—.0098)
.4724 **12.0**	130 (100—165)	.0075 (.0055—.0094)	195 (150—260)	.0083 (.0063—.0102)
.6299 **16.0**	130 (100—165)	.0079 (.0059—.0098)	195 (150—260)	.0087 (.0067—.0106)
.7874 **20.0**	130 (100—165)	.0083 (.0063—.0102)	195 (150—260)	.0083 (.0071—.0110)

(Note 1) For stable machining, internal coolant supply with high pressure is recommended.
(Note 2) Emulsion type of water coolant is recommended.
(Note 3) Recommended cutting conditions are for machining under the conditions of favorable machining environment and coolant. Please lower the cutting conditions if there is a problem in the rigidity of machine and workpiece, and coolant property or discharge amount.
(Note 4) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MMS

Work Material		Ferritic, Martensitic Stainless Steel (>200HB) AISI 431, 420 etc.		PH Stainless Steel (<450HB) S17400, S17700 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	**3.0**	195 (150—260)	.0039 (.0020—.0059)	165 (130—195)	.0039 (.0020—.0059)
.1575	**4.0**	195 (150—260)	.0047 (.0031—.0071)	165 (130—195)	.0047 (.0031—.0071)
.1969	**5.0**	195 (150—260)	.0047 (.0031—.0071)	165 (130—195)	.0047 (.0031—.0071)
.2480	**6.3**	195 (150—260)	.0059 (.0039—.0079)	165 (130—195)	.0059 (.0039—.0079)
.3150	**8.0**	195 (150—260)	.0067 (.0047—.0087)	165 (130—195)	.0067 (.0047—.0087)
.3937	**10.0**	165 (130—195)	.0071 (.0051—.0091)	130 (100—165)	.0071 (.0051—.0091)
.4724	**12.0**	165 (130—195)	.0075 (.0055—.0094)	130 (100—165)	.0075 (.0055—.0094)
.6299	**16.0**	165 (130—195)	.0079 (.0059—.0098)	130 (100—165)	.0079 (.0059—.0098)
.7874	**20.0**	165 (130—195)	.0083 (.0063—.0102)	130 (100—165)	.0083 (.0063—.0102)

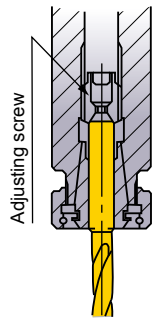
(Note 1) For stable machining, internal coolant supply with high pressure is recommended.
(Note 2) Emulsion type of water coolant is recommended.
(Note 3) Recommended cutting conditions are for machining under the conditions of favorable machining environment and coolant. Please lower the cutting conditions if there is a problem in the rigidity of machine and workpiece, and coolant property or discharge amount.
(Note 4) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

STAINLESS STEEL CROSS REFERENCE LIST

Work Material	No	USA	Japan	Germany	
		AISI/SAE	**JIS**	W-no.	DIN
Ferritic, Martensitic Stainless Steel	**1**	416	SUS416	1.4005	X12CrS3
		410	SUS410	1.4006	X10Cr13
		430	SUS430	1.4016	X6Cr17
		434	SUS434	1.4113	X6CrMo17
		430Ti	SUS430LX	1.4510	X6CrTi17
		409	—	1.4512	X6CrTi12
	2	420	SUS420J1	1.4021	X20Cr13
		431	SUS431	1.4057	X20CrNi17-2
		420	SUS420J2	1.4028	X30Cr13
		440C	SUS440C	1.4125	X10CrMo17
PH Stainless Steel	**3**	630 (17-4PH)	SUS630	1.4542	X5CrNiCuNb16 4
		S15500 (15-5PH)	—	1.4545	—
		631 (17-7PH)	SUS631	1.4568	X7CrNiAl17 7
Austenitic Stainless Steel	**4**	304	SUS304	1.4301	X5CrNi18 10
		305	SUS305	1.4303	X5CrNi8-12
		303	SUS303	1.4305	X12CrNiS18-9
		304L	SUS304L	1.4307	X2CrNi19-11
		316	SUS316	1.4401	X5CrNiMo17 12 2
	5	304LN	SUS304LN	1.4311	X2CrNiN18 10
		316L	SUS316L	1.4404	X2CrNiMo17 12 2
		316LN	SUS316LN	1.4406	X2CrNiMoN17 12 2
		—	SUS316L	1.4435	X2CrNiMo18 14 3
		317L	SUS317L	1.4438	X2CrNiMo18 15 4
		N08926	—	1.4529	X1NiCrMoCuN25 20 7
		321	SUS321	1.4541	X6CrNiTi18-10
		347	SUS347	1.4550	X6CrNiNb18-10
		316Ti	SUS316Ti	1.4571	X6CrNiMoTi17 12 2
Duplex Steel	**6**	—	—	1.4362	X2CrNiN23 4
		S32750	SCS14A	1.4410	X2CrNiMoN25 7 4
		329	SUS329J1	1.4460	X3CrNiMoN27 5 2
		S31803	SUS329J3L	1.4462	X2CrNiMoN22 5 3

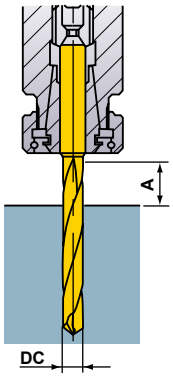
OPERATIONAL GUIDANCE FOR THE MMS DRILL

Drill holding



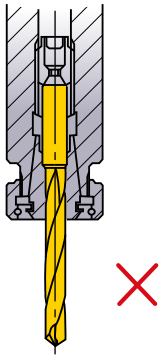
Thrust bearing type collet chuck holds the drill securely.

Drill holding



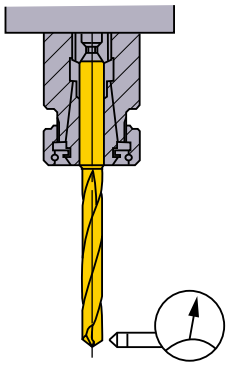
A ≥ DC x 1.5

Drill Installation



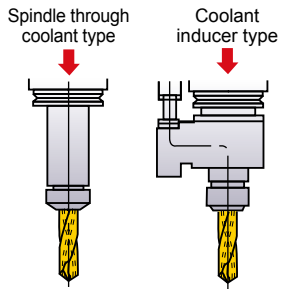
Do not clamp on the flutes.

Installation tolerance



Runout ≤ .001"

Through Coolant Type



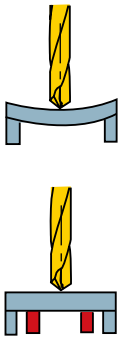
Coolant pressure is approx. 70 - 1015 PSI (0.5 - 7MPa).

Coolant handling

< MMS type >

1) Dirt and dust particles in old coolant can clog the oil hole and prevent effective flow. Regular coolant exchange is recommended.
2) Small particles of swarf will jam in the oil hole. Use a filter as a preventative measure. When using small diameter drills, use a fine mesh filter.

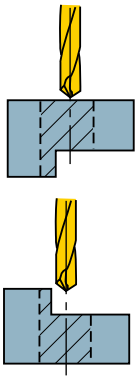
Thin workpieces



If bending occurs ×

Support the workpiece ○

Interrupted cutting



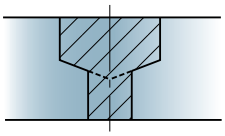
One process ○

①Lower the feed when drilling the interrupted part.

Requires prior machining △

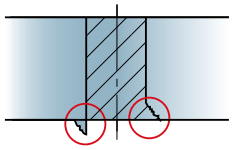
①Spot face with an end mill prior to drilling.

Stepped holes



①Divide the machining into two processes.
②Drill the larger hole first.
*Tools for chamfering and spot facing can be produced to order.

Burring and workpiece chipping



①Lower the feed rate when breaking through.
②Add a chamfer.
③Change the point angle.

MHS

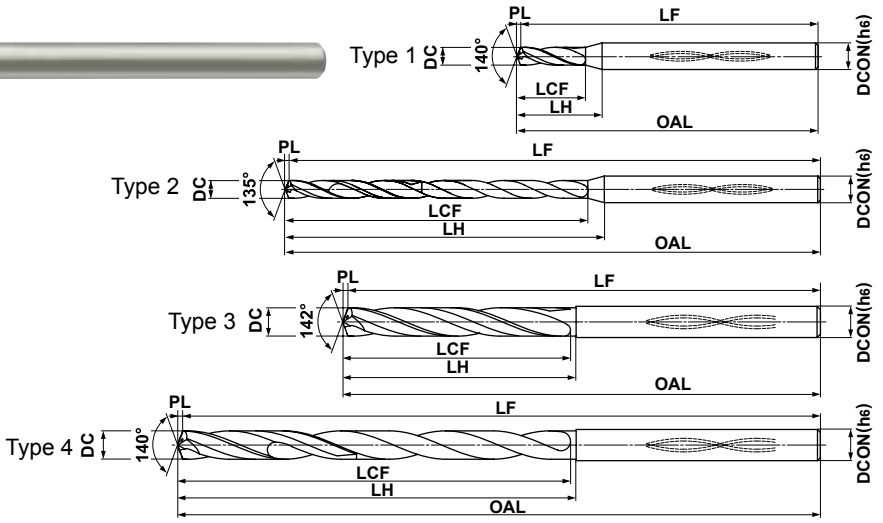
- High web strength compliments a stablizing double margin design.
- Long drill life and no-peck drilling in harderned steel up to HRC55.

P | M | K | N | S | H

Tolerance	DC≤3	3<DC≤6	6<DC≤10	10<DC≤12
DC (mm)	+0.010 −0.002	+0.010 −0.002	+0.010 −0.005	+0.010 −0.008
DCON (mm)	0 −0.006	0 −0.008	0 −0.009	0 −0.011

METRIC STANDARD

Internal Coolant



(Note 1) MHS drills are suitable for use with shrink fit holders.
(Note 2) Use the shortest type in the respective diameter as a pilot drill.

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
0.95	.0374				3	★	MHS0095L006B	6.17	.243	9.97	.393	60.17	2.369	60	2.362	0.17	.007	3	.118	1
					6	★	MHS0095L009B	9.20	.362	13.00	.512	60.20	2.370	60	2.362	0.20	.008	3	.118	2
					13	★	MHS0095L015B	15.20	.598	19.00	.748	60.20	2.370	60	2.362	0.20	.008	3	.118	2
					23	★	MHS0095L025B	25.20	.992	29.00	1.142	60.20	2.370	60	2.362	0.20	.008	3	.118	2
					30	★	MHS0095L035B	35.20	1.386	39.00	1.535	80.20	3.157	80	3.150	0.20	.008	3	.118	2
1.00	.0394				3	★	MHS0100L006B	6.2	.244	9.9	.390	60.2	2.370	60	2.362	0.2	.008	3	.118	1
					6	★	MHS0100L009B	9.2	.362	12.9	.508	60.2	2.370	60	2.362	0.2	.008	3	.118	2
					12	★	MHS0100L015B	15.2	.598	18.9	.744	60.2	2.370	60	2.362	0.2	.008	3	.118	2
					22	★	MHS0100L025B	25.2	.992	28.9	1.138	60.2	2.370	60	2.362	0.2	.008	3	.118	2
					30	★	MHS0100L035B	35.2	1.386	38.9	1.531	80.2	3.157	80	3.150	0.2	.008	3	.118	2
1.10	.0433				2	★	MHS0110L006B	6.2	.244	9.7	.382	60.2	2.370	60	2.362	0.2	.008	3	.118	1
					5	★	MHS0110L009B	9.2	.362	12.7	.500	60.2	2.370	60	2.362	0.2	.008	3	.118	2
					11	★	MHS0110L015B	15.2	.598	18.7	.736	60.2	2.370	60	2.362	0.2	.008	3	.118	2
					20	★	MHS0110L025B	25.2	.992	28.7	1.130	60.2	2.370	60	2.362	0.2	.008	3	.118	2
					29	★	MHS0110L035B	35.2	1.386	38.7	1.524	80.2	3.157	80	3.150	0.2	.008	3	.118	2
1.20	.0472				2	★	MHS0120L006B	6.2	.244	9.6	.378	60.2	2.370	60	2.362	0.2	.008	3	.118	1
					5	★	MHS0120L009B	9.3	.366	12.7	.500	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					10	★	MHS0120L015B	15.3	.602	18.7	.736	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					18	★	MHS0120L025B	25.3	.996	28.7	1.130	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					26	★	MHS0120L035B	35.3	1.390	38.7	1.524	80.3	3.161	80	3.150	0.3	.012	3	.118	2
1.30	.0512				2	★	MHS0130L007B	7.2	.283	10.4	.409	60.2	2.370	60	2.362	0.2	.008	3	.118	1
					5	★	MHS0130L011B	11.3	.445	14.5	.571	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					12	★	MHS0130L020B	20.3	.799	23.5	.925	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					20	★	MHS0130L030B	30.3	1.193	33.5	1.319	80.3	3.161	80	3.150	0.3	.012	3	.118	2
					30	★	MHS0130L045B	45.3	1.783	48.5	1.909	80.3	3.161	80	3.150	0.3	.012	3	.118	2

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

★ : Inventory maintained in Japan.

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
1.40	.0551		54		2	★	MHS0140L007B	7.3	.287	10.3	.406	60.3	2.374	60	2.362	0.3	.012	3	.118	1
					5	★	MHS0140L011B	11.3	.445	14.3	.563	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					11	★	MHS0140L020B	20.3	.799	23.3	.917	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					18	★	MHS0140L030B	30.3	1.193	33.3	1.311	80.3	3.161	80	3.150	0.3	.012	3	.118	2
					29	★	MHS0140L045B	45.3	1.783	48.3	1.902	80.3	3.161	80	3.150	0.3	.012	3	.118	2
1.45	.0571				3	★	MHS0145L008B	8.3	.327	11.2	.441	60.3	2.374	60	2.362	0.3	.012	3	.118	1
					6	★	MHS0145L013B	13.3	.524	16.2	.638	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					11	★	MHS0145L020B	20.3	.799	23.2	.913	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					21	★	MHS0145L035B	35.3	1.390	38.2	1.504	80.3	3.161	80	3.150	0.3	.012	3	.118	2
					30	★	MHS0145L055B	55.3	2.177	58.2	2.291	100.3	3.949	100	3.937	0.3	.012	3	.118	2
1.50	.0591			#1-64	2	★	MHS0150L008B	8.3	.327	11.1	.437	60.3	2.374	60	2.362	0.3	.012	3	.118	1
					6	★	MHS0150L013B	13.3	.524	16.1	.634	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					10	★	MHS0150L020B	20.3	.799	23.1	.909	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					20	★	MHS0150L035B	35.3	1.390	38.1	1.500	80.3	3.161	80	3.150	0.3	.012	3	.118	2
					30	★	MHS0150L055B	55.3	2.177	58.1	2.287	100.3	3.949	100	3.937	0.3	.012	3	.118	2
1.60	.0630				2	★	MHS0160L008B	8.3	.327	10.9	.429	60.3	2.374	60	2.362	0.3	.012	3	.118	1
					5	★	MHS0160L013B	13.3	.524	15.9	.626	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					10	★	MHS0160L020B	20.3	.799	22.9	.902	60.3	2.374	60	2.362	0.3	.012	3	.118	2
					19	★	MHS0160L035B	35.3	1.390	37.9	1.492	80.3	3.161	80	3.150	0.3	.012	3	.118	2
					30	★	MHS0160L055B	55.3	2.177	57.9	2.280	100.3	3.949	100	3.937	0.3	.012	3	.118	2
1.70	.0669		51		2	★	MHS0170L008B	8.3	.327	10.7	.421	60.3	2.374	60	2.362	0.3	.012	3	.118	1
					5	★	MHS0170L013B	13.4	.528	15.8	.622	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					9	★	MHS0170L020B	20.4	.803	22.8	.898	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					18	★	MHS0170L035B	35.4	1.394	37.8	1.488	80.4	3.165	80	3.150	0.4	.016	3	.118	2
					29	★	MHS0170L055B	55.4	2.181	57.8	2.276	100.4	3.953	100	3.937	0.4	.016	3	.118	2
1.80	.0709				3	★	MHS0180L010B	10.3	.406	12.5	.492	60.3	2.374	60	2.362	0.3	.012	3	.118	1
					5	★	MHS0180L015B	15.4	.606	17.6	.693	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					11	★	MHS0180L025B	25.4	1.000	27.6	1.087	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					22	★	MHS0180L045B	45.4	1.787	47.6	1.874	80.4	3.165	80	3.150	0.4	.016	3	.118	2
					30	★	MHS0180L065B	65.4	2.575	67.6	2.661	100.4	3.953	100	3.937	0.4	.016	3	.118	2
1.90	.0748				2	★	MHS0190L010B	10.4	.409	12.5	.492	60.4	2.378	60	2.362	0.4	.016	3	.118	1
					5	★	MHS0190L015B	15.4	.606	17.5	.689	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					10	★	MHS0190L025B	25.4	1.000	27.5	1.083	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					21	★	MHS0190L045B	45.4	1.787	47.5	1.870	80.4	3.165	80	3.150	0.4	.016	3	.118	2
					30	★	MHS0190L065B	65.4	2.575	67.5	2.657	100.4	3.953	100	3.937	0.4	.016	3	.118	2
1.95	.0768				2	★	MHS0195L010B	10.4	.409	12.4	.488	60.4	2.378	60	2.362	0.4	.016	3	.118	1
					5	★	MHS0195L015B	15.4	.606	17.4	.685	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					10	★	MHS0195L025B	25.4	1.000	27.4	1.079	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					20	★	MHS0195L045B	45.4	1.787	47.4	1.866	80.4	3.165	80	3.150	0.4	.016	3	.118	2
					30	★	MHS0195L065B	65.4	2.575	67.4	2.654	100.4	3.953	100	3.937	0.4	.016	3	.118	2
2.00	.0787			#3-48	2	★	MHS0200L010B	10.4	.409	12.3	.484	60.4	2.378	60	2.362	0.4	.016	3	.118	1
					5	★	MHS0200L015B	15.4	.606	17.3	.681	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					9	★	MHS0200L025B	25.4	1.000	27.3	1.075	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					20	★	MHS0200L045B	45.4	1.787	47.3	1.862	80.4	3.165	80	3.150	0.4	.016	3	.118	2
					30	★	MHS0200L065B	65.4	2.575	67.3	2.650	100.4	3.953	100	3.937	0.4	.016	3	.118	2

CUTTING CONDITIONS ➤ L126
HOW TO USE ➤ L127
TECHNICAL DATA ➤ N001

MHS

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
2.10	.0827				3	★	MHS0210L012B	12.4	.488	14.1	.555	60.4	2.378	60	2.362	0.4	.016	3	.118	1
					7	★	MHS0210L020B	20.4	.803	22.1	.870	60.4	2.378	60	2.362	0.4	.016	3	.118	2
					11	★	MHS0210L030B	30.4	1.197	32.1	1.264	80.4	3.165	80	3.150	0.4	.016	3	.118	2
					23	★	MHS0210L055B	55.4	2.181	57.1	2.248	100.4	3.953	100	3.937	0.4	.016	3	.118	2
					30	★	MHS0210L075B	75.4	2.969	77.1	3.035	120.4	4.740	120	4.724	0.4	.016	3	.118	2
2.20	.0866				2	★	MHS0220L012B	12.4	.488	13.9	.547	60.4	2.378	60	2.362	0.4	.016	3	.118	1
					6	★	MHS0220L020B	20.5	.807	22.0	.866	60.5	2.382	60	2.362	0.5	.020	3	.118	2
					11	★	MHS0220L030B	30.5	1.201	32.0	1.260	80.5	3.169	80	3.150	0.5	.020	3	.118	2
					22	★	MHS0220L055B	55.5	2.185	57.0	2.244	100.5	3.957	100	3.937	0.5	.020	3	.118	2
					30	★	MHS0220L075B	75.5	2.972	77.0	3.031	120.5	4.744	120	4.724	0.5	.020	3	.118	2
2.30	.0906				2	★	MHS0230L012B	12.4	.488	13.7	.539	60.4	2.378	60	2.362	0.4	.016	3	.118	1
					6	★	MHS0230L020B	20.5	.807	21.8	.858	60.5	2.382	60	2.362	0.5	.020	3	.118	2
					10	★	MHS0230L030B	30.5	1.201	31.8	1.252	80.5	3.169	80	3.150	0.5	.020	3	.118	2
					21	★	MHS0230L055B	55.5	2.185	56.8	2.236	100.5	3.957	100	3.937	0.5	.020	3	.118	2
					30	★	MHS0230L075B	75.5	2.972	76.8	3.024	120.5	4.744	120	4.724	0.5	.020	3	.118	2
2.40	.0945				2	★	MHS0240L012B	12.4	.488	13.5	.531	60.4	2.378	60	2.362	0.4	.016	3	.118	1
					5	★	MHS0240L020B	20.5	.807	21.6	.850	60.5	2.382	60	2.362	0.5	.020	3	.118	2
					9	★	MHS0240L030B	30.5	1.201	31.6	1.244	80.5	3.169	80	3.150	0.5	.020	3	.118	2
					20	★	MHS0240L055B	55.5	2.185	56.6	2.228	100.5	3.957	100	3.937	0.5	.020	3	.118	2
					28	★	MHS0240L075B	75.5	2.972	76.6	3.016	120.5	4.744	120	4.724	0.5	.020	3	.118	2
2.45	.0965				2	★	MHS0245L013B	13.5	.531	14.5	.571	70.5	2.776	70	2.756	0.5	.020	4	.157	1
					5	★	MHS0245L020B	20.5	.807	21.5	.846	70.5	2.776	70	2.756	0.5	.020	4	.157	2
					11	★	MHS0245L035B	35.5	1.398	36.5	1.437	90.5	3.563	90	3.543	0.5	.020	4	.157	2
					24	★	MHS0245L065B	65.5	2.579	66.5	2.618	110.5	4.350	110	4.331	0.5	.020	4	.157	2
					30	★	MHS0245L090B	90.5	3.563	91.5	3.602	140.5	5.531	140	5.512	0.5	.020	4	.157	2
2.50	.0984				2	★	MHS0250L013B	13.5	.531	16.3	.642	70.5	2.776	70	2.756	0.5	.020	4	.157	1
					5	★	MHS0250L020B	20.5	.807	23.3	.917	70.5	2.776	70	2.756	0.5	.020	4	.157	2
					11	★	MHS0250L035B	35.5	1.398	38.3	1.508	90.5	3.563	90	3.543	0.5	.020	4	.157	2
					23	★	MHS0250L065B	65.5	2.579	68.3	2.689	110.5	4.350	110	4.331	0.5	.020	4	.157	2
					30	★	MHS0250L090B	90.5	3.563	93.3	3.673	140.5	5.531	140	5.512	0.5	.020	4	.157	2
2.60	.1024				2	★	MHS0260L013B	13.5	.531	16.1	.634	70.5	2.776	70	2.756	0.5	.020	4	.157	1
					5	★	MHS0260L020B	20.5	.807	23.1	.909	70.5	2.776	70	2.756	0.5	.020	4	.157	2
					10	★	MHS0260L035B	35.5	1.398	38.1	1.500	90.5	3.563	90	3.543	0.5	.020	4	.157	2
					22	★	MHS0260L065B	65.5	2.579	68.1	2.681	110.5	4.350	110	4.331	0.5	.020	4	.157	2
					30	★	MHS0260L090B	90.5	3.563	93.1	3.665	140.5	5.531	140	5.512	0.5	.020	4	.157	2
2.70	.1063		36	#6-32	2	★	MHS0270L013B	13.5	.531	15.9	.626	70.5	2.776	70	2.756	0.5	.020	4	.157	1
					4	★	MHS0270L020B	20.6	.811	23.0	.906	70.6	2.780	70	2.756	0.6	.024	4	.157	2
					10	★	MHS0270L035B	35.6	1.402	38.0	1.496	90.6	3.567	90	3.543	0.6	.024	4	.157	2
					21	★	MHS0270L065B	65.6	2.583	68.0	2.677	110.6	4.354	110	4.331	0.6	.024	4	.157	2
					30	★	MHS0270L090B	90.6	3.567	93.0	3.661	140.6	5.535	140	5.512	0.6	.024	4	.157	2
2.80	.1102		35		2	★	MHS0280L014B	14.5	.571	16.7	.657	70.5	2.776	70	2.756	0.5	.020	4	.157	1
					4	★	MHS0280L020B	20.6	.811	22.8	.898	70.6	2.780	70	2.756	0.6	.024	4	.157	2
					9	★	MHS0280L035B	35.6	1.402	37.8	1.488	90.6	3.567	90	3.543	0.6	.024	4	.157	2
					20	★	MHS0280L065B	65.6	2.583	67.8	2.669	110.6	4.354	110	4.331	0.6	.024	4	.157	2
					29	★	MHS0280L090B	90.6	3.567	92.8	3.654	140.6	5.535	140	5.512	0.6	.024	4	.157	2

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
2.90	.1142				2	★	MHS0290L014B	14.5	.571	16.6	.654	70.5	2.776	70	2.756	0.5	.020	4	.157	1
					4	★	MHS0290L020B	20.6	.811	22.7	.894	70.6	2.780	70	2.756	0.6	.024	4	.157	2
					9	★	MHS0290L035B	35.6	1.402	37.7	1.484	90.6	3.567	90	3.543	0.6	.024	4	.157	2
					19	★	MHS0290L065B	65.6	2.583	67.7	2.665	110.6	4.354	110	4.331	0.6	.024	4	.157	2
					28	★	MHS0290L090B	90.6	3.567	92.7	3.650	140.6	5.535	140	5.512	0.6	.024	4	.157	2
2.95	.1161		32		2	★	MHS0295L014B	14.5	.571	16.5	.650	70.5	2.776	70	2.756	0.5	.020	4	.157	1
					4	★	MHS0295L020B	20.6	.811	22.6	.890	70.6	2.780	70	2.756	0.6	.024	4	.157	2
					9	★	MHS0295L035B	35.6	1.402	37.6	1.480	90.6	3.567	90	3.543	0.6	.024	4	.157	2
					19	★	MHS0295L065B	65.6	2.583	67.6	2.661	110.6	4.354	110	4.331	0.6	.024	4	.157	2
					28	★	MHS0295L090B	90.6	3.567	92.6	3.646	140.6	5.535	140	5.512	0.6	.024	4	.157	2
3.0	.1181				4	★	MHS0300L020B	19.6	.772	20.6	.811	70.6	2.780	70	2.756	0.6	.024	4	.157	3
					10	★	MHS0300L040B	39.6	1.559	40.6	1.598	90.6	3.567	90	3.543	0.6	.024	4	.157	4
					17	★	MHS0300L060B	59.6	2.346	60.6	2.386	110.6	4.354	110	4.331	0.6	.024	4	.157	4
					27	★	MHS0300L090B	89.6	3.528	90.6	3.567	140.6	5.535	140	5.512	0.6	.024	4	.157	4
3.1	.1220				4	□	MHS0310L020B	20.1	.791	20.6	.811	70.6	2.780	70	2.756	0.6	.024	4	.157	3
					10	□	MHS0310L040B	40.1	1.579	40.6	1.598	90.6	3.567	90	3.543	0.6	.024	4	.157	4
					17	□	MHS0310L060B	60.1	2.366	60.6	2.386	110.6	4.354	110	4.331	0.6	.024	4	.157	4
					26	□	MHS0310L090B	90.1	3.547	90.6	3.567	140.6	5.535	140	5.512	0.6	.024	4	.157	4
3.2	.1260				4	□	MHS0320L020B	20.2	.795	20.7	.815	70.7	2.783	70	2.756	0.7	.028	4	.157	3
					10	□	MHS0320L040B	40.1	1.579	40.6	1.598	90.6	3.567	90	3.543	0.6	.024	4	.157	4
					16	□	MHS0320L060B	60.1	2.366	60.6	2.386	110.6	4.354	110	4.331	0.6	.024	4	.157	4
					25	□	MHS0320L090B	90.1	3.547	90.6	3.567	140.6	5.535	140	5.512	0.6	.024	4	.157	4
3.3	.1299			M4x0.7	3	□	MHS0330L020B	20.2	.795	20.7	.815	70.7	2.783	70	2.756	0.7	.028	4	.157	3
					9	□	MHS0330L040B	40.1	1.579	40.6	1.598	90.6	3.567	90	3.543	0.6	.024	4	.157	4
					16	□	MHS0330L060B	60.1	2.366	60.6	2.386	110.6	4.354	110	4.331	0.6	.024	4	.157	4
					25	□	MHS0330L090B	90.1	3.547	90.6	3.567	140.6	5.535	140	5.512	0.6	.024	4	.157	4
3.4	.1339				3	□	MHS0340L020B	20.2	.795	20.7	.815	70.7	2.783	70	2.756	0.7	.028	4	.157	3
					9	□	MHS0340L040B	40.1	1.579	40.6	1.598	90.6	3.567	90	3.543	0.6	.024	4	.157	4
					15	□	MHS0340L060B	60.1	2.366	60.6	2.386	110.6	4.354	110	4.331	0.6	.024	4	.157	4
					24	□	MHS0340L090B	90.1	3.547	90.6	3.567	140.6	5.535	140	5.512	0.6	.024	4	.157	4
3.5	.1378				3	★	MHS0350L020B	20.2	.795	20.7	.815	70.7	2.783	70	2.756	0.7	.028	4	.157	3
					9	★	MHS0350L040B	40.1	1.579	40.6	1.598	90.6	3.567	90	3.543	0.6	.024	4	.157	4
					14	★	MHS0350L060B	60.1	2.366	60.6	2.386	110.6	4.354	110	4.331	0.6	.024	4	.157	4
					23	★	MHS0350L090B	90.1	3.547	90.6	3.567	140.6	5.535	140	5.512	0.6	.024	4	.157	4
3.6	.1417				3	□	MHS0360L020B	20.8	.819	20.8	.819	70.8	2.787	70	2.756	0.8	.031	4	.157	3
					9	□	MHS0360L040B	40.7	1.602	40.7	1.602	90.7	3.571	90	3.543	0.7	.028	4	.157	4
					14	□	MHS0360L060B	60.7	2.390	60.7	2.390	110.7	4.358	110	4.331	0.7	.028	4	.157	4
					22	□	MHS0360L090B	90.7	3.571	90.7	3.571	140.7	5.539	140	5.512	0.7	.028	4	.157	4
					30	□	MHS0360L120B	120.7	4.752	120.7	4.752	170.7	6.720	170	6.693	0.7	.028	4	.157	4
3.7	.1457			M4.5x0.75	3	□	MHS0370L020B	20.8	.819	20.8	.819	70.8	2.787	70	2.756	0.8	.031	4	.157	3
					8	□	MHS0370L040B	40.7	1.602	40.7	1.602	90.7	3.571	90	3.543	0.7	.028	4	.157	4
					14	□	MHS0370L060B	60.7	2.390	60.7	2.390	110.7	4.358	110	4.331	0.7	.028	4	.157	4
					22	□	MHS0370L090B	90.7	3.571	90.7	3.571	140.7	5.539	140	5.512	0.7	.028	4	.157	4
					30	□	MHS0370L120B	120.7	4.752	120.7	4.752	170.7	6.720	170	6.693	0.7	.028	4	.157	4

CUTTING CONDITIONS ➤ L126
HOW TO USE ➤ L127
TECHNICAL DATA ➤ N001

MHS

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
3.8	.1496		25	#10-24	3	★	MHS0380L020B	20.8	.819	20.8	.819	70.8	2.787	70	2.756	0.8	.031	4	.157	3
					8	★	MHS0380L040B	40.7	1.602	40.7	1.602	90.7	3.571	90	3.543	0.7	.028	4	.157	4
					13	★	MHS0380L060B	60.7	2.390	60.7	2.390	110.7	4.358	110	4.331	0.7	.028	4	.157	4
					21	★	MHS0380L090B	90.7	3.571	90.7	3.571	140.7	5.539	140	5.512	0.7	.028	4	.157	4
					29	★	MHS0380L120B	120.7	4.752	120.7	4.752	170.7	6.720	170	6.693	0.7	.028	4	.157	4
3.9	.1535				3	□	MHS0390L020B	20.8	.819	20.8	.819	70.8	2.787	70	2.756	0.8	.031	4	.157	3
					8	□	MHS0390L040B	40.7	1.602	40.7	1.602	90.7	3.571	90	3.543	0.7	.028	4	.157	4
					13	□	MHS0390L060B	60.7	2.390	60.7	2.390	110.7	4.358	110	4.331	0.7	.028	4	.157	4
					21	□	MHS0390L090B	90.7	3.571	90.7	3.571	140.7	5.539	140	5.512	0.7	.028	4	.157	4
					28	□	MHS0390L120B	120.7	4.752	120.7	4.752	170.7	6.720	170	6.693	0.7	.028	4	.157	4
4.0	.1575				2	★	MHS0400L020B	20.8	.819	20.8	.819	70.8	2.787	70	2.756	0.8	.031	4	.157	3
					7	★	MHS0400L040B	40.7	1.602	40.7	1.602	90.7	3.571	90	3.543	0.7	.028	4	.157	4
					12	★	MHS0400L060B	60.7	2.390	60.7	2.390	110.7	4.358	110	4.331	0.7	.028	4	.157	4
					20	★	MHS0400L090B	90.7	3.571	90.7	3.571	140.7	5.539	140	5.512	0.7	.028	4	.157	4
					27	★	MHS0400L120B	120.7	4.752	120.7	4.752	170.7	6.720	170	6.693	0.7	.028	4	.157	4
4.1	.1614				2	□	MHS0410L020B	19.4	.764	20.9	.823	70.9	2.791	70	2.756	0.9	.035	6	.236	3
					7	□	MHS0410L040B	39.3	1.547	40.8	1.606	90.8	3.575	90	3.543	0.8	.031	6	.236	4
					12	□	MHS0410L060B	59.3	2.335	60.8	2.394	110.8	4.362	110	4.331	0.8	.031	6	.236	4
					19	□	MHS0410L090B	89.3	3.516	90.8	3.575	140.8	5.543	140	5.512	0.8	.031	6	.236	4
					26	□	MHS0410L120B	119.3	4.697	120.8	4.756	170.8	6.724	170	6.693	0.8	.031	6	.236	4
4.2	.1654			M5x0.8	2	□	MHS0420L020B	19.4	.764	20.9	.823	70.9	2.791	70	2.756	0.9	.035	6	.236	3
					7	□	MHS0420L040B	39.3	1.547	40.8	1.606	90.8	3.575	90	3.543	0.8	.031	6	.236	4
					11	□	MHS0420L060B	59.3	2.335	60.8	2.394	110.8	4.362	110	4.331	0.8	.031	6	.236	4
					19	□	MHS0420L090B	89.3	3.516	90.8	3.575	140.8	5.543	140	5.512	0.8	.031	6	.236	4
					26	□	MHS0420L120B	119.3	4.697	120.8	4.756	170.8	6.724	170	6.693	0.8	.031	6	.236	4
4.3	.1693				2	□	MHS0430L020B	19.4	.764	20.9	.823	70.9	2.791	70	2.756	0.9	.035	6	.236	3
					6	□	MHS0430L040B	39.3	1.547	40.8	1.606	90.8	3.575	90	3.543	0.8	.031	6	.236	4
					11	□	MHS0430L060B	59.3	2.335	60.8	2.394	110.8	4.362	110	4.331	0.8	.031	6	.236	4
					18	□	MHS0430L090B	89.3	3.516	90.8	3.575	140.8	5.543	140	5.512	0.8	.031	6	.236	4
					25	□	MHS0430L120B	119.3	4.697	120.8	4.756	170.8	6.724	170	6.693	0.8	.031	6	.236	4
4.4	.1732		17		2	□	MHS0440L020B	19.4	.764	20.9	.823	70.9	2.791	70	2.756	0.9	.035	6	.236	3
					6	□	MHS0440L040B	39.3	1.547	40.8	1.606	90.8	3.575	90	3.543	0.8	.031	6	.236	4
					11	□	MHS0440L060B	59.3	2.335	60.8	2.394	110.8	4.362	110	4.331	0.8	.031	6	.236	4
					18	□	MHS0440L090B	89.3	3.516	90.8	3.575	140.8	5.543	140	5.512	0.8	.031	6	.236	4
					24	□	MHS0440L120B	119.3	4.697	120.8	4.756	170.8	6.724	170	6.693	0.8	.031	6	.236	4
4.5	.1772		16	#12-24	2	★	MHS0450L020B	19.4	.764	20.9	.823	70.9	2.791	70	2.756	0.9	.035	6	.236	3
					6	★	MHS0450L040B	39.3	1.547	40.8	1.606	90.8	3.575	90	3.543	0.8	.031	6	.236	4
					10	★	MHS0450L060B	59.3	2.335	60.8	2.394	110.8	4.362	110	4.331	0.8	.031	6	.236	4
					17	★	MHS0450L090B	89.3	3.516	90.8	3.575	140.8	5.543	140	5.512	0.8	.031	6	.236	4
					24	★	MHS0450L120B	119.3	4.697	120.8	4.756	170.8	6.724	170	6.693	0.8	.031	6	.236	4
4.6	.1811				2	□	MHS0460L020B	20.0	.787	21.0	.827	71.0	2.795	70	2.756	1.0	.039	6	.236	3
					6	□	MHS0460L040B	39.8	1.567	40.8	1.606	90.8	3.575	90	3.543	0.8	.031	6	.236	4
					10	□	MHS0460L060B	59.8	2.354	60.8	2.394	110.8	4.362	110	4.331	0.8	.031	6	.236	4
					17	□	MHS0460L090B	89.8	3.535	90.8	3.575	140.8	5.543	140	5.512	0.8	.031	6	.236	4
					23	□	MHS0460L120B	119.8	4.717	120.8	4.756	170.8	6.724	170	6.693	0.8	.031	6	.236	4
					30	□	MHS0460L150B	149.8	5.898	150.8	5.937	200.8	7.906	200	7.874	0.8	.031	6	.236	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
4.7	.1850		13		2	□	MHS0470L020B	20.0	.787	21.0	.827	71.0	2.795	70	2.756	1.0	.039	6	.236	3
					6	□	MHS0470L040B	39.9	1.571	40.9	1.610	90.9	3.579	90	3.543	0.9	.035	6	.236	4
					10	□	MHS0470L060B	59.9	2.358	60.9	2.398	110.9	4.366	110	4.331	0.9	.035	6	.236	4
					16	□	MHS0470L090B	89.9	3.539	90.9	3.579	140.9	5.547	140	5.512	0.9	.035	6	.236	4
					23	□	MHS0470L120B	119.9	4.720	120.9	4.760	170.9	6.728	170	6.693	0.9	.035	6	.236	4
					29	□	MHS0470L150B	149.9	5.902	150.9	5.941	200.9	7.909	200	7.874	0.9	.035	6	.236	4
4.8	.1890		12		1	★	MHS0480L020B	20.0	.787	21.0	.827	71.0	2.795	70	2.756	1.0	.039	6	.236	3
					6	★	MHS0480L040B	39.9	1.571	40.9	1.610	90.9	3.579	90	3.543	0.9	.035	6	.236	4
					10	★	MHS0480L060B	59.9	2.358	60.9	2.398	110.9	4.366	110	4.331	0.9	.035	6	.236	4
					16	★	MHS0480L090B	89.9	3.539	90.9	3.579	140.9	5.547	140	5.512	0.9	.035	6	.236	4
					22	★	MHS0480L120B	119.9	4.720	120.9	4.760	170.9	6.728	170	6.693	0.9	.035	6	.236	4
					29	★	MHS0480L150B	149.9	5.902	150.9	5.941	200.9	7.909	200	7.874	0.9	.035	6	.236	4
4.9	.1929				1	□	MHS0490L020B	20.0	.787	21.0	.827	71.0	2.795	70	2.756	1.0	.039	6	.236	3
					5	□	MHS0490L040B	39.9	1.571	40.9	1.610	90.9	3.579	90	3.543	0.9	.035	6	.236	4
					10	□	MHS0490L060B	59.9	2.358	60.9	2.398	110.9	4.366	110	4.331	0.9	.035	6	.236	4
					16	□	MHS0490L090B	89.9	3.539	90.9	3.579	140.9	5.547	140	5.512	0.9	.035	6	.236	4
					22	□	MHS0490L120B	119.9	4.720	120.9	4.760	170.9	6.728	170	6.693	0.9	.035	6	.236	4
					28	□	MHS0490L150B	149.9	5.902	150.9	5.941	200.9	7.909	200	7.874	0.9	.035	6	.236	4
5.0	.1969			M6x10	1	★	MHS0500L020B	20.0	.787	21.0	.827	71.0	2.795	70	2.756	1.0	.039	6	.236	3
					5	★	MHS0500L040B	39.9	1.571	40.9	1.610	90.9	3.579	90	3.543	0.9	.035	6	.236	4
					9	★	MHS0500L060B	59.9	2.358	60.9	2.398	110.9	4.366	110	4.331	0.9	.035	6	.236	4
					15	★	MHS0500L090B	89.9	3.539	90.9	3.579	140.9	5.547	140	5.512	0.9	.035	6	.236	4
					21	★	MHS0500L120B	119.9	4.720	120.9	4.760	170.9	6.728	170	6.693	0.9	.035	6	.236	4
					27	★	MHS0500L150B	149.9	5.902	150.9	5.941	200.9	7.909	200	7.874	0.9	.035	6	.236	4
5.1	.2008		7	1/4-20	3	□	MHS0510L030B	30.6	1.205	31.1	1.224	81.1	3.193	80	3.150	1.1	.043	6	.236	3
					9	□	MHS0510L060B	60.4	2.378	60.9	2.398	110.9	4.366	110	4.331	0.9	.035	6	.236	4
					15	□	MHS0510L090B	90.4	3.559	90.9	3.579	140.9	5.547	140	5.512	0.9	.035	6	.236	4
					21	□	MHS0510L120B	120.4	4.740	120.9	4.760	170.9	6.728	170	6.693	0.9	.035	6	.236	4
					27	□	MHS0510L150B	150.4	5.921	150.9	5.941	200.9	7.909	200	7.874	0.9	.035	6	.236	4
5.2	.2047				3	□	MHS0520L030B	30.6	1.205	31.1	1.224	81.1	3.193	80	3.150	1.1	.043	6	.236	3
					9	□	MHS0520L060B	60.5	2.382	61.0	2.402	111.0	4.370	110	4.331	1.0	.039	6	.236	4
					15	□	MHS0520L090B	90.5	3.563	91.0	3.583	141.0	5.551	140	5.512	1.0	.039	6	.236	4
					20	□	MHS0520L120B	120.5	4.744	121.0	4.764	171.0	6.732	170	6.693	1.0	.039	6	.236	4
					26	□	MHS0520L150B	150.5	5.925	151.0	5.945	201.0	7.913	200	7.874	1.0	.039	6	.236	4
5.3	.2087		4		3	□	MHS0530L030B	30.6	1.205	31.1	1.224	81.1	3.193	80	3.150	1.1	.043	6	.236	3
					9	□	MHS0530L060B	60.5	2.382	61.0	2.402	111.0	4.370	110	4.331	1.0	.039	6	.236	4
					14	□	MHS0530L090B	90.5	3.563	91.0	3.583	141.0	5.551	140	5.512	1.0	.039	6	.236	4
					20	□	MHS0530L120B	120.5	4.744	121.0	4.764	171.0	6.732	170	6.693	1.0	.039	6	.236	4
					26	□	MHS0530L150B	150.5	5.925	151.0	5.945	201.0	7.913	200	7.874	1.0	.039	6	.236	4
5.4	.2126		3		3	□	MHS0540L030B	30.6	1.205	31.1	1.224	81.1	3.193	80	3.150	1.1	.043	6	.236	3
					9	□	MHS0540L060B	60.5	2.382	61.0	2.402	111.0	4.370	110	4.331	1.0	.039	6	.236	4
					14	□	MHS0540L090B	90.5	3.563	91.0	3.583	141.0	5.551	140	5.512	1.0	.039	6	.236	4
					20	□	MHS0540L120B	120.5	4.744	121.0	4.764	171.0	6.732	170	6.693	1.0	.039	6	.236	4
					25	□	MHS0540L150B	150.5	5.925	151.0	5.945	201.0	7.913	200	7.874	1.0	.039	6	.236	4

CUTTING CONDITIONS ➤ L126
HOW TO USE ➤ L127
TECHNICAL DATA ➤ N001

MHS

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions										Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
					3	★	MHS0550L030B	30.6	1.205	31.1	1.224	81.1	3.193	80	3.150	1.1	.043	6	.236	3
					8	★	MHS0550L060B	60.5	2.382	61.0	2.402	111.0	4.370	110	4.331	1.0	.039	6	.236	4
5.5	.2165				14	★	MHS0550L090B	90.5	3.563	91.0	3.583	141.0	5.551	140	5.512	1.0	.039	6	.236	4
					19	★	MHS0550L120B	120.5	4.744	121.0	4.764	171.0	6.732	170	6.693	1.0	.039	6	.236	4
					25	★	MHS0550L150B	150.5	5.925	151.0	5.945	201.0	7.913	200	7.874	1.0	.039	6	.236	4
					3	□	MHS0560L030B	31.2	1.228	31.2	1.228	81.2	3.197	80	3.150	1.2	.047	6	.236	3
					8	□	MHS0560L060B	61.0	2.402	61.0	2.402	111.0	4.370	110	4.331	1.0	.039	6	.236	4
5.6	.2205		2		14	□	MHS0560L090B	91.0	3.583	91.0	3.583	141.0	5.551	140	5.512	1.0	.039	6	.236	4
					19	□	MHS0560L120B	121.0	4.764	121.0	4.764	171.0	6.732	170	6.693	1.0	.039	6	.236	4
					24	□	MHS0560L150B	151.0	5.945	151.0	5.945	201.0	7.913	200	7.874	1.0	.039	6	.236	4
					3	□	MHS0570L030B	31.2	1.228	31.2	1.228	81.2	3.197	80	3.150	1.2	.047	6	.236	3
					8	□	MHS0570L060B	61.0	2.402	61.0	2.402	111.0	4.370	110	4.331	1.0	.039	6	.236	4
5.7	.2244				13	□	MHS0570L090B	91.0	3.583	91.0	3.583	141.0	5.551	140	5.512	1.0	.039	6	.236	4
					19	□	MHS0570L120B	121.0	4.764	121.0	4.764	171.0	6.732	170	6.693	1.0	.039	6	.236	4
					24	□	MHS0570L150B	151.0	5.945	151.0	5.945	201.0	7.913	200	7.874	1.0	.039	6	.236	4
					3	★	MHS0580L030B	31.2	1.228	31.2	1.228	81.2	3.197	80	3.150	1.2	.047	6	.236	3
					8	★	MHS0580L060B	61.1	2.406	61.1	2.406	111.1	4.374	110	4.331	1.1	.043	6	.236	4
5.8	.2283		1		13	★	MHS0580L090B	91.1	3.587	91.1	3.587	141.1	5.555	140	5.512	1.1	.043	6	.236	4
					18	★	MHS0580L120B	121.1	4.768	121.1	4.768	171.1	6.736	170	6.693	1.1	.043	6	.236	4
					23	★	MHS0580L150B	151.1	5.949	151.1	5.949	201.1	7.917	200	7.874	1.1	.043	6	.236	4
					3	□	MHS0590L030B	31.2	1.228	31.2	1.228	81.2	3.197	80	3.150	1.2	.047	6	.236	3
					8	□	MHS0590L060B	61.1	2.406	61.1	2.406	111.1	4.374	110	4.331	1.1	.043	6	.236	4
5.9	.2323				13	□	MHS0590L090B	91.1	3.587	91.1	3.587	141.1	5.555	140	5.512	1.1	.043	6	.236	4
					18	□	MHS0590L120B	121.1	4.768	121.1	4.768	171.1	6.736	170	6.693	1.1	.043	6	.236	4
					23	□	MHS0590L150B	151.1	5.949	151.1	5.949	201.1	7.917	200	7.874	1.1	.043	6	.236	4
					2	★	MHS0600L030B	31.2	1.228	31.2	1.228	81.2	3.197	80	3.150	1.2	.047	6	.236	3
					7	★	MHS0600L060B	61.1	2.406	61.1	2.406	111.1	4.374	110	4.331	1.1	.043	6	.236	4
6.0	.2362			M7x1.0	12	★	MHS0600L090B	91.1	3.587	91.1	3.587	141.1	5.555	140	5.512	1.1	.043	6	.236	4
					17	★	MHS0600L120B	121.1	4.768	121.1	4.768	171.1	6.736	170	6.693	1.1	.043	6	.236	4
					22	★	MHS0600L150B	151.1	5.949	151.1	5.949	201.1	7.917	200	7.874	1.1	.043	6	.236	4
					2	□	MHS0610L030B	29.8	1.173	31.3	1.232	81.3	3.201	80	3.150	1.3	.051	8	.315	3
					7	□	MHS0610L060B	59.6	2.346	61.1	2.406	111.1	4.374	110	4.331	1.1	.043	8	.315	4
6.1	.2402				12	□	MHS0610L090B	89.6	3.528	91.1	3.587	141.1	5.555	140	5.512	1.1	.043	8	.315	4
					17	□	MHS0610L120B	119.6	4.709	121.1	4.768	171.1	6.736	170	6.693	1.1	.043	8	.315	4
					22	□	MHS0610L150B	149.6	5.890	151.1	5.949	201.1	7.917	200	7.874	1.1	.043	8	.315	4
					2	□	MHS0620L030B	29.8	1.173	31.3	1.232	81.3	3.201	80	3.150	1.3	.051	8	.315	3
					7	□	MHS0620L060B	59.6	2.346	61.1	2.406	111.1	4.374	110	4.331	1.1	.043	8	.315	4
6.2	.2441				12	□	MHS0620L090B	89.6	3.528	91.1	3.587	141.1	5.555	140	5.512	1.1	.043	8	.315	4
					17	□	MHS0620L120B	119.6	4.709	121.1	4.768	171.1	6.736	170	6.693	1.1	.043	8	.315	4
					21	□	MHS0620L150B	149.6	5.890	151.1	5.949	201.1	7.917	200	7.874	1.1	.043	8	.315	4
					2	□	MHS0630L030B	29.8	1.173	31.3	1.232	81.3	3.201	80	3.150	1.3	.051	8	.315	3
					7	□	MHS0630L060B	59.7	2.350	61.2	2.409	111.2	4.378	110	4.331	1.2	.047	8	.315	4
6.3	.2480				12	□	MHS0630L090B	89.7	3.531	91.2	3.591	141.2	5.559	140	5.512	1.2	.047	8	.315	4
					16	□	MHS0630L120B	119.7	4.713	121.2	4.772	171.2	6.740	170	6.693	1.2	.047	8	.315	4
					21	□	MHS0630L150B	149.7	5.894	151.2	5.953	201.2	7.921	200	7.874	1.2	.047	8	.315	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
6.4	.2520				2	□	MHS0640L030B	29.8	1.173	31.3	1.232	81.3	3.201	80	3.150	1.3	.051	8	.315	3
					7	□	MHS0640L060B	59.7	2.350	61.2	2.409	111.2	4.378	110	4.331	1.2	.047	8	.315	4
					11	□	MHS0640L090B	89.7	3.531	91.2	3.591	141.2	5.559	140	5.512	1.2	.047	8	.315	4
					16	□	MHS0640L120B	119.7	4.713	121.2	4.772	171.2	6.740	170	6.693	1.2	.047	8	.315	4
					21	□	MHS0640L150B	149.7	5.894	151.2	5.953	201.2	7.921	200	7.874	1.2	.047	8	.315	4
6.5	.2559				2	★	MHS0650L030B	29.9	1.177	31.4	1.236	81.4	3.205	80	3.150	1.4	.055	8	.315	3
					6	★	MHS0650L060B	59.7	2.350	61.2	2.409	111.2	4.378	110	4.331	1.2	.047	8	.315	4
					11	★	MHS0650L090B	89.7	3.531	91.2	3.591	141.2	5.559	140	5.512	1.2	.047	8	.315	4
					16	★	MHS0650L120B	119.7	4.713	121.2	4.772	171.2	6.740	170	6.693	1.2	.047	8	.315	4
					20	★	MHS0650L150B	149.7	5.894	151.2	5.953	201.2	7.921	200	7.874	1.2	.047	8	.315	4
6.6	.2598				2	□	MHS0660L030B	30.4	1.197	31.4	1.236	81.4	3.205	80	3.150	1.4	.055	8	.315	3
					6	□	MHS0660L060B	60.2	2.370	61.2	2.409	111.2	4.378	110	4.331	1.2	.047	8	.315	4
					11	□	MHS0660L090B	90.2	3.551	91.2	3.591	141.2	5.559	140	5.512	1.2	.047	8	.315	4
					16	□	MHS0660L120B	120.2	4.732	121.2	4.772	171.2	6.740	170	6.693	1.2	.047	8	.315	4
					20	□	MHS0660L150B	150.2	5.913	151.2	5.953	201.2	7.921	200	7.874	1.2	.047	8	.315	4
					28	□	MHS0660L200B	200.2	7.882	201.2	7.921	251.2	9.890	250	9.843	1.2	.047	8	.315	4
6.7	.2638			M8x1.25	2	□	MHS0670L030B	30.4	1.197	31.4	1.236	81.4	3.205	80	3.150	1.4	.055	8	.315	3
					6	□	MHS0670L060B	60.2	2.370	61.2	2.409	111.2	4.378	110	4.331	1.2	.047	8	.315	4
					11	□	MHS0670L090B	90.2	3.551	91.2	3.591	141.2	5.559	140	5.512	1.2	.047	8	.315	4
					15	□	MHS0670L120B	120.2	4.732	121.2	4.772	171.2	6.740	170	6.693	1.2	.047	8	.315	4
					20	□	MHS0670L150B	150.2	5.913	151.2	5.953	201.2	7.921	200	7.874	1.2	.047	8	.315	4
					27	□	MHS0670L200B	200.2	7.882	201.2	7.921	251.2	9.890	250	9.843	1.2	.047	8	.315	4
6.8	.2677				2	★	MHS0680L030B	30.4	1.197	31.4	1.236	81.4	3.205	80	3.150	1.4	.055	8	.315	3
					6	★	MHS0680L060B	60.2	2.370	61.2	2.409	111.2	4.378	110	4.331	1.2	.047	8	.315	4
					11	★	MHS0680L090B	90.2	3.551	91.2	3.591	141.2	5.559	140	5.512	1.2	.047	8	.315	4
					15	★	MHS0680L120B	120.2	4.732	121.2	4.772	171.2	6.740	170	6.693	1.2	.047	8	.315	4
					19	★	MHS0680L150B	150.2	5.913	151.2	5.953	201.2	7.921	200	7.874	1.2	.047	8	.315	4
					27	★	MHS0680L200B	200.2	7.882	201.2	7.921	251.2	9.890	250	9.843	1.2	.047	8	.315	4
6.9	.2717		I	5/16-24	2	□	MHS0690L030B	30.4	1.197	31.4	1.236	81.4	3.205	80	3.150	1.4	.055	8	.315	3
					6	□	MHS0690L060B	60.3	2.374	61.3	2.413	111.3	4.382	110	4.331	1.3	.051	8	.315	4
					10	□	MHS0690L090B	90.3	3.555	91.3	3.594	141.3	5.563	140	5.512	1.3	.051	8	.315	4
					15	□	MHS0690L120B	120.3	4.736	121.3	4.776	171.3	6.744	170	6.693	1.3	.051	8	.315	4
					19	□	MHS0690L150B	150.3	5.917	151.3	5.957	201.3	7.925	200	7.874	1.3	.051	8	.315	4
					26	□	MHS0690L200B	200.3	7.886	201.3	7.925	251.3	9.894	250	9.843	1.3	.051	8	.315	4
7.0	.2756			M8x1.0	2	★	MHS0700L030B	30.5	1.201	31.5	1.240	81.5	3.209	80	3.150	1.5	.059	8	.315	3
					6	★	MHS0700L060B	60.3	2.374	61.3	2.413	111.3	4.382	110	4.331	1.3	.051	8	.315	4
					10	★	MHS0700L090B	90.3	3.555	91.3	3.594	141.3	5.563	140	5.512	1.3	.051	8	.315	4
					14	★	MHS0700L120B	120.3	4.736	121.3	4.776	171.3	6.744	170	6.693	1.3	.051	8	.315	4
					19	★	MHS0700L150B	150.3	5.917	151.3	5.957	201.3	7.925	200	7.874	1.3	.051	8	.315	4
					26	★	MHS0700L200B	200.3	7.886	201.3	7.925	251.3	9.894	250	9.843	1.3	.051	8	.315	4
7.1	.2795				2	□	MHS0710L030B	31.0	1.220	31.5	1.240	81.5	3.209	80	3.150	1.5	.059	8	.315	3
					6	□	MHS0710L060B	60.8	2.394	61.3	2.413	111.3	4.382	110	4.331	1.3	.051	8	.315	4
					10	□	MHS0710L090B	90.8	3.575	91.3	3.594	141.3	5.563	140	5.512	1.3	.051	8	.315	4
					14	□	MHS0710L120B	120.8	4.756	121.3	4.776	171.3	6.744	170	6.693	1.3	.051	8	.315	4
					19	□	MHS0710L150B	150.8	5.937	151.3	5.957	201.3	7.925	200	7.874	1.3	.051	8	.315	4
					26	□	MHS0710L200B	200.8	7.906	201.3	7.925	251.3	9.894	250	9.843	1.3	.051	8	.315	4

CUTTING CONDITIONS ➤ L126
HOW TO USE ➤ L127
TECHNICAL DATA ➤ N001

MHS

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
7.2	.2835				2	□	MHS0720L030B	31.0	1.220	31.5	1.240	81.5	3.209	80	3.150	1.5	.059	8	.315	3
					6	□	MHS0720L060B	60.8	2.394	61.3	2.413	111.3	4.382	110	4.331	1.3	.051	8	.315	4
					10	□	MHS0720L090B	90.8	3.575	91.3	3.594	141.3	5.563	140	5.512	1.3	.051	8	.315	4
					14	□	MHS0720L120B	120.8	4.756	121.3	4.776	171.3	6.744	170	6.693	1.3	.051	8	.315	4
					18	□	MHS0720L150B	150.8	5.937	151.3	5.957	201.3	7.925	200	7.874	1.3	.051	8	.315	4
					25	□	MHS0720L200B	200.8	7.906	201.3	7.925	251.3	9.894	250	9.843	1.3	.051	8	.315	4
7.3	.2874				2	□	MHS0730L030B	31.0	1.220	31.5	1.240	81.5	3.209	80	3.150	1.5	.059	8	.315	3
					6	□	MHS0730L060B	60.8	2.394	61.3	2.413	111.3	4.382	110	4.331	1.3	.051	8	.315	4
					10	□	MHS0730L090B	90.8	3.575	91.3	3.594	141.3	5.563	140	5.512	1.3	.051	8	.315	4
					14	□	MHS0730L120B	120.8	4.756	121.3	4.776	171.3	6.744	170	6.693	1.3	.051	8	.315	4
					18	□	MHS0730L150B	150.8	5.937	151.3	5.957	201.3	7.925	200	7.874	1.3	.051	8	.315	4
					25	□	MHS0730L200B	200.8	7.906	201.3	7.925	251.3	9.894	250	9.843	1.3	.051	8	.315	4
7.4	.2913				1	□	MHS0740L030B	31.0	1.220	31.5	1.240	81.5	3.209	80	3.150	1.5	.059	8	.315	3
					6	□	MHS0740L060B	60.9	2.398	61.4	2.417	111.4	4.386	110	4.331	1.4	.055	8	.315	4
					10	□	MHS0740L090B	90.9	3.579	91.4	3.598	141.4	5.567	140	5.512	1.4	.055	8	.315	4
					14	□	MHS0740L120B	120.9	4.760	121.4	4.780	171.4	6.748	170	6.693	1.4	.055	8	.315	4
					18	□	MHS0740L150B	150.9	5.941	151.4	5.961	201.4	7.929	200	7.874	1.4	.055	8	.315	4
					24	□	MHS0740L200B	200.9	7.909	201.4	7.929	251.4	9.898	250	9.843	1.4	.055	8	.315	4
7.5	.2953		M		1	★	MHS0750L030B	31.1	1.224	31.6	1.244	81.6	3.213	80	3.150	1.6	.063	8	.315	3
					5	★	MHS0750L060B	60.9	2.398	61.4	2.417	111.4	4.386	110	4.331	1.4	.055	8	.315	4
					9	★	MHS0750L090B	90.9	3.579	91.4	3.598	141.4	5.567	140	5.512	1.4	.055	8	.315	4
					13	★	MHS0750L120B	120.9	4.760	121.4	4.780	171.4	6.748	170	6.693	1.4	.055	8	.315	4
					17	★	MHS0750L150B	150.9	5.941	151.4	5.961	201.4	7.929	200	7.874	1.4	.055	8	.315	4
					24	★	MHS0750L200B	200.9	7.909	201.4	7.929	251.4	9.898	250	9.843	1.4	.055	8	.315	4
7.6	.2992				1	□	MHS0760L030B	31.6	1.244	31.6	1.244	81.6	3.213	80	3.150	1.6	.063	8	.315	3
					5	□	MHS0760L060B	61.4	2.417	61.4	2.417	111.4	4.386	110	4.331	1.4	.055	8	.315	4
					9	□	MHS0760L090B	91.4	3.598	91.4	3.598	141.4	5.567	140	5.512	1.4	.055	8	.315	4
					13	□	MHS0760L120B	121.4	4.780	121.4	4.780	171.4	6.748	170	6.693	1.4	.055	8	.315	4
					17	□	MHS0760L150B	151.4	5.961	151.4	5.961	201.4	7.929	200	7.874	1.4	.055	8	.315	4
					24	□	MHS0760L200B	201.4	7.929	201.4	7.929	251.4	9.898	250	9.843	1.4	.055	8	.315	4
					30	□	MHS0760L250B	251.4	9.898	251.4	9.898	301.4	11.866	300	11.811	1.4	.055	8	.315	4
7.7	.3031				1	□	MHS0770L030B	31.6	1.244	31.6	1.244	81.6	3.213	80	3.150	1.6	.063	8	.315	3
					5	□	MHS0770L060B	61.4	2.417	61.4	2.417	111.4	4.386	110	4.331	1.4	.055	8	.315	4
					9	□	MHS0770L090B	91.4	3.598	91.4	3.598	141.4	5.567	140	5.512	1.4	.055	8	.315	4
					13	□	MHS0770L120B	121.4	4.780	121.4	4.780	171.4	6.748	170	6.693	1.4	.055	8	.315	4
					17	□	MHS0770L150B	151.4	5.961	151.4	5.961	201.4	7.929	200	7.874	1.4	.055	8	.315	4
					23	□	MHS0770L200B	201.4	7.929	201.4	7.929	251.4	9.898	250	9.843	1.4	.055	8	.315	4
					30	□	MHS0770L250B	251.4	9.898	251.4	9.898	301.4	11.866	300	11.811	1.4	.055	8	.315	4
7.8	.3071				1	★	MHS0780L030B	31.6	1.244	31.6	1.244	81.6	3.213	80	3.150	1.6	.063	8	.315	3
					5	★	MHS0780L060B	61.4	2.417	61.4	2.417	111.4	4.386	110	4.331	1.4	.055	8	.315	4
					9	★	MHS0780L090B	91.4	3.598	91.4	3.598	141.4	5.567	140	5.512	1.4	.055	8	.315	4
					13	★	MHS0780L120B	121.4	4.780	121.4	4.780	171.4	6.748	170	6.693	1.4	.055	8	.315	4
					17	★	MHS0780L150B	151.4	5.961	151.4	5.961	201.4	7.929	200	7.874	1.4	.055	8	.315	4
					23	★	MHS0780L200B	201.4	7.929	201.4	7.929	251.4	9.898	250	9.843	1.4	.055	8	.315	4
					30	★	MHS0780L250B	251.4	9.898	251.4	9.898	301.4	11.866	300	11.811	1.4	.055	8	.315	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
7.9	.3110				1	□	MHS0790L030B	31.6	1.244	31.6	1.244	81.6	3.213	80	3.150	1.6	.063	8	.315	3
					5	□	MHS0790L060B	61.4	2.417	61.4	2.417	111.4	4.386	110	4.331	1.4	.055	8	.315	4
					9	□	MHS0790L090B	91.4	3.598	91.4	3.598	141.4	5.567	140	5.512	1.4	.055	8	.315	4
					13	□	MHS0790L120B	121.4	4.780	121.4	4.780	171.4	6.748	170	6.693	1.4	.055	8	.315	4
					16	□	MHS0790L150B	151.4	5.961	151.4	5.961	201.4	7.929	200	7.874	1.4	.055	8	.315	4
					23	□	MHS0790L200B	201.4	7.929	201.4	7.929	251.4	9.898	250	9.843	1.4	.055	8	.315	4
					29	□	MHS0790L250B	251.4	9.898	251.4	9.898	301.4	11.866	300	11.811	1.4	.055	8	.315	4
8.0	.3150				1	★	MHS0800L030B	31.7	1.248	31.7	1.248	81.7	3.217	80	3.150	1.7	.067	8	.315	3
					5	★	MHS0800L060B	61.5	2.421	61.5	2.421	111.5	4.390	110	4.331	1.5	.059	8	.315	4
					9	★	MHS0800L090B	91.5	3.602	91.5	3.602	141.5	5.571	140	5.512	1.5	.059	8	.315	4
					12	★	MHS0800L120B	121.5	4.783	121.5	4.783	171.5	6.752	170	6.693	1.5	.059	8	.315	4
					16	★	MHS0800L150B	151.5	5.965	151.5	5.965	201.5	7.933	200	7.874	1.5	.059	8	.315	4
					22	★	MHS0800L200B	201.5	7.933	201.5	7.933	251.5	9.902	250	9.843	1.5	.059	8	.315	4
					29	★	MHS0800L250B	251.5	9.902	251.5	9.902	301.5	11.870	300	11.811	1.5	.059	8	.315	4
8.1	.3189				2	□	MHS0810L040B	40.2	1.583	41.7	1.642	101.7	4.004	100	3.937	1.7	.067	10	.394	3
					8	□	MHS0810L090B	90.0	3.543	91.5	3.602	151.5	5.965	150	5.906	1.5	.059	10	.394	4
					12	□	MHS0810L120B	120.0	4.724	121.5	4.783	181.5	7.146	180	7.087	1.5	.059	10	.394	4
					16	□	MHS0810L150B	150.0	5.906	151.5	5.965	211.5	8.327	210	8.268	1.5	.059	10	.394	4
					22	□	MHS0810L200B	200.0	7.874	201.5	7.933	261.5	10.295	260	10.236	1.5	.059	10	.394	4
					28	□	MHS0810L250B	250.0	9.843	251.5	9.902	311.5	12.264	310	12.205	1.5	.059	10	.394	4
8.2	.3228		P		2	□	MHS0820L040B	40.2	1.583	41.7	1.642	101.7	4.004	100	3.937	1.7	.067	10	.394	3
					8	□	MHS0820L090B	90.0	3.543	91.5	3.602	151.5	5.965	150	5.906	1.5	.059	10	.394	4
					12	□	MHS0820L120B	120.0	4.724	121.5	4.783	181.5	7.146	180	7.087	1.5	.059	10	.394	4
					16	□	MHS0820L150B	150.0	5.906	151.5	5.965	211.5	8.327	210	8.268	1.5	.059	10	.394	4
					22	□	MHS0820L200B	200.0	7.874	201.5	7.933	261.5	10.295	260	10.236	1.5	.059	10	.394	4
					28	□	MHS0820L250B	250.0	9.843	251.5	9.902	311.5	12.264	310	12.205	1.5	.059	10	.394	4
8.3	.3268				2	□	MHS0830L040B	40.2	1.583	41.7	1.642	101.7	4.004	100	3.937	1.7	.067	10	.394	3
					8	□	MHS0830L090B	90.0	3.543	91.5	3.602	151.5	5.965	150	5.906	1.5	.059	10	.394	4
					12	□	MHS0830L120B	120.0	4.724	121.5	4.783	181.5	7.146	180	7.087	1.5	.059	10	.394	4
					15	□	MHS0830L150B	150.0	5.906	151.5	5.965	211.5	8.327	210	8.268	1.5	.059	10	.394	4
					21	□	MHS0830L200B	200.0	7.874	201.5	7.933	261.5	10.295	260	10.236	1.5	.059	10	.394	4
					27	□	MHS0830L250B	250.0	9.843	251.5	9.902	311.5	12.264	310	12.205	1.5	.059	10	.394	4
8.4	.3307				2	□	MHS0840L040B	40.2	1.583	41.7	1.642	101.7	4.004	100	3.937	1.7	.067	10	.394	3
					8	□	MHS0840L090B	90.0	3.543	91.5	3.602	151.5	5.965	150	5.906	1.5	.059	10	.394	4
					12	□	MHS0840L120B	120.0	4.724	121.5	4.783	181.5	7.146	180	7.087	1.5	.059	10	.394	4
					15	□	MHS0840L150B	150.0	5.906	151.5	5.965	211.5	8.327	210	8.268	1.5	.059	10	.394	4
					21	□	MHS0840L200B	200.0	7.874	201.5	7.933	261.5	10.295	260	10.236	1.5	.059	10	.394	4
					27	□	MHS0840L250B	250.0	9.843	251.5	9.902	311.5	12.264	310	12.205	1.5	.059	10	.394	4
8.5	.3346			M10x1.5	2	★	MHS0850L040B	40.3	1.587	41.8	1.646	101.8	4.008	100	3.937	1.8	.071	10	.394	3
					8	★	MHS0850L090B	90.1	3.547	91.6	3.606	151.6	5.969	150	5.906	1.6	.063	10	.394	4
					11	★	MHS0850L120B	120.1	4.728	121.6	4.787	181.6	7.150	180	7.087	1.6	.063	10	.394	4
					15	★	MHS0850L150B	150.1	5.909	151.6	5.969	211.6	8.331	210	8.268	1.6	.063	10	.394	4
					21	★	MHS0850L200B	200.1	7.878	201.6	7.937	261.6	10.299	260	10.236	1.6	.063	10	.394	4
					27	★	MHS0850L250B	250.1	9.846	251.6	9.906	311.6	12.268	310	12.205	1.6	.063	10	.394	4

CUTTING CONDITIONS ➤ L126
HOW TO USE ➤ L127
TECHNICAL DATA ➤ N001

MHS

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
8.6	.3386		R		2	□	MHS0860L040B	40.8	1.606	41.8	1.646	101.8	4.008	100	3.937	1.8	.071	10	.394	3
					8	□	MHS0860L090B	90.6	3.567	91.6	3.606	151.6	5.969	150	5.906	1.6	.063	10	.394	4
					11	□	MHS0860L120B	120.6	4.748	121.6	4.787	181.6	7.150	180	7.087	1.6	.063	10	.394	4
					15	□	MHS0860L150B	150.6	5.929	151.6	5.969	211.6	8.331	210	8.268	1.6	.063	10	.394	4
					21	□	MHS0860L200B	200.6	7.898	201.6	7.937	261.6	10.299	260	10.236	1.6	.063	10	.394	4
					26	□	MHS0860L250B	250.6	9.866	251.6	9.906	311.6	12.268	310	12.205	1.6	.063	10	.394	4
8.7	.3425			M10x1.25	2	□	MHS0870L040B	40.8	1.606	41.8	1.646	101.8	4.008	100	3.937	1.8	.071	10	.394	3
					8	□	MHS0870L090B	90.6	3.567	91.6	3.606	151.6	5.969	150	5.906	1.6	.063	10	.394	4
					11	□	MHS0870L120B	120.6	4.748	121.6	4.787	181.6	7.150	180	7.087	1.6	.063	10	.394	4
					15	□	MHS0870L150B	150.6	5.929	151.6	5.969	211.6	8.331	210	8.268	1.6	.063	10	.394	4
					20	□	MHS0870L200B	200.6	7.898	201.6	7.937	261.6	10.299	260	10.236	1.6	.063	10	.394	4
					26	□	MHS0870L250B	250.6	9.866	251.6	9.906	311.6	12.268	310	12.205	1.6	.063	10	.394	4
8.8	.3465				2	★	MHS0880L040B	40.8	1.606	41.8	1.646	101.8	4.008	100	3.937	1.8	.071	10	.394	3
					8	★	MHS0880L090B	90.6	3.567	91.6	3.606	151.6	5.969	150	5.906	1.6	.063	10	.394	4
					11	★	MHS0880L120B	120.6	4.748	121.6	4.787	181.6	7.150	180	7.087	1.6	.063	10	.394	4
					14	★	MHS0880L150B	150.6	5.929	151.6	5.969	211.6	8.331	210	8.268	1.6	.063	10	.394	4
					20	★	MHS0880L200B	200.6	7.898	201.6	7.937	261.6	10.299	260	10.236	1.6	.063	10	.394	4
					26	★	MHS0880L250B	250.6	9.866	251.6	9.906	311.6	12.268	310	12.205	1.6	.063	10	.394	4
8.9	.3504				2	□	MHS0890L040B	40.8	1.606	41.8	1.646	101.8	4.008	100	3.937	1.8	.071	10	.394	3
					7	□	MHS0890L090B	90.6	3.567	91.6	3.606	151.6	5.969	150	5.906	1.6	.063	10	.394	4
					11	□	MHS0890L120B	120.6	4.748	121.6	4.787	181.6	7.150	180	7.087	1.6	.063	10	.394	4
					14	□	MHS0890L150B	150.6	5.929	151.6	5.969	211.6	8.331	210	8.268	1.6	.063	10	.394	4
					20	□	MHS0890L200B	200.6	7.898	201.6	7.937	261.6	10.299	260	10.236	1.6	.063	10	.394	4
					25	□	MHS0890L250B	250.6	9.866	251.6	9.906	311.6	12.268	310	12.205	1.6	.063	10	.394	4
9.0	.3543				2	★	MHS0900L040B	40.9	1.610	41.9	1.650	101.9	4.012	100	3.937	1.9	.075	10	.394	3
					7	★	MHS0900L090B	90.6	3.567	91.6	3.606	151.6	5.969	150	5.906	1.6	.063	10	.394	4
					11	★	MHS0900L120B	120.6	4.748	121.6	4.787	181.6	7.150	180	7.087	1.6	.063	10	.394	4
					14	★	MHS0900L150B	150.6	5.929	151.6	5.969	211.6	8.331	210	8.268	1.6	.063	10	.394	4
					20	★	MHS0900L200B	200.6	7.898	201.6	7.937	261.6	10.299	260	10.236	1.6	.063	10	.394	4
					25	★	MHS0900L250B	250.6	9.866	251.6	9.906	311.6	12.268	310	12.205	1.6	.063	10	.394	4
9.1	.3583		T		2	□	MHS0910L040B	41.4	1.630	41.9	1.650	101.9	4.012	100	3.937	1.9	.075	10	.394	3
					7	□	MHS0910L090B	91.2	3.591	91.7	3.610	151.7	5.972	150	5.906	1.7	.067	10	.394	4
					11	□	MHS0910L120B	121.2	4.772	121.7	4.791	181.7	7.154	180	7.087	1.7	.067	10	.394	4
					14	□	MHS0910L150B	151.2	5.953	151.7	5.972	211.7	8.335	210	8.268	1.7	.067	10	.394	4
					19	□	MHS0910L200B	201.2	7.921	201.7	7.941	261.7	10.303	260	10.236	1.7	.067	10	.394	4
					25	□	MHS0910L250B	251.2	9.890	251.7	9.909	311.7	12.272	310	12.205	1.7	.067	10	.394	4
					30	□	MHS0910L300B	301.2	11.858	301.7	11.878	361.7	14.240	360	14.173	1.7	.067	10	.394	4
9.2	.3622				2	□	MHS0920L040B	41.4	1.630	41.9	1.650	101.9	4.012	100	3.937	1.9	.075	10	.394	3
					7	□	MHS0920L090B	91.2	3.591	91.7	3.610	151.7	5.972	150	5.906	1.7	.067	10	.394	4
					10	□	MHS0920L120B	121.2	4.772	121.7	4.791	181.7	7.154	180	7.087	1.7	.067	10	.394	4
					14	□	MHS0920L150B	151.2	5.953	151.7	5.972	211.7	8.335	210	8.268	1.7	.067	10	.394	4
					19	□	MHS0920L200B	201.2	7.921	201.7	7.941	261.7	10.303	260	10.236	1.7	.067	10	.394	4
					25	□	MHS0920L250B	251.2	9.890	251.7	9.909	311.7	12.272	310	12.205	1.7	.067	10	.394	4
					30	□	MHS0920L300B	301.2	11.858	301.7	11.878	361.7	14.240	360	14.173	1.7	.067	10	.394	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
9.3	.3661				2	□	MHS0930L040B	41.4	1.630	41.9	1.650	101.9	4.012	100	3.937	1.9	.075	10	.394	3
					7	□	MHS0930L090B	91.2	3.591	91.7	3.610	151.7	5.972	150	5.906	1.7	.067	10	.394	4
					10	□	MHS0930L120B	121.2	4.772	121.7	4.791	181.7	7.154	180	7.087	1.7	.067	10	.394	4
					14	□	MHS0930L150B	151.2	5.953	151.7	5.972	211.7	8.335	210	8.268	1.7	.067	10	.394	4
					19	□	MHS0930L200B	201.2	7.921	201.7	7.941	261.7	10.303	260	10.236	1.7	.067	10	.394	4
					24	□	MHS0930L250B	251.2	9.890	251.7	9.909	311.7	12.272	310	12.205	1.7	.067	10	.394	4
					30	□	MHS0930L300B	301.2	11.858	301.7	11.878	361.7	14.240	360	14.173	1.7	.067	10	.394	4
9.4	.3701				2	□	MHS0940L040B	41.5	1.634	42.0	1.654	102.0	4.016	100	3.937	2.0	.079	10	.394	3
					7	□	MHS0940L090B	91.2	3.591	91.7	3.610	151.7	5.972	150	5.906	1.7	.067	10	.394	4
					10	□	MHS0940L120B	121.2	4.772	121.7	4.791	181.7	7.154	180	7.087	1.7	.067	10	.394	4
					13	□	MHS0940L150B	151.2	5.953	151.7	5.972	211.7	8.335	210	8.268	1.7	.067	10	.394	4
					19	□	MHS0940L200B	201.2	7.921	201.7	7.941	261.7	10.303	260	10.236	1.7	.067	10	.394	4
					24	□	MHS0940L250B	251.2	9.890	251.7	9.909	311.7	12.272	310	12.205	1.7	.067	10	.394	4
					29	□	MHS0940L300B	301.2	11.858	301.7	11.878	361.7	14.240	360	14.173	1.7	.067	10	.394	4
9.5	.3740				2	★	MHS0950L040B	41.5	1.634	42.0	1.654	102.0	4.016	100	3.937	2.0	.079	10	.394	3
					7	★	MHS0950L090B	91.2	3.591	91.7	3.610	151.7	5.972	150	5.906	1.7	.067	10	.394	4
					10	★	MHS0950L120B	121.2	4.772	121.7	4.791	181.7	7.154	180	7.087	1.7	.067	10	.394	4
					13	★	MHS0950L150B	151.2	5.953	151.7	5.972	211.7	8.335	210	8.268	1.7	.067	10	.394	4
					18	★	MHS0950L200B	201.2	7.921	201.7	7.941	261.7	10.303	260	10.236	1.7	.067	10	.394	4
					24	★	MHS0950L250B	251.2	9.890	251.7	9.909	311.7	12.272	310	12.205	1.7	.067	10	.394	4
					29	★	MHS0950L300B	301.2	11.858	301.7	11.878	361.7	14.240	360	14.173	1.7	.067	10	.394	4
9.6	.3780				2	□	MHS0960L040B	42.0	1.654	42.0	1.654	102.0	4.016	100	3.937	2.0	.079	10	.394	3
					7	□	MHS0960L090B	91.8	3.614	91.8	3.614	151.8	5.976	150	5.906	1.8	.071	10	.394	4
					10	□	MHS0960L120B	121.8	4.795	121.8	4.795	181.8	7.157	180	7.087	1.8	.071	10	.394	4
					13	□	MHS0960L150B	151.8	5.976	151.8	5.976	211.8	8.339	210	8.268	1.8	.071	10	.394	4
					18	□	MHS0960L200B	201.8	7.945	201.8	7.945	261.8	10.307	260	10.236	1.8	.071	10	.394	4
					24	□	MHS0960L250B	251.8	9.913	251.8	9.913	311.8	12.276	310	12.205	1.8	.071	10	.394	4
					29	□	MHS0960L300B	301.8	11.882	301.8	11.882	361.8	14.244	360	14.173	1.8	.071	10	.394	4
9.7	.3819		Tube Sheet		2	□	MHS0970L040B	42.0	1.654	42.0	1.654	102.0	4.016	100	3.937	2.0	.079	10	.394	3
					7	□	MHS0970L090B	91.8	3.614	91.8	3.614	151.8	5.976	150	5.906	1.8	.071	10	.394	4
					10	□	MHS0970L120B	121.8	4.795	121.8	4.795	181.8	7.157	180	7.087	1.8	.071	10	.394	4
					13	□	MHS0970L150B	151.8	5.976	151.8	5.976	211.8	8.339	210	8.268	1.8	.071	10	.394	4
					18	□	MHS0970L200B	201.8	7.945	201.8	7.945	261.8	10.307	260	10.236	1.8	.071	10	.394	4
					23	□	MHS0970L250B	251.8	9.913	251.8	9.913	311.8	12.276	310	12.205	1.8	.071	10	.394	4
					28	□	MHS0970L300B	301.8	11.882	301.8	11.882	361.8	14.244	360	14.173	1.8	.071	10	.394	4
9.8	.3858		W		2	★	MHS0980L040B	42.0	1.654	42.0	1.654	102.0	4.016	100	3.937	2.0	.079	10	.394	3
					7	★	MHS0980L090B	91.8	3.614	91.8	3.614	151.8	5.976	150	5.906	1.8	.071	10	.394	4
					10	★	MHS0980L120B	121.8	4.795	121.8	4.795	181.8	7.157	180	7.087	1.8	.071	10	.394	4
					13	★	MHS0980L150B	151.8	5.976	151.8	5.976	211.8	8.339	210	8.268	1.8	.071	10	.394	4
					18	★	MHS0980L200B	201.8	7.945	201.8	7.945	261.8	10.307	260	10.236	1.8	.071	10	.394	4
					23	★	MHS0980L250B	251.8	9.913	251.8	9.913	311.8	12.276	310	12.205	1.8	.071	10	.394	4
					28	★	MHS0980L300B	301.8	11.882	301.8	11.882	361.8	14.244	360	14.173	1.8	.071	10	.394	4

CUTTING CONDITIONS ➤ L126
HOW TO USE ➤ L127
TECHNICAL DATA ➤ N001

MHS

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
9.9	.3898				2	□	MHS0990L040B	42.1	1.657	42.1	1.657	102.1	4.020	100	3.937	2.1	.083	10	.394	3
					7	□	MHS0990L090B	91.8	3.614	91.8	3.614	151.8	5.976	150	5.906	1.8	.071	10	.394	4
					10	□	MHS0990L120B	121.8	4.795	121.8	4.795	181.8	7.157	180	7.087	1.8	.071	10	.394	4
					13	□	MHS0990L150B	151.8	5.976	151.8	5.976	211.8	8.339	210	8.268	1.8	.071	10	.394	4
					18	□	MHS0990L200B	201.8	7.945	201.8	7.945	261.8	10.307	260	10.236	1.8	.071	10	.394	4
					23	□	MHS0990L250B	251.8	9.913	251.8	9.913	311.8	12.276	310	12.205	1.8	.071	10	.394	4
					28	□	MHS0990L300B	301.8	11.882	301.8	11.882	361.8	14.244	360	14.173	1.8	.071	10	.394	4
10.0	.3937				1	★	MHS1000L040B	42.1	1.657	42.1	1.657	102.1	4.020	100	3.937	2.1	.083	10	.394	3
					6	★	MHS1000L090B	91.8	3.614	91.8	3.614	151.8	5.976	150	5.906	1.8	.071	10	.394	4
					9	★	MHS1000L120B	121.8	4.795	121.8	4.795	181.8	7.157	180	7.087	1.8	.071	10	.394	4
					12	★	MHS1000L150B	151.8	5.976	151.8	5.976	211.8	8.339	210	8.268	1.8	.071	10	.394	4
					17	★	MHS1000L200B	201.8	7.945	201.8	7.945	261.8	10.307	260	10.236	1.8	.071	10	.394	4
					22	★	MHS1000L250B	251.8	9.913	251.8	9.913	311.8	12.276	310	12.205	1.8	.071	10	.394	4
					27	★	MHS1000L300B	301.8	11.882	301.8	11.882	361.8	14.244	360	14.173	1.8	.071	10	.394	4
10.1	.3976				1	□	MHS1010L040B	40.6	1.598	42.1	1.657	102.1	4.020	100	3.937	2.1	.083	12	.472	3
					6	□	MHS1010L090B	90.3	3.555	91.8	3.614	151.8	5.976	150	5.906	1.8	.071	12	.472	4
					9	□	MHS1010L120B	120.3	4.736	121.8	4.795	181.8	7.157	180	7.087	1.8	.071	12	.472	4
					12	□	MHS1010L150B	150.3	5.917	151.8	5.976	211.8	8.339	210	8.268	1.8	.071	12	.472	4
					17	□	MHS1010L200B	200.3	7.886	201.8	7.945	261.8	10.307	260	10.236	1.8	.071	12	.472	4
					22	□	MHS1010L250B	250.3	9.854	251.8	9.913	311.8	12.276	310	12.205	1.8	.071	12	.472	4
					27	□	MHS1010L300B	300.3	11.823	301.8	11.882	361.8	14.244	360	14.173	1.8	.071	12	.472	4
10.2	.4016			M12x1.75	1	□	MHS1020L040B	40.6	1.598	42.1	1.657	102.1	4.020	100	3.937	2.1	.083	12	.472	3
					6	□	MHS1020L090B	90.4	3.559	91.9	3.618	151.9	5.980	150	5.906	1.9	.075	12	.472	4
					9	□	MHS1020L120B	120.4	4.740	121.9	4.799	181.9	7.161	180	7.087	1.9	.075	12	.472	4
					12	□	MHS1020L150B	150.4	5.921	151.9	5.980	211.9	8.343	210	8.268	1.9	.075	12	.472	4
					17	□	MHS1020L200B	200.4	7.890	201.9	7.949	261.9	10.311	260	10.236	1.9	.075	12	.472	4
					22	□	MHS1020L250B	250.4	9.858	251.9	9.917	311.9	12.280	310	12.205	1.9	.075	12	.472	4
					27	□	MHS1020L300B	300.4	11.827	301.9	11.886	361.9	14.248	360	14.173	1.9	.075	12	.472	4
10.3	.4055				1	□	MHS1030L040B	40.6	1.598	42.1	1.657	102.1	4.020	100	3.937	2.1	.083	12	.472	3
					6	□	MHS1030L090B	90.4	3.559	91.9	3.618	151.9	5.980	150	5.906	1.9	.075	12	.472	4
					9	□	MHS1030L120B	120.4	4.740	121.9	4.799	181.9	7.161	180	7.087	1.9	.075	12	.472	4
					12	□	MHS1030L150B	150.4	5.921	151.9	5.980	211.9	8.343	210	8.268	1.9	.075	12	.472	4
					17	□	MHS1030L200B	200.4	7.890	201.9	7.949	261.9	10.311	260	10.236	1.9	.075	12	.472	4
					22	□	MHS1030L250B	250.4	9.858	251.9	9.917	311.9	12.280	310	12.205	1.9	.075	12	.472	4
					26	□	MHS1030L300B	300.4	11.827	301.9	11.886	361.9	14.248	360	14.173	1.9	.075	12	.472	4
10.4	.4094				1	□	MHS1040L040B	40.7	1.602	42.2	1.661	102.2	4.024	100	3.937	2.2	.087	12	.472	3
					6	□	MHS1040L090B	90.4	3.559	91.9	3.618	151.9	5.980	150	5.906	1.9	.075	12	.472	4
					9	□	MHS1040L120B	120.4	4.740	121.9	4.799	181.9	7.161	180	7.087	1.9	.075	12	.472	4
					12	□	MHS1040L150B	150.4	5.921	151.9	5.980	211.9	8.343	210	8.268	1.9	.075	12	.472	4
					17	□	MHS1040L200B	200.4	7.890	201.9	7.949	261.9	10.311	260	10.236	1.9	.075	12	.472	4
					21	□	MHS1040L250B	250.4	9.858	251.9	9.917	311.9	12.280	310	12.205	1.9	.075	12	.472	4
					26	□	MHS1040L300B	300.4	11.827	301.9	11.886	361.9	14.248	360	14.173	1.9	.075	12	.472	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
					1	★	**MHS1050L040B**	40.7	1.602	42.2	1.661	102.2	4.024	100	3.937	2.2	.087	12	.472	3
					6	★	MHS**1050L090B**	90.4	3.559	91.9	3.618	151.9	5.980	150	5.906	1.9	.075	12	.472	4
					9	★	MHS**1050L120B**	120.4	4.740	121.9	4.799	181.9	7.161	180	7.087	1.9	.075	12	.472	4
10.5	**.4134**		**Z**		12	★	MHS**1050L150B**	150.4	5.921	151.9	5.980	211.9	8.343	210	8.268	1.9	.075	12	.472	4
					16	★	MHS**1050L200B**	200.4	7.890	201.9	7.949	261.9	10.311	260	10.236	1.9	.075	12	.472	4
					21	★	MHS**1050L250B**	250.4	9.858	251.9	9.917	311.9	12.280	310	12.205	1.9	.075	12	.472	4
					26	★	MHS**1050L300B**	300.4	11.827	301.9	11.886	361.9	14.248	360	14.173	1.9	.075	12	.472	4
					1	□	MHS**1060L040B**	41.2	1.622	42.2	1.661	102.2	4.024	100	3.937	2.2	.087	12	.472	3
					6	□	MHS**1060L090B**	90.9	3.579	91.9	3.618	151.9	5.980	150	5.906	1.9	.075	12	.472	4
					9	□	MHS**1060L120B**	120.9	4.760	121.9	4.799	181.9	7.161	180	7.087	1.9	.075	12	.472	4
10.6	**.4173**				12	□	MHS**1060L150B**	150.9	5.941	151.9	5.980	211.9	8.343	210	8.268	1.9	.075	12	.472	4
					16	□	MHS**1060L200B**	200.9	7.909	201.9	7.949	261.9	10.311	260	10.236	1.9	.075	12	.472	4
					21	□	MHS**1060L250B**	250.9	9.878	251.9	9.917	311.9	12.280	310	12.205	1.9	.075	12	.472	4
					26	□	MHS**1060L300B**	300.9	11.846	301.9	11.886	361.9	14.248	360	14.173	1.9	.075	12	.472	4
					1	□	MHS**1070L040B**	41.2	1.622	42.2	1.661	102.2	4.024	100	3.937	2.2	.087	12	.472	3
					6	□	MHS**1070L090B**	91.0	3.583	92.0	3.622	152.0	5.984	150	5.906	2.0	.079	12	.472	4
					9	□	MHS**1070L120B**	121.0	4.764	122.0	4.803	182.0	7.165	180	7.087	2.0	.079	12	.472	4
10.7	**.4213**				11	□	MHS**1070L150B**	151.0	5.945	152.0	5.984	212.0	8.346	210	8.268	2.0	.079	12	.472	4
					16	□	MHS**1070L200B**	201.0	7.913	202.0	7.953	262.0	10.315	260	10.236	2.0	.079	12	.472	4
					21	□	MHS**1070L250B**	251.0	9.882	252.0	9.921	312.0	12.283	310	12.205	2.0	.079	12	.472	4
					25	□	MHS**1070L300B**	301.0	11.850	302.0	11.890	362.0	14.252	360	14.173	2.0	.079	12	.472	4
					1	★	MHS**1080L040B**	41.2	1.622	42.2	1.661	102.2	4.024	100	3.937	2.2	.087	12	.472	3
					6	★	MHS**1080L090B**	91.0	3.583	92.0	3.622	152.0	5.984	150	5.906	2.0	.079	12	.472	4
					9	★	MHS**1080L120B**	121.0	4.764	122.0	4.803	182.0	7.165	180	7.087	2.0	.079	12	.472	4
10.8	**.4252**			**M12x1.25**	11	★	MHS**1080L150B**	151.0	5.945	152.0	5.984	212.0	8.346	210	8.268	2.0	.079	12	.472	4
					16	★	MHS**1080L200B**	201.0	7.913	202.0	7.953	262.0	10.315	260	10.236	2.0	.079	12	.472	4
					21	★	MHS**1080L250B**	251.0	9.882	252.0	9.921	312.0	12.283	310	12.205	2.0	.079	12	.472	4
					25	★	MHS**1080L300B**	301.0	11.850	302.0	11.890	362.0	14.252	360	14.173	2.0	.079	12	.472	4
					1	□	MHS**1090L040B**	41.3	1.626	42.3	1.665	102.3	4.028	100	3.937	2.3	.091	12	.472	3
					6	□	MHS**1090L090B**	91.0	3.583	92.0	3.622	152.0	5.984	150	5.906	2.0	.079	12	.472	4
					8	□	MHS**1090L120B**	121.0	4.764	122.0	4.803	182.0	7.165	180	7.087	2.0	.079	12	.472	4
10.9	**.4291**				11	□	MHS**1090L150B**	151.0	5.945	152.0	5.984	212.0	8.346	210	8.268	2.0	.079	12	.472	4
					16	□	MHS**1090L200B**	201.0	7.913	202.0	7.953	262.0	10.315	260	10.236	2.0	.079	12	.472	4
					20	□	MHS**1090L250B**	251.0	9.882	252.0	9.921	312.0	12.283	310	12.205	2.0	.079	12	.472	4
					25	□	MHS**1090L300B**	301.0	11.850	302.0	11.890	362	14.252	360	14.173	2.0	.079	12	.472	4
					1	★	MHS**1100L040B**	41.3	1.626	42.3	1.665	102.3	4.028	100	3.937	2.3	.091	12	.472	3
					6	★	MHS**1100L090B**	91.0	3.583	92.0	3.622	152.0	5.984	150	5.906	2.0	.079	12	.472	4
					8	★	MHS**1100L120B**	121.0	4.764	122.0	4.803	182.0	7.165	180	7.087	2.0	.079	12	.472	4
11.0	**.4331**				11	★	MHS**1100L150B**	151.0	5.945	152.0	5.984	212.0	8.346	210	8.268	2.0	.079	12	.472	4
					16	★	MHS**1100L200B**	201.0	7.913	202.0	7.953	262.0	10.315	260	10.236	2.0	.079	12	.472	4
					20	★	MHS**1100L250B**	251.0	9.882	252.0	9.921	312.0	12.283	310	12.205	2.0	.079	12	.472	4
					25	★	MHS**1100L300B**	301.0	11.850	302.0	11.890	362.0	14.252	360	14.173	2.0	.079	12	.472	4

CUTTING CONDITIONS ➤ L126
HOW TO USE ➤ L127
TECHNICAL DATA ➤ N001

MHS

Drill Diameter DC					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
11.1	.4370				1	□	MHS1110L040B	41.8	1.646	42.3	1.665	102.3	4.028	100	3.937	2.3	.091	12	.472	3
					6	□	MHS1110L090B	91.5	3.602	92.0	3.622	152.0	5.984	150	5.906	2.0	.079	12	.472	4
					8	□	MHS1110L120B	121.5	4.783	122.0	4.803	182.0	7.165	180	7.087	2.0	.079	12	.472	4
					11	□	MHS1110L150B	151.5	5.965	152.0	5.984	212.0	8.346	210	8.268	2.0	.079	12	.472	4
					15	□	MHS1110L200B	201.5	7.933	202.0	7.953	262.0	10.315	260	10.236	2.0	.079	12	.472	4
					20	□	MHS1110L250B	251.5	9.902	252.0	9.921	312.0	12.283	310	12.205	2.0	.079	12	.472	4
					24	□	MHS1110L300B	301.5	11.870	302.0	11.890	362.0	14.252	360	14.173	2.0	.079	12	.472	4
11.2	.4409				1	□	MHS1120L040B	41.8	1.646	42.3	1.665	102.3	4.028	100	3.937	2.3	.091	12	.472	3
					5	□	MHS1120L090B	91.5	3.602	92.0	3.622	152.0	5.984	150	5.906	2.0	.079	12	.472	4
					8	□	MHS1120L120B	121.5	4.783	122.0	4.803	182.0	7.165	180	7.087	2.0	.079	12	.472	4
					11	□	MHS1120L150B	151.5	5.965	152.0	5.984	212.0	8.346	210	8.268	2.0	.079	12	.472	4
					15	□	MHS1120L200B	201.5	7.933	202.0	7.953	262.0	10.315	260	10.236	2.0	.079	12	.472	4
					20	□	MHS1120L250B	251.5	9.902	252.0	9.921	312.0	12.283	310	12.205	2.0	.079	12	.472	4
					24	□	MHS1120L300B	301.5	11.870	302.0	11.890	362	14.252	360	14.173	2.0	.079	12	.472	4
11.3	.4449				1	□	MHS1130L040B	41.8	1.646	42.3	1.665	102.3	4.028	100	3.937	2.3	.091	12	.472	3
					5	□	MHS1130L090B	91.6	3.606	92.1	3.626	152.1	5.988	150	5.906	2.1	.083	12	.472	4
					8	□	MHS1130L120B	121.6	4.787	122.1	4.807	182.1	7.169	180	7.087	2.1	.083	12	.472	4
					11	□	MHS1130L150B	151.6	5.969	152.1	5.988	212.1	8.350	210	8.268	2.1	.083	12	.472	4
					15	□	MHS1130L200B	201.6	7.937	202.1	7.957	262.1	10.319	260	10.236	2.1	.083	12	.472	4
					20	□	MHS1130L250B	251.6	9.906	252.1	9.925	312.1	12.287	310	12.205	2.1	.083	12	.472	4
					24	□	MHS1130L300B	301.6	11.874	302.1	11.894	362.1	14.256	360	14.173	2.1	.083	12	.472	4
11.4	.4488				1	□	MHS1140L040B	41.9	1.650	42.4	1.669	102.4	4.031	100	3.937	2.4	.094	12	.472	3
					5	□	MHS1140L090B	91.6	3.606	92.1	3.626	152.1	5.988	150	5.906	2.1	.083	12	.472	4
					8	□	MHS1140L120B	121.6	4.787	122.1	4.807	182.1	7.169	180	7.087	2.1	.083	12	.472	4
					11	□	MHS1140L150B	151.6	5.969	152.1	5.988	212.1	8.350	210	8.268	2.1	.083	12	.472	4
					15	□	MHS1140L200B	201.6	7.937	202.1	7.957	262.1	10.319	260	10.236	2.1	.083	12	.472	4
					19	□	MHS1140L250B	251.6	9.906	252.1	9.925	312.1	12.287	310	12.205	2.1	.083	12	.472	4
					24	□	MHS1140L300B	301.6	11.874	302.1	11.894	362.1	14.256	360	14.173	2.1	.083	12	.472	4
11.5	.4528				1	★	MHS1150L040B	41.9	1.650	42.4	1.669	102.4	4.031	100	3.937	2.4	.094	12	.472	3
					5	★	MHS1150L090B	91.6	3.606	92.1	3.626	152.1	5.988	150	5.906	2.1	.083	12	.472	4
					8	★	MHS1150L120B	121.6	4.787	122.1	4.807	182.1	7.169	180	7.087	2.1	.083	12	.472	4
					10	★	MHS1150L150B	151.6	5.969	152.1	5.988	212.1	8.350	210	8.268	2.1	.083	12	.472	4
					15	★	MHS1150L200B	201.6	7.937	202.1	7.957	262.1	10.319	260	10.236	2.1	.083	12	.472	4
					19	★	MHS1150L250B	251.6	9.906	252.1	9.925	312.1	12.287	310	12.205	2.1	.083	12	.472	4
					24	★	MHS1150L300B	301.6	11.874	302.1	11.894	362.1	14.256	360	14.173	2.1	.083	12	.472	4
11.6	.4567				1	□	MHS1160L040B	42.4	1.669	42.4	1.669	102.4	4.031	100	3.937	2.4	.094	12	.472	3
					5	□	MHS1160L090B	92.1	3.626	92.1	3.626	152.1	5.988	150	5.906	2.1	.083	12	.472	4
					8	□	MHS1160L120B	122.1	4.807	122.1	4.807	182.1	7.169	180	7.087	2.1	.083	12	.472	4
					10	□	MHS1160L150B	152.1	5.988	152.1	5.988	212.1	8.350	210	8.268	2.1	.083	12	.472	4
					15	□	MHS1160L200B	202.1	7.957	202.1	7.957	262.1	10.319	260	10.236	2.1	.083	12	.472	4
					19	□	MHS1160L250B	252.1	9.925	252.1	9.925	312.1	12.287	310	12.205	2.1	.083	12	.472	4
					23	□	MHS1160L300B	302.1	11.894	302.1	11.894	362.1	14.256	360	14.173	2.1	.083	12	.472	4

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

Drill Diameter **DC**					Hole Depth	Stock	Order Number	Dimensions												Type
Metric (mm)	Decimal (inch)	Fraction (inch)	Wire / Letter	Thread size	l/d	VP15TF		LCF		LH		OAL		LF		PL		DCON		
								mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
					1	□	**MHS1170L040B**	42.4	1.669	42.4	1.669	102.4	4.031	100	3.937	2.4	.094	12	.472	3
					5	□	MHS**1170L090B**	92.1	3.626	92.1	3.626	152.1	5.988	150	5.906	2.1	.083	12	.472	4
					8	□	MHS**1170L120B**	122.1	4.807	122.1	4.807	182.1	7.169	180	7.087	2.1	.083	12	.472	4
11.7	**.4606**				10	□	MHS**1170L150B**	152.1	5.988	152.1	5.988	212.1	8.350	210	8.268	2.1	.083	12	.472	4
					15	□	MHS**1170L200B**	202.1	7.957	202.1	7.957	262.1	10.319	260	10.236	2.1	.083	12	.472	4
					19	□	MHS**1170L250B**	252.1	9.925	252.1	9.925	312.1	12.287	310	12.205	2.1	.083	12	.472	4
					23	□	MHS**1170L300B**	302.1	11.894	302.1	11.894	362.1	14.256	360	14.173	2.1	.083	12	.472	4
					1	★	MHS**1180L040B**	42.4	1.669	42.4	1.669	102.4	4.031	100	3.937	2.4	.094	12	.472	3
					5	★	MHS**1180L090B**	92.2	3.630	92.2	3.630	152.2	5.992	150	5.906	2.2	.087	12	.472	4
					8	★	MHS**1180L120B**	122.2	4.811	122.2	4.811	182.2	7.173	180	7.087	2.2	.087	12	.472	4
11.8	**.4646**				10	★	MHS**1180L150B**	152.2	5.992	152.2	5.992	212.2	8.354	210	8.268	2.2	.087	12	.472	4
					14	★	MHS**1180L200B**	202.2	7.961	202.2	7.961	262.2	10.323	260	10.236	2.2	.087	12	.472	4
					19	★	MHS**1180L250B**	252.2	9.929	252.2	9.929	312.2	12.291	310	12.205	2.2	.087	12	.472	4
					23	★	MHS**1180L300B**	302.2	11.898	302.2	11.898	362.2	14.260	360	14.173	2.2	.087	12	.472	4
					1	□	MHS**1190L040B**	42.5	1.673	42.5	1.673	102.5	4.035	100	3.937	2.5	.098	12	.472	3
					5	□	MHS**1190L090B**	92.2	3.630	92.2	3.630	152.2	5.992	150	5.906	2.2	.087	12	.472	4
					8	□	MHS**1190L120B**	122.2	4.811	122.2	4.811	182.2	7.173	180	7.087	2.2	.087	12	.472	4
11.9	**.4685**	**15/32**			10	□	MHS**1190L150B**	152.2	5.992	152.2	5.992	212.2	8.354	210	8.268	2.2	.087	12	.472	4
					14	□	MHS**1190L200B**	202.2	7.961	202.2	7.961	262.2	10.323	260	10.236	2.2	.087	12	.472	4
					19	□	MHS**1190L250B**	252.2	9.929	252.2	9.929	312.2	12.291	310	12.205	2.2	.087	12	.472	4
					23	□	MHS**1190L300B**	302.2	11.898	302.2	11.898	362.2	14.260	360	14.173	2.2	.087	12	.472	4
					1	★	MHS**1200L040B**	42.5	1.673	42.5	1.673	102.5	4.035	100	3.937	2.5	.098	12	.472	3
					5	★	MHS**1200L090B**	92.2	3.630	92.2	3.630	152.2	5.992	150	5.906	2.2	.087	12	.472	4
					7	★	MHS**1200L120B**	122.2	4.811	122.2	4.811	182.2	7.173	180	7.087	2.2	.087	12	.472	4
12.0	**.4724**			**M14x2.0**	10	★	MHS**1200L150B**	152.2	5.992	152.2	5.992	212.2	8.354	210	8.268	2.2	.087	12	.472	4
					14	★	MHS**1200L200B**	202.2	7.961	202.2	7.961	262.2	10.323	260	10.236	2.2	.087	12	.472	4
					18	★	MHS**1200L250B**	252.2	9.929	252.2	9.929	312.2	12.291	310	12.205	2.2	.087	12	.472	4
					22	★	MHS**1200L300B**	302.2	11.898	302.2	11.898	362.2	14.260	360	14.173	2.2	.087	12	.472	4

CUTTING CONDITIONS ➤ L126
HOW TO USE ➤ L127
TECHNICAL DATA ➤ N001

MHS

RECOMMENDED CUTTING CONDITIONS

Work Material		Mild Steel (≤180HB) Carbon Steel, Alloy Steel (180-280HB) AISI 1010, 1045, 4140 etc.		Austenitic Stainless Steel (≤200HB) Ferritic, Martensitic Stainless Steel (>200HB) AISI 304, 316 AISI 431, 420 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0394	**1.0**	130 (100—150)	.0015 (.0008—.0016)	65 (50—80)	.0011 (.0008—.0016)
.0472	**1.2**	165 (130—180)	.0018 (.0010—.0020)	100 (65—115)	.0013 (.0010—.0020)
.0630	**1.6**	195 (150—230)	.0024 (.0012—.0026)	130 (100—150)	.0017 (.0012—.0026)
.0787	**2.0**	230 (180—260)	.0030 (.0016—.0031)	165 (130—180)	.0021 (.0016—.0031)
.0984	**2.5**	260 (195—295)	.0037 (.0020—.0039)	195 (150—230)	.0026 (.0020—.0039)
.1260	**3.2**	260 (195—295)	.0047 (.0028—.0051)	195 (150—230)	.0035 (.0028—.0051)
.1575	**4.0**	260 (195—295)	.0059 (.0035—.0043)	195 (150—230)	.0043 (.0031—.0035)
.1969	**5.0**	260 (195—295)	.0075 (.0043—.0055)	195 (150—230)	.0055 (.0039—.0047)
.2480	**6.3**	260 (195—295)	.0067 (.0055—.0071)	195 (150—230)	.0059 (.0051—.0059)
.3150	**8.0**	260 (195—295)	.0087 (.0071—.0091)	195 (150—230)	.0075 (.0063—.0075)
.3937	**10.0**	260 (195—295)	.0106 (.0087—.0110)	195 (150—230)	.0094 (.0079—.0091)
.4724	**12.0**	260 (195—295)	.0126 (.0106—.0134)	195 (150—230)	.0114 (.0094—.0110)

Work Material		Pre-hardened Steel (35-45HRC) Alloy Tool Steel (≤350HB) AISI P21, P20 ASTM H13, AISI L6 etc.		Hardened Steel (40-55HRC) Precipitation Hardening Martensitic Stainless Steel (<450HB) AISI 431, 420 S17400, S17700 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0394	**1.0**	65 (50—80)	.0009 (.0008—.0012)	130 (100—150)	.0007 (.0006—.0010)
.0472	**1.2**	100 (65—115)	.0011 (.0008—.0014)	130 (100—150)	.0009 (.0008—.0012)
.0630	**1.6**	130 (100—150)	.0015 (.0012—.0018)	165 (130—180)	.0012 (.0010—.0016)
.0787	**2.0**	165 (130—180)	.0019 (.0014—.0024)	165 (130—180)	.0015 (.0012—.0020)
.0984	**2.5**	195 (150—230)	.0023 (.0018—.0030)	195 (150—230)	.0019 (.0016—.0026)
.1260	**3.2**	195 (150—230)	.0031 (.0024—.0035)	195 (150—230)	.0024 (.0020—.0031)
.1575	**4.0**	195 (150—230)	.0039 (.0028—.0039)	195 (150—230)	.0031 (.0024—.0039)
.1969	**5.0**	195 (150—230)	.0047 (.0035—.0051)	195 (150—230)	.0039 (.0031—.0051)
.2480	**6.3**	195 (150—230)	.0055 (.0043—.0063)	195 (150—230)	.0043 (.0035—.0051)
.3150	**8.0**	195 (150—230)	.0067 (.0055—.0079)	195 (150—230)	.0055 (.0047—.0063)
.3937	**10.0**	195 (150—230)	.0083 (.0067—.0098)	195 (150—230)	.0071 (.0055—.0079)
.4724	**12.0**	195 (150—230)	.0098 (.0083—.0118)	195 (150—230)	.0083 (.0067—.0094)

Work Material		Hardened Steel (40-55HRC) Heat Resistant Alloy ASTM H13, AISI L6 Inconel718 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm		
.0394	**1.0**	35 (15—50)	.0006 (.0006—.0008)
.0472	**1.2**	35 (15—50)	.0007 (.0006—.0010)
.0630	**1.6**	35 (15—50)	.0010 (.0008—.0012)
.0787	**2.0**	65 (50—80)	.0013 (.0010—.0016)
.0984	**2.5**	65 (50—80)	.0015 (.0012—.0020)
.1260	**3.2**	65 (50—80)	.0024 (.0016—.0028)
.1575	**4.0**	100 (65—115)	.0028 (.0020—.0031)
.1969	**5.0**	100 (65—115)	.0031 (.0024—.0039)
.2480	**6.3**	100 (65—115)	.0039 (.0031—.0043)
.3150	**8.0**	130 (100—150)	.0047 (.0039—.0051)
.3937	**10.0**	130 (100—150)	.0059 (.0051—.0067)
.4724	**12.0**	130 (100—150)	.0071 (.0059—.0079)

(Note 1) When using the drill with a length over l/d 10, it is necessary to use a pilot hole as a guide. (If no pilot hole is used then drill breakage can occur)

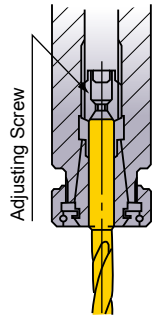
(Note 2) Use the shortest flute drill in the respective size as a pilot drill.

(Note 3) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

TECHNICAL DATA ➤ N001

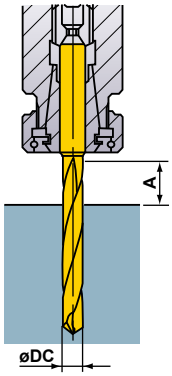
OPERATIONAL GUIDANCE FOR THE MHS DRILL

Drill Holding



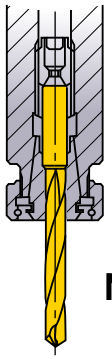
Thrust bearing type collet chuck holds the drill securely.

Drill Length



A ≥ DC x 1.5

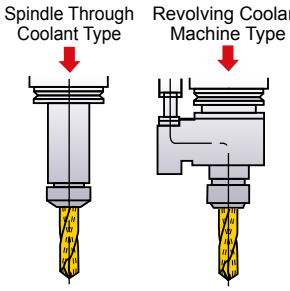
Drill Installation



NG

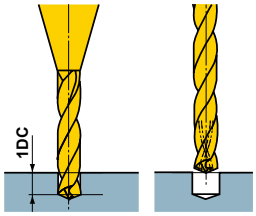
Do not clamp on the flutes.

Through Coolant Type



Less than ø.118 : 1.5MPa-7MP
More than ø.118 : 0.5MPa-7MPa
More than 3MPa is recommended.

Drill Installation



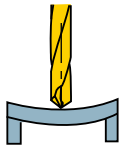
① Drill a prepared hole about 1DC using the shortest flute length of MHS. (DC=drill diameter)
② Use the prepared hole as a guide when using a drill with an oil hole. Depending on the cutting conditions, peck feed is recommended.

Coolant Handling

1) Small particles of swarf will jam in the oil hole of small diameter drills. Always use a fine mesh filter as a preventative measure.

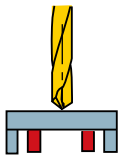
2) Dirt and dust particles adhere to the oil in old coolant and prevent an efficient flow. Regular coolant exchange is recommended.

Thin Workpiece



If Bending Occurs

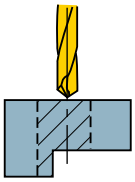
NG



Support the Workpiece

Good

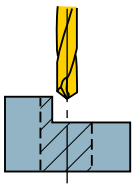
Interrupted Cutting



One process

Good

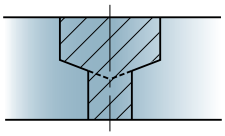
①Lower the feed when drilling the interrupted part.



Requires prior machining

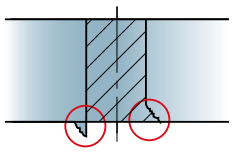
①Spot face with an end mill prior to drilling.

Stepped Holes



①Divide the two processes.
②Drill the larger hole first.
*A tool for machining both chamfer and spot face can be produced to order.

Burring and Workpiece Chipping



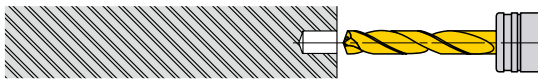
①Lower the feed rate by 50% at the end of through cutting.
②Change the point angle.

MHS

OPERATIONAL GUIDANCE FOR THE MHS LONG TYPE DRILL (L/D≥10)

FLAT FACE DRILLING ●Drilling a blind hole

1. Drilling a pilot hole

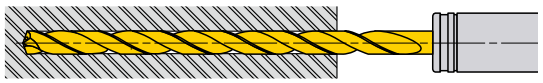


①Use a drill with the same or larger point angle than the super long type. Use the shortest flute possible.
②Ensure a high precision hole is drilled for the guide.
③Drill depth : Approx 1DC.
(Adjust the pilot hole depth according to the length of the long type drill.)

2. Initial cutting with the long type drill

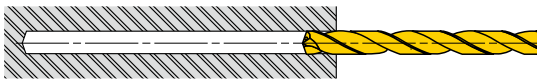
①Penetrate the guide hole at low revolution.
(Revolution 1000 RPM, feed rate .008—.012 IPR)
②Stop the long type drill .020—.039 inch short of the guide hole bottom.

3. Drill the deep hole



①Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.

4. Drill retraction



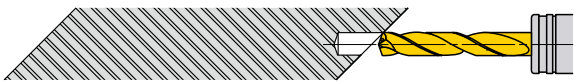
①After drilling, lower the cutting revolution about .020—.039 inch short of the hole end. (Revolution 1000 RPM)
②Retract the drill to the pilot hole depth starting point at a feed rate of 118.1 IPM.
③Finally, clear the hole at a cutting speed of 66—98 SFM and feed rate of .008—.012 IPR.

INTERRUPED DRILLING ●Drilling and breaking through on irregular faces or angles

1. Spot facing

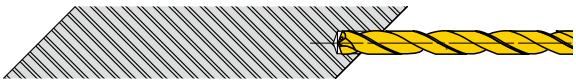
①Machine a flat on the irregular face by using an end mill or slot drill capable of spot facing. Make the spot face diameter the same size as the required deep hole diameter.

2. Drilling a pilot hole



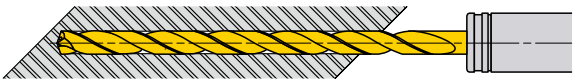
①Use a drill with the same or larger point angle than the super long type. Use the shortest flute possible.
②Ensure a high precision hole is drilled for the guide.
③Drill depth : Approx 1DC.
(Adjust the pilot hole depth according to the length of the long type drill.)

3. Initial cutting with the long type drill



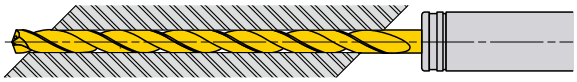
①Penetrate the guide hole at a low revolution.
(Revolution 1000 RPM, feed rate .008—.012 IPR)
②Stop the long type drill .020—.039 inch short of the guide hole bottom.

4. Drill the deep hole



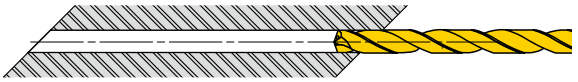
①Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.
②Feed as usual until breaking through.

5. Breaking through



①When breaking through, the cutting edge can be damaged.
②Recommend about half rate of the usual feed rate after breaking through.

6. Drill retraction



①Finally clear the hole at a revolution speed 1000 RPM and feed rate of .008—.012 IPR.
②Retract the drill to the pilot hole depth starting point at a feed rate of 118.1 IPM.

Memo

MNS/MNS...DB

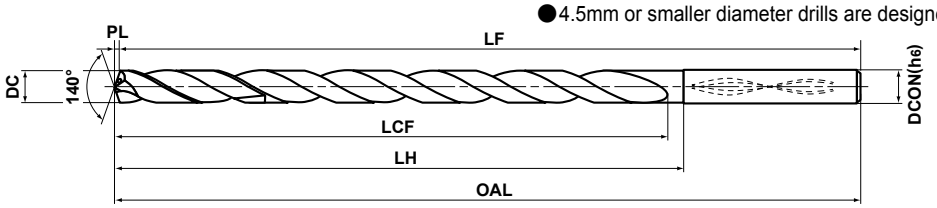
- Unique 4 hole, high flow, coolant delivery system prevents built-up-edge.
- Long drill life and highly efficient drilling of holes in aluminum.

P | M | K | **N** | S | H

Tolerance	DC=3	3<DC≤6	6<DC≤10	10<DC≤14
DC (mm)	$^{0}_{-0.014}$	$^{0}_{-0.018}$	$^{0}_{-0.022}$	$^{0}_{-0.027}$
DCON (mm)	$^{0}_{-0.006}$	$^{0}_{-0.008}$	$^{0}_{-0.009}$	$^{0}_{-0.011}$

METRIC STANDARD

- 4.5mm or smaller diameter drills are designed with 2 coolant holes.



(Note) MNS type can be used for shrink fit holders.

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
3.0	5	★	MNS0300LB	33.5	33.5	81.5	81	0.5	3
	10	★	MNS0300X10DB	39.5	42.5	90.5	90	0.5	3
	20	★	MNS0300X20DB	69.5	72.5	120.5	120	0.5	3
	30	★	MNS0300X30DB	99.5	102.5	150.5	150	0.5	3
3.1	5	★	MNS0310LB	39.6	39.6	87.6	87	0.6	4
	10	□	MNS0310X10DB	46.6	49.6	97.6	97	0.6	4
	20	□	MNS0310X20DB	81.6	84.6	132.6	132	0.6	4
	30	□	MNS0310X30DB	116.6	119.6	167.6	167	0.6	4
3.2	5	★	MNS0320LB	39.6	39.6	87.6	87	0.6	4
	10	★	MNS0320X10DB	46.6	49.6	97.6	97	0.6	4
	20	★	MNS0320X20DB	81.6	84.6	132.6	132	0.6	4
	30	★	MNS0320X30DB	116.6	119.6	167.6	167	0.6	4
3.3	5	★	MNS0330LB	39.6	39.6	87.6	87	0.6	4
	10	□	MNS0330X10DB	46.6	49.6	97.6	97	0.6	4
	20	□	MNS0330X20DB	81.6	84.6	132.6	132	0.6	4
	30	□	MNS0330X30DB	116.6	119.6	167.6	167	0.6	4
3.4	5	★	MNS0340LB	39.6	39.6	87.6	87	0.6	4
	10	★	MNS0340X10DB	46.6	49.6	97.6	97	0.6	4
	20	★	MNS0340X20DB	81.6	84.6	132.6	132	0.6	4
	30	★	MNS0340X30DB	116.6	119.6	167.6	167	0.6	4
3.5	5	★	MNS0350LB	39.6	39.6	87.6	87	0.6	4
	10	□	MNS0350X10DB	46.6	49.6	97.6	97	0.6	4
	20	□	MNS0350X20DB	81.6	84.6	132.6	132	0.6	4
	30	□	MNS0350X30DB	116.6	119.6	167.6	167	0.6	4
3.6	5	★	MNS0360LB	44.7	44.7	92.7	92	0.7	4
	10	★	MNS0360X10DB	52.7	55.7	103.7	103	0.7	4
	20	★	MNS0360X20DB	92.7	95.7	143.7	143	0.7	4
	30	★	MNS0360X30DB	132.7	135.7	183.7	183	0.7	4
3.7	5	★	MNS0370LB	44.7	44.7	92.7	92	0.7	4
	10	□	MNS0370X10DB	52.7	55.7	103.7	103	0.7	4
	20	□	MNS0370X20DB	92.7	95.7	143.7	143	0.7	4
	30	□	MNS0370X30DB	132.7	135.7	183.7	183	0.7	4

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
3.8	5	★	MNS0380LB	44.7	44.7	92.7	92	0.7	4
	10	□	MNS0380X10DB	52.7	55.7	103.7	103	0.7	4
	20	□	MNS0380X20DB	92.7	95.7	143.7	143	0.7	4
	30	□	MNS0380X30DB	132.7	135.7	183.7	183	0.7	4
3.9	5	★	MNS0390LB	44.7	44.7	92.7	92	0.7	4
	10	★	MNS0390X10DB	52.7	55.7	103.7	103	0.7	4
	20	★	MNS0390X20DB	92.7	95.7	143.7	143	0.7	4
	30	★	MNS0390X30DB	132.7	135.7	183.7	183	0.7	4
4.0	5	★	MNS0400LB	44.7	44.7	92.7	92	0.7	4
	10	★	MNS0400X10DB	52.7	55.7	103.7	103	0.7	4
	20	★	MNS0400X20DB	92.7	95.7	143.7	143	0.7	4
	30	★	MNS0400X30DB	132.7	135.7	183.7	183	0.7	4
4.1	5	★	MNS0410LB	50.7	50.7	100.7	100	0.7	5
	10	□	MNS0410X10DB	59.7	62.7	112.7	112	0.7	5
	20	□	MNS0410X20DB	104.7	107.7	157.7	157	0.7	5
	30	□	MNS0410X30DB	149.7	152.7	202.7	202	0.7	5
4.2	5	★	MNS0420LB	50.8	50.8	100.8	100	0.8	5
	10	□	MNS0420X10DB	59.8	62.8	112.8	112	0.8	5
	20	□	MNS0420X20DB	104.8	107.8	157.8	157	0.8	5
	30	□	MNS0420X30DB	149.8	152.8	202.8	202	0.8	5
4.3	5	★	MNS0430LB	50.8	50.8	100.8	100	0.8	5
	10	□	MNS0430X10DB	59.8	62.8	112.8	112	0.8	5
	20	□	MNS0430X20DB	104.8	107.8	157.8	157	0.8	5
	30	□	MNS0430X30DB	149.8	152.8	202.8	202	0.8	5
4.4	5	★	MNS0440LB	50.8	50.8	100.8	100	0.8	5
	10	□	MNS0440X10DB	59.8	62.8	112.8	112	0.8	5
	20	□	MNS0440X20DB	104.8	107.8	157.8	157	0.8	5
	30	□	MNS0440X30DB	149.8	152.8	202.8	202	0.8	5
4.5	5	★	MNS0450LB	50.8	50.8	100.8	100	0.8	5
	10	□	MNS0450X10DB	59.8	62.8	112.8	112	0.8	5
	20	□	MNS0450X20DB	104.8	107.8	157.8	157	0.8	5
	30	□	MNS0450X30DB	149.8	152.8	202.8	202	0.8	5

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
4.6	5	★	MNS0460LB	55.8	55.8	105.8	105	0.8	5
	10	□	MNS0460X10DB	65.8	68.8	118.8	118	0.8	5
	20	□	MNS0460X20DB	115.8	118.8	168.8	168	0.8	5
	30	□	MNS0460X30DB	165.8	168.8	218.8	218	0.8	5
4.7	5	★	MNS0470LB	55.9	55.9	105.9	105	0.9	5
	10	□	MNS0470X10DB	65.9	68.9	118.9	118	0.9	5
	20	□	MNS0470X20DB	115.9	118.9	168.9	168	0.9	5
	30	□	MNS0470X30DB	165.9	168.9	218.9	218	0.9	5
4.8	5	★	MNS0480LB	55.9	55.9	105.9	105	0.9	5
	10	□	MNS0480X10DB	65.9	68.9	118.9	118	0.9	5
	20	□	MNS0480X20DB	115.9	118.9	168.9	168	0.9	5
	30	□	MNS0480X30DB	165.9	168.9	218.9	218	0.9	5
4.9	5	★	MNS0490LB	55.9	55.9	105.9	105	0.9	5
	10	★	MNS0490X10DB	65.9	68.9	118.9	118	0.9	5
	20	★	MNS0490X20DB	115.9	118.9	168.9	168	0.9	5
	30	★	MNS0490X30DB	165.9	168.9	218.9	218	0.9	5
5.0	5	★	MNS0500LB	44.9	44.9	100.9	100	0.9	6
	10	★	MNS0500X10DB	65.9	68.9	118.9	118	0.9	5
	20	★	MNS0500X20DB	115.9	118.9	168.9	168	0.9	5
	30	★	MNS0500X30DB	165.9	168.9	218.9	218	0.9	5
5.1	5	★	MNS0510LB	44.9	44.9	100.9	100	0.9	6
	10	★	MNS0510X10DB	72.9	75.9	127.9	127	0.9	6
	20	★	MNS0510X20DB	127.9	130.9	182.9	182	0.9	6
	30	★	MNS0510X30DB	182.9	185.9	237.9	237	0.9	6
5.2	5	★	MNS0520LB	44.9	44.9	100.9	100	0.9	6
	10	□	MNS0520X10DB	72.9	75.9	127.9	127	0.9	6
	20	□	MNS0520X20DB	127.9	130.9	182.9	182	0.9	6
	30	□	MNS0520X30DB	182.9	185.9	237.9	237	0.9	6
5.3	5	★	MNS0530LB	45.0	45.0	101.0	100	1.0	6
	10	□	MNS0530X10DB	73.0	76.0	128.0	127	1.0	6
	20	□	MNS0530X20DB	128.0	131.0	183.0	182	1.0	6
	30	□	MNS0530X30DB	183.0	186.0	238.0	237	1.0	6
5.4	5	★	MNS0540LB	45.0	45.0	101.0	100	1.0	6
	10	□	MNS0540X10DB	73.0	76.0	128.0	127	1.0	6
	20	□	MNS0540X20DB	128.0	131.0	183.0	182	1.0	6
	30	□	MNS0540X30DB	183.0	186.0	238.0	237	1.0	6
5.5	5	★	MNS0550LB	45.0	45.0	101.0	100	1.0	6
	10	★	MNS0550X10DB	73.0	76.0	128.0	127	1.0	6
	20	★	MNS0550X20DB	128.0	131.0	183.0	182	1.0	6
	30	★	MNS0550X30DB	183.0	186.0	238.0	237	1.0	6
5.6	5	★	MNS0560LB	49.0	49.0	101.0	100	1.0	6
	10	□	MNS0560X10DB	79.0	82.0	134.0	133	1.0	6
	20	□	MNS0560X20DB	139.0	142.0	194.0	193	1.0	6
	30	□	MNS0560X30DB	199.0	202.0	254.0	253	1.0	6

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
5.7	5	★	MNS0570LB	49.0	49.0	101.0	100	1.0	6
	10	□	MNS0570X10DB	79.0	82.0	134.0	133	1.0	6
	20	□	MNS0570X20DB	139.0	142.0	194.0	193	1.0	6
	30	□	MNS0570X30DB	199.0	202.0	254.0	253	1.0	6
5.8	5	★	MNS0580LB	49.1	49.1	101.1	100	1.1	6
	10	□	MNS0580X10DB	79.1	82.1	134.1	133	1.1	6
	20	□	MNS0580X20DB	139.1	142.1	194.1	193	1.1	6
	30	□	MNS0580X30DB	199.1	202.1	254.1	253	1.1	6
5.9	5	★	MNS0590LB	49.1	49.1	101.1	100	1.1	6
	10	□	MNS0590X10DB	79.1	82.1	134.1	133	1.1	6
	20	□	MNS0590X20DB	139.1	142.1	194.1	193	1.1	6
	30	□	MNS0590X30DB	199.1	202.1	254.1	253	1.1	6
6.0	5	★	MNS0600LB	49.1	49.1	101.1	100	1.1	6
	10	★	MNS0600X10DB	79.1	82.1	134.1	133	1.1	6
	20	★	MNS0600X20DB	139.1	142.1	194.1	193	1.1	6
	30	★	MNS0600X30DB	199.1	202.1	254.1	253	1.1	6
6.1	5	★	MNS0610LB	53.1	53.1	110.1	109	1.1	7
	10	★	MNS0610X10DB	86.1	89.1	142.1	141	1.1	7
	20	★	MNS0610X20DB	151.1	154.1	207.1	206	1.1	7
	30	★	MNS0610X30DB	216.1	219.1	272.1	271	1.1	7
6.2	5	★	MNS0620LB	53.1	53.1	110.1	109	1.1	7
	10	□	MNS0620X10DB	86.1	89.1	142.1	141	1.1	7
	20	□	MNS0620X20DB	151.1	154.1	207.1	206	1.1	7
	30	□	MNS0620X30DB	216.1	219.1	272.1	271	1.1	7
6.3	5	★	MNS0630LB	53.1	53.1	110.1	109	1.1	7
	10	□	MNS0630X10DB	86.1	89.1	142.1	141	1.1	7
	20	□	MNS0630X20DB	151.1	154.1	207.1	206	1.1	7
	30	□	MNS0630X30DB	216.1	219.1	272.1	271	1.1	7
6.4	5	★	MNS0640LB	53.2	53.2	110.2	109	1.2	7
	10	□	MNS0640X10DB	86.2	89.2	142.2	141	1.2	7
	20	□	MNS0640X20DB	151.2	154.2	207.2	206	1.2	7
	30	□	MNS0640X30DB	216.2	219.2	272.2	271	1.2	7
6.5	5	★	MNS0650LB	53.2	53.2	110.2	109	1.2	7
	10	★	MNS0650X10DB	86.2	89.2	142.2	141	1.2	7
	20	★	MNS0650X20DB	151.2	154.2	207.2	206	1.2	7
	30	★	MNS0650X30DB	216.2	219.2	272.2	271	1.2	7
6.6	5	★	MNS0660LB	57.2	57.2	110.2	109	1.2	7
	10	□	MNS0660X10DB	92.2	95.2	148.2	147	1.2	7
	20	□	MNS0660X20DB	162.2	165.2	218.2	217	1.2	7
	30	□	MNS0660X30DB	232.2	235.2	288.2	287	1.2	7
6.7	5	★	MNS0670LB	57.2	57.2	110.2	109	1.2	7
	10	★	MNS0670X10DB	92.2	95.2	148.2	147	1.2	7
	20	★	MNS0670X20DB	162.2	165.2	218.2	217	1.2	7
	30	★	MNS0670X30DB	232.2	235.2	288.2	287	1.2	7

CUTTING CONDITIONS ➤ L135
HOW TO USE ➤ L137
TECHNICAL DATA ➤ N001

MNS/MNS...DB

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
6.8	5	★	MNS0680LB	57.2	57.2	110.2	109	1.2	7
	10	□	MNS0680X10DB	92.2	95.2	148.2	147	1.2	7
	20	□	MNS0680X20DB	162.2	165.2	218.2	217	1.2	7
	30	□	MNS0680X30DB	232.2	235.2	288.2	287	1.2	7
6.9	5	★	MNS0690LB	57.3	57.3	110.3	109	1.3	7
	10	□	MNS0690X10DB	92.3	95.3	148.3	147	1.3	7
	20	□	MNS0690X20DB	162.3	165.3	218.3	217	1.3	7
	30	□	MNS0690X30DB	232.3	235.3	288.3	287	1.3	7
7.0	5	★	MNS0700LB	57.3	57.3	110.3	109	1.3	7
	10	★	MNS0700X10DB	92.3	95.3	148.3	147	1.3	7
	20	★	MNS0700X20DB	162.3	165.3	218.3	217	1.3	7
	30	★	MNS0700X30DB	232.3	235.3	288.3	287	1.3	7
7.1	5	★	MNS0710LB	61.3	65.3	119.3	118	1.3	8
	10	□	MNS0710X10DB	99.3	102.3	156.3	155	1.3	8
	20	□	MNS0710X20DB	174.3	177.3	231.3	230	1.3	8
	30	□	MNS0710X30DB	249.3	252.3	306.3	305	1.3	8
7.2	5	★	MNS0720LB	61.3	65.3	119.3	118	1.3	8
	10	★	MNS0720X10DB	99.3	102.3	156.3	155	1.3	8
	20	★	MNS0720X20DB	174.3	177.3	231.3	230	1.3	8
	30	★	MNS0720X30DB	249.3	252.3	306.3	305	1.3	8
7.3	5	★	MNS0730LB	61.3	65.3	119.3	118	1.3	8
	10	□	MNS0730X10DB	99.3	102.3	156.3	155	1.3	8
	20	□	MNS0730X20DB	174.3	177.3	231.3	230	1.3	8
	30	□	MNS0730X30DB	249.3	252.3	306.3	305	1.3	8
7.4	5	★	MNS0740LB	61.3	65.3	119.3	118	1.3	8
	10	□	MNS0740X10DB	99.3	102.3	156.3	155	1.3	8
	20	□	MNS0740X20DB	174.3	177.3	231.3	230	1.3	8
	30	□	MNS0740X30DB	249.3	252.3	306.3	305	1.3	8
7.5	5	★	MNS0750LB	61.4	65.4	119.4	118	1.4	8
	10	□	MNS0750X10DB	99.4	102.4	156.4	155	1.4	8
	20	□	MNS0750X20DB	174.4	177.4	231.4	230	1.4	8
	30	□	MNS0750X30DB	249.4	252.4	306.4	305	1.4	8
7.6	5	★	MNS0760LB	65.4	65.4	119.4	118	1.4	8
	10	□	MNS0760X10DB	105.4	108.4	162.4	161	1.4	8
	20	□	MNS0760X20DB	185.4	188.4	242.4	241	1.4	8
	30	□	MNS0760X30DB	265.4	268.4	322.4	321	1.4	8
7.7	5	★	MNS0770LB	65.4	65.4	119.4	118	1.4	8
	10	□	MNS0770X10DB	105.4	108.4	162.4	161	1.4	8
	20	□	MNS0770X20DB	185.4	188.4	242.4	241	1.4	8
	30	□	MNS0770X30DB	265.4	268.4	322.4	321	1.4	8
7.8	5	★	MNS0780LB	65.4	65.4	119.4	118	1.4	8
	10	★	MNS0780X10DB	105.4	108.4	162.4	161	1.4	8
	20	★	MNS0780X20DB	185.4	188.4	242.4	241	1.4	8
	30	★	MNS0780X30DB	265.4	268.4	322.4	321	1.4	8

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
7.9	5	★	MNS0790LB	65.4	65.4	119.4	118	1.4	8
	10	□	MNS0790X10DB	105.4	108.4	162.4	161	1.4	8
	20	□	MNS0790X20DB	185.4	188.4	242.4	241	1.4	8
	30	□	MNS0790X30DB	265.4	268.4	322.4	321	1.4	8
8.0	5	★	MNS0800LB	65.5	65.5	119.5	118	1.5	8
	10	★	MNS0800X10DB	105.5	108.5	162.5	161	1.5	8
	20	★	MNS0800X20DB	185.5	188.5	242.5	241	1.5	8
	30	★	MNS0800X30DB	265.5	268.5	322.5	321	1.5	8
8.1	5	★	MNS0810LB	69.5	73.5	128.5	127	1.5	9
	10	□	MNS0810X10DB	112.5	115.5	170.5	169	1.5	9
	20	□	MNS0810X20DB	197.5	200.5	255.5	254	1.5	9
	30	□	MNS0810X30DB	282.5	285.5	340.5	339	1.5	9
8.2	5	★	MNS0820LB	69.5	73.5	128.5	127	1.5	9
	10	□	MNS0820X10DB	112.5	115.5	170.5	169	1.5	9
	20	□	MNS0820X20DB	197.5	200.5	255.5	254	1.5	9
	30	□	MNS0820X30DB	282.5	285.5	340.5	339	1.5	9
8.3	5	★	MNS0830LB	69.5	73.5	128.5	127	1.5	9
	10	□	MNS0830X10DB	112.5	115.5	170.5	169	1.5	9
	20	□	MNS0830X20DB	197.5	200.5	255.5	254	1.5	9
	30	□	MNS0830X30DB	282.5	285.5	340.5	339	1.5	9
8.4	5	★	MNS0840LB	69.5	73.5	128.5	127	1.5	9
	10	□	MNS0840X10DB	112.5	115.5	170.5	169	1.5	9
	20	□	MNS0840X20DB	197.5	200.5	255.5	254	1.5	9
	30	□	MNS0840X30DB	282.5	285.5	340.5	339	1.5	9
8.5	5	★	MNS0850LB	69.5	73.5	128.5	127	1.5	9
	10	□	MNS0850X10DB	112.5	115.5	170.5	169	1.5	9
	20	□	MNS0850X20DB	197.5	200.5	255.5	254	1.5	9
	30	□	MNS0850X30DB	282.5	285.5	340.5	339	1.5	9
8.6	5	★	MNS0860LB	73.6	73.6	128.6	127	1.6	9
	10	□	MNS0860X10DB	118.6	121.6	176.6	175	1.6	9
	20	□	MNS0860X20DB	208.6	211.6	266.6	265	1.6	9
	30	□	MNS0860X30DB	298.6	301.6	356.6	355	1.6	9
8.7	5	★	MNS0870LB	73.6	73.6	128.6	127	1.6	9
	10	□	MNS0870X10DB	118.6	121.6	176.6	175	1.6	9
	20	□	MNS0870X20DB	208.6	211.6	266.6	265	1.6	9
	30	□	MNS0870X30DB	298.6	301.6	356.6	355	1.6	9
8.8	5	★	MNS0880LB	73.6	73.6	128.6	127	1.6	9
	10	□	MNS0880X10DB	118.6	121.6	176.6	175	1.6	9
	20	□	MNS0880X20DB	208.6	211.6	266.6	265	1.6	9
	30	□	MNS0880X30DB	298.6	301.6	356.6	355	1.6	9
8.9	5	★	MNS0890LB	73.6	73.6	128.6	127	1.6	9
	10	□	MNS0890X10DB	118.6	121.6	176.6	175	1.6	9
	20	□	MNS0890X20DB	208.6	211.6	266.6	265	1.6	9
	30	□	MNS0890X30DB	298.6	301.6	356.6	355	1.6	9

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
9.0	5	★	MNS0900LB	73.6	73.6	128.6	127	1.6	9
	10	★	MNS0900X10DB	118.6	121.6	176.6	175	1.6	9
	20	★	MNS0900X20DB	208.6	211.6	266.6	265	1.6	9
	30	★	MNS0900X30DB	298.6	301.6	356.6	355	1.6	9
9.1	5	★	MNS0910LB	77.7	81.7	137.7	136	1.7	10
	10	□	MNS0910X10DB	125.7	128.7	183.7	182	1.7	10
	20	□	MNS0910X20DB	220.7	223.7	278.7	277	1.7	10
	30	□	MNS0910X30DB	315.7	318.7	373.7	372	1.7	10
9.2	5	★	MNS0920LB	77.7	81.7	137.7	136	1.7	10
	10	□	MNS0920X10DB	125.7	128.7	183.7	182	1.7	10
	20	□	MNS0920X20DB	220.7	223.7	278.7	277	1.7	10
	30	□	MNS0920X30DB	315.7	318.7	373.7	372	1.7	10
9.3	5	★	MNS0930LB	77.7	81.7	137.7	136	1.7	10
	10	□	MNS0930X10DB	125.7	128.7	183.7	182	1.7	10
	20	□	MNS0930X20DB	220.7	223.7	278.7	277	1.7	10
	30	□	MNS0930X30DB	315.7	318.7	373.7	372	1.7	10
9.4	5	★	MNS0940LB	77.7	81.7	137.7	136	1.7	10
	10	□	MNS0940X10DB	125.7	128.7	183.7	182	1.7	10
	20	□	MNS0940X20DB	220.7	223.7	278.7	277	1.7	10
	30	□	MNS0940X30DB	315.7	318.7	373.7	372	1.7	10
9.5	5	★	MNS0950LB	77.7	81.7	137.7	136	1.7	10
	10	□	MNS0950X10DB	125.7	128.7	183.7	182	1.7	10
	20	□	MNS0950X20DB	220.7	223.7	278.7	277	1.7	10
	30	□	MNS0950X30DB	315.7	318.7	373.7	372	1.7	10
9.6	5	★	MNS0960LB	81.7	81.7	137.7	136	1.7	10
	10	□	MNS0960X10DB	131.7	134.7	189.7	188	1.7	10
	20	□	MNS0960X20DB	231.7	234.7	289.7	288	1.7	10
	30	□	MNS0960X30DB	331.7	334.7	389.7	388	1.7	10
9.7	5	★	MNS0970LB	81.8	81.8	137.8	136	1.8	10
	10	□	MNS0970X10DB	131.8	134.8	189.8	188	1.8	10
	20	□	MNS0970X20DB	231.8	234.8	289.8	288	1.8	10
	30	□	MNS0970X30DB	331.8	334.8	389.8	388	1.8	10
9.8	5	★	MNS0980LB	81.8	81.8	137.8	136	1.8	10
	10	★	MNS0980X10DB	131.8	134.8	189.8	188	1.8	10
	20	★	MNS0980X20DB	231.8	234.8	289.8	288	1.8	10
	30	★	MNS0980X30DB	331.8	334.8	389.8	388	1.8	10
9.9	5	★	MNS0990LB	81.8	81.8	137.8	136	1.8	10
	10	□	MNS0990X10DB	131.8	134.8	189.8	188	1.8	10
	20	□	MNS0990X20DB	231.8	234.8	289.8	288	1.8	10
	30	□	MNS0990X30DB	331.8	334.8	389.8	388	1.8	10
10.0	5	★	MNS1000LB	81.8	81.8	137.8	136	1.8	10
	10	★	MNS1000X10DB	131.8	134.8	189.8	188	1.8	10
	20	★	MNS1000X20DB	231.8	234.8	289.8	288	1.8	10
	30	★	MNS1000X30DB	331.8	334.8	389.8	388	1.8	10

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
10.1	5	★	MNS1010LB	85.8	89.8	150.8	149	1.8	11
	10	□	MNS1010X10DB	138.8	141.8	202.8	201	1.8	11
	20	□	MNS1010X20DB	243.8	246.8	307.8	306	1.8	11
10.2	5	★	MNS1020LB	85.9	89.9	150.9	149	1.9	11
	10	□	MNS1020X10DB	138.9	141.9	202.9	201	1.9	11
	20	□	MNS1020X20DB	243.9	246.9	307.9	306	1.9	11
10.3	5	★	MNS1030LB	85.9	89.9	150.9	149	1.9	11
	10	□	MNS1030X10DB	138.9	141.9	202.9	201	1.9	11
	20	□	MNS1030X20DB	243.9	246.9	307.9	306	1.9	11
10.4	5	★	MNS1040LB	85.9	89.9	150.9	149	1.9	11
	10	□	MNS1040X10DB	138.9	141.9	202.9	201	1.9	11
	20	□	MNS1040X20DB	243.9	246.9	307.9	306	1.9	11
10.5	5	★	MNS1050LB	85.9	89.9	150.9	149	1.9	11
	10	★	MNS1050X10DB	138.9	141.9	202.9	201	1.9	11
	20	★	MNS1050X20DB	243.9	246.9	307.9	306	1.9	11
10.6	5	★	MNS1060LB	89.9	89.9	150.9	149	1.9	11
	10	□	MNS1060X10DB	144.9	147.9	208.9	207	1.9	11
	20	□	MNS1060X20DB	254.9	257.9	318.9	317	1.9	11
10.7	5	★	MNS1070LB	89.9	89.9	150.9	149	1.9	11
	10	□	MNS1070X10DB	144.9	147.9	208.9	207	1.9	11
	20	□	MNS1070X20DB	254.9	257.9	318.9	317	1.9	11
10.8	5	★	MNS1080LB	90.0	90.0	151.0	149	2.0	11
	10	□	MNS1080X10DB	145.0	148.0	209.0	207	2.0	11
	20	□	MNS1080X20DB	255.0	258.0	319.0	317	2.0	11
10.9	5	★	MNS1090LB	90.0	90.0	151.0	149	2.0	11
	10	□	MNS1090X10DB	145.0	148.0	209.0	207	2.0	11
	20	□	MNS1090X20DB	255.0	258.0	319.0	317	2.0	11
11.0	5	★	MNS1100LB	90.0	90.0	151.0	149	2.0	11
	10	★	MNS1100X10DB	145.0	148.0	209.0	207	2.0	11
	20	★	MNS1100X20DB	255.0	258.0	319.0	317	2.0	11
11.1	5	★	MNS1110LB	94.0	98.0	160.0	158	2.0	12
	10	□	MNS1110X10DB	152.0	155.0	217.0	215	2.0	12
	20	□	MNS1110X20DB	267.0	270.0	332.0	330	2.0	12
11.2	5	★	MNS1120LB	94.0	98.0	160.0	158	2.0	12
	10	□	MNS1120X10DB	152.0	155.0	217.0	215	2.0	12
	20	□	MNS1120X20DB	267.0	270.0	332.0	330	2.0	12
11.3	5	★	MNS1130LB	94.1	98.1	160.1	158	2.1	12
	10	□	MNS1130X10DB	152.1	155.1	217.1	215	2.1	12
	20	□	MNS1130X20DB	267.1	270.1	332.1	330	2.1	12
11.4	5	★	MNS1140LB	94.1	98.1	160.1	158	2.1	12
	10	□	MNS1140X10DB	152.1	155.1	217.1	215	2.1	12
	20	□	MNS1140X20DB	267.1	270.1	332.1	330	2.1	12
11.5	5	★	MNS1150LB	94.1	98.1	160.1	158	2.1	12
	10	□	MNS1150X10DB	152.1	155.1	217.1	215	2.1	12
	20	□	MNS1150X20DB	267.1	270.1	332.1	330	2.1	12

CUTTING CONDITIONS ➤ L135
HOW TO USE ➤ L137
TECHNICAL DATA ➤ N001

MNS/MNS...DB

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
11.6	5	★	MNS1160LB	98.1	98.1	160.1	158	2.1	12
	10	□	MNS1160X10DB	158.1	161.1	223.1	221	2.1	12
	20	□	MNS1160X20DB	278.1	281.1	343.1	341	2.1	12
11.7	5	★	MNS1170LB	98.1	98.1	160.1	158	2.1	12
	10	□	MNS1170X10DB	158.1	161.1	223.1	221	2.1	12
	20	□	MNS1170X20DB	278.1	281.1	343.1	341	2.1	12
11.8	5	★	MNS1180LB	98.1	98.1	160.1	158	2.1	12
	10	□	MNS1180X10DB	158.1	161.1	223.1	221	2.1	12
	20	□	MNS1180X20DB	278.1	281.1	343.1	341	2.1	12
11.9	5	★	MNS1190LB	98.2	98.2	160.2	158	2.2	12
	10	□	MNS1190X10DB	158.2	161.2	223.2	221	2.2	12
	20	□	MNS1190X20DB	278.2	281.2	343.2	341	2.2	12
12.0	5	★	MNS1200LB	98.2	98.2	160.2	158	2.2	12
	10	★	MNS1200X10DB	158.2	161.2	223.2	221	2.2	12
	20	★	MNS1200X20DB	278.2	281.2	343.2	341	2.2	12
12.1	5	★	MNS1210LB	102.2	106.2	169.2	167	2.2	13
	10	□	MNS1210X10DB	165.2	168.2	231.2	229	2.2	13
	20	□	MNS1210X20DB	290.2	293.2	356.2	354	2.2	13
12.2	5	★	MNS1220LB	102.2	106.2	169.2	167	2.2	13
	10	□	MNS1220X10DB	165.2	168.2	231.2	229	2.2	13
	20	□	MNS1220X20DB	290.2	293.2	356.2	354	2.2	13
12.3	5	★	MNS1230LB	102.2	106.2	169.2	167	2.2	13
	10	□	MNS1230X10DB	165.2	168.2	231.2	229	2.2	13
	20	□	MNS1230X20DB	290.2	293.2	356.2	354	2.2	13
12.4	5	★	MNS1240LB	102.3	106.3	169.3	167	2.3	13
	10	□	MNS1240X10DB	165.3	168.3	231.3	229	2.3	13
	20	□	MNS1240X20DB	290.3	293.3	356.3	354	2.3	13
12.5	5	★	MNS1250LB	102.3	106.3	169.3	167	2.3	13
	10	□	MNS1250X10DB	165.3	168.3	231.3	229	2.3	13
	20	□	MNS1250X20DB	290.3	293.3	356.3	354	2.3	13
12.6	5	★	MNS1260LB	106.3	106.3	169.3	167	2.3	13
	10	□	MNS1260X10DB	171.3	174.3	237.3	235	2.3	13
	20	□	MNS1260X20DB	301.3	304.3	367.3	365	2.3	13
12.7	5	★	MNS1270LB	106.3	106.3	169.3	167	2.3	13
	10	□	MNS1270X10DB	171.3	174.3	237.3	235	2.3	13
	20	□	MNS1270X20DB	301.3	304.3	367.3	365	2.3	13
12.8	5	★	MNS1280LB	106.3	106.3	169.3	167	2.3	13
	10	□	MNS1280X10DB	171.3	174.3	237.3	235	2.3	13
	20	□	MNS1280X20DB	301.3	304.3	367.3	365	2.3	13
12.9	5	★	MNS1290LB	106.3	106.3	169.3	167	2.3	13
	10	□	MNS1290X10DB	171.3	174.3	237.3	235	2.3	13
	20	□	MNS1290X20DB	301.3	304.3	367.3	365	2.3	13
13.0	5	★	MNS1300LB	106.4	106.4	169.4	167	2.4	13
	10	★	MNS1300X10DB	171.4	174.4	237.4	235	2.4	13
	20	★	MNS1300X20DB	301.4	304.4	367.4	365	2.4	13

Internal Coolant

DC (mm)	Hole Depth l/d	Stock TF15	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON
13.1	5	★	MNS1310LB	110.4	114.4	178.4	176	2.4	14
	10	□	MNS1310X10DB	178.4	181.4	245.4	243	2.4	14
	20	□	MNS1310X20DB	313.4	316.4	380.4	378	2.4	14
13.2	5	★	MNS1320LB	110.4	114.4	178.4	176	2.4	14
	10	□	MNS1320X10DB	178.4	181.4	245.4	243	2.4	14
	20	□	MNS1320X20DB	313.4	316.4	380.4	378	2.4	14
13.3	5	★	MNS1330LB	110.4	114.4	178.4	176	2.4	14
	10	□	MNS1330X10DB	178.4	181.4	245.4	243	2.4	14
	20	□	MNS1330X20DB	313.4	316.4	380.4	378	2.4	14
13.4	5	★	MNS1340LB	110.4	114.4	178.4	176	2.4	14
	10	□	MNS1340X10DB	178.4	181.4	245.4	243	2.4	14
	20	□	MNS1340X20DB	313.4	316.4	380.4	378	2.4	14
13.5	5	★	MNS1350LB	110.5	114.5	178.5	176	2.5	14
	10	□	MNS1350X10DB	178.5	181.5	245.5	243	2.5	14
	20	□	MNS1350X20DB	313.5	316.5	380.5	378	2.5	14
13.6	5	★	MNS1360LB	114.5	114.5	178.5	176	2.5	14
	10	□	MNS1360X10DB	184.5	187.5	251.5	249	2.5	14
	20	□	MNS1360X20DB	324.5	327.5	391.5	389	2.5	14
13.7	5	★	MNS1370LB	114.5	114.5	178.5	176	2.5	14
	10	□	MNS1370X10DB	184.5	187.5	251.5	249	2.5	14
	20	□	MNS1370X20DB	324.5	327.5	391.5	389	2.5	14
13.8	5	★	MNS1380LB	114.5	114.5	178.5	176	2.5	14
	10	□	MNS1380X10DB	184.5	187.5	251.5	249	2.5	14
	20	□	MNS1380X20DB	324.5	327.5	391.5	389	2.5	14
13.9	5	★	MNS1390LB	114.5	114.5	178.5	176	2.5	14
	10	□	MNS1390X10DB	184.5	187.5	251.5	249	2.5	14
	20	□	MNS1390X20DB	324.5	327.5	391.5	389	2.5	14
14.0	5	★	MNS1400LB	114.5	114.5	178.5	176	2.5	14
	10	★	MNS1400X10DB	184.5	187.5	251.5	249	2.5	14
	20	★	MNS1400X20DB	324.5	327.5	391.5	389	2.5	14

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

RECOMMENDED CUTTING CONDITIONS

LB Type

Work Material		Aluminium Alloy (Si<5%) AISI A6061, A7075 etc.		Austenitic Stainless Steel (5%≤Si≤10%) ASTM 333.0 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	**3.0**	395 (310—460)	.0039 (.0043—.0063)	395 (310—460)	.0059 (.0063—.0083)
.1575	**4.0**	395 (310—460)	.0059 (.0051—.0079)	395 (310—460)	.0079 (.0079—.0106)
.1969	**5.0**	395 (310—460)	.0079 (.0067—.0098)	395 (310—460)	.0098 (.0098—.0130)
.2480	**6.3**	490 (395—560)	.0098 (.0083—.0126)	490 (395—560)	.0138 (.0126—.0165)
.3150	**8.0**	490 (395—560)	.0118 (.0106—.0157)	490 (395—560)	.0177 (.0157—.0209)
.3937	**10.0**	490 (395—560)	.0157 (.0130—.0197)	490 (395—560)	.0217 (.0197—.0264)
.4724	**12.0**	655 (525—755)	.0197 (.0157—.0236)	655 (525—755)	.0276 (.0236—.0315)
.5512	**14.0**	655 (525—755)	.0197 (.0157—.0236)	655 (525—755)	.0276 (.0236—.0315)

Work Material		Aluminium Alloy (Si>10%) ASTM 380.0, A390.0 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm		
.1181	**3.0**	395 (310—460)	.0059 (.0063—.0083)
.1575	**4.0**	395 (310—460)	.0079 (.0079—.0106)
.1969	**5.0**	395 (310—460)	.0098 (.0098—.0130)
.2480	**6.3**	490 (395—560)	.0138 (.0126—.0165)
.3150	**8.0**	490 (395—560)	.0177 (.0157—.0209)
.3937	**10.0**	490 (395—560)	.0217 (.0197—.0264)
.4724	**12.0**	655 (525—755)	.0276 (.0236—.0315)
.5512	**14.0**	655 (525—755)	.0276 (.0236—.0315)

(Note 1) When using the drill with a length over l/d 10, it is necessary to use a prep hole as the pilot. (If no prep-hole is used then drill breakage can occur)

(Note 2) For pilot hole drilling, Mitsubishi Materials MNS-LB, MAE-MB or MAS-MB drill is recommended.

HOW TO USE ➤ L137
TECHNICAL DATA ➤ N001

MNS/MNS...DB

DB Type

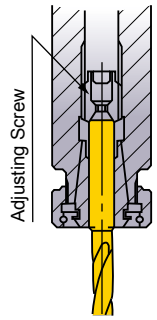
Work Material		Aluminium Alloy (Si<5%) AISI A6061, A7075 etc.		Austenitic Stainless Steel (5%≤Si≤10%) ASTM 333.0 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	**3.0**	295 (230—330)	.0039 (.0043—.0063)	295 (230—330)	.0059 (.0063—.0083)
.1575	**4.0**	295 (230—330)	.0059 (.0051—.0079)	295 (230—330)	.0079 (.0079—.0106)
.1969	**5.0**	295 (230—330)	.0079 (.0067—.0098)	295 (230—330)	.0098 (.0098—.0130)
.2480	**6.3**	395 (310—460)	.0098 (.0083—.0126)	395 (310—460)	.0138 (.0126—.0165)
.3150	**8.0**	395 (310—460)	.0118 (.0106—.0157)	395 (310—460)	.0177 (.0157—.0209)
.3937	**10.0**	395 (310—460)	.0157 (.0130—.0197)	395 (310—460)	.0217 (.0197—.0264)
.4724	**12.0**	525 (410—590)	.0197 (.0157—.0236)	525 (410—590)	.0276 (.0236—.0315)
.5512	**14.0**	525 (410—590)	.0197 (.0157—.0236)	525 (410—590)	.0276 (.0236—.0315)

Work Material		Aluminium Alloy (Si>10%) ASTM 383.0, A390.0 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm		
.1181	**3.0**	295 (230—330)	.0059 (.0063—.0083)
.1575	**4.0**	295 (230—330)	.0079 (.0079—.0106)
.1969	**5.0**	295 (230—330)	.0098 (.0098—.0130)
.2480	**6.3**	395 (310—460)	.0138 (.0126—.0165)
.3150	**8.0**	395 (310—460)	.0177 (.0157—.0209)
.3937	**10.0**	395 (310—460)	.0217 (.0197—.0264)
.4724	**12.0**	525 (410—590)	.0276 (.0236—.0315)
.5512	**14.0**	525 (410—590)	.0276 (.0236—.0315)

(Note 1) When using the drill with a length over l/d 10, it is necessary to use a prep hole as the pilot. (If no prep-hole is used then drill breakage can occur)
(Note 2) For pilot hole drilling, Mitsubishi Materials MNS-LB, MAE-MB or MAS-MB drill is recommended.
(Note 3) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

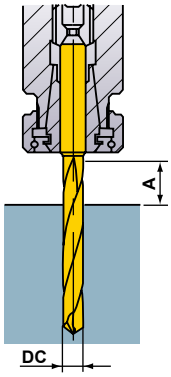
OPERATIONAL GUIDANCE FOR THE MNS...LB DRILL

Drill Holding



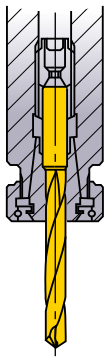
Thrust bearing type collet chuck holds the drill securely.

Drill Length



A ≥ DC x 1.5

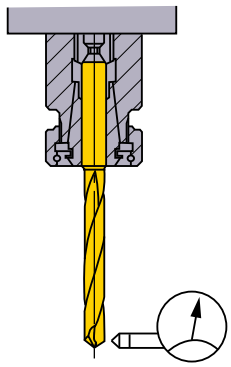
Drill Installation



NG

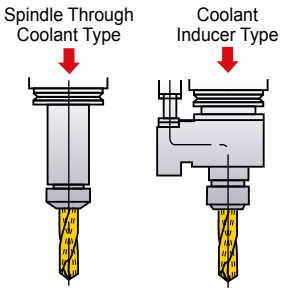
Do not clamp on the flutes.

Installation Tolerance



Runout ≤ .001″

Through Coolant Type



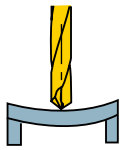
Recommended coolant pressure: 70 - 1015 PSI (0.5 - 7MPa).

Coolant Handling

1) Small particles of swarf will jam in the oil hole of small diameter drills. Always use a fine mesh filter as a preventative measure.

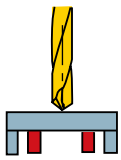
2) Dirt and dust particles adhere to the oil in old coolant and prevent an efficient flow. Regular coolant exchange is recommended.

Thin Workpiece



If Bending Occurs

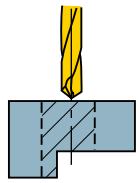
NG



Support the Workpiece

Good

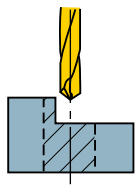
Interrupted Cutting



One process

Good

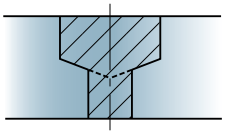
①Lower the feed when drilling the interrupted part.



Requires prior machining

①Spot face with an end mill prior to drilling.

Stepped Holes

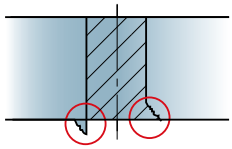


①Divide the machining into two processes.

②Drill the larger hole first.

*Tools for chamfering and spot facing can be produced to order.

Burring and Workpiece Chipping



①Lower the feed rate when breaking through.

②Add a chamfer.

③Change the point angle.

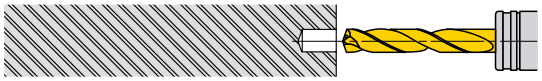
MNS...DB

OPERATIONAL GUIDANCE FOR THE MNS...DB DRILL

FLAT FACE DRILLING

●Drilling a blind hole

1. Drilling a pilot hole

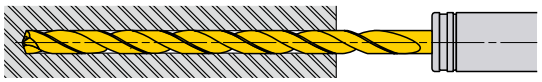


①Use a drill with the same or larger point angle than the MNS...DB type. Mitsubishi type MNS-LB, MAE-MB or MAS-MB drill is recommended.
②Ensure a high precision hole is drilled for the pilot.
③Drill depth : Approx 1DC or deeper.
(Adjust the pilot hole depth according to the length of the MNS...DB type.)

2. Initial cutting with the long type drill

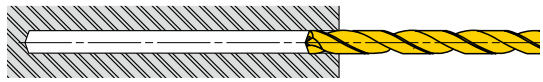
①Penetrate the pilot hole at a low revolution. (Cutting speed 65-100 SFM, feed rate .008-.012 IPR)
②Stop the long type drill .039-.118 inch short of the pilot hole bottom.

3. Drill the deep hole



①Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.

4. Drill retraction

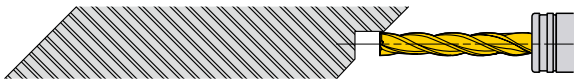


①After drilling, lower the cutting revolution about .039-.079 inch short of the hole end. (Cutting speed of around 65-100 SFM)
②Retract the drill to the pilot hole depth starting point at a feed rate of 120 inch/min.
③Finally clear the hole at a cutting speed of 65-100 SFM and feed rate of .008-.012 IPR.

IRREGULAR FACE DRILLING

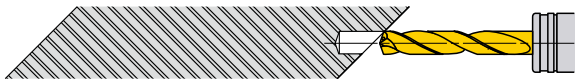
●Drilling and breaking through on irregular faces or angles

1. Spot facing



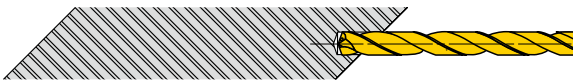
①Machine a flat on the irregular face by using an end mill or drill capable of spot facing. Make the spot face diameter the same size as the required deep hole diameter.

2. Drilling a pilot hole



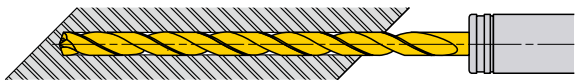
①Use a drill with the same or larger point angle than the super long type. Mitsubishi type MNS-LB, MAE-MB or MAS-MB drill is recommended.
②Ensure a high precision hole is drilled for the pilot.
③Drill depth : Approx 1DC or deeper.
(Adjust the pilot hole depth according to the length of the super long type.)

3. Initial cutting with the long type drill



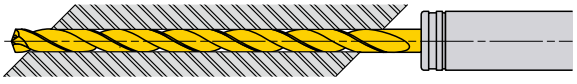
①Penetrate the pilot hole at a low revolution. (Cutting speed 65-100 SFM, feed rate .008-.012 IPR)
②Stop the long type drill .039-.118 inch short of the pilot hole bottom.

4. Drill the deep hole



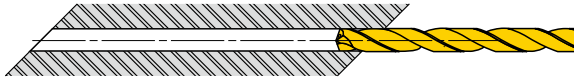
①Start cutting at the recommended speed and feed with a non-peck (continuous feed) cycle.

5. Breaking through



①When breaking through, the cutting edge can be damaged.
②A feed rate of .002-.004 IPR is recommended.

6. Drill retraction



①Finally clear the hole at a cutting speed of 65-100 SFM.
②Retract the drill to the pilot hole depth starting point at a feed rate of 120 inch/min.

Memo

MAS

- Specialized in aluminum and cast iron drilling.
- High hole accuracy.
- Pre-hole drilling for rolled tap.
- Helical coolant hole enables high speed machining.

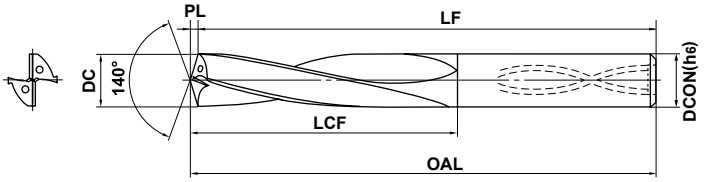
P | M | **K** | **N** | S | H

Tolerance	.1250≤DC≤.2344	.2500≤DC≤.3906	.4062≤DC≤.7031	.7188≤DC≤.7812
DC (inch)	+0.00020 0	+0.00020 0	+0.00020 0	+0.00020 0
DCON (inch)	0 −0.00031	0 −0.00035	0 −0.00043	0 −0.00051

INCH STANDARD

L/D=3

Internal Coolant



(Note 1) MAS type larger than ϕ.2031" have a recess in the shank end face.
(Note 2) MAS type can be used for shrink fit holders.

Helix Angle : 10°

DC (inch)	Order Number	Stock HTi10	Dimensions (inch) LCF	OAL	LF	PL	DCON	Rolled Thread Tap Size
.1250	MAS01250MB	●	.968	2.543	2.520	.023	.1575	
.1406	MAS01406MB	●	1.128	2.703	2.677	.026	.1575	
.1495	MAS01495MB	●	1.129	2.704	2.677	.027	.1575	10-24NC
.1563	MAS01563MB	●	1.130	2.705	2.677	.028	.1575	
.1590	MAS01590MB	●	1.249	2.824	2.795	.029	.1969	10-32NF
.1719	MAS01719MB	●	1.251	2.826	2.795	.031	.1969	
.1875	MAS01875MB	●	1.333	2.908	2.874	.034	.1969	
.2031	MAS02031MB	●	1.454	3.029	2.992	.037	.2362	
.2165	MAS02165MB	●	1.456	3.031	2.992	.039	.2362	
.2188	MAS02188MB	●	1.575	3.150	3.110	.040	.2362	
.2344	MAS02344MB	●	1.578	3.153	3.110	.043	.2362	
.2500	MAS02500MB	●	1.700	3.353	3.307	.046	.2756	1/16-27NS
.2570	MAS02570MB	●	1.701	3.354	3.307	.047	.2756	5/16-18NC
.2656	MAS02656MB	●	1.702	3.355	3.307	.048	.2756	
.2720	MAS02720MB	●	1.704	3.357	3.307	.050	.2756	5/16-24NF
.2812	MAS02812MB	●	1.941	3.594	3.543	.051	.3150	
.2969	MAS02969MB	●	1.944	3.597	3.543	.054	.3150	
.3125	MAS03125MB	●	1.947	3.600	3.543	.057	.3150	3/8-16NC
.3281	MAS03281MB	●	2.029	3.761	3.701	.060	.3543	1/8-27NPT
.3320	MAS03320MB	●	2.029	3.761	3.701	.060	.3543	3/8-24NF
.3438	MAS03438MB	●	2.032	3.764	3.701	.063	.3543	
.3594	MAS03594MB	●	2.152	3.884	3.819	.065	.3937	
.3680	MAS03680MB	●	2.154	3.886	3.819	.067	.3937	7/16-14NC
.3750	MAS03750MB	●	2.155	3.887	3.819	.068	.3937	
.3906	MAS03906MB	●	2.158	3.890	3.819	.071	.3937	7/16-20NF
.4062	MAS04062MB	●	2.239	4.050	3.976	.074	.4331	
.4219	MAS04219MB	●	2.242	4.053	3.976	.077	.4331	1/2-13, 1/2-12
.4375	MAS04375MB	●	2.442	4.253	4.173	.080	.4724	1/4-18NPT
.4531	MAS04531MB	●	2.444	4.255	4.173	.082	.4724	1/2-20, 1/4-18NS
.4688	MAS04688MB	●	2.447	4.258	4.173	.085	.4724	
.4844	MAS04844MB	●	2.647	4.616	4.528	.088	.5118	9/16-12NC
.5000	MAS05000MB	●	2.650	4.619	4.528	.091	.5118	
.5118	MAS05118MB	●	2.652	4.621	4.528	.093	.5118	
.5156	MAS05156MB	●	2.850	4.818	4.724	.094	.5512	9/16-18NF
.5312	MAS05312MB	●	2.853	4.821	4.724	.097	.5512	5/8-11NC
.5469	MAS05469MB	●	2.856	4.824	4.724	.100	.5512	
.5625	MAS05625MB	●	2.937	5.220	5.118	.102	.5906	3/8-18NPT
.5781	MAS05781MB	●	2.940	5.223	5.118	.105	.5906	5/8-18NF
.5937	MAS05937MB	●	3.100	5.384	5.276	.108	.6299	3/8-18NS
.6094	MAS06094MB	●	3.103	5.387	5.276	.111	.6299	
.6250	MAS06250MB	●	3.106	5.390	5.276	.114	.6299	
.6406	MAS06406MB	●	3.267	5.550	5.433	.117	.6693	
.6563	MAS06563MB	●	3.269	5.552	5.433	.119	.6693	3/4-10NC
.6718	MAS06718MB	●	3.468	5.752	5.630	.122	.7087	
.6875	MAS06875MB	●	3.471	5.755	5.630	.125	.7087	3/4-16NF
.7031	MAS07031MB	●	3.474	5.758	5.630	.128	.7087	1/2-14NPT
.7188	MAS07188MB	●	3.674	5.958	5.827	.131	.7480	
.7344	MAS07344MB	●	3.677	5.961	5.827	.134	.7480	7/8-9, 1/2-14NS
.7500	MAS07500MB	●	3.877	6.161	6.024	.137	.7874	
.7656	MAS07656MB	●	3.879	6.163	6.024	.139	.7874	
.7812	MAS07812MB	●	3.882	6.166	6.024	.142	.7874	

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained.

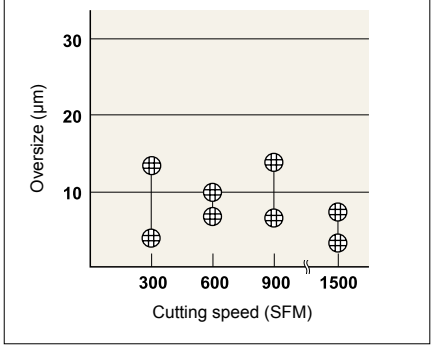
RECOMMENDED CUTTING CONDITIONS

	Work Material	Drill Dia. ϕ.1250" – ϕ.2344"		Drill Dia. ϕ.2500" – ϕ.3906"		Drill Dia. ϕ.4062" – ϕ.7812"	
		Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)
N	Aluminum Alloy Casting	330 (195—490)	.006 (.002—.012)	390 (260—555)	.008 (.004—.012)	490 (330—655)	.010 (.004—.016)
N	Aluminum Alloy Die Casting	390 (260—555)	.005 (.002—.010)	490 (330—590)	.006 (.002—.010)	525 (390—655)	.008 (.004—.012)
K	Gray Cast Iron	195 (130—260)	.006 (.004—.008)	260 (195—360)	.008 (.004—.012)	330 (230—425)	.012 (.008—.016)
K	Ductile Cast Iron	145 (100—195)	.004 (.002—.006)	195 (130—260)	.005 (.002—.008)	260 (195—330)	.008 (.004—.012)

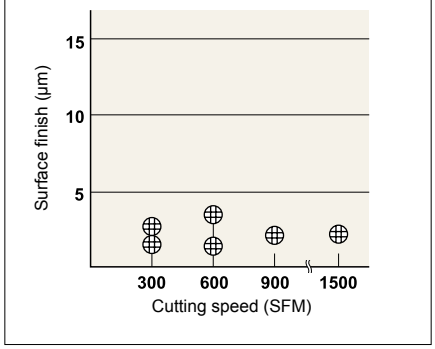
MACHINED HOLE ACCURACY

Tool : MAS1000LB Workpiece : 330 Aluminum Feed : .008 inch/rev Drilled Depth : 2.36 inch (Through hole) WSO (10%)

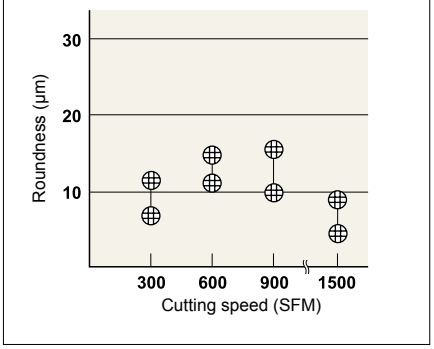
Oversize



Surface Roughness



Roundness



MAE/MAS

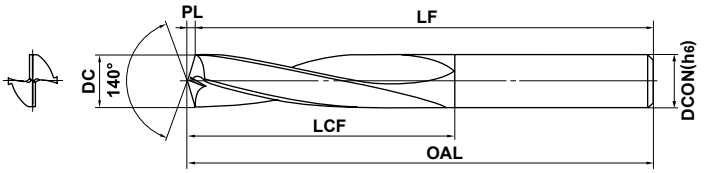
- Specialized in aluminum and cast iron drilling.
- High hole accuracy.
- Pre-hole drilling for rolled tap.
- Helical coolant hole enables high speed machining.

P | M | **K** | **N** | S | H

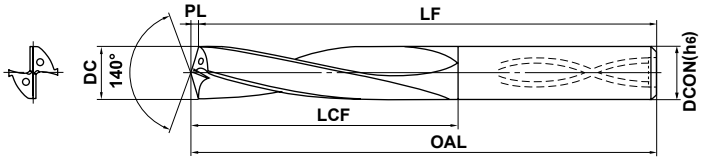
Tolerance	DC=3	3<DC≤6	6<DC≤10	10<DC≤16
DC (mm)	+0.005 0	+0.005 0	+0.005 0	+0.005 0
DCON (mm)	0 −0.006	0 −0.007	0 −0.009	0 −0.011

METRIC STANDARD

MAE (External Coolant)



MAS (Internal Coolant)



(Note 1) MAS type larger than ϕ5.0 have a recess in the shank end face.
(Note 2) MAE/MAS type can be used for shrink fit holders.

DC (mm)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock HTi10	Order Number	Dimensions (mm) LCF	OAL	LF	PL	DCON
3.0	3	Ext.	★	MAE0300MB	21.5	61.5	61	0.5	3
	3	Int.	□	MAS0300MB	21.5	61.5	61	0.5	3
	6	Int.	★	MAS0300LB	30.5	70.5	70	0.5	3
3.1	3	Ext.	★	MAE0310MB	24.6	64.6	64	0.6	4
	3	Int.	□	MAS0310MB	24.6	64.6	64	0.6	4
	6	Int.	★	MAS0310LB	34.6	74.6	74	0.6	4
3.2	3	Ext.	★	MAE0320MB	24.6	64.6	64	0.6	4
	3	Int.	□	MAS0320MB	24.6	64.6	64	0.6	4
	6	Int.	★	MAS0320LB	34.6	74.6	74	0.6	4
3.3	3	Ext.	★	MAE0330MB	24.6	64.6	64	0.6	4
	3	Int.	□	MAS0330MB	24.6	64.6	64	0.6	4
	6	Int.	★	MAS0330LB	34.6	74.6	74	0.6	4
3.4	3	Ext.	★	MAE0340MB	24.6	64.6	64	0.6	4
	3	Int.	□	MAS0340MB	24.6	64.6	64	0.6	4
	6	Int.	★	MAS0340LB	34.6	74.6	74	0.6	4
3.5	3	Ext.	★	MAE0350MB	24.6	64.6	64	0.6	4
	3	Int.	□	MAS0350MB	24.6	64.6	64	0.6	4
	6	Int.	★	MAS0350LB	34.6	74.6	74	0.6	4
3.6	3	Ext.	★	MAE0360MB	28.7	68.7	68	0.7	4
	3	Int.	□	MAS0360MB	28.7	68.7	68	0.7	4
	6	Int.	★	MAS0360LB	40.7	80.7	80	0.7	4
3.65	3	Ext.	★	* MAE0365MB	28.7	68.7	68	0.7	4
	3	Int.	□	* MAS0365MB	28.7	68.7	68	0.7	4
	6	Int.	★	* MAS0365LB	40.7	80.7	80	0.7	4
3.7	3	Ext.	★	MAE0370MB	28.7	68.7	68	0.7	4
	3	Int.	□	MAS0370MB	28.7	68.7	68	0.7	4
	6	Int.	★	MAS0370LB	40.7	80.7	80	0.7	4
3.8	3	Ext.	★	MAE0380MB	28.7	68.7	68	0.7	4
	3	Int.	□	MAS0380MB	28.7	68.7	68	0.7	4
	6	Int.	★	MAS0380LB	40.7	80.7	80	0.7	4
3.9	3	Ext.	★	MAE0390MB	28.7	68.7	68	0.7	4
	3	Int.	□	MAS0390MB	28.7	68.7	68	0.7	4
	6	Int.	★	MAS0390LB	40.7	80.7	80	0.7	4
4.0	3	Ext.	★	MAE0400MB	28.7	68.7	68	0.7	4
	3	Int.	□	MAS0400MB	28.7	68.7	68	0.7	4
	6	Int.	★	MAS0400LB	40.7	80.7	80	0.7	4
4.1	3	Ext.	★	MAE0410MB	31.7	71.7	71	0.7	5
	3	Int.	□	MAS0410MB	31.7	71.7	71	0.7	5
	6	Int.	★	MAS0410LB	44.7	84.7	84	0.7	5
4.2	3	Ext.	★	MAE0420MB	31.8	71.8	71	0.8	5
	3	Int.	□	MAS0420MB	31.8	71.8	71	0.8	5
	6	Int.	★	MAS0420LB	44.8	84.8	84	0.8	5
4.3	3	Ext.	★	MAE0430MB	31.8	71.8	71	0.8	5
	3	Int.	□	MAS0430MB	31.8	71.8	71	0.8	5
	6	Int.	★	MAS0430LB	44.8	84.8	84	0.8	5
4.4	3	Ext.	★	MAE0440MB	31.8	71.8	71	0.8	5
	3	Int.	□	MAS0440MB	31.8	71.8	71	0.8	5
	6	Int.	★	MAS0440LB	44.8	84.8	84	0.8	5
4.5	3	Ext.	★	MAE0450MB	31.8	71.8	71	0.8	5
	3	Int.	□	MAS0450MB	31.8	71.8	71	0.8	5
	6	Int.	★	MAS0450LB	44.8	84.8	84	0.8	5
4.6	3	Ext.	★	* MAE0460MB	33.8	73.8	73	0.8	5
	3	Int.	□	* MAS0460MB	33.8	73.8	73	0.8	5
	6	Int.	★	* MAS0460LB	48.8	88.8	88	0.8	5
4.7	3	Ext.	★	MAE0470MB	33.9	73.9	73	0.9	5
	3	Int.	□	MAS0470MB	33.9	73.9	73	0.9	5
	6	Int.	★	MAS0470LB	48.9	88.9	88	0.9	5
4.8	3	Ext.	★	MAE0480MB	33.9	73.9	73	0.9	5
	3	Int.	□	MAS0480MB	33.9	73.9	73	0.9	5
	6	Int.	★	MAS0480LB	48.9	88.9	88	0.9	5

* : Standard hole size for rolled thread tap.

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

DC (mm)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock HTi10	Order Number	Dimensions (mm) LCF	OAL	LF	PL	DCON
4.9	3	Ext.	★	MAE0490MB	33.9	73.9	73	0.9	5
	3	Int.	□	MAS0490MB	33.9	73.9	73	0.9	5
	6	Int.	★	MAS0490LB	48.9	88.9	88	0.9	5
5.0	3	Ext.	★	MAE0500MB	33.9	73.9	73	0.9	5
	3	Int.	★	MAS0500MB	33.9	73.9	73	0.9	5
	6	Int.	★	MAS0500LB	48.9	88.9	88	0.9	5
5.1	3	Ext.	★	MAE0510MB	36.9	76.9	76	0.9	6
	3	Int.	□	MAS0510MB	36.9	76.9	76	0.9	6
	6	Int.	★	MAS0510LB	52.9	92.9	92	0.9	6
5.2	3	Ext.	★	MAE0520MB	36.9	76.9	76	0.9	6
	3	Int.	□	MAS0520MB	36.9	76.9	76	0.9	6
	6	Int.	★	MAS0520LB	52.9	92.9	92	0.9	6
5.3	3	Ext.	★	MAE0530MB	37.0	77.0	76	1.0	6
	3	Int.	□	MAS0530MB	37.0	77.0	76	1.0	6
	6	Int.	★	MAS0530LB	53.0	93.0	92	1.0	6
5.4	3	Ext.	★	MAE0540MB	37.0	77.0	76	1.0	6
	3	Int.	□	MAS0540MB	37.0	77.0	76	1.0	6
	6	Int.	★	MAS0540LB	53.0	93.0	92	1.0	6
5.5	3	Ext.	★	* MAE0550MB	37.0	77.0	76	1.0	6
	3	Int.	★	* MAS0550MB	37.0	77.0	76	1.0	6
	6	Int.	★	* MAS0550LB	53.0	93.0	92	1.0	6
5.6	3	Ext.	★	MAE0560MB	40.0	80.0	79	1.0	6
	3	Int.	□	MAS0560MB	40.0	80.0	79	1.0	6
	6	Int.	★	MAS0560LB	58.0	98.0	97	1.0	6
5.7	3	Ext.	★	MAE0570MB	40.0	80.0	79	1.0	6
	3	Int.	□	MAS0570MB	40.0	80.0	79	1.0	6
	6	Int.	★	MAS0570LB	58.0	98.0	97	1.0	6
5.8	3	Ext.	★	MAE0580MB	40.1	80.1	79	1.1	6
	3	Int.	□	MAS0580MB	40.1	80.1	79	1.1	6
	6	Int.	★	MAS0580LB	58.1	98.1	97	1.1	6
5.9	3	Ext.	★	MAE0590MB	40.1	80.1	79	1.1	6
	3	Int.	□	MAS0590MB	40.1	80.1	79	1.1	6
	6	Int.	★	MAS0590LB	58.1	98.1	97	1.1	6
6.0	3	Ext.	★	MAE0600MB	40.1	80.1	79	1.1	6
	3	Int.	★	MAS0600MB	40.1	80.1	79	1.1	6
	6	Int.	★	MAS0600LB	58.1	98.1	97	1.1	6
6.1	3	Ext.	★	MAE0610MB	43.1	85.1	84	1.1	7
	3	Int.	□	MAS0610MB	43.1	85.1	84	1.1	7
	6	Int.	★	MAS0610LB	63.1	105.1	104	1.1	7
6.2	3	Ext.	★	MAE0620MB	43.1	85.1	84	1.1	7
	3	Int.	□	MAS0620MB	43.1	85.1	84	1.1	7
	6	Int.	★	MAS0620LB	63.1	105.1	104	1.1	7
6.3	3	Ext.	★	MAE0630MB	43.1	85.1	84	1.1	7
	3	Int.	□	MAS0630MB	43.1	85.1	84	1.1	7
	6	Int.	★	MAS0630LB	63.1	105.1	104	1.1	7
6.4	3	Ext.	★	MAE0640MB	43.2	85.2	84	1.2	7
	3	Int.	□	MAS0640MB	43.2	85.2	84	1.2	7
	6	Int.	★	MAS0640LB	63.2	105.2	104	1.2	7
6.5	3	Ext.	★	MAE0650MB	43.2	85.2	84	1.2	7
	3	Int.	★	MAS0650MB	43.2	85.2	84	1.2	7
	6	Int.	★	MAS0650LB	63.2	105.2	104	1.2	7
6.6	3	Ext.	★	MAE0660MB	43.2	85.2	84	1.2	7
	3	Int.	□	MAS0660MB	43.2	85.2	84	1.2	7
	6	Int.	★	MAS0660LB	66.2	108.2	107	1.2	7
6.7	3	Ext.	★	MAE0670MB	43.2	85.2	84	1.2	7
	3	Int.	□	MAS0670MB	43.2	85.2	84	1.2	7
	6	Int.	★	MAS0670LB	66.2	108.2	107	1.2	7
6.8	3	Ext.	★	MAE0680MB	43.2	85.2	84	1.2	7
	3	Int.	★	MAS0680MB	43.2	85.2	84	1.2	7
	6	Int.	★	MAS0680LB	66.2	108.2	107	1.2	7
6.9	3	Ext.	★	MAE0690MB	43.3	85.3	84	1.3	7
	3	Int.	□	MAS0690MB	43.3	85.3	84	1.3	7
	6	Int.	★	MAS0690LB	66.3	108.3	107	1.3	7
7.0	3	Ext.	★	MAE0700MB	43.3	85.3	84	1.3	7
	3	Int.	★	MAS0700MB	43.3	85.3	84	1.3	7
	6	Int.	★	MAS0700LB	66.3	108.3	107	1.3	7
7.1	3	Ext.	★	MAE0710MB	49.3	91.3	90	1.3	8
	3	Int.	□	MAS0710MB	49.3	91.3	90	1.3	8
	6	Int.	★	MAS0710LB	69.3	111.3	110	1.3	8
7.2	3	Ext.	★	MAE0720MB	49.3	91.3	90	1.3	8
	3	Int.	□	MAS0720MB	49.3	91.3	90	1.3	8
	6	Int.	★	MAS0720LB	69.3	111.3	110	1.3	8
7.3	3	Ext.	★	MAE0730MB	49.3	91.3	90	1.3	8
	3	Int.	□	MAS0730MB	49.3	91.3	90	1.3	8
	6	Int.	★	MAS0730LB	69.3	111.3	110	1.3	8
7.35	3	Ext.	★	* MAE0735MB	49.3	91.3	90	1.3	8
	3	Int.	★	* MAS0735MB	49.3	91.3	90	1.3	8
	6	Int.	★	* MAS0735LB	69.3	111.3	110	1.3	8
7.4	3	Ext.	★	MAE0740MB	49.3	91.3	90	1.3	8
	3	Int.	□	MAS0740MB	49.3	91.3	90	1.3	8
	6	Int.	★	MAS0740LB	69.3	111.3	110	1.3	8
7.5	3	Ext.	★	MAE0750MB	49.4	91.4	90	1.4	8
	3	Int.	□	MAS0750MB	49.4	91.4	90	1.4	8
	6	Int.	★	MAS0750LB	69.4	111.4	110	1.4	8
7.6	3	Ext.	★	MAE0760MB	49.4	91.4	90	1.4	8
	3	Int.	□	MAS0760MB	49.4	91.4	90	1.4	8
	6	Int.	★	MAS0760LB	73.4	115.4	114	1.4	8
7.7	3	Ext.	★	MAE0770MB	49.4	91.4	90	1.4	8
	3	Int.	□	MAS0770MB	49.4	91.4	90	1.4	8
	6	Int.	★	MAS0770LB	73.4	115.4	114	1.4	8

CUTTING CONDITIONS ➤ L147
TECHNICAL DATA ➤ N001

MAE/MAS

DC (mm)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock HTi10	Order Number	Dimensions (mm) LCF	OAL	LF	PL	DCON
7.8	3	Ext.	★	MAE0780MB	49.4	91.4	90	1.4	8
	3	Int.	□	MAS0780MB	49.4	91.4	90	1.4	8
	6	Int.	★	MAS0780LB	73.4	115.4	114	1.4	8
7.9	3	Ext.	★	MAE0790MB	49.4	91.4	90	1.4	8
	3	Int.	□	MAS0790MB	49.4	91.4	90	1.4	8
	6	Int.	★	MAS0790LB	73.4	115.4	114	1.4	8
8.0	3	Ext.	★	MAE0800MB	49.5	91.5	90	1.5	8
	3	Int.	★	MAS0800MB	49.5	91.5	90	1.5	8
	6	Int.	★	MAS0800LB	73.5	115.5	114	1.5	8
8.1	3	Ext.	★	MAE0810MB	51.5	95.5	94	1.5	9
	3	Int.	□	MAS0810MB	51.5	95.5	94	1.5	9
	6	Int.	★	MAS0810LB	76.5	120.5	119	1.5	9
8.2	3	Ext.	★	MAE0820MB	51.5	95.5	94	1.5	9
	3	Int.	□	MAS0820MB	51.5	95.5	94	1.5	9
	6	Int.	★	MAS0820LB	76.5	120.5	119	1.5	9
8.3	3	Ext.	★	MAE0830MB	51.5	95.5	94	1.5	9
	3	Int.	□	MAS0830MB	51.5	95.5	94	1.5	9
	6	Int.	★	MAS0830LB	76.5	120.5	119	1.5	9
8.4	3	Ext.	★	MAE0840MB	51.5	95.5	94	1.5	9
	3	Int.	□	MAS0840MB	51.5	95.5	94	1.5	9
	6	Int.	★	MAS0840LB	76.5	120.5	119	1.5	9
8.5	3	Ext.	★	MAE0850MB	51.5	95.5	94	1.5	9
	3	Int.	★	MAS0850MB	51.5	95.5	94	1.5	9
	6	Int.	★	MAS0850LB	76.5	120.5	119	1.5	9
8.6	3	Ext.	★	MAE0860MB	51.6	95.6	94	1.6	9
	3	Int.	□	MAS0860MB	51.6	95.6	94	1.6	9
	6	Int.	★	MAS0860LB	78.6	122.6	121	1.6	9
8.7	3	Ext.	★	MAE0870MB	51.6	95.6	94	1.6	9
	3	Int.	□	MAS0870MB	51.6	95.6	94	1.6	9
	6	Int.	★	MAS0870LB	78.6	122.6	121	1.6	9
8.8	3	Ext.	★	MAE0880MB	51.6	95.6	94	1.6	9
	3	Int.	□	MAS0880MB	51.6	95.6	94	1.6	9
	6	Int.	★	MAS0880LB	78.6	122.6	121	1.6	9
8.9	3	Ext.	★	MAE0890MB	51.6	95.6	94	1.6	9
	3	Int.	□	MAS0890MB	51.6	95.6	94	1.6	9
	6	Int.	★	MAS0890LB	78.6	122.6	121	1.6	9
9.0	3	Ext.	★	MAE0900MB	51.6	95.6	94	1.6	9
	3	Int.	★	MAS0900MB	51.6	95.6	94	1.6	9
	6	Int.	★	MAS0900LB	78.6	122.6	121	1.6	9
9.1	3	Ext.	★	MAE0910MB	54.7	98.7	97	1.7	10
	3	Int.	□	MAS0910MB	54.7	98.7	97	1.7	10
	6	Int.	★	MAS0910LB	82.7	126.7	125	1.7	10
9.2	3	Ext.	★	MAE0920MB	54.7	98.7	97	1.7	10
	3	Int.	□	MAS0920MB	54.7	98.7	97	1.7	10
	6	Int.	★	MAS0920LB	82.7	126.7	125	1.7	10
9.21	3	Ext.	★	* MAE0921MB	54.7	98.7	97	1.7	10
	3	Int.	★	* MAS0921MB	54.7	98.7	97	1.7	10
	6	Int.	★	* MAS0921LB	82.7	126.7	125	1.7	10
9.3	3	Ext.	★	MAE0930MB	54.7	98.7	97	1.7	10
	3	Int.	□	MAS0930MB	54.7	98.7	97	1.7	10
	6	Int.	★	MAS0930LB	82.7	126.7	125	1.7	10
9.4	3	Ext.	★	MAE0940MB	54.7	98.7	97	1.7	10
	3	Int.	□	MAS0940MB	54.7	98.7	97	1.7	10
	6	Int.	★	MAS0940LB	82.7	126.7	125	1.7	10
9.5	3	Ext.	★	MAE0950MB	54.7	98.7	97	1.7	10
	3	Int.	★	MAS0950MB	54.7	98.7	97	1.7	10
	6	Int.	★	MAS0950LB	82.7	126.7	125	1.7	10
9.6	3	Ext.	★	MAE0960MB	54.7	98.7	97	1.7	10
	3	Int.	□	MAS0960MB	54.7	98.7	97	1.7	10
	6	Int.	★	MAS0960LB	82.7	126.7	125	1.7	10
9.7	3	Ext.	★	MAE0970MB	54.8	98.8	97	1.8	10
	3	Int.	□	MAS0970MB	54.8	98.8	97	1.8	10
	6	Int.	★	MAS0970LB	82.8	126.8	125	1.8	10
9.8	3	Ext.	★	MAE0980MB	54.8	98.8	97	1.8	10
	3	Int.	□	MAS0980MB	54.8	98.8	97	1.8	10
	6	Int.	★	MAS0980LB	82.8	126.8	125	1.8	10
9.9	3	Ext.	★	MAE0990MB	54.8	98.8	97	1.8	10
	3	Int.	□	MAS0990MB	54.8	98.8	97	1.8	10
	6	Int.	★	MAS0990LB	82.8	126.8	125	1.8	10
10.0	3	Ext.	★	MAE1000MB	54.8	98.8	97	1.8	10
	3	Int.	★	MAS1000MB	54.8	98.8	97	1.8	10
	6	Int.	★	MAS1000LB	82.8	126.8	125	1.8	10
10.1	3	Ext.	□	MAE1010MB	56.8	102.8	101	1.8	11
	3	Int.	□	MAS1010MB	56.8	102.8	101	1.8	11
	6	Int.	□	MAS1010LB	90.8	136.8	135	1.8	11
10.2	3	Ext.	□	MAE1020MB	56.9	102.9	101	1.9	11
	3	Int.	□	MAS1020MB	56.9	102.9	101	1.9	11
	6	Int.	□	MAS1020LB	90.9	136.9	135	1.9	11
10.3	3	Ext.	★	MAE1030MB	56.9	102.9	101	1.9	11
	3	Int.	★	MAS1030MB	56.9	102.9	101	1.9	11
	6	Int.	★	MAS1030LB	90.9	136.9	135	1.9	11
10.4	3	Ext.	□	MAE1040MB	56.9	102.9	101	1.9	11
	3	Int.	□	MAS1040MB	56.9	102.9	101	1.9	11
	6	Int.	□	MAS1040LB	90.9	136.9	135	1.9	11
10.5	3	Ext.	★	MAE1050MB	56.9	102.9	101	1.9	11
	3	Int.	★	MAS1050MB	56.9	102.9	101	1.9	11
	6	Int.	★	MAS1050LB	90.9	136.9	135	1.9	11
10.6	3	Ext.	□	MAE1060MB	56.9	102.9	101	1.9	11
	3	Int.	□	MAS1060MB	56.9	102.9	101	1.9	11
	6	Int.	□	MAS1060LB	90.9	136.9	135	1.9	11

* : Standard hole size for rolled thread tap.

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

DC (mm)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock HTi10	Order Number	Dimensions (mm) LCF	OAL	LF	PL	DCON
	3	Ext.	□	**MAE1070MB**	56.9	102.9	101	1.9	11
10.7	3	Int.	□	**MAS1070MB**	56.9	102.9	101	1.9	11
	6	Int.	□	**MAS1070LB**	90.9	136.9	135	1.9	11
	3	Ext.	□	**MAE1080MB**	57.0	103.0	101	2.0	11
10.8	3	Int.	□	**MAS1080MB**	57.0	103.0	101	2.0	11
	6	Int.	□	**MAS1080LB**	91.0	137.0	135	2.0	11
	3	Ext.	□	**MAE1090MB**	57.0	103.0	101	2.0	11
10.9	3	Int.	□	**MAS1090MB**	57.0	103.0	101	2.0	11
	6	Int.	□	**MAS1090LB**	91.0	137.0	135	2.0	11
	3	Ext.	★	**MAE1100MB**	57.0	103.0	101	2.0	11
11.0	3	Int.	★	**MAS1100MB**	57.0	103.0	101	2.0	11
	6	Int.	★	**MAS1100LB**	91.0	137.0	135	2.0	11
	3	Ext.	★	* **MAE1108MB**	62.0	108.0	106	2.0	12
11.08	3	Int.	★	* **MAS1108MB**	62.0	108.0	106	2.0	12
	6	Int.	★	* **MAS1108LB**	96.0	142.0	140	2.0	12
	3	Ext.	□	**MAE1110MB**	62.0	108.0	106	2.0	12
11.1	3	Int.	□	**MAS1110MB**	62.0	108.0	106	2.0	12
	6	Int.	□	**MAS1110LB**	96.0	142.0	140	2.0	12
	3	Ext.	□	**MAE1120MB**	62.0	108.0	106	2.0	12
11.2	3	Int.	□	**MAS1120MB**	62.0	108.0	106	2.0	12
	6	Int.	□	**MAS1120LB**	96.0	142.0	140	2.0	12
	3	Ext.	□	**MAE1130MB**	62.1	108.1	106	2.1	12
11.3	3	Int.	□	**MAS1130MB**	62.1	108.1	106	2.1	12
	6	Int.	□	**MAS1130LB**	96.1	142.1	140	2.1	12
	3	Ext.	□	**MAE1140MB**	62.1	108.1	106	2.1	12
11.4	3	Int.	□	**MAS1140MB**	62.1	108.1	106	2.1	12
	6	Int.	□	**MAS1140LB**	96.1	142.1	140	2.1	12
	3	Ext.	□	**MAE1150MB**	62.1	108.1	106	2.1	12
11.5	3	Int.	□	**MAS1150MB**	62.1	108.1	106	2.1	12
	6	Int.	□	**MAS1150LB**	96.1	142.1	140	2.1	12
	3	Ext.	□	**MAE1160MB**	62.1	108.1	106	2.1	12
11.6	3	Int.	□	**MAS1160MB**	62.1	108.1	106	2.1	12
	6	Int.	□	**MAS1160LB**	96.1	142.1	140	2.1	12
	3	Ext.	□	**MAE1170MB**	62.1	108.1	106	2.1	12
11.7	3	Int.	□	**MAS1170MB**	62.1	108.1	106	2.1	12
	6	Int.	□	**MAS1170LB**	96.1	142.1	140	2.1	12
	3	Ext.	□	**MAE1180MB**	62.1	108.1	106	2.1	12
11.8	3	Int.	□	**MAS1180MB**	62.1	108.1	106	2.1	12
	6	Int.	□	**MAS1180LB**	96.1	142.1	140	2.1	12
	3	Ext.	□	**MAE1190MB**	62.2	108.2	106	2.2	12
11.9	3	Int.	□	**MAS1190MB**	62.2	108.2	106	2.2	12
	6	Int.	□	**MAS1190LB**	96.2	142.2	140	2.2	12
	3	Ext.	★	**MAE1200MB**	62.2	108.2	106	2.2	12
12.0	3	Int.	★	**MAS1200MB**	62.2	108.2	106	2.2	12
	6	Int.	★	**MAS1200LB**	96.2	142.2	140	2.2	12

DC (mm)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock HTi10	Order Number	Dimensions (mm) LCF	OAL	LF	PL	DCON
	3	Ext.	□	**MAE1210MB**	67.2	117.2	115	2.2	13
12.1	3	Int.	□	**MAS1210MB**	67.2	117.2	115	2.2	13
	6	Int.	□	**MAS1210LB**	102.2	152.2	150	2.2	13
	3	Ext.	□	**MAE1220MB**	67.2	117.2	115	2.2	13
12.2	3	Int.	□	**MAS1220MB**	67.2	117.2	115	2.2	13
	6	Int.	□	**MAS1220LB**	102.2	152.2	150	2.2	13
	3	Ext.	□	**MAE1230MB**	67.2	117.2	115	2.2	13
12.3	3	Int.	□	**MAS1230MB**	67.2	117.2	115	2.2	13
	6	Int.	□	**MAS1230LB**	102.2	152.2	150	2.2	13
	3	Ext.	□	**MAE1240MB**	67.3	117.3	115	2.3	13
12.4	3	Int.	□	**MAS1240MB**	67.3	117.3	115	2.3	13
	6	Int.	□	**MAS1240LB**	102.3	152.3	150	2.3	13
	3	Ext.	★	**MAE1250MB**	67.3	117.3	115	2.3	13
12.5	3	Int.	★	**MAS1250MB**	67.3	117.3	115	2.3	13
	6	Int.	★	**MAS1250LB**	102.3	152.3	150	2.3	13
	3	Ext.	□	**MAE1260MB**	67.3	117.3	115	2.3	13
12.6	3	Int.	□	**MAS1260MB**	67.3	117.3	115	2.3	13
	6	Int.	□	**MAS1260LB**	102.3	152.3	150	2.3	13
	3	Ext.	□	**MAE1270MB**	67.3	117.3	115	2.3	13
12.7	3	Int.	□	**MAS1270MB**	67.3	117.3	115	2.3	13
	6	Int.	□	**MAS1270LB**	102.3	152.3	150	2.3	13
	3	Ext.	□	**MAE1280MB**	67.3	117.3	115	2.3	13
12.8	3	Int.	□	**MAS1280MB**	67.3	117.3	115	2.3	13
	6	Int.	□	**MAS1280LB**	102.3	152.3	150	2.3	13
	3	Ext.	□	**MAE1290MB**	67.3	117.3	115	2.3	13
12.9	3	Int.	□	**MAS1290MB**	67.3	117.3	115	2.3	13
	6	Int.	□	**MAS1290LB**	102.3	152.3	150	2.3	13
	3	Ext.	★	* **MAE1296MB**	67.4	117.4	115	2.4	13
12.96	3	Int.	★	* **MAS1296MB**	67.4	117.4	115	2.4	13
	6	Int.	★	* **MAS1296LB**	102.4	152.4	150	2.4	13
	3	Ext.	★	**MAE1300MB**	67.4	117.4	115	2.4	13
13.0	3	Int.	★	**MAS1300MB**	67.4	117.4	115	2.4	13
	6	Int.	★	**MAS1300LB**	102.4	152.4	150	2.4	13
	3	Ext.	□	**MAE1310MB**	72.4	122.4	120	2.4	14
13.1	3	Int.	□	**MAS1310MB**	72.4	122.4	120	2.4	14
	6	Int.	□	**MAS1310LB**	112.4	162.4	160	2.4	14
	3	Ext.	□	**MAE1320MB**	72.4	122.4	120	2.4	14
13.2	3	Int.	□	**MAS1320MB**	72.4	122.4	120	2.4	14
	6	Int.	□	**MAS1320LB**	112.4	162.4	160	2.4	14
	3	Ext.	□	**MAE1330MB**	72.4	122.4	120	2.4	14
13.3	3	Int.	□	**MAS1330MB**	72.4	122.4	120	2.4	14
	6	Int.	□	**MAS1330LB**	112.4	162.4	160	2.4	14
	3	Ext.	□	**MAE1340MB**	72.4	122.4	120	2.4	14
13.4	3	Int.	□	**MAS1340MB**	72.4	122.4	120	2.4	14
	6	Int.	□	**MAS1340LB**	112.4	162.4	160	2.4	14

CUTTING CONDITIONS ➤ L147
TECHNICAL DATA ➤ N001

MAE/MAS

DC (mm)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock HTi10	Order Number	Dimensions (mm) LCF	OAL	LF	PL	DCON
13.5	3	Ext.	★	MAE1350MB	72.5	122.5	120	2.5	14
	3	Int.	★	MAS1350MB	72.5	122.5	120	2.5	14
	6	Int.	★	MAS1350LB	112.5	162.5	160	2.5	14
13.6	3	Ext.	□	MAE1360MB	72.5	122.5	120	2.5	14
	3	Int.	□	MAS1360MB	72.5	122.5	120	2.5	14
	6	Int.	□	MAS1360LB	112.5	162.5	160	2.5	14
13.7	3	Ext.	□	MAE1370MB	72.5	122.5	120	2.5	14
	3	Int.	□	MAS1370MB	72.5	122.5	120	2.5	14
	6	Int.	□	MAS1370LB	112.5	162.5	160	2.5	14
13.8	3	Ext.	□	MAE1380MB	72.5	122.5	120	2.5	14
	3	Int.	□	MAS1380MB	72.5	122.5	120	2.5	14
	6	Int.	□	MAS1380LB	112.5	162.5	160	2.5	14
13.9	3	Ext.	□	MAE1390MB	72.5	122.5	120	2.5	14
	3	Int.	□	MAS1390MB	72.5	122.5	120	2.5	14
	6	Int.	□	MAS1390LB	112.5	162.5	160	2.5	14
14.0	3	Ext.	★	* MAE1400MB	72.5	122.5	120	2.5	14
	3	Int.	★	* MAS1400MB	72.5	122.5	120	2.5	14
	6	Int.	★	* MAS1400LB	112.5	162.5	160	2.5	14
14.1	3	Ext.	□	MAE1410MB	74.6	132.6	130	2.6	15
	3	Int.	□	MAS1410MB	74.6	132.6	130	2.6	15
	6	Int.	□	MAS1410LB	117.6	175.6	173	2.6	15
14.2	3	Ext.	□	MAE1420MB	74.6	132.6	130	2.6	15
	3	Int.	□	MAS1420MB	74.6	132.6	130	2.6	15
	6	Int.	□	MAS1420LB	117.6	175.6	173	2.6	15
14.3	3	Ext.	□	MAE1430MB	74.6	132.6	130	2.6	15
	3	Int.	□	MAS1430MB	74.6	132.6	130	2.6	15
	6	Int.	□	MAS1430LB	117.6	175.6	173	2.6	15
14.4	3	Ext.	□	MAE1440MB	74.6	132.6	130	2.6	15
	3	Int.	□	MAS1440MB	74.6	132.6	130	2.6	15
	6	Int.	□	MAS1440LB	117.6	175.6	173	2.6	15
14.5	3	Ext.	□	MAE1450MB	74.6	132.6	130	2.6	15
	3	Int.	□	MAS1450MB	74.6	132.6	130	2.6	15
	6	Int.	□	MAS1450LB	117.6	175.6	173	2.6	15
14.6	3	Ext.	□	MAE1460MB	74.7	132.7	130	2.7	15
	3	Int.	□	MAS1460MB	74.7	132.7	130	2.7	15
	6	Int.	□	MAS1460LB	117.7	175.7	173	2.7	15
14.7	3	Ext.	□	MAE1470MB	74.7	132.7	130	2.7	15
	3	Int.	□	MAS1470MB	74.7	132.7	130	2.7	15
	6	Int.	□	MAS1470LB	117.7	175.7	173	2.7	15
14.8	3	Ext.	□	MAE1480MB	74.7	132.7	130	2.7	15
	3	Int.	□	MAS1480MB	74.7	132.7	130	2.7	15
	6	Int.	□	MAS1480LB	117.7	175.7	173	2.7	15
14.9	3	Ext.	□	MAE1490MB	74.7	132.7	130	2.7	15
	3	Int.	□	MAS1490MB	74.7	132.7	130	2.7	15
	6	Int.	□	MAS1490LB	117.7	175.7	173	2.7	15
14.96	3	Ext.	★	* MAE1496MB	74.7	132.7	130	2.7	15
	3	Int.	★	* MAS1496MB	74.7	132.7	130	2.7	15
	6	Int.	★	* MAS1496LB	117.7	175.7	173	2.7	15
15.0	3	Ext.	★	MAE1500MB	74.7	132.7	130	2.7	15
	3	Int.	★	MAS1500MB	74.7	132.7	130	2.7	15
	6	Int.	★	MAS1500LB	117.7	175.7	173	2.7	15
15.1	3	Ext.	□	MAE1510MB	78.7	136.7	134	2.7	16
	3	Int.	□	MAS1510MB	78.7	136.7	134	2.7	16
	6	Int.	□	MAS1510LB	122.7	180.7	178	2.7	16
15.2	3	Ext.	□	MAE1520MB	78.8	136.8	134	2.8	16
	3	Int.	□	MAS1520MB	78.8	136.8	134	2.8	16
	6	Int.	□	MAS1520LB	122.8	180.8	178	2.8	16
15.3	3	Ext.	□	MAE1530MB	78.8	136.8	134	2.8	16
	3	Int.	□	MAS1530MB	78.8	136.8	134	2.8	16
	6	Int.	□	MAS1530LB	122.8	180.8	178	2.8	16
15.4	3	Ext.	□	MAE1540MB	78.8	136.8	134	2.8	16
	3	Int.	□	MAS1540MB	78.8	136.8	134	2.8	16
	6	Int.	□	MAS1540LB	122.8	180.8	178	2.8	16
15.5	3	Ext.	□	MAE1550MB	78.8	136.8	134	2.8	16
	3	Int.	□	MAS1550MB	78.8	136.8	134	2.8	16
	6	Int.	□	MAS1550LB	122.8	180.8	178	2.8	16
15.6	3	Ext.	□	MAE1560MB	78.8	136.8	134	2.8	16
	3	Int.	□	MAS1560MB	78.8	136.8	134	2.8	16
	6	Int.	□	MAS1560LB	122.8	180.8	178	2.8	16
15.7	3	Ext.	□	MAE1570MB	78.9	136.9	134	2.9	16
	3	Int.	□	MAS1570MB	78.9	136.9	134	2.9	16
	6	Int.	□	MAS1570LB	122.9	180.9	178	2.9	16
15.8	3	Ext.	□	* MAE1580MB	78.9	136.9	134	2.9	16
	3	Int.	□	* MAS1580MB	78.9	136.9	134	2.9	16
	6	Int.	□	* MAS1580LB	122.9	180.9	178	2.9	16
15.9	3	Ext.	□	MAE1590MB	78.9	136.9	134	2.9	16
	3	Int.	□	MAS1590MB	78.9	136.9	134	2.9	16
	6	Int.	□	MAS1590LB	122.9	180.9	178	2.9	16
16.0	3	Ext.	★	MAE1600MB	78.9	136.9	134	2.9	16
	3	Int.	★	MAS1600MB	78.9	136.9	134	2.9	16
	6	Int.	★	MAS1600LB	122.9	180.9	178	2.9	16

* : Standard hole size for rolled thread tap.

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

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

RECOMMENDED CUTTING CONDITIONS

Tool		Work Material	Drill Diameter ø3.0—ø6.0 mm ø.118"—ø.236"		Drill Diameter ø6.0—ø10.0 mm ø.240"—ø.394"		Drill Diameter ø10.0—ø16.0 mm ø.398"—ø.630"	
			Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)
MAE	N	Cast Aluminum Alloy	295 (130—460)	.006 (.002—.012)	330 (165—490)	.008 (.002—.012)	395 (195—560)	.010 (.004—.016)
		Die Cast Aluminum Alloy	330 (195—490)	.005 (.002—.010)	360 (230—525)	.006 (.002—.010)	425 (260—590)	.008 (.004—.012)
	K	Gray Cast Iron	130 (65—195)	.006 (.004—.008)	195 (130—260)	.008 (.004—.012)	260 (195—330)	.012 (.008—.016)
		Ductile Cast Iron	100 (65—130)	.004 (.002—.006)	130 (65—195)	.005 (.002—.008)	195 (130—260)	.008 (.004—.012)
MAS	N	Cast Aluminum Alloy	300 (195—490)	.006 (.002—.012)	390 (260—555)	.008 (.004—.012)	490 (330—655)	.010 (.004—.016)
		Die Cast Aluminum Alloy	390 (260—555)	.005 (.002—.010)	490 (330—590)	.006 (.002—.010)	525 (390—655)	.008 (.004—.012)
	K	Gray Cast Iron	195 (130—260)	.006 (.004—.008)	260 (195—360)	.008 (.004—.012)	330 (230—425)	.012 (.008—.016)
		Ductile Cast Iron	145 (100—195)	.004 (.002—.006)	195 (130—260)	.005 (.002—.008)	260 (195—330)	.008 (.004—.012)

HOLE AND DRILL DIAMETERS FOR THREAD

Thread Size	Thread Tapping			Roll Thread Tapping		
	Super Burnish Drill Diameter (**DC**mm)	Hole Diameter Tolerance (ømm)		Super Burnish Drill Diameter (**DC**mm)	Hole Diameter Tolerance (ømm)	
		Max.	Min.		Max.	Min.
M4x0.7	**3.3**	3.242	3.422	**3.65**	3.65	3.70
M5x0.8	**4.2**	4.134	4.334	**4.60**	4.59	4.66
M6x1.0	**5.0**	4.917	5.153	**5.50**	5.48	5.57
M8x1.25	**6.8**	6.647	6.912	**7.35**	7.34	7.41
M10x1.5	**8.5**	8.376	8.676	**9.21**	9.18	9.28
M12x1.75	**10.3**	10.106	10.441	**11.08**	11.05	11.15
M14x2	**12.0**	11.835	12.210	**12.96**	12.92	13.04
M16x2	**14.0**	13.835	14.210	**14.96**	14.92	15.04

MSE

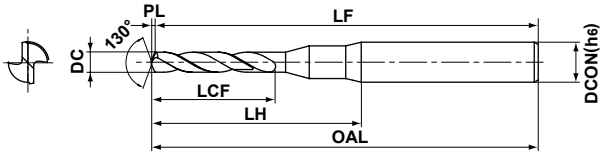
- Wide flute for preventing chip jamming.
- Stable, small diameter machining.

P | M | K | N | S | H

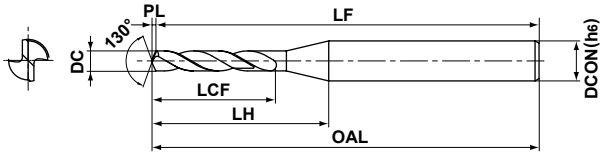
Tolerance	0.10≤DC≤0.99
DC (mm)	$^{0}_{-0.009}$
DCON (mm)	$^{0}_{-0.006}$

METRIC STANDARD

Type A



Type B



(Note) MSE type can be used for shrink fit holders.

External Coolant

DC (mm)	Stock VP20MF	Stock VP15TF	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
0.10	★		MSE0010SB	1.22	9.72	38.02	38	0.02	3	A
0.11	★		MSE0011SB	1.23	9.73	38.03	38	0.03	3	A
0.12	★		MSE0012SB	1.43	9.73	38.03	38	0.03	3	A
0.13	★		MSE0013SB	1.43	9.73	38.03	38	0.03	3	A
0.14	★		MSE0014SB	2.03	9.73	38.03	38	0.03	3	A
0.15	★		MSE0015SB	2.03	9.73	38.03	38	0.03	3	A
0.16	★		MSE0016SB	2.04	9.74	38.04	38	0.04	3	A
0.17	★		MSE0017SB	2.04	9.74	38.04	38	0.04	3	A
0.18	★		MSE0018SB	2.04	9.74	38.04	38	0.04	3	A
0.19	★		MSE0019SB	2.04	9.74	38.04	38	0.04	3	A
0.20	★		MSE0020SB	2.55	9.75	38.05	38	0.05	3	A
0.21	★		MSE0021SB	2.55	9.75	38.05	38	0.05	3	A
0.22	★		MSE0022SB	2.55	9.75	38.05	38	0.05	3	A
0.23	★		MSE0023SB	2.55	9.75	38.05	38	0.05	3	A
0.24	★		MSE0024SB	3.06	9.76	38.06	38	0.06	3	A
0.25	★		MSE0025SB	3.06	9.76	38.06	38	0.06	3	A
0.26	★		MSE0026SB	3.06	9.76	38.06	38	0.06	3	A
0.27	★		MSE0027SB	3.06	9.76	38.06	38	0.06	3	A
0.28	★		MSE0028SB	3.07	9.77	38.07	38	0.07	3	A
0.29	★		MSE0029SB	3.07	9.77	38.07	38	0.07	3	A
0.30		★	MSE0030SB	5.07	10.27	38.07	38	0.07	3	B
0.31		★	MSE0031SB	5.07	10.27	38.07	38	0.07	3	B
0.32		★	MSE0032SB	5.07	10.27	38.07	38	0.07	3	B
0.33		★	MSE0033SB	5.08	10.28	38.08	38	0.08	3	B
0.34		★	MSE0034SB	6.08	11.28	38.08	38	0.08	3	B
0.35		★	MSE0035SB	6.08	11.18	38.08	38	0.08	3	B
0.36		★	MSE0036SB	6.08	11.18	38.08	38	0.08	3	B
0.37		★	MSE0037SB	6.09	11.19	38.09	38	0.09	3	B
0.38		★	MSE0038SB	6.09	11.19	38.09	38	0.09	3	B
0.39		★	MSE0039SB	6.09	11.19	38.09	38	0.09	3	B
0.40		★	MSE0040SB	7.09	12.19	38.09	38	0.09	3	B
0.41		★	MSE0041SB	7.10	12.10	38.10	38	0.10	3	B

External Coolant

DC (mm)	Stock VP20MF	Stock VP15TF	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
0.42		★	MSE0042SB	7.10	12.10	38.10	38	0.10	3	B
0.43		★	MSE0043SB	7.10	12.10	38.10	38	0.10	3	B
0.44		★	MSE0044SB	7.10	12.10	38.10	38	0.10	3	B
0.45		★	MSE0045SB	7.10	12.10	38.10	38	0.10	3	B
0.46		★	MSE0046SB	7.11	12.01	38.11	38	0.11	3	B
0.47		★	MSE0047SB	7.11	12.01	38.11	38	0.11	3	B
0.48		★	MSE0048SB	7.11	12.01	38.11	38	0.11	3	B
0.49		★	MSE0049SB	7.11	12.01	38.11	38	0.11	3	B
0.50		★	MSE0050SB	7.12	12.02	38.12	38	0.12	3	B
0.51		★	MSE0051SB	7.12	11.92	38.12	38	0.12	3	B
0.52		★	MSE0052SB	7.12	11.92	38.12	38	0.12	3	B
0.53		★	MSE0053SB	7.12	11.92	38.12	38	0.12	3	B
0.54		★	MSE0054SB	7.13	11.93	38.13	38	0.13	3	B
0.55		★	MSE0055SB	7.13	11.93	38.13	38	0.13	3	B
0.56		★	MSE0056SB	7.13	11.93	38.13	38	0.13	3	B
0.57		★	MSE0057SB	7.13	11.83	38.13	38	0.13	3	B
0.58		★	MSE0058SB	7.14	11.84	38.14	38	0.14	3	B
0.59		★	MSE0059SB	7.14	11.84	38.14	38	0.14	3	B
0.60		★	MSE0060SB	7.14	11.84	38.14	38	0.14	3	B
0.61		★	MSE0061SB	7.14	11.84	38.14	38	0.14	3	B
0.62		★	MSE0062SB	7.14	11.74	38.14	38	0.14	3	B
0.63		★	MSE0063SB	7.15	11.75	38.15	38	0.15	3	B
0.64		★	MSE0064SB	7.15	11.75	38.15	38	0.15	3	B
0.65		★	MSE0065SB	7.15	11.75	38.15	38	0.15	3	B
0.66		★	MSE0066SB	7.15	11.75	38.15	38	0.15	3	B
0.67		★	MSE0067SB	7.16	11.66	38.16	38	0.16	3	B
0.68		★	MSE0068SB	7.16	11.66	38.16	38	0.16	3	B
0.69		★	MSE0069SB	7.16	11.66	38.16	38	0.16	3	B
0.70		★	MSE0070SB	8.16	12.66	38.16	38	0.16	3	B
0.71		★	MSE0071SB	8.17	12.67	38.17	38	0.17	3	B
0.72		★	MSE0072SB	8.17	12.67	38.17	38	0.17	3	B
0.73		★	MSE0073SB	8.17	12.57	38.17	38	0.17	3	B

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

★ : Inventory maintained in Japan.

External Coolant

DC (mm)	Stock VP20MF	Stock VP15TF	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
0.74		★	**MSE0074SB**	8.17	12.57	38.17	38	0.17	3	B
0.75		★	**MSE0075SB**	8.17	12.57	38.17	38	0.17	3	B
0.76		★	**MSE0076SB**	8.18	12.58	38.18	38	0.18	3	B
0.77		★	**MSE0077SB**	8.18	12.58	38.18	38	0.18	3	B
0.78		★	**MSE0078SB**	8.18	12.48	38.18	38	0.18	3	B
0.79		★	**MSE0079SB**	8.18	12.48	38.18	38	0.18	3	B
0.80		★	**MSE0080SB**	10.19	14.49	38.19	38	0.19	3	B
0.81		★	**MSE0081SB**	10.19	14.49	38.19	38	0.19	3	B
0.82		★	**MSE0082SB**	10.19	14.49	38.19	38	0.19	3	B
0.83		★	**MSE0083SB**	10.19	14.49	38.19	38	0.19	3	B
0.84		★	**MSE0084SB**	10.20	14.40	38.20	38	0.20	3	B
0.85		★	**MSE0085SB**	10.20	14.40	38.20	38	0.20	3	B
0.86		★	**MSE0086SB**	10.20	14.40	38.20	38	0.20	3	B

External Coolant

DC (mm)	Stock VP20MF	Stock VP15TF	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
0.87		★	**MSE0087SB**	10.20	14.40	38.20	38	0.20	3	B
0.88		★	**MSE0088SB**	10.21	14.41	38.21	38	0.21	3	B
0.89		★	**MSE0089SB**	10.21	14.31	38.21	38	0.21	3	B
0.90		★	**MSE0090SB**	10.21	14.31	38.21	38	0.21	3	B
0.91		★	**MSE0091SB**	10.21	14.31	38.21	38	0.21	3	B
0.92		★	**MSE0092SB**	10.21	14.31	38.21	38	0.21	3	B
0.93		★	**MSE0093SB**	10.22	14.32	38.22	38	0.22	3	B
0.94		★	**MSE0094SB**	10.22	14.22	38.22	38	0.22	3	B
0.95		★	**MSE0095SB**	10.22	14.22	38.22	38	0.22	3	B
0.96		★	**MSE0096SB**	10.22	14.22	38.22	38	0.22	3	B
0.97		★	**MSE0097SB**	10.23	14.23	38.23	38	0.23	3	B
0.98		★	**MSE0098SB**	10.23	14.23	38.23	38	0.23	3	B
0.99		★	**MSE0099SB**	10.23	14.23	38.23	38	0.23	3	B

RECOMMENDED CUTTING CONDITIONS

Work Material	Mild Steel (≤180HB) AISI 1010 etc.			Carbon Steel, Alloy Steel (180—280HB) AISI 1045, 4140 etc.		
Drill Dia. **DC** inch	Drill Dia. **DC** mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Peck (inch)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Peck (inch)
.00394	**0.10**	20 (15—25)	.0001 (.00004—.0001)	.0008	20 (15—25)	.0001 (.00004—.0001)	.0008
.00472	**0.12**	25 (15—35)	.0001 (.00004—.0001)	.0008	25 (15—35)	.0001 (.00004—.0001)	.0008
.00630	**0.16**	35 (20—45)	.0001 (.00004—.0001)	.0008	35 (20—45)	.0001 (.00004—.0001)	.0008
.00787	**0.20**	40 (25—50)	.0001 (.0001—.0002)	.0016	40 (25—50)	.0001 (.0001—.0002)	.0016
.00984	**0.25**	50 (35—65)	.0001 (.0001—.0002)	.0016	50 (35—65)	.0001 (.0001—.0002)	.0016
.01260	**0.32**	65 (45—85)	.0002 (.0001—.0002)	.0020	65 (45—85)	.0002 (.0001—.0002)	.0020
.01575	**0.40**	80 (50—105)	.0002 (.0001—.0002)	.0020	80 (50—105)	.0002 (.0001—.0002)	.0020
.01969	**0.50**	105 (65—115)	.0002 (.0002—.0003)	.0039	105 (65—115)	.0002 (.0002—.0003)	.0039
.02480	**0.63**	130 (80—150)	.0003 (.0002—.0004)	.0039	130 (80—150)	.0003 (.0002—.0004)	.0039
.03150	**0.80**	165 (115—195)	.0008 (.0006—.0010)	.0118	165 (115—195)	.0006 (.0005—.0007)	.0118
.03937	**0.99**	205 (130—230)	.0016 (.0012—.0020)	.0118	205 (130—230)	.0008 (.0006—.0010)	.0118

(Note 1) When drilling holes up to ϕ0.3mm, the use of a spot drill is recommended. (Order number : MSP0300SB, Cutting conditions : See below.)
(Note 2) Change cutting conditions depending on your machine and workpiece rigidity.
(Note 3) When machining holes over 5DC, reduce the step stated above.
(Note 4) The use of water-soluble fluid (diluted by 20 times) is recommended for drilling under the cutting conditions above. Lower the revolutions if you use oil fluid or mist.
(Note 5) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MSE

Work Material		Carbon Steel, Alloy Steel (280—350HB) AISI 4340 etc.			Pre-hardened Steel AISI P21, P20 etc.		
Drill Dia. **DC** inch	Drill Dia. **DC** mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Peck (inch)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Peck (inch)
.00394	**0.10**	20 (15—25)	.0001 (.00004—.0001)	.0008	20 (15—25)	.0001 (.00004—.0001)	.0008
.00472	**0.12**	25 (15—35)	.0001 (.00004—.0001)	.0008	25 (15—35)	.0001 (.00004—.0001)	.0008
.00630	**0.16**	35 (20—45)	.0001 (.00004—.0001)	.0008	35 (20—45)	.0001 (.00004—.0001)	.0008
.00787	**0.20**	40 (25—50)	.0001 (.00008—.0002)	.0016	40 (25—50)	.0001 (.00008—.0002)	.0016
.00984	**0.25**	50 (35—65)	.0001 (.00008—.0002)	.0016	50 (35—65)	.0001 (.00008—.0002)	.0016
.01260	**0.32**	65 (45—85)	.0002 (.00012—.0002)	.0020	65 (45—85)	.0002 (.00012—.0002)	.0020
.01575	**0.40**	80 (50—105)	.0002 (.00012—.0002)	.0020	80 (50—105)	.0002 (.00012—.0002)	.0020
.01969	**0.50**	105 (65—115)	.0002 (.00020—.0003)	.0039	105 (65—115)	.0002 (.00020—.0003)	.0039
.02480	**0.63**	130 (80—150)	.0003 (.00024—.0004)	.0039	130 (80—150)	.0003 (.00024—.0004)	.0039
.03150	**0.80**	165 (115—195)	.0006 (.00047—.0007)	.0118	165 (115—195)	.0006 (.00047—.0007)	.0118
.03937	**0.99**	205 (130—230)	.0008 (.00059—.0010)	.0118	205 (130—230)	.0008 (.00059—.0010)	.0118

Work Material		Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.			Gray Cast Iron (≤350MPa) No45B etc.		
Drill Dia. **DC** inch	Drill Dia. **DC** mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Peck (inch)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Peck (inch)
.00394	**0.10**	20 (15—25)	.0001 (.00004—.0001)	.0008	20 (15—25)	.0001 (.00004—.0001)	.0008
.00472	**0.12**	25 (15—35)	.0001 (.00004—.0001)	.0008	25 (15—35)	.0001 (.00004—.0001)	.0008
.00630	**0.16**	35 (20—45)	.0001 (.00004—.0001)	.0008	35 (20—45)	.0001 (.00004—.0001)	.0008
.00787	**0.20**	35 (20—45)	.0001 (.00008—.0002)	.0016	40 (25—50)	.0001 (.00008—.0002)	.0016
.00984	**0.25**	45 (25—60)	.0001 (.00008—.0002)	.0016	50 (35—65)	.0001 (.00008—.0002)	.0016
.01260	**0.32**	50 (35—65)	.0002 (.00012—.0002)	.0020	65 (45—85)	.0002 (.00012—.0002)	.0020
.01575	**0.40**	50 (35—60)	.0002 (.00012—.0002)	.0020	80 (50—105)	.0002 (.00012—.0002)	.0020
.01969	**0.50**	50 (35—65)	.0002 (.00020—.0003)	.0039	105 (65—115)	.0002 (.00020—.0003)	.0039
.02480	**0.63**	50 (35—65)	.0003 (.00024—.0004)	.0039	130 (80—150)	.0003 (.00024—.0004)	.0039
.03150	**0.80**	50 (35—65)	.0006 (.00047—.0007)	.0079	165 (115—195)	.0008 (.00059—.0010)	.0118
.03937	**0.99**	50 (35—65)	.0008 (.00059—.0010)	.0079	205 (130—230)	.0016 (.00118—.0020)	.0118

Work Material		Aluminium Alloy (Si<5%) ASTM A6061, A7075 etc.			Heat Resistant Alloy Inconel718 etc.		
Drill Dia. **DC** inch	Drill Dia. **DC** mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Peck (inch)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Peck (inch)
.00394	**0.10**	20 (15—25)	.0001 (.00004—.0001)	.0020	5 (5—15)	.00004 (.00002—.00004)	.0008
.00472	**0.12**	25 (15—35)	.0001 (.00008—.0002)	.0020	10 (5—15)	.00004 (.00002—.00004)	.0008
.00630	**0.16**	35 (20—45)	.0002 (.00012—.0002)	.0020	15 (10—20)	.00004 (.00002—.00004)	.0008
.00787	**0.20**	40 (25—50)	.0002 (.00020—.0003)	.0039	15 (10—20)	.00008 (.00004—.00008)	.0016
.00984	**0.25**	50 (35—65)	.0003 (.00024—.0004)	.0039	15 (10—20)	.00008 (.00004—.00008)	.0016
.01260	**0.32**	65 (45—85)	.0004 (.00031—.0005)	.0118	15 (10—20)	.00008 (.00004—.00008)	.0020
.01575	**0.40**	80 (50—105)	.0008 (.00059—.0010)	.0118	15 (15—20)	.00008 (.00004—.00008)	.0020
.01969	**0.50**	105 (65—115)	.0012 (.00098—.0014)	.0197	15 (15—35)	.00012 (.00004—.00012)	.0039
.02480	**0.63**	130 (80—150)	.0016 (.00138—.0018)	.0197	20 (15—35)	.00016 (.00008—.00016)	.0039
.03150	**0.80**	165 (115—195)	.0020 (.00177—.0022)	.0315	20 (15—35)	.00024 (.00016—.00024)	.0079
.03937	**0.99**	205 (130—230)	.0024 (.00217—.0026)	.0315	20 (15—35)	.00039 (.00031—.00039)	.0079

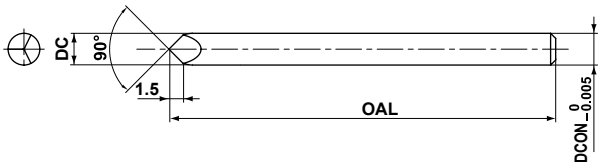
(Note 1) When drilling holes up to ϕ0.3mm, the use of a spot drill is recommended. (Order number : MSP0300SB, Cutting conditions : See below.)
(Note 2) Change cutting conditions depending on your machine and workpiece rigidity.
(Note 3) When machining holes over 5DC, reduce the step stated above.
(Note 4) The use of water-soluble fluid (diluted by 20 times) is recommended for drilling under the cutting conditions above. Lower the revolutions if you use oil fluid or mist.
(Note 5) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MSP STARTER Drill

●For use with MSE Type drill.

P M K N S H

METRIC STANDARD



(Note) MSP type can be used for shrink fit holders.

Order Number	Grade	Stock	Dimensions (mm)			Range of Diameter (mm)
			DC	DCON	OAL	
MSP0300SB	**VP15TF**	●	3.0	3.0	38	**0.1—3.0**

RECOMMENDED CUTTING CONDITIONS

DC (mm)	Cutting Speed (SFM)	Revolution (min^{-1})	Feed (Min.—Max.) (IPR)
0.1—3.0	10—310	10000	.00002 (.00001—.00004)

DRILLING

● : Inventory maintained.

REFERENCE TABLE OF PRE-HOLE DIMENSIONS

Unit : mm

Description	Cutting Dia.	Pre-hole Diameter	Pre-hole Depth
MSE0010SB	0.10	0.060—0.080	0.030—0.040
MSE0011SB	0.11	0.066—0.088	0.033—0.044
MSE0012SB	0.12	0.072—0.096	0.036—0.048
MSE0013SB	0.13	0.078—0.104	0.039—0.052
MSE0014SB	0.14	0.084—0.112	0.042—0.056
MSE0015SB	0.15	0.090—0.120	0.045—0.060
MSE0016SB	0.16	0.096—0.128	0.048—0.064
MSE0017SB	0.17	0.102—0.136	0.051—0.068
MSE0018SB	0.18	0.108—0.144	0.054—0.072
MSE0019SB	0.19	0.114—0.152	0.057—0.076
MSE0020SB	0.20	0.120—0.160	0.060—0.080
MSE0021SB	0.21	0.126—0.168	0.063—0.084
MSE0022SB	0.22	0.132—0.176	0.066—0.088
MSE0023SB	0.23	0.138—0.184	0.069—0.092
MSE0024SB	0.24	0.144—0.192	0.072—0.096
MSE0025SB	0.25	0.150—0.200	0.075—0.100
MSE0026SB	0.26	0.156—0.208	0.078—0.104
MSE0027SB	0.27	0.162—0.216	0.081—0.108
MSE0028SB	0.28	0.168—0.224	0.084—0.112
MSE0029SB	0.29	0.174—0.232	0.087—0.116
MSE0030SB	0.30	0.180—0.240	0.090—0.120
MSE0031SB	0.31	0.186—0.248	0.093—0.124
MSE0032SB	0.32	0.192—0.256	0.096—0.128
MSE0033SB	0.33	0.198—0.264	0.099—0.132
MSE0034SB	0.34	0.204—0.272	0.102—0.136
MSE0035SB	0.35	0.210—0.280	0.105—0.140
MSE0036SB	0.36	0.216—0.288	0.108—0.144
MSE0037SB	0.37	0.222—0.296	0.111—0.148
MSE0038SB	0.38	0.228—0.304	0.114—0.152
MSE0039SB	0.39	0.234—0.312	0.117—0.156
MSE0040SB	0.40	0.240—0.320	0.120—0.160
MSE0041SB	0.41	0.246—0.328	0.123—0.164
MSE0042SB	0.42	0.252—0.336	0.126—0.168
MSE0043SB	0.43	0.258—0.344	0.129—0.172
MSE0044SB	0.44	0.264—0.352	0.132—0.176
MSE0045SB	0.45	0.270—0.360	0.135—0.180
MSE0046SB	0.46	0.276—0.368	0.138—0.184
MSE0047SB	0.47	0.282—0.376	0.141—0.188
MSE0048SB	0.48	0.288—0.384	0.144—0.192
MSE0049SB	0.49	0.294—0.392	0.147—0.196
MSE0050SB	0.50	0.300—0.400	0.150—0.200
MSE0051SB	0.51	0.306—0.408	0.153—0.204
MSE0052SB	0.52	0.312—0.416	0.156—0.208
MSE0053SB	0.53	0.318—0.424	0.159—0.212
MSE0054SB	0.54	0.324—0.432	0.162—0.216

Description	Cutting Dia.	Pre-hole Diameter	Pre-hole Depth
MSE0055SB	0.55	0.330—0.440	0.165—0.220
MSE0056SB	0.56	0.336—0.448	0.168—0.224
MSE0057SB	0.57	0.342—0.456	0.171—0.228
MSE0058SB	0.58	0.348—0.464	0.174—0.232
MSE0059SB	0.59	0.354—0.472	0.177—0.236
MSE0060SB	0.60	0.360—0.480	0.180—0.240
MSE0061SB	0.61	0.366—0.488	0.183—0.244
MSE0062SB	0.62	0.372—0.496	0.186—0.248
MSE0063SB	0.63	0.378—0.504	0.189—0.252
MSE0064SB	0.64	0.384—0.512	0.192—0.256
MSE0065SB	0.65	0.390—0.520	0.195—0.260
MSE0066SB	0.66	0.396—0.528	0.198—0.264
MSE0067SB	0.67	0.402—0.536	0.201—0.268
MSE0068SB	0.68	0.408—0.544	0.204—0.272
MSE0069SB	0.69	0.414—0.552	0.207—0.276
MSE0070SB	0.70	0.420—0.560	0.210—0.280
MSE0071SB	0.71	0.426—0.568	0.213—0.284
MSE0072SB	0.72	0.432—0.576	0.216—0.288
MSE0073SB	0.73	0.438—0.584	0.219—0.292
MSE0074SB	0.74	0.444—0.592	0.222—0.296
MSE0075SB	0.75	0.450—0.600	0.225—0.300
MSE0076SB	0.76	0.456—0.608	0.228—0.304
MSE0077SB	0.77	0.462—0.616	0.231—0.308
MSE0078SB	0.78	0.468—0.624	0.234—0.312
MSE0079SB	0.79	0.474—0.632	0.237—0.316
MSE0080SB	0.80	0.480—0.640	0.240—0.320
MSE0081SB	0.81	0.486—0.648	0.243—0.324
MSE0082SB	0.82	0.492—0.656	0.246—0.328
MSE0083SB	0.83	0.498—0.664	0.249—0.332
MSE0084SB	0.84	0.504—0.672	0.252—0.336
MSE0085SB	0.85	0.510—0.680	0.255—0.340
MSE0086SB	0.86	0.516—0.688	0.258—0.344
MSE0087SB	0.87	0.522—0.696	0.261—0.348
MSE0088SB	0.88	0.528—0.704	0.264—0.352
MSE0089SB	0.89	0.534—0.712	0.267—0.356
MSE0090SB	0.90	0.540—0.720	0.270—0.360
MSE0091SB	0.91	0.546—0.728	0.273—0.364
MSE0092SB	0.92	0.552—0.736	0.276—0.368
MSE0093SB	0.93	0.558—0.744	0.279—0.372
MSE0094SB	0.94	0.564—0.752	0.282—0.376
MSE0095SB	0.95	0.570—0.760	0.285—0.380
MSE0096SB	0.96	0.576—0.768	0.288—0.384
MSE0097SB	0.97	0.582—0.776	0.291—0.388
MSE0098SB	0.98	0.588—0.784	0.294—0.392
MSE0099SB	0.99	0.594—0.792	0.297—0.396

Memo

MICRO-MZE/MZS

- Excellent chip disposal.
- Helical through coolant hole enables high speed machining (MZS type).

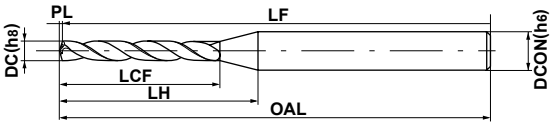
P M K N S H (only MZE)

Tolerance	.0394≤DC≤.1094	DC=.1200
DC (inch)	0 −0.00055	0 −0.00071
DCON (inch)	0 −0.00031	

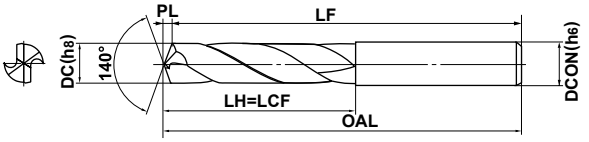
INCH STANDARD

MZE (External coolant)

Type A

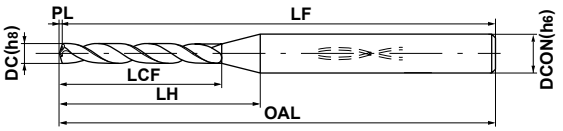


Type B

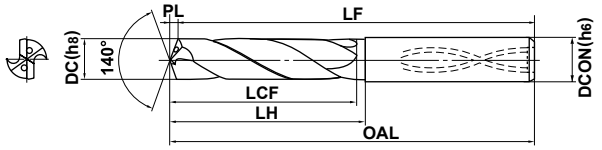


MZS (Internal coolant)

Type A



Type B



(Note) MICRO-MZE/MZS type can be used for shrink fit holders.

DC (inch)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock VP15TF	Order Number	Dimensions (inch) LCF	LH	OAL	LF	PL	DCON	Type
.0394	2	Ext.	●	MZE00394SB	.243	.403	2.172	2.165	.007	.1250	A
	5	Int.	●	MZS00394LB	.440	.600	2.172	2.165	.007	.1250	A
.0400	2	Ext.	●	MZE00400SB	.283	.442	2.172	2.165	.007	.1250	A
	5	Int.	●	MZS00400LB	.676	.835	2.172	2.165	.007	.1250	A
.0410	2	Ext.	●	MZE00410SB	.284	.441	2.173	2.165	.008	.1250	A
	5	Int.	●	MZS00410LB	.677	.834	2.173	2.165	.008	.1250	A
.0420	2	Ext.	●	MZE00420SB	.284	.439	2.173	2.165	.008	.1250	A
	5	Int.	●	MZS00420LB	.677	.834	2.173	2.165	.008	.1250	A
.0430	2	Ext.	●	MZE00430SB	.284	.437	2.173	2.165	.008	.1250	A
	5	Int.	●	MZS00430LB	.677	.830	2.173	2.165	.008	.1250	A
.0465	2	Ext.	●	MZE00465SB	.323	.469	2.173	2.165	.008	.1250	A
	5	Int.	●	MZS00465LB	.677	.823	2.173	2.165	.008	.1250	A
.0520	2	Ext.	●	MZE00520SB	.363	.499	2.174	2.165	.009	.1250	A
	5	Int.	●	MZS00520LB	.678	.814	2.174	2.165	.009	.1250	A
.0550	2	Ext.	●	MZE00550SB	.364	.495	2.175	2.165	.010	.1250	A
	5	Int.	●	MZS00550LB	.679	.810	2.175	2.165	.010	.1250	A
.0591	2	Ext.	●	MZE00591SB	.365	.488	2.176	2.165	.011	.1250	A
	5	Int.	●	MZS00591LB	.680	.803	2.176	2.165	.011	.1250	A
.0625	2	Ext.	●	MZE00625SB	.405	.522	2.176	2.165	.011	.1250	A
	5	Int.	●	MZS00625LB	.877	.994	2.688	2.677	.011	.1250	A
.0635	2	Ext.	●	MZE00635SB	.405	.520	2.176	2.165	.011	.1250	A
	5	Int.	●	MZS00635LB	.877	.992	2.688	2.677	.011	.1250	A
.0670	2	Ext.	●	MZE00670SB	.445	.553	2.177	2.165	.012	.1250	A
	5	Int.	●	MZS00670LB	.878	.986	2.689	2.677	.012	.1250	A
.0700	2	Ext.	●	MZE00700SB	.446	.549	2.178	2.165	.013	.1250	A
	5	Int.	●	MZS00700LB	.879	.982	2.690	2.677	.013	.1250	A

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

● : Inventory maintained.

DC (inch)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock VP15TF	Order Number	Dimensions (inch) LCF	LH	OAL	LF	PL	DCON	Type
.0730	2	Ext.	●	**MZE00730SB**	.446	.543	2.178	2.165	.013	.1250	A
	5	Int.	●	**MZS00730LB**	.879	.976	2.690	2.677	.013	.1250	A
.0760	2	Ext.	●	**MZE00760SB**	.447	.538	2.179	2.165	.014	.1250	A
	5	Int.	●	**MZS00760LB**	.880	.971	2.691	2.677	.014	.1250	A
.0785	2	Ext.	●	**MZE00785SB**	.447	.534	2.179	2.165	.014	.1250	A
	5	Int.	●	**MZS00785LB**	.880	.967	2.691	2.677	.014	.1250	A
.0810	2	Ext.	●	**MZE00810SB**	.645	.727	2.180	2.165	.015	.1250	A
	5	Int.	●	**MZS00810LB**	1.117	1.199	2.928	2.913	.015	.1250	A
.0860	2	Ext.	●	**MZE00860SB**	.646	.719	2.181	2.165	.016	.1250	A
	5	Int.	●	**MZS00860LB**	1.118	1.191	2.929	2.913	.016	.1250	A
.0890	2	Ext.	●	**MZE00890SB**	.646	.713	2.181	2.165	.016	.1250	A
	5	Int.	●	**MZS00890LB**	1.118	1.185	2.929	2.913	.016	.1250	A
.0938	2	Ext.	●	**MZE00938SB**	.647	.705	2.182	2.165	.017	.1250	A
	5	Int.	●	**MZS00938LB**	1.119	1.177	2.930	2.913	.017	.1250	A
.0960	2	Ext.	●	**MZE00960SB**	.647	.701	2.182	2.165	.017	.1250	A
	5	Int.	●	**MZS00960LB**	1.119	1.173	2.930	2.913	.017	.1250	A
.1010	2	Ext.	●	**MZE01010SB**	.649	.649	2.184	2.165	.019	.1250	B
	5	Int.	●	**MZS01010LB**	1.318	1.318	3.208	3.189	.019	.1250	B
.1040	2	Ext.	●	**MZE01040SB**	.649	.649	2.184	2.165	.019	.1250	B
	5	Int.	●	**MZS01040LB**	1.318	1.318	3.208	3.189	.019	.1250	B
.1060	2	Ext.	●	**MZE01060SB**	.649	.649	2.184	2.165	.019	.1250	B
	5	Int.	●	**MZS01060LB**	1.318	1.318	3.208	3.189	.019	.1250	B
.1094	2	Ext.	●	**MZE01094SB**	.650	.650	2.185	2.165	.020	.1250	B
	5	Int.	●	**MZS01094LB**	1.319	1.319	3.209	3.189	.020	.1250	B
.1200	2	Ext.	●	**MZE01200SB**	.731	.731	2.187	2.165	.022	.1250	B
	5	Int.	●	**MZS01200LB**	1.557	1.557	3.447	3.425	.022	.1250	B

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

CUTTING CONDITIONS ➤ L159
TECHNICAL DATA ➤ N001

MICRO-MZE/MZS

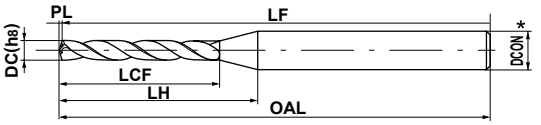
Tolerance		DC<2	2≤DC<3
DC (mm)		0 −0.014	0 −0.014
DCON (mm)	MZE	0 −0.006	0 −0.014
	MZS	0 −0.006	0 −0.006

METRIC STANDARD

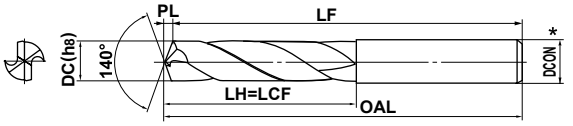
MZE (External coolant)

*DCON<2 : h6
DCON≥2 : h8

Type A

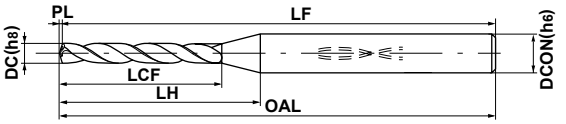


Type B

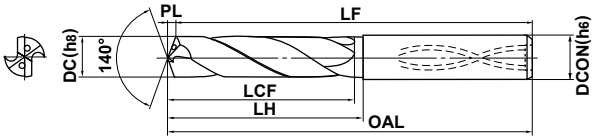


MZS (Internal coolant)

Type A



Type B



(Note 1) MICRO-MZE···SB type can be used for shrink fit holders.
(Note 2) MICRO-MZS type can be used for shrink fit holders.

DC (mm)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock VP15TF	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
1.0	2	Ext.	★	MZE0100SB	10.6	12.6	59.6	55	4.6	2.0	A
	5	Int.	★	MZS0100LB	15.6	19.6	59.6	55	4.6	3.0	A
1.1	2	Ext.	★	MZE0110SB	12.1	14.1	60.1	55	5.1	2.0	A
	5	Int.	★	MZS0110LB	22.1	26.1	60.1	55	5.1	3.0	A
1.2	2	Ext.	★	MZE0120SB	13.6	14.6	60.6	55	5.6	2.0	A
	5	Int.	★	MZS0120LB	22.6	25.6	60.6	55	5.6	3.0	A
1.3	2	Ext.	★	MZE0130SB	14.0	15.0	61.0	55	6.0	2.0	A
	5	Int.	★	MZS0130LB	23.0	26.0	61.0	55	6.0	3.0	A
1.4	2	Ext.	★	MZE0140SB	15.5	16.5	61.5	55	6.5	2.0	A
	5	Int.	★	MZS0140LB	23.5	26.5	61.5	55	6.5	3.0	A
1.5	2	Ext.	★	MZE0150SB	15.9	16.9	61.9	55	6.9	2.0	A
	5	Int.	★	MZS0150LB	23.9	26.9	61.9	55	6.9	3.0	A
1.6	2	Ext.	★	MZE0160SB	17.4	17.4	62.4	55	7.4	2.0	B
	5	Int.	★	MZS0160LB	29.4	32.4	75.4	68	7.4	3.0	A
1.7	2	Ext.	★	MZE0170SB	17.9	17.9	62.9	55	7.9	2.0	B
	5	Int.	★	MZS0170LB	29.9	31.9	75.9	68	7.9	3.0	A
1.8	2	Ext.	★	MZE0180SB	19.3	19.3	63.3	55	8.3	2.0	B
	5	Int.	★	MZS0180LB	30.3	32.3	76.3	68	8.3	3.0	A
1.9	2	Ext.	★	MZE0190SB	19.8	19.8	63.8	55	8.8	2.0	B
	5	Int.	★	MZS0190LB	30.8	32.8	76.8	68	8.8	3.0	A
2.0	2	Ext.	★	MZE0200SA	21.2	21.2	64.2	55	9.2	2.0	B
	3	Ext.	★	MZE0200MA	25.2	25.2	64.2	55	9.2	2.0	B
	3	Int.	★	MZS0200MB	25.2	27.2	71.2	62	9.2	3.0	A
	5	Int.	★	MZS0200LB	31.2	33.2	77.2	68	9.2	3.0	A
2.1	2	Ext.	★	MZE0210SA	21.7	21.7	64.7	55	9.7	2.1	B
	3	Ext.	★	MZE0210MA	25.7	25.7	64.7	55	9.7	2.1	B
	5	Int.	★	MZS0210LB	37.7	39.7	83.7	74	9.7	3.0	A

● : Inventory maintained. ★ : Inventory maintained in Japan.

DC (mm)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock VP15TF	Order Number	Dimensions (mm) LCF	LH	OAL	LF	PL	DCON	Type
2.2	2	Ext.	★	**MZE0220SA**	23.2	23.2	65.2	55	10.2	2.2	B
	3	Ext.	★	**MZE0220MA**	28.2	28.2	65.2	55	10.2	2.2	B
	5	Int.	★	**MZS0220LB**	38.2	39.2	84.2	74	10.2	3.0	A
2.3	2	Ext.	★	**MZE0230SA**	23.6	23.6	65.6	55	10.6	2.3	B
	3	Ext.	★	**MZE0230MA**	28.6	28.6	65.6	55	10.6	2.3	B
	3	Int.	★	**MZS0230MB**	30.6	31.6	76.6	66	10.6	3.0	A
	5	Int.	●	**MZS0230LB**	38.6	39.6	84.6	74	10.6	3.0	A
2.4	2	Ext.	●	**MZE0240SA**	27.1	27.1	66.1	55	11.1	2.4	B
	3	Ext.	★	**MZE0240MA**	31.1	31.1	66.1	55	11.1	2.4	B
	3	Int.	★	**MZS0240MB**	31.1	32.1	77.1	66	11.1	3.0	A
	5	Int.	●	**MZS0240LB**	39.1	40.1	85.1	74	11.1	3.0	A
2.5	2	Ext.	●	**MZE0250SA**	27.6	27.6	66.6	55	11.6	2.5	B
	3	Ext.	★	**MZE0250MA**	31.6	31.6	66.6	55	11.6	2.5	B
	3	Int.	★	**MZS0250MB**	31.6	32.6	77.6	66	11.6	3.0	A
	5	Int.	●	**MZS0250LB**	39.6	40.6	85.6	74	11.6	3.0	A
2.6	2	Ext.	★	**MZE0260SA**	28.0	28.0	67.0	55	12.0	2.6	B
	3	Ext.	★	**MZE0260MA**	32.0	32.0	67.0	55	12.0	2.6	B
	3	Int.	★	**MZS0260MB**	36.0	36.0	84.0	72	12.0	3.0	B
	5	Int.	★	**MZS0260LB**	45.0	45.0	93.0	81	12.0	3.0	B
2.7	2	Ext.	★	**MZE0270SA**	28.5	28.5	67.5	55	12.5	2.7	B
	3	Ext.	★	**MZE0270MA**	32.5	32.5	67.5	55	12.5	2.7	B
	3	Int.	★	**MZS0270MB**	36.5	36.5	84.5	72	12.5	3.0	B
	5	Int.	★	**MZS0270LB**	45.5	45.5	93.5	81	12.5	3.0	B
2.8	2	Ext.	●	**MZE0280SA**	28.9	28.9	67.9	55	12.9	2.8	B
	3	Ext.	★	**MZE0280MA**	33.9	33.9	72.9	60	12.9	2.8	B
	3	Int.	★	**MZS0280MB**	36.9	36.9	84.9	72	12.9	3.0	B
	5	Int.	●	**MZS0280LB**	45.9	45.9	93.9	81	12.9	3.0	B
2.9	2	Ext.	●	**MZE0290SA**	29.4	29.4	68.4	55	13.4	2.9	B
	3	Ext.	★	**MZE0290MA**	34.4	34.4	73.4	60	13.4	2.9	B
	3	Int.	★	**MZS0290MB**	37.4	37.4	85.4	72	13.4	3.0	B
	5	Int.	●	**MZS0290LB**	46.4	46.4	94.4	81	13.4	3.0	B

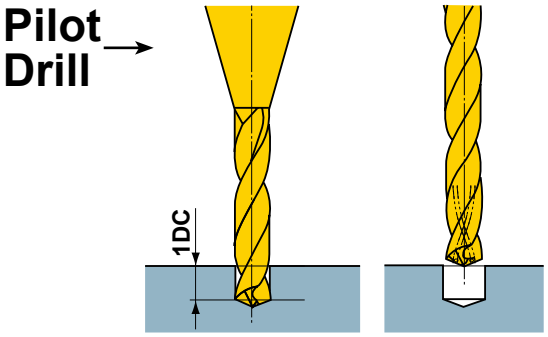
CUTTING CONDITIONS ➤ L159
TECHNICAL DATA ➤ N001

MICRO-MZE/MZS

SPECIAL APPLICATION NOTES

- For safety and success, always pre-drill the hole with a pilot drill. This is especially true for drilling small sizes less than **.1200" [2.9mm].**

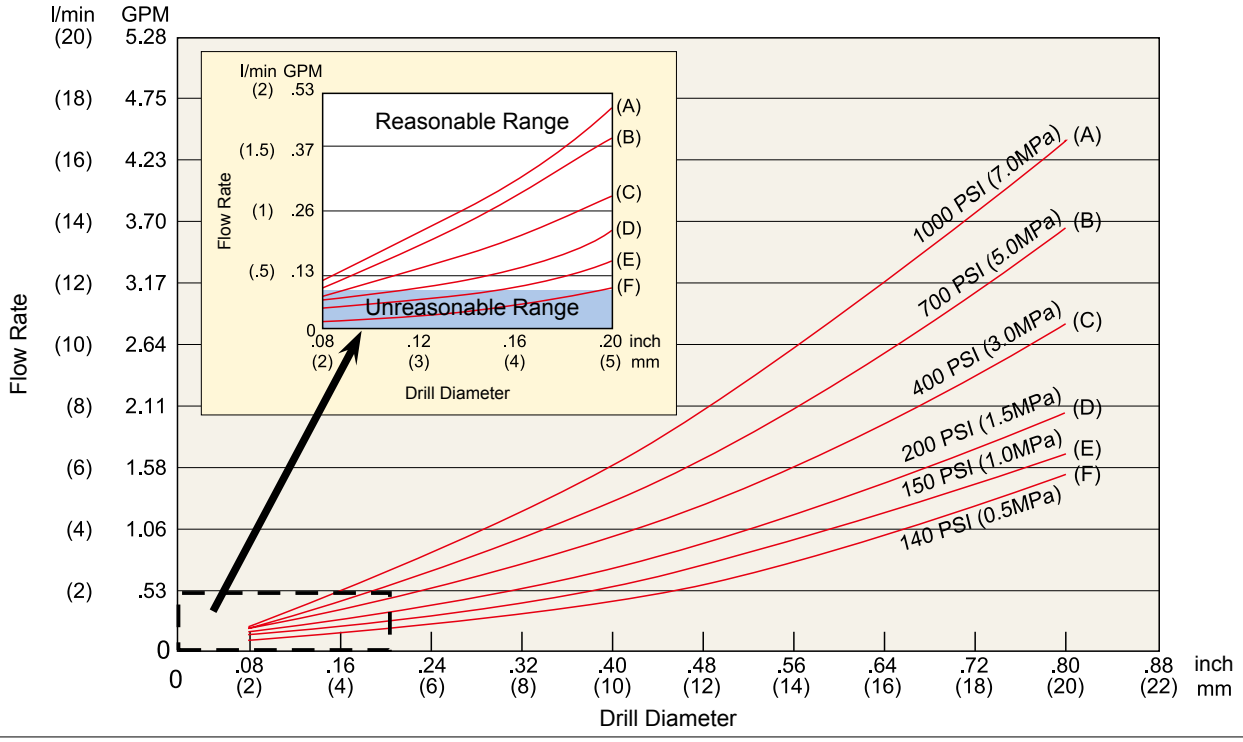
① A pilot hole must proceed application of LB drill.
② Use a SB drill with the same diameter for pilot hole.
③ Depending on cutting conditions peck feeding may be necessary.



- Minimum coolant pressure = **800psi** (5.5 MPa).
- Coolant must have Extreme Pressure **(EP)** Additives.
- Positive displacement type coolant pump is required.
- Coolant filter must be less than **5 microns**. Fine filtration is necessary to prevent blockage of the coolant Holes.

REASONABLE COOLANT FLOW AND PRESSURE FOR MZS DRILLS

Flow Rate and Pressure



PERFORMANCE REQUIREMENTS

In order for micro MZS Drills to perform properly you must satisfy the following requirements.

1. High pressure pump system **(800 psi or greater)**
2. Filter to **5 microns**
3. Runout <.0003 max.
4. Coolant with Extreme Pressure additives
5. Use MZE pilot drill
6. Recommended for rotating drill applications

RECOMMENDED CUTTING CONDITIONS

MZE (External coolant)

Work Material	Mild Steel (≤180HB) AISI 1010 etc.		Carbon Steel, Alloy Steel (180—280HB) AISI 1045, 4140 etc.	
Drill Dia. DC inch / mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0394 / 1.0	130 (100—150)	.0014 (.0008—.0020)	115 (80—130)	.0014 (.0008—.0020)
.0472 / 1.2	130 (100—150)	.0018 (.0012—.0024)	115 (80—130)	.0018 (.0012—.0024)
.0630 / 1.6	150 (115—165)	.0022 (.0014—.0031)	130 (100—150)	.0022 (.0014—.0031)
.0787 / 2.0	150 (115—165)	.0028 (.0016—.0039)	130 (100—150)	.0028 (.0016—.0039)
.0984 / 2.5	150 (115—165)	.0033 (.0020—.0049)	130 (100—150)	.0033 (.0020—.0049)
.1181 / 3.0	150 (115—165)	.0039 (.0024—.0051)	130 (100—150)	.0039 (.0024—.0051)

Work Material	Carbon Steel, Alloy Steel (280—350HB) AISI 4340 etc.		Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.	
Drill Dia. DC inch / mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0394 / 1.0	100 (65—115)	.0014 (.0008—.0020)	50 (35—65)	.0012 (.0008—.0017)
.0472 / 1.2	100 (65—115)	.0018 (.0012—.0024)	50 (35—65)	.0016 (.0012—.0021)
.0630 / 1.6	115 (80—130)	.0022 (.0014—.0031)	65 (50—80)	.0020 (.0014—.0028)
.0787 / 2.0	115 (80—130)	.0028 (.0016—.0039)	65 (50—80)	.0024 (.0016—.0031)
.0984 / 2.5	115 (80—130)	.0033 (.0020—.0049)	65 (50—80)	.0030 (.0020—.0039)
.1181 / 3.0	115 (80—130)	.0039 (.0024—.0047)	65 (50—80)	.0031 (.0020—.0031)

Work Material	Gray Cast Iron (≤350MPa) No45B etc.		Ductile Cast Iron (≤450MPa) 60-40-8 etc.	
Drill Dia. DC inch / mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0394 / 1.0	150 (115—165)	.0014 (.0008—.0020)	130 (100—150)	.0014 (.0008—.0020)
.0472 / 1.2	150 (115—165)	.0018 (.0012—.0024)	130 (100—150)	.0018 (.0012—.0024)
.0630 / 1.6	165 (130—180)	.0022 (.0014—.0031)	150 (115—165)	.0022 (.0014—.0031)
.0787 / 2.0	165 (130—180)	.0028 (.0016—.0039)	150 (115—165)	.0028 (.0016—.0039)
.0984 / 2.5	165 (130—180)	.0033 (.0020—.0049)	150 (115—165)	.0033 (.0020—.0049)
.1181 / 3.0	165 (130—180)	.0039 (.0024—.0051)	150 (115—165)	.0039 (.0024—.0051)

Work Material	Aluminium Alloy (Si<5%) ASTM A6061, A7075 etc.		Heat Resistant Alloy Inconel718 etc.	
Drill Dia. DC inch / mm	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
.0394 / 1.0	165 (130—180)	.0020 (.0012—.0030)	35 (15—50)	.0008 (.0006—.0011)
.0472 / 1.2	165 (130—180)	.0026 (.0018—.0035)	35 (15—50)	.0010 (.0009—.0013)
.0630 / 1.6	195 (150—230)	.0033 (.0021—.0047)	35 (15—50)	.0012 (.0010—.0016)
.0787 / 2.0	195 (150—230)	.0041 (.0024—.0059)	50 (35—65)	.0016 (.0013—.0020)
.0984 / 2.5	230 (180—260)	.0053 (.0030—.0079)	50 (35—65)	.0020 (.0016—.0024)
.1181 / 3.0	260 (195—295)	.0091 (.0024—.0051)	65 (50—80)	.0028 (.0020—.0035)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MICRO-MZE/MZS

RECOMMENDED CUTTING CONDITIONS

MZE (External coolant)

Work Material	Hardened Steel (40—55HRC) AISI H13, L6 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm		
.0394 **1.0**	35 (15—50)	.0008 (.0006—.0012)
.0472 **1.2**	35 (15—50)	.0012 (.0009—.0015)
.0630 **1.6**	35 (15—50)	.0012 (.0010—.0016)
.0787 **2.0**	50 (35—65)	.0016 (.0013—.0020)
.0984 **2.5**	50 (35—65)	.0020 (.0016—.0024)
.1181 **3.0**	65 (50—80)	.0028 (.0020—.0035)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

RECOMMENDED CUTTING CONDITIONS

MZS (Internal coolant)

Work Material	Mild Steel (≤180HB) AISI 1010 etc.		Carbon Steel, Alloy Steel (180—280HB) AISI 1045, 4140 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.0394 1.0	130 (100—150)	.0014 (.0008—.0020)	95 (65—115)	.0014 (.0008—.0020)
.0472 1.2	130 (100—150)	.0018 (.0012—.0024)	95 (65—115)	.0018 (.0012—.0024)
.0630 1.6	150 (115—165)	.0022 (.0014—.0031)	110 (80—130)	.0022 (.0014—.0031)
.0787 2.0	165 (130—180)	.0028 (.0016—.0039)	130 (100—150)	.0028 (.0016—.0039)
.0984 2.5	165 (130—180)	.0033 (.0020—.0049)	145 (115—165)	.0033 (.0020—.0049)
.1181 3.0	260 (195—295)	.0039 (.0024—.0051)	225 (180—260)	.0039 (.0024—.0051)

Work Material	Carbon Steel, Alloy Steel (280—350HB) AISI 4340 etc.		Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.0394 1.0	95 (65—115)	.0014 (.0008—.0020)	65 (50—80)	.0012 (.0008—.0017)
.0472 1.2	95 (65—115)	.0018 (.0012—.0024)	65 (50—80)	.0016 (.0012—.0021)
.0630 1.6	110 (80—130)	.0022 (.0014—.0031)	80 (65—100)	.0020 (.0014—.0028)
.0787 2.0	130 (100—150)	.0028 (.0016—.0039)	95 (65—115)	.0024 (.0016—.0031)
.0984 2.5	130 (100—150)	.0033 (.0020—.0049)	95 (65—115)	.0030 (.0020—.0039)
.1181 3.0	195 (150—230)	.0039 (.0024—.0051)	95 (65—115)	.0031 (.0024—.0039)

Work Material	Gray Cast Iron (≤350MPa) No45B etc.		Ductile Cast Iron (≤450MPa) 60-40-8 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.0394 1.0	130 (100—150)	.0014 (.0008—.0020)	95 (65—115)	.0014 (.0008—.0020)
.0472 1.2	130 (100—150)	.0018 (.0012—.0024)	95 (65—115)	.0018 (.0012—.0024)
.0630 1.6	145 (115—165)	.0022 (.0014—.0031)	110 (80—130)	.0022 (.0014—.0031)
.0787 2.0	160 (130—180)	.0028 (.0016—.0039)	130 (100—150)	.0028 (.0016—.0039)
.0984 2.5	160 (130—180)	.0033 (.0020—.0049)	130 (100—150)	.0033 (.0020—.0049)
.1181 3.0	260 (195—295)	.0039 (.0024—.0051)	195 (150—230)	.0039 (.0024—.0051)

Work Material	Aluminium Alloy (Si<5%) AISI A6061, A7075 etc.		Heat Resistant Alloy Inconel718 etc.	
Drill Dia. **DC**	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch / mm				
.0394 1.0	195 (150—230)	.0020 (.0012—.0030)	30 (15—50)	.0008 (.0006—.0011)
.0472 1.2	195 (150—230)	.0026 (.0018—.0035)	30 (15—50)	.0010 (.0009—.0013)
.0630 1.6	225 (180—260)	.0033 (.0021—.0047)	30 (15—50)	.0012 (.0010—.0016)
.0787 2.0	225 (180—260)	.0041 (.0024—.0059)	30 (15—50)	.0016 (.0013—.0020)
.0984 2.5	260 (195—295)	.0053 (.0030—.0079)	30 (15—50)	.0020 (.0016—.0024)
.1181 3.0	325 (260—360)	.0091 (.0039—.0138)	45 (35—65)	.0028 (.0020—.0035)

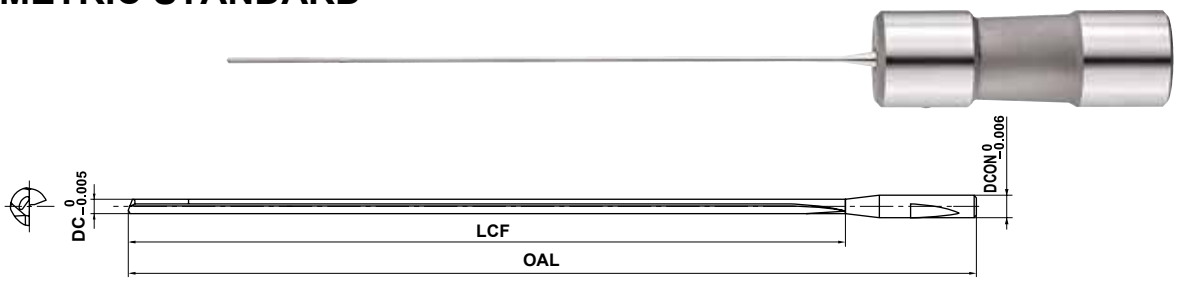
(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MICRO-MGS

- Small diameter deep hole drilling.
- High hole accuracy is possible.
- Can be used with machining and turning center.

P M K N S H

METRIC STANDARD



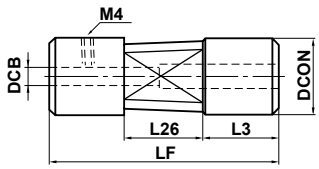
(Note) MGS type can be used for shrink fit holders.

DC (mm)	Hole Depth (l/d)	Coolant (Int./Ext.)	Stock HTi10	Order Number	Dimensions (mm) LCF	OAL	DCON
0.7	50	Int.	★	MGS0070L040B	40	80	3
	80	Int.	★	MGS0070L060B	60	100	3
0.8	45	Int.	★	MGS0080L040B	40	80	3
	70	Int.	★	MGS0080L060B	60	100	3
0.9	40	Int.	★	MGS0090L040B	40	80	3
	60	Int.	★	MGS0090L060B	60	100	3
1.0	35	Int.	★	MGS0100L040B	40	80	3
	55	Int.	★	MGS0100L060B	60	100	3
	75	Int.	★	MGS0100L080B	80	120	3
1.1	30	Int.	★	MGS0110L040B	40	80	3
	50	Int.	★	MGS0110L060B	60	100	3
	65	Int.	★	MGS0110L080B	80	120	3
1.2	30	Int.	★	MGS0120L040B	40	80	3
	45	Int.	★	MGS0120L060B	60	100	3
	60	Int.	★	MGS0120L080B	80	120	3
1.3	40	Int.	★	MGS0130L060B	60	100	3
	55	Int.	★	MGS0130L080B	80	120	3
	70	Int.	★	MGS0130L100B	100	140	3
1.4	35	Int.	★	MGS0140L060B	60	100	3
	50	Int.	★	MGS0140L080B	80	120	3
	65	Int.	★	MGS0140L100B	100	140	3
1.5	35	Int.	★	MGS0150L060B	60	100	3
	50	Int.	★	MGS0150L080B	80	120	3
	60	Int.	★	MGS0150L100B	100	140	3
1.6	30	Int.	★	MGS0160L060B	60	100	3
	45	Int.	★	MGS0160L080B	80	120	3
	55	Int.	★	MGS0160L100B	100	140	3
1.7	30	Int.	★	MGS0170L060B	60	100	3
	40	Int.	★	MGS0170L080B	80	120	3
	55	Int.	★	MGS0170L100B	100	140	3
1.8	30	Int.	★	MGS0180L060B	60	100	3
	40	Int.	★	MGS0180L080B	80	120	3
	50	Int.	★	MGS0180L100B	100	140	3
1.9	25	Int.	★	MGS0190L060B	60	100	3
	35	Int.	★	MGS0190L080B	80	120	3
	45	Int.	★	MGS0190L100B	100	140	3
2.0	25	Int.	★	MGS0200L060B	60	100	3
	35	Int.	★	MGS0200L080B	80	120	3
	45	Int.	★	MGS0200L100B	100	140	3
2.1	35	Int.	★	MGS0210L080B	80	120	3
	40	Int.	★	MGS0210L100B	100	140	3
2.2	30	Int.	★	MGS0220L080B	80	120	3
	40	Int.	★	MGS0220L100B	100	140	3
2.3	30	Int.	★	MGS0230L080B	80	120	3
	40	Int.	★	MGS0230L100B	100	140	3
2.4	30	Int.	★	MGS0240L080B	80	120	3
	35	Int.	★	MGS0240L100B	100	140	3
2.5	25	Int.	★	MGS0250L080B	80	120	3
	35	Int.	★	MGS0250L100B	100	140	3
2.6	25	Int.	★	MGS0260L080B	80	120	3
	35	Int.	★	MGS0260L100B	100	140	3
2.7	25	Int.	★	MGS0270L080B	80	120	3
	30	Int.	★	MGS0270L100B	100	140	3
2.8	25	Int.	★	MGS0280L080B	80	120	3
	30	Int.	★	MGS0280L100B	100	140	3
2.9	20	Int.	★	MGS0290L080B	80	120	3
	30	Int.	★	MGS0290L100B	100	140	3
3.0	20	Int.	★	MGS0300L080B	80	120	3
	30	Int.	★	MGS0300L100B	100	140	3

(Note) Contact Mitsubishi Materials regarding coated products (***VP***, ***GP*** and ***UP*** coated carbide).

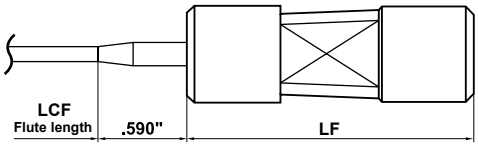
★ : Inventory maintained in Japan.

DRIVER



Order Number	Stock	Dimensions (inch)					Clamp Screw	Wrench
		DCON	DCB	LF	L3	L26		
MGD38	★	.500	.118	1.500	.496	.500	HSS04004	HKY20F
MGD70	★	.500	.118	2.756	.984	.787	HSS04004	HKY20F

When connected with a driver.



RECOMMENDED CUTTING CONDITIONS

Work Material		Mild Steel (≤180HB) AISI 1010 etc.		Carbon Steel, Alloy Steel (180—280HB) AISI 1045, 4140 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0315	**0.8**	165 (130—195)	.0004 (.0002—.0006)	130 (100—165)	.0004 (.0002—.0006)
.0394	**1.0**	165 (130—195)	.0004 (.0003—.0008)	130 (100—165)	.0004 (.0003—.0008)
.0472	**1.2**	195 (150—245)	.0006 (.0003—.0009)	165 (130—195)	.0006 (.0003—.0009)
.0630	**1.6**	195 (150—245)	.0008 (.0004—.0013)	165 (130—195)	.0008 (.0004—.0013)
.0787	**2.0**	195 (150—245)	.0010 (.0005—.0016)	165 (130—195)	.0010 (.0005—.0016)
.0984	**2.5**	230 (180—280)	.0012 (.0007—.0020)	195 (150—245)	.0012 (.0007—.0020)
.1181	**3.0**	230 (180—280)	.0016 (.0008—.0024)	195 (150—245)	.0016 (.0008—.0024)

Work Material		Carbon Steel, Alloy Steel (280—350HB) AISI 4340 etc.		Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0315	**0.8**	100 (65—130)	.0002 (.0002—.0002)	100 (65—130)	.0004 (.0002—.0006)
.0394	**1.0**	100 (65—130)	.0002 (.0002—.0003)	100 (65—130)	.0004 (.0003—.0008)
.0472	**1.2**	130 (100—165)	.0002 (.0002—.0003)	100 (65—130)	.0006 (.0003—.0009)
.0630	**1.6**	130 (100—165)	.0004 (.0003—.0004)	130 (100—165)	.0008 (.0004—.0013)
.0787	**2.0**	130 (100—165)	.0004 (.0004—.0005)	130 (100—165)	.0010 (.0005—.0016)
.0984	**2.5**	165 (130—195)	.0006 (.0005—.0007)	130 (100—165)	.0012 (.0007—.0020)
.1181	**3.0**	165 (130—195)	.0006 (.0006—.0008)	130 (100—165)	.0016 (.0008—.0024)

(Note 1) A pilot hole or guide bushing is required.
(Note 2) Coolant filter must be less than 5 microns. Fine filtration is necessary to prevent blockage of the coolant holes.
(Note 3) For safety and success, high pressure coolant is required. **(Minimum coolant pressure = 1,000PSI)**
(Note 4) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

HOW TO USE ➤ L164
TECHNICAL DATA ➤ N001

MICRO-MGS

Work Material		Gray Cast Iron (≤350MPa) No45B etc.		Ductile Cast Iron (≤450MPa) 60-40-8 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0315	**0.8**	165 (130—195)	.0004 (.0003—.0006)	130 (100—165)	.0002 (.0002—.0003)
.0394	**1.0**	165 (130—195)	.0006 (.0004—.0008)	130 (100—165)	.0002 (.0003—.0004)
.0472	**1.2**	195 (150—245)	.0006 (.0005—.0009)	165 (130—195)	.0004 (.0003—.0005)
.0630	**1.6**	195 (150—245)	.0008 (.0006—.0013)	165 (130—195)	.0004 (.0004—.0006)
.0787	**2.0**	195 (150—245)	.0012 (.0008—.0016)	165 (130—195)	.0006 (.0005—.0008)
.0984	**2.5**	230 (180—280)	.0014 (.0010—.0020)	195 (150—245)	.0008 (.0007—.0010)
.1181	**3.0**	230 (180—280)	.0018 (.0012—.0024)	195 (150—245)	.0010 (.0008—.0012)

Work Material		Aluminium Alloy (Si<5%) ASTM A6061, 7075 etc.		Copper, Copper alloys	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0315	**0.8**	165 (130—195)	.0004 (.0003—.0006)	130 (100—165)	.0004 (.0003—.0006)
.0394	**1.0**	195 (150—245)	.0006 (.0004—.0008)	165 (130—195)	.0006 (.0004—.0008)
.0472	**1.2**	230 (180—280)	.0006 (.0005—.0009)	195 (150—245)	.0006 (.0005—.0009)
.0630	**1.6**	260 (195—330)	.0008 (.0006—.0013)	230 (180—280)	.0008 (.0006—.0013)
.0787	**2.0**	295 (230—360)	.0012 (.0008—.0016)	260 (195—330)	.0012 (.0008—.0016)
.0984	**2.5**	330 (260—395)	.0014 (.0010—.0020)	295 (230—360)	.0014 (.0010—.0020)
.1181	**3.0**	330 (260—395)	.0018 (.0012—.0024)	330 (260—395)	.0018 (.0012—.0024)

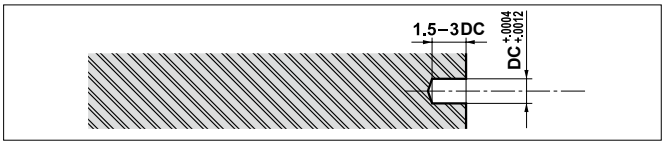
(Note 1) A pilot hole or guide bushing is required.
(Note 2) Coolant filter must be less than **5 microns**. Fine filtration is necessary to prevent blockage of the coolant holes.
(Note 3) For safety and success, high pressure coolant is required. **(Minimum coolant pressure = 1,000PSI)**
(Note 4) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

Special Application Notes :

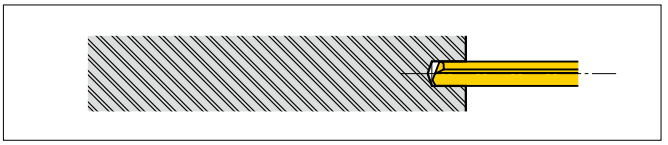
- For safety and success, high pressure coolant is required. **(Minimum coolant pressure = 1000PSI)**
- Coolant filter must be less than **5 microns**. Fine filtration is necessary to prevent blockage of the coolant holes.
- A pilot hole or guide bushing is required.

HOW TO USE

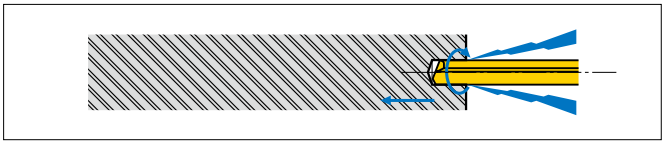
1. Pilot hole drilling.
(Mitsubishi's MZE, MZS, MWE or MWS is recommended.)



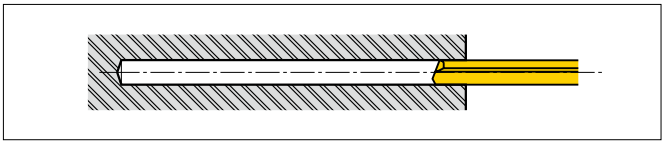
2. Drill is inserted into the pilot hole with the MGS drill rotation stopped or rotating CCW at 300rpm or less.
(Drill is not rotating.)



3. Coolant is turned ON, raise cutting speed and feed to the recommended cutting condition.



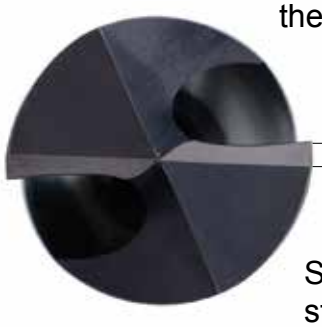
4. Return to "Pos 2" after drilling end, coolant turned OFF and drill rotation is stopped.



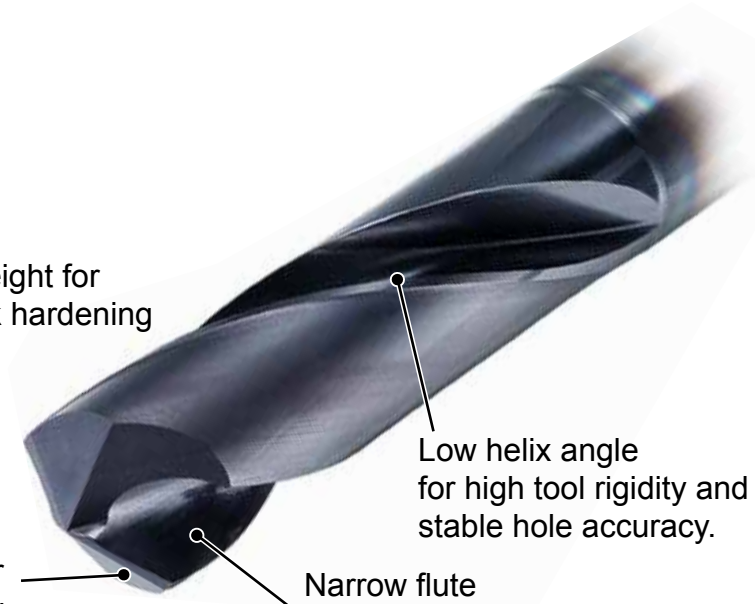
MHE (Drill for WHEEL HUB)

- **Designed for machining of wheel hub.**
- **Drill diameter range : From .394" to .591"**
- **Drill length : For 1 x DC (DC:Drill diameter)**
- **Non stock, produced as special order only.**

FEATURES



Lower cutting edge height for the prevention of work hardening



Low helix angle for high tool rigidity and stable hole accuracy.

Small point angle for stable hole accuracy

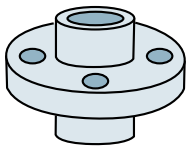
Narrow flute for better chip control.

RECOMMENDED CUTTING CONDITIONS

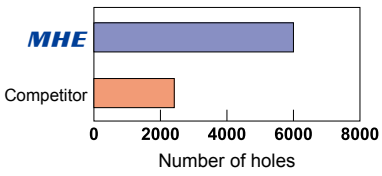
Work Material		Hardness	ϕ.394" – ϕ.591"	
			Cutting Speed (SFM)	Feed (IPR)
P	Carbon Steel	<180HB	245 (195–295)	.010 (.006–.012)

(Note) The above cutting conditions should be used as a guide and need to be adjusted according to the machine rigidity, workpiece clamping and shape.

APPLICATION EXAMPLES

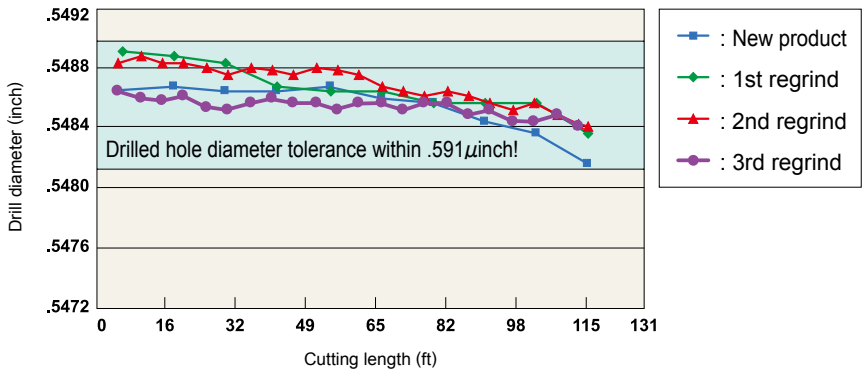


Tool : ϕ.500" x 4" x ϕ.500"
Component : Hub
Workpiece : Carbon steel
Cutting speed : 195 SFM
Feed : .006 IPR
Coolant : WSO



CUTTING PERFORMANCE

Hole Accuracy



Chip Geometry

Chip breaking properties
The workpiece surface is not damaged due to the fine chips that were generated.

DRILLING

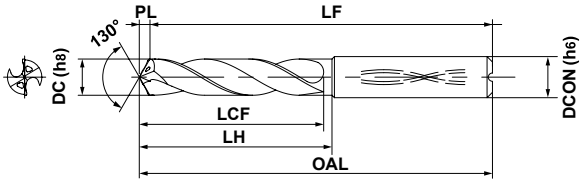
MCS

- For high accuracy and efficient drilling of CFRP.
- Unique diamond coating produces, excellent wear resistance and smooth hole surface.

CFRP	CFRP with Aluminum stack
◎	◎

Tolerance	.1719≤DC≤.1915	.2510≤DC≤.3765	.4380≤DC≤.5010
DC (inch)	$^{0}_{-0.00071}$	$^{0}_{-0.00087}$	$^{0}_{-0.00106}$
DCON (inch)	$^{0}_{-0.00031}$	$^{0}_{-0.00035}$	$^{0}_{-0.00043}$

INCH STANDARD



(Note) MCS type can be used for shrink fit holders.

DC (inch)	Hole Depth (l/d)	Coolant	Stock DD2010	Order Number	Dimensions (inch) LCF	LH	OAL	LF	PL	DCON
.1719	3	Int.	★	**MCS01719X3DB**	.946	1.142	2.599	2.559	.040	.2362
.1915	3	Int.	★	**MCS01915X3DB**	1.108	1.147	2.604	2.559	.045	.2362
.2510	3	Int.	★	**MCS02510X3DB**	1.358	1.673	3.130	3.071	.059	.3150
.3125	3	Int.	★	**MCS03125X3DB**	1.648	1.687	3.144	3.071	.073	.3150
.3760	3	Int.	★	**MCS03760X3DB**	1.860	1.899	3.513	3.425	.088	.3937
.3765	3	Int.	★	**MCS03765X3DB**	1.860	1.899	3.513	3.425	.088	.3937
.4380	3	Int.	★	**MCS04380X3DB**	2.189	2.228	4.039	3.937	.102	.4724
.5010	3	Int.	★	**MCS05010X3DB**	2.401	2.440	4.251	4.134	.117	.5512

(Note) Please contact Mitsubishi Materials for any geometry that is not in the catalog (e.g. different dia. and length).

★ : Inventory maintained in Japan.

TECHNICAL DATA ➤ N001

RECOMMENDED CUTTING CONDITIONS

DD2010

Work Material		CFRP		Stacking board of CFRP and Aluminum alloy ASTM A7075 etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1719	**4.366**	280 (180—360)	.0016 (.0012—.0031)	180 (115—230)	.0016 (.0012—.0024)
.1915	**4.864**	280 (180—360)	.0016 (.0012—.0031)	180 (115—230)	.0016 (.0012—.0024)
.2510	**6.375**	310 (215—395)	.0020 (.0012—.0039)	215 (150—260)	.0020 (.0012—.0028)
.3125	**7.938**	310 (215—395)	.0020 (.0012—.0039)	215 (150—260)	.0020 (.0012—.0028)
.3760	**9.550**	310 (215—395)	.0028 (.0016—.0047)	215 (150—260)	.0024 (.0016—.0031)
.3765	**9.563**	310 (215—395)	.0028 (.0016—.0047)	215 (150—260)	.0024 (.0016—.0031)
.4380	**11.125**	330 (230—395)	.0039 (.0020—.0059)	230 (150—295)	.0028 (.0020—.0039)
.5010	**12.725**	330 (230—395)	.0039 (.0020—.0059)	230 (150—295)	.0031 (.0020—.0047)

TF15

Work Material		Stacking board of CFRP and Titanium alloy Ti-6Al-4V etc.	
Drill Dia. **DC**		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm		
.1719	**4.366**	25 (15—35)	.0012 (.0008—.0016)
.1915	**4.864**	25 (15—35)	.0012 (.0008—.0016)
.2510	**6.375**	25 (15—35)	.0012 (.0008—.0016)
.3125	**7.938**	25 (15—35)	.0012 (.0008—.0016)
.3760	**9.550**	35 (15—50)	.0016 (.0012—.0020)
.3765	**9.563**	35 (15—50)	.0016 (.0012—.0020)
.4380	**11.125**	35 (15—50)	.0016 (.0012—.0020)
.5010	**12.725**	35 (15—50)	.0016 (.0012—.0020)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

MVX NEW

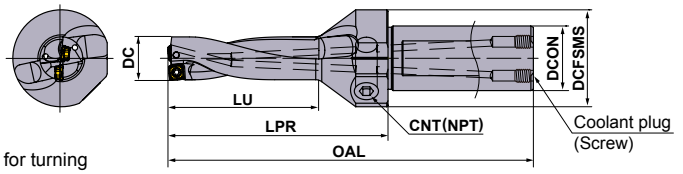
P M K N S H

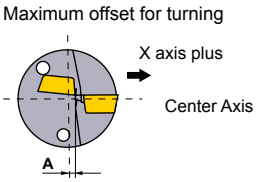
INCH STANDARD

Internal Coolant

Machining tolerance (guide)(inch)

L/D	ø.687"–ø1.312"	ø1.375"–ø1.812"	ø1.875"–ø2.500"
2DC, 3DC	0 + 0.0098	0 + 0.0118	0 + 0.0118
4DC, 5DC	0 + 0.0138	0 + 0.0157	0 + 0.0177
6DC	0 + 0.0177	0 + 0.0236	





DC (inch)	Hole Depth (L/D)	Holder Order Number	Stock	Number of Inserts	Dimensions LU inch	LPR inch	OAL inch	DCON inch	DCFSMS inch	A (in.)	Insert Order Number	* Clamp Screw	① ② Wrench	NPT Plug (Side) CNT	Coolant Plug (Screw)	Coolant Plug (Wrench)
.687	2	MVX0687X2C100	●	2	1.65	2.72	4.97	1.000	1.50	.023	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	3	MVX0687X3C100	●	2	2.34	3.41	5.66	1.000	1.50	.023	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	4	MVX0687X4C100	●	2	3.03	4.09	6.34	1.000	1.50	.023	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	5	MVX0687X5C100	●	2	3.71	4.78	7.03	1.000	1.50	.023	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	6	MVX0687X6C100	●	2	4.40	5.47	7.72	1.000	1.50	.023	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
.750	2	MVX0750X2C100	●	2	1.78	2.91	5.16	1.000	1.50	.016	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	3	MVX0750X3C100	●	2	2.53	3.66	5.91	1.000	1.50	.016	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	4	MVX0750X4C100	●	2	3.28	4.41	6.66	1.000	1.50	.016	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	5	MVX0750X5C100	●	2	4.03	5.16	7.41	1.000	1.50	.016	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	6	MVX0750X6C100	●	2	4.78	5.91	8.16	1.000	1.50	.016	SOMX063005-○○	TPS25	①TIP07F	1/8	HSS05006	HKY25R
.812	2	MVX0812X2C100	●	2	1.90	3.01	5.26	1.000	1.50	.027	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	3	MVX0812X3C100	●	2	2.71	3.82	6.07	1.000	1.50	.027	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	4	MVX0812X4C100	●	2	3.53	4.63	6.88	1.000	1.50	.027	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	5	MVX0812X5C100	●	2	4.34	5.44	7.69	1.000	1.50	.027	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	6	MVX0812X6C100	●	2	5.15	6.26	8.51	1.000	1.50	.027	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
.875	2	MVX0875X2C100	●	2	2.03	3.12	5.37	1.000	1.50	.020	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	3	MVX0875X3C100	●	2	2.90	4.00	6.25	1.000	1.50	.020	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	4	MVX0875X4C100	●	2	3.78	4.87	7.12	1.000	1.50	.020	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	5	MVX0875X5C100	●	2	4.65	5.75	8.00	1.000	1.50	.020	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	6	MVX0875X6C100	●	2	5.53	6.62	8.87	1.000	1.50	.020	SOMX073505-○○	TPS3	①TIP10F	1/8	HSS05006	HKY25R
.937	2	MVX0937X2C100	●	2	2.15	3.24	5.49	1.000	1.50	.037	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS05006	HKY25R
	3	MVX0937X3C100	●	2	3.09	4.17	6.42	1.000	1.50	.037	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS05006	HKY25R
	4	MVX0937X4C100	●	2	4.03	5.11	7.36	1.000	1.50	.037	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS05006	HKY25R
	5	MVX0937X5C100	●	2	4.96	6.05	8.30	1.000	1.50	.037	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS05006	HKY25R
	6	MVX0937X6C100	●	2	5.90	6.99	9.24	1.000	1.50	.037	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS05006	HKY25R
1.000	2	MVX1000X2C125	●	2	2.28	3.35	5.73	1.250	1.75	.030	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS06008	HKY30R
	3	MVX1000X3C125	●	2	3.28	4.35	6.73	1.250	1.75	.030	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS06008	HKY30R
	4	MVX1000X4C125	●	2	4.28	5.35	7.73	1.250	1.75	.030	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS06008	HKY30R
	5	MVX1000X5C125	●	2	5.28	6.35	8.73	1.250	1.75	.030	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS06008	HKY30R
	6	MVX1000X6C125	●	2	6.28	7.35	9.73	1.250	1.75	.030	SOMX084005-○○	TPS351	②TIP10W	1/8	HSS06008	HKY30R

* Clamp Torque (lbf-in) : TIP07F=8.9, TIP10F=17.7, TIP10W=22

● : Inventory maintained.

DC	Hole Depth	Holder Order Number	Stock	Number of Inserts	Dimensions					A	Insert Order Number	*		NPT Plug (Side)		
					LU	LPR	OAL	DCON	DCFSMS			Clamp Screw	Wrench	CNT	Coolant Plug (Screw)	Coolant Plug (Wrench)
(inch)	(L/D)				inch	inch	inch	inch	inch	(in.)						
	2	**MVX1062X2C125**	●	2	2.40	3.46	5.84	1.250	1.75	.022	**SOMX084005-○○**	TPS351	TIP10W	1/8	HSS06008	HKY30R
	3	MVX**1062X3C125**	●	2	3.46	4.53	6.90	1.250	1.75	.022	SOMX**084005-○○**	TPS351	TIP10W	1/8	HSS06008	HKY30R
1.062	4	MVX**1062X4C125**	●	2	4.53	5.59	7.96	1.250	1.75	.022	SOMX**084005-○○**	TPS351	TIP10W	1/8	HSS06008	HKY30R
	5	MVX**1062X5C125**	●	2	5.59	6.65	9.03	1.250	1.75	.022	SOMX**084005-○○**	TPS351	TIP10W	1/8	HSS06008	HKY30R
	6	MVX**1062X6C125**	●	2	6.65	7.71	10.09	1.250	1.75	.022	SOMX**084005-○○**	TPS351	TIP10W	1/8	HSS06008	HKY30R
	2	MVX**1125X2C125**	●	2	2.53	3.64	6.01	1.250	1.75	.040	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	3	MVX**1125X3C125**	●	2	3.65	4.76	7.14	1.250	1.75	.040	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
1.125	4	MVX**1125X4C125**	●	2	4.78	5.89	8.26	1.250	1.75	.040	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	5	MVX**1125X5C125**	●	2	5.90	7.01	9.39	1.250	1.75	.040	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	6	MVX**1125X6C125**	●	2	7.03	8.14	10.51	1.250	1.75	.040	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	2	MVX**1187X2C125**	●	2	2.65	3.75	6.13	1.250	1.75	.033	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	3	MVX**1187X3C125**	●	2	3.84	4.94	7.32	1.250	1.75	.033	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
1.187	4	MVX**1187X4C125**	●	2	5.03	6.13	8.51	1.250	1.75	.033	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	5	MVX**1187X5C125**	●	2	6.21	7.32	9.69	1.250	1.75	.033	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	6	MVX**1187X6C125**	●	2	7.40	8.51	10.88	1.250	1.75	.033	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	2	MVX**1250X2C150**	●	2	2.78	3.87	6.62	1.500	2.00	.025	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	3	MVX**1250X3C150**	●	2	4.03	5.12	7.87	1.500	2.00	.025	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
1.250	4	MVX**1250X4C150**	●	2	5.28	6.37	9.12	1.500	2.00	.025	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	5	MVX**1250X5C150**	●	2	6.53	7.62	10.37	1.500	2.00	.025	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	6	MVX**1250X6C150**	●	2	7.78	8.87	11.62	1.500	2.00	.025	SOMX**094506-○○**	TPS4	TIP15W	1/8	HSS06008	HKY30R
	2	MVX**1312X2C150**	●	2	2.90	4.40	7.15	1.500	2.00	.049	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX**1312X3C150**	●	2	4.21	5.71	8.46	1.500	2.00	.049	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
1.312	4	MVX**1312X4C150**	●	2	5.53	7.02	9.77	1.500	2.00	.049	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX**1312X5C150**	●	2	6.84	8.33	11.08	1.500	2.00	.049	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX**1312X6C150**	●	2	8.15	9.65	12.40	1.500	2.00	.049	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	2	MVX**1375X2C150**	●	2	3.03	4.52	7.27	1.500	2.00	.041	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX**1375X3C150**	●	2	4.40	5.90	8.65	1.500	2.00	.041	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
1.375	4	MVX**1375X4C150**	●	2	5.78	7.27	10.02	1.500	2.00	.041	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX**1375X5C150**	●	2	7.15	8.65	11.40	1.500	2.00	.041	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX**1375X6C150**	●	2	8.53	10.02	12.77	1.500	2.00	.041	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	2	MVX**1437X2C150**	●	2	3.15	4.65	7.40	1.500	2.00	.036	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX**1437X3C150**	●	2	4.59	6.08	8.83	1.500	2.00	.036	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
1.437	4	MVX**1437X4C150**	●	2	6.03	7.52	10.27	1.500	2.00	.036	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX**1437X5C150**	●	2	7.46	8.96	11.71	1.500	2.00	.036	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX**1437X6C150**	●	2	8.90	10.40	13.15	1.500	2.00	.036	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	2	MVX**1500X2C150**	●	2	3.28	4.77	7.52	1.500	2.00	.031	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX**1500X3C150**	●	2	4.78	6.27	9.02	1.500	2.00	.031	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
1.500	4	MVX**1500X4C150**	●	2	6.28	7.77	10.52	1.500	2.00	.031	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX**1500X5C150**	●	2	7.78	9.27	12.02	1.500	2.00	.031	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX**1500X6C150**	●	2	9.28	10.77	13.52	1.500	2.00	.031	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	2	MVX**1562X2C150**	●	2	3.40	4.90	7.65	1.500	2.00	.021	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX**1562X3C150**	●	2	4.96	6.46	9.21	1.500	2.00	.021	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
1.562	4	MVX**1562X4C150**	●	2	6.53	8.02	10.77	1.500	2.00	.021	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX**1562X5C150**	●	2	8.09	9.58	12.33	1.500	2.00	.021	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX**1562X6C150**	●	2	9.65	11.15	13.90	1.500	2.00	.021	SOMX**115506-○○**	TPS43	TIP15W	1/4	HSS08010	HKY40R

* Clamp Torque (lbf-in) : TIP10W=22, TIP15W=31

INSERTS ➤ L171
CUTTING CONDITIONS ➤ L180
TECHNICAL DATA ➤ N001

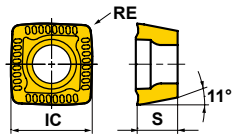
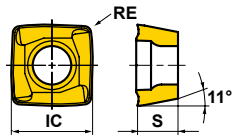
MVX NEW

DC (inch)	Hole Depth (L/D)	Holder Order Number	Stock	Number of Inserts	Dimensions LU inch	LPR inch	OAL inch	DCON inch	DCFSMS inch	A (in.)	Insert Order Number	* Clamp Screw	①② Wrench	NPT Plug (Side) CNT	Coolant Plug (Screw)	Coolant Plug (Wrench)
	2	**MVX1625X2C150**	●	2	3.53	5.02	7.77	1.500	2.00	.053	**SOMX136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	3	MVX**1625X3C150**	●	2	5.15	6.65	9.40	1.500	2.00	.053	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
1.625	4	MVX**1625X4C150**	●	2	6.78	8.27	11.02	1.500	2.00	.053	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	5	MVX**1625X5C150**	●	2	8.40	9.90	12.65	1.500	2.00	.053	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	6	MVX**1625X6C150**	●	2	10.03	11.52	14.27	1.500	2.00	.053	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	2	MVX**1687X2C150**	●	2	3.65	5.15	7.90	1.500	2.00	.047	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	3	MVX**1687X3C150**	●	2	5.34	6.83	9.58	1.500	2.00	.047	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
1.687	4	MVX**1687X4C150**	●	2	7.03	8.52	11.27	1.500	2.00	.047	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	5	MVX**1687X5C150**	●	2	8.71	10.21	12.96	1.500	2.00	.047	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	6	MVX**1687X6C150**	●	2	10.40	11.90	14.65	1.500	2.00	.047	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	2	MVX**1750X2C150**	●	2	3.78	5.27	8.02	1.500	2.00	.041	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
1.750	3	MVX**1750X3C150**	●	2	5.53	7.02	9.77	1.500	2.00	.041	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	4	MVX**1750X4C150**	●	2	7.28	8.77	11.52	1.500	2.00	.041	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	5	MVX**1750X5C150**	●	2	9.03	10.52	13.27	1.500	2.00	.041	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	2	MVX**1812X2C150**	●	2	3.90	5.40	8.15	1.500	2.00	.031	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
1.812	3	MVX**1812X3C150**	●	2	5.71	7.21	9.96	1.500	2.00	.031	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	4	MVX**1812X4C150**	●	2	7.53	9.02	11.77	1.500	2.00	.031	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	5	MVX**1812X5C150**	●	2	9.34	10.83	13.58	1.500	2.00	.031	SOMX**136008-○○**	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	2	MVX**1875X2C150**	●	2	4.03	5.60	8.35	1.500	2.48	.072	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
1.875	3	MVX**1875X3C150**	●	2	5.90	7.48	10.23	1.500	2.48	.072	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX**1875X4C150**	●	2	7.78	9.35	12.10	1.500	2.48	.072	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX**1875X5C150**	●	2	9.65	11.23	13.98	1.500	2.48	.072	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	2	MVX**1937X2C150**	●	2	4.15	5.73	8.48	1.500	2.48	.066	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
1.937	3	MVX**1937X3C150**	●	2	6.09	7.66	10.41	1.500	2.48	.066	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX**1937X4C150**	●	2	8.03	9.60	12.35	1.500	2.48	.066	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX**1937X5C150**	●	2	9.96	11.54	14.29	1.500	2.48	.066	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	2	MVX**2000X2C150**	●	2	4.28	5.85	8.60	1.500	2.48	.060	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
2.000	3	MVX**2000X3C150**	●	2	6.28	7.85	10.60	1.500	2.48	.060	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX**2000X4C150**	●	2	8.28	9.85	12.60	1.500	2.48	.060	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX**2000X5C150**	●	2	10.28	11.85	14.60	1.500	2.48	.060	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	2	MVX**2125X2C150**	●	2	4.53	6.10	8.85	1.500	2.48	.047	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
2.125	3	MVX**2125X3C150**	●	2	6.65	8.23	10.98	1.500	2.48	.047	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX**2125X4C150**	●	2	8.78	10.35	13.10	1.500	2.48	.047	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX**2125X5C150**	●	2	10.90	12.48	15.23	1.500	2.48	.047	SOMX**166508-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	2	MVX**2250X2C150**	●	2	4.78	6.35	9.10	1.500	2.68	.057	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
2.250	3	MVX**2250X3C150**	●	2	7.03	8.60	11.35	1.500	2.68	.057	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX**2250X4C150**	●	2	9.28	10.85	13.60	1.500	2.68	.057	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX**2250X5C150**	●	2	11.53	13.10	15.85	1.500	2.68	.057	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	2	MVX**2375X2C150**	●	2	5.03	6.60	9.35	1.500	2.68	.044	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
2.375	3	MVX**2375X3C150**	●	2	7.40	8.98	11.73	1.500	2.68	.044	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX**2375X4C150**	●	2	9.78	11.35	14.10	1.500	2.68	.044	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX**2375X5C150**	●	2	12.15	13.73	16.48	1.500	2.68	.044	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	2	MVX**2500X2C150**	●	2	5.28	6.85	9.60	1.500	2.68	.031	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
2.500	3	MVX**2500X3C150**	●	2	7.78	9.35	12.10	1.500	2.68	.031	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX**2500X4C150**	●	2	10.28	11.85	14.60	1.500	2.68	.031	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX**2500X5C150**	●	2	12.78	14.35	17.10	1.500	2.68	.031	SOMX**187008-○○**	TPS54	②TIP25D	1/4	HSS10012	HKY50R

* Clamp Torque (lbf-in) : TIP15W=31, TIP25D=66

● : Inventory maintained.

INSERTS

Shape	DC (inch)	Order Number	Dimensions (inch)			Stock			Geometry
			IC	S	RE	VP15TF	MC1020	MC5020	
UM	ø.687"–ø.750"	**SOMX063005-UM**	.236	.118	.020	●	●	●	
	ø.812"–ø.875"	SOMX**073505-UM**	.276	.138	.020	●	●	●	
	ø.937"–ø1.062"	SOMX**084005-UM**	.327	.157	.020	●	●	●	
	ø1.125"–ø1.250"	SOMX**094506-UM**	.382	.177	.024	●	●	●	
	ø1.312"–ø1.562"	SOMX**115506-UM**	.457	.217	.024	●	●	●	
	ø1.625"–ø1.812"	SOMX**136008-UM**	.543	.236	.031	●	●	●	
	ø1.875"–ø2.125"	SOMX**166508-UM**	.650	.256	.031	●	●	●	
General purpose	ø2.250"–ø2.500"	SOMX**187008-UM**	.717	.276	.031	●	●	●	
US	ø.687"–ø.750"	**SOMX063005-US**	.236	.118	.020	●	–	–	
	ø.812"–ø.875"	SOMX**073505-US**	.276	.138	.020	●	–	–	
	ø.937"–ø1.062"	SOMX**084005-US**	.327	.157	.020	●	–	–	
For stainless steel and inner edge	ø1.125"–ø1.250"	SOMX**094506-US**	.382	.177	.024	●	–	–	

*MC1020 and MC5020 are the outer insert only.

DRILLING

CUTTING CONDITIONS ➤ L180
TECHNICAL DATA ➤ N001

MVX

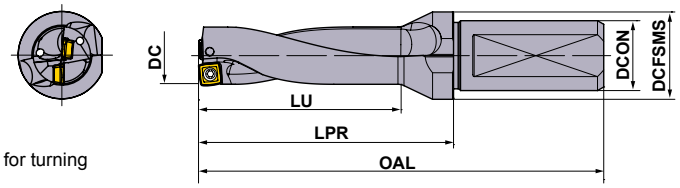
P M K N S H

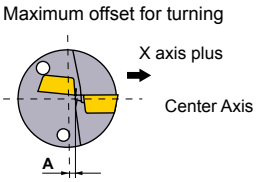
METRIC STANDARD

Internal Coolant

Machining tolerance (guide)(mm)

L/D	ø17.0–ø33.0	ø33.5–ø47.0	ø48.0–ø63.0
2DC, 3DC	0 +0.25	0 +0.3	0 +0.3
4DC, 5DC	0 +0.35	0 +0.4	0 +0.45
6DC	0 +0.45	0 +0.6	





Side Coolant Not Available.

DC Metric (mm)	Hole Depth (l/d)	Holder Order Number	Stock	Number of Inserts	Dimensions LU (mm)	LPR (mm)	OAL (mm)	DCON (mm)	DCFSMS (mm)	A (mm)	Insert Order Number	* Clamp Screw	Wrench
17.0	2	**MVX1700X2F20**	★	2	41	56	99	20.0	25	0.50	**SOMX063005-○○**	TPS25	TIP07F
	3	MVX**1700X3F20**	★	2	58	73	116	20.0	25	0.50	SOMX**063005-○○**	TPS25	TIP07F
	4	MVX**1700X4F20**	★	2	75	90	133	20.0	25	0.50	SOMX**063005-○○**	TPS25	TIP07F
	5	MVX**1700X5F20**	★	2	92	107	150	20.0	25	0.50	SOMX**063005-○○**	TPS25	TIP07F
	6	MVX**1700X6F20**	★	2	109	124	167	20.0	25	0.50	SOMX**063005-○○**	TPS25	TIP07F
17.5	2	MVX**1750X2F25**	★	2	42	62	112	25.0	32	0.45	SOMX**063005-○○**	TPS25	TIP07F
	3	MVX**1750X3F25**	★	2	59	79	129	25.0	32	0.45	SOMX**063005-○○**	TPS25	TIP07F
	4	MVX**1750X4F25**	★	2	77	97	147	25.0	32	0.45	SOMX**063005-○○**	TPS25	TIP07F
	5	MVX**1750X5F25**	★	2	94	114	164	25.0	32	0.45	SOMX**063005-○○**	TPS25	TIP07F
	6	MVX**1750X6F25**	★	2	112	132	182	25.0	32	0.45	SOMX**063005-○○**	TPS25	TIP07F
18.0	2	MVX**1800X2F25**	★	2	43	63	113	25.0	32	0.40	SOMX**063005-○○**	TPS25	TIP07F
	3	MVX**1800X3F25**	★	2	61	81	131	25.0	32	0.40	SOMX**063005-○○**	TPS25	TIP07F
	4	MVX**1800X4F25**	★	2	79	99	149	25.0	32	0.40	SOMX**063005-○○**	TPS25	TIP07F
	5	MVX**1800X5F25**	★	2	97	117	167	25.0	32	0.40	SOMX**063005-○○**	TPS25	TIP07F
	6	MVX**1800X6F25**	★	2	115	135	185	25.0	32	0.40	SOMX**063005-○○**	TPS25	TIP07F
18.5	2	MVX**1850X2F25**	★	2	44	64	114	25.0	32	0.35	SOMX**063005-○○**	TPS25	TIP07F
	3	MVX**1850X3F25**	★	2	62	82	132	25.0	32	0.35	SOMX**063005-○○**	TPS25	TIP07F
	4	MVX**1850X4F25**	★	2	81	101	151	25.0	32	0.35	SOMX**063005-○○**	TPS25	TIP07F
	5	MVX**1850X5F25**	★	2	99	119	169	25.0	32	0.35	SOMX**063005-○○**	TPS25	TIP07F
	6	MVX**1850X6F25**	★	2	118	138	188	25.0	32	0.35	SOMX**063005-○○**	TPS25	TIP07F
19.0	2	MVX**1900X2F25**	★	2	45	65	115	25.0	32	0.30	SOMX**063005-○○**	TPS25	TIP07F
	3	MVX**1900X3F25**	★	2	64	84	134	25.0	32	0.30	SOMX**063005-○○**	TPS25	TIP07F
	4	MVX**1900X4F25**	★	2	83	103	153	25.0	32	0.30	SOMX**063005-○○**	TPS25	TIP07F
	5	MVX**1900X5F25**	★	2	102	122	172	25.0	32	0.30	SOMX**063005-○○**	TPS25	TIP07F
	6	MVX**1900X6F25**	★	2	121	141	191	25.0	32	0.30	SOMX**063005-○○**	TPS25	TIP07F
19.5	2	MVX**1950X2F25**	★	2	46	66	116	25.0	32	0.25	SOMX**063005-○○**	TPS25	TIP07F
	3	MVX**1950X3F25**	★	2	65	85	135	25.0	32	0.25	SOMX**063005-○○**	TPS25	TIP07F
	4	MVX**1950X4F25**	★	2	85	105	155	25.0	32	0.25	SOMX**063005-○○**	TPS25	TIP07F
	5	MVX**1950X5F25**	★	2	104	124	174	25.0	32	0.25	SOMX**063005-○○**	TPS25	TIP07F
	6	MVX**1950X6F25**	★	2	124	144	194	25.0	32	0.25	SOMX**063005-○○**	TPS25	TIP07F

* Clamp Torque (lbf-in) : TIP07F=8.9

★ : **Inventory maintained in Japan.**

DC Metric (mm)	Hole Depth (l/d)	Holder Order Number	Stock	Number of Inserts	Dimensions LU (mm)	LPR (mm)	OAL (mm)	DCON (mm)	DCFSMS (mm)	A (mm)	Insert Order Number	* Clamp Screw	①② Wrench
20.0	2	**MVX2000X2F25**	★	2	47	67	117	25.0	32	0.60	**SOMX073505-○○**	TPS3	①TIP10F
	3	MVX**2000X3F25**	★	2	67	87	137	25.0	32	0.60	SOMX**073505-○○**	TPS3	①TIP10F
	4	MVX**2000X4F25**	★	2	87	107	157	25.0	32	0.60	SOMX**073505-○○**	TPS3	①TIP10F
	5	MVX**2000X5F25**	★	2	107	127	177	25.0	32	0.60	SOMX**073505-○○**	TPS3	①TIP10F
	6	MVX**2000X6F25**	★	2	127	147	197	25.0	32	0.60	SOMX**073505-○○**	TPS3	①TIP10F
20.5	2	MVX**2050X2F25**	★	2	48	68	118	25.0	32	0.55	SOMX**073505-○○**	TPS3	①TIP10F
	3	MVX**2050X3F25**	★	2	68	88	138	25.0	32	0.55	SOMX**073505-○○**	TPS3	①TIP10F
21.0	2	MVX**2100X2F25**	★	2	49	69	119	25.0	32	0.50	SOMX**073505-○○**	TPS3	①TIP10F
	3	MVX**2100X3F25**	★	2	70	90	140	25.0	32	0.50	SOMX**073505-○○**	TPS3	①TIP10F
	4	MVX**2100X4F25**	★	2	91	111	161	25.0	32	0.50	SOMX**073505-○○**	TPS3	①TIP10F
	5	MVX**2100X5F25**	★	2	112	132	182	25.0	32	0.50	SOMX**073505-○○**	TPS3	①TIP10F
	6	MVX**2100X6F25**	★	2	133	153	203	25.0	32	0.50	SOMX**073505-○○**	TPS3	①TIP10F
21.5	2	MVX**2150X2F25**	★	2	50	70	120	25.0	32	0.45	SOMX**073505-○○**	TPS3	①TIP10F
	3	MVX**2150X3F25**	★	2	71	91	141	25.0	32	0.45	SOMX**073505-○○**	TPS3	①TIP10F
22.0	2	MVX**2200X2F25**	★	2	51	71	121	25.0	32	0.40	SOMX**073505-○○**	TPS3	①TIP10F
	3	MVX**2200X3F25**	★	2	73	93	143	25.0	32	0.40	SOMX**073505-○○**	TPS3	①TIP10F
	4	MVX**2200X4F25**	★	2	95	115	165	25.0	32	0.40	SOMX**073505-○○**	TPS3	①TIP10F
	5	MVX**2200X5F25**	★	2	117	137	187	25.0	32	0.40	SOMX**073505-○○**	TPS3	①TIP10F
	6	MVX**2200X6F25**	★	2	139	159	209	25.0	32	0.40	SOMX**073505-○○**	TPS3	①TIP10F
22.5	2	MVX**2250X2F25**	★	2	52	72	122	25.0	32	0.35	SOMX**073505-○○**	TPS3	①TIP10F
	3	MVX**2250X3F25**	★	2	74	94	144	25.0	32	0.35	SOMX**073505-○○**	TPS3	①TIP10F
23.0	2	MVX**2300X2F25**	★	2	53	73	123	25.0	32	0.80	SOMX**084005-○○**	TPS351	②TIP10W
	3	MVX**2300X3F25**	★	2	76	96	146	25.0	32	0.80	SOMX**084005-○○**	TPS351	②TIP10W
	4	MVX**2300X4F25**	★	2	99	119	169	25.0	32	0.80	SOMX**084005-○○**	TPS351	②TIP10W
	5	MVX**2300X5F25**	★	2	122	142	192	25.0	32	0.80	SOMX**084005-○○**	TPS351	②TIP10W
	6	MVX**2300X6F25**	★	2	145	165	215	25.0	32	0.80	SOMX**084005-○○**	TPS351	②TIP10W
23.5	2	MVX**2350X2F25**	★	2	54	74	124	25.0	32	0.75	SOMX**084005-○○**	TPS351	②TIP10W
	3	MVX**2350X3F25**	★	2	77	97	147	25.0	32	0.75	SOMX**084005-○○**	TPS351	②TIP10W
24.0	2	MVX**2400X2F25**	★	2	55	75	125	25.0	32	0.70	SOMX**084005-○○**	TPS351	②TIP10W
	3	MVX**2400X3F25**	★	2	79	99	149	25.0	32	0.70	SOMX**084005-○○**	TPS351	②TIP10W
	4	MVX**2400X4F25**	★	2	103	123	173	25.0	32	0.70	SOMX**084005-○○**	TPS351	②TIP10W
	5	MVX**2400X5F25**	★	2	127	147	197	25.0	32	0.70	SOMX**084005-○○**	TPS351	②TIP10W
	6	MVX**2400X6F25**	★	2	151	171	221	25.0	32	0.70	SOMX**084005-○○**	TPS351	②TIP10W
24.5	2	MVX**2450X2F25**	★	2	56	76	126	25.0	32	0.65	SOMX**084005-○○**	TPS351	②TIP10W
	3	MVX**2450X3F25**	★	2	80	100	150	25.0	32	0.65	SOMX**084005-○○**	TPS351	②TIP10W
25.0	2	MVX**2500X2F25**	★	2	57	77	127	25.0	32	0.60	SOMX**084005-○○**	TPS351	②TIP10W
	3	MVX**2500X3F25**	★	2	82	102	152	25.0	32	0.60	SOMX**084005-○○**	TPS351	②TIP10W
	4	MVX**2500X4F25**	★	2	107	127	177	25.0	32	0.60	SOMX**084005-○○**	TPS351	②TIP10W
	5	MVX**2500X5F25**	★	2	132	152	202	25.0	32	0.60	SOMX**084005-○○**	TPS351	②TIP10W
	6	MVX**2500X6F25**	★	2	157	177	227	25.0	32	0.60	SOMX**084005-○○**	TPS351	②TIP10W
25.5	2	MVX**2550X2F25**	★	2	58	78	128	25.0	32	0.60	SOMX**084005-○○**	TPS351	②TIP10W
	3	MVX**2550X3F25**	★	2	83	103	153	25.0	32	0.60	SOMX**084005-○○**	TPS351	②TIP10W
26.0	2	MVX**2600X2F32**	★	2	59	79	134	32.0	42	0.50	SOMX**084005-○○**	TPS351	②TIP10W
	3	MVX**2600X3F32**	★	2	85	105	160	32.0	42	0.50	SOMX**084005-○○**	TPS351	②TIP10W
	4	MVX**2600X4F32**	★	2	111	131	186	32.0	42	0.50	SOMX**084005-○○**	TPS351	②TIP10W
	5	MVX**2600X5F32**	★	2	137	157	212	32.0	42	0.50	SOMX**084005-○○**	TPS351	②TIP10W
	6	MVX**2600X6F32**	★	2	163	183	238	32.0	42	0.50	SOMX**084005-○○**	TPS351	②TIP10W

* Clamp Torque (lbf-in) : TIP10F=17.7, TIP10W=22

INSERTS ➤ L179
CUTTING CONDITIONS ➤ L180
TECHNICAL DATA ➤ N001

MVX

DC Metric (mm)	Hole Depth (l/d)	Holder Order Number	Stock	Number of Inserts	Dimensions LU (mm)	LPR (mm)	OAL (mm)	DCON (mm)	DCFSMS (mm)	A (mm)	Insert Order Number	* Clamp Screw	Wrench
26.5	2	MVX2650X2F32	★	2	60	80	135	32.0	42	0.50	SOMX084005-○○	TPS351	TIP10W
	3	MVX2650X3F32	★	2	86	106	161	32.0	42	0.50	SOMX084005-○○	TPS351	TIP10W
27.0	2	MVX2700X2F32	★	2	61	81	136	32.0	42	0.45	SOMX084005-○○	TPS351	TIP10W
	3	MVX2700X3F32	★	2	88	108	163	32.0	42	0.45	SOMX084005-○○	TPS351	TIP10W
	4	MVX2700X4F32	★	2	115	135	190	32.0	42	0.45	SOMX084005-○○	TPS351	TIP10W
	5	MVX2700X5F32	★	2	142	162	217	32.0	42	0.45	SOMX084005-○○	TPS351	TIP10W
	6	MVX2700X6F32	★	2	169	189	244	32.0	42	0.45	SOMX084005-○○	TPS351	TIP10W
27.5	2	MVX2750X2F32	★	2	62	82	137	32.0	42	0.40	SOMX084005-○○	TPS351	TIP10W
	3	MVX2750X3F32	★	2	89	109	164	32.0	42	0.40	SOMX084005-○○	TPS351	TIP10W
28.0	2	MVX2800X2F32	★	2	63	83	138	32.0	42	0.85	SOMX094506-○○	TPS4	TIP15W
	3	MVX2800X3F32	★	2	91	111	166	32.0	42	0.85	SOMX094506-○○	TPS4	TIP15W
	4	MVX2800X4F32	★	2	119	139	194	32.0	42	0.85	SOMX094506-○○	TPS4	TIP15W
	5	MVX2800X5F32	★	2	147	167	222	32.0	42	0.85	SOMX094506-○○	TPS4	TIP15W
	6	MVX2800X6F32	★	2	175	195	250	32.0	42	0.85	SOMX094506-○○	TPS4	TIP15W
28.5	2	MVX2850X2F32	★	2	64	84	139	32.0	42	0.80	SOMX094506-○○	TPS4	TIP15W
	3	MVX2850X3F32	★	2	92	112	167	32.0	42	0.80	SOMX094506-○○	TPS4	TIP15W
29.0	2	MVX2900X2F32	★	2	65	85	140	32.0	42	0.75	SOMX094506-○○	TPS4	TIP15W
	3	MVX2900X3F32	★	2	94	114	169	32.0	42	0.75	SOMX094506-○○	TPS4	TIP15W
	4	MVX2900X4F32	★	2	123	143	198	32.0	42	0.75	SOMX094506-○○	TPS4	TIP15W
	5	MVX2900X5F32	★	2	152	172	227	32.0	42	0.75	SOMX094506-○○	TPS4	TIP15W
	6	MVX2900X6F32	★	2	181	201	256	32.0	42	0.75	SOMX094506-○○	TPS4	TIP15W
29.5	2	MVX2950X2F32	★	2	66	86	141	32.0	42	0.70	SOMX094506-○○	TPS4	TIP15W
	3	MVX2950X3F32	★	2	95	115	170	32.0	42	0.70	SOMX094506-○○	TPS4	TIP15W
30.0	2	MVX3000X2F32	★	2	67	87	142	32.0	42	0.65	SOMX094506-○○	TPS4	TIP15W
	3	MVX3000X3F32	★	2	97	117	172	32.0	42	0.65	SOMX094506-○○	TPS4	TIP15W
	4	MVX3000X4F32	★	2	127	147	202	32.0	42	0.65	SOMX094506-○○	TPS4	TIP15W
	5	MVX3000X5F32	★	2	157	177	232	32.0	42	0.65	SOMX094506-○○	TPS4	TIP15W
	6	MVX3000X6F32	★	2	187	207	262	32.0	42	0.65	SOMX094506-○○	TPS4	TIP15W
30.5	3	MVX3050X3F32	★	2	98	118	173	32.0	42	0.60	SOMX094506-○○	TPS4	TIP15W
31.0	2	MVX3100X2F40	★	2	69	89	154	40.0	50	0.55	SOMX094506-○○	TPS4	TIP15W
	3	MVX3100X3F40	★	2	100	120	185	40.0	50	0.55	SOMX094506-○○	TPS4	TIP15W
	4	MVX3100X4F40	★	2	131	151	216	40.0	50	0.55	SOMX094506-○○	TPS4	TIP15W
	5	MVX3100X5F40	★	2	162	182	247	40.0	50	0.55	SOMX094506-○○	TPS4	TIP15W
	6	MVX3100X6F40	★	2	193	213	278	40.0	50	0.55	SOMX094506-○○	TPS4	TIP15W
31.5	3	MVX3150X3F40	★	2	101	121	186	40.0	50	0.55	SOMX094506-○○	TPS4	TIP15W
32.0	2	MVX3200X2F40	★	2	71	91	156	40.0	50	0.45	SOMX094506-○○	TPS4	TIP15W
	3	MVX3200X3F40	★	2	103	123	188	40.0	50	0.45	SOMX094506-○○	TPS4	TIP15W
	4	MVX3200X4F40	★	2	135	155	220	40.0	50	0.45	SOMX094506-○○	TPS4	TIP15W
	5	MVX3200X5F40	★	2	167	187	252	40.0	50	0.45	SOMX094506-○○	TPS4	TIP15W
	6	MVX3200X6F40	★	2	199	219	284	40.0	50	0.45	SOMX094506-○○	TPS4	TIP15W
32.5	3	MVX3250X3F40	★	2	104	124	189	40.0	50	0.45	SOMX094506-○○	TPS4	TIP15W
33.0	2	MVX3300X2F40	★	2	73	93	158	40.0	50	0.40	SOMX094506-○○	TPS4	TIP15W
	3	MVX3300X3F40	★	2	106	126	191	40.0	50	0.40	SOMX094506-○○	TPS4	TIP15W
	4	MVX3300X4F40	★	2	139	159	224	40.0	50	0.40	SOMX094506-○○	TPS4	TIP15W
	5	MVX3300X5F40	★	2	172	192	257	40.0	50	0.40	SOMX094506-○○	TPS4	TIP15W
	6	MVX3300X6F40	★	2	205	225	290	40.0	50	0.40	SOMX094506-○○	TPS4	TIP15W

* Clamp Torque (lbf-in) : TIP10W=22, TIP15W=31

★ : Inventory maintained in Japan.

DC	Hole Depth	Holder	Stock	Number of Inserts	Dimensions					A	Insert	*	
Metric (mm)	(l/d)	Order Number			LU (mm)	LPR (mm)	OAL (mm)	DCON (mm)	DCFSMS (mm)	(mm)	Order Number	Clamp Screw	Wrench
33.5	3	**MVX3350X3F40**	★	2	107	127	192	40.0	50	1.15	**SOMX115506-○○**	TPS43	TIP15W
34.0	2	**MVX3400X2F40**	★	2	75	105	170	40.0	50	1.11	**SOMX115506-○○**	TPS43	TIP15W
	3	**MVX3400X3F40**	★	2	109	139	204	40.0	50	1.11	**SOMX115506-○○**	TPS43	TIP15W
	4	**MVX3400X4F40**	★	2	143	173	238	40.0	50	1.11	**SOMX115506-○○**	TPS43	TIP15W
	5	**MVX3400X5F40**	★	2	177	207	272	40.0	50	1.11	**SOMX115506-○○**	TPS43	TIP15W
	6	**MVX3400X6F40**	★	2	211	241	306	40.0	50	1.10	**SOMX115506-○○**	TPS43	TIP15W
34.5	3	**MVX3450X3F40**	★	2	110	140	205	40.0	50	1.08	**SOMX115506-○○**	TPS43	TIP15W
35.0	2	**MVX3500X2F40**	★	2	77	107	172	40.0	50	1.03	**SOMX115506-○○**	TPS43	TIP15W
	3	**MVX3500X3F40**	★	2	112	142	207	40.0	50	1.03	**SOMX115506-○○**	TPS43	TIP15W
	4	**MVX3500X4F40**	★	2	147	177	242	40.0	50	1.03	**SOMX115506-○○**	TPS43	TIP15W
	5	**MVX3500X5F40**	★	2	182	212	277	40.0	50	1.03	**SOMX115506-○○**	TPS43	TIP15W
	6	**MVX3500X6F40**	★	2	217	247	312	40.0	50	1.02	**SOMX115506-○○**	TPS43	TIP15W
35.5	3	**MVX3550X3F40**	★	2	113	143	208	40.0	50	0.99	**SOMX115506-○○**	TPS43	TIP15W
36.0	2	**MVX3600X2F40**	★	2	79	109	174	40.0	50	0.95	**SOMX115506-○○**	TPS43	TIP15W
	3	**MVX3600X3F40**	★	2	115	145	210	40.0	50	0.95	**SOMX115506-○○**	TPS43	TIP15W
	4	**MVX3600X4F40**	★	2	151	181	246	40.0	50	0.95	**SOMX115506-○○**	TPS43	TIP15W
	5	**MVX3600X5F40**	★	2	187	217	282	40.0	50	0.95	**SOMX115506-○○**	TPS43	TIP15W
	6	**MVX3600X6F40**	★	2	223	253	318	40.0	50	0.94	**SOMX115506-○○**	TPS43	TIP15W
37.0	2	**MVX3700X2F40**	★	2	81	111	176	40.0	50	0.87	**SOMX115506-○○**	TPS43	TIP15W
	3	**MVX3700X3F40**	★	2	118	148	213	40.0	50	0.87	**SOMX115506-○○**	TPS43	TIP15W
	4	**MVX3700X4F40**	★	2	155	185	250	40.0	50	0.87	**SOMX115506-○○**	TPS43	TIP15W
	5	**MVX3700X5F40**	★	2	192	222	287	40.0	50	0.87	**SOMX115506-○○**	TPS43	TIP15W
	6	**MVX3700X6F40**	★	2	229	259	324	40.0	50	0.86	**SOMX115506-○○**	TPS43	TIP15W
38.0	2	**MVX3800X2F40**	★	2	83	113	178	40.0	50	0.79	**SOMX115506-○○**	TPS43	TIP15W
	3	**MVX3800X3F40**	★	2	121	151	216	40.0	50	0.79	**SOMX115506-○○**	TPS43	TIP15W
	4	**MVX3800X4F40**	★	2	159	189	254	40.0	50	0.79	**SOMX115506-○○**	TPS43	TIP15W
	5	**MVX3800X5F40**	★	2	197	227	292	40.0	50	0.79	**SOMX115506-○○**	TPS43	TIP15W
	6	**MVX3800X6F40**	★	2	235	265	330	40.0	50	0.78	**SOMX115506-○○**	TPS43	TIP15W
39.0	2	**MVX3900X2F40**	★	2	85	115	180	40.0	50	0.71	**SOMX115506-○○**	TPS43	TIP15W
	3	**MVX3900X3F40**	★	2	124	154	219	40.0	50	0.71	**SOMX115506-○○**	TPS43	TIP15W
	4	**MVX3900X4F40**	★	2	163	193	258	40.0	50	0.71	**SOMX115506-○○**	TPS43	TIP15W
	5	**MVX3900X5F40**	★	2	202	232	297	40.0	50	0.71	**SOMX115506-○○**	TPS43	TIP15W
	6	**MVX3900X6F40**	★	2	241	271	336	40.0	50	0.70	**SOMX115506-○○**	TPS43	TIP15W
40.0	2	**MVX4000X2F40**	★	2	87	117	182	40.0	50	1.46	**SOMX136008-○○**	TPS43	TIP15W
	3	**MVX4000X3F40**	★	2	127	157	222	40.0	50	1.46	**SOMX136008-○○**	TPS43	TIP15W
	4	**MVX4000X4F40**	★	2	167	197	262	40.0	50	1.46	**SOMX136008-○○**	TPS43	TIP15W
	5	**MVX4000X5F40**	★	2	207	237	302	40.0	50	1.46	**SOMX136008-○○**	TPS43	TIP15W
	6	**MVX4000X6F40**	★	2	247	277	342	40.0	50	1.45	**SOMX136008-○○**	TPS43	TIP15W
41.0	2	**MVX4100X2F40**	★	2	89	119	184	40.0	50	1.36	**SOMX136008-○○**	TPS43	TIP15W
	3	**MVX4100X3F40**	★	2	130	160	225	40.0	50	1.36	**SOMX136008-○○**	TPS43	TIP15W
	4	**MVX4100X4F40**	★	2	171	201	266	40.0	50	1.36	**SOMX136008-○○**	TPS43	TIP15W
	5	**MVX4100X5F40**	★	2	212	242	307	40.0	50	1.36	**SOMX136008-○○**	TPS43	TIP15W
	6	**MVX4100X6F40**	★	2	253	283	348	40.0	50	1.35	**SOMX136008-○○**	TPS43	TIP15W

* Clamp Torque (lbf-in) : TIP15W=31

DRILLING

INSERTS ➤ L179
CUTTING CONDITIONS ➤ L180
TECHNICAL DATA ➤ N001

MVX

DC Metric (mm)	Hole Depth (l/d)	Holder Order Number	Stock	Number of Inserts	Dimensions LU (mm)	LPR (mm)	OAL (mm)	DCON (mm)	DCFSMS (mm)	A (mm)	Insert Order Number	* Clamp Screw	①② Wrench
42.0	2	**MVX4200X2F40**	★	2	91	121	186	40.0	50	1.27	**SOMX136008-○○**	TPS43	①TIP15W
	3	**MVX4200X3F40**	★	2	133	163	228	40.0	50	1.27	**SOMX136008-○○**	TPS43	①TIP15W
NEW	4	**MVX4200X4F40**	★	2	175	205	270	40.0	63	1.27	**SOMX136008-○○**	TPS43	①TIP15W
	4	**MVX4200X4F50**	★	2	175	205	280	50.0	63	1.27	**SOMX136008-○○**	TPS43	①TIP15W
NEW	5	**MVX4200X5F40**	★	2	217	247	312	40.0	63	1.27	**SOMX136008-○○**	TPS43	①TIP15W
	5	**MVX4200X5F50**	★	2	217	247	322	50.0	63	1.27	**SOMX136008-○○**	TPS43	①TIP15W
NEW	6	**MVX4200X6F40**	★	2	259	289	354	40.0	63	1.27	**SOMX136008-○○**	TPS43	①TIP15W
	6	**MVX4200X6F50**	★	2	259	289	364	50.0	63	1.26	**SOMX136008-○○**	TPS43	①TIP15W
43.0	2	**MVX4300X2F40**	★	2	93	123	188	40.0	50	1.18	**SOMX136008-○○**	TPS43	①TIP15W
	3	**MVX4300X3F40**	★	2	136	166	231	40.0	50	1.18	**SOMX136008-○○**	TPS43	①TIP15W
NEW	4	**MVX4300X4F40**	★	2	179	209	274	40.0	63	1.18	**SOMX136008-○○**	TPS43	①TIP15W
	4	**MVX4300X4F50**	★	2	179	209	284	50.0	63	1.18	**SOMX136008-○○**	TPS43	①TIP15W
NEW	5	**MVX4300X5F40**	★	2	222	252	317	40.0	63	1.18	**SOMX136008-○○**	TPS43	①TIP15W
	5	**MVX4300X5F50**	★	2	222	252	327	50.0	63	1.18	**SOMX136008-○○**	TPS43	①TIP15W
NEW	6	**MVX4300X6F40**	★	2	265	295	360	40.0	63	1.17	**SOMX136008-○○**	TPS43	①TIP15W
	6	**MVX4300X6F50**	★	2	265	295	370	50.0	63	1.17	**SOMX136008-○○**	TPS43	①TIP15W
44.0	2	**MVX4400X2F40**	★	2	95	125	190	40.0	50	1.08	**SOMX136008-○○**	TPS43	①TIP15W
	3	**MVX4400X3F40**	★	2	139	169	234	40.0	50	1.08	**SOMX136008-○○**	TPS43	①TIP15W
NEW	4	**MVX4400X4F40**	★	2	183	213	278	40.0	63	1.08	**SOMX136008-○○**	TPS43	①TIP15W
	4	**MVX4400X4F50**	★	2	183	213	288	50.0	63	1.08	**SOMX136008-○○**	TPS43	①TIP15W
NEW	5	**MVX4400X5F40**	★	2	227	257	322	40.0	63	1.08	**SOMX136008-○○**	TPS43	①TIP15W
	5	**MVX4400X5F50**	★	2	227	257	332	50.0	63	1.08	**SOMX136008-○○**	TPS43	①TIP15W
45.0	2	**MVX4500X2F40**	★	2	97	127	192	40.0	50	0.99	**SOMX136008-○○**	TPS43	①TIP15W
	3	**MVX4500X3F40**	★	2	142	172	237	40.0	50	0.99	**SOMX136008-○○**	TPS43	①TIP15W
NEW	4	**MVX4500X4F40**	★	2	187	217	282	40.0	63	0.99	**SOMX136008-○○**	TPS43	①TIP15W
	4	**MVX4500X4F50**	★	2	187	217	292	50.0	63	0.99	**SOMX136008-○○**	TPS43	①TIP15W
NEW	5	**MVX4500X5F40**	★	2	232	262	327	40.0	63	0.99	**SOMX136008-○○**	TPS43	①TIP15W
	5	**MVX4500X5F50**	★	2	232	262	337	50.0	63	0.99	**SOMX136008-○○**	TPS43	①TIP15W
46.0	2	**MVX4600X2F40**	★	2	99	129	194	40.0	50	0.89	**SOMX136008-○○**	TPS43	①TIP15W
	3	**MVX4600X3F40**	★	2	145	175	240	40.0	50	0.89	**SOMX136008-○○**	TPS43	①TIP15W
NEW	4	**MVX4600X4F40**	★	2	191	221	286	40.0	63	0.89	**SOMX136008-○○**	TPS43	①TIP15W
	4	**MVX4600X4F50**	★	2	191	221	296	50.0	63	0.89	**SOMX136008-○○**	TPS43	①TIP15W
NEW	5	**MVX4600X5F40**	★	2	237	267	332	40.0	63	0.89	**SOMX136008-○○**	TPS43	①TIP15W
	5	**MVX4600X5F50**	★	2	237	267	342	50.0	63	0.89	**SOMX136008-○○**	TPS43	①TIP15W
47.0	2	**MVX4700X2F40**	★	2	101	141	206	40.0	63	1.90	**SOMX166508-○○**	TPS54	②TIP25D
	3	**MVX4700X3F40**	★	2	148	188	253	40.0	63	1.90	**SOMX166508-○○**	TPS54	②TIP25D
NEW	4	**MVX4700X4F40**	★	2	195	235	300	40.0	63	1.90	**SOMX166508-○○**	TPS54	②TIP25D
	4	**MVX4700X4F50**	★	2	195	235	310	50.0	63	1.90	**SOMX166508-○○**	TPS54	②TIP25D
NEW	5	**MVX4700X5F40**	★	2	242	282	347	40.0	63	1.90	**SOMX166508-○○**	TPS54	②TIP25D
	5	**MVX4700X5F50**	★	2	242	282	357	50.0	63	1.90	**SOMX166508-○○**	TPS54	②TIP25D
48.0	2	**MVX4800X2F40**	★	2	103	143	208	40.0	63	1.80	**SOMX166508-○○**	TPS54	②TIP25D
	3	**MVX4800X3F40**	★	2	151	191	256	40.0	63	1.80	**SOMX166508-○○**	TPS54	②TIP25D
NEW	4	**MVX4800X4F40**	★	2	199	239	304	40.0	63	1.80	**SOMX166508-○○**	TPS54	②TIP25D
	4	**MVX4800X4F50**	★	2	199	239	314	50.0	63	1.80	**SOMX166508-○○**	TPS54	②TIP25D
NEW	5	**MVX4800X5F40**	★	2	247	287	352	40.0	63	1.80	**SOMX166508-○○**	TPS54	②TIP25D
	5	**MVX4800X5F50**	★	2	247	287	362	50.0	63	1.80	**SOMX166508-○○**	TPS54	②TIP25D

* Clamp Torque (lbf-in) : TIP15W=31, TIP25D=66

★ : Inventory maintained in Japan.

DC Metric (mm)	Hole Depth (l/d)	Holder Order Number	Stock	Number of Inserts	Dimensions LU (mm)	LPR (mm)	OAL (mm)	DCON (mm)	DCFSMS (mm)	A (mm)	Insert Order Number	* Clamp Screw	Wrench
49.0	2	**MVX4900X2F40**	★	2	105	145	210	40.0	63	1.70	**SOMX166508-○○**	TPS54	TIP25D
	3	MVX**4900X3F40**	★	2	154	194	259	40.0	63	1.70	SOMX**166508-○○**	TPS54	TIP25D
NEW	4	MVX**4900X4F40**	★	2	203	243	308	40.0	63	1.70	SOMX**166508-○○**	TPS54	TIP25D
	4	MVX**4900X4F50**	★	2	203	243	318	50.0	63	1.70	SOMX**166508-○○**	TPS54	TIP25D
NEW	5	MVX**4900X5F40**	★	2	252	292	357	40.0	63	1.70	SOMX**166508-○○**	TPS54	TIP25D
	5	MVX**4900X5F50**	★	2	252	292	367	50.0	63	1.70	SOMX**166508-○○**	TPS54	TIP25D
50.0	2	MVX**5000X2F40**	★	2	107	147	212	40.0	63	1.60	SOMX**166508-○○**	TPS54	TIP25D
	3	MVX**5000X3F40**	★	2	157	197	262	40.0	63	1.60	SOMX**166508-○○**	TPS54	TIP25D
NEW	4	MVX**5000X4F40**	★	2	207	247	312	40.0	63	1.60	SOMX**166508-○○**	TPS54	TIP25D
	4	MVX**5000X4F50**	★	2	207	247	322	50.0	63	1.60	SOMX**166508-○○**	TPS54	TIP25D
NEW	5	MVX**5000X5F40**	★	2	257	297	362	40.0	63	1.60	SOMX**166508-○○**	TPS54	TIP25D
	5	MVX**5000X5F50**	★	2	257	297	372	50.0	63	1.60	SOMX**166508-○○**	TPS54	TIP25D
51.0	2	MVX**5100X2F40**	★	2	109	149	214	40.0	63	1.50	SOMX**166508-○○**	TPS54	TIP25D
	3	MVX**5100X3F40**	★	2	160	200	265	40.0	63	1.50	SOMX**166508-○○**	TPS54	TIP25D
NEW	4	MVX**5100X4F40**	★	2	211	251	316	40.0	63	1.50	SOMX**166508-○○**	TPS54	TIP25D
	4	MVX**5100X4F50**	★	2	211	251	326	50.0	63	1.50	SOMX**166508-○○**	TPS54	TIP25D
NEW	5	MVX**5100X5F40**	★	2	262	302	367	40.0	63	1.50	SOMX**166508-○○**	TPS54	TIP25D
	5	MVX**5100X5F50**	★	2	262	302	377	50.0	63	1.50	SOMX**166508-○○**	TPS54	TIP25D
52.0	2	MVX**5200X2F40**	★	2	111	151	216	40.0	63	1.39	SOMX**166508-○○**	TPS54	TIP25D
	3	MVX**5200X3F40**	★	2	163	203	268	40.0	63	1.39	SOMX**166508-○○**	TPS54	TIP25D
NEW	4	MVX**5200X4F40**	★	2	215	255	320	40.0	63	1.39	SOMX**166508-○○**	TPS54	TIP25D
	4	MVX**5200X4F50**	★	2	215	255	330	50.0	63	1.39	SOMX**166508-○○**	TPS54	TIP25D
NEW	5	MVX**5200X5F40**	★	2	267	307	372	40.0	63	1.39	SOMX**166508-○○**	TPS54	TIP25D
	5	MVX**5200X5F50**	★	2	267	307	382	50.0	63	1.39	SOMX**166508-○○**	TPS54	TIP25D
53.0	2	MVX**5300X2F40**	★	2	113	153	218	40.0	63	1.29	SOMX**166508-○○**	TPS54	TIP25D
	3	MVX**5300X3F40**	★	2	166	206	271	40.0	63	1.29	SOMX**166508-○○**	TPS54	TIP25D
NEW	4	MVX**5300X4F40**	★	2	219	259	324	40.0	63	1.29	SOMX**166508-○○**	TPS54	TIP25D
	4	MVX**5300X4F50**	★	2	219	259	334	50.0	63	1.29	SOMX**166508-○○**	TPS54	TIP25D
NEW	5	MVX**5300X5F40**	★	2	272	312	377	40.0	63	1.29	SOMX**166508-○○**	TPS54	TIP25D
	5	MVX**5300X5F50**	★	2	272	312	387	50.0	63	1.29	SOMX**166508-○○**	TPS54	TIP25D
54.0	2	MVX**5400X2F40**	★	2	115	155	220	40.0	63	1.19	SOMX**166508-○○**	TPS54	TIP25D
	3	MVX**5400X3F40**	★	2	169	209	274	40.0	63	1.19	SOMX**166508-○○**	TPS54	TIP25D
NEW	4	MVX**5400X4F40**	★	2	223	263	328	40.0	63	1.19	SOMX**166508-○○**	TPS54	TIP25D
	4	MVX**5400X4F50**	★	2	223	263	338	50.0	63	1.19	SOMX**166508-○○**	TPS54	TIP25D
NEW	5	MVX**5400X5F40**	★	2	277	317	382	40.0	63	1.19	SOMX**166508-○○**	TPS54	TIP25D
	5	MVX**5400X5F50**	★	2	277	317	392	50.0	63	1.19	SOMX**166508-○○**	TPS54	TIP25D
55.0	2	MVX**5500X2F40**	★	2	117	157	222	40.0	63	1.08	SOMX**166508-○○**	TPS54	TIP25D
	3	MVX**5500X3F40**	★	2	172	212	277	40.0	63	1.08	SOMX**166508-○○**	TPS54	TIP25D
NEW	4	MVX**5500X4F40**	★	2	227	267	332	40.0	63	1.08	SOMX**166508-○○**	TPS54	TIP25D
	4	MVX**5500X4F50**	★	2	227	267	342	50.0	63	1.08	SOMX**166508-○○**	TPS54	TIP25D
NEW	5	MVX**5500X5F40**	★	2	282	322	387	40.0	63	1.08	SOMX**166508-○○**	TPS54	TIP25D
	5	MVX**5500X5F50**	★	2	282	322	397	50.0	63	1.08	SOMX**166508-○○**	TPS54	TIP25D
56.0	2	MVX**5600X2F40**	★	2	119	159	224	40.0	63	0.98	SOMX**166508-○○**	TPS54	TIP25D
	3	MVX**5600X3F40**	★	2	175	215	280	40.0	63	0.98	SOMX**166508-○○**	TPS54	TIP25D
NEW	4	MVX**5600X4F40**	★	2	231	271	336	40.0	63	0.98	SOMX**166508-○○**	TPS54	TIP25D
	4	MVX**5600X4F50**	★	2	231	271	346	50.0	63	0.98	SOMX**166508-○○**	TPS54	TIP25D
NEW	5	MVX**5600X5F40**	★	2	287	327	392	40.0	63	0.98	SOMX**166508-○○**	TPS54	TIP25D
	5	MVX**5600X5F50**	★	2	287	327	402	50.0	63	0.98	SOMX**166508-○○**	TPS54	TIP25D

* Clamp Torque (lbf-in) : TIP25D=66

INSERTS ➤ L179
CUTTING CONDITIONS ➤ L180
TECHNICAL DATA ➤ N001

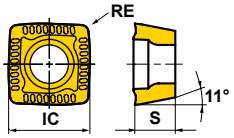
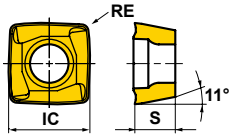
MVX

DC Metric (mm)	Hole Depth (l/d)	Holder Order Number	Stock	Number of Inserts	Dimensions LU (mm)	LPR (mm)	OAL (mm)	DCON (mm)	DCFSMS (mm)	A (mm)	Insert Order Number	* Clamp Screw	Wrench
57.0	2	MVX5700X2F40	★	2	121	161	226	40.0	68	1.47	SOMX187008-○○	TPS54	TIP25D
	3	MVX5700X3F40	★	2	178	218	283	40.0	68	1.47	SOMX187008-○○	TPS54	TIP25D
NEW	4	MVX5700X4F40	★	2	235	275	340	40.0	68	1.47	SOMX187008-○○	TPS54	TIP25D
	4	MVX5700X4F50	★	2	235	275	350	50.0	68	1.47	SOMX187008-○○	TPS54	TIP25D
NEW	5	MVX5700X5F40	★	2	292	332	397	40.0	68	1.47	SOMX187008-○○	TPS54	TIP25D
	5	MVX5700X5F50	★	2	292	332	407	50.0	68	1.47	SOMX187008-○○	TPS54	TIP25D
58.0	2	MVX5800X2F40	★	2	123	163	228	40.0	68	1.37	SOMX187008-○○	TPS54	TIP25D
	3	MVX5800X3F40	★	2	181	221	286	40.0	68	1.37	SOMX187008-○○	TPS54	TIP25D
NEW	4	MVX5800X4F40	★	2	239	279	344	40.0	68	1.37	SOMX187008-○○	TPS54	TIP25D
	4	MVX5800X4F50	★	2	239	279	354	50.0	68	1.37	SOMX187008-○○	TPS54	TIP25D
NEW	5	MVX5800X5F40	★	2	297	337	402	40.0	68	1.37	SOMX187008-○○	TPS54	TIP25D
	5	MVX5800X5F50	★	2	297	337	412	50.0	68	1.37	SOMX187008-○○	TPS54	TIP25D
59.0	2	MVX5900X2F40	★	2	125	165	230	40.0	68	1.26	SOMX187008-○○	TPS54	TIP25D
	3	MVX5900X3F40	★	2	184	224	289	40.0	68	1.26	SOMX187008-○○	TPS54	TIP25D
NEW	4	MVX5900X4F40	★	2	243	283	348	40.0	68	1.26	SOMX187008-○○	TPS54	TIP25D
	4	MVX5900X4F50	★	2	243	283	358	50.0	68	1.26	SOMX187008-○○	TPS54	TIP25D
NEW	5	MVX5900X5F40	★	2	302	342	407	40.0	68	1.26	SOMX187008-○○	TPS54	TIP25D
	5	MVX5900X5F50	★	2	302	342	417	50.0	68	1.26	SOMX187008-○○	TPS54	TIP25D
60.0	2	MVX6000X2F40	★	2	127	167	232	40.0	68	1.16	SOMX187008-○○	TPS54	TIP25D
	3	MVX6000X3F40	★	2	187	227	292	40.0	68	1.16	SOMX187008-○○	TPS54	TIP25D
NEW	4	MVX6000X4F40	★	2	247	287	352	40.0	68	1.16	SOMX187008-○○	TPS54	TIP25D
	4	MVX6000X4F50	★	2	247	287	362	50.0	68	1.16	SOMX187008-○○	TPS54	TIP25D
NEW	5	MVX6000X5F40	★	2	307	347	412	40.0	68	1.16	SOMX187008-○○	TPS54	TIP25D
	5	MVX6000X5F50	★	2	307	347	422	50.0	68	1.16	SOMX187008-○○	TPS54	TIP25D
61.0	2	MVX6100X2F40	★	2	129	169	234	40.0	68	1.05	SOMX187008-○○	TPS54	TIP25D
	3	MVX6100X3F40	★	2	190	230	295	40.0	68	1.05	SOMX187008-○○	TPS54	TIP25D
NEW	4	MVX6100X4F40	★	2	251	291	356	40.0	68	1.05	SOMX187008-○○	TPS54	TIP25D
	4	MVX6100X4F50	★	2	251	291	366	50.0	68	1.05	SOMX187008-○○	TPS54	TIP25D
NEW	5	MVX6100X5F40	★	2	312	352	417	40.0	68	1.05	SOMX187008-○○	TPS54	TIP25D
	5	MVX6100X5F50	★	2	312	352	427	50.0	68	1.05	SOMX187008-○○	TPS54	TIP25D
62.0	2	MVX6200X2F40	★	2	131	171	236	40.0	68	0.95	SOMX187008-○○	TPS54	TIP25D
	3	MVX6200X3F40	★	2	193	233	298	40.0	68	0.95	SOMX187008-○○	TPS54	TIP25D
NEW	4	MVX6200X4F40	★	2	255	295	360	40.0	68	0.95	SOMX187008-○○	TPS54	TIP25D
	4	MVX6200X4F50	★	2	255	295	370	50.0	68	0.95	SOMX187008-○○	TPS54	TIP25D
NEW	5	MVX6200X5F40	★	2	317	357	422	40.0	68	0.95	SOMX187008-○○	TPS54	TIP25D
	5	MVX6200X5F50	★	2	317	357	432	50.0	68	0.95	SOMX187008-○○	TPS54	TIP25D
63.0	2	MVX6300X2F40	★	2	133	173	238	40.0	68	0.85	SOMX187008-○○	TPS54	TIP25D
	3	MVX6300X3F40	★	2	196	236	301	40.0	68	0.85	SOMX187008-○○	TPS54	TIP25D
NEW	4	MVX6300X4F40	★	2	259	299	364	40.0	68	0.85	SOMX187008-○○	TPS54	TIP25D
	4	MVX6300X4F50	★	2	259	299	374	50.0	68	0.85	SOMX187008-○○	TPS54	TIP25D
NEW	5	MVX6300X5F40	★	2	322	362	427	40.0	68	0.85	SOMX187008-○○	TPS54	TIP25D
	5	MVX6300X5F50	★	2	322	362	437	50.0	68	0.85	SOMX187008-○○	TPS54	TIP25D

* Clamp Torque (lbf-in) : TIP25D=66

★ : Inventory maintained in Japan.

INSERTS

Shape	DC (mm)	Order Number	Dimensions (mm)			Stock			Geometry
			IC	S	RE	VP15TF	MC1020	MC5020	
UM	ø17—ø19.5	**SOMX063005-UM**	6	3	0.5	●	●	●	
	ø20—ø22.5	SOMX**073505-UM**	7	3.5	0.5	●	●	●	
	ø23—ø27.5	SOMX**084005-UM**	8.3	4	0.5	●	●	●	
	ø28—ø33	SOMX**094506-UM**	9.7	4.5	0.6	●	●	●	
	ø33.5—ø39	SOMX**115506-UM**	11.6	5.5	0.6	●	●	●	
	ø40—ø46	SOMX**136008-UM**	13.8	6	0.8	●	●	●	
	ø47—ø56	SOMX**166508-UM**	16.5	6.5	0.8	●	●	●	
General purpose	ø57—ø63	SOMX**187008-UM**	18.2	7	0.8	●	●	●	
US	ø17—ø19.5	**SOMX063005-US**	6	3	0.5	●	–	–	
	ø20—ø22.5	SOMX**073505-US**	7	3.5	0.5	●	–	–	
	ø23—ø27.5	SOMX**084005-US**	8.3	4	0.5	●	–	–	
	ø28—ø33	SOMX**094506-US**	9.7	4.5	0.6	●	–	–	
For stainless steel and inner edge									

*MC1020 and MC5020 are made exclusively for use as an outer insert.

CUTTING CONDITIONS ➤ L180
TECHNICAL DATA ➤ N001

MVX

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	DC		ϕ.687"—ϕ.750" ϕ17—ϕ19.5mm				ϕ.812"—ϕ.937" ϕ20—ϕ23.5mm			
			Recommended Grade		Cutting Speed (SFM)	Feed Rate (IPR)			Cutting Speed (SFM)	Feed Rate (IPR)		
			Outer	Inner	l/d=2—6	l/d=2, 3	l/d=4, 5	l/d=6	l/d=2—6	l/d=2, 3	l/d=4, 5	l/d=6
P	Mild Steel	≤180HB	MC1020	VP15TF	655 (590—770)	.0020 (.0016—.0024)	.0020 (.0016—.0024)	.0016 (.0016—.0020)	655 (590—770)	.0024 (.0016—.0031)	.0024 (.0016—.0028)	.0016 (.0016—.0020)
P	Carbon Steel Alloy Steel	180—280HB	MC1020	VP15TF	460 (375—590)	.0031 (.0024—.0055)	.0031 (.0024—.0035)	.0020 (.0016—.0024)	460 (375—590)	.0039 (.0024—.0071)	.0035 (.0024—.0047)	.0028 (.0024—.0031)
P		280—350HB	MC1020	VP15TF	330 (245—460)	.0031 (.0024—.0055)	.0031 (.0024—.0035)	.0020 (.0016—.0024)	330 (245—460)	.0039 (.0024—.0071)	.0035 (.0024—.0047)	.0028 (.0024—.0031)
P	Alloy tool steel	≤350HB	MC1020	VP15TF	440 (330—560)	.0031 (.0024—.0055)	.0031 (.0024—.0035)	.0020 (.0016—.0024)	440 (330—560)	.0039 (.0024—.0071)	.0035 (.0024—.0047)	.0028 (.0024—.0031)
M	Austenitic Stainless Steel	≤200HB	MC1020	VP15TF	425 (260—590)	.0031 (.0024—.0047)	.0024 (.0016—.0031)	.0020 (.0016—.0020)	425 (260—590)	.0039 (.0024—.0055)	.0028 (.0024—.0031)	.0024 (.0024—.0028)
M		>200HB	MC1020	VP15TF	425 (260—590)	.0031 (.0024—.0047)	.0024 (.0016—.0031)	.0020 (.0016—.0020)	425 (260—590)	.0039 (.0024—.0055)	.0028 (.0024—.0031)	.0024 (.0024—.0028)
M	Ferritic, Martensitic Stainless Steel	≤200HB	MC1020	VP15TF	390 (260—540)	.0031 (.0024—.0047)	.0024 (.0016—.0031)	.0020 (.0016—.0020)	390 (260—540)	.0039 (.0024—.0055)	.0028 (.0024—.0031)	.0024 (.0024—.0028)
M		>200HB	MC1020	VP15TF	390 (260—540)	.0031 (.0024—.0047)	.0024 (.0016—.0031)	.0020 (.0016—.0020)	390 (260—540)	.0039 (.0024—.0055)	.0028 (.0024—.0031)	.0024 (.0024—.0028)
K	Gray Cast Iron	Tensile Strength ≤350MPa	MC5020	VP15TF	525 (425—640)	.0043 (.0031—.0055)	.0035 (.0031—.0039)	.0020 (.0016—.0024)	525 (425—640)	.0055 (.0039—.0071)	.0039 (.0039—.0047)	.0028 (.0024—.0031)
K	Ductile Cast Iron	Tensile Strength ≤450MPa	MC5020	VP15TF	330 (260—440)	.0043 (.0031—.0055)	.0035 (.0031—.0039)	.0020 (.0016—.0024)	330 (260—440)	.0051 (.0039—.0047)	.0039 (.0039—.0043)	.0028 (.0024—.0031)
K		Tensile Strength ≤800MPa	MC5020	VP15TF	330 (230—410)	.0043 (.0031—.0055)	.0035 (.0031—.0039)	.0020 (.0016—.0024)	330 (230—410)	.0051 (.0039—.0047)	.0039 (.0039—.0043)	.0028 (.0024—.0031)

	Work Material	Hardness	DC		ϕ1.000"—ϕ1.125" ϕ24—ϕ29.5mm				ϕ1.187"—ϕ1.250" ϕ30—ϕ33mm			
			Recommended Grade		Cutting Speed (SFM)	Feed Rate (IPR)			Cutting Speed (SFM)	Feed Rate (IPR)		
			Outer	Inner	l/d=2—6	l/d=2, 3	l/d=4, 5	l/d=6	l/d=2—6	l/d=2, 3	l/d=4, 5	l/d=6
P	Mild Steel	≤180HB	MC1020	VP15TF	655 (590—770)	.0028 (.0016—.0031)	.0024 (.0016—.0028)	.0020 (.0016—.0024)	655 (590—770)	.0031 (.0024—.0039)	.0028 (.0024—.0031)	.0024 (.0024—.0028)
P	Carbon Steel Alloy Steel	180—280HB	MC1020	VP15TF	460 (375—590)	.0047 (.0031—.0071)	.0039 (.0031—.0047)	.0035 (.0031—.0039)	460 (375—590)	.0055 (.0031—.0094)	.0047 (.0031—.0063)	.0043 (.0039—.0047)
P		280—350HB	MC1020	VP15TF	330 (245—460)	.0047 (.0031—.0071)	.0039 (.0031—.0047)	.0035 (.0031—.0039)	330 (245—460)	.0055 (.0031—.0094)	.0047 (.0031—.0063)	.0043 (.0039—.0047)
P	Alloy tool steel	≤350HB	MC1020	VP15TF	440 (330—560)	.0047 (.0031—.0071)	.0039 (.0031—.0047)	.0035 (.0031—.0039)	440 (330—560)	.0055 (.0031—.0094)	.0047 (.0031—.0063)	.0039 (.0031—.0047)
M	Austenitic Stainless Steel	≤200HB	MC1020	VP15TF	425 (260—590)	.0039 (.0024—.0055)	.0031 (.0024—.0039)	.0028 (.0024—.0031)	425 (260—590)	.0039 (.0024—.0055)	.0035 (.0024—.0047)	.0028 (.0024—.0039)
M		>200HB	MC1020	VP15TF	425 (260—590)	.0039 (.0024—.0055)	.0031 (.0024—.0039)	.0028 (.0024—.0031)	425 (260—590)	.0039 (.0024—.0055)	.0035 (.0024—.0047)	.0028 (.0024—.0039)
M	Ferritic, Martensitic Stainless Steel	≤200HB	MC1020	VP15TF	390 (260—540)	.0039 (.0024—.0055)	.0031 (.0024—.0039)	.0028 (.0024—.0031)	390 (260—540)	.0039 (.0024—.0055)	.0035 (.0024—.0047)	.0028 (.0024—.0039)
M		>200HB	MC1020	VP15TF	390 (260—540)	.0039 (.0024—.0055)	.0031 (.0024—.0039)	.0028 (.0024—.0031)	390 (260—540)	.0039 (.0024—.0055)	.0035 (.0024—.0047)	.0028 (.0024—.0039)
K	Gray Cast Iron	Tensile Strength ≤350MPa	MC5020	VP15TF	525 (425—640)	.0059 (.0039—.0079)	.0043 (.0039—.0051)	.0035 (.0031—.0039)	525 (425—640)	.0059 (.0039—.0079)	.0047 (.0039—.0051)	.0043 (.0039—.0047)
K	Ductile Cast Iron	Tensile Strength ≤450MPa	MC5020	VP15TF	330 (260—440)	.0055 (.0039—.0071)	.0043 (.0039—.0047)	.0035 (.0031—.0039)	330 (260—440)	.0059 (.0039—.0079)	.0047 (.0039—.0051)	.0043 (.0039—.0047)
K		Tensile Strength ≤800MPa	MC5020	VP15TF	330 (230—410)	.0055 (.0039—.0071)	.0043 (.0039—.0047)	.0035 (.0031—.0039)	330 (230—410)	.0059 (.0039—.0079)	.0047 (.0039—.0051)	.0043 (.0039—.0047)

1) Reduce the cutting speed by around 30% when using VP15TF for outer insert.
2) Recommend maximum drilling depth L/D≤3 for using outer coolant system.
3) Spindle through & high pressure coolant system is recommended to make stable holes for stainless steel.

	Work Material	Hardness	DC		ϕ1.312"—ϕ2.500" ϕ33.3—ϕ63.5mm			
			Recommended Grade		Cutting Speed (SFM)	Feed Rate (IPR)		
			Outer	Inner	l/d=2—6	l/d=2, 3	l/d=4, 5	l/d=6
P	Mild Steel	≤180HB	**MC1020**	**VP15TF**	655 (590-770)	.0031 (.0024-.0039)	.0028 (.0024-.0031)	.0024 (.0024-.0028)
	Carbon Steel Alloy Steel	180—280HB	**MC1020**	**VP15TF**	460 (375-590)	.0055 (.0031-.0094)	.0047 (.0031-.0063)	.0043 (.0039-.0047)
		280—350HB	**MC1020**	**VP15TF**	330 (245-460)	.0055 (.0031-.0094)	.0047 (.0031-.0063)	.0043 (.0039-.0047)
	Alloy tool steel	≤350HB	**MC1020**	**VP15TF**	440 (330-555)	.0055 (.0031-.0094)	.0047 (.0031-.0063)	.0039 (.0031-.0047)
M	Austenitic Stainless Steel	≤200HB	**MC1020**	**VP15TF**	425 (260-590)	.0035 (.0024-.0047)	.0031 (.0024-.0039)	.0028 (.0024-.0031)
		>200HB	**MC1020**	**VP15TF**	425 (260-590)	.0035 (.0024-.0047)	.0031 (.0024-.0039)	.0028 (.0024-.0031)
	Ferritic, Martensitic Stainless Steel	≤200HB	**MC1020**	**VP15TF**	390 (260-540)	.0035 (.0024-.0047)	.0031 (.0024-.0039)	.0028 (.0024-.0031)
		>200HB	**MC1020**	**VP15TF**	390 (260-540)	.0035 (.0024-.0047)	.0031 (.0024-.0039)	.0028 (.0024-.0031)
K	Gray Cast Iron	Tensile Strength ≤350MPa	**MC5020**	**VP15TF**	525 (425-640)	.0059 (.0039-.0079)	.0047 (.0039-.0051)	.0043 (.0039-.0047)
	Ductile Cast Iron	Tensile Strength ≤450MPa	**MC5020**	**VP15TF**	330 (260-440)	.0059 (.0039-.0079)	.0047 (.0039-.0051)	.0043 (.0039-.0047)
		Tensile Strength ≤800MPa	**MC5020**	**VP15TF**	330 (230-410)	.0059 (.0039-.0079)	.0047 (.0039-.0051)	.0043 (.0039-.0047)

1) Reduce the cutting speed by around 30% when using VP15TF for outer insert.
2) Recommend maximum drilling depth L/D≤3 for using outer coolant system.
3) Spindle through & high pressure coolant system is recommended to make stable holes for stainless steel.

TAFM

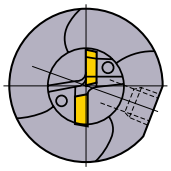
- Highly rigid drill body.
- 4 corner insert.
- Various grades and chip breakers.

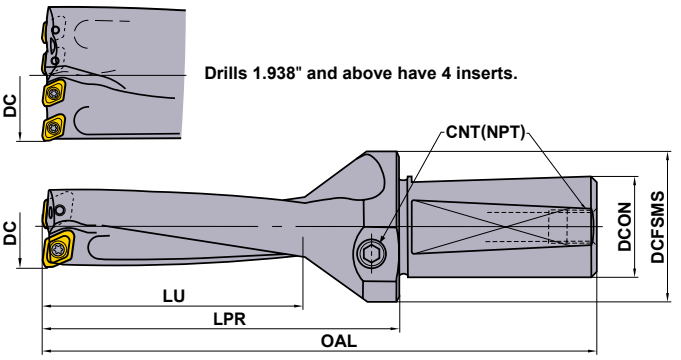
P M K N S H

INCH STANDARD

L/D=3

Internal Coolant





Order Number	Stock	Dimensions (inch)							No. of Inserts	Insert No.	* Insert Screw	①② Wrench
		DC	LU	LPR	OAL	DCON	DCFSMS	CNT				
TAFM0468	▲	.468	1.60	2.47	4.22	.750	1.02	1/8	2	**GCMT040204-U○**	TS2	①TKY06F
TAFM**0500**	▲	.500	1.70	2.56	4.31	.750	1.02	1/8	2	GCMT**040204-U○**	TS2	①TKY06F
TAFM**0531**	▲	.531	1.79	2.66	4.41	.750	1.02	1/8	2	GCMT**040204-U○**	TS2	①TKY06F
TAFM**0562**	▲	.562	1.89	2.75	4.50	.750	1.02	1/8	2	GCMT**040204-U○**	TS2	①TKY06F
TAFM**0593**	▲	.593	1.98	2.84	4.59	.750	1.02	1/8	2	**GPMT 060204-U○**	TS2	①TKY06F
TAFM**0625**	▲	.625	2.13	3.31	6.31	1.000	1.73	1/4	2	GPMT**060204-U○**	TS2	①TKY06F
TAFM**0687**	▲	.687	2.34	3.49	6.49	1.000	1.73	1/4	2	GPMT**060204-U○**	TS2	①TKY06F
TAFM**0750**	▲	.750	2.55	3.68	6.68	1.000	1.73	1/4	2	GPMT**070204-U○**	TS25	①TKY08F
TAFM**0812**	▲	.812	2.76	3.87	6.87	1.000	1.73	1/4	2	GPMT**070204-U○**	TS25	①TKY08F
TAFM**0875**	▲	.875	2.98	4.06	7.06	1.000	1.73	1/4	2	GPMT**070204-U○**	TS25	①TKY08F
TAFM**0937**	▲	.937	3.19	4.24	7.24	1.000	1.73	1/4	2	GPMT**090304-U○**	TS3	①TKY08F
TAFM**1000**	▲	1.000	3.40	4.43	7.43	1.250	1.89	1/4	2	GPMT**090304-U○**	TS3	①TKY08F
TAFM**1062**	▲	1.062	3.61	4.62	7.62	1.250	1.89	1/4	2	GPMT**090304-U○**	TS3	①TKY08F
TAFM**1125**	▲	1.125	3.83	4.77	7.77	1.250	1.89	1/4	2	GPMT**11T308-U○**	TS4	②TKY15D
TAFM**1187**	▲	1.187	4.04	5.14	8.14	1.500	2.09	1/4	2	GPMT**11T308-U○**	TS4	②TKY15D
TAFM**1250**	▲	1.250	4.25	5.33	8.33	1.500	2.09	1/4	2	GPMT**11T308-U○**	TS4	②TKY15D
TAFM**1312**	▲	1.312	4.46	5.52	8.52	1.500	2.09	1/4	2	GPMT**11T308-U○**	TS4	②TKY15D
TAFM**1375**	▲	1.375	4.68	5.71	8.71	1.500	2.28	1/4	2	GPMT**140408-U○**	TS55	②TKY25D
TAFM**1437**	▲	1.437	4.89	5.89	8.89	1.500	2.28	1/4	2	GPMT**140408-U○**	TS55	②TKY25D
TAFM**1500**	▲	1.500	5.10	6.08	9.08	1.500	2.28	1/4	2	GPMT**140408-U○**	TS55	②TKY25D
TAFM**1562**	▲	1.562	5.31	6.27	9.27	1.500	2.28	1/4	2	GPMT**140408-U○**	TS55	②TKY25D
TAFM**1625**	▲	1.625	5.53	6.46	9.46	1.500	2.28	1/4	2	GPMT**140408-U○**	TS55	②TKY25D
TAFM**1687**	▲	1.687	5.74	6.65	9.65	1.500	2.28	1/4	2	GPMT**140408-U○**	TS55	②TKY25D
TAFM**1750**	▲	1.750	5.95	6.83	9.83	1.500	2.28	1/4	2	GPMT**140408-U○**	TS55	②TKY25D
TAFM**1812**	▲	1.812	6.16	7.02	10.02	1.500	2.48	1/4	2	GPMT**140408-U○**	TS55	②TKY25D
TAFM**1875**	▲	1.875	6.37	7.21	10.21	1.500	2.48	1/4	2	GPMT**140408-U○**	TS55	②TKY25D
TAFM**1937**	▲	1.937	6.59	7.43	10.43	1.500	2.48	1/4	4	GPMT**090304-U○**	TS3	①TKY08F
TAFM**2000**	▲	2.000	6.80	7.61	10.61	1.500	2.48	1/4	4	GPMT**090304-U○**	TS3	①TKY08F
TAFM**2062**	▲	2.062	7.01	7.81	10.81	1.500	2.48	1/4	4	GPMT**090304-U○**	TS3	①TKY08F
TAFM**2125**	▲	2.125	7.22	7.99	10.99	1.500	2.48	1/4	4	GPMT**090304-U○**	TS3	①TKY08F
TAFM**2187**	▲	2.187	7.44	8.19	11.19	1.500	2.48	1/4	4	GPMT**090304-U○**	TS3	①TKY08F
TAFM**2250**	▲	2.250	7.65	8.39	11.39	1.500	2.48	1/4	4	GPMT**11T308-U○**	TS4	②TKY15D

* Clamp Torque (lbf-in) : TS2=5.3, TS25=8.9, TS3=8.9, TS4=31, TS55=66

(Note) Please contact Mitsubishi Materials for special grades and geometries other than our standard products.

▲ : **This item to be discontinued within two years.**

TAFS

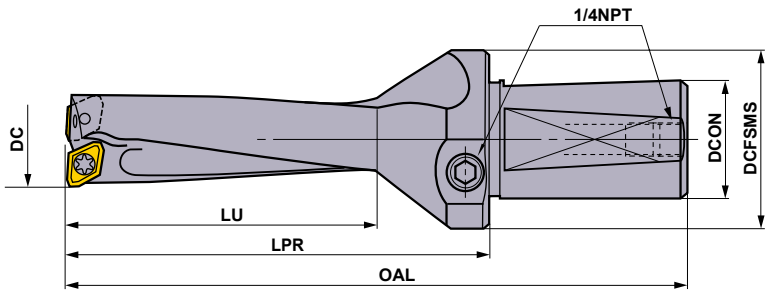
- Highly rigid drill body.
- 4 corner insert.
- Various grades and chip breakers.

P M K N S H

INCH STANDARD

L/D=2

Internal Coolant



Order Number	Stock	Dimensions (inch)						No. of Inserts	Insert No.	* Insert Screw	①② Wrench
		DC	LU	LPR	OAL	DCON	DCFSMS				
TAFS0625	▲	.625	1.51	2.69	5.69	1.000	1.73	2	**GPMT060204-U○**	TS2	①TKY06F
TAFS0750	▲	.750	1.80	2.93	5.93	1.000	1.73	2	**GPMT070204-U○**	TS25	①TKY08F
TAFS0875	▲	.875	2.11	3.19	6.19	1.000	1.73	2	**GPMT070204-U○**	TS25	①TKY08F
TAFS1000	▲	1.000	2.40	3.43	6.43	1.250	1.89	2	**GPMT090304-U○**	TS3	①TKY08F
TAFS1125	▲	1.125	2.71	3.65	6.65	1.250	1.89	2	**GPMT11T308-U○**	TS4	②TKY15D
TAFS1250	▲	1.250	3.00	4.08	7.08	1.500	2.09	2	**GPMT11T308-U○**	TS4	②TKY15D

* Clamp Torque (lbf-in) : TS2=5.3, TS25=8.9, TS3=8.9, TS4=31

(Note) Please contact Mitsubishi Materials for special grades and geometries other than our standard products.

DRILLING

INSERTS ➤ L189
CUTTING CONDITIONS ➤ L190
TECHNICAL DATA ➤ N001

TAFL

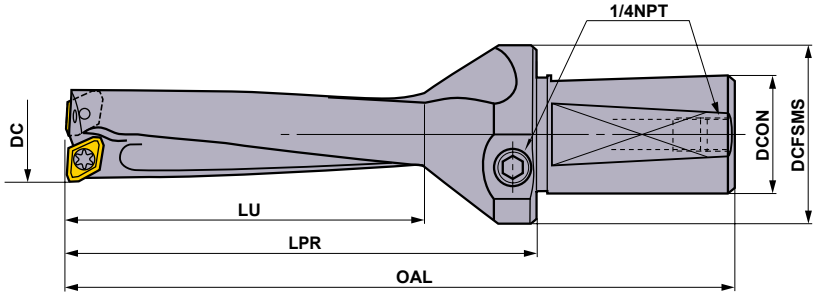
- Highly rigid drill body.
- 4 corner insert.
- Various grades and chip breakers.

P M K N S H

INCH STANDARD

L/D=4

Internal Coolant



Order Number	Stock	Dimensions (inch)						No. of Inserts	Insert No.	* Insert Screw	①② Wrench
		DC	LU	LPR	OAL	DCON	DCFSMS				
TAFL0625	▲	.625	2.76	3.94	6.94	1.000	1.73	2	**GPMT060204-U○**	TS2	①TKY06F
TAFL0750	▲	.750	3.30	4.43	7.43	1.000	1.73	2	**GPMT070204-U○**	TS25	①TKY08F
TAFL0875	▲	.875	3.86	4.94	7.94	1.000	1.73	2	**GPMT070204-U○**	TS25	①TKY08F
TAFL1000	▲	1.000	4.40	5.43	8.43	1.250	1.89	2	**GPMT090304-U○**	TS3	①TKY08F
TAFL1125	▲	1.125	4.96	5.90	8.90	1.250	1.89	2	**GPMT11T308-U○**	TS4	②TKY15D
TAFL1250	▲	1.250	5.50	6.58	9.58	1.500	2.09	2	**GPMT11T308-U○**	TS4	②TKY15D

* Clamp Torque (lbf-in) : TS2=5.3, TS25=8.9, TS3=8.9, TS4=31

(Note) Please contact Mitsubishi Materials for special grades and geometries other than our standard products.

▲ : This item to be discontinued within two years.

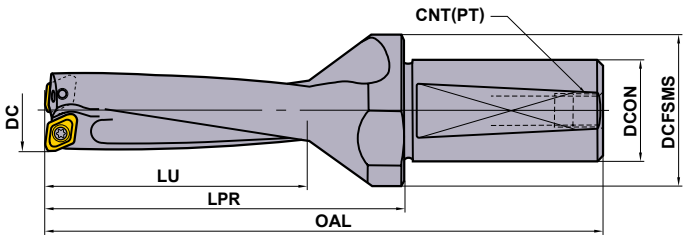
TAFS/TAFM/TAFL

- Highly rigid drill body.
- 4 corner insert.
- Various grades and chip breakers.

P M K N S H

METRIC STANDARD

Internal Coolant



Side Coolant Not Available.

DC (mm)	Hole Depth (l/d)	Order Number	Stock	Dimensions (mm) LU	LPR	OAL	DCON	DCFSMS	CNT	No. of Insert	Insert No.	* Insert Screw	Wrench
12.0	2	TAFS1200F20	▲	29	39	82	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
	3	TAFM1200F20	▲	41	51	94	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
12.5	2	TAFS1250F20	▲	29	39	82	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
	3	TAFM1250F20	▲	41	51	94	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
13.0	2	TAFS1300F20	▲	31	41	84	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
	3	TAFM1300F20	▲	44	54	97	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
13.5	2	TAFS1350F20	▲	31	41	84	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
	3	TAFM1350F20	▲	44	54	97	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
14.0	2	TAFS1400F20	▲	33	43	86	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
	3	TAFM1400F20	▲	47	57	100	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
14.5	2	TAFS1450F20	▲	33	43	86	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
	3	TAFM1450F20	▲	47	57	100	20	25	1/8	2	GCMT040204-U○	TS2	TKY06F
15.0	2	TAFS1500F20	▲	35	45	88	20	25	1/8	2	GPMT060204-U○	TS2	TKY06F
	3	TAFM1500F20	▲	50	60	103	20	25	1/8	2	GPMT060204-U○	TS2	TKY06F
15.5	2	TAFS1550F20	▲	35	45	88	20	25	1/8	2	GPMT060204-U○	TS2	TKY06F
	3	TAFM1550F20	▲	50	60	103	20	25	1/8	2	GPMT060204-U○	TS2	TKY06F
16.0	2	TAFS1600F25	▲	38	57	107	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
	3	TAFM1600F25	▲	54	73	123	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
	4	TAFL1600F25	▲	70	89	139	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
16.5	2	TAFS1650F25	▲	38	57	107	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
	3	TAFM1650F25	▲	54	73	123	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
17.0	2	TAFS1700F25	▲	41	59	109	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
	3	TAFM1700F25	▲	58	76	126	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
	4	TAFL1700F25	▲	75	93	143	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
17.5	2	TAFS1750F25	▲	41	59	109	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
	3	TAFM1750F25	▲	58	76	126	25	35	1/8	2	GPMT060204-U○	TS2	TKY06F
18.0	2	TAFS1800F25	▲	43	61	111	25	35	1/8	2	GPMT070204-U○	TS25	TKY08F
	3	TAFM1800F25	▲	61	79	129	25	35	1/8	2	GPMT070204-U○	TS25	TKY08F
	4	TAFL1800F25	▲	79	97	147	25	35	1/8	2	GPMT070204-U○	TS25	TKY08F
18.5	2	TAFS1850F25	▲	43	61	111	25	35	1/8	2	GPMT070204-U○	TS25	TKY08F
	3	TAFM1850F25	▲	61	79	129	25	35	1/8	2	GPMT070204-U○	TS25	TKY08F
19.0	2	TAFS1900F25	▲	46	63	113	25	35	1/8	2	GPMT070204-U○	TS25	TKY08F
	3	TAFM1900F25	▲	65	82	132	25	35	1/8	2	GPMT070204-U○	TS25	TKY08F
	4	TAFL1900F25	▲	84	101	151	25	35	1/8	2	GPMT070204-U○	TS25	TKY08F

* Clamp Torque (lbf-in) : TS2=5.3, TS25=8.9

(Note) Please contact Mitsubishi Materials for special grades and geometries other than our standard products.

INSERTS ➤ L189

CUTTING CONDITIONS ➤ L190

TECHNICAL DATA ➤ N001

TAFS/TAFM/TAFL

Side Coolant Not Available.

DC (mm)	Hole Depth (l/d)	Order Number	Stock	Dimensions (mm)						No. of Insert	Insert No.	* Insert Screw	①② Wrench
				LU	LPR	OAL	DCON	DCFSMS	CNT				
19.5	2	TAFS1950F25	▲	46	63	113	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	3	TAFM1950F25	▲	65	82	132	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
20.0	2	TAFS2000F25	▲	48	65	115	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	3	TAFM2000F25	▲	68	85	135	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	4	TAFL2000F25	▲	88	105	155	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
20.5	2	TAFS2050F25	▲	48	65	115	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	3	TAFM2050F25	▲	68	85	135	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
21.0	2	TAFS2100F25	▲	50	67	117	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	3	TAFM2100F25	▲	71	88	138	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	4	TAFL2100F25	▲	92	109	159	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
21.5	2	TAFS2150F25	▲	50	67	117	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	3	TAFM2150F25	▲	71	88	138	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
22.0	2	TAFS2200F25	▲	53	69	119	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	3	TAFM2200F25	▲	75	91	141	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	4	TAFL2200F25	▲	97	113	163	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
22.5	2	TAFS2250F25	▲	53	69	119	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
	3	TAFM2250F25	▲	75	91	141	25	35	1/8	2	GPMT070204-U○	TS25	①TKY08F
23.0	2	TAFS2300F25	▲	55	71	121	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2300F25	▲	78	94	144	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
	4	TAFL2300F25	▲	101	117	167	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
23.5	2	TAFS2350F25	▲	55	71	121	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2350F25	▲	78	94	144	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
24.0	2	TAFS2400F25	▲	58	73	123	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2400F25	▲	82	97	147	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
	4	TAFL2400F25	▲	106	121	171	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
24.5	2	TAFS2450F25	▲	58	73	123	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2450F25	▲	82	97	147	25	35	1/8	2	GPMT090304-U○	TS3	①TKY08F
25.0	2	TAFS2500F32	▲	60	75	130	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2500F32	▲	85	100	155	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
	4	TAFL2500F32	▲	110	125	180	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
25.5	2	TAFS2550F32	▲	60	75	130	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2550F32	▲	85	100	155	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
26.0	2	TAFS2600F32	▲	62	77	132	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2600F32	▲	88	103	158	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
	4	TAFL2600F32	▲	114	129	184	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
26.5	2	TAFS2650F32	▲	62	77	132	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2650F32	▲	88	103	158	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
27.0	2	TAFS2700F32	▲	65	79	134	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2700F32	▲	92	106	161	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
	4	TAFL2700F32	▲	119	133	188	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
27.5	2	TAFS2750F32	▲	65	79	134	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
	3	TAFM2750F32	▲	92	106	161	32	42	1/8	2	GPMT090304-U○	TS3	①TKY08F
28.0	2	TAFS2800F32	▲	67	81	136	32	42	1/8	2	GPMT11T308-U○	TS4	②TKY15D
	3	TAFM2800F32	▲	95	109	164	32	42	1/8	2	GPMT11T308-U○	TS4	②TKY15D
	4	TAFL2800F32	▲	123	137	192	32	42	1/8	2	GPMT11T308-U○	TS4	②TKY15D
28.5	2	TAFS2850F32	▲	67	81	136	32	42	1/8	2	GPMT11T308-U○	TS4	②TKY15D
	3	TAFM2850F32	▲	95	109	164	32	42	1/8	2	GPMT11T308-U○	TS4	②TKY15D

* Clamp Torque (lbf-in) : TS25=8.9, TS3=8.9, TS4=31

(Note) Please contact Mitsubishi Materials for special grades and geometries other than our standard products.

▲ : This item to be discontinued within two years.

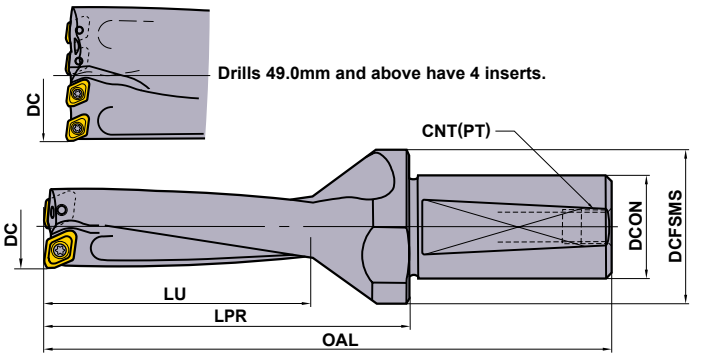
Side Coolant Not Available.

DC (mm)	Hole Depth (l/d)	Order Number	Stock	Dimensions (mm)						No. of Insert	Insert No.	* Insert Screw	Wrench
				LU	LPR	OAL	DCON	DCFSMS	CNT				
29.0	2	TAFS2900F32	▲	70	83	138	32	42	1/8	2	GPMT11T308-U○	TS4	TKY15D
	3	TAFM2900F32	▲	99	112	167	32	42	1/8	2	GPMT11T308-U○	TS4	TKY15D
	4	TAFL2900F32	▲	128	141	196	32	42	1/8	2	GPMT11T308-U○	TS4	TKY15D
29.5	2	TAFS2950F32	▲	70	83	138	32	42	1/8	2	GPMT11T308-U○	TS4	TKY15D
	3	TAFM2950F32	▲	99	112	167	32	42	1/8	2	GPMT11T308-U○	TS4	TKY15D
30.0	2	TAFS3000F40	▲	72	90	155	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3000F40	▲	102	120	185	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3000F40	▲	132	150	215	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
31.0	2	TAFS3100F40	▲	74	92	157	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3100F40	▲	105	123	188	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3100F40	▲	136	154	219	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
32.0	2	TAFS3200F40	▲	77	94	159	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3200F40	▲	109	126	191	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3200F40	▲	141	158	223	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
33.0	2	TAFS3300F40	▲	79	96	161	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3300F40	▲	112	129	194	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3300F40	▲	145	162	227	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
34.0	2	TAFS3400F40	▲	82	98	163	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	3	TAFM3400F40	▲	116	132	197	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
	4	TAFL3400F40	▲	150	166	231	40	50	1/4	2	GPMT11T308-U○	TS4	TKY15D
35.0	2	TAFS3500F40	▲	84	100	165	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM3500F40	▲	119	135	200	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
36.0	2	TAFS3600F40	▲	86	102	167	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM3600F40	▲	122	138	203	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
37.0	2	TAFS3700F40	▲	89	104	169	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM3700F40	▲	126	141	206	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
38.0	2	TAFS3800F40	▲	91	106	171	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM3800F40	▲	129	144	209	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
39.0	2	TAFS3900F40	▲	94	108	173	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM3900F40	▲	133	147	212	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
40.0	2	TAFS4000F40	▲	96	110	175	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM4000F40	▲	136	150	215	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
41.0	2	TAFS4100F40	▲	98	112	177	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM4100F40	▲	139	153	218	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
42.0	2	TAFS4200F40	▲	101	114	179	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM4200F40	▲	143	156	221	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
43.0	2	TAFS4300F40	▲	103	116	181	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM4300F40	▲	146	159	224	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
44.0	2	TAFS4400F40	▲	106	118	183	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM4400F40	▲	150	162	227	40	50	1/4	2	GPMT140408-U○	TS55	TKY25D
45.0	2	TAFS4500F40	▲	108	120	185	40	54	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM4500F40	▲	153	165	230	40	54	1/4	2	GPMT140408-U○	TS55	TKY25D
46.0	2	TAFS4600F40	▲	110	122	187	40	54	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM4600F40	▲	156	168	233	40	54	1/4	2	GPMT140408-U○	TS55	TKY25D
47.0	2	TAFS4700F40	▲	113	124	189	40	54	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM4700F40	▲	160	171	236	40	54	1/4	2	GPMT140408-U○	TS55	TKY25D
48.0	2	TAFS4800F40	▲	115	126	191	40	54	1/4	2	GPMT140408-U○	TS55	TKY25D
	3	TAFM4800F40	▲	163	174	239	40	54	1/4	2	GPMT140408-U○	TS55	TKY25D

* Clamp Torque (lbf-in) : TS4=31, TS55=66

CUTTING CONDITIONS ➤ L190
INSERTS ➤ L189
TECHNICAL DATA ➤ N001

TAFS/TAFM/TAFL



Side Coolant Not Available.

DC (mm)	Hole Depth (l/d)	Order Number	Stock	Dimensions (mm) LU	LPR	OAL	DCON	DCFSMS	CNT	No. of Insert	Insert No.	* Insert Screw	Wrench
49.0	2	TAFS 4900F40	▲	118	133	198	40	58	1/4	4	GPMT 090304-U○	TS3	TKY08F
	3	TAFM4900F40	▲	167	182	247	40	58	1/4	4	GPMT 090304-U○	TS3	TKY08F
50.0	2	TAFS 5000F40	▲	120	135	200	40	58	1/4	4	GPMT 090304-U○	TS3	TKY08F
	3	TAFM5000F40	▲	170	185	250	40	58	1/4	4	GPMT 090304-U○	TS3	TKY08F
51.0	2	TAFS 5100F40	▲	122	137	202	40	58	1/4	4	GPMT 090304-U○	TS3	TKY08F
	3	TAFM5100F40	▲	173	188	253	40	58	1/4	4	GPMT 090304-U○	TS3	TKY08F
52.0	2	TAFS 5200F40	▲	125	139	204	40	58	1/4	4	GPMT 090304-U○	TS3	TKY08F
	3	TAFM5200F40	▲	177	191	256	40	58	1/4	4	GPMT 090304-U○	TS3	TKY08F
53.0	2	TAFS 5300F40	▲	127	141	206	40	63	1/4	4	GPMT 090304-U○	TS3	TKY08F
	3	TAFM5300F40	▲	180	194	259	40	63	1/4	4	GPMT 090304-U○	TS3	TKY08F
54.0	2	TAFS 5400F40	▲	128	143	208	40	63	1/4	4	GPMT 090304-U○	TS3	TKY08F
	3	TAFM5400F40	▲	182	197	262	40	63	1/4	4	GPMT 090304-U○	TS3	TKY08F
55.0	2	TAFS 5500F40	▲	130	145	210	40	63	1/4	4	GPMT 090304-U○	TS3	TKY08F
	3	TAFM5500F40	▲	185	200	265	40	63	1/4	4	GPMT 090304-U○	TS3	TKY08F
56.0	2	TAFS 5600F40	▲	132	147	212	40	63	1/4	4	GPMT 090304-U○	TS3	TKY08F
	3	TAFM5600F40	▲	188	203	268	40	63	1/4	4	GPMT 090304-U○	TS3	TKY08F

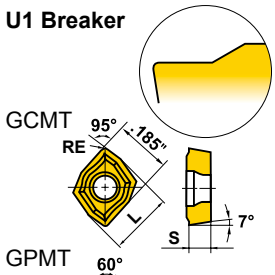
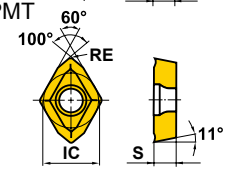
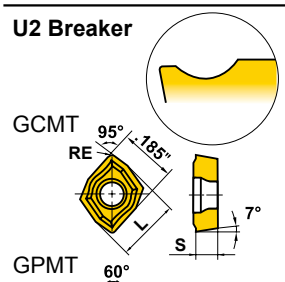
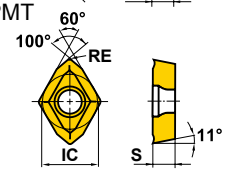
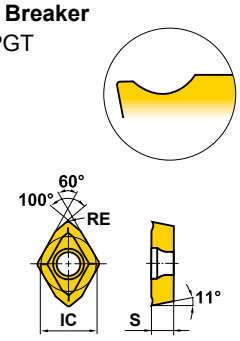
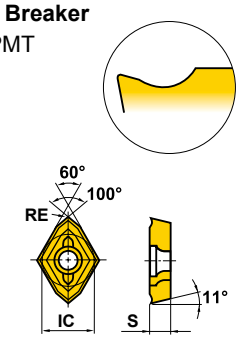
* Clamp Torque (lbf-in) : TS3=8.9

(Note) Please contact Mitsubishi Materials for special grades and geometries other than our standard products.

▲ : This item to be discontinued within two years.

TAF TYPE DRILL

INSERTS

Shape	Class	Drill Diameter (inch) (mm)	Order Number	Coated					Carbide	Dimensions (inch)			
				UE6020	GP20M	UP20M	US735	VP15TF	TF15	IC	L	S	RE
U1 Breaker GCMT  GPMT 	M	.469—.563inch 12.0—14.5mm	**GCMT040204-U1**			▲				—	.196	.094	.016
		.594—.688inch 15.0—17.5mm	**GPMT060204-U1**	▲		▲				.219	—	.094	.016
		.750—.875inch 18.0—22.5mm	GPMT**070204-U1**	▲		▲				.250	—	.094	.016
		.938—1.063inch ★1.938—2.188inch 23.0—27.5mm ★49.0—56.0mm	GPMT**090304-U1**	▲		▲				.313	—	.125	.016
		1.125—1.313inch ★2.250inch 28.0—34.0mm	GPMT**11T308-U1**	▲		▲				.375	—	.156	.031
		1.375—1.875inch 35.0—48.0mm	GPMT**140408-U1**	▲		▲				.500	—	.188	.031
U2 Breaker GCMT  GPMT 	M	.469—.563inch 12.0—14.5mm	**GCMT040204-U2**		▲	▲		▲		—	.196	.094	.016
		.594—.688inch 15.0—17.5mm	**GPMT060204-U2**	▲		▲	▲	▲		.219	—	.094	.016
		.750—.875inch 18.0—22.5mm	GPMT**070204-U2**	▲		▲	▲	▲		.250	—	.094	.016
		.938—1.063inch ★1.938—2.188inch 23.0—27.5mm ★49.0—56.0mm	GPMT**090304-U2**	▲		▲	▲	▲		.313	—	.125	.016
		1.125—1.313inch ★2.250inch 28.0—34.0mm	GPMT**11T308-U2**	▲		▲	▲	▲		.375	—	.156	.031
		1.375—1.875inch 35.0—48.0mm	GPMT**140408-U2**	▲		▲	▲	▲		.500	—	.188	.031
U2 Breaker GPGT 	G	.594—.688inch 15.0—17.5mm	**GPGT060204-U2**						▲	.219	—	.094	.016
		.750—.875inch 18.0—22.5mm	GPGT**070204-U2**						▲	.250	—	.094	.016
		.938—1.063inch ★1.938—2.188inch 23.0—27.5mm ★49.0—56.0mm	GPGT**090304-U2**						▲	.313	—	.125	.016
		1.125—1.313inch ★2.250inch 28.0—34.0mm	GPGT**11T308-U2**						▲	.375	—	.156	.031
		1.375—1.875inch 35.0—48.0mm	GPGT**140408-U2**						▲	.500	—	.188	.031
U3 Breaker GPMT 	M	.594—.688inch 15.0—17.5mm	**GPMT060204-U3**	▲		▲	▲			.219	—	.094	.016
		.750—.875inch 18.0—22.5mm	GPMT**070204-U3**	▲		▲	▲			.250	—	.094	.016
		.938—1.063inch ★1.938—2.188inch 23.0—27.5mm ★49.0—56.0mm	GPMT**090304-U3**	▲		▲	▲			.313	—	.125	.016
		1.125—1.313inch ★2.250inch 28.0—34.0mm	GPMT**11T308-U3**	▲		▲	▲			.375	—	.156	.031
		1.375—1.875inch 35.0—48.0mm	GPMT**140408-U3**	▲		▲	▲			.500	—	.188	.031

★ : Drill has 4 inserts.

DRILLING

CUTTING CONDITIONS ➤ L190
TECHNICAL DATA ➤ N001

TAF TYPE DRILL

INSERT RECOMMENDATION

CHIP BREAKER RECOMMENDATION

◎ : 1st Recommendation ○ : 2nd Recommendation

Work Material / Breaker	P						M		K				N
	Low Carbon Steel		Medium Carbon Steel		Alloy Steel		Stainless Steel		Gray Cast Iron		Ductile Cast Iron		Aluminum Alloy
	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GPGT
U1	◎	◎	○	○	○	○	○	○	○	○	○	○	
U2	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
U3		○		○		○		○		○		○	

INSERT GRADE RECOMMENDATION

◎ : 1st Recommendation ○ : 2nd Recommendation

Work Material / Breaker	P						M		K				N
	Low Carbon Steel		Medium Carbon Steel		Alloy Steel		Stainless Steel		Gray Cast Iron		Ductile Cast Iron		Aluminum Alloy
	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GCMT	GPMT	GPGT
UP20M	◎	◎	○	○	○	○	○	○	○	○	○	○	
GP20M	○		○		○		○		○		○		
UE6020		○		○		○		○		○		○	
US735		○		○		○		○		○		○	
VP15TF		○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
TF15													◎

RECOMMENDED CUTTING CONDITIONS (TAF◌ Series)

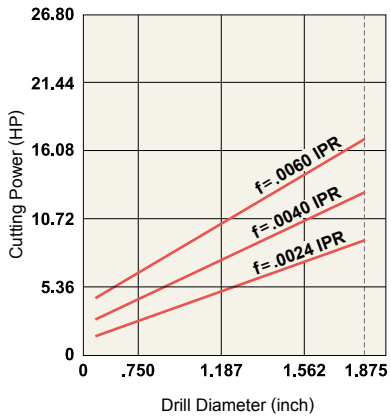
	Work Material	Hardness	Cutting Speed (SFM) L/D = 2, L/D = 3 ϕ.469"–ϕ.594" ϕ12.0–ϕ14.5mm	Cutting Speed (SFM) L/D = 2, L/D = 3 ϕ.625"–ϕ2.250" ϕ15.0–ϕ56.0mm	Cutting Speed (SFM) L/D = 4 ϕ.625"–ϕ1.250" ϕ18.0–ϕ340mm	Chip Breaker	Feed (inch/rev) DC ϕ.469"–ϕ.594" ϕ12.0–ϕ14.5mm	Feed (inch/rev) DC ϕ.625"–ϕ.875" ϕ15.0–ϕ22.5mm	Feed (inch/rev) DC ϕ.938"–ϕ1.313" ϕ23.0–ϕ34.0mm	Feed (inch/rev) DC ϕ1.375"–ϕ1.813" ϕ35.0–ϕ48.0mm	Feed (inch/rev) DC ϕ1.938"–ϕ2.250" ϕ49.0–ϕ56.0mm
P	Low Carbon Steel	150 HB	500 (328–650)	656 (500–1000)	500 (328–650)	U1	.002 (.0015–.004)	.0028 (.0015–.004)	.003 (.0015–.004)	.004 (.002–.005)	.003 (.0015–.004)
						U2	.002 (.0015–.004)	.003 (.0015–.005)	.004 (.0015–.005)	.005 (.002–.005)	.004 (.0015–.005)
						U3	–	.003 (.0015–.005)	.004 (.0015–.005)	.005 (.002–.005)	.004 (.0015–.005)
	Medium Carbon Steel	180–280 HB	393 (250–525)	500 (375–600)	325 (262–400)	U1	.002 (.0015–.004)	.003 (.002–.005)	.0045 (.003–.006)	.005 (.003–.007)	.0045 (.003–.006)
						U2	.002 (.0015–.004)	.004 (.002–.006)	.005 (.003–.007)	.006 (.003–.008)	.005 (.003–.007)
						U3	–	.004 (.002–.006)	.005 (.003–.007)	.006 (.003–.008)	.005 (.003–.007)
	Alloy Steel	180–280 HB	393 (250–525)	500 (375–600)	325 (262–400)	U1	.002 (.0015–.004)	.003 (.002–.004)	.003 (.002–.005)	.004 (.003–.005)	.003 (.002–.005)
						U2	.002 (.0015–.004)	.004 (.002–.005)	.004 (.003–.006)	.005 (.003–.007)	.004 (.003–.006)
						U3	–	.004 (.002–.005)	.004 (.003–.006)	.005 (.003–.007)	.004 (.003–.006)
M	Stainless Steel	200 HB	325 (250–400)	500 (375–650)	325 (262–400)	U1	.002 (.0015–.004)	.0025 (.0015–.004)	.003 (.0014–.004)	.004 (.0016–.005)	.003 (.0014–.004)
						U2	.002 (.0015–.004)	.0025 (.0015–.005)	.004 (.0016–.006)	.004 (.0016–.006)	.004 (.0016–.006)
						U3	–	.003 (.0015–.005)	.004 (.0016–.006)	.004 (.0016–.006)	.004 (.0016–.006)
K	Gray Cast Iron	150 HB	400 (250–525)	500 (375–600)	460 (360–525)	U1	.0028 (.002–.004)	.0028 (.002–.004)	.004 (.0016–.005)	.004 (.0016–.005)	.004 (.0016–.005)
						U2	.0028 (.0015–.004)	.006 (.004–.007)	.007 (.004–.010)	.007 (.004–.010)	.007 (.004–.010)
						U3	–	.006 (.004–.007)	.007 (.004–.010)	.007 (.004–.010)	.007 (.004–.010)
	Ductile Cast Iron	140 HB	325 (250–500)	500 (375–600)	325 (250–400)	U1	.0028 (.002–.004)	.0028 (.002–.004)	.004 (.0025–.005)	.004 (.0025–.005)	.004 (.0025–.005)
						U2	.002 (.0015–.004)	.004 (.003–.005)	.006 (.003–.008)	.007 (.003–.008)	.006 (.003–.008)
						U3	–	.004 (.003–.005)	.006 (.003–.008)	.007 (.003–.008)	.006 (.003–.008)
N	Aluminum Alloy	–	–	985 (655–1200)	820 (490–1150)	U2	–	.008 (.006–.012)	.009 (.006–.013)	.010 (.006–.014)	.009 (.006–.013)

CUTTING PERFORMANCE

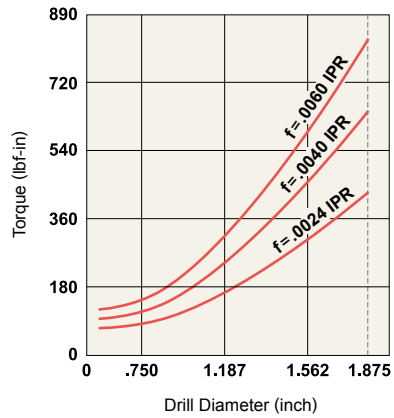
CUTTING RESISTANCE

Workpiece : AISI 4140 (200HB—220HB) Cutting Speed : 490 SFM

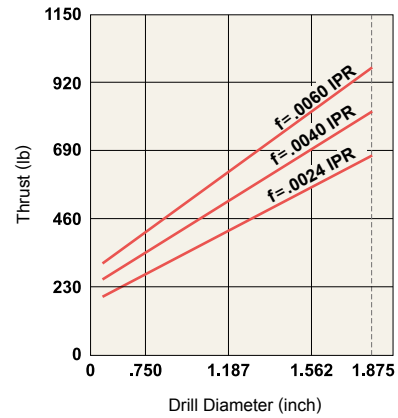
Cutting Power (HP)



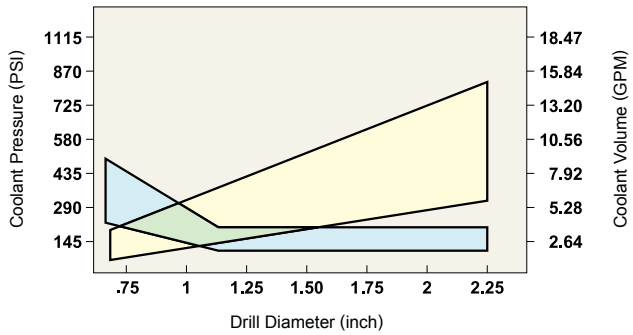
Torque (lbf-in)



Thrust (lb)



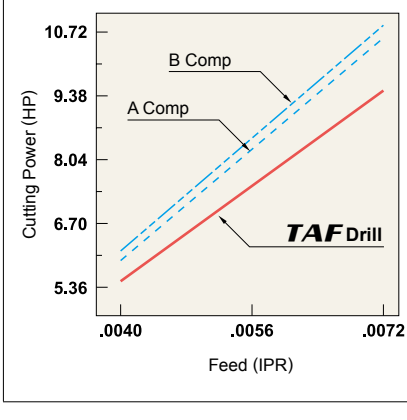
COOLANT VOLUME AND PRESSURE



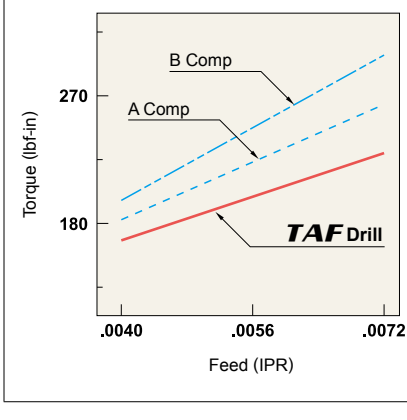
CUTTING RESISTANCE

Workpiece : AISI 4140 (200HB—220HB) Cutting Speed : 490 SFM Drill Diameter : ϕ1.00

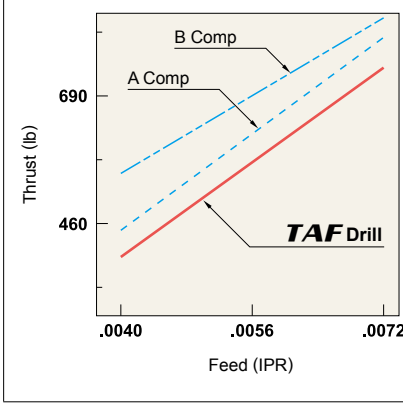
Cutting Power (HP)



Torque (lbf-in)



Thrust (lb)



DRILLING

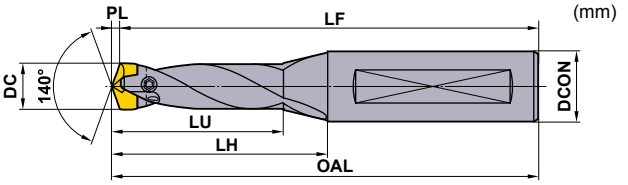
STAW

- Wavy cutting edge design for good chip control.
- Highly rigid clamping system offers stability and reliability for small hole drilling.

P | M | K | N | S | H

DC=10	10<DC<18.4
0 −0.022	0 −0.027

METRIC STANDARD



HOLDERS

DC (mm)	Hole Depth (l/d)	Holder Order Number	Stock	LU	LH	OAL	LF	PL	DCON	Wrench	Insert DC (mm)	Insert Order Number	Stock VP15TF	Stock DP5010
10.0 | 10.4	1.5	STAWSS1000S16	★	23.8	33.8	81.8	80	1.8	16	TIP06F	10.0	STAWN1000TH	★	
												STAWK1000TG		★
	3	STAWSN1000S16	★	38.8	48.8	96.8	95	1.8	16	TIP06F	10.1	STAWN1010TH	★	
												STAWK1010TG		★
	5	STAWMN1000S16	★	58.9	68.9	116.9	115	1.9	16	TIP06F	10.2	STAWN1020TH	★	
												STAWK1020TG		★
	8	STAWLN1000S16	★	88.9	98.9	146.9	145	1.9	16	TIP06F	10.3	STAWN1030TH	★	
												STAWK1030TG		★
											10.4	STAWN1040TH	★	
												STAWK1040TG		★
10.5 | 10.9	1.5	STAWSS1050S16	★	23.9	33.9	81.9	80	1.9	16	TIP06F	10.5	STAWN1050TH	★	
												STAWK1050TG		★
	3	STAWSN1050S16	★	38.9	48.9	96.9	95	1.9	16	TIP06F	10.6	STAWN1060TH	★	
												STAWK1060TG		★
	5	STAWMN1050S16	★	59.0	69.0	117.0	115	2.0	16	TIP06F	10.7	STAWN1070TH	★	
												STAWK1070TG		★
	8	STAWLN1050S16	★	89.0	99.0	147.0	145	2.0	16	TIP06F	10.8	STAWN1080TH	★	
												STAWK1080TG		★
											10.9	STAWN1090TH	★	
												STAWK1090TG		★
11.0 | 11.4	1.5	STAWSS1100S16	★	27.0	38.0	86.0	84	2.0	16	TIP06F	11.0	STAWN1100TH	★	
												STAWK1100TG		★
	3	STAWSN1100S16	★	43.0	54.0	102.0	100	2.0	16	TIP06F	11.1	STAWN1110TH	★	
												STAWK1110TG		★
	5	STAWMN1100S16	★	68.1	79.1	127.1	125	2.1	16	TIP06F	11.2	STAWN1120TH	★	
												STAWK1120TG		★
	8	STAWLN1100S16	★	98.1	109.1	157.1	155	2.1	16	TIP06F	11.3	STAWN1130TH	★	
												STAWK1130TG		★
											11.4	STAWN1140TH	★	
												STAWK1140TG		★
11.5 | 11.9	1.5	STAWSS1150S16	★	27.1	38.1	86.1	84	2.1	16	TIP06F	11.5	STAWN1150TH	★	
												STAWK1150TG		★
	3	STAWSN1150S16	★	43.1	54.1	102.1	100	2.1	16	TIP06F	11.6	STAWN1160TH	★	
												STAWK1160TG		★
	5	STAWMN1150S16	★	68.1	79.1	127.1	125	2.1	16	TIP06F	11.7	STAWN1170TH	★	
												STAWK1170TG		★
	8	STAWLN1150S16	★	98.2	109.2	157.2	155	2.2	16	TIP06F	11.8	STAWN1180TH	★	
												STAWK1180TG		★
											11.9	STAWN1190TH	★	
												STAWK1190TG		★
12.0 | 12.4	1.5	STAWSS1200S16	★	29.2	41.2	89.2	87	2.2	16	TIP06F	12.0	STAWN1200TH	★	
												STAWK1200TG		★
	3	STAWSN1200S16	★	47.2	59.2	107.2	105	2.2	16	TIP06F	12.1	STAWN1210TH	★	
												STAWK1210TG		★
	5	STAWMN1200S16	★	72.2	84.2	132.2	130	2.2	16	TIP06F	12.2	STAWN1220TH	★	
												STAWK1220TG		★
	8	STAWLN1200S16	★	107.3	119.3	167.3	165	2.3	16	TIP06F	12.3	STAWN1230TH	★	
												STAWK1230TG		★
											12.4	STAWN1240TH	★	
												STAWK1240TG		★

(Note) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
The LF, LH, and LU dimensions listed in the table above, are measured using the VP15TF insert.
When using the DP5010 insert, the LF, LH and LU dimensions will be slightly reduced.

★ : Inventory maintained in Japan.
<One insert in one case>

DC (mm)	Hole Depth (l/d)	Holder		Dimensions (mm)						① ② Wrench	Insert			
		Order Number	Stock	LU	LH	OAL	LF	PL	DCON		DC (mm)	Order Number	Stock VP15TF	Stock DP5010
12.5 | 12.9	1.5	STAWSS1250S16	★	29.3	41.3	89.3	87	2.3	16	①TIP06F	12.5	STAWN1250TH	★	
												STAWK1250TG		★
	3	STAWSN1250S16	★	47.3	59.3	107.3	105	2.3	16	①TIP06F	12.6	STAWN1260TH	★	
												STAWK1260TG		★
	5	STAWMN1250S16	★	72.3	84.3	132.3	130	2.3	16	①TIP06F	12.7	STAWN1270TH	★	
												STAWK1270TG		★
	8	STAWLN1250S16	★	107.3	119.3	167.3	165	2.3	16	①TIP06F	12.8	STAWN1280TH	★	
												STAWK1280TG		★
											12.9	STAWN1290TH	★	
												STAWK1290TG		★
13.0 | 13.4	1.5	STAWSS1300S16	★	32.4	45.4	93.4	91	2.4	16	②TIP08W	13.0	STAWN1300TH	★	
												STAWK1300TG		★
	3	STAWSN1300S16	★	51.4	64.4	112.4	110	2.4	16	②TIP08W	13.1	STAWN1310TH	★	
												STAWK1310TG		★
	5	STAWMN1300S16	★	76.4	89.4	137.4	135	2.4	16	②TIP08W	13.2	STAWN1320TH	★	
												STAWK1320TG		★
	8	STAWLN1300S16	★	116.4	129.4	177.4	175	2.4	16	②TIP08W	13.3	STAWN1330TH	★	
												STAWK1330TG		★
											13.4	STAWN1340TH	★	
												STAWK1340TG		★
13.5 | 13.9	1.5	STAWSS1350S16	★	32.5	45.5	93.5	91	2.5	16	②TIP08W	13.5	STAWN1350TH	★	
												STAWK1350TG		★
	3	STAWSN1350S16	★	51.5	64.5	112.5	110	2.5	16	②TIP08W	13.6	STAWN1360TH	★	
												STAWK1360TG		★
	5	STAWMN1350S16	★	76.5	89.5	137.5	135	2.5	16	②TIP08W	13.7	STAWN1370TH	★	
												STAWK1370TG		★
	8	STAWLN1350S16	★	116.5	129.5	177.5	175	2.5	16	②TIP08W	13.8	STAWN1380TH	★	
												STAWK1380TG		★
											13.9	STAWN1390TH	★	
												STAWK1390TG		★
14.0 | 14.4	1.5	STAWSS1400S16	★	33.5	47.5	95.5	93	2.5	16	②TIP08W	14.0	STAWN1400TH	★	
												STAWK1400TG		★
	3	STAWSN1400S16	★	55.6	69.6	117.6	115	2.6	16	②TIP08W	14.1	STAWN1410TH	★	
												STAWK1410TG		★
	5	STAWMN1400S16	★	85.6	99.6	147.6	145	2.6	16	②TIP08W	14.2	STAWN1420TH	★	
												STAWK1420TG		★
	8	STAWLN1400S16	★	124.6	139.6	187.6	185	2.6	16	②TIP08W	14.3	STAWN1430TH	★	
												STAWK1430TG		★
											14.4	STAWN1440TH	★	
												STAWK1440TG		★
14.5 | 14.9	1.5	STAWSS1450S16	★	33.6	47.6	95.6	93	2.6	16	②TIP08W	14.5	STAWN1450TH	★	
												STAWK1450TG		★
	3	STAWSN1450S16	★	55.7	69.7	117.7	115	2.7	16	②TIP08W	14.6	STAWN1460TH	★	
												STAWK1460TG		★
	5	STAWMN1450S16	★	85.7	99.7	147.7	145	2.7	16	②TIP08W	14.7	STAWN1470TH	★	
												STAWK1470TG		★
	8	STAWLN1450S16	★	124.7	139.7	187.7	185	2.7	16	②TIP08W	14.8	STAWN1480TH	★	
												STAWK1480TG		★
											14.9	STAWN1490TH	★	
												STAWK1490TG		★
15.0 | 15.4	1.5	STAWSS1500S20	★	35.7	50.7	100.7	98	2.7	20	②TIP08W	15.0	STAWN1500TH	★	
												STAWK1500TG		★
	3	STAWSN1500S20	★	62.7	77.7	127.7	125	2.7	20	②TIP08W	15.1	STAWN1510TH	★	
												STAWK1510TG		★
	5	STAWMN1500S20	★	92.8	107.8	157.8	155	2.8	20	②TIP08W	15.2	STAWN1520TH	★	
												STAWK1520TG		★
	8	STAWLN1500S20	★	132.8	150.8	200.8	198	2.8	20	②TIP08W	15.3	STAWN1530TH	★	
												STAWK1530TG		★
											15.4	STAWN1540TH	★	
												STAWK1540TG		★

(Note) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
The LF, LH, and LU dimensions listed in the table above, are measured using the VP15TF insert.
When using the DP5010 insert, the LF, LH, and LU dimensions will be slightly reduced.

INSERTS ➤ L196
CUTTING CONDITIONS ➤ L200
HOW TO USE ➤ L201
TECHNICAL DATA ➤ N001

STAW

DC (mm)	Hole Depth (l/d)	Holder Order Number	Holder Stock	Dimensions (mm) LU	LH	OAL	LF	PL	DCON	Wrench	Insert DC (mm)	Insert Order Number	Stock VP15TF	Stock DP5010
15.5 | 16.4	1.5	STAWSS1600S20	★	36.8	52.8	102.8	100	2.8	20	TIP10W	15.5	STAWN1550T	★	
												STAWK1550TG		★
											15.6	STAWN1560T	★	
												STAWK1560TG		★
											15.7	STAWN1570T	★	
												STAWK1570TG		★
	3	STAWSN1600S20	★	62.9	82.9	132.9	130	2.9	20	TIP10W	15.8	STAWN1580T	★	
												STAWK1580TG		★
											15.9	STAWN1590T	★	
												STAWK1590TG		★
	5	STAWMN1600S20	★	92.9	117.9	167.9	165	2.9	20	TIP10W	16.0	STAWN1600T	★	
												STAWK1600TG		★
											16.1	STAWN1610T	★	
												STAWK1610TG		★
											16.2	STAWN1620T	★	
												STAWK1620TG		★
	8	STAWLN1600S20	★	140.9	160.9	210.9	208	2.9	20	TIP10W	16.3	STAWN1630T	★	
												STAWK1630TG		★
											16.4	STAWN1640T	★	
												STAWK1640TG		★
16.5 | 17.4	1.5	STAWSS1700S20	★	39.0	56.0	106.0	103	3.0	20	TIP10W	16.5	STAWN1650T	★	
												STAWK1650TG		★
											16.6	STAWN1660T	★	
												STAWK1660TG		★
											16.7	STAWN1670T	★	
												STAWK1670TG		★
	3	STAWSN1700S20	★	64.0	88.0	138.0	135	3.0	20	TIP10W	16.8	STAWN1680T	★	
												STAWK1680TG		★
											16.9	STAWN1690T	★	
												STAWK1690TG		★
	5	STAWMN1700S20	★	98.1	123.1	173.1	170	3.1	20	TIP10W	17.0	STAWN1700T	★	
												STAWK1700TG		★
											17.1	STAWN1710T	★	
												STAWK1710TG		★
											17.2	STAWN1720T	★	
												STAWK1720TG		★
	8	STAWLN1700S20	★	149.1	169.1	219.1	216	3.1	20	TIP10W	17.3	STAWN1730T	★	
												STAWK1730TG		★
											17.4	STAWN1740T	★	
												STAWK1740TG		★
17.5 | 18.4	1.5	STAWSS1800S20	★	40.2	58.2	108.2	105	3.2	20	TIP10W	17.5	STAWN1750T	★	
												STAWK1750TG		★
											17.6	STAWN1760T	★	
												STAWK1760TG		★
											17.7	STAWN1770T	★	
												STAWK1770TG		★
	3	STAWSN1800S20	★	67.2	93.2	143.2	140	3.2	20	TIP10W	17.8	STAWN1780T	★	
												STAWK1780TG		★
											17.9	STAWN1790T	★	
												STAWK1790TG		★
	5	STAWMN1800S20	★	103.3	128.3	178.3	175	3.3	20	TIP10W	18.0	STAWN1800T	★	
												STAWK1800TG		★
											18.1	STAWN1810T	★	
												STAWK1810TG		★
											18.2	STAWN1820T	★	
												STAWK1820TG		★
	8	STAWLN1800S20	★	157.3	177.3	227.3	224	3.3	20	TIP10W	18.3	STAWN1830T	★	
												STAWK1830TG		★
											18.4	STAWN1840T	★	
												STAWK1840TG		★

(Note) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
The LF, LH, and LU dimensions listed in the table above, are measured using the VP15TF insert.
When using the DP5010 insert, the LF, LH, and LU dimensions will be slightly reduced.

★ : Inventory maintained in Japan.
<One insert in one case>

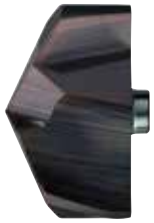
INSERTS ➤ L196
CUTTING CONDITIONS ➤ L200
HOW TO USE ➤ L201
TECHNICAL DATA ➤ N001

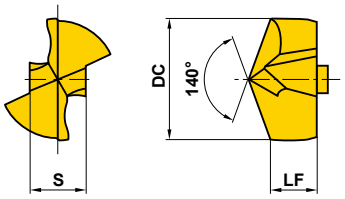
Memo

STAW

INSERTS

(For General Use)





Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF		DC	LF	S	
STAWN1000TH	★		10.0	3.8	4.6	STAWSS1000S16 STAWSN1000S16 STAWMN1000S16 STAWLN1000S16
STAWN**1010TH**	★		10.1	3.8	4.6	
STAWN**1020TH**	★		10.2	3.8	4.6	
STAWN**1030TH**	★		10.3	3.8	4.6	
STAWN**1040TH**	★		10.4	3.8	4.6	
STAWN**1050TH**	★		10.5	4.0	4.8	STAWSS1050S16 STAWSN1050S16 STAWMN1050S16 STAWLN1050S16
STAWN**1060TH**	★		10.6	4.0	4.8	
STAWN**1070TH**	★		10.7	4.0	4.8	
STAWN**1080TH**	★		10.8	4.0	4.8	
STAWN**1090TH**	★		10.9	4.0	4.8	
STAWN**1100TH**	★		11.0	4.2	5.1	STAWSS1100S16 STAWSN1100S16 STAWMN1100S16 STAWLN1100S16
STAWN**1110TH**	★		11.1	4.2	5.1	
STAWN**1120TH**	★		11.2	4.2	5.1	
STAWN**1130TH**	★		11.3	4.2	5.1	
STAWN**1140TH**	★		11.4	4.2	5.1	
STAWN**1150TH**	★		11.5	4.4	5.3	STAWSS1150S16 STAWSN1150S16 STAWMN1150S16 STAWLN1150S16
STAWN**1160TH**	★		11.6	4.4	5.3	
STAWN**1170TH**	★		11.7	4.4	5.3	
STAWN**1180TH**	★		11.8	4.4	5.3	
STAWN**1190TH**	★		11.9	4.4	5.3	
STAWN**1200TH**	★		12.0	4.6	5.5	STAWSS1200S16 STAWSN1200S16 STAWMN1200S16 STAWLN1200S16
STAWN**1210TH**	★		12.1	4.6	5.5	
STAWN**1220TH**	★		12.2	4.6	5.5	
STAWN**1230TH**	★		12.3	4.6	5.5	
STAWN**1240TH**	★		12.4	4.6	5.5	
STAWN**1250TH**	★		12.5	4.8	5.8	STAWSS1250S16 STAWSN1250S16 STAWMN1250S16 STAWLN1250S16
STAWN**1260TH**	★		12.6	4.8	5.8	
STAWN**1270TH**	★		12.7	4.8	5.8	
STAWN**1280TH**	★		12.8	4.8	5.8	
STAWN**1290TH**	★		12.9	4.8	5.8	
STAWN**1300TH**	★		13.0	4.9	6.0	STAWSS1300S16 STAWSN1300S16 STAWMN1300S16 STAWLN1300S16
STAWN**1310TH**	★		13.1	4.9	6.0	
STAWN**1320TH**	★		13.2	4.9	6.0	
STAWN**1330TH**	★		13.3	4.9	6.0	
STAWN**1340TH**	★		13.4	4.9	6.0	
STAWN**1350TH**	★		13.5	5.1	6.2	STAWSS1350S16 STAWSN1350S16 STAWMN1350S16 STAWLN1350S16
STAWN**1360TH**	★		13.6	5.1	6.2	
STAWN**1370TH**	★		13.7	5.1	6.2	
STAWN**1380TH**	★		13.8	5.1	6.2	
STAWN**1390TH**	★		13.9	5.1	6.2	

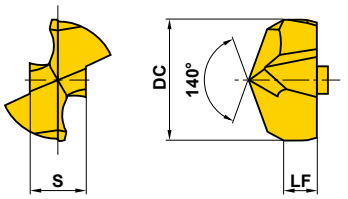
★ : Inventory maintained in Japan.
<One insert in one case>

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF		DC	LF	S	
STAWN1400TH	★		14.0	5.3	6.4	STAWSS1400S16 STAWSN1400S16 STAWMN1400S16 STAWLN1400S16
STAWN**1410TH**	★		14.1	5.3	6.4	
STAWN**1420TH**	★		14.2	5.3	6.4	
STAWN**1430TH**	★		14.3	5.3	6.4	
STAWN**1440TH**	★		14.4	5.3	6.4	
STAWN**1450TH**	★		14.5	5.5	6.7	STAWSS1450S16 STAWSN1450S16 STAWMN1450S16 STAWLN1450S16
STAWN**1460TH**	★		14.6	5.5	6.7	
STAWN**1470TH**	★		14.7	5.5	6.7	
STAWN**1480TH**	★		14.8	5.5	6.7	
STAWN**1490TH**	★		14.9	5.5	6.7	
STAWN**1500TH**	★		15.0	5.7	6.9	STAWSS1500S20 STAWSN1500S20 STAWMN1500S20 STAWLN1500S20
STAWN**1510TH**	★		15.1	5.7	6.9	
STAWN**1520TH**	★		15.2	5.7	6.9	
STAWN**1530TH**	★		15.3	5.7	6.9	
STAWN**1540TH**	★		15.4	5.7	6.9	
STAWN**1550T**	★		15.5	5.9	7.1	STAWSS1600S20 STAWSN1600S20 STAWMN1600S20 STAWLN1600S20
STAWN**1560T**	★		15.6	5.9	7.1	
STAWN**1570T**	★		15.7	5.9	7.1	
STAWN**1580T**	★		15.8	5.9	7.1	
STAWN**1590T**	★		15.9	5.9	7.1	
STAWN**1600T**	★		16.0	5.9	7.1	
STAWN**1610T**	★		16.1	5.9	7.1	
STAWN**1620T**	★		16.2	5.9	7.1	
STAWN**1630T**	★		16.3	5.9	7.1	
STAWN**1640T**	★		16.4	5.9	7.1	
STAWN**1650T**	★		16.5	6.3	7.6	STAWSS1700S20 STAWSN1700S20 STAWMN1700S20 STAWLN1700S20
STAWN**1660T**	★		16.6	6.3	7.6	
STAWN**1670T**	★		16.7	6.3	7.6	
STAWN**1680T**	★		16.8	6.3	7.6	
STAWN**1690T**	★		16.9	6.3	7.6	
STAWN**1700T**	★		17.0	6.3	7.6	
STAWN**1710T**	★		17.1	6.3	7.6	
STAWN**1720T**	★		17.2	6.3	7.6	
STAWN**1730T**	★		17.3	6.3	7.6	
STAWN**1740T**	★		17.4	6.3	7.6	
STAWN**1750T**	★		17.5	6.7	8.1	STAWSS1800S20 STAWSN1800S20 STAWMN1800S20 STAWLN1800S20
STAWN**1760T**	★		17.6	6.7	8.1	
STAWN**1770T**	★		17.7	6.7	8.1	
STAWN**1780T**	★		17.8	6.7	8.1	
STAWN**1790T**	★		17.9	6.7	8.1	
STAWN**1800T**	★		18.0	6.7	8.1	
STAWN**1810T**	★		18.1	6.7	8.1	
STAWN**1820T**	★		18.2	6.7	8.1	
STAWN**1830T**	★		18.3	6.7	8.1	
STAWN**1840T**	★		18.4	6.7	8.1	

STAW

INSERTS

(For Cast Iron)



Order Number	Stock DP5010		Dimensions (mm) DC	LF	S	Applicable Holder
STAWK1000TG	★		10.0	3.3	4.6	STAWSS1000S16 STAWSN1000S16 STAWMN1000S16 STAWLN1000S16
STAWK**1010TG**	★		10.1	3.3	4.6	
STAWK**1020TG**	★		10.2	3.3	4.6	
STAWK**1030TG**	★		10.3	3.3	4.6	
STAWK**1040TG**	★		10.4	3.3	4.6	
STAWK**1050TG**	★		10.5	3.5	4.8	STAWSS1050S16 STAWSN1050S16 STAWMN1050S16 STAWLN1050S16
STAWK**1060TG**	★		10.6	3.5	4.8	
STAWK**1070TG**	★		10.7	3.5	4.8	
STAWK**1080TG**	★		10.8	3.5	4.8	
STAWK**1090TG**	★		10.9	3.5	4.8	
STAWK**1100TG**	★		11.0	3.7	5.1	STAWSS1100S16 STAWSN1100S16 STAWMN1100S16 STAWLN1100S16
STAWK**1110TG**	★		11.1	3.7	5.1	
STAWK**1120TG**	★		11.2	3.7	5.1	
STAWK**1130TG**	★		11.3	3.7	5.1	
STAWK**1140TG**	★		11.4	3.7	5.1	
STAWK**1150TG**	★		11.5	3.9	5.3	STAWSS1150S16 STAWSN1150S16 STAWMN1150S16 STAWLN1150S16
STAWK**1160TG**	★		11.6	3.9	5.3	
STAWK**1170TG**	★		11.7	3.9	5.3	
STAWK**1180TG**	★		11.8	3.9	5.3	
STAWK**1190TG**	★		11.9	3.9	5.3	
STAWK**1200TG**	★		12.0	4.1	5.5	STAWSS1200S16 STAWSN1200S16 STAWMN1200S16 STAWLN1200S16
STAWK**1210TG**	★		12.1	4.1	5.5	
STAWK**1220TG**	★		12.2	4.1	5.5	
STAWK**1230TG**	★		12.3	4.1	5.5	
STAWK**1240TG**	★		12.4	4.1	5.5	
STAWK**1250TG**	★		12.5	4.2	5.8	STAWSS1250S16 STAWSN1250S16 STAWMN1250S16 STAWLN1250S16
STAWK**1260TG**	★		12.6	4.2	5.8	
STAWK**1270TG**	★		12.7	4.2	5.8	
STAWK**1280TG**	★		12.8	4.2	5.8	
STAWK**1290TG**	★		12.9	4.2	5.8	
STAWK**1300TG**	★		13.0	4.4	6.0	STAWSS1300S16 STAWSN1300S16 STAWMN1300S16 STAWLN1300S16
STAWK**1310TG**	★		13.1	4.4	6.0	
STAWK**1320TG**	★		13.2	4.4	6.0	
STAWK**1330TG**	★		13.3	4.4	6.0	
STAWK**1340TG**	★		13.4	4.4	6.0	
STAWK**1350TG**	★		13.5	4.6	6.2	STAWSS1350S16 STAWSN1350S16 STAWMN1350S16 STAWLN1350S16
STAWK**1360TG**	★		13.6	4.6	6.2	
STAWK**1370TG**	★		13.7	4.6	6.2	
STAWK**1380TG**	★		13.8	4.6	6.2	
STAWK**1390TG**	★		13.9	4.6	6.2	

★ : Inventory maintained in Japan.
<One insert in one case>

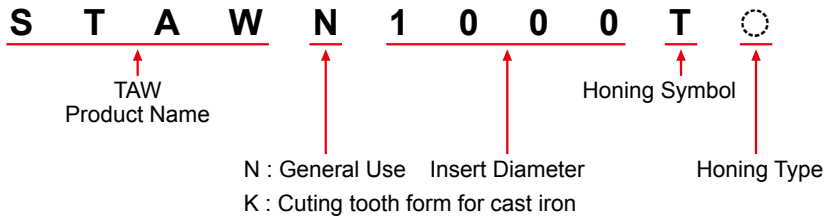
Order Number	Stock		Dimensions (mm)			Applicable Holder
	DP5010		DC	LF	S	
STAWK1400TG	★		14.0	4.8	6.4	STAWSS1400S16 STAWSN1400S16 STAWMN1400S16 STAWLN1400S16
STAWK**1410TG**	★		14.1	4.8	6.4	
STAWK**1420TG**	★		14.2	4.8	6.4	
STAWK**1430TG**	★		14.3	4.8	6.4	
STAWK**1440TG**	★		14.4	4.8	6.4	
STAWK**1450TG**	★		14.5	5.0	6.7	STAWSS1450S16 STAWSN1450S16 STAWMN1450S16 STAWLN1450S16
STAWK**1460TG**	★		14.6	5.0	6.7	
STAWK**1470TG**	★		14.7	5.0	6.7	
STAWK**1480TG**	★		14.8	5.0	6.7	
STAWK**1490TG**	★		14.9	5.0	6.7	
STAWK**1500TG**	★		15.0	5.2	6.9	STAWSS1500S20 STAWSN1500S20 STAWMN1500S20 STAWLN1500S20
STAWK**1510TG**	★		15.1	5.2	6.9	
STAWK**1520TG**	★		15.2	5.2	6.9	
STAWK**1530TG**	★		15.3	5.2	6.9	
STAWK**1540TG**	★		15.4	5.2	6.9	
STAWK**1550TG**	★		15.5	5.3	7.1	STAWSS1600S20 STAWSN1600S20 STAWMN1600S20 STAWLN1600S20
STAWK**1560TG**	★		15.6	5.3	7.1	
STAWK**1570TG**	★		15.7	5.3	7.1	
STAWK**1580TG**	★		15.8	5.3	7.1	
STAWK**1590TG**	★		15.9	5.3	7.1	
STAWK**1600TG**	★		16.0	5.3	7.1	
STAWK**1610TG**	★		16.1	5.3	7.1	
STAWK**1620TG**	★		16.2	5.3	7.1	
STAWK**1630TG**	★		16.3	5.3	7.1	
STAWK**1640TG**	★		16.4	5.3	7.1	
STAWK**1650TG**	★		16.5	5.7	7.6	STAWSS1700S20 STAWSN1700S20 STAWMN1700S20 STAWLN1700S20
STAWK**1660TG**	★		16.6	5.7	7.6	
STAWK**1670TG**	★		16.7	5.7	7.6	
STAWK**1680TG**	★		16.8	5.7	7.6	
STAWK**1690TG**	★		16.9	5.7	7.6	
STAWK**1700TG**	★		17.0	5.7	7.6	
STAWK**1710TG**	★		17.1	5.7	7.6	
STAWK**1720TG**	★		17.2	5.7	7.6	
STAWK**1730TG**	★		17.3	5.7	7.6	
STAWK**1740TG**	★		17.4	5.7	7.6	
STAWK**1750TG**	★		17.5	6.0	8.1	STAWSS1800S20 STAWSN1800S20 STAWMN1800S20 STAWLN1800S20
STAWK**1760TG**	★		17.6	6.0	8.1	
STAWK**1770TG**	★		17.7	6.0	8.1	
STAWK**1780TG**	★		17.8	6.0	8.1	
STAWK**1790TG**	★		17.9	6.0	8.1	
STAWK**1800TG**	★		18.0	6.0	8.1	
STAWK**1810TG**	★		18.1	6.0	8.1	
STAWK**1820TG**	★		18.2	6.0	8.1	
STAWK**1830TG**	★		18.3	6.0	8.1	
STAWK**1840TG**	★		18.4	6.0	8.1	

STAW

HONE WIDTH

If an insert with honing other than standard is needed, please order using the symbols below.

(Insert Order Number)



(Honing Standard)

Honing Type	Hone Width (inch)
F	0
G	.0008 — .0020
H(Standard)	.0020 — .0039
-	.0039 — .0059
K	.0059 — .0079
S	.0079 — .0098
M	.0098 — .0118

RECOMMENDED CUTTING CONDITIONS

Work Material		DC	ϕ10.0—ϕ12.9mm		ϕ13.0—ϕ13.9mm		ϕ14.0—ϕ15.4mm		ϕ15.5—ϕ18.4mm	
		Conditions / Hardness	Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)
P	Mild Steel	≤180HB	260 (195—330)	.008 (.006—.010)	295 (230—360)	.010 (.008—.012)	330 (260—390)	.012 (.010—.014)	330 (260—390)	.014 (.010—.016)
P	Carbon Steel Alloy Steel	180—280HB	260 (195—330)	.008 (.006—.010)	295 (230—360)	.010 (.008—.012)	330 (260—390)	.012 (.010—.014)	330 (260—390)	.014 (.010—.016)
P	Carbon Steel Alloy Steel	280—350HB	230 (195—295)	.008 (.006—.010)	260 (195—330)	.010 (.008—.012)	295 (230—360)	.010 (.008—.012)	295 (230—360)	.012 (.008—.014)
M	Stainless Steel	≤200HB	130 (100—165)	.005 (.004—.006)	165 (130—195)	.006 (.005—.007)	195 (165—230)	.007 (.006—.008)	195 (165—230)	.006 (.005—.008)
K	Gray Cast Iron	Tensile Strength ≤350MPa	260 (195—330)	.008 (.006—.010)	295 (230—360)	.010 (.008—.012)	330 (260—390)	.012 (.010—.014)	390 (260—460)	.018 (.014—.022)
K	Ductile Cast Iron	Tensile Strength ≤450MPa	230 (195—295)	.008 (.006—.010)	260 (195—330)	.010 (.008—.012)	295 (230—360)	.012 (.010—.014)	330 (260—390)	.014 (.010—.016)

(Note 1) When using a drill for 1.5DC depth of hole, it is possible to increase the feed rate by approx. 20%.
(Note 2) When using a drill for 8DC depth of hole, please decrease the cutting speed by approx. 20%.
(Note 3) When using a drill for 8DC depth of hole, it is recommended to make a pilot hole of the same size.
(Note 4) For stainless steel, please use internal coolant. (Mist & MQL are not recommended).

SPARE PARTS

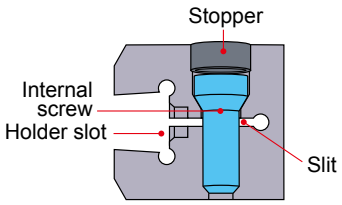
Applicable Holder	Pack Order Number (Internal screw & stopper)	 Internal Screw	 Stopper
STAWSS/SN/MN/LN1000S16	WS203107TPS-35LH	WS203107TPS	WS35LH
STAWSS/SN/MN/LN1050S16	WS203107TPS-35LH	WS203107TPS	WS35LH
STAWSS/SN/MN/LN1100S16	WS203108TPS-35LH	WS203108TPS	WS35LH
STAWSS/SN/MN/LN1150S16	WS203108TPS-35LH	WS203108TPS	WS35LH
STAWSS/SN/MN/LN1200S16	WS203108TPS-35LH	WS203108TPS	WS35LH
STAWSS/SN/MN/LN1250S16	WS203108TPS-35LH	WS203108TPS	WS35LH
STAWSS/SN/MN/LN1300S16	WS253909TPS-45LH	WS253909TPS	WS45LH
STAWSS/SN/MN/LN1350S16	WS253909TPS-45LH	WS253909TPS	WS45LH
STAWSS/SN/MN/LN1400S16	WS253909TPS-45LH	WS253909TPS	WS45LH
STAWSS/SN/MN/LN1450S16	WS253909TPS-45LH	WS253909TPS	WS45LH
STAWSS/SN/MN/LN1500S20	WS253909TPS-45LH	WS253909TPS	WS45LH
STAWSS/SN/MN/LN1600S20	WS304912TPS-55LH	WS304912TPS	WS55LH
STAWSS/SN/MN/LN1700S20	WS304912TPS-55LH	WS304912TPS	WS55LH
STAWSS/SN/MN/LN1800S20	WS304912TPS-55LH	WS304912TPS	WS55LH

* Clamp Torque (lbf-in) : WS203107TPS=8.9, WS203108TPS=8.9, WS253909TPS=17.7, WS304912TPS=22.1
(Note) The parts included in the package are internal screw, stopper and operation manual. Please replace the parts in accordance with the operation manual.

NOTES ON USE

INSERT INSTALLATION

1. Before inserting the insert into the holder, ensure that there are no foreign objects or dirt in the holder slot or slit. Clean using compressed air if necessary.



2. Use the wrench provided to loosen the inner screw to open the tip of the holder, then place the insert into the holder slot as shown in figure 1.
   *Ensure that the wrench is firmly in contact with the base of the inner screw head when tightening.

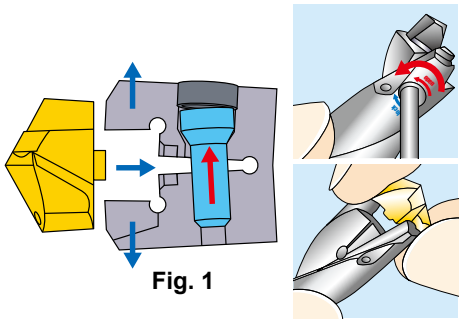


Fig. 1

3. After the insert has been set in the holder slot, tighten the inner screw while pushing the insert lightly into the pocket as shown in figure 2 to securely clamp and locate the insert.
   *Ensure that the wrench is firmly in contact with the base of the inner screw head when tightening.

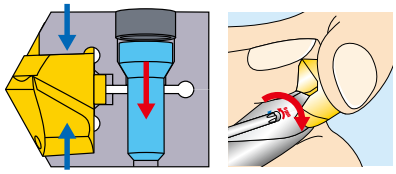
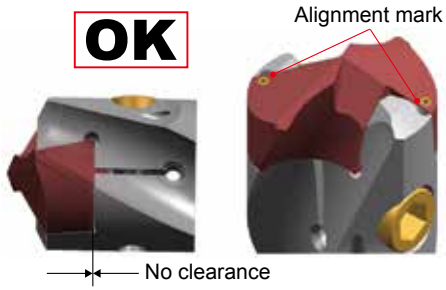


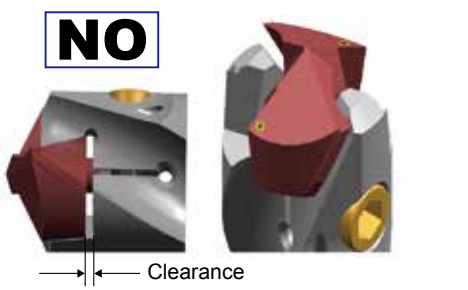
Fig. 2

Tighten clamp screws referring to the table for torque.

DC (mm)	Clamping Force	
	lbf-in	N · m
10—12.5	8.9	1
13—15	17.7	2
16—18	22.1	2.5

4. Check there is no gap between the bottom of the insert and holder slot.





(Note) Poor or incorrect clamping of inserts can cause poor drilling performance and/or drill breakage.
Therefore ensure that the alignment marks on both the body and insert are aligned when setting.
When machining, use safety guards and eye protection.

TAW

- Wavy cutting edge design for good chip control.
- Serration geometry for accurate insert location.

P | M | K | N | S | H

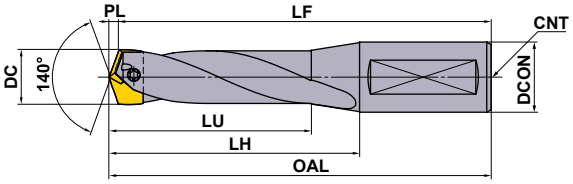
.5625≤DC≤.6875	.7031≤DC≤1.1719	DC=1.1875
−.00063 −.00134	−.00079 −.00161	−.00098 −.00197

(inch)

INCH STANDARD

L/D=3

Internal Coolant



Holder		Dimensions (inch)							*	① ②			DC (inch)	Insert	
Order Number	Stock	LU	LH	OAL	LF	PL	DCON	CNT	Insert Screw	Wrench	Plate	Anti-seize Lubricant		Order Number	Stock VP15TF
TAWSNH0036	●	2.110	2.740	4.615	4.513	.102	.625	1/8-27	WS254012T	①TKY08W	WPT4405	MK1KS	.5625	**TAWNH0036T**	●
TAWSNH**0037**	●	2.231	3.058	4.933	4.828	.105	.625	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5781	**TAWNH0037T**	●
TAWSNH**0039**	●	2.234	3.061	5.061	4.953	.108	.750	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5938	**TAWNH0038T**	●
													.6094	**TAWNH0039T**	●
TAWSN0041	●	2.397	3.264	5.264	5.150	.114	.750	1/8-27	WS254014T	①TKY08W	WPT4405	MK1KS	.6250	**TAWNH0040T**	●
													.6406	**TAWNH0041T**	●
TAWSN**0044**	●	2.521	3.465	5.465	5.346	.119	.750	1/8-27	WS254015T	①TKY08W	WPT4405	MK1KS	.6563	**TAWNH0042T**	●
													.6719	**TAWNH0043T**	●
													.6875	**TAWNH0044T**	●
TAWSN**0045**	●	2.687	3.671	5.671	5.543	.128	.750	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7031	**TAWNH0045T**	●
TAWSN**0046**	●	2.690	3.674	5.924	5.793	.131	1.000	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7188	**TAWNH0046T**	●
TAWSN**0049**	●	2.811	4.032	6.282	6.148	.134	1.000	1/8-27	WS304517T	②TKY10T	WPT4405	MK1KS	.7344	**TAWNH0047T**	●
													.7500	**TAWNH0048T**	●
													.7656	**TAWNH0049T**	●
TAWSN**0051**	●	2.977	4.040	6.290	6.148	.142	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.7813	**TAWNH0050T**	●
													.7969	**TAWNH0051T**	●
TAWSN**0054**	●	3.101	4.046	6.296	6.148	.148	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.8125	**TAWNH0052T**	●
													.8281	**TAWNH0053T**	●
													.8438	**TAWNH0054T**	●
TAWSN**0056**	●	3.266	4.250	6.500	6.344	.156	1.000	1/8-27	WS355520T	②TKY15T	WPT4405	MK1KS	.8594	**TAWNH0055T**	●
													.8750	**TAWNH0056T**	●

* Clamp Torque (lbf-in) : WS254012T=18, WS254013T=18, WS254014T=18, WS254015T=18, WS254016T=18, WS304517T=31, WS304518T=31, WS355520T=49

(Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).

The LF, LH, and LU dimensions listed in the table above, are measured using the VP15TF insert.

When using the DP5010 insert, the LF, LH and LU dimensions will be slightly reduced.

● : Inventory maintained.

Holder		Dimensions (inch)							*				DC (inch)	Insert	
Order Number	Stock	LU	LH	OAL	LF	PL	DCON	CNT	Insert Screw	Wrench	Plate	Anti-seize Lubricant		Order Number	Stock VP15TF
TAWSN0059	●	3.390	4.256	6.506	6.344	.162	1.000	1/8-27	WS355521T	TKY15T	WPT4405	MK1KS	.8906	**TAWNH0057T**	●
													.9063	**TAWNH0058T**	●
													.9219	**TAWNH0059T**	●
TAWSN0061	●	3.557	4.502	6.877	6.706	.171	1.250	1/4-18	WS355521T	TKY15T	WPT4405	MK1KS	.9375	**TAWNH0060T**	●
													.9531	**TAWNH0061T**	●
TAWSN0100	●	3.641	4.507	6.882	6.706	.176	1.250	1/4-18	WS406023T	TKY25T	WPT4405	MK1KS	.9688	**TAWNH0062T**	●
													.9844	**TAWNH0063T**	●
													1.0000	**TAWNH0100T**	●
TAWSN0102	●	3.807	4.713	7.088	6.903	.185	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0156	**TAWNH0101T**	●
													1.0313	**TAWNH0102T**	●
TAWSN0105	●	3.892	4.719	7.094	6.903	.191	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0469	**TAWNH0103T**	●
													1.0625	**TAWNH0104T**	●
													1.0781	**TAWNH0105T**	●
TAWSN0107	●	4.018	4.923	7.298	7.099	.199	1.250	1/4-18	WS508026T	TKY27T	WPT4405	MK1KS	1.0938	**TAWNH0106T**	●
													1.1094	**TAWNH0107T**	●
TAWSN0110	●	4.142	5.126	7.501	7.296	.205	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1250	**TAWNH0108T**	●
													1.1406	**TAWNH0109T**	●
													1.1563	**TAWNH0110T**	●
TAWSN0112	●	4.307	5.134	7.509	7.296	.213	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1719	**TAWNH0111T**	●
													1.1875	**TAWNH0112T**	●

* Clamp Torque (lbf-in) : WS355521T=49, WS406023T=75, WS406024T=75, WS508026T=110, WS508027T=110

(Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
The LF, LH and LU dimensions listed in the table above, are measured using the VP15TF insert.
When using the DP5010 insert, the LF, LH and LU dimensions will be slightly reduced.

DRILLING

INSERTS ➤ L211
CUTTING CONDITIONS ➤ L210
HOW TO USE ➤ L210
TECHNICAL DATA ➤ N001

TAW

- Wavy cutting edge design for good chip control.
- Serration geometry for accurate insert location.

P | M | K | N | S | H

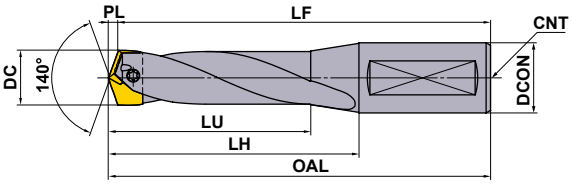
.5625≤DC≤.6875	.7031≤DC≤1.1719	DC=1.1875
−.00063 −.00134	−.00079 −.00161	−.00098 −.00197

(inch)

INCH STANDARD

L/D=5

Internal Coolant



Holder		Dimensions (inch)							*	① ②			DC (inch)	Insert	
Order Number	Stock	LU	LH	OAL	LF	PL	DCON	CNT	Insert Screw	Wrench	Plate	Anti-seize Lubricant		Order Number	Stock VP15TF
TAWMNH0036	●	3.252	3.921	5.796	5.694	.102	.625	1/8-27	WS254012T	①TKY08W	WPT4405	MK1KS	.5625	**TAWNH0036T**	●
TAWMNH**0037**	●	3.451	4.239	6.114	6.009	.105	.625	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5781	**TAWNH0037T**	●
TAWMNH**0039**	●	3.454	4.242	6.242	6.134	.108	.750	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5938	**TAWNH0038T**	●
													.6094	**TAWNH0039T**	●
TAWMN0041	●	3.697	4.642	6.642	6.528	.114	.750	1/8-27	WS254014T	①TKY08W	WPT4405	MK1KS	.6250	**TAWNH0040T**	●
													.6406	**TAWNH0041T**	●
TAWMN**0044**	●	3.899	4.843	6.843	6.724	.119	.750	1/8-27	WS254015T	①TKY08W	WPT4405	MK1KS	.6563	**TAWNH0042T**	●
													.6719	**TAWNH0043T**	●
													.6875	**TAWNH0044T**	●
TAWMN**0045**	●	4.144	5.049	7.049	6.921	.128	.750	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7031	**TAWNH0045T**	●
TAWMN**0046**	●	4.147	5.052	7.302	7.171	.131	1.000	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7188	**TAWNH0046T**	●
TAWMN**0049**	●	4.347	5.410	7.660	7.526	.134	1.000	1/8-27	WS304517T	②TKY10T	WPT4405	MK1KS	.7344	**TAWNH0047T**	●
													.7500	**TAWNH0048T**	●
													.7656	**TAWNH0049T**	●
TAWMN**0051**	●	4.591	5.614	7.864	7.722	.142	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.7813	**TAWNH0050T**	●
													.7969	**TAWNH0051T**	●
TAWMN**0054**	●	4.794	5.620	7.870	7.722	.148	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.8125	**TAWNH0052T**	●
													.8281	**TAWNH0053T**	●
													.8438	**TAWNH0054T**	●

* Clamp Torque (lbf-in) : WS254012T=18, WS254013T=18, WS254014T=18, WS254015T=18, WS254016T=18, WS304517T=31, WS304518T=31, WS355520T=49

(Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).

The LF, LH and LU dimensions listed in the table above, are measured using the VP15TF insert.

When using the DP5010 insert, the LF, LH and LU dimensions will be slightly reduced.

● : Inventory maintained.

Holder		Dimensions (inch)							*				DC (inch)	Insert	
Order Number	Stock	LU	LH	OAL	LF	PL	DCON	CNT	Insert Screw	Wrench	Plate	Anti-seize Lubricant		Order Number	Stock VP15TF
TAWMN0056	●	5.038	5.825	8.075	7.919	.156	1.000	1/8-27	WS355520T	TKY15T	WPT4405	MK1KS	.8594	**TAWNH0055T**	●
													.8750	**TAWNH0056T**	●
TAWMN0059	●	5.241	6.225	8.475	8.313	.162	1.000	1/8-27	WS355521T	TKY15T	WPT4405	MK1KS	.8906	**TAWNH0057T**	●
													.9063	**TAWNH0058T**	●
													.9219	**TAWNH0059T**	●
TAWMN0061	●	5.486	6.470	8.845	8.674	.171	1.250	1/4-18	WS355521T	TKY15T	WPT4405	MK1KS	.9375	**TAWNH0060T**	●
													.9531	**TAWNH0061T**	●
TAWMN0100	●	5.688	6.672	9.047	8.871	.176	1.250	1/4-18	WS406023T	TKY25T	WPT4405	MK1KS	.9688	**TAWNH0062T**	●
													.9844	**TAWNH0063T**	●
													1.0000	**TAWNH0100T**	●
TAWMN0102	●	5.933	6.878	9.253	9.068	.185	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0156	**TAWNH0101T**	●
													1.0313	**TAWNH0102T**	●
TAWMN0105	●	6.136	7.081	9.456	9.265	.191	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0469	**TAWNH0103T**	●
													1.0625	**TAWNH0104T**	●
													1.0781	**TAWNH0105T**	●
TAWMN0107	●	6.380	7.286	9.661	9.462	.199	1.250	1/4-18	WS508026T	TKY27T	WPT4405	MK1KS	1.0938	**TAWNH0106T**	●
													1.1094	**TAWNH0107T**	●
TAWMN0110	●	6.583	7.488	9.863	9.658	.205	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1250	**TAWNH0108T**	●
													1.1406	**TAWNH0109T**	●
													1.1563	**TAWNH0110T**	●
TAWMN0112	●	6.788	7.890	10.265	10.052	.213	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1719	**TAWNH0111T**	●
													1.1875	**TAWNH0112T**	●

* Clamp Torque (lbf-in) : WS355521T=49, WS406023T=75, WS406024T=75, WS508026T=110, WS508027T=110

(Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
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When using the DP5010 insert, the LF, LH and LU dimensions will be slightly reduced.

DRILLING

INSERTS ➤ L211
CUTTING CONDITIONS ➤ L210
HOW TO USE ➤ L210
TECHNICAL DATA ➤ N001

TAW

- Wavy cutting edge design for good chip control.
- Serration geometry for accurate insert location.

P | M | K | N | S | H

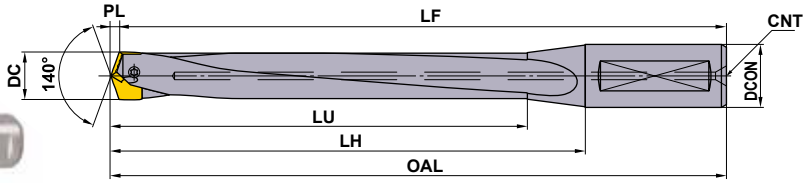
.5625≤DC≤.6875	.7031≤DC≤1.1719	DC=1.1875
−.00063 −.00134	−.00079 −.00161	−.00098 −.00197

(inch)

INCH STANDARD

L/D=8

Internal Coolant



Holder		Dimensions (inch)							*	① ②			DC (inch)	Insert	
Order Number	Stock	LU	LH	OAL	LF	PL	DCON	CNT	Insert Screw	Wrench	Plate	Anti-seize Lubricant		Order Number	Stock VP15TF
TAWLNH0036	●	4.905	5.496	7.370	7.268	.102	.625	1/8-27	WS254012T	①TKY08W	WPT4405	MK1KS	.5625	**TAWNH0036T**	●
TAWLNH**0037**	●	5.223	5.932	7.806	7.701	.105	.625	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5781	**TAWNH0037T**	●
TAWLNH**0039**	●	5.226	5.935	7.935	7.827	.108	.750	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5938	**TAWNH0038T**	●
													.6094	**TAWNH0039T**	●
TAWLN0041	●	5.547	6.334	8.334	8.220	.114	.750	1/8-27	WS254014T	①TKY08W	WPT4405	MK1KS	.6250	**TAWNH0040T**	●
													.6406	**TAWNH0041T**	●
TAWLN**0044**	●	5.867	6.654	8.654	8.535	.119	.750	1/8-27	WS254015T	①TKY08W	WPT4405	MK1KS	.6563	**TAWNH0042T**	●
													.6719	**TAWNH0043T**	●
													.6875	**TAWNH0044T**	●
TAWLN**0045**	●	6.191	6.978	8.978	8.850	.128	.750	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7031	**TAWNH0045T**	●
TAWLN**0046**	●	6.194	6.981	9.233	9.102	.131	1.000	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7188	**TAWNH0046T**	●
TAWLN**0049**	●	6.512	7.417	9.669	9.535	.134	1.000	1/8-27	WS304517T	②TKY10T	WPT4405	MK1KS	.7344	**TAWNH0047T**	●
													.7500	**TAWNH0048T**	●
													.7656	**TAWNH0049T**	●
TAWLN**0051**	●	6.835	7.740	9.992	9.850	.142	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.7813	**TAWNH0050T**	●
													.7969	**TAWNH0051T**	●
TAWLN**0054**	●	7.156	8.101	10.353	10.205	.148	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.8125	**TAWNH0052T**	●
													.8281	**TAWNH0053T**	●
													.8438	**TAWNH0054T**	●

* Clamp Torque (lbf-in) : WS254012T=18, WS254013T=18, WS254014T=18, WS254015T=18, WS254016T=18, WS304517T=31, WS304518T=31, WS355520T=49

(Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).

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When using the DP5010 insert, the LF, LH and LU dimensions will be slightly reduced.

● : Inventory maintained.

Holder		Dimensions (inch)							*				DC (inch)	Insert	
Order Number	Stock	LU	LH	OAL	LF	PL	DCON	CNT	Insert Screw	Wrench	Plate	Anti-seize Lubricant		Order Number	Stock VP15TF
TAWLN0056	●	7.479	8.424	10.676	10.520	.156	1.000	1/8-27	WS355520T	TKY15T	WPT4405	MK1KS	.8594	**TAWNH0055T**	●
													.8750	**TAWNH0056T**	●
TAWLN0059	●	7.800	8.942	11.193	11.031	.162	1.000	1/8-27	WS355521T	TKY15T	WPT4405	MK1KS	.8906	**TAWNH0057T**	●
													.9063	**TAWNH0058T**	●
													.9219	**TAWNH0059T**	●
TAWLN0061	●	8.124	9.305	11.679	11.508	.171	1.250	1/4-18	WS355521T	TKY15T	WPT4405	MK1KS	.9375	**TAWNH0060T**	●
													.9531	**TAWNH0061T**	●
TAWLN0100	●	8.444	9.625	11.999	11.823	.176	1.250	1/4-18	WS406023T	TKY25T	WPT4405	MK1KS	.9688	**TAWNH0062T**	●
													.9844	**TAWNH0063T**	●
													1.0000	**TAWNH0100T**	●
TAWLN0102	●	8.768	9.949	12.323	12.138	.185	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0156	**TAWNH0101T**	●
													1.0313	**TAWNH0102T**	●
TAWLN0105	●	9.089	10.270	12.644	12.453	.191	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0469	**TAWNH0103T**	●
													1.0625	**TAWNH0104T**	●
													1.0781	**TAWNH0105T**	●
TAWLN0107	●	9.412	10.593	12.967	12.768	.199	1.250	1/4-18	WS508026T	TKY27T	WPT4405	MK1KS	1.0938	**TAWNH0106T**	●
													1.1094	**TAWNH0107T**	●
TAWLN0110	●	9.733	10.914	13.288	13.083	.205	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1250	**TAWNH0108T**	●
													1.1406	**TAWNH0109T**	●
													1.1563	**TAWNH0110T**	●
TAWLN0112	●	10.056	11.433	13.807	13.594	.213	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1719	**TAWNH0111T**	●
													1.1875	**TAWNH0112T**	●

* Clamp Torque (lbf-in) : WS355521T=49, WS406023T=75, WS406024T=75, WS508026T=110, WS508027T=110

(Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
The LF, LH and LU dimensions listed in the table above, are measured using the VP15TF insert.
When using the DP5010 insert, the LF, LH and LU dimensions will be slightly reduced.

DRILLING

INSERTS ➤ L211
CUTTING CONDITIONS ➤ L210
HOW TO USE ➤ L210
TECHNICAL DATA ➤ N001

TAW

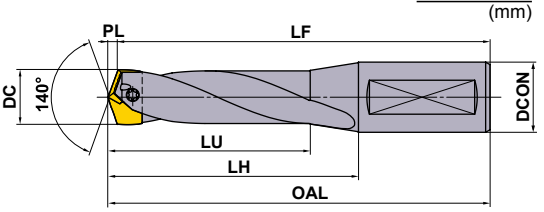
- Wavy cutting edge design for good chip control.
- Serration geometry for accurate insert location.

P M K N S H

18<DC≤30
0
−0.021
(mm)

METRIC STANDARD

Internal Coolant



Hole Depth (l/d)	Holder Order Number	Stock	LU	LH	OAL	LF	PL	DCON	Insert Screw	Wrench	Plate	Anti-seize Lubricant	DC (mm)	Insert Order Number	Stock VP15TF	Stock DP5010
3	TAWSN1900S25	★	71.4	102.4	158.4	155.0	3.4	25	WS304517T	TKY10T	WPT4405	MK1KS	18.5	TAWNH1850T	●	
														TAWKH1850TG		★
													18.6	TAWNH1860T	●	
														TAWKH1860TG		★
													18.7	TAWNH1870T	●	
														TAWKH1870TG		★
5	TAWMN1900S25	★	110.4	137.4	193.4	190.0	3.4	25	WS304517T	TKY10T	WPT4405	MK1KS	18.8	TAWNH1880T	●	
														TAWKH1880TG		★
													18.9	TAWNH1890T	●	
														TAWKH1890TG		★
													19.0	TAWNH1900T	●	
														TAWKH1900TG		★
													19.1	TAWNH1910T	●	
														TAWKH1910TG		★
8	TAWLN1900S25	★	165.5	188.5	244.5	241.0	3.5	25	WS304517T	TKY10T	WPT4405	MK1KS	19.2	TAWNH1920T	●	
														TAWKH1920TG		★
													19.3	TAWNH1930T	●	
														TAWKH1930TG		★
													19.4	TAWNH1940T	●	
														TAWKH1940TG		★
3	TAWSN2000S25	★	75.5	102.5	158.5	155.0	3.5	25	WS304518T	TKY10T	WPT4405	MK1KS	19.5	TAWNH1950T	●	
														TAWKH1950TG		★
													19.6	TAWNH1960T	●	
														TAWKH1960TG		★
5	TAWMN2000S25	★	116.6	142.6	198.6	195.0	3.6	25	WS304518T	TKY10T	WPT4405	MK1KS	19.7	TAWNH1970T	●	
														TAWKH1970TG		★
													19.8	TAWNH1980T	●	
														TAWKH1980TG		★
8	TAWLN2000S25	★	173.7	196.7	252.7	249.0	3.7	25	WS304518T	TKY10T	WPT4405	MK1KS	19.9	TAWNH1990T	●	
														TAWKH1990TG		★
													20.0	TAWNH2000T	●	
														TAWKH2000TG		★
3	TAWSN2100S25	★	78.7	102.7	158.7	155.0	3.7	25	WS304518T	TKY10T	WPT4405	MK1KS	20.5	TAWNH2050T	●	
5	TAWMN2100S25	★	121.8	142.8	198.8	195.0	3.8	25	WS304518T	TKY10T	WPT4405	MK1KS		TAWKH2050TG		★
8	TAWLN2100S25	★	181.9	205.9	261.9	258.0	3.9	25	WS304518T	TKY10T	WPT4405	MK1KS	21.0	TAWNH2100T	●	
														TAWKH2100TG		★
3	TAWSN2200S25	★	83.2	108.2	164.2	160.3	3.9	25	WS355520T	TKY15T	WPT4405	MK1KS	21.5	TAWNH2150T	●	
5	TAWMN2200S25	★	128.3	148.3	204.3	200.3	4.0	25	WS355520T	TKY15T	WPT4405	MK1KS		TAWKH2150TG		★
8	TAWLN2200S25	★	190.0	214.0	270.0	266.0	4.0	25	WS355520T	TKY15T	WPT4405	MK1KS	22.0	TAWNH2200T	●	
														TAWKH2200TG		★

∗ Clamp Torque (lbf-in) : WS304517T=31, WS304518T=31, WS355520T=49

(Note) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
The LF, LH and LU dimensions listed in the table above, are measured using the VP15TF insert.
When using the DP5010 insert, the LF, LH and LU dimensions will be slightly reduced.

● : Inventory maintained. ★ : Inventory maintained in Japan.

Hole Depth l/d	Holder Order Number	Stock	Dimensions (mm) LU	LH	OAL	LF	PL	DCON	Insert Screw *	Wrench	Plate	Anti-seize Lubricant	DC (mm)	Insert Order Number	Stock VP15TF	Stock DP5010
3	**TAWSN2300S25**	★	86.4	108.4	164.4	160.3	4.1	25	WS355521T	TKY15T	WPT4405	MK1KS	22.5	**TAWNH2250T**	●	
5	TAW**MN2300S25**	★	133.4	158.4	214.4	210.3	4.1	25	WS355521T	TKY15T	WPT4405	MK1KS		**TAWKH2250TG**		★
8	TAW**LN2300S25**	★	198.2	227.2	283.2	279.0	4.2	25	WS355521T	TKY15T	WPT4405	MK1KS	23.0	**TAWNH2300T**	●	
														TAWKH2300TG		★
3	**TAWSN2400S32**	★	90.6	114.6	174.6	170.3	4.3	32	WS355521T	TKY15T	WPT4405	MK1KS	23.5	**TAWNH2350T**	●	
5	TAW**MN2400S32**	★	139.6	164.6	224.6	220.3	4.3	32	WS355521T	TKY15T	WPT4405	MK1KS		**TAWKH2350TG**		★
8	TAW**LN2400S32**	★	206.4	236.4	296.4	292.0	4.4	32	WS355521T	TKY15T	WPT4405	MK1KS	24.0	**TAWNH2400T**	●	
														TAWKH2400TG		★
3	**TAWSN2500S32**	★	93.1	115.1	175.1	170.6	4.5	32	WS406023T	TKY25T	WPT4405	MK1KS	24.5	**TAWNH2450T**	●	
5	TAW**MN2500S32**	★	145.1	170.1	230.1	225.6	4.5	32	WS406023T	TKY25T	WPT4405	MK1KS		**TAWKH2450TG**		★
8	TAW**LN2500S32**	★	214.6	244.6	304.6	300.0	4.6	32	WS406023T	TKY25T	WPT4405	MK1KS	25.0	**TAWNH2500T**	●	
														TAWKH2500TG		★
3	**TAWSN2600S32**	★	97.2	120.2	180.2	175.6	4.6	32	WS406024T	TKY25T	WPT4405	MK1KS	25.5	**TAWNH2550T**	●	
5	TAW**MN2600S32**	★	151.3	175.3	235.3	230.6	4.7	32	WS406024T	TKY25T	WPT4405	MK1KS		**TAWKH2550TG**		★
8	TAW**LN2600S32**	★	222.8	252.8	312.8	308.0	4.8	32	WS406024T	TKY25T	WPT4405	MK1KS	26.0	**TAWNH2600T**	●	
														TAWKH2600TG		★
3	**TAWSN2700S32**	★	99.4	120.4	180.4	175.6	4.8	32	WS406024T	TKY25T	WPT4405	MK1KS	26.5	**TAWNH2650T**	●	
5	TAW**MN2700S32**	★	156.5	180.5	240.5	235.6	4.9	32	WS406024T	TKY25T	WPT4405	MK1KS		**TAWKH2650TG**		★
8	TAW**LN2700S32**	★	230.9	260.9	320.9	316.0	4.9	32	WS406024T	TKY25T	WPT4405	MK1KS	27.0	**TAWNH2700T**	●	
														TAWKH2700TG		★
3	**TAWSN2800S32**	★	102.2	125.2	185.2	180.2	5.0	32	WS508026T	TKY27T	WPT4405	MK1KS	27.5	**TAWNH2750T**	●	
5	TAW**MN2800S32**	★	162.3	185.3	245.3	240.2	5.1	32	WS508026T	TKY27T	WPT4405	MK1KS		**TAWKH2750TG**		★
8	TAW**LN2800S32**	★	239.1	269.1	329.1	324.0	5.1	32	WS508026T	TKY27T	WPT4405	MK1KS	28.0	**TAWNH2800T**	●	
														TAWKH2800TG		★
3	**TAWSN2900S32**	★	105.4	130.4	190.4	185.2	5.2	32	WS508027T	TKY27T	WPT4405	MK1KS	28.5	**TAWNH2850T**	●	
5	TAW**MN2900S32**	★	167.4	190.4	250.4	245.2	5.2	32	WS508027T	TKY27T	WPT4405	MK1KS		**TAWKH2850TG**		★
8	TAW**LN2900S32**	★	247.3	277.3	337.3	332.0	5.3	32	WS508027T	TKY27T	WPT4405	MK1KS	29.0	**TAWNH2900T**	●	
														TAWKH2900TG		★
3	**TAWSN3000S32**	★	109.6	130.6	190.6	185.2	5.4	32	WS508027T	TKY27T	WPT4405	MK1KS	29.5	**TAWNH2950T**	●	
5	TAW**MN3000S32**	★	172.6	200.6	260.6	255.2	5.4	32	WS508027T	TKY27T	WPT4405	MK1KS		**TAWKH2950TG**		★
8	TAW**LN3000S32**	★	255.5	290.5	350.5	345.0	5.5	32	WS508027T	TKY27T	WPT4405	MK1KS	30.0	**TAWNH3000T**	●	
														TAWKH3000TG		★

* Clamp Torque (lbf-in) : WS355521T=49, WS406023T=75, WS406024T=75, WS508026T=110, WS508027T=110

(Note) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
The LF, LH and LU dimensions listed in the table above, are measured using the VP15TF insert.
When using the DP5010 insert, the LF, LH and LU dimensions will be slightly reduced.

TAW

RECOMMENDED CUTTING CONDITIONS

Work Material		DC	ϕ.5625"—ϕ.6094" ϕ14.0—ϕ15.4mm		ϕ.6250"—ϕ.7188" ϕ15.5—ϕ18.4mm		ϕ.7344"—ϕ.8438" ϕ18.5—ϕ21.4mm	
		Conditions / Hardness	Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)
P	Mild Steel	≤180HB	230 (195—295)	.008 (.006—.010)	260 (195—330)	.010 (.008—.012)	295 (230—360)	.010 (.008—.012)
P	Carbon Steel Alloy Steel	180—280HB	230 (195—295)	.008 (.006—.010)	260 (195—330)	.010 (.008—.012)	260 (195—330)	.010 (.008—.012)
P	Carbon Steel Alloy Steel	280—350HB	195 (165—260)	.006 (.005—.007)	230 (165—295)	.008 (.006—.010)	230 (165—295)	.008 (.006—.010)
M	Stainless Steel	≤200HB	165 (130—195)	.006 (.005—.007)	165 (130—195)	.006 (.005—.007)	195 (165—230)	.008 (.006—.009)
K	Gray Cast Iron	Tensile Strength ≤350MPa	230 (165—295)	.008 (.006—.010)	330 (195—395)	.010 (.008—.012)	390 (195—460)	.010 (.008—.012)
K	Ductile Cast Iron	Tensile Strength ≤450MPa	230 (165—295)	.008 (.006—.010)	260 (195—295)	.010 (.008—.012)	260 (195—295)	.010 (.008—.012)

Work Material		DC	ϕ.8594"—ϕ.9531" ϕ21.5—ϕ24.4mm		ϕ.9688"—ϕ1.0781" ϕ24.5—ϕ27.4mm		ϕ1.0938"—ϕ1.1875" ϕ27.5—ϕ30.4mm	
		Conditions / Hardness	Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)
P	Mild Steel	≤180HB	330 (260—390)	.012 (.010—.014)	360 (260—390)	.012 (.010—.014)	360 (260—390)	.012 (.010—.014)
P	Carbon Steel Alloy Steel	180—280HB	295 (230—360)	.012 (.010—.014)	330 (260—390)	.012 (.010—.014)	330 (260—390)	.012 (.010—.014)
P	Carbon Steel Alloy Steel	280—350HB	260 (195—330)	.010 (.008—.012)	295 (230—360)	.010 (.008—.012)	295 (230—360)	.010 (.008—.012)
M	Stainless Steel	≤200HB	195 (165—230)	.008 (.006—.009)	230 (195—260)	.010 (.008—.011)	230 (195—260)	.010 (.008—.011)
K	Gray Cast Iron	Tensile Strength ≤350MPa	425 (260—490)	.014 (.010—.016)	460 (295—525)	.014 (.010—.016)	460 (295—525)	.016 (.012—.018)
K	Ductile Cast Iron	Tensile Strength ≤450MPa	295 (195—330)	.012 (.010—.014)	330 (260—360)	.012 (.010—.014)	330 (260—360)	.012 (.010—.014)

NOTES ON USE

INSERT INSTALLATION

- Loosen insert screw of holder to install insert.
- Mesh the insert serration to holder grooves.
- Fasten the insert screw using the provided wrench while holding rake face of the insert lightly with your thumb. (Figure 1)
- Check that there is no clearance between the insert bottom and holder flute end. (Figure 2)

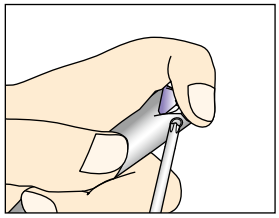


Figure 1

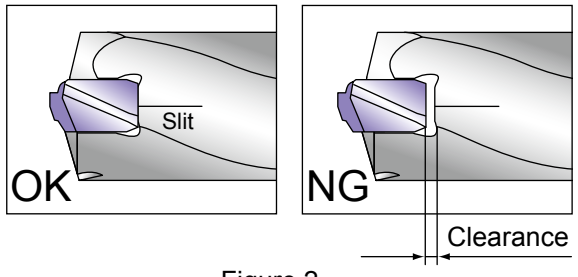


Figure 2

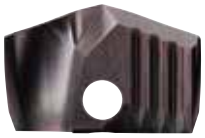
NOTE ON INSERT REPLACEMENT

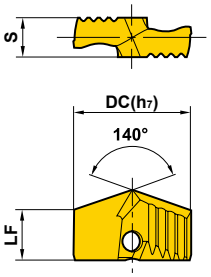
- Clean insert guide grooves by blowing air before installing a new insert.
- Clean the “slit” underneath the insert on the holder with the provided plate.
- Use the provided anti-seize lubricant for lubricating the threads of the insert screw.

INSERTS

INCH STANDARD

Geometry	Order Number	Stock	Dimensions (inch)			Applicable Holder	
		VP15TF	DC	LF	S	Inch	Metric
For General Use	**TAWNH0036T**	●	.5625	.299	.197	TAWS/M/LNH0036	TAWS/M/LNH1400S16
	TAWNH**0037T**	●	.5781	.295	.197	TAWS/M/LNH0037	TAWS/M/LNH1500S20
	TAWNH**0038T**	●	.5938	.291	.197	TAWS/M/LNH0039	
	TAWNH**0039T**	●	.6094	.291	.197		
	TAWNH**0040T**	●	.6250	.311	.236	TAWS/M/LN0041	TAWS/M/LN1600S20
	TAWNH**0041T**	●	.6406	.307	.236		
	TAWNH**0042T**	●	.6563	.303	.236	TAWS/M/LN0044	TAWS/M/LN1700S20
	TAWNH**0043T**	●	.6719	.299	.236		
	TAWNH**0044T**	●	.6875	.299	.236		
	TAWNH**0045T**	●	.7031	.295	.236	TAWS/M/LN0045	TAWS/M/LN1800S20
	TAWNH**0046T**	●	.7188	.291	.236	TAWS/M/LN0046	
	TAWNH**0047T**	●	.7344	.366	.276	TAWS/M/LN0049	TAWS/M/LN1900S25
	TAWNH**0048T**	●	.7500	.362	.276		
	TAWNH**0049T**	●	.7656	.362	.276		
	TAWNH**0050T**	●	.7813	.358	.276	TAWS/M/LN0051	TAWS/M/LN2000S25
	TAWNH**0051T**	●	.7969	.354	.276		
	TAWNH**0052T**	●	.8125	.350	.276	TAWS/M/LN0054	TAWS/M/LN2100S25
	TAWNH**0053T**	●	.8281	.346	.276		
	TAWNH**0054T**	●	.8438	.346	.276		
	TAWNH**0055T**	●	.8594	.417	.315	TAWS/M/LN0056	TAWS/M/LN2200S25
	TAWNH**0056T**	●	.8750	.413	.315		
	TAWNH**0057T**	●	.8906	.409	.315	TAWS/M/LN0059	TAWS/M/LN2300S25
	TAWNH**0058T**	●	.9063	.406	.315		
	TAWNH**0059T**	●	.9219	.406	.315		
	TAWNH**0060T**	●	.9375	.402	.315	TAWS/M/LN0061	TAWS/M/LN2400S32
	TAWNH**0061T**	●	.9531	.398	.315		
	TAWNH**0062T**	●	.9688	.461	.354	TAWS/M/LN0100	TAWS/M/LN2500S32
	TAWNH**0063T**	●	.9844	.457	.354		
	TAWNH**0100T**	●	1.0000	.457	.354		
	TAWNH**0101T**	●	1.0156	.453	.354	TAWS/M/LN0102	TAWS/M/LN2600S32
	TAWNH**0102T**	●	1.0313	.449	.354		
	TAWNH**0103T**	●	1.0469	.445	.354	TAWS/M/LN0105	TAWS/M/LN2700S32
	TAWNH**0104T**	●	1.0625	.445	.354		
	TAWNH**0105T**	●	1.0781	.441	.354		
	TAWNH**0106T**	●	1.0938	.484	.394	TAWS/M/LN0107	TAWS/M/LN2800S32
	TAWNH**0107T**	●	1.1094	.480	.394		
	TAWNH**0108T**	●	1.1250	.476	.394	TAWS/M/LN0110	TAWS/M/LN2900S32
	TAWNH**0109T**	●	1.1406	.476	.394		
	TAWNH**0110T**	●	1.1563	.472	.394		
	TAWNH**0111T**	●	1.1719	.469	.394	TAWS/M/LN0112	TAWS/M/LN3000S32
	TAWNH**0112T**	●	1.1875	.465	.394		





DRILLING

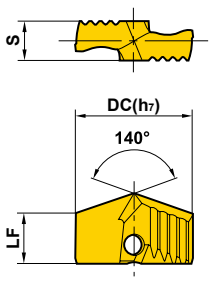
● : Inventory maintained.

TAW

INSERTS

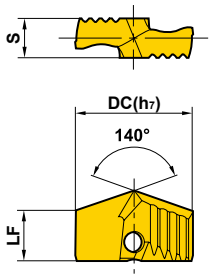
METRIC STANDARD

Geometry	Order Number	Stock	Dimensions (mm)			Applicable Holder	
		VP15TF	DC	LF	S	Inch	Metric
For General Use	TAWNH1400T	▲	14.0	7.6	5.0		
	TAWNH1410T	▲	14.1	7.6	5.0	TAWSNH0036	TAWSNH1400S16
	TAWNH1420T	▲	14.2	7.6	5.0	TAWMNH0036	TAWMNH1400S16
	TAWNH1430T	▲	14.3	7.6	5.0	TAWLNH0036	TAWLNH1400S16
	TAWNH1440T	▲	14.4	7.6	5.0		
	TAWNH1450T	▲	14.5	7.5	5.0		
	TAWNH1460T	▲	14.6	7.5	5.0		
	TAWNH1470T	▲	14.7	7.5	5.0	TAWSNH0037	
	TAWNH1480T	▲	14.8	7.5	5.0	TAWMNH0037	TAWSNH1500S20
	TAWNH1490T	▲	14.9	7.5	5.0	TAWLNH0037	TAWMNH1500S20
	TAWNH1500T	▲	15.0	7.4	5.0	TAWSNH0039	TAWLNH1500S20
	TAWNH1510T	▲	15.1	7.4	5.0	TAWMNH0039	
	TAWNH1520T	▲	15.2	7.4	5.0	TAWLNH0039	
	TAWNH1530T	▲	15.3	7.4	5.0		
	TAWNH1540T	▲	15.4	7.4	5.0		
	TAWNH1550T	▲	15.5	7.9	6.0		
	TAWNH1560T	▲	15.6	7.9	6.0		
	TAWNH1570T	▲	15.7	7.9	6.0		
	TAWNH1580T	▲	15.8	7.9	6.0		
	TAWNH1590T	▲	15.9	7.9	6.0	TAWSN0041	TAWSN1600S20
	TAWNH1600T	▲	16.0	7.8	6.0	TAWMN0041	TAWMN1600S20
	TAWNH1610T	▲	16.1	7.8	6.0	TAWLN0041	TAWLN1600S20
	TAWNH1620T	▲	16.2	7.8	6.0		
	TAWNH1630T	▲	16.3	7.8	6.0		
	TAWNH1640T	▲	16.4	7.8	6.0		
	TAWNH1650T	▲	16.5	7.7	6.0		
	TAWNH1660T	▲	16.6	7.7	6.0		
	TAWNH1670T	▲	16.7	7.7	6.0		
	TAWNH1680T	▲	16.8	7.7	6.0		
	TAWNH1690T	▲	16.9	7.7	6.0	TAWSN0044	TAWSN1700S20
	TAWNH1700T	▲	17.0	7.6	6.0	TAWMN0044	TAWMN1700S20
	TAWNH1710T	▲	17.1	7.6	6.0	TAWLN0044	TAWLN1700S20
	TAWNH1720T	▲	17.2	7.6	6.0		
	TAWNH1730T	▲	17.3	7.6	6.0		
	TAWNH1740T	▲	17.4	7.6	6.0		
	TAWNH1750T	▲	17.5	7.5	6.0		
	TAWNH1760T	▲	17.6	7.5	6.0		
	TAWNH1770T	▲	17.7	7.5	6.0	TAWSN0045	
	TAWNH1780T	▲	17.8	7.5	6.0	TAWMN0045	TAWSN1800S20
	TAWNH1790T	▲	17.9	7.5	6.0	TAWLN0045	TAWMN1800S20
	TAWNH1800T	▲	18.0	7.4	6.0	TAWSN0046	TAWLN1800S20
	TAWNH1810T	▲	18.1	7.4	6.0	TAWMN0046	
	TAWNH1820T	▲	18.2	7.4	6.0	TAWLN0046	
	TAWNH1830T	▲	18.3	7.4	6.0		
	TAWNH1840T	▲	18.4	7.4	6.0		



● : Inventory maintained. ▲ : This item to be discontinued within two years.
<One insert in one case>

Geometry	Order Number	Stock	Dimensions (mm)			Applicable Holder	
		VP15TF	DC	LF	S	Inch	Metric
For General Use	**TAWNH1850T**	●	18.5	9.3	7.0	TAWSN0049 TAWMN0049 TAWLN0049	TAWSN1900S25 TAWMN1900S25 TAWLN1900S25
	TAWNH**1860T**	●	18.6	9.3	7.0		
	TAWNH**1870T**	●	18.7	9.3	7.0		
	TAWNH**1880T**	●	18.8	9.3	7.0		
	TAWNH**1890T**	●	18.9	9.3	7.0		
	TAWNH**1900T**	●	19.0	9.2	7.0		
	TAWNH**1910T**	●	19.1	9.2	7.0		
	TAWNH**1920T**	●	19.2	9.2	7.0		
	TAWNH**1930T**	●	19.3	9.2	7.0		
	TAWNH**1940T**	●	19.4	9.2	7.0		
	TAWNH**1950T**	●	19.5	9.1	7.0	TAWSN0051 TAWMN0051 TAWLN0051	TAWSN2000S25 TAWMN2000S25 TAWLN2000S25
	TAWNH**1960T**	●	19.6	9.1	7.0		
	TAWNH**1970T**	●	19.7	9.1	7.0		
	TAWNH**1980T**	●	19.8	9.1	7.0		
	TAWNH**1990T**	●	19.9	9.1	7.0		
	TAWNH**2000T**	●	20.0	9.0	7.0		
	TAWNH**2050T**	●	20.5	8.9	7.0	TAWSN0054 TAWMN0054 TAWLN0054	TAWSN2100S25 TAWMN2100S25 TAWLN2100S25
	TAWNH**2100T**	●	21.0	8.8	7.0		
	TAWNH**2150T**	●	21.5	10.6	8.0	TAWSN0056 TAWMN0056 TAWLN0056	TAWSN2200S25 TAWMN2200S25 TAWLN2200S25
	TAWNH**2200T**	●	22.0	10.5	8.0		
	TAWNH**2250T**	●	22.5	10.4	8.0	TAWSN0059 TAWMN0059 TAWLN0059	TAWSN2300S25 TAWMN2300S25 TAWLN2300S25
	TAWNH**2300T**	●	23.0	10.3	8.0		
	TAWNH**2350T**	●	23.5	10.2	8.0	TAWSN0061 TAWMN0061 TAWLN0061	TAWSN2400S32 TAWMN2400S32 TAWLN2400S32
	TAWNH**2400T**	●	24.0	10.1	9.0		
	TAWNH**2450T**	●	24.5	11.7	9.0	TAWSN0100 TAWMN0100 TAWLN0100	TAWSN2500S32 TAWMN2500S32 TAWLN2500S32
	TAWNH**2500T**	●	25.0	11.6	9.0		
	TAWNH**2550T**	●	25.5	11.5	9.0	TAWSN0102 TAWMN0102 TAWLN0102	TAWSN2600S32 TAWMN2600S32 TAWLN2600S32
	TAWNH**2600T**	●	26.0	11.4	9.0		
	TAWNH**2650T**	●	26.5	11.3	9.0	TAWSN0105 TAWMN0105 TAWLN0105	TAWSN2700S32 TAWMN2700S32 TAWLN2700S32
	TAWNH**2700T**	●	27.0	11.2	9.0		
	TAWNH**2750T**	●	27.5	12.3	10.0	TAWSN0107 TAWMN0107 TAWLN0107	TAWSN2800S32 TAWMN2800S32 TAWLN2800S32
	TAWNH**2800T**	●	28.0	12.2	10.0		
	TAWNH**2850T**	●	28.5	12.1	10.0	TAWSN0110 TAWMN0110 TAWLN0110	TAWSN2900S32 TAWMN2900S32 TAWLN2900S32
	TAWNH**2900T**	●	29.0	12.0	10.0		
	TAWNH**2950T**	●	29.5	11.9	10.0	TAWSN0112 TAWMN0112 TAWLN0112	TAWSN3000S32 TAWMN3000S32 TAWLN3000S32
	TAWNH**3000T**	●	30.0	11.8	10.0		

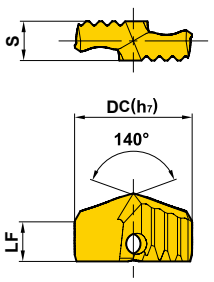


TAW

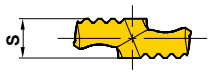
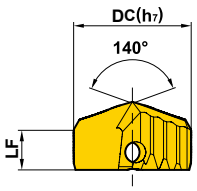
INSERTS

METRIC STANDARD

Geometry	Order Number	Stock	Dimensions (mm)			Applicable Holder	
		DP5010	DC	LF	S	Inch	Metric
For Cast Iron	TAWKH1400TG	▲	14.0	7.1	5.0		
	TAWKH1410TG	▲	14.1	7.1	5.0	TAWSNH0036	TAWSNH1400S16
	TAWKH1420TG	▲	14.2	7.1	5.0	TAWMNH0036	TAWMNH1400S16
	TAWKH1430TG	▲	14.3	7.1	5.0	TAWLNH0036	TAWLNH1400S16
	TAWKH1440TG	▲	14.4	7.1	5.0		
	TAWKH1450TG	▲	14.5	7.0	5.0		
	TAWKH1460TG	▲	14.6	7.0	5.0		
	TAWKH1470TG	▲	14.7	7.0	5.0	TAWSNH0037	
	TAWKH1480TG	▲	14.8	7.0	5.0	TAWMNH0037	
	TAWKH1490TG	▲	14.9	7.0	5.0	TAWLNH0037	TAWSNH1500S20
	TAWKH1500TG	▲	15.0	6.9	5.0	TAWSNH0039	TAWMNH1500S20
	TAWKH1510TG	▲	15.1	6.9	5.0	TAWMNH0039	TAWLNH1500S20
	TAWKH1520TG	▲	15.2	6.9	5.0	TAWLNH0039	
	TAWKH1530TG	▲	15.3	6.9	5.0		
	TAWKH1540TG	▲	15.4	6.9	5.0		
	TAWKH1550TG	▲	15.5	7.3	6.0		
	TAWKH1560TG	▲	15.6	7.3	6.0		
	TAWKH1570TG	▲	15.7	7.3	6.0		
	TAWKH1580TG	▲	15.8	7.3	6.0	TAWSN0041	TAWSN1600S20
	TAWKH1590TG	▲	15.9	7.3	6.0	TAWMN0041	TAWMN1600S20
	TAWKH1600TG	▲	16.0	7.2	6.0	TAWLN0041	TAWLN1600S20
	TAWKH1610TG	▲	16.1	7.2	6.0		
	TAWKH1620TG	▲	16.2	7.2	6.0		
	TAWKH1630TG	▲	16.3	7.2	6.0		
	TAWKH1640TG	▲	16.4	7.2	6.0		
	TAWKH1650TG	▲	16.5	7.1	6.0		
	TAWKH1660TG	▲	16.6	7.1	6.0		
	TAWKH1670TG	▲	16.7	7.1	6.0		
	TAWKH1680TG	▲	16.8	7.1	6.0		
	TAWKH1690TG	▲	16.9	7.1	6.0	TAWSN0044	TAWSN1700S20
	TAWKH1700TG	▲	17.0	7.0	6.0	TAWMN0044	TAWMN1700S20
	TAWKH1710TG	▲	17.1	7.0	6.0	TAWLN0044	TAWLN1700S20
	TAWKH1720TG	▲	17.2	7.0	6.0		
	TAWKH1730TG	▲	17.3	7.0	6.0		
	TAWKH1740TG	▲	17.4	7.0	6.0		
	TAWKH1750TG	▲	17.5	6.8	6.0		
	TAWKH1760TG	▲	17.6	6.8	6.0		
	TAWKH1770TG	▲	17.7	6.8	6.0	TAWSN0045	
	TAWKH1780TG	▲	17.8	6.8	6.0	TAWMN0045	
	TAWKH1790TG	▲	17.9	6.8	6.0	TAWLN0045	TAWSN1800S20
	TAWKH1800TG	▲	18.0	6.8	6.0	TAWSN0046	TAWMN1800S20
	TAWKH1810TG	▲	18.1	6.8	6.0	TAWMN0046	TAWLN1800S20
	TAWKH1820TG	▲	18.2	6.8	6.0	TAWLN0046	
	TAWKH1830TG	▲	18.3	6.8	6.0		
	TAWKH1840TG	▲	18.4	6.8	6.0		



★ : Inventory maintained in Japan. ▲ : This item to be discontinued within two years.

Geometry	Order Number	Stock	Dimensions (mm)			Applicable Holder	
		DP5010	DC	LF	S	Inch	Metric
For Cast Iron	**TAWKH1850TG**	★	18.5	8.6	7.0	TAWSN0049 TAWMN0049 TAWLN0049	TAWSN1900S25 TAWMN1900S25 TAWLN1900S25
	TAWKH**1860TG**	★	18.6	8.6	7.0		
	TAWKH**1870TG**	★	18.7	8.6	7.0		
	TAWKH**1880TG**	★	18.8	8.6	7.0		
	TAWKH**1890TG**	★	18.9	8.6	7.0		
	TAWKH**1900TG**	★	19.0	8.5	7.0		
	TAWKH**1910TG**	★	19.1	8.5	7.0		
	TAWKH**1920TG**	★	19.2	8.5	7.0		
	TAWKH**1930TG**	★	19.3	8.5	7.0		
	TAWKH**1940TG**	★	19.4	8.5	7.0		
	TAWKH**1950TG**	★	19.5	8.4	7.0	TAWSN0051 TAWMN0051 TAWLN0051	TAWSN2000S25 TAWMN2000S25 TAWLN2000S25
	TAWKH**1960TG**	★	19.6	8.4	7.0		
	TAWKH**1970TG**	★	19.7	8.4	7.0		
	TAWKH**1980TG**	★	19.8	8.4	7.0		
	TAWKH**1990TG**	★	19.9	8.4	7.0		
	TAWKH**2000TG**	★	20.0	8.3	7.0		
	TAWKH**2050TG**	★	20.5	8.2	7.0	TAWSN0054 TAWMN0054 TAWLN0054	TAWSN2100S25 TAWMN2100S25 TAWLN2100S25
	TAWKH**2100TG**	★	21.0	8.1	7.0		
	TAWKH**2150TG**	★	21.5	9.8	8.0	TAWSN0056 TAWMN0056 TAWLN0056	TAWSN2200S25 TAWMN2200S25 TAWLN2200S25
	TAWKH**2200TG**	★	22.0	9.7	8.0		
	TAWKH**2250TG**	★	22.5	9.6	8.0	TAWSN0059 TAWMN0059 TAWLN0059	TAWSN2300S25 TAWMN2300S25 TAWLN2300S25
	TAWKH**2300TG**	★	23.0	9.5	8.0		
	TAWKH**2350TG**	★	23.5	9.4	8.0	TAWSN0061 TAWMN0061 TAWLN0061	TAWSN2400S32 TAWMN2400S32 TAWLN2400S32
	TAWKH**2400TG**	★	24.0	9.3	9.0		
	TAWKH**2450TG**	★	24.5	10.8	9.0	TAWSN0100 TAWMN0100 TAWLN0100	TAWSN2500S32 TAWMN2500S32 TAWLN2500S32
	TAWKH**2500TG**	★	25.0	10.7	9.0		
	TAWKH**2550TG**	★	25.5	10.6	9.0	TAWSN0102 TAWMN0102 TAWLN0102	TAWSN2600S32 TAWMN2600S32 TAWLN2600S32
	TAWKH**2600TG**	★	26.0	10.5	9.0		
	TAWKH**2650TG**	★	26.5	10.4	9.0	TAWSN0105 TAWMN0105 TAWLN0105	TAWSN2700S32 TAWMN2700S32 TAWLN2700S32
	TAWKH**2700TG**	★	27.0	10.3	9.0		
	TAWKH**2750TG**	★	27.5	11.3	10.0	TAWSN0107 TAWMN0107 TAWLN0107	TAWSN2800S32 TAWMN2800S32 TAWLN2800S32
	TAWKH**2800TG**	★	28.0	11.2	10.0		
	TAWKH**2850TG**	★	28.5	11.1	10.0	TAWSN0110 TAWMN0110 TAWLN0110	TAWSN2900S32 TAWMN2900S32 TAWLN2900S32
	TAWKH**2900TG**	★	29.0	11.0	10.0		
	TAWKH**2950TG**	★	29.5	10.9	10.0	TAWSN0112 TAWMN0112 TAWLN0112	TAWSN3000S32 TAWMN3000S32 TAWLN3000S32
	TAWKH**3000TG**	★	30.0	10.8	10.0		

BRA
NEW POINT DRILL

- Low thrust due to absence of a chisel edge.
- Easy regrinding.

P | M | K | N | S | H

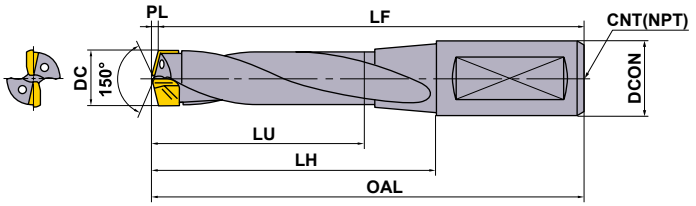
.3125"≤DC≤.3906"	.4063"≤DC≤.7031"	.7188"≤DC≤1.1719"	1.1875"≤DC≤1.2500"
8≤DC≤10mm	10<DC≤18mm	18<DC≤30mm	
$^{0}_{-.00059}$	$^{0}_{-.00071}$	$^{0}_{-.00083}$	$^{0}_{-.00098}$

(inch)

General Use (Carbon Steel, Alloy Steel, Stainless Steel)

L/D=3

Internal Coolant



INCH STANDARD

Helix Angle : 20°

Order Number	Stock	Dimensions (inch)							
	UP20M	DC	LU	LH	OAL	LF	PL	DCON	CNT
BRA0020	●	.3125	.901	1.417	3.292	3.250	.042	.625	1/8
BRA0021	●	.3281	.903	1.419	3.294	3.250	.044	.625	1/8
BRA0022	●	.3438	1.095	1.624	3.952	3.906	.046	.625	1/8
BRA0023	●	.3594	1.097	1.626	3.954	3.906	.048	.625	1/8
BRA0024	●	.3750	1.362	1.815	3.690	3.640	.050	.625	1/8
BRA0025	●	.3906	1.364	1.817	3.692	3.640	.052	.625	1/8
BRA0026	●	.4063	1.366	1.819	3.694	3.640	.054	.625	1/8
BRA0027	●	.4219	1.525	2.025	3.900	3.843	.057	.625	1/8
BRA0028	●	.4375	1.527	2.027	3.902	3.843	.059	.625	1/8
BRA0029	●	.4531	2.045	2.592	4.467	4.406	.061	.625	1/8
BRA0030	●	.4688	2.047	2.594	4.469	4.406	.063	.625	1/8
BRA0031	●	.4844	2.049	2.596	4.471	4.406	.065	.625	1/8
BRA0032	●	.5000	2.207	2.801	4.676	4.609	.067	.625	1/8
BRA0033	●	.5156	2.209	2.803	4.678	4.609	.069	.625	1/8
BRA0034	●	.5313	2.211	2.805	4.680	4.609	.071	.625	1/8
BRA0035	●	.5469	2.370	3.010	4.885	4.812	.073	.625	1/8
BRA0036	●	.5625	2.372	3.012	4.887	4.812	.075	.625	1/8
BRA0037	●	.5781	2.531	3.218	5.093	5.015	.078	.625	1/8
BRA0038	●	.5938	2.533	3.220	5.220	5.140	.080	.750	1/8
BRA0039	●	.6094	2.535	3.222	5.222	5.140	.082	.750	1/8
BRA0040	●	.6250	2.693	3.412	5.412	5.328	.084	.750	1/8
BRA0041	●	.6406	2.695	3.414	5.414	5.328	.086	.750	1/8
BRA0042	●	.6563	2.853	3.634	5.634	5.546	.088	.750	1/8
BRA0043	●	.6719	2.855	3.636	5.636	5.546	.090	.750	1/8
BRA0044	●	.6875	2.857	3.638	5.638	5.546	.092	.750	1/8
BRA0045	●	.7031	3.015	3.828	5.828	5.734	.094	.750	1/8
BRA0046	●	.7188	3.018	3.831	6.081	5.984	.097	1.000	1/8
BRA0047	●	.7344	3.207	4.051	6.301	6.203	.098	1.000	1/8
BRA0048	●	.7500	3.209	4.053	6.303	6.203	.100	1.000	1/8
BRA0049	●	.7656	3.212	4.056	6.306	6.203	.103	1.000	1/8
BRA0050	●	.7813	3.370	4.245	6.495	6.390	.105	1.000	1/8

Order Number	Stock	Dimensions (inch)							
	UP20M	DC	LU	LH	OAL	LF	PL	DCON	CNT
BRA0051	●	.7969	3.372	4.247	6.497	6.390	.107	1.000	1/8
BRA0052	●	.8125	3.530	4.468	6.718	6.609	.109	1.000	1/8
BRA0053	●	.8281	3.532	4.470	6.720	6.609	.111	1.000	1/8
BRA0054	●	.8438	3.534	4.472	6.722	6.609	.113	1.000	1/8
BRA0055	●	.8594	3.693	4.661	6.884	6.769	.115	1.000	1/8
BRA0056	●	.8750	3.695	4.663	6.886	6.769	.117	1.000	1/8
BRA0057	●	.8906	3.853	4.884	7.134	7.015	.119	1.000	1/8
BRA0058	●	.9063	3.855	4.886	7.136	7.015	.121	1.000	1/8
BRA0059	●	.9219	3.858	4.889	7.139	7.015	.124	1.000	1/8
BRA0060	●	.9375	4.016	5.079	7.454	7.328	.126	1.250	1/4
BRA0061	●	.9531	4.018	5.081	7.456	7.328	.128	1.250	1/4
BRA0062	●	.9688	4.176	5.301	7.676	7.546	.130	1.250	1/4
BRA0063	●	.9844	4.178	5.303	7.678	7.546	.132	1.250	1/4
BRA0100	●	1.0000	4.180	5.305	7.680	7.546	.134	1.250	1/4
BRA0101	●	1.0156	4.182	5.495	7.870	7.734	.136	1.250	1/4
BRA0102	●	1.0313	4.341	5.497	7.872	7.734	.138	1.250	1/4
BRA0103	●	1.0469	4.499	5.718	8.093	7.953	.140	1.250	1/4
BRA0104	●	1.0625	4.502	5.721	8.096	7.953	.143	1.250	1/4
BRA0105	●	1.0781	4.504	5.723	8.098	7.953	.145	1.250	1/4
BRA0106	●	1.0938	4.662	5.912	8.287	8.140	.147	1.250	1/4
BRA0107	●	1.1094	4.664	5.914	8.289	8.140	.149	1.250	1/4
BRA0108	●	1.1250	4.822	6.135	8.510	8.359	.151	1.250	1/4
BRA0109	●	1.1406	4.824	6.137	8.512	8.359	.153	1.250	1/4
BRA0110	●	1.1563	4.826	6.139	8.514	8.359	.155	1.250	1/4
BRA0111	●	1.1719	4.985	6.329	8.703	8.546	.157	1.250	1/4
BRA0112	●	1.1875	4.987	6.331	8.705	8.546	.159	1.250	1/4
BRA0113	□	1.2031	5.161	6.942	9.301	9.140	.161	1.500	1/4
BRA0114	□	1.2188	5.163	6.944	9.303	9.140	.163	1.500	1/4
BRA0115	□	1.2344	5.165	6.946	9.305	9.140	.165	1.500	1/4
BRA0116	□	1.2500	5.339	6.776	9.526	9.359	.167	1.500	1/4

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

METRIC STANDARD

Order Number	Stock	Dimensions (mm)						
	UP20M	DC	LU	LH	OAL	LF	PL	DCON
BRA0800S16	★	8.0	24.1	36.1	84.1	83	1.1	16
BRA0850S16	★	8.5	24.1	36.1	84.1	83	1.1	16
BRA0900S16	★	9.0	29.2	41.2	89.2	88	1.2	16
BRA0950S16	★	9.5	29.3	41.3	89.3	88	1.3	16
BRA1000S16	★	10.0	36.3	46.3	94.3	93	1.3	16
BRA1050S16	★	10.5	36.4	46.4	94.4	93	1.4	16
BRA1100S16	★	11.0	41.5	52.5	100.5	99	1.5	16
BRA1150S16	★	11.5	41.5	52.5	100.5	99	1.5	16
BRA1200S16	★	12.0	45.6	57.6	105.6	104	1.6	16
BRA1250S16	★	12.5	45.7	57.7	105.7	104	1.7	16
BRA1300S16	★	13.0	49.7	62.7	110.7	109	1.7	16
BRA1350S16	★	13.5	49.8	62.8	110.8	109	1.8	16
BRA1400S16	★	14.0	53.9	67.9	115.9	114	1.9	16
BRA1450S16	★	14.5	53.9	67.9	115.9	114	1.9	16
BRA1500S20	★	15.0	63.0	78.0	128.0	126	2.0	20
BRA1550S20	★	15.5	63.1	78.1	128.1	126	2.1	20
BRA1600S20	★	16.0	67.1	83.1	133.1	131	2.1	20
BRA1650S20	★	16.5	67.2	83.2	133.2	131	2.2	20
BRA1700S20	★	17.0	71.3	88.3	138.3	136	2.3	20
BRA1750S20	★	17.5	71.3	88.3	138.3	136	2.3	20
BRA1800S20	★	18.0	75.4	93.4	143.4	141	2.4	20
BRA1850S20	★	18.5	75.5	93.5	143.5	141	2.5	20
BRA1900S25	★	19.0	79.5	103.5	159.5	157	2.5	25

Order Number	Stock	Dimensions (mm)						
	UP20M	DC	LU	LH	OAL	LF	PL	DCON
BRA1950S25	★	19.5	79.6	103.6	159.6	157	2.6	25
BRA2000S25	★	20.0	83.7	103.7	159.7	157	2.7	25
BRA2050S25	★	20.5	83.7	103.7	159.7	157	2.7	25
BRA2100S25	★	21.0	82.8	103.8	159.8	157	2.8	25
BRA2150S25	★	21.5	82.9	103.9	159.9	157	2.9	25
BRA2200S25	★	22.0	86.9	108.9	164.9	162	2.9	25
BRA2250S25	★	22.5	87.0	109.0	165.0	162	3.0	25
BRA2300S25	★	23.0	86.1	109.1	165.1	162	3.1	25
BRA2350S25	★	23.5	86.1	109.1	165.1	162	3.1	25
BRA2400S32	★	24.0	90.2	114.2	174.2	171	3.2	32
BRA2450S32	★	24.5	90.3	114.3	174.3	171	3.3	32
BRA2500S32	★	25.0	89.3	114.3	174.3	171	3.3	32
BRA2550S32	★	25.5	89.4	114.4	174.4	171	3.4	32
BRA2600S32	★	26.0	93.5	119.5	179.5	176	3.5	32
BRA2650S32	★	26.5	93.6	119.6	179.6	176	3.6	32
BRA2700S32	★	27.0	92.6	119.6	179.6	176	3.6	32
BRA2750S32	★	27.5	92.7	119.7	179.7	176	3.7	32
BRA2800S32	★	28.0	96.8	124.8	184.8	181	3.8	32
BRA2850S32	★	28.5	96.8	124.8	184.8	181	3.8	32
BRA2900S32	★	29.0	100.9	129.9	189.9	186	3.9	32
BRA2950S32	★	29.5	101.0	130.0	190.0	186	4.0	32
BRA3000S32	★	30.0	100.0	130.0	190.0	186	4.0	32

RECOMMENDED CUTTING CONDITIONS

	Work Material	Hardness	Drill Dia. ϕ.3125" – ϕ.5156" ϕ8.0 – ϕ13.0mm		Drill Dia. ϕ.5313" – ϕ.7031" ϕ13.5 – ϕ18.0mm		Drill Dia. ≥ϕ.7031" ≥ϕ18.5mm	
			Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)
P	Mild Steel	≤180HB	180 (130—210)	.010 (.008—.012)	210 (165—245)	.012 (.010—.014)	245 (195—280)	.012 (.010—.014)
P	Carbon Steel Alloy Steel	180—280HB	165 (115—195)	.010 (.008—.012)	195 (145—230)	.012 (.010—.014)	230 (180—260)	.012 (.010—.014)
P	Carbon Steel Alloy Steel	280—350HB	130 (100—165)	.010 (.008—.012)	165 (130—195)	.010 (.008—.012)	180 (145—210)	.011 (.008—.012)
M	Stainless Steel	≤200HB	100 (65—130)	.010 (.008—.011)	115 (80—145)	.011 (.008—.012)	130 (100—165)	.012 (.010—.014)
K	Cast Iron	Tensile Strength ≤350MPa	195 (130—230)	.012 (.010—.014)	230 (165—260)	.014 (.012—.016)	260 (195—295)	.016 (.014—.018)
K	Ductile Cast Iron	Tensile Strength ≤450MPa	180 (130—210)	.011 (.008—.012)	195 (145—230)	.012 (.010—.014)	230 (180—260)	.012 (.010—.014)
S	Heat Resistant Alloy	—	50 (30—65)	.004 (.002—.005)	65 (50—80)	.006 (.004—.008)	80 (65—100)	.006 (.004—.008)
S	Titanium Alloy	—	65 (30—80)	.006 (.004—.007)	100 (65—115)	.008 (.006—.010)	115 (100—130)	.010 (.008—.012)

(Note) Above conditions are for general cutting.
The cutting conditions need to be modified depending on power, rigidity of the machine and workpiece shape.

CUTTING FLUID

- Water-soluble cutting fluid containing large amount of E.P. additives.

REGRINDING PROCEDURES

- **Contact your local Mitsubishi Carbide Representative or Distributor for authorized regrinding facilities information.**

- **Regrinding**

Grind flank by moving table back and forth as shown in Fig. 1-(At the end of grinding, be sure to spark out and maintain lip heights within .001 inch.)

- **Honing**

Honing has great influence on tool life and the accuracy of finished surface.
Be sure to hone the entire length (including radius) of cutting edge at each regrind.
- For honing shape, refer to Fig. 2, Standard hone shape.
- For honing use diamond file produced by Mitsubishi Materials Corp.

Fig. 1

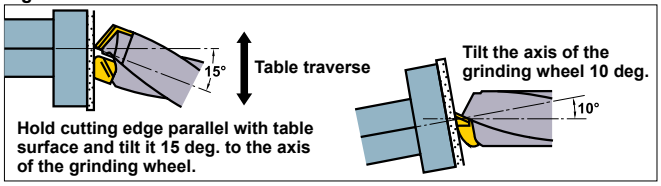
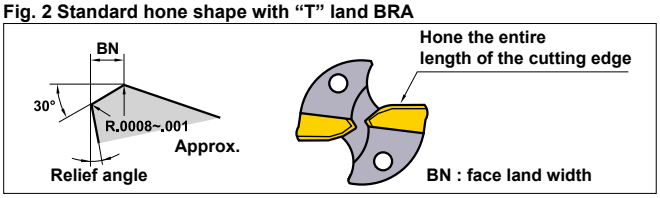


Fig. 2 Standard hone shape with "T" land BRA



Work Material	BN (inch)	Work Material	W (inch)
Mild Steel Carbon Steel Alloy Steel	.006—.008	Stainless steel Titanium alloy	.002—.004
		Cast iron	.001—.003

- **Diamond file** (produced by Mitsubishi Materials Corp.)

Roughing File : T-1-140 (#140)
Finishing File : T-0-400 (#400)
Ultra-Fine Finishing File : T-0-1500 (#1500)

DRILLING (BRAZED TYPE)

BRS

- Excellent cutting sharpness and chip discharge due to high rake type insert.
- High efficiency, high accuracy machining.
- Suitable for stainless steel and mild steel cutting. Possible for general steel cutting. (l/d=3)

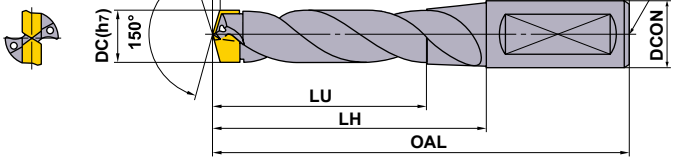
P | M | K | N | S | H

.5000"≤DC≤.7031"	.7188"≤DC≤1.1719"	DC=1.1875"
14<DC≤18mm	18<DC≤30mm	
$^{0}_{-.00071}$	$^{0}_{-.00083}$	$^{0}_{-.00098}$

(inch)

L/D=3

Internal Coolant



Helix Angle : 30°

INCH STANDARD

Order Number	Stock	Dimensions (inch)							
	UP20M	DC	LU	LH	OAL	LF	PL	DCON	CNT
BRS0032	●	.5000	2.207	2.801	4.676	4.609	.067	.625	1/8
BRS0033	●	.5156	2.209	2.803	4.678	4.609	.069	.625	1/8
BRS0034	●	.5313	2.211	2.805	4.680	4.609	.071	.625	1/8
BRS0035	●	.5469	2.370	3.010	4.885	4.812	.073	.625	1/8
BRS0036	●	.5625	2.372	3.012	4.887	4.812	.075	.625	1/8
BRS0037	●	.5781	2.531	3.218	5.093	5.015	.078	.625	1/8
BRS0038	●	.5938	2.533	3.220	5.220	5.140	.080	.750	1/8
BRS0039	●	.6094	2.535	3.222	5.222	5.140	.082	.750	1/8
BRS0040	●	.6250	2.693	3.412	5.412	5.328	.084	.750	1/8
BRS0041	●	.6406	2.695	3.414	5.414	5.328	.086	.750	1/8
BRS0042	●	.6563	2.853	3.634	5.634	5.546	.088	.750	1/8
BRS0043	●	.6719	2.855	3.636	5.636	5.546	.090	.750	1/8
BRS0044	●	.6875	2.857	3.638	5.638	5.546	.092	.750	1/8
BRS0045	●	.7031	3.015	3.828	5.828	5.734	.094	.750	1/8
BRS0046	●	.7188	3.018	3.831	6.081	5.984	.097	1.000	1/8
BRS0047	●	.7344	3.207	4.051	6.301	6.203	.098	1.000	1/8
BRS0048	●	.7500	3.209	4.053	6.303	6.203	.100	1.000	1/8
BRS0049	●	.7656	3.212	4.056	6.306	6.203	.103	1.000	1/8
BRS0050	●	.7813	3.370	4.245	6.495	6.390	.105	1.000	1/8
BRS0051	●	.7969	3.372	4.247	6.497	6.390	.107	1.000	1/8
BRS0052	●	.8125	3.530	4.468	6.718	6.609	.109	1.000	1/8
BRS0053	●	.8281	3.532	4.470	6.720	6.609	.111	1.000	1/8
BRS0054	●	.8438	3.534	4.472	6.722	6.609	.113	1.000	1/8

Order Number	Stock	Dimensions (inch)							
	UP20M	DC	LU	LH	OAL	LF	PL	DCON	CNT
BRS0055	●	.8594	3.693	4.661	6.911	6.796	.115	1.000	1/8
BRS0056	●	.8750	3.695	4.663	6.913	6.796	.117	1.000	1/8
BRS0057	●	.8906	3.853	4.884	7.134	7.015	.119	1.000	1/8
BRS0058	●	.9063	3.855	4.886	7.136	7.015	.121	1.000	1/8
BRS0059	●	.9219	3.858	4.889	7.139	7.015	.124	1.000	1/8
BRS0060	●	.9375	4.016	5.079	7.454	7.328	.126	1.250	1/4
BRS0061	●	.9531	4.018	5.081	7.456	7.328	.128	1.250	1/4
BRS0062	●	.9688	4.176	5.301	7.676	7.546	.130	1.250	1/4
BRS0063	●	.9844	4.178	5.303	7.678	7.546	.132	1.250	1/4
BRS0100	●	1.0000	4.180	5.305	7.680	7.546	.134	1.250	1/4
BRS0101	●	1.0156	4.339	5.495	7.870	7.734	.136	1.250	1/4
BRS0102	●	1.0313	4.341	5.497	7.872	7.734	.138	1.250	1/4
BRS0103	●	1.0469	4.499	5.718	8.093	7.953	.140	1.250	1/4
BRS0104	●	1.0625	4.502	5.721	8.096	7.953	.143	1.250	1/4
BRS0105	●	1.0781	4.504	5.723	8.098	7.953	.145	1.250	1/4
BRS0106	●	1.0938	4.662	5.912	8.287	8.140	.147	1.250	1/4
BRS0107	●	1.1094	4.664	5.914	8.289	8.140	.149	1.250	1/4
BRS0108	●	1.1250	4.822	6.135	8.510	8.359	.151	1.250	1/4
BRS0109	●	1.1406	4.824	6.137	8.512	8.359	.153	1.250	1/4
BRS0110	●	1.1563	4.826	6.139	8.514	8.359	.155	1.250	1/4
BRS0111	●	1.1719	4.985	6.329	8.703	8.546	.157	1.250	1/4
BRS0112	●	1.1875	4.987	6.331	8.705	8.546	.159	1.250	1/4

● : Inventory maintained. ★ : Inventory maintained in Japan.

METRIC STANDARD

Order Number	Stock	Dimensions (mm)						
	UP20M	DC	LU	LH	OAL	LF	PL	DCON
BRS1400S16	★	14.0	53.9	67.9	115.9	114	1.9	16
BRS1450S16	★	14.5	53.9	67.9	115.9	114	1.9	16
BRS1500S20	★	15.0	63.0	78.0	128.0	126	2.0	20
BRS1550S20	★	15.5	63.1	78.1	128.1	126	2.1	20
BRS1600S20	★	16.0	67.1	83.1	133.1	131	2.1	20
BRS1650S20	★	16.5	67.2	83.2	133.2	131	2.2	20
BRS1700S20	★	17.0	71.3	88.3	138.3	136	2.3	20
BRS1750S20	★	17.5	71.3	88.3	138.3	136	2.3	20
BRS1800S20	★	18.0	75.4	93.4	143.4	141	2.4	20
BRS1850S20	★	18.5	75.5	93.5	143.5	141	2.5	20
BRS1900S25	★	19.0	79.5	103.5	159.5	157	2.5	25
BRS1950S25	★	19.5	79.6	103.6	159.6	157	2.6	25
BRS2000S25	★	20.0	83.7	103.7	159.7	157	2.7	25
BRS2050S25	★	20.5	83.7	103.7	159.7	157	2.7	25
BRS2100S25	★	21.0	82.8	103.8	159.8	157	2.8	25
BRS2150S25	★	21.5	82.9	103.9	159.9	157	2.9	25
BRS2200S25	★	22.0	86.9	108.9	164.9	162	2.9	25

Order Number	Stock	Dimensions (mm)						
	UP20M	DC	LU	LH	OAL	LF	PL	DCON
BRS2250S25	★	22.5	87.0	109.0	165.0	162	3.0	25
BRS2300S25	★	23.0	86.1	109.1	165.1	162	3.1	25
BRS2350S25	★	23.5	86.1	109.1	165.1	162	3.1	25
BRS2400S32	★	24.0	90.2	114.2	174.2	171	3.2	32
BRS2450S32	★	24.5	90.3	114.3	174.3	171	3.3	32
BRS2500S32	★	25.0	89.3	114.3	174.3	171	3.3	32
BRS2550S32	★	25.5	89.4	114.4	174.4	171	3.4	32
BRS2600S32	★	26.0	93.5	119.5	179.5	176	3.5	32
BRS2650S32	★	26.5	93.6	119.6	179.6	176	3.6	32
BRS2700S32	★	27.0	92.6	119.6	179.6	176	3.6	32
BRS2750S32	★	27.5	92.7	119.7	179.7	176	3.7	32
BRS2800S32	★	28.0	96.8	124.8	184.8	181	3.8	32
BRS2850S32	★	28.5	96.8	124.8	184.8	181	3.8	32
BRS2900S32	★	29.0	100.9	129.9	189.9	186	3.9	32
BRS2950S32	★	29.5	101.0	130.0	190.0	186	4.0	32
BRS3000S32	★	30.0	100.0	130.0	190.0	186	4.0	32

RECOMMENDED CUTTING CONDITIONS

Work Material		DC	ϕ.5000" – ϕ.7813" ϕ14.0 – ϕ20.0mm		ϕ.7969" – ϕ1.1875" ϕ20.5 – ϕ30.0mm	
		Hardness	Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)
P	Mild Steel	≤180HB	210 (165—245)	.012 (.008—.016)	230 (180—280)	.014 (.008—.018)
P	Carbon Steel Alloy Steel	180—280HB	195 (145—230)	.010 (.004—.014)	210 (145—260)	.012 (.006—.014)
P	Carbon Steel Alloy Steel	280—350HB	180 (130—210)	.008 (.006—.014)	195 (145—230)	. 010 (.006—.014)
M	Stainless Steel (Austenitic)	≤200HB	230 (165—295)	.012 (.008—.016)	260 (195—330)	.012 (.008—.016)
K	Gray Cast Iron	Tensile Strength ≤350MPa	245 (195—360)	.012 (.008—.016)	260 (195—330)	.014 (.010—.020)
K	Ductile Cast Iron	Tensile Strength ≤450MPa	245 (195—330)	.012 (.008—.016)	260 (195—330)	.014 (.008—.018)
K	Ductile Cast Iron	Tensile Strength 500—800MPa	230 (180—295)	.010 (.006—.014)	245 (180—295)	.012 (.006—.016)

(Note) Above conditions are for general cutting.
The cutting conditions need to be modified depending on power, rigidity of the machine and workpiece shape.

Memo