MVX + MINI MVX

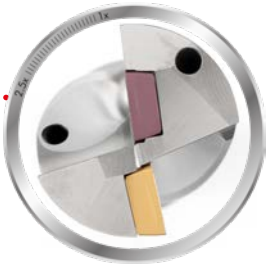
INDEXABLE INSERT DRILL
THE LATEST TECHNOLOGY PROVIDING
A HIGHLY RIGID BODY

MITSUBISHI MATERIALS

MVX + MINI MVX

INDEXABLE DRILL

4 CUTTING EDGES



Economical 4-corner insert.

VARIOUS INSERT TYPES

For a wide range of work materials and applications.

EXCELLENT SURFACE FINISHES

A wiper type geometry for the peripheral cutting edge achieves excellent wall accuracy.

Wiper

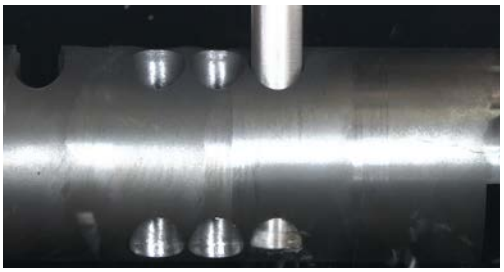
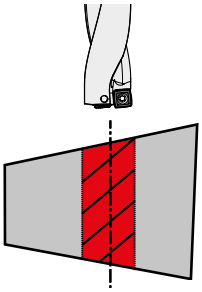
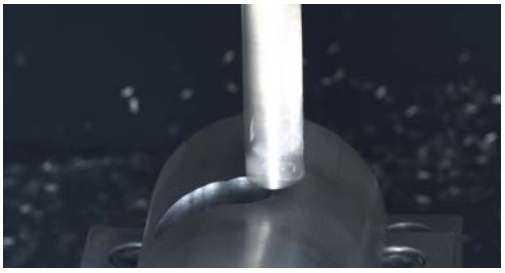
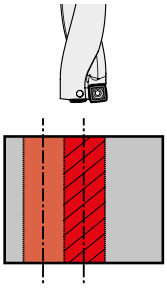
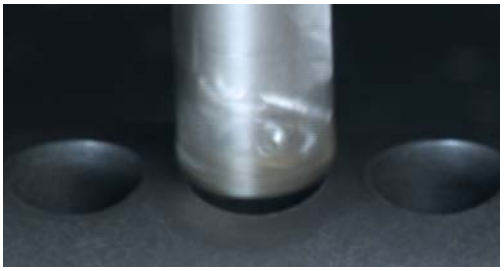
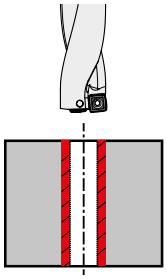
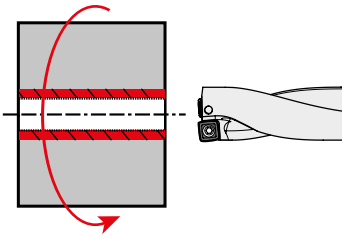
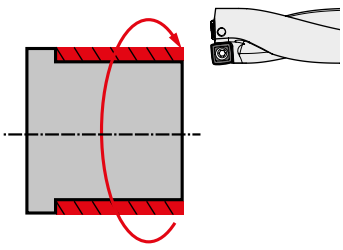
IDEAL COMBINATION OF CVD AND PVD INSERTS

A highly wear resistant CVD coated insert is used for the peripheral edge and a PVD coated insert is used for the inner position providing extra stability.

MINI MVX: DRILLING DEPTH ~ LD 5

High rigidity geometry and optimised insert positioning drastically reduces body deformation and decreases vibration.

SPECIAL APPLICATION EXAMPLES

Application examples	Cutting mode
DRILLING ON A SLOPE	
	
OVERLAPPING HOLES	
	
BORING	
	
INTERNAL TURNING	
	
EXTERNAL TURNING	
	

For special applications only use tool lengths up to DCx4.

INSERT BREAKER

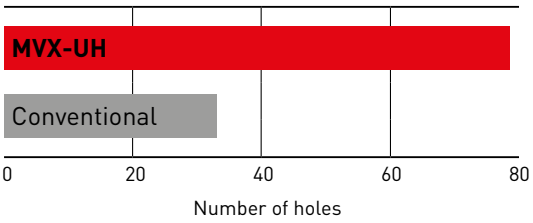
UH BREAKER FOR HARDENED STEEL

Strengthened cutting edge for drilling hardened steel up to 45 HRC.

CUTTING PERFORMANCE

Drill	MVX1700X3F20
Insert	Outer MC1020-UM
	Inner DP8020-UH
Work material	DIN X40CrMoV51 (45HRC)
Vc (m/min)	50
f (mm/rev)	0.08
ap (mm)	30 (Through hole)

Comparison of number of holes drilled



UN BREAKER FOR ALUMINIUM ALLOYS

The UN chipbreaker designed with a sharp, ground edge provides outstanding chip disposal. Aluminium welding is also prevented by the smooth rake surfaces.

CUTTING PERFORMANCE

Drill	MVX1700X5F20
Insert	Outer TF15-UN
	Inner TF15-UN
Work material	JIS ADC12
Vc (m/min)	400
f (mm/rev)	0.05
ap (mm)	40 (Blind hole)

Comparison of surface finish quality

UN Breaker (TF15)

Conventional

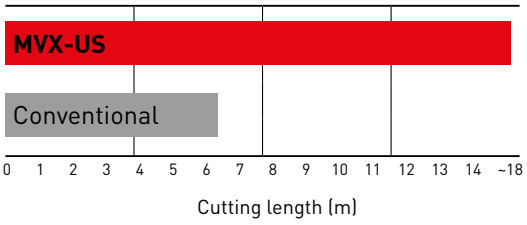
US BREAKER FOR STAINLESS STEEL

Specially designed for the inner edge. Excellent fracture and welding resistance.

CUTTING PERFORMANCE

Drill	MVX3000X3F32
Insert	Outer MC1020-UM
	Inner VP15TF-US
Work material	DIN X5CrNi18-10
Vc (m/min)	120
f (mm/rev)	0.12
ap (mm)	50 (Through hole)

Comparison of cutting length



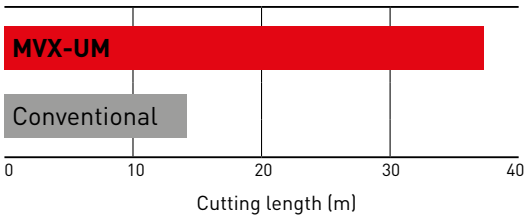
UM BREAKER FOR MEDIUM AND HIGH FEED RATES

All-round breaker for steel, stainless steel, cast iron and hardened steel.

CUTTING PERFORMANCE

Drill	MVX1900X3F25
Insert	Outer MC1020-UM
	Inner VP15TF-UM
Work material	DIN C50
Vc (m/min)	220
f (mm/rev)	0.1
ap (mm)	50 (Through hole)

Comparison of cutting length



INSERT SELECTION CRITERIA

The peripheral cutting speed is naturally slower towards the centre of the drill and chip welding easily occurs. Below are some important points that will help to select the correct insert.

	1st Recommendation		Outer insert fractures	
	Outer	**Inner**	**Outer**	**Inner**
P	MC1020  UM	VP15TF  UM	VP15TF  UM	VP15TF  UM
M	MC1020  UM	VP15TF  US	VP15TF  UM	VP15TF  US
K	MC5020  UM	VP15TF  UM	VP15TF  UM	VP15TF  UM
N	TF15  UN	TF15  UN		
H	MC1020  UM	DP8020  UH	VP15TF  UM	DP8020  UH

FEATURES OF GRADE

MC1020

MC1020 is a CVD coated grade for higher cutting speeds. The main properties are high wear and excellent plastic deformation resistance for reliability.

DP8020

With the combination of a durable, special carbide substrate and high-hardness Ti-Al-Si coating, DP8020 is a PVD coated carbide grade suitable for hardened steel (45HRC or lower) and for preventing insert fracturing when machining steel and cast iron.

MC5020

MC5020 is a CVD coated grade suitable for drilling cast iron. It has excellent abrasion resistance and gives long tool life by controlling chipping and thermal cracking that can occur when drilling nodular cast iron.

VP15TF

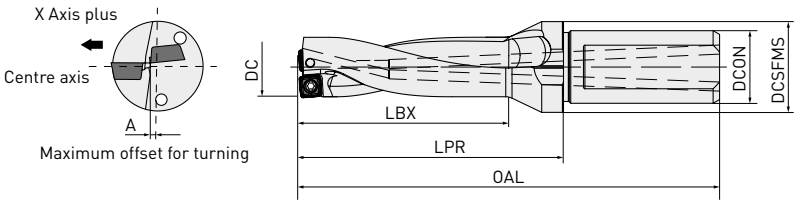
VP15TF is a PVD coated grade suitable for a wide range of applications. The micro-grain substrate and Miracle coating provide excellent welding resistance.

TF15

TF15 is a micro-grain, uncoated carbide with a sharp cutting edge geometry for drilling aluminium alloys.

MINI MVX

P M K

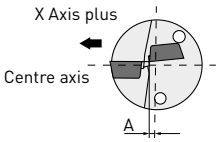


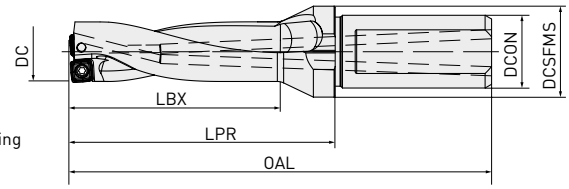
Order number	DC	L x DC	Stock	LBX	LPR	OAL	DCON	DCSFMS	A	Insert
MVX1400X2F20	14.0	2	●	35	50	93	20	25	0.6	SO◌X05
MVX1400X3F20		3	●	49	64	107	20	25	0.6	
MVX1400X4F20		4	●	63	78	121	20	25	0.6	
MVX1400X5F20		5	●	77	92	135	20	25	0.6	
MVX1450X2F20	14.5	2	●	36	51	94	20	25	0.5	SO◌X05
MVX1450X3F20		3	●	50.5	65.5	108.5	20	25	0.5	
MVX1450X4F20		4	●	65	80	123	20	25	0.5	
MVX1450X5F20		5	●	79.5	94.5	137.5	20	25	0.5	
MVX1500X2F20	15.0	2	●	37	52	95	20	25	0.35	SO◌X05
MVX1500X3F20		3	●	52	67	110	20	25	0.35	
MVX1500X4F20		4	●	67	82	125	20	25	0.35	
MVX1500X5F20		5	●	82	97	140	20	25	0.35	
MVX1550X2F20	15.5	2	●	38	53	96	20	25	0.3	SO◌X05
MVX1550X3F20		3	●	53.5	68.5	111.5	20	25	0.3	
MVX1550X4F20		4	●	69	84	127	20	25	0.3	
MVX1550X5F20		5	●	84.5	99.5	142.5	20	25	0.3	
MVX1600X2F20	16.0	2	●	39	54	97	20	25	0.25	SO◌X05
MVX1600X3F20		3	●	55	70	113	20	25	0.25	
MVX1600X4F20		4	●	71	86	129	20	25	0.25	
MVX1600X5F20		5	●	87	102	145	20	25	0.25	
MVX1650X2F20	16.5	2	●	40	55	98	20	25	0.25	SO◌X05
MVX1650X3F20		3	●	56.5	71.5	114.5	20	25	0.25	
MVX1650X4F20		4	●	73	88	131	20	25	0.25	
MVX1650X5F20		5	●	89.5	104.5	147.5	20	25	0.25	

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

MVX

P M K N H





Order number	DC	L x DC	Stock	LBX	LPR	OAL	DCON	DCSFMS	A	Insert
MVX1700X2F20	17.0	2	●	41	56	99	20	25	0.5	SO◌X06
MVX1700X3F20		3	●	58	73	116	20	25	0.5	
MVX1700X4F20		4	●	75	90	133	20	25	0.5	
MVX1700X5F20		5	●	92	107	150	20	25	0.5	
MVX1700X6F20		6	●	109	124	167	20	25	0.5	
MVX1750X2F25	17.5	2	●	42	62	112	25	32	0.45	SO◌X06
MVX1750X3F25		3	●	59.5	79.5	129.5	25	32	0.45	
MVX1750X4F25		4	●	77	97	147	25	32	0.45	
MVX1750X5F25		5	●	94.5	114.5	164.5	25	32	0.45	
MVX1750X6F25		6	●	112	132	182	25	32	0.45	
MVX1800X2F25	18.0	2	●	43	63	113	25	32	0.4	SO◌X06
MVX1800X3F25		3	●	61	81	131	25	32	0.4	
MVX1800X4F25		4	●	79	99	149	25	32	0.4	
MVX1800X5F25		5	●	97	117	167	25	32	0.4	
MVX1800X6F25		6	●	115	135	185	25	32	0.4	
MVX1850X2F25	18.5	2	●	44	64	114	25	32	0.35	SO◌X06
MVX1850X3F25		3	●	62.5	82.5	132.5	25	32	0.35	
MVX1850X4F25		4	●	81	101	151	25	32	0.35	
MVX1850X5F25		5	●	99.5	119.5	169.5	25	32	0.35	
MVX1850X6F25		6	●	118	138	188	25	32	0.35	
MVX1900X2F25	19.0	2	●	45	65	115	25	32	0.3	SO◌X06
MVX1900X3F25		3	●	64	84	134	25	32	0.3	
MVX1900X4F25		4	●	83	103	153	25	32	0.3	
MVX1900X5F25		5	●	102	122	172	25	32	0.3	
MVX1900X6F25		6	●	121	141	191	25	32	0.3	
MVX1950X2F25	19.5	2	●	46	66	116	25	32	0.25	SO◌X06
MVX1950X3F25		3	●	65.5	85.5	135.5	25	32	0.25	
MVX1950X4F25		4	●	85	105	155	25	32	0.25	
MVX1950X5F25		5	●	104.5	124.5	174.5	25	32	0.25	
MVX1950X6F25		6	●	124	144	194	25	32	0.25	
MVX2000X2F25	20.0	2	●	47	67	117	25	32	0.6	SO◌X07
MVX2000X3F25		3	●	67	87	137	25	32	0.6	
MVX2000X4F25		4	●	87	107	157	25	32	0.6	
MVX2000X5F25		5	●	107	127	177	25	32	0.6	
MVX2000X6F25		6	●	127	147	197	25	32	0.6	
MVX2050X2F25	20.5	2	●	48	68	118	25	32	0.55	SO◌X07
MVX2050X3F25		3	●	68.5	88.5	138.5	25	32	0.55	

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MVX

Order number	DC	L x DC	Stock	LBX	LPR	OAL	DCON	DCSFMS	A	Insert
MVX2100X2F25	21.0	2	●	49	69	119	25	32	0.5	SO◌X07
MVX2100X3F25		3	●	70	90	140	25	32	0.5	
MVX2100X4F25		4	●	91	111	161	25	32	0.5	
MVX2100X5F25		5	●	112	132	182	25	32	0.5	
MVX2100X6F25		6	●	133	153	203	25	32	0.5	
MVX2150X2F25	21.5	2	●	50	70	120	25	32	0.45	SO◌X07
MVX2150X3F25		3	●	71.5	91.5	141.5	25	32	0.45	
MVX2200X2F25	22.0	2	●	51	71	121	25	32	0.4	SO◌X07
MVX2200X3F25		3	●	73	93	143	25	32	0.4	
MVX2200X4F25		4	●	95	115	165	25	32	0.4	
MVX2200X5F25		5	●	117	137	187	25	32	0.4	
MVX2200X6F25		6	●	139	159	209	25	32	0.4	
MVX2250X2F25	22.5	2	●	52	72	122	25	32	0.35	SO◌X07
MVX2250X3F25		3	●	74.5	94.5	144.5	25	32	0.35	
MVX2300X2F25	23.0	2	●	53	73	123	25	32	0.8	SO◌X08
MVX2300X3F25		3	●	76	96	146	25	32	0.8	
MVX2300X4F25		4	●	99	119	169	25	32	0.8	
MVX2300X5F25		5	●	122	142	192	25	32	0.8	
MVX2300X6F25		6	●	145	165	215	25	32	0.8	
MVX2350X2F25	23.5	2	●	54	74	124	25	32	0.75	SO◌X08
MVX2350X3F25		3	●	77.5	97.5	147.5	25	32	0.75	
MVX2400X2F25	24.0	2	●	55	75	125	25	32	0.7	SO◌X08
MVX2400X3F25		3	●	79	99	149	25	32	0.7	
MVX2400X4F25		4	●	103	123	173	25	32	0.7	
MVX2400X5F25		5	●	127	147	197	25	32	0.7	
MVX2400X6F25		6	●	151	171	221	25	32	0.7	
MVX2450X2F25	24.5	2	●	56	76	126	25	32	0.65	
MVX2450X3F25		3	●	80.5	100.5	150.5	25	32	0.65	
MVX2500X2F25	25.0	2	●	57	77	127	25	32	0.6	SO◌X08
MVX2500X3F25		3	●	82	102	152	25	32	0.6	
MVX2500X4F25		4	●	107	127	177	25	32	0.6	
MVX2500X5F25		5	●	132	152	202	25	32	0.6	
MVX2500X6F25		6	●	157	177	227	25	32	0.6	
MVX2550X2F25	25.5	2	●	58	78	128	25	32	0.6	SO◌X08
MVX2550X3F25		3	●	83.5	103.5	153.5	25	32	0.6	
MVX2600X2F32	26.0	2	●	59	79	134	32	42	0.5	SO◌X08
MVX2600X3F32		3	●	85	105	160	32	42	0.5	
MVX2600X4F32		4	●	111	131	186	32	42	0.5	
MVX2600X5F32		5	●	137	157	212	32	42	0.5	
MVX2600X6F32		6	●	163	183	238	32	42	0.5	
MVX2650X2F32	26.5	2	●	60	80	135	32	42	0.5	SO◌X08
MVX2650X3F32		3	●	86.5	106.5	161.5	32	42	0.5	
MVX2700X2F32	27.0	2	●	61	81	136	32	42	0.45	SO◌X08
MVX2700X3F32		3	●	88	108	163	32	42	0.45	
MVX2700X4F32		4	●	115	135	190	32	42	0.45	
MVX2700X5F32		5	●	142	162	217	32	42	0.45	
MVX2700X6F32		6	●	169	189	244	32	42	0.45	
MVX2750X2F32	27.5	2	●	62	82	137	32	42	0.4	SO◌X08
MVX2750X3F32		3	●	89.5	109.5	164.5	32	42	0.4	

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MVX

Order number	DC	L x DC	Stock	LBX	LPR	OAL	DCON	DCSFMS	A	Insert
MVX2800X2F32	28.0	2	●	63	83	138	32	42	0.85	SO○X09
MVX2800X3F32		3	●	91	111	166	32	42	0.85	
MVX2800X4F32		4	●	119	139	194	32	42	0.85	
MVX2800X5F32		5	●	147	167	222	32	42	0.85	
MVX2800X6F32		6	●	175	195	250	32	42	0.85	
MVX2850X2F32	28.5	2	●	64	84	139	32	42	0.8	SO○X09
MVX2850X3F32		3	●	92.5	112.5	167.5	32	42	0.8	
MVX2900X2F32	29.0	2	●	65	85	140	32	42	0.75	SO○X09
MVX2900X3F32		3	●	94	114	169	32	42	0.75	
MVX2900X4F32		4	●	123	143	198	32	42	0.75	
MVX2900X5F32		5	●	152	172	227	32	42	0.75	
MVX2900X6F32		6	●	181	201	256	32	42	0.75	
MVX2950X2F32	29.5	2	●	66	86	141	32	42	0.7	SO○X09
MVX2950X3F32		3	●	95.5	115.5	170.5	32	42	0.7	
MVX3000X2F32	30.0	2	●	67	87	142	32	42	0.65	SO○X09
MVX3000X3F32		3	●	97	117	172	32	42	0.65	
MVX3000X4F32		4	●	127	147	202	32	42	0.65	
MVX3000X5F32		5	●	157	177	232	32	42	0.65	
MVX3000X6F32		6	●	187	207	262	32	42	0.65	
MVX3050X3F32	30.5	3	●	98.5	118.5	173.5	32	42	0.6	SO○X09
MVX3100X2F40	31.0	2	●	69	89	154	40	50	0.55	SO○X09
MVX3100X3F40		3	●	100	120	185	40	50	0.55	
MVX3100X4F40		4	●	131	151	216	40	50	0.55	
MVX3100X5F40		5	●	162	182	247	40	50	0.55	
MVX3100X6F40		6	●	193	213	278	40	50	0.55	
MVX3150X3F40	31.5	3	●	101.5	121.5	186.5	40	50	0.55	SO○X09
MVX3200X2F40	32.0	2	●	71	91	156	40	50	0.45	SO○X09
MVX3200X3F40		3	●	103	123	188	40	50	0.45	
MVX3200X4F40		4	●	135	155	220	40	50	0.45	
MVX3200X5F40		5	●	167	187	252	40	50	0.45	
MVX3200X6F40		6	●	199	219	284	40	50	0.45	
MVX3250X3F40	32.5	3	●	104.5	124.5	189.5	40	50	0.45	SO○X09
MVX3300X2F40	33.0	2	●	73	93	158	40	50	0.4	SO○X09
MVX3300X3F40		3	●	106	126	191	40	50	0.4	
MVX3300X4F40		4	●	139	159	224	40	50	0.4	
MVX3300X5F40		5	●	172	192	257	40	50	0.4	
MVX3300X6F40		6	●	205	225	290	40	50	0.4	
MVX3350X3F40	33.5	3	●	107.5	127.5	192.5	40	50	1.2	SO○X11
MVX3400X2F40	34.0	2	●	75	105	170	40	50	1.1	SO○X11
MVX3400X3F40		3	●	109	139	204	40	50	1.1	
MVX3400X4F40		4	●	143	173	238	40	50	1.1	
MVX3400X5F40		5	●	177	207	272	40	50	1.1	
MVX3400X6F40		6	●	211	241	306	40	50	1.1	
MVX3450X3F40	34.5	3	●	110.5	140.5	205.5	40	50	1.1	SO○X11
MVX3500X2F40	35.0	2	●	77	107	172	40	50	1.0	SO○X11
MVX3500X3F40		3	●	112	142	207	40	50	1.0	
MVX3500X4F40		4	●	147	177	242	40	50	1.0	
MVX3500X5F40		5	●	182	212	277	40	50	1.0	
MVX3500X6F40		6	●	217	247	312	40	50	1.0	
MVX3550X3F40	35.5	3	●	113.5	143.5	208.5	40	50	1.0	SO○X11

MVX

Order number	DC	L x DC	Stock	LBX	LPR	OAL	DCON	DCSFMS	A	Insert
MVX3600X2F40	36.0	2	●	79	109	174	40	50	1.0	SO◌X11
MVX3600X3F40		3	●	115	145	210	40	50	1.0	
MVX3600X4F40		4	●	151	181	246	40	50	1.0	
MVX3600X5F40		5	●	187	217	282	40	50	1.0	
MVX3600X6F40		6	●	223	253	318	40	50	0.9	
MVX3700X2F40	37.0	2	●	81	111	176	40	50	0.9	SO◌X11
MVX3700X3F40		3	●	118	148	213	40	50	0.9	
MVX3700X4F40		4	●	155	185	250	40	50	0.9	
MVX3700X5F40		5	●	192	222	287	40	50	0.9	
MVX3700X6F40		6	●	229	259	324	40	50	0.9	
MVX3800X2F40	38.0	2	●	83	113	178	40	50	0.8	SO◌X11
MVX3800X3F40		3	●	121	151	216	40	50	0.8	
MVX3800X4F40		4	●	159	189	254	40	50	0.8	
MVX3800X5F40		5	●	197	227	292	40	50	0.8	
MVX3800X6F40		6	●	235	265	330	40	50	0.8	
MVX3900X2F40	39.0	2	●	85	115	180	40	50	0.7	SO◌X11
MVX3900X3F40		3	●	124	154	219	40	50	0.7	
MVX3900X4F40		4	●	163	193	258	40	50	0.7	
MVX3900X5F40		5	●	202	232	297	40	50	0.7	
MVX3900X6F40		6	●	241	271	336	40	50	0.7	
MVX4000X2F40	40.0	2	●	87	117	182	40	50	1.5	SO◌X13
MVX4000X3F40		3	●	127	157	222	40	50	1.5	
MVX4000X4F40		4	●	167	197	262	40	50	1.5	
MVX4000X5F40		5	●	207	237	302	40	50	1.5	
MVX4000X6F40		6	●	247	277	342	40	50	1.4	
MVX4100X2F40	41.0	2	●	89	119	184	40	50	1.4	SO◌X13
MVX4100X3F40		3	●	130	160	225	40	50	1.4	
MVX4100X4F40		4	●	171	201	266	40	50	1.4	
MVX4100X5F40		5	●	212	242	307	40	50	1.4	
MVX4100X6F40		6	●	253	283	348	40	50	1.4	
MVX4200X2F40	42.0	2	●	91	121	186	40	50	1.3	SO◌X13
MVX4200X3F40		3	●	133	163	228	40	50	1.3	
MVX4200X4F40		4	●	175	205	270	40	63	1.3	
MVX4200X4F50		4	★	175	205	280	50	63	1.3	
MVX4200X5F40		5	●	217	247	312	40	63	1.3	
MVX4200X5F50		5	★	217	247	322	50	63	1.3	
MVX4200X6F40		6	●	259	289	354	40	63	1.3	
MVX4200X6F50		6	★	259	289	364	50	63	1.3	
MVX4300X2F40	43.0	2	●	93	123	188	40	50	1.2	SO◌X13
MVX4300X3F40		3	●	136	166	231	40	50	1.2	
MVX4300X4F40		4	●	179	209	274	40	63	1.2	
MVX4300X4F50		4	★	179	209	284	50	63	1.2	
MVX4300X5F40		5	●	222	252	317	40	63	1.2	
MVX4300X5F50		5	★	222	252	327	50	63	1.2	
MVX4300X6F40		6	●	265	295	360	40	63	1.2	
MVX4300X6F50		6	★	265	295	370	50	63	1.2	

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

MVX

Order number	DC	L x DC	Stock	LBX	LPR	OAL	DCON	DCSFMS	A	Insert
MVX4400X2F40	44.0	2	●	95	125	190	40	50	1.1	SO○X13
MVX4400X3F40		3	●	139	169	234	40	50	1.1	
MVX4400X4F40		4	●	183	213	278	40	63	1.1	
MVX4400X4F50		4	★	183	213	288	50	63	1.1	
MVX4400X5F40		5	●	227	257	322	40	63	1.1	
MVX4400X5F50		5	★	227	257	332	50	63	1.1	
MVX4500X2F40	45.0	2	●	97	127	192	40	50	1.0	SO○X13
MVX4500X3F40		3	●	142	172	237	40	50	1.0	
MVX4500X4F40		4	●	187	217	282	40	63	1.0	
MVX4500X4F50		4	★	187	217	292	50	63	1.0	
MVX4500X5F40		5	●	232	262	327	40	63	1.0	
MVX4500X5F50		5	★	232	262	337	50	63	1.0	
MVX4600X2F40	46.0	2	●	99	129	194	40	50	0.9	SO○X13
MVX4600X3F40		3	●	145	175	240	40	50	0.9	
MVX4600X4F40		4	●	191	221	286	40	63	0.9	
MVX4600X4F50		4	★	191	221	296	50	63	0.9	
MVX4600X5F40		5	●	237	267	332	40	63	0.9	
MVX4600X5F50		5	★	237	267	342	50	63	0.9	
MVX4700X2F40	47.0	2	●	101	141	206	40	63	1.9	SO○X16
MVX4700X3F40		3	●	148	188	253	40	63	1.9	
MVX4700X4F40		4	●	195	235	300	40	63	1.9	
MVX4700X4F50		4	★	195	235	310	50	63	1.9	
MVX4700X5F40		5	●	242	282	347	40	63	1.9	
MVX4700X5F50		5	★	242	282	357	50	63	1.9	
MVX4800X2F40	48.0	2	●	103	143	208	40	63	1.8	SO○X16
MVX4800X3F40		3	●	151	191	256	40	63	1.8	
MVX4800X4F40		4	●	199	239	304	40	63	1.8	
MVX4800X4F50		4	★	199	239	314	50	63	1.8	
MVX4800X5F40		5	●	247	287	352	40	63	1.8	
MVX4800X5F50		5	★	247	287	362	50	63	1.8	
MVX4900X2F40	49.0	2	●	105	145	210	40	63	1.7	SO○X16
MVX4900X3F40		3	●	154	194	259	40	63	1.7	
MVX4900X4F40		4	●	203	243	308	40	63	1.7	
MVX4900X4F50		4	★	203	243	318	50	63	1.7	
MVX4900X5F40		5	●	252	292	357	40	63	1.7	
MVX4900X5F50		5	★	252	292	367	50	63	1.7	
MVX5000X2F40	50.0	2	●	107	147	212	40	63	1.6	SO○X16
MVX5000X3F40		3	●	157	197	262	40	63	1.6	
MVX5000X4F40		4	●	207	247	312	40	63	1.6	
MVX5000X4F50		4	★	207	247	322	50	63	1.6	
MVX5000X5F40		5	●	257	297	362	40	63	1.6	
MVX5000X5F50		5	★	257	297	372	50	63	1.6	
MVX5100X2F40	51.0	2	●	109	149	214	40	63	1.5	SO○X16
MVX5100X3F40		3	●	160	200	265	40	63	1.5	
MVX5100X4F40		4	●	211	251	316	40	63	1.5	
MVX5100X4F50		4	★	211	251	326	50	63	1.5	
MVX5100X5F40		5	●	262	302	367	40	63	1.5	
MVX5100X5F50		5	★	262	302	377	50	63	1.5	

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

MVX

Order number	DC	L x DC	Stock	LBX	LPR	OAL	DCON	DCSFMS	A	Insert
MVX5200X2F40	52.0	2	●	111	151	216	40	63	1.4	SO◌X16
MVX5200X3F40		3	●	163	203	268	40	63	1.4	
MVX5200X4F40		4	●	215	255	320	40	63	1.4	
MVX5200X4F50		4	★	215	255	330	50	63	1.4	
MVX5200X5F40		5	●	267	307	372	40	63	1.4	
MVX5200X5F50		5	★	267	307	382	50	63	1.4	
MVX5300X2F40	53.0	2	●	113	153	218	40	63	1.3	SO◌X16
MVX5300X3F40		3	●	166	206	271	40	63	1.3	
MVX5300X4F40		4	●	219	259	324	40	63	1.3	
MVX5300X4F50		4	★	219	259	334	50	63	1.3	
MVX5300X5F40		5	●	272	312	377	40	63	1.3	
MVX5300X5F50		5	★	272	312	387	50	63	1.3	
MVX5400X2F40	54.0	2	●	115	155	220	40	63	1.2	SO◌X16
MVX5400X3F40		3	●	169	209	274	40	63	1.2	
MVX5400X4F40		4	●	223	263	328	40	63	1.2	
MVX5400X4F50		4	★	223	263	338	50	63	1.2	
MVX5400X5F40		5	●	277	317	382	40	63	1.2	
MVX5400X5F50		5	★	277	317	392	50	63	1.2	
MVX5500X2F40	55.0	2	●	117	157	222	40	63	1.1	SO◌X16
MVX5500X3F40		3	●	172	212	277	40	63	1.1	
MVX5500X4F40		4	●	227	267	332	40	63	1.1	
MVX5500X4F50		4	★	227	267	342	50	63	1.1	
MVX5500X5F40		5	●	282	322	387	40	63	1.1	
MVX5500X5F50		5	★	282	322	397	50	63	1.1	
MVX5600X2F40	56.0	2	●	119	159	224	40	63	1.0	SO◌X16
MVX5600X3F40		3	●	175	215	280	40	63	1.0	
MVX5600X4F40		4	●	231	271	336	40	63	1.0	
MVX5600X4F50		4	★	231	271	346	50	63	1.0	
MVX5600X5F40		5	●	287	327	392	40	63	1.0	
MVX5600X5F50		5	★	287	327	402	50	63	1.0	
MVX5700X2F40	57.0	2	●	121	161	226	40	68	1.5	SO◌X18
MVX5700X3F40		3	●	178	218	283	40	68	1.5	
MVX5700X4F40		4	●	235	275	340	40	68	1.5	
MVX5700X4F50		4	★	235	275	350	50	68	1.5	
MVX5700X5F40		5	●	292	332	397	40	68	1.5	
MVX5700X5F50		5	★	292	332	407	50	68	1.5	
MVX5800X2F40	58.0	2	●	123	163	228	40	68	1.4	SO◌X18
MVX5800X3F40		3	●	181	221	286	40	68	1.4	
MVX5800X4F40		4	●	239	279	344	40	68	1.4	
MVX5800X4F50		4	★	239	279	354	50	68	1.4	
MVX5800X5F40		5	●	297	337	402	40	68	1.4	
MVX5800X5F50		5	★	297	337	412	50	68	1.4	
MVX5900X2F40	59.0	2	●	125	165	230	40	68	1.3	SO◌X18
MVX5900X3F40		3	●	184	224	289	40	68	1.3	
MVX5900X4F40		4	●	243	283	348	40	68	1.3	
MVX5900X4F50		4	★	243	283	358	50	68	1.3	
MVX5900X5F40		5	●	302	342	407	40	68	1.3	
MVX5900X5F50		5	★	302	342	417	50	68	1.3	

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

MVX

Order number	DC	L x DC	Stock	LBX	LPR	OAL	DCON	DCSFMS	A	Insert
MVX6000X2F40	60.0	2	●	127	167	232	40	68	1.2	SO◌X18
MVX6000X3F40		3	●	187	227	292	40	68	1.2	
MVX6000X4F40		4	●	247	287	352	40	68	1.2	
MVX6000X4F50		4	★	247	287	362	50	68	1.2	
MVX6000X5F40		5	●	307	347	412	40	68	1.2	
MVX6000X5F50		5	★	307	347	422	50	68	1.2	
MVX6100X2F40	61.0	2	●	129	169	234	40	68	1.1	SO◌X18
MVX6100X3F40		3	●	190	230	295	40	68	1.1	
MVX6100X4F40		4	●	251	291	356	40	68	1.1	
MVX6100X4F50		4	★	251	291	366	50	68	1.1	
MVX6100X5F40		5	●	312	352	417	40	68	1.1	
MVX6100X5F50		5	★	312	352	427	50	68	1.1	
MVX6200X2F40	62.0	2	●	131	171	236	40	68	1.0	SO◌X18
MVX6200X3F40		3	●	193	233	298	40	68	1.0	
MVX6200X4F40		4	●	255	295	360	40	68	1.0	
MVX6200X4F50		4	★	255	295	370	50	68	1.0	
MVX6200X5F40		5	●	317	357	422	40	68	1.0	
MVX6200X5F50		5	★	317	357	432	50	68	1.0	
MVX6300X2F40	63.0	2	●	133	173	238	40	68	0.8	SO◌X18
MVX6300X3F40		3	●	196	236	301	40	68	0.8	
MVX6300X4F40		4	●	259	299	364	40	68	0.8	
MVX6300X4F50		4	★	259	299	374	50	68	0.8	
MVX6300X5F40		5	●	322	362	427	40	68	0.8	
MVX6300X5F50		5	★	322	362	437	50	68	0.8	

17 Vc

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

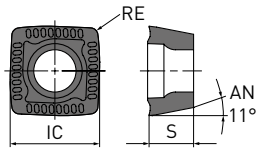
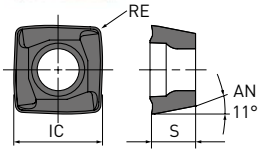
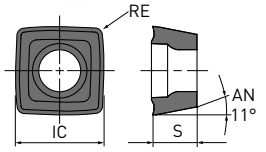
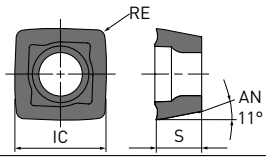
SPARE PARTS

Drill diameter (mm)	Clamp screw	Clamp torque (Nm)	Wrench	
14 – 16.5	TPS20-1	0.6	TIP06F	
17 – 19.5	TPS25	1.0	TIP07F	
20 – 22.5	TPS3	2.0	TIP10W	
23 – 27.5	TPS351	2.5	TIP10W	
28 – 33	TPS4	3.5	TIP15W	
33.5 – 46	TPS43	3.5	TIP15W	
47 – 63	TPS54	7.5	TIP25D	

MACHINING TOLERANCE

L x DC	Ø 14 – 33	Ø 17 – 33	Ø 33.5 – 47	Ø 48 – 63
2-3	+ 0.25 0	+ 0.25 0	+ 0.3 0	+ 0.3 0
4-5	+ 0.35 0	+ 0.35 0	+ 0.4 0	+ 0.45 0
6	+ 0.45 0	+ 0.45 0	+ 0.6 0	—

INSERTS

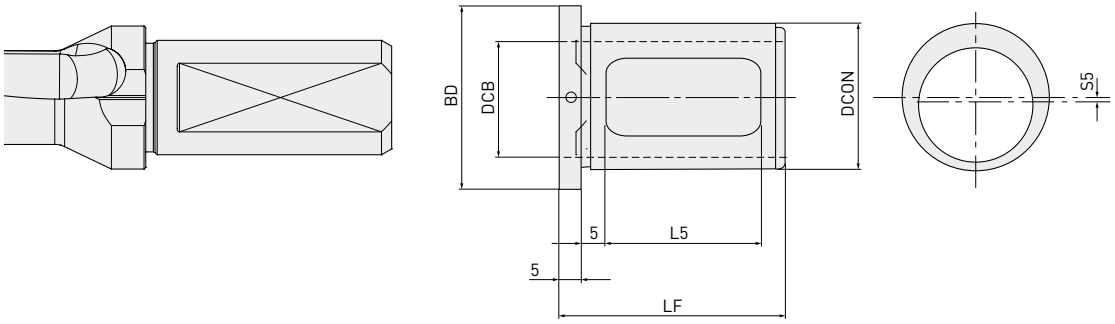
Order number	MC5020 *	MC1020 *	VP15TF	DP8020	TF15	IC	S	RE	Drill diameter	Shape
UM										
SOMX052704-UM	●	●	●			5.0	2.7	0.4	Ø14 – 16.5	
SOMX063005-UM	●	●	●			6.0	3.0	0.5	Ø17 – 19.5	
SOMX073505-UM	●	●	●			7.0	3.5	0.5	Ø20 – 22.5	
SOMX084005-UM	●	●	●			8.3	4.0	0.5	Ø23 – 27.5	
SOMX094506-UM	●	●	●			9.7	4.5	0.6	Ø28 – 33	
SOMX115506-UM	●	●	●			11.6	5.5	0.6	Ø33.5 – 39	
SOMX136008-UM	●	●	●			13.8	6.0	0.8	Ø40 – 46	
SOMX166508-UM	●	●	●			16.5	6.5	0.8	Ø47 – 56	
SOMX187008-UM	●	●	●			18.2	7.0	0.8	Ø57 – 63	
US										
SOMX063005-US			●			6.0	3.0	0.5	Ø17 – 19.5	
SOMX073505-US			●			7.0	3.5	0.5	Ø20 – 22.5	
SOMX084005-US			●			8.3	4.0	0.5	Ø23 – 27.5	
SOMX094506-US			●			9.7	4.5	0.6	Ø28 – 33	
SOMX115506-US			●			11.6	5.5	0.6	Ø33.5 – 39	
SOMX136008-US			●			13.8	6.0	0.8	Ø40 – 46	
SOMX166508-US			●			16.5	6.5	0.8	Ø47 – 56	
SOMX187008-US			●			18.2	7.0	0.8	Ø57 – 63	
UH										
SOMX062905-UH				●		6.0	2.9	0.5	Ø17 – 19.5	
SOMX073405-UH				●		7.0	3.4	0.5	Ø20 – 22.5	
SOMX083905-UH				●		8.3	3.9	0.5	Ø23 – 27.5	
SOMX094406-UH				●		9.7	4.4	0.6	Ø28 – 33	
SOMX115406-UH				●		11.6	5.4	0.6	Ø33.5 – 39	
SOMX135908-UH				●		13.8	5.9	0.8	Ø40 – 46	
SOMX166408-UH				●		16.5	6.4	0.8	Ø47 – 56	
SOMX186908-UH				●		18.2	6.9	0.8	Ø57 – 63	
UN										
SOGX063005-UN					●	6.0	3.0	0.5	Ø17 – 19.5	
SOGX073505-UN					●	7.0	3.5	0.5	Ø20 – 22.5	
SOGX084005-UN					●	8.3	4.0	0.5	Ø23 – 27.5	
SOGX094506-UN					●	9.7	4.5	0.6	Ø28 – 33	
SOGX115506-UN					●	11.6	5.5	0.6	Ø33.5 – 39	
SOGX136008-UN					●	13.8	6.0	0.8	Ø40 – 46	
SOGX166508-UN					●	16.5	6.5	0.8	Ø47 – 56	
SOGX187008-UN					●	18.2	7.0	0.8	Ø57 – 63	

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

Vc 17

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

JUST FIT SLEEVE [JFS]
INCREASED CUTTING DIAMETER



Order number	Set order number	Stock	DCB	DCON	BD	LF	L5	Increase (S5×2) *	MVX Shank type
JFS2520-10	JFS-1	●	20	25	33	43	30	0.1	F20
JFS2520-20		●	20	25	33	43	30	0.2	F20
JFS2520-30		●	20	25	33	43	30	0.3	F20
JFS2520-40		●	20	25	33	43	30	0.4	F20
JFS2520-50		●	20	25	33	43	30	0.5	F20
JFS3225-10	JFS-2	●	25	32	40	50	34	0.1	F25
JFS3225-20		●	25	32	40	50	34	0.2	F25
JFS3225-30		●	25	32	40	50	34	0.3	F25
JFS3225-40		●	25	32	40	50	34	0.4	F25
JFS3225-50		●	25	32	40	50	34	0.5	F25
JFS4032-10	JFS-3	●	32	40	48	55	40	0.1	F32
JFS4032-20		●	32	40	48	55	40	0.2	F32
JFS4032-30		●	32	40	48	55	40	0.3	F32
JFS4032-40		●	32	40	48	55	40	0.4	F32
JFS4032-50		●	32	40	48	55	40	0.5	F32
JFS5040-10	—	★	40	50	68	65	50	0.1	F40
JFS5040-20		★	40	50	68	65	50	0.2	F40
JFS5040-30		★	40	50	68	65	50	0.3	F40
JFS5040-40		★	40	50	68	65	50	0.4	F40
JFS5040-50		★	40	50	68	65	50	0.5	F40

Increase: Size of the increased cutting diameter.
Not suitable for shank Ø 50 mm.

GUIDELINE FOR SELECTING A JUST FIT SLEEVE

Desired = (Drill Ø + Increase of JFS) + 0.1 mm

(Eg.) Desired diameter is 20.3mm (oversize is taken as 0.1 mm).

Ø20.3 = (MVX2000 X ◌F25 + JFS3225-20) + 0.1

- MVX2000 X ◌F25 → 20 mm Drill
- JFS3225-20 → Using JFS an Increase of 0.2 mm.
- 0.1 → Oversize

<Tool Selected>
Drill: **MVX2000 X ◌F25**
Just Fit Sleeve [JFS]:
JFS3225-20

Oversize can vary due to the cutting conditions used, please use the above as a guideline.

ORDERING THE JUST FIT SLEEVE

Purchasing Method 1

Oversize can vary due to the cutting conditions used. Therefore it is recommended to purchase as a set. When placing an order, please use the Set order number. (5 sleeves/set)

Purchasing Method 2

It is possible to order individually. When placing an order, please use the individual order number.

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

MVX + MINI MVX

RECOMMENDED CUTTING CONDITIONS

	Material	Hardness	Vc	Inner breaker	Ø14 – Ø16.5 f			Ø17 – Ø19.5 f			
					LxDC=2 – 3	LxDC=4	LxDC=5	LxDC=2 – 3	LxDC=4	LxDC=5	LxDC=6
P	Mild steel (C15, Ck15)	≤180HB	200 (180 – 235)	UM	0.05 (0.04 - 0.06)	0.05 (0.04 - 0.06)	0.05 (0.04 - 0.06)	0.05 (0.04 – 0.06)	0.05 (0.04 – 0.06)	0.05 (0.04 – 0.06)	0.04 (0.04 – 0.05)
				UH	–	–	–				
	Carbon steel, Alloy steel (Ck45, 41CrMo4)	180 – 280HB	140 (115 –180)	UM	0.08 (0.06 - 0.14)	0.08 (0.06 - 0.09)	0.08 (0.06 - 0.09)	0.08 (0.06 – 0.14)	0.08 (0.06 – 0.09)	0.08 (0.06 – 0.09)	0.05 (0.04 – 0.06)
				UH	–	–	–				
	Carbon steel, Alloy steel (100Cr6)	280 – 350HB	100 (75 – 140)	UM	0.08 (0.06 - 0.14)	0.08 (0.06 - 0.09)	0.08 (0.06 - 0.09)	0.08 (0.06 – 0.14)	0.08 (0.06 – 0.09)	0.08 (0.06 – 0.09)	0.05 (0.04 – 0.06)
				UH	–	–	–				
	Alloy tool steel (X210Cr12)	≤350HB	135 (100 – 170)	UM	0.08 (0.06 - 0.14)	0.08 (0.06 - 0.09)	0.08 (0.06 - 0.09)	0.08 (0.06 – 0.14)	0.08 (0.06 – 0.09)	0.08 (0.06 – 0.09)	0.05 (0.04 – 0.06)
				UH	–	–	–				
M	Austenitic stainless steel (X5CrNi18-10, X5CrNiMo17-12-2)	≤200HB	130 (80 – 180)	US	–	–	–	0.08 (0.06 – 0.12)	0.06 (0.04 – 0.08)	0.06 (0.04 – 0.08)	0.05 (0.04 – 0.06)
				UM	0.06 (0.04 - 0.08)	0.05 (0.04 - 0.06)	0.05 (0.04 - 0.06)	0.06 (0.04 – 0.08)	0.05 (0.04 – 0.06)	0.05 (0.04 – 0.06)	0.04 (0.04 – 0.05)
	Austenitic stainless steel (X2CrNiN18-9, X5CrNiMoN17-11-2)	>200HB	130 (80 – 180)	US	–	–	–	0.08 (0.06 – 0.12)	0.06 (0.04 – 0.08)	0.06 (0.04 – 0.08)	0.05 (0.04 – 0.06)
				UM	0.06 (0.04 - 0.08)	0.05 (0.04 - 0.06)	0.05 (0.04 - 0.06)	0.06 (0.04 – 0.08)	0.05 (0.04 – 0.06)	0.05 (0.04 – 0.06)	0.04 (0.04 – 0.05)
	Ferritic and martensitic stainless steel (X12Cr13, X6Cr17)	≤200HB	120 (80 – 165)	US	–	–	–	0.08 (0.06 – 0.12)	0.06 (0.04 – 0.08)	0.06 (0.04 – 0.08)	0.05 (0.04 – 0.06)
				UM	0.06 (0.04 - 0.08)	0.05 (0.04 - 0.06)	0.05 (0.04 - 0.06)	0.06 (0.04 – 0.08)	0.05 (0.04 – 0.06)	0.05 (0.04 – 0.06)	0.04 (0.04 – 0.05)
	Ferritic and martensitic stainless steel (X17CrNi16-2, X30Cr13)	>200HB	120 (80 – 165)	US	–	–	–	0.08 (0.06 – 0.12)	0.06 (0.04 – 0.08)	0.06 (0.04 – 0.08)	0.05 (0.04 – 0.06)
				UM	0.06 (0.04 - 0.08)	0.05 (0.04 - 0.06)	0.05 (0.04 - 0.06)	0.06 (0.04 – 0.08)	0.05 (0.04 – 0.06)	0.05 (0.04 – 0.06)	0.04 (0.04 – 0.05)
K	Gray cast iron (GG25, GG30)	Tensile Strength ≤350MPa	160 (130 – 195)	UM	0.10 (0.06 - 0.14)	0.08 (0.06 - 0.10)	0.08 (0.06 - 0.10)	0.11 (0.08 – 0.14)	0.09 (0.08 – 0.10)	0.09 (0.08 – 0.10)	0.05 (0.04 – 0.06)
	Ductile cast iron (GGG40)	Tensile Strength ≤450MPa	100 (80 – 135)	UM	0.10 (0.06 - 0.14)	0.08 (0.06 - 0.10)	0.08 (0.06 - 0.10)	0.11 (0.08 – 0.14)	0.09 (0.08 – 0.10)	0.09 (0.08 – 0.10)	0.05 (0.04 – 0.06)
	Ductile cast iron (GGG70)	Tensile Strength ≤800MPa	100 (70 – 125)	UM	0.08 (0.06 - 0.12)	0.07 (0.06 - 0.08)	0.07 (0.06 - 0.08)	0.11 (0.08 – 0.14)	0.09 (0.08 – 0.10)	0.09 (0.08 – 0.10)	0.05 (0.04 – 0.06)
N	Aluminium alloy (A6061, A7075)	Si<5%	200 (100 – 350)	UN	–	–	–	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)
	Aluminium alloy (AC4B)	5%≤Si≤10%	150 (100 – 200)	UN	–	–	–	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)
	Aluminium alloy (ADC12, A390)	Si>10%	150 (100 – 200)	UN	–	–	–	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)
H	Hardened steel (X40CrMoV51, 55NiCrMoV6)	38 – 45HRC	50 (30 – 80)	UH	–	–	–	0.08 (0.04 – 0.12)	0.06 (0.04 – 0.09)	–	–

MVX + MINI MVX RECOMMENDED CUTTING CONDITIONS

	Vc	Inner breaker	Ø20 – Ø23.5 f				Ø24 – Ø29.5 f				Ø30 – Ø63 f			
			LxDC=2–3	LxDC=4	LxDC=5	LxDC=6	LxDC=2–3	LxDC=4	LxDC=5	LxDC=6	LxDC=2–3	LxDC=4	LxDC=5	LxDC=6
P	200 (180 – 235)	UM	0.06 (0.04 – 0.08)	0.06 (0.04 – 0.07)	0.06 (0.04 – 0.07)	0.04 (0.04 – 0.05)	0.07 (0.04 – 0.08)	0.06 (0.04 – 0.07)	0.06 (0.04 – 0.07)	0.05 (0.04 – 0.06)	0.08 (0.06 – 0.10)	0.07 (0.06 – 0.08)	0.07 (0.06 – 0.08)	0.06 (0.06 – 0.07)
		UH												
	140 (115 –180)	UM	0.10 (0.06 – 0.18)	0.09 (0.06 – 0.12)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.08)	0.12 (0.08 – 0.18)	0.10 (0.08 – 0.12)	0.10 (0.08 – 0.12)	0.09 (0.08 – 0.10)	0.14 (0.08 – 0.20)	0.12 (0.08 – 0.16)	0.12 (0.08 – 0.16)	0.11 (0.10 – 0.12)
		UH												
	100 (75 – 140)	UM	0.10 (0.06 – 0.18)	0.09 (0.06 – 0.12)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.08)	0.12 (0.08 – 0.18)	0.10 (0.08 – 0.12)	0.10 (0.08 – 0.12)	0.09 (0.08 – 0.10)	0.14 (0.08 – 0.20)	0.12 (0.08 – 0.16)	0.12 (0.08 – 0.16)	0.11 (0.10 – 0.12)
		UH												
	135 (100 – 170)	UM	0.10 (0.06 – 0.18)	0.09 (0.06 – 0.12)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.08)	0.12 (0.08 – 0.18)	0.10 (0.08 – 0.12)	0.10 (0.08 – 0.12)	0.09 (0.08 – 0.10)	0.14 (0.08 – 0.20)	0.12 (0.08 – 0.16)	0.12 (0.08 – 0.16)	0.10 (0.08 – 0.12)
		UH												
M	130 (80 – 180)	US	0.10 (0.06 – 0.14)	0.07 (0.06 – 0.08)	0.07 (0.06 – 0.08)	0.06 (0.06 – 0.07)	0.10 (0.06 – 0.14)	0.08 (0.06 – 0.10)	0.08 (0.06 – 0.10)	0.07 (0.06 – 0.08)	0.10 (0.06 – 0.14)	0.09 (0.06 – 0.12)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.10)
		UM	0.08 (0.06 – 0.12)	0.07 (0.06 – 0.08)	0.07 (0.06 – 0.08)	0.06 (0.06 – 0.07)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.09)	0.07 (0.06 – 0.09)	0.06 (0.06 – 0.08)	0.09 (0.06 – 0.12)	0.08 (0.06 – 0.10)	0.08 (0.06 – 0.10)	0.07 (0.06 – 0.08)
	130 (80 – 180)	US	0.10 (0.06 – 0.14)	0.07 (0.06 – 0.08)	0.07 (0.06 – 0.08)	0.06 (0.06 – 0.07)	0.10 (0.06 – 0.14)	0.08 (0.06 – 0.10)	0.08 (0.06 – 0.10)	0.07 (0.06 – 0.08)	0.10 (0.06 – 0.14)	0.09 (0.06 – 0.12)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.10)
		UM	0.08 (0.06 – 0.12)	0.07 (0.06 – 0.08)	0.07 (0.06 – 0.08)	0.06 (0.06 – 0.07)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.09)	0.07 (0.06 – 0.09)	0.06 (0.06 – 0.08)	0.09 (0.06 – 0.12)	0.08 (0.06 – 0.10)	0.08 (0.06 – 0.10)	0.07 (0.06 – 0.08)
	120 (80 – 165)	US	0.10 (0.06 – 0.14)	0.07 (0.06 – 0.08)	0.07 (0.06 – 0.08)	0.06 (0.06 – 0.07)	0.10 (0.06 – 0.14)	0.08 (0.06 – 0.10)	0.08 (0.06 – 0.10)	0.07 (0.06 – 0.08)	0.10 (0.06 – 0.14)	0.09 (0.06 – 0.12)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.10)
		UM	0.08 (0.06 – 0.12)	0.07 (0.06 – 0.08)	0.07 (0.06 – 0.08)	0.06 (0.06 – 0.07)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.09)	0.07 (0.06 – 0.09)	0.06 (0.06 – 0.08)	0.09 (0.06 – 0.12)	0.08 (0.06 – 0.10)	0.08 (0.06 – 0.10)	0.07 (0.06 – 0.08)
	120 (80 – 165)	US	0.10 (0.06 – 0.14)	0.07 (0.06 – 0.08)	0.07 (0.06 – 0.08)	0.06 (0.06 – 0.07)	0.10 (0.06 – 0.14)	0.08 (0.06 – 0.10)	0.08 (0.06 – 0.10)	0.07 (0.06 – 0.08)	0.10 (0.06 – 0.14)	0.09 (0.06 – 0.12)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.10)
		UM	0.08 (0.06 – 0.12)	0.07 (0.06 – 0.08)	0.07 (0.06 – 0.08)	0.06 (0.06 – 0.07)	0.09 (0.06 – 0.12)	0.07 (0.06 – 0.09)	0.07 (0.06 – 0.09)	0.06 (0.06 – 0.08)	0.09 (0.06 – 0.12)	0.08 (0.06 – 0.10)	0.08 (0.06 – 0.10)	0.07 (0.06 – 0.08)
K	160 (130 – 195)	UM	0.14 (0.10 – 0.18)	0.10 (0.10 – 0.12)	0.10 (0.10 – 0.12)	0.07 (0.06 – 0.08)	0.15 (0.10 – 0.20)	0.11 (0.10 – 0.13)	0.11 (0.10 – 0.13)	0.09 (0.08 – 0.10)	0.15 (0.10 – 0.20)	0.12 (0.10 – 0.13)	0.12 (0.10 – 0.13)	0.11 (0.10 – 0.12)
	100 (80 – 135)	UM	0.13 (0.10 – 0.16)	0.10 (0.10 – 0.11)	0.10 (0.10 – 0.11)	0.07 (0.06 – 0.08)	0.14 (0.10 – 0.18)	0.11 (0.10 – 0.12)	0.11 (0.10 – 0.12)	0.09 (0.08 – 0.10)	0.15 (0.10 – 0.20)	0.12 (0.10 – 0.13)	0.12 (0.10 – 0.13)	0.11 (0.10 – 0.12)
	100 (70 – 125)	UM	0.13 (0.10 – 0.16)	0.10 (0.10 – 0.11)	0.10 (0.10 – 0.11)	0.07 (0.06 – 0.08)	0.14 (0.10 – 0.18)	0.11 (0.10 – 0.12)	0.11 (0.10 – 0.12)	0.09 (0.08 – 0.10)	0.15 (0.10 – 0.20)	0.12 (0.10 – 0.13)	0.12 (0.10 – 0.13)	0.11 (0.10 – 0.12)
N	200 (100 – 350)	UN	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)	0.12 (0.05 – 0.20)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)
	150 (100 – 200)	UN	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)	0.12 (0.05 – 0.20)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)
	150 (100 – 200)	UN	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)	0.12 (0.05 – 0.20)	0.12 (0.05 – 0.18)	0.12 (0.05 – 0.18)	0.08 (0.05 – 0.12)
H	50 (30 – 80)	UH	0.09 (0.06 – 0.14)	0.07 (0.06 – 0.09)	–	–	0.09 (0.06 – 0.14)	0.07 (0.06 – 0.09)	–	–	0.11 (0.06 – 0.16)	0.09 (0.06 – 0.012)	–	–

Reduce the cutting speed by 30 % when VP15TF is used as an outer insert.
L/D = 3 is the recommended maximum depth when only external coolant is used.
Internal through coolant is essential when drilling stainless steel.

MEMO

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