

Indexable Drill

MVX

Insert
Expansion

Highly rigid body produced by utilizing the latest technology

Lengths
L/D=2-6
Now Available



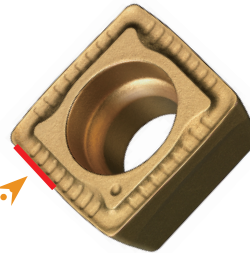
Indexable Drill

MX

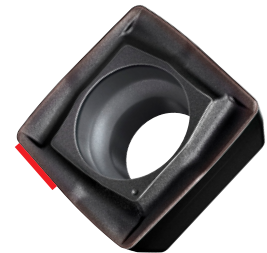
4 Cutting Edges

Economical 4-corner insert.

Unique Chipbreaker Design



Universal
UM Breaker



US Breaker
for Stainless Steel

For a wide range of work materials and applications.

Wiper Edge

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

Ideal Combination of Outer CVD Insert and Inner PVD Insert

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

High Rigid Body

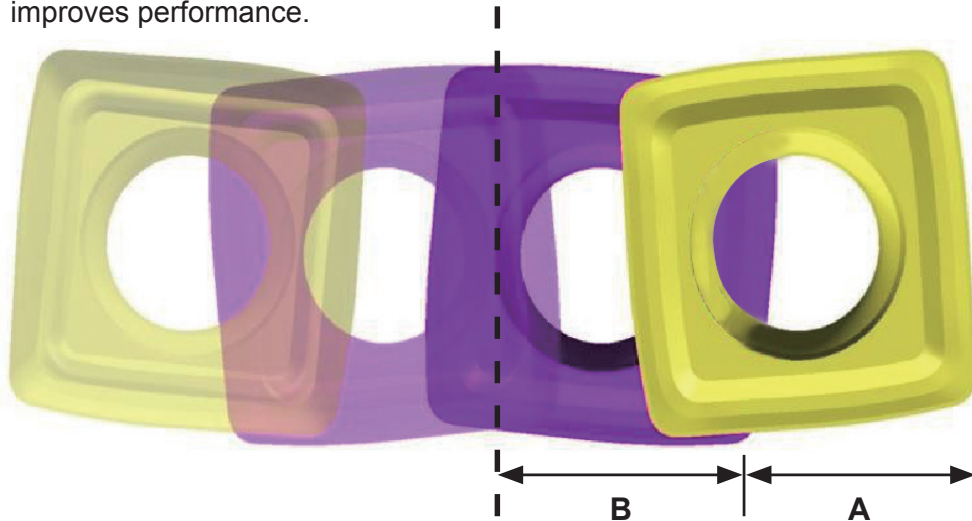
Increased surface hardness prevents abrasive damage caused by chip flow.

Optimum insert position controls deformation and vibration of the holder. This enabled a maximum drilling depth of $L/D=6$.

Key Technology that Enabled L/D=6 Machining

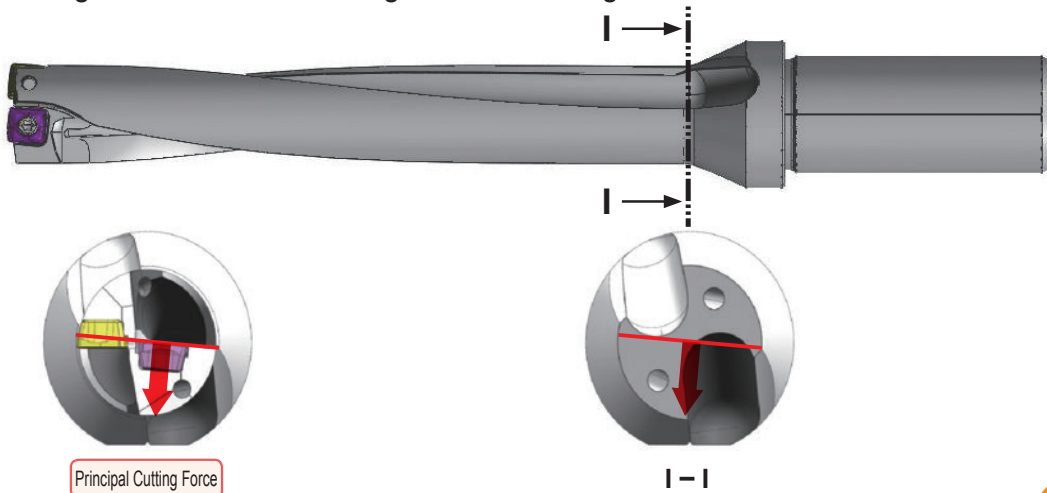
Optimum Positioning of the Outer and Inner Inserts

By optimizing the cutting ratio A & B for the outer and inner inserts, deformation of the tool body can be controlled. Additionally, the uniformity of the cutting ratio A and B; across all diameters, reduces variations and improves performance.



Optimum Flute Positioning

Extra body thickness positioned behind the inner edge helps to resist the principal force and prevents twisting and deformation during the initial cutting.



Inclined Coolant Through Holes

Chip evacuation when drilling deep holes is improved with specially designed coolant through holes that maintain coolant pressure.

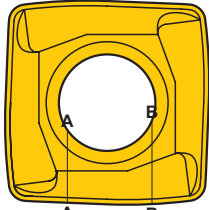


Chip evacuation capacity is 20% greater than conventional products.

Insert Chipbreaker

Inner Insert, for Stainless Steel

US Breaker



Strong Cutting Edge Part
Sharp Cutting Edge Part

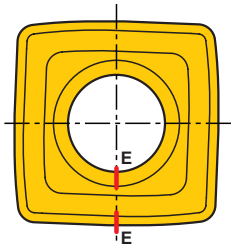
The cutting edge has both sharp and strong type geometry along its length for improved fracture resistance. The radius design also achieves excellent fracture and welding resistance.



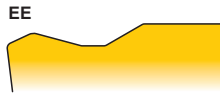
NEW

Insert with Reinforced Edge

UH Breaker

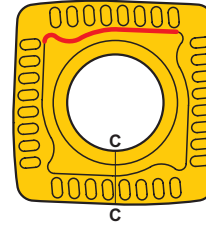


The strengthened cutting edge and Ti-Al-Si coating provides excellent stability even when cutting hardened steel (up to 45HRC) or general steel.

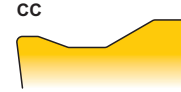


For General Use, Medium and High Feed Rates

UM Breaker



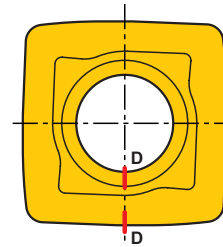
The unique wave design allows smooth chip discharge. An universal breaker for steel, stainless steel, cast iron and hardened steel.



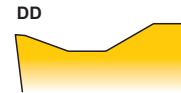
NEW

Insert for Aluminum

UN Breaker



Outstanding chip evacuation is achieved by the breaker which was designed to focus on sharpness. Aluminum welding is also prevented by smoothing on the rake surfaces.



Insert Selection Criteria

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

Steel and Cast Iron

Please use the UM breaker.

For the outer edge, use the CVD coated grade MC1020 for steel applications and the MC5020 grade for cast iron. For the inner edge the PVD coated grade VP15TF should be used. If fracturing occurs, VP15TF should be used for both positions to provide extra stability.

Stainless Steel

For the best performance, use the UM breaker in the peripheral edge and the US breaker in the inner edge. The selection of grade should be the same as used for steels.

Hardened Steel and Preventing Fracture



















For the inner edge, UH is the ideal breaker.

The high-strength, negative land edge, together with the durable PVD coated carbide grade DP8020, are suitable for machining hardened steel (45HRC or lower) and preventing fracture in steel and cast iron.

Aluminum Alloy Processing

For both the inner and outer edges, UN breakers are ideal.

The polished finish and peripheral polishing prevent welding, and the combination of the positive lands and high rake angle further enhances the sharpness.

	1st Recommendation		When outer insert fractures	
	Outer Insert	Inner Insert	Outer Insert	Inner Insert
P Mild Steel, Alloy Steel	MC1020 	VP15TF 	VP15TF 	VP15TF 
	UM Breaker	UM Breaker	UM Breaker	UM Breaker
M Stainless Steel	MC1020 	VP15TF 	VP15TF 	VP15TF 
	UM Breaker	US Breaker	UM Breaker	US Breaker
K Cast Iron	MC5020 	VP15TF 	VP15TF 	VP15TF 
	UM Breaker	UM Breaker	UM Breaker	UM Breaker
H Hardened Steel	MC1020 	NEW DP8020 	VP15TF 	NEW DP8020 
	UM Breaker	UH Breaker	UM Breaker	UH Breaker
N Aluminum Alloy	NEW TF15 	NEW TF15 		
	UN Breaker	UN Breaker		

Features of Grade

MC1020

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

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

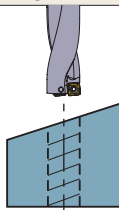
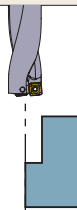
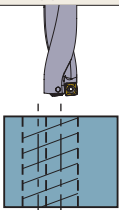
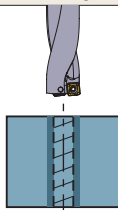
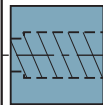
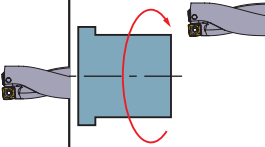
VP15TF is a PVD coated grade suitable for a wide range of applications. The micro-grain substrate and Miracle coating provide excellent welding resistance.

NEW

DP8020

With the combination of a tough, 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 preventing fracture in steel and cast iron.

Special Application Examples

	Drilling on a Slope	Half Hole	Overlapped Holes	Boring	Internal Turning	External Turning
Cutting Mode						
vc (SFM)	260-525	260-525	260	260-525	260-525	260-525
vf (IPR)	.002-.004	.002-.003	.003	.002-.003	.002-.004	.002-.004

For special applications use only up to a DCx4 length tool body.

Indexable Drill

MVX



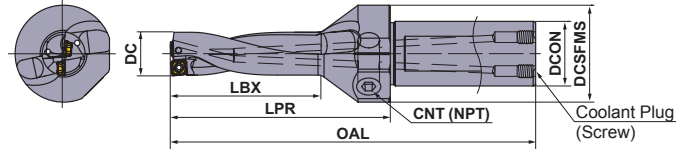
INCH STANDARD

Internal Coolant

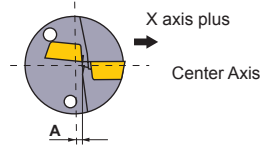


Machining Tolerance (guide)(inch)

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



Maximum offset for turning







DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type	Clamp Screw	Wrench	NPT Plug (Side) CNT	Coolant Plug (Screw) (Back)	Coolant Plug (Wrench)
.687	2	MVX0687X2C100	●	2	1.65	2.72	4.97	1.000	1.50	.023	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	3	MVX0687X3C100	●	2	2.34	3.41	5.66	1.000	1.50	.023	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	4	MVX0687X4C100	●	2	3.03	4.09	6.34	1.000	1.50	.023	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	5	MVX0687X5C100	●	2	3.71	4.78	7.03	1.000	1.50	.023	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	6	MVX0687X6C100	●	2	4.40	5.47	7.72	1.000	1.50	.023	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
.750	2	MVX0750X2C100	●	2	1.78	2.91	5.16	1.000	1.50	.016	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	3	MVX0750X3C100	●	2	2.53	3.66	5.91	1.000	1.50	.016	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	4	MVX0750X4C100	●	2	3.28	4.41	6.66	1.000	1.50	.016	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	5	MVX0750X5C100	●	2	4.03	5.16	7.41	1.000	1.50	.016	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
	6	MVX0750X6C100	●	2	4.78	5.91	8.16	1.000	1.50	.016	SOX06	TPS25	①TIP07F	1/8	HSS05006	HKY25R
.812	2	MVX0812X2C100	●	2	1.90	3.01	5.26	1.000	1.50	.027	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	3	MVX0812X3C100	●	2	2.71	3.82	6.07	1.000	1.50	.027	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	4	MVX0812X4C100	●	2	3.53	4.63	6.88	1.000	1.50	.027	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	5	MVX0812X5C100	●	2	4.34	5.44	7.69	1.000	1.50	.027	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	6	MVX0812X6C100	●	2	5.15	6.26	8.51	1.000	1.50	.027	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
.875	2	MVX0875X2C100	●	2	2.03	3.12	5.37	1.000	1.50	.020	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	3	MVX0875X3C100	●	2	2.90	4.00	6.25	1.000	1.50	.020	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	4	MVX0875X4C100	●	2	3.78	4.87	7.12	1.000	1.50	.020	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	5	MVX0875X5C100	●	2	4.65	5.75	8.00	1.000	1.50	.020	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
	6	MVX0875X6C100	●	2	5.53	6.62	8.87	1.000	1.50	.020	SOX07	TPS3	①TIP10F	1/8	HSS05006	HKY25R
.937	2	MVX0937X2C100	●	2	2.15	3.24	5.49	1.000	1.50	.037	SOX08	TPS351	②TIP10W	1/8	HSS05006	HKY25R
	3	MVX0937X3C100	●	2	3.09	4.17	6.42	1.000	1.50	.037	SOX08	TPS351	②TIP10W	1/8	HSS05006	HKY25R
	4	MVX0937X4C100	●	2	4.03	5.11	7.36	1.000	1.50	.037	SOX08	TPS351	②TIP10W	1/8	HSS05006	HKY25R
	5	MVX0937X5C100	●	2	4.96	6.05	8.30	1.000	1.50	.037	SOX08	TPS351	②TIP10W	1/8	HSS05006	HKY25R
	6	MVX0937X6C100	●	2	5.90	6.99	9.24	1.000	1.50	.037	SOX08	TPS351	②TIP10W	1/8	HSS05006	HKY25R
1.000	2	MVX1000X2C125	●	2	2.28	3.35	5.73	1.250	1.75	.030	SOX08	TPS351	②TIP10W	1/8	HSS06008	HKY30R
	3	MVX1000X3C125	●	2	3.28	4.35	6.73	1.250	1.75	.030	SOX08	TPS351	②TIP10W	1/8	HSS06008	HKY30R
	4	MVX1000X4C125	●	2	4.28	5.35	7.73	1.250	1.75	.030	SOX08	TPS351	②TIP10W	1/8	HSS06008	HKY30R
	5	MVX1000X5C125	●	2	5.28	6.35	8.73	1.250	1.75	.030	SOX08	TPS351	②TIP10W	1/8	HSS06008	HKY30R
	6	MVX1000X6C125	●	2	6.28	7.35	9.73	1.250	1.75	.030	SOX08	TPS351	②TIP10W	1/8	HSS06008	HKY30R

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

*2 Number of Teeth

● : Inventory maintained.

(inch)

DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type			NPT Plug (Side)		
												Clamp Screw	Wrench	CNT	Coolant Plug (Screw)	Coolant Plug (Wrench)
1.062	2	MVX1062X2C125	●	2	2.40	3.46	5.84	1.250	1.75	.022	SOX08	TPS351	TIP10W	1/8	HSS06008	HKY30R
	3	MVX1062X3C125	●	2	3.46	4.53	6.90	1.250	1.75	.022	SOX08	TPS351	TIP10W	1/8	HSS06008	HKY30R
	4	MVX1062X4C125	●	2	4.53	5.59	7.96	1.250	1.75	.022	SOX08	TPS351	TIP10W	1/8	HSS06008	HKY30R
	5	MVX1062X5C125	●	2	5.59	6.65	9.03	1.250	1.75	.022	SOX08	TPS351	TIP10W	1/8	HSS06008	HKY30R
	6	MVX1062X6C125	●	2	6.65	7.71	10.09	1.250	1.75	.022	SOX08	TPS351	TIP10W	1/8	HSS06008	HKY30R
1.125	2	MVX1125X2C125	●	2	2.53	3.64	6.01	1.250	1.75	.040	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	3	MVX1125X3C125	●	2	3.65	4.76	7.14	1.250	1.75	.040	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	4	MVX1125X4C125	●	2	4.78	5.89	8.26	1.250	1.75	.040	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	5	MVX1125X5C125	●	2	5.90	7.01	9.39	1.250	1.75	.040	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	6	MVX1125X6C125	●	2	7.03	8.14	10.51	1.250	1.75	.040	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
1.187	2	MVX1187X2C125	●	2	2.65	3.76	6.13	1.250	1.75	.033	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	3	MVX1187X3C125	●	2	3.84	4.94	7.32	1.250	1.75	.033	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	4	MVX1187X4C125	●	2	5.03	6.13	8.51	1.250	1.75	.033	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	5	MVX1187X5C125	●	2	6.21	7.32	9.69	1.250	1.75	.033	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	6	MVX1187X6C125	●	2	7.40	8.51	10.88	1.250	1.75	.033	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
1.250	2	MVX1250X2C150	●	2	2.78	3.87	6.62	1.500	2.00	.025	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	3	MVX1250X3C150	●	2	4.03	5.12	7.87	1.500	2.00	.025	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	4	MVX1250X4C150	●	2	5.28	6.37	9.12	1.500	2.00	.025	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	5	MVX1250X5C150	●	2	6.53	7.62	10.37	1.500	2.00	.025	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
	6	MVX1250X6C150	●	2	7.78	8.87	11.62	1.500	2.00	.025	SOX09	TPS4	TIP15W	1/8	HSS06008	HKY30R
1.312	2	MVX1312X2C150	●	2	2.90	4.40	7.15	1.500	2.00	.049	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX1312X3C150	●	2	4.21	5.71	8.46	1.500	2.00	.049	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	4	MVX1312X4C150	●	2	5.53	7.02	9.77	1.500	2.00	.049	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX1312X5C150	●	2	6.84	8.33	11.08	1.500	2.00	.049	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX1312X6C150	●	2	8.15	9.65	12.40	1.500	2.00	.049	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
1.375	2	MVX1375X2C150	●	2	3.03	4.52	7.27	1.500	2.00	.041	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX1375X3C150	●	2	4.40	5.90	8.65	1.500	2.00	.041	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	4	MVX1375X4C150	●	2	5.78	7.27	10.02	1.500	2.00	.041	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX1375X5C150	●	2	7.15	8.65	11.40	1.500	2.00	.041	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX1375X6C150	●	2	8.53	10.02	12.77	1.500	2.00	.041	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
1.437	2	MVX1437X2C150	●	2	3.15	4.65	7.40	1.500	2.00	.036	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX1437X3C150	●	2	4.59	6.08	8.83	1.500	2.00	.036	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	4	MVX1437X4C150	●	2	6.03	7.52	10.27	1.500	2.00	.036	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX1437X5C150	●	2	7.46	8.96	11.71	1.500	2.00	.036	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX1437X6C150	●	2	8.90	10.40	13.15	1.500	2.00	.036	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
1.500	2	MVX1500X2C150	●	2	3.28	4.77	7.52	1.500	2.00	.031	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX1500X3C150	●	2	4.78	6.27	9.02	1.500	2.00	.031	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	4	MVX1500X4C150	●	2	6.28	7.77	10.52	1.500	2.00	.031	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX1500X5C150	●	2	7.78	9.27	12.02	1.500	2.00	.031	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX1500X6C150	●	2	9.28	10.77	13.52	1.500	2.00	.031	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
1.562	2	MVX1562X2C150	●	2	3.40	4.90	7.65	1.500	2.00	.021	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	3	MVX1562X3C150	●	2	4.96	6.46	9.21	1.500	2.00	.021	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	4	MVX1562X4C150	●	2	6.53	8.02	10.77	1.500	2.00	.021	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	5	MVX1562X5C150	●	2	8.09	9.58	12.33	1.500	2.00	.021	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R
	6	MVX1562X6C150	●	2	9.65	11.15	13.90	1.500	2.00	.021	SOX11	TPS43	TIP15W	1/4	HSS08010	HKY40R






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

*2 Number of Teeth

Indexable Drill



(inch)


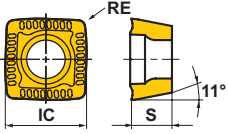

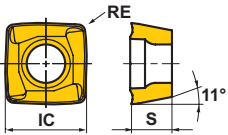

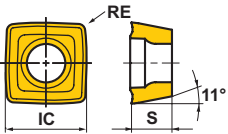

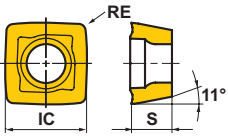
DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type					
												Clamp Screw	Wrench	CNT	Coolant Plug (Screw)	Coolant Plug (Wrench)
1.625	2	MVX1625X2C150	●	2	3.53	5.02	7.77	1.500	2.00	.053	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	3	MVX1625X3C150	●	2	5.15	6.65	9.40	1.500	2.00	.053	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	4	MVX1625X4C150	●	2	6.78	8.27	11.02	1.500	2.00	.053	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	5	MVX1625X5C150	●	2	8.40	9.90	12.65	1.500	2.00	.053	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	6	MVX1625X6C150	●	2	10.03	11.52	14.27	1.500	2.00	.053	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
1.687	2	MVX1687X2C150	●	2	3.65	5.15	7.90	1.500	2.00	.047	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	3	MVX1687X3C150	●	2	5.34	6.83	9.58	1.500	2.00	.047	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	4	MVX1687X4C150	●	2	7.03	8.52	11.27	1.500	2.00	.047	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	5	MVX1687X5C150	●	2	8.71	10.21	12.96	1.500	2.00	.047	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	6	MVX1687X6C150	●	2	10.40	11.90	14.65	1.500	2.00	.047	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
1.750	2	MVX1750X2C150	●	2	3.78	5.27	8.02	1.500	2.00	.041	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	3	MVX1750X3C150	●	2	5.53	7.02	9.77	1.500	2.00	.041	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	4	MVX1750X4C150	●	2	7.28	8.77	11.52	1.500	2.00	.041	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	5	MVX1750X5C150	●	2	9.03	10.52	13.27	1.500	2.00	.041	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
	1.812	2	MVX1812X2C150	●	2	3.90	5.40	8.15	1.500	2.00	.031	SOX13	TPS43	①TIP15W	1/4	HSS08010
3		MVX1812X3C150	●	2	5.71	7.21	9.96	1.500	2.00	.031	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
4		MVX1812X4C150	●	2	7.53	9.02	11.77	1.500	2.00	.031	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
5		MVX1812X5C150	●	2	9.34	10.83	13.58	1.500	2.00	.031	SOX13	TPS43	①TIP15W	1/4	HSS08010	HKY40R
1.875		2	MVX1875X2C150	●	2	4.03	5.60	8.35	1.500	2.48	.072	SOX16	TPS54	②TIP25D	1/4	HSS10012
	3	MVX1875X3C150	●	2	5.90	7.48	10.23	1.500	2.48	.072	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX1875X4C150	●	2	7.78	9.35	12.10	1.500	2.48	.072	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX1875X5C150	●	2	9.65	11.23	13.98	1.500	2.48	.072	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	1.937	2	MVX1937X2C150	●	2	4.15	5.73	8.48	1.500	2.48	.066	SOX16	TPS54	②TIP25D	1/4	HSS10012
3		MVX1937X3C150	●	2	6.09	7.66	10.41	1.500	2.48	.066	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
4		MVX1937X4C150	●	2	8.03	9.60	12.35	1.500	2.48	.066	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
5		MVX1937X5C150	●	2	9.96	11.54	14.29	1.500	2.48	.066	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
2.000		2	MVX2000X2C150	●	2	4.28	5.85	8.60	1.500	2.48	.060	SOX16	TPS54	②TIP25D	1/4	HSS10012
	3	MVX2000X3C150	●	2	6.28	7.85	10.60	1.500	2.48	.060	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX2000X4C150	●	2	8.28	9.85	12.60	1.500	2.48	.060	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX2000X5C150	●	2	10.28	11.85	14.60	1.500	2.48	.060	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	2.125	2	MVX2125X2C150	●	2	4.53	6.10	8.85	1.500	2.48	.047	SOX16	TPS54	②TIP25D	1/4	HSS10012
3		MVX2125X3C150	●	2	6.65	8.23	10.98	1.500	2.48	.047	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
4		MVX2125X4C150	●	2	8.78	10.35	13.10	1.500	2.48	.047	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
5		MVX2125X5C150	●	2	10.90	12.48	15.23	1.500	2.48	.047	SOX16	TPS54	②TIP25D	1/4	HSS10012	HKY50R
2.250		2	MVX2250X2C150	●	2	4.78	6.35	9.10	1.500	2.68	.057	SOX18	TPS54	②TIP25D	1/4	HSS10012
	3	MVX2250X3C150	●	2	7.03	8.60	11.35	1.500	2.68	.057	SOX18	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX2250X4C150	●	2	9.28	10.85	13.60	1.500	2.68	.057	SOX18	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX2250X5C150	●	2	11.53	13.10	15.85	1.500	2.68	.057	SOX18	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	2.375	2	MVX2375X2C150	●	2	5.03	6.60	9.35	1.500	2.68	.044	SOX18	TPS54	②TIP25D	1/4	HSS10012
3		MVX2375X3C150	●	2	7.40	8.98	11.73	1.500	2.68	.044	SOX18	TPS54	②TIP25D	1/4	HSS10012	HKY50R
4		MVX2375X4C150	●	2	9.78	11.35	14.10	1.500	2.68	.044	SOX18	TPS54	②TIP25D	1/4	HSS10012	HKY50R
5		MVX2375X5C150	●	2	12.15	13.73	16.48	1.500	2.68	.044	SOX18	TPS54	②TIP25D	1/4	HSS10012	HKY50R
2.500		2	MVX2500X2C150	●	2	5.28	6.85	9.60	1.500	2.68	.031	SOX18	TPS54	②TIP25D	1/4	HSS10012
	3	MVX2500X3C150	●	2	7.78	9.35	12.10	1.500	2.68	.031	SOX18	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	4	MVX2500X4C150	●	2	10.28	11.85	14.60	1.500	2.68	.031	SOX18	TPS54	②TIP25D	1/4	HSS10012	HKY50R
	5	MVX2500X5C150	●	2	12.78	14.35	17.10	1.500	2.68	.031	SOX18	TPS54	②TIP25D	1/4	HSS10012	HKY50R

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

*2 Number of Teeth

Inserts

(inch)

Shape	Drill Dia.	Insert Number	IC	S	RE	Stock					Geometry						
						MC5020	MC1020	VP15TF	DP8020	TF15							
 General Purpose	UM	$\phi.687'' - \phi.750''$ $\phi.812'' - \phi.875''$ $\phi.937'' - \phi1.062''$ $\phi1.125'' - \phi1.250''$ $\phi1.312'' - \phi1.562''$ $\phi1.625'' - \phi1.812''$ $\phi1.875'' - \phi2.125''$ $\phi2.250'' - \phi2.500''$	SOMX063005-UM SOMX073505-UM SOMX084005-UM SOMX094506-UM SOMX115506-UM SOMX136008-UM SOMX166508-UM SOMX187008-UM	.236	.118	.020	●	●	●								
	 For Stainless Steel and Inner Edge	US	SOMX063005-US SOMX073505-US SOMX084005-US SOMX094506-US SOMX115506-US SOMX136008-US SOMX166508-US SOMX187008-US	.236	.118	.020			●								
		 Strong Cutting Edge Type and Inner Edge	UH	NEW $\phi.687'' - \phi.750''$ SOMX062905-UH NEW $\phi.812'' - \phi.875''$ SOMX073405-UH NEW $\phi.937'' - \phi1.062''$ SOMX083905-UH NEW $\phi1.125'' - \phi1.250''$ SOMX094406-UH NEW $\phi1.312'' - \phi1.562''$ SOMX115406-UH NEW $\phi1.625'' - \phi1.812''$ SOMX135908-UH NEW $\phi1.875'' - \phi2.125''$ SOMX166408-UH NEW $\phi2.250'' - \phi2.500''$ SOMX186908-UH	.236	.114	.020				●						
			 For Aluminum Alloy	UN	NEW $\phi.687'' - \phi.750''$ SOGX063005-UN NEW $\phi.812'' - \phi.875''$ SOGX073505-UN NEW $\phi.937'' - \phi1.062''$ SOGX084005-UN NEW $\phi1.125'' - \phi1.250''$ SOGX094506-UN NEW $\phi1.312'' - \phi1.562''$ SOGX115506-UN NEW $\phi1.625'' - \phi1.812''$ SOGX136008-UN NEW $\phi1.875'' - \phi2.125''$ SOGX166508-UN NEW $\phi2.250'' - \phi2.500''$ SOGX187008-UN	.236	.118	.020								●	

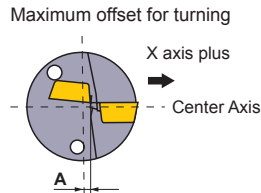
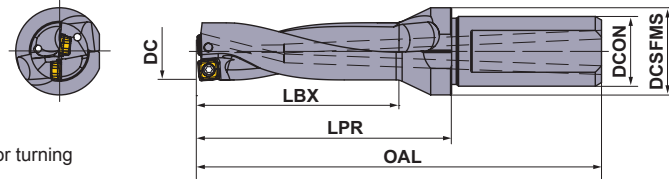
*MC1020 and MC5020 are made exclusively for use as an outer insert.

Indexable Drill

MVX



METRIC STANDARD



Side Coolant Not Available.

Machining Tolerance (guide)(mm)

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



DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type	(mm)	
												Clamp Screw	Wrench
17.0	2	MVX1700X2F20	★	2	41	56	99	20	25	0.50	SOX06	TPS25	TIP07F
	3	MVX1700X3F20	★	2	58	73	116	20	25	0.50	SOX06	TPS25	TIP07F
	4	MVX1700X4F20	★	2	75	90	133	20	25	0.50	SOX06	TPS25	TIP07F
	5	MVX1700X5F20	★	2	92	107	150	20	25	0.50	SOX06	TPS25	TIP07F
	6	MVX1700X6F20	★	2	109	124	167	20	25	0.50	SOX06	TPS25	TIP07F
17.5	2	MVX1750X2F25	★	2	42	62	112	25	32	0.45	SOX06	TPS25	TIP07F
	3	MVX1750X3F25	★	2	59.5	79.5	129.5	25	32	0.45	SOX06	TPS25	TIP07F
	4	MVX1750X4F25	★	2	77	97	147	25	32	0.45	SOX06	TPS25	TIP07F
	5	MVX1750X5F25	★	2	94.5	114.5	164.5	25	32	0.45	SOX06	TPS25	TIP07F
	6	MVX1750X6F25	★	2	112	132	182	25	32	0.45	SOX06	TPS25	TIP07F
18.0	2	MVX1800X2F25	★	2	43	63	113	25	32	0.40	SOX06	TPS25	TIP07F
	3	MVX1800X3F25	★	2	61	81	131	25	32	0.40	SOX06	TPS25	TIP07F
	4	MVX1800X4F25	★	2	79	99	149	25	32	0.40	SOX06	TPS25	TIP07F
	5	MVX1800X5F25	★	2	97	117	167	25	32	0.40	SOX06	TPS25	TIP07F
	6	MVX1800X6F25	★	2	115	135	185	25	32	0.40	SOX06	TPS25	TIP07F
18.5	2	MVX1850X2F25	★	2	44	64	114	25	32	0.35	SOX06	TPS25	TIP07F
	3	MVX1850X3F25	★	2	62.5	82.5	132.5	25	32	0.35	SOX06	TPS25	TIP07F
	4	MVX1850X4F25	★	2	81	101	151	25	32	0.35	SOX06	TPS25	TIP07F
	5	MVX1850X5F25	★	2	99.5	119.5	169.5	25	32	0.35	SOX06	TPS25	TIP07F
	6	MVX1850X6F25	★	2	118	138	188	25	32	0.35	SOX06	TPS25	TIP07F
19.0	2	MVX1900X2F25	★	2	45	65	115	25	32	0.30	SOX06	TPS25	TIP07F
	3	MVX1900X3F25	★	2	64	84	134	25	32	0.30	SOX06	TPS25	TIP07F
	4	MVX1900X4F25	★	2	83	103	153	25	32	0.30	SOX06	TPS25	TIP07F
	5	MVX1900X5F25	★	2	102	122	172	25	32	0.30	SOX06	TPS25	TIP07F
	6	MVX1900X6F25	★	2	121	141	191	25	32	0.30	SOX06	TPS25	TIP07F
19.5	2	MVX1950X2F25	★	2	46	66	116	25	32	0.25	SOX06	TPS25	TIP07F
	3	MVX1950X3F25	★	2	65.5	85.5	135.5	25	32	0.25	SOX06	TPS25	TIP07F
	4	MVX1950X4F25	★	2	85	105	155	25	32	0.25	SOX06	TPS25	TIP07F
	5	MVX1950X5F25	★	2	104.5	124.5	174.5	25	32	0.25	SOX06	TPS25	TIP07F
	6	MVX1950X6F25	★	2	124	144	194	25	32	0.25	SOX06	TPS25	TIP07F

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

*2 Number of Teeth

★ : Inventory maintained in Japan.

(mm)

DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type		
												Clamp Screw	Wrench
20.0	2	MVX2000X2F25	★	2	47	67	117	25	32	0.60	SOX07	TPS3	①TIP10F
	3	MVX2000X3F25	★	2	67	87	137	25	32	0.60	SOX07	TPS3	①TIP10F
	4	MVX2000X4F25	★	2	87	107	157	25	32	0.60	SOX07	TPS3	①TIP10F
	5	MVX2000X5F25	★	2	107	127	177	25	32	0.60	SOX07	TPS3	①TIP10F
	6	MVX2000X6F25	★	2	127	147	197	25	32	0.60	SOX07	TPS3	①TIP10F
20.5	2	MVX2050X2F25	★	2	48	68	118	25	32	0.55	SOX07	TPS3	①TIP10F
	3	MVX2050X3F25	★	2	68.5	88.5	138.5	25	32	0.55	SOX07	TPS3	①TIP10F
21.0	2	MVX2100X2F25	★	2	49	69	119	25	32	0.50	SOX07	TPS3	①TIP10F
	3	MVX2100X3F25	★	2	70	90	140	25	32	0.50	SOX07	TPS3	①TIP10F
	4	MVX2100X4F25	★	2	91	111	161	25	32	0.50	SOX07	TPS3	①TIP10F
	5	MVX2100X5F25	★	2	112	132	182	25	32	0.50	SOX07	TPS3	①TIP10F
	6	MVX2100X6F25	★	2	133	153	203	25	32	0.50	SOX07	TPS3	①TIP10F
21.5	2	MVX2150X2F25	★	2	50	70	120	25	32	0.45	SOX07	TPS3	①TIP10F
	3	MVX2150X3F25	★	2	71.5	91.5	141.5	25	32	0.45	SOX07	TPS3	①TIP10F
22.0	2	MVX2200X2F25	★	2	51	71	121	25	32	0.40	SOX07	TPS3	①TIP10F
	3	MVX2200X3F25	★	2	73	93	143	25	32	0.40	SOX07	TPS3	①TIP10F
	4	MVX2200X4F25	★	2	95	115	165	25	32	0.40	SOX07	TPS3	①TIP10F
	5	MVX2200X5F25	★	2	117	137	187	25	32	0.40	SOX07	TPS3	①TIP10F
	6	MVX2200X6F25	★	2	139	159	209	25	32	0.40	SOX07	TPS3	①TIP10F
22.5	2	MVX2250X2F25	★	2	52	72	122	25	32	0.35	SOX07	TPS3	①TIP10F
	3	MVX2250X3F25	★	2	74.5	94.5	144.5	25	32	0.35	SOX07	TPS3	①TIP10F
23.0	2	MVX2300X2F25	★	2	53	73	123	25	32	0.80	SOX08	TPS351	②TIP10W
	3	MVX2300X3F25	★	2	76	96	146	25	32	0.80	SOX08	TPS351	②TIP10W
	4	MVX2300X4F25	★	2	99	119	169	25	32	0.80	SOX08	TPS351	②TIP10W
	5	MVX2300X5F25	★	2	122	142	192	25	32	0.80	SOX08	TPS351	②TIP10W
	6	MVX2300X6F25	★	2	145	165	215	25	32	0.80	SOX08	TPS351	②TIP10W
23.5	2	MVX2350X2F25	★	2	54	74	124	25	32	0.75	SOX08	TPS351	②TIP10W
	3	MVX2350X3F25	★	2	77.5	97.5	147.5	25	32	0.75	SOX08	TPS351	②TIP10W
24.0	2	MVX2400X2F25	★	2	55	75	125	25	32	0.70	SOX08	TPS351	②TIP10W
	3	MVX2400X3F25	★	2	79	99	149	25	32	0.70	SOX08	TPS351	②TIP10W
	4	MVX2400X4F25	★	2	103	123	173	25	32	0.70	SOX08	TPS351	②TIP10W
	5	MVX2400X5F25	★	2	127	147	197	25	32	0.70	SOX08	TPS351	②TIP10W
	6	MVX2400X6F25	★	2	151	171	221	25	32	0.70	SOX08	TPS351	②TIP10W
24.5	2	MVX2450X2F25	★	2	56	76	126	25	32	0.65	SOX08	TPS351	②TIP10W
	3	MVX2450X3F25	★	2	80.5	100.5	150.5	25	32	0.65	SOX08	TPS351	②TIP10W
25.0	2	MVX2500X2F25	★	2	57	77	127	25	32	0.60	SOX08	TPS351	②TIP10W
	3	MVX2500X3F25	★	2	82	102	152	25	32	0.60	SOX08	TPS351	②TIP10W
	4	MVX2500X4F25	★	2	107	127	177	25	32	0.60	SOX08	TPS351	②TIP10W
	5	MVX2500X5F25	★	2	132	152	202	25	32	0.60	SOX08	TPS351	②TIP10W
	6	MVX2500X6F25	★	2	157	177	227	25	32	0.60	SOX08	TPS351	②TIP10W
25.5	2	MVX2550X2F25	★	2	58	78	128	25	32	0.60	SOX08	TPS351	②TIP10W
	3	MVX2550X3F25	★	2	83.5	103.5	153.5	25	32	0.60	SOX08	TPS351	②TIP10W
26.0	2	MVX2600X2F32	★	2	59	79	134	32	42	0.50	SOX08	TPS351	②TIP10W
	3	MVX2600X3F32	★	2	85	105	160	32	42	0.50	SOX08	TPS351	②TIP10W
	4	MVX2600X4F32	★	2	111	131	186	32	42	0.50	SOX08	TPS351	②TIP10W
	5	MVX2600X5F32	★	2	137	157	212	32	42	0.50	SOX08	TPS351	②TIP10W
	6	MVX2600X6F32	★	2	163	183	238	32	42	0.50	SOX08	TPS351	②TIP10W



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

*2 Number of Teeth

Indexable Drill

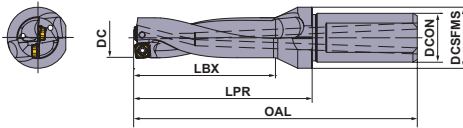
MVX

(mm)



DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type		
												Clamp Screw	Wrench
26.5	2	MVX2650X2F32	★	2	60	80	135	32	42	0.50	SOX08	TPS351	TIP10W
	3	MVX2650X3F32	★	2	86.5	106.5	161.5	32	42	0.50	SOX08	TPS351	TIP10W
27.0	2	MVX2700X2F32	★	2	61	81	136	32	42	0.45	SOX08	TPS351	TIP10W
	3	MVX2700X3F32	★	2	88	108	163	32	42	0.45	SOX08	TPS351	TIP10W
	4	MVX2700X4F32	★	2	115	135	190	32	42	0.45	SOX08	TPS351	TIP10W
	5	MVX2700X5F32	★	2	142	162	217	32	42	0.45	SOX08	TPS351	TIP10W
	6	MVX2700X6F32	★	2	169	189	244	32	42	0.45	SOX08	TPS351	TIP10W
27.5	2	MVX2750X2F32	★	2	62	82	137	32	42	0.40	SOX08	TPS351	TIP10W
	3	MVX2750X3F32	★	2	89.5	109.5	164.5	32	42	0.40	SOX08	TPS351	TIP10W
28.0	2	MVX2800X2F32	★	2	63	83	138	32	42	0.85	SOX09	TPS4	TIP15W
	3	MVX2800X3F32	★	2	91	111	166	32	42	0.85	SOX09	TPS4	TIP15W
	4	MVX2800X4F32	★	2	119	139	194	32	42	0.85	SOX09	TPS4	TIP15W
	5	MVX2800X5F32	★	2	147	167	222	32	42	0.85	SOX09	TPS4	TIP15W
	6	MVX2800X6F32	★	2	175	195	250	32	42	0.85	SOX09	TPS4	TIP15W
	28.5	2	MVX2850X2F32	★	2	64	84	139	32	42	0.80	SOX09	TPS4
3		MVX2850X3F32	★	2	92.5	112.5	167.5	32	42	0.80	SOX09	TPS4	TIP15W
29.0	2	MVX2900X2F32	★	2	65	85	140	32	42	0.75	SOX09	TPS4	TIP15W
	3	MVX2900X3F32	★	2	94	114	169	32	42	0.75	SOX09	TPS4	TIP15W
	4	MVX2900X4F32	★	2	123	143	198	32	42	0.75	SOX09	TPS4	TIP15W
	5	MVX2900X5F32	★	2	152	172	227	32	42	0.75	SOX09	TPS4	TIP15W
	6	MVX2900X6F32	★	2	181	201	256	32	42	0.75	SOX09	TPS4	TIP15W
	29.5	2	MVX2950X2F32	★	2	66	86	141	32	42	0.70	SOX09	TPS4
3		MVX2950X3F32	★	2	95.5	115.5	170.5	32	42	0.70	SOX09	TPS4	TIP15W
30.0	2	MVX3000X2F32	★	2	67	87	142	32	42	0.65	SOX09	TPS4	TIP15W
	3	MVX3000X3F32	★	2	97	117	172	32	42	0.65	SOX09	TPS4	TIP15W
	4	MVX3000X4F32	★	2	127	147	202	32	42	0.65	SOX09	TPS4	TIP15W
	5	MVX3000X5F32	★	2	157	177	232	32	42	0.65	SOX09	TPS4	TIP15W
	6	MVX3000X6F32	★	2	187	207	262	32	42	0.65	SOX09	TPS4	TIP15W
	30.5	3	MVX3050X3F32	★	2	98.5	118.5	173.5	32	42	0.60	SOX09	TPS4
31.0	2	MVX3100X2F40	★	2	69	89	154	40	50	0.55	SOX09	TPS4	TIP15W
	3	MVX3100X3F40	★	2	100	120	185	40	50	0.55	SOX09	TPS4	TIP15W
	4	MVX3100X4F40	★	2	131	151	216	40	50	0.55	SOX09	TPS4	TIP15W
	5	MVX3100X5F40	★	2	162	182	247	40	50	0.55	SOX09	TPS4	TIP15W
	6	MVX3100X6F40	★	2	193	213	278	40	50	0.55	SOX09	TPS4	TIP15W
	31.5	3	MVX3150X3F40	★	2	101.5	121.5	186.5	40	50	0.55	SOX09	TPS4
32.0	2	MVX3200X2F40	★	2	71	91	156	40	50	0.45	SOX09	TPS4	TIP15W
	3	MVX3200X3F40	★	2	103	123	188	40	50	0.45	SOX09	TPS4	TIP15W
	4	MVX3200X4F40	★	2	135	155	220	40	50	0.45	SOX09	TPS4	TIP15W
	5	MVX3200X5F40	★	2	167	187	252	40	50	0.45	SOX09	TPS4	TIP15W
	6	MVX3200X6F40	★	2	199	219	284	40	50	0.45	SOX09	TPS4	TIP15W
	32.5	3	MVX3250X3F40	★	2	104.5	124.5	189.5	40	50	0.45	SOX09	TPS4
33.0	2	MVX3300X2F40	★	2	73	93	158	40	50	0.40	SOX09	TPS4	TIP15W
	3	MVX3300X3F40	★	2	106	126	191	40	50	0.40	SOX09	TPS4	TIP15W
	4	MVX3300X4F40	★	2	139	159	224	40	50	0.40	SOX09	TPS4	TIP15W
	5	MVX3300X5F40	★	2	172	192	257	40	50	0.40	SOX09	TPS4	TIP15W
	6	MVX3300X6F40	★	2	205	225	290	40	50	0.40	SOX09	TPS4	TIP15W

*1 Clamp Torque (lb·in) : TIP10W=22, TIP15W=31

*2 Number of Teeth



(mm)

DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type		
												Clamp Screw	Wrench
33.5	3	MVX3350X3F40	★	2	107.5	127.5	192.5	40	50	1.15	SOX11	TPS43	TIP15W
	2	MVX3400X2F40	★	2	75	105	170	40	50	1.11	SOX11	TPS43	TIP15W
34.0	3	MVX3400X3F40	★	2	109	139	204	40	50	1.11	SOX11	TPS43	TIP15W
	4	MVX3400X4F40	★	2	143	173	238	40	50	1.11	SOX11	TPS43	TIP15W
	5	MVX3400X5F40	★	2	177	207	272	40	50	1.11	SOX11	TPS43	TIP15W
	6	MVX3400X6F40	★	2	211	241	306	40	50	1.10	SOX11	TPS43	TIP15W
34.5	3	MVX3450X3F40	★	2	110.5	140.5	205.5	40	50	1.08	SOX11	TPS43	TIP15W
35.0	2	MVX3500X2F40	★	2	77	107	172	40	50	1.03	SOX11	TPS43	TIP15W
	3	MVX3500X3F40	★	2	112	142	207	40	50	1.03	SOX11	TPS43	TIP15W
	4	MVX3500X4F40	★	2	147	177	242	40	50	1.03	SOX11	TPS43	TIP15W
	5	MVX3500X5F40	★	2	182	212	277	40	50	1.03	SOX11	TPS43	TIP15W
35.5	3	MVX3550X3F40	★	2	113.5	143.5	208.5	40	50	0.99	SOX11	TPS43	TIP15W
	2	MVX3600X2F40	★	2	79	109	174	40	50	0.95	SOX11	TPS43	TIP15W
36.0	3	MVX3600X3F40	★	2	115	145	210	40	50	0.95	SOX11	TPS43	TIP15W
	4	MVX3600X4F40	★	2	151	181	246	40	50	0.95	SOX11	TPS43	TIP15W
	5	MVX3600X5F40	★	2	187	217	282	40	50	0.95	SOX11	TPS43	TIP15W
	6	MVX3600X6F40	★	2	223	253	318	40	50	0.94	SOX11	TPS43	TIP15W
37.0	2	MVX3700X2F40	★	2	81	111	176	40	50	0.87	SOX11	TPS43	TIP15W
	3	MVX3700X3F40	★	2	118	148	213	40	50	0.87	SOX11	TPS43	TIP15W
	4	MVX3700X4F40	★	2	155	185	250	40	50	0.87	SOX11	TPS43	TIP15W
	5	MVX3700X5F40	★	2	192	222	287	40	50	0.87	SOX11	TPS43	TIP15W
	6	MVX3700X6F40	★	2	229	259	324	40	50	0.86	SOX11	TPS43	TIP15W
38.0	2	MVX3800X2F40	★	2	83	113	178	40	50	0.79	SOX11	TPS43	TIP15W
	3	MVX3800X3F40	★	2	121	151	216	40	50	0.79	SOX11	TPS43	TIP15W
	4	MVX3800X4F40	★	2	159	189	254	40	50	0.79	SOX11	TPS43	TIP15W
	5	MVX3800X5F40	★	2	197	227	292	40	50	0.79	SOX11	TPS43	TIP15W
	6	MVX3800X6F40	★	2	235	265	330	40	50	0.78	SOX11	TPS43	TIP15W
39.0	2	MVX3900X2F40	★	2	85	115	180	40	50	0.71	SOX11	TPS43	TIP15W
	3	MVX3900X3F40	★	2	124	154	219	40	50	0.71	SOX11	TPS43	TIP15W
	4	MVX3900X4F40	★	2	163	193	258	40	50	0.71	SOX11	TPS43	TIP15W
	5	MVX3900X5F40	★	2	202	232	297	40	50	0.71	SOX11	TPS43	TIP15W
	6	MVX3900X6F40	★	2	241	271	336	40	50	0.70	SOX11	TPS43	TIP15W
40.0	2	MVX4000X2F40	★	2	87	117	182	40	50	1.46	SOX13	TPS43	TIP15W
	3	MVX4000X3F40	★	2	127	157	222	40	50	1.46	SOX13	TPS43	TIP15W
	4	MVX4000X4F40	★	2	167	197	262	40	50	1.46	SOX13	TPS43	TIP15W
	5	MVX4000X5F40	★	2	207	237	302	40	50	1.46	SOX13	TPS43	TIP15W
	6	MVX4000X6F40	★	2	247	277	342	40	50	1.45	SOX13	TPS43	TIP15W
41.0	2	MVX4100X2F40	★	2	89	119	184	40	50	1.36	SOX13	TPS43	TIP15W
	3	MVX4100X3F40	★	2	130	160	225	40	50	1.36	SOX13	TPS43	TIP15W
	4	MVX4100X4F40	★	2	171	201	266	40	50	1.36	SOX13	TPS43	TIP15W
	5	MVX4100X5F40	★	2	212	242	307	40	50	1.36	SOX13	TPS43	TIP15W
	6	MVX4100X6F40	★	2	253	283	348	40	50	1.35	SOX13	TPS43	TIP15W



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

*2 Number of Teeth

Indexable Drill

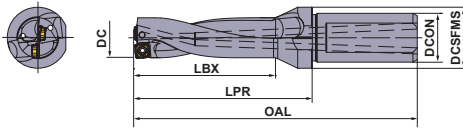
MVX

(mm)



DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type		
												Clamp Screw	Wrench
42.0	2	MVX4200X2F40	★	2	91	121	186	40	50	1.27	SOX13	TPS43	①TIP15W
	3	MVX4200X3F40	★	2	133	163	228	40	50	1.27	SOX13	TPS43	①TIP15W
	4	MVX4200X4F40	★	2	175	205	270	40	63	1.27	SOX13	TPS43	①TIP15W
	4	MVX4200X4F50	★	2	175	205	280	50	63	1.27	SOX13	TPS43	①TIP15W
	5	MVX4200X5F40	★	2	217	247	312	40	63	1.27	SOX13	TPS43	①TIP15W
	5	MVX4200X5F50	★	2	217	247	322	50	63	1.27	SOX13	TPS43	①TIP15W
	6	MVX4200X6F40	★	2	259	289	354	40	63	1.27	SOX13	TPS43	①TIP15W
	6	MVX4200X6F50	★	2	259	289	364	50	63	1.26	SOX13	TPS43	①TIP15W
43.0	2	MVX4300X2F40	★	2	93	123	188	40	50	1.18	SOX13	TPS43	①TIP15W
	3	MVX4300X3F40	★	2	136	166	231	40	50	1.18	SOX13	TPS43	①TIP15W
	4	MVX4300X4F40	★	2	179	209	274	40	63	1.18	SOX13	TPS43	①TIP15W
	4	MVX4300X4F50	★	2	179	209	284	50	63	1.18	SOX13	TPS43	①TIP15W
	5	MVX4300X5F40	★	2	222	252	317	40	63	1.18	SOX13	TPS43	①TIP15W
	5	MVX4300X5F50	★	2	222	252	327	50	63	1.18	SOX13	TPS43	①TIP15W
	6	MVX4300X6F40	★	2	265	295	360	40	63	1.17	SOX13	TPS43	①TIP15W
	6	MVX4300X6F50	★	2	265	295	370	50	63	1.17	SOX13	TPS43	①TIP15W
44.0	2	MVX4400X2F40	★	2	95	125	190	40	50	1.08	SOX13	TPS43	①TIP15W
	3	MVX4400X3F40	★	2	139	169	234	40	50	1.08	SOX13	TPS43	①TIP15W
	4	MVX4400X4F40	★	2	183	213	278	40	63	1.08	SOX13	TPS43	①TIP15W
	4	MVX4400X4F50	★	2	183	213	288	50	63	1.08	SOX13	TPS43	①TIP15W
	5	MVX4400X5F40	★	2	227	257	322	40	63	1.08	SOX13	TPS43	①TIP15W
	5	MVX4400X5F50	★	2	227	257	332	50	63	1.08	SOX13	TPS43	①TIP15W
45.0	2	MVX4500X2F40	★	2	97	127	192	40	50	0.99	SOX13	TPS43	①TIP15W
	3	MVX4500X3F40	★	2	142	172	237	40	50	0.99	SOX13	TPS43	①TIP15W
	4	MVX4500X4F40	★	2	187	217	282	40	63	0.99	SOX13	TPS43	①TIP15W
	4	MVX4500X4F50	★	2	187	217	292	50	63	0.99	SOX13	TPS43	①TIP15W
	5	MVX4500X5F40	★	2	232	262	327	40	63	0.99	SOX13	TPS43	①TIP15W
	5	MVX4500X5F50	★	2	232	262	337	50	63	0.99	SOX13	TPS43	①TIP15W
46.0	2	MVX4600X2F40	★	2	99	129	194	40	50	0.89	SOX13	TPS43	①TIP15W
	3	MVX4600X3F40	★	2	145	175	240	40	50	0.89	SOX13	TPS43	①TIP15W
	4	MVX4600X4F40	★	2	191	221	286	40	63	0.89	SOX13	TPS43	①TIP15W
	4	MVX4600X4F50	★	2	191	221	296	50	63	0.89	SOX13	TPS43	①TIP15W
	5	MVX4600X5F40	★	2	237	267	332	40	63	0.89	SOX13	TPS43	①TIP15W
	5	MVX4600X5F50	★	2	237	267	342	50	63	0.89	SOX13	TPS43	①TIP15W
47.0	2	MVX4700X2F40	★	2	101	141	206	40	63	1.90	SOX16	TPS54	②TIP25D
	3	MVX4700X3F40	★	2	148	188	253	40	63	1.90	SOX16	TPS54	②TIP25D
	4	MVX4700X4F40	★	2	195	235	300	40	63	1.90	SOX16	TPS54	②TIP25D
	4	MVX4700X4F50	★	2	195	235	310	50	63	1.90	SOX16	TPS54	②TIP25D
	5	MVX4700X5F40	★	2	242	282	347	40	63	1.90	SOX16	TPS54	②TIP25D
	5	MVX4700X5F50	★	2	242	282	357	50	63	1.90	SOX16	TPS54	②TIP25D
48.0	2	MVX4800X2F40	★	2	103	143	208	40	63	1.80	SOX16	TPS54	②TIP25D
	3	MVX4800X3F40	★	2	151	191	256	40	63	1.80	SOX16	TPS54	②TIP25D
	4	MVX4800X4F40	★	2	199	239	304	40	63	1.80	SOX16	TPS54	②TIP25D
	4	MVX4800X4F50	★	2	199	239	314	50	63	1.80	SOX16	TPS54	②TIP25D
	5	MVX4800X5F40	★	2	247	287	352	40	63	1.80	SOX16	TPS54	②TIP25D
	5	MVX4800X5F50	★	2	247	287	362	50	63	1.80	SOX16	TPS54	②TIP25D

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

*2 Number of Teeth



(mm)

DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type		
												Clamp Screw	Wrench
49.0	2	MVX4900X2F40	★	2	105	145	210	40	63	1.70	SOX16	TPS54	TIP25D
	3	MVX4900X3F40	★	2	154	194	259	40	63	1.70	SOX16	TPS54	TIP25D
	4	MVX4900X4F40	★	2	203	243	308	40	63	1.70	SOX16	TPS54	TIP25D
	4	MVX4900X4F50	★	2	203	243	318	50	63	1.70	SOX16	TPS54	TIP25D
	5	MVX4900X5F40	★	2	252	292	357	40	63	1.70	SOX16	TPS54	TIP25D
	5	MVX4900X5F50	★	2	252	292	367	50	63	1.70	SOX16	TPS54	TIP25D
50.0	2	MVX5000X2F40	★	2	107	147	212	40	63	1.60	SOX16	TPS54	TIP25D
	3	MVX5000X3F40	★	2	157	197	262	40	63	1.60	SOX16	TPS54	TIP25D
	4	MVX5000X4F40	★	2	207	247	312	40	63	1.60	SOX16	TPS54	TIP25D
	4	MVX5000X4F50	★	2	207	247	322	50	63	1.60	SOX16	TPS54	TIP25D
	5	MVX5000X5F40	★	2	257	297	362	40	63	1.60	SOX16	TPS54	TIP25D
	5	MVX5000X5F50	★	2	257	297	372	50	63	1.60	SOX16	TPS54	TIP25D
51.0	2	MVX5100X2F40	★	2	109	149	214	40	63	1.50	SOX16	TPS54	TIP25D
	3	MVX5100X3F40	★	2	160	200	265	40	63	1.50	SOX16	TPS54	TIP25D
	4	MVX5100X4F40	★	2	211	251	316	40	63	1.50	SOX16	TPS54	TIP25D
	4	MVX5100X4F50	★	2	211	251	326	50	63	1.50	SOX16	TPS54	TIP25D
	5	MVX5100X5F40	★	2	262	302	367	40	63	1.50	SOX16	TPS54	TIP25D
	5	MVX5100X5F50	★	2	262	302	377	50	63	1.50	SOX16	TPS54	TIP25D
52.0	2	MVX5200X2F40	★	2	111	151	216	40	63	1.39	SOX16	TPS54	TIP25D
	3	MVX5200X3F40	★	2	163	203	268	40	63	1.39	SOX16	TPS54	TIP25D
	4	MVX5200X4F40	★	2	215	255	320	40	63	1.39	SOX16	TPS54	TIP25D
	4	MVX5200X4F50	★	2	215	255	330	50	63	1.39	SOX16	TPS54	TIP25D
	5	MVX5200X5F40	★	2	267	307	372	40	63	1.39	SOX16	TPS54	TIP25D
	5	MVX5200X5F50	★	2	267	307	382	50	63	1.39	SOX16	TPS54	TIP25D
53.0	2	MVX5300X2F40	★	2	113	153	218	40	63	1.29	SOX16	TPS54	TIP25D
	3	MVX5300X3F40	★	2	166	206	271	40	63	1.29	SOX16	TPS54	TIP25D
	4	MVX5300X4F40	★	2	219	259	324	40	63	1.29	SOX16	TPS54	TIP25D
	4	MVX5300X4F50	★	2	219	259	334	50	63	1.29	SOX16	TPS54	TIP25D
	5	MVX5300X5F40	★	2	272	312	377	40	63	1.29	SOX16	TPS54	TIP25D
	5	MVX5300X5F50	★	2	272	312	387	50	63	1.29	SOX16	TPS54	TIP25D
54.0	2	MVX5400X2F40	★	2	115	155	220	40	63	1.19	SOX16	TPS54	TIP25D
	3	MVX5400X3F40	★	2	169	209	274	40	63	1.19	SOX16	TPS54	TIP25D
	4	MVX5400X4F40	★	2	223	263	328	40	63	1.19	SOX16	TPS54	TIP25D
	4	MVX5400X4F50	★	2	223	263	338	50	63	1.19	SOX16	TPS54	TIP25D
	5	MVX5400X5F40	★	2	277	317	382	40	63	1.19	SOX16	TPS54	TIP25D
	5	MVX5400X5F50	★	2	277	317	392	50	63	1.19	SOX16	TPS54	TIP25D
55.0	2	MVX5500X2F40	★	2	117	157	222	40	63	1.08	SOX16	TPS54	TIP25D
	3	MVX5500X3F40	★	2	172	212	277	40	63	1.08	SOX16	TPS54	TIP25D
	4	MVX5500X4F40	★	2	227	267	332	40	63	1.08	SOX16	TPS54	TIP25D
	4	MVX5500X4F50	★	2	227	267	342	50	63	1.08	SOX16	TPS54	TIP25D
	5	MVX5500X5F40	★	2	282	322	387	40	63	1.08	SOX16	TPS54	TIP25D
	5	MVX5500X5F50	★	2	282	322	397	50	63	1.08	SOX16	TPS54	TIP25D
56.0	2	MVX5600X2F40	★	2	119	159	224	40	63	0.98	SOX16	TPS54	TIP25D
	3	MVX5600X3F40	★	2	175	215	280	40	63	0.98	SOX16	TPS54	TIP25D
	4	MVX5600X4F40	★	2	231	271	336	40	63	0.98	SOX16	TPS54	TIP25D
	4	MVX5600X4F50	★	2	231	271	346	50	63	0.98	SOX16	TPS54	TIP25D
	5	MVX5600X5F40	★	2	287	327	392	40	63	0.98	SOX16	TPS54	TIP25D
	5	MVX5600X5F50	★	2	287	327	402	50	63	0.98	SOX16	TPS54	TIP25D



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

*2 Number of Teeth

Indexable Drill

MVX

(mm)


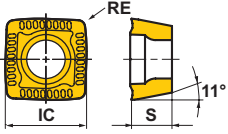
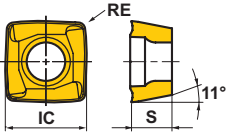

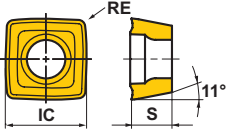

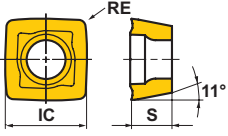
DC	Hole Depth (l/d)	Order Number	Stock	*2 No.T	LBX	LPR	OAL	DCON	DCSFMS	A	Insert Type		
												Clamp Screw	Wrench
57.0	2	MVX5700X2F40	★	2	121	161	226	40	68	1.47	SOX18	TPS54	TIP25D
	3	MVX5700X3F40	★	2	178	218	283	40	68	1.47	SOX18	TPS54	TIP25D
	4	MVX5700X4F40	★	2	235	275	340	40	68	1.47	SOX18	TPS54	TIP25D
	4	MVX5700X4F50	★	2	235	275	350	50	68	1.47	SOX18	TPS54	TIP25D
	5	MVX5700X5F40	★	2	292	332	397	40	68	1.47	SOX18	TPS54	TIP25D
	5	MVX5700X5F50	★	2	292	332	407	50	68	1.47	SOX18	TPS54	TIP25D
58.0	2	MVX5800X2F40	★	2	123	163	228	40	68	1.37	SOX18	TPS54	TIP25D
	3	MVX5800X3F40	★	2	181	221	286	40	68	1.37	SOX18	TPS54	TIP25D
	4	MVX5800X4F40	★	2	239	279	344	40	68	1.37	SOX18	TPS54	TIP25D
	4	MVX5800X4F50	★	2	239	279	354	50	68	1.37	SOX18	TPS54	TIP25D
	5	MVX5800X5F40	★	2	297	337	402	40	68	1.37	SOX18	TPS54	TIP25D
	5	MVX5800X5F50	★	2	297	337	412	50	68	1.37	SOX18	TPS54	TIP25D
59.0	2	MVX5900X2F40	★	2	125	165	230	40	68	1.26	SOX18	TPS54	TIP25D
	3	MVX5900X3F40	★	2	184	224	289	40	68	1.26	SOX18	TPS54	TIP25D
	4	MVX5900X4F40	★	2	243	283	348	40	68	1.26	SOX18	TPS54	TIP25D
	4	MVX5900X4F50	★	2	243	283	358	50	68	1.26	SOX18	TPS54	TIP25D
	5	MVX5900X5F40	★	2	302	342	407	40	68	1.26	SOX18	TPS54	TIP25D
	5	MVX5900X5F50	★	2	302	342	417	50	68	1.26	SOX18	TPS54	TIP25D
60.0	2	MVX6000X2F40	★	2	127	167	232	40	68	1.16	SOX18	TPS54	TIP25D
	3	MVX6000X3F40	★	2	187	227	292	40	68	1.16	SOX18	TPS54	TIP25D
	4	MVX6000X4F40	★	2	247	287	352	40	68	1.16	SOX18	TPS54	TIP25D
	4	MVX6000X4F50	★	2	247	287	362	50	68	1.16	SOX18	TPS54	TIP25D
	5	MVX6000X5F40	★	2	307	347	412	40	68	1.16	SOX18	TPS54	TIP25D
	5	MVX6000X5F50	★	2	307	347	422	50	68	1.16	SOX18	TPS54	TIP25D
61.0	2	MVX6100X2F40	★	2	129	169	234	40	68	1.05	SOX18	TPS54	TIP25D
	3	MVX6100X3F40	★	2	190	230	295	40	68	1.05	SOX18	TPS54	TIP25D
	4	MVX6100X4F40	★	2	251	291	356	40	68	1.05	SOX18	TPS54	TIP25D
	4	MVX6100X4F50	★	2	251	291	366	50	68	1.05	SOX18	TPS54	TIP25D
	5	MVX6100X5F40	★	2	312	352	417	40	68	1.05	SOX18	TPS54	TIP25D
	5	MVX6100X5F50	★	2	312	352	427	50	68	1.05	SOX18	TPS54	TIP25D
62.0	2	MVX6200X2F40	★	2	131	171	236	40	68	0.95	SOX18	TPS54	TIP25D
	3	MVX6200X3F40	★	2	193	233	298	40	68	0.95	SOX18	TPS54	TIP25D
	4	MVX6200X4F40	★	2	255	295	360	40	68	0.95	SOX18	TPS54	TIP25D
	4	MVX6200X4F50	★	2	255	295	370	50	68	0.95	SOX18	TPS54	TIP25D
	5	MVX6200X5F40	★	2	317	357	422	40	68	0.95	SOX18	TPS54	TIP25D
	5	MVX6200X5F50	★	2	317	357	432	50	68	0.95	SOX18	TPS54	TIP25D
63.0	2	MVX6300X2F40	★	2	133	173	238	40	68	0.85	SOX18	TPS54	TIP25D
	3	MVX6300X3F40	★	2	196	236	301	40	68	0.85	SOX18	TPS54	TIP25D
	4	MVX6300X4F40	★	2	259	299	364	40	68	0.85	SOX18	TPS54	TIP25D
	4	MVX6300X4F50	★	2	259	299	374	50	68	0.85	SOX18	TPS54	TIP25D
	5	MVX6300X5F40	★	2	322	362	427	40	68	0.85	SOX18	TPS54	TIP25D
	5	MVX6300X5F50	★	2	322	362	437	50	68	0.85	SOX18	TPS54	TIP25D

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

*2 Number of Teeth

Inserts

(mm)

Shape	Drill Dia.	Insert Number	IC	S	RE	Stock					Geometry					
						MC5020	MC1020	VP15TF	DP8020	TF15						
 General Purpose	UM	ø17—ø19.5 SOMX063005-UM ø20—ø22.5 SOMX073505-UM ø23—ø27.5 SOMX084005-UM ø28—ø33 SOMX094506-UM ø33.5—ø39 SOMX115506-UM ø40—ø46 SOMX136008-UM ø47—ø56 SOMX166508-UM ø57—ø63 SOMX187008-UM	6.0	3.0	0.5	●	●	●								
	US	ø17—ø19.5 SOMX063005-US ø20—ø22.5 SOMX073505-US ø23—ø27.5 SOMX084005-US ø28—ø33 SOMX094506-US ø33.5—ø39 SOMX115506-US ø40—ø46 SOMX136008-US ø47—ø56 SOMX166508-US ø57—ø63 SOMX187008-US	6.0	3.0	0.5			●								
	 Strong Cutting Edge Type and Inner Edge	UH	ø17—ø19.5 SOMX062905-UH ø20—ø22.5 SOMX073405-UH ø23—ø27.5 SOMX083905-UH ø28—ø33 SOMX094406-UH ø33.5—ø39 SOMX115406-UH ø40—ø46 SOMX135908-UH ø47—ø56 SOMX166408-UH ø57—ø63 SOMX186908-UH	6.0	2.9	0.5				●						
		 For Aluminum Alloy	UN	ø17—ø19.5 SOGX063005-UN ø20—ø22.5 SOGX073505-UN ø23—ø27.5 SOGX084005-UN ø28—ø33 SOGX094506-UN ø33.5—ø39 SOGX115506-UN ø40—ø46 SOGX136008-UN ø47—ø56 SOGX166508-UN ø57—ø63 SOGX187008-UN	6.0	3.0	0.5								●	

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

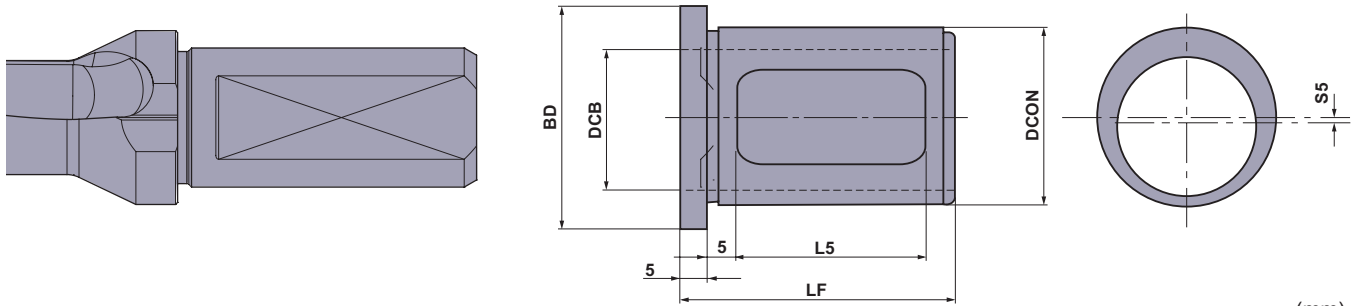
Recommended Cutting Conditions

Work Material	Hardness	vc (SFM)	Inner Breaker	$\phi.687'' - \phi.750''$ $\phi17 - \phi19.5\text{mm}$				
				fr (IPR)				
				l/d=2, 3	l/d=4	l/d=5	l/d=6	
P	Mild Steel	≤180HB 655 (590–770)	UM	.0020	.0020	.0020	.0016	
			UH	(.0016–.0024)	(.0016–.0024)	(.0016–.0024)	(.0016–.0020)	
	Carbon Steel, Alloy Steel	180–280HB 460 (375–590)	UM	.0031	.0031	.0031	.0020	
			UH	(.0024–.0055)	(.0024–.0035)	(.0024–.0035)	(.0016–.0024)	
	Carbon Steel, Alloy Steel	280–350HB 330 (245–460)	UM	.0031	.0031	.0031	.0020	
			UH	(.0024–.0055)	(.0024–.0035)	(.0024–.0035)	(.0016–.0024)	
	Alloy Tool Steel	≤350HB 440 (330–560)	UM	.0024	.0031	.0031	.0020	
			UH	(.0024–.0055)	(.0024–.0035)	(.0024–.0035)	(.0016–.0024)	
M	Austenitic Stainless Steel	≤200HB 425 (260–590)	US	.0031	.0024	.0024	.0020	
			UM	(.0016–.0031)	(.0016–.0024)	(.0016–.0024)	(.0016–.0020)	
	Austenitic Stainless Steel	>200HB 425 (260–590)	US	.0031	.0024	.0024	.0020	
			UM	(.0016–.0031)	(.0016–.0024)	(.0016–.0024)	(.0016–.0020)	
	Ferritic and Martensitic Stainless Steel	≤200HB 390 (260–540)	US	.0031	.0024	.0024	.0020	
			UM	(.0016–.0031)	(.0016–.0024)	(.0016–.0024)	(.0016–.0020)	
	Ferritic and Martensitic Stainless Steel	>200HB 390 (260–540)	US	.0031	.0024	.0024	.0020	
			UM	(.0016–.0031)	(.0016–.0024)	(.0016–.0024)	(.0016–.0020)	
	K	Gray Cast Iron	Tensile Strength ≤350MPa 525 (425–640)	UM	.0043	.0035	.0035	.0020
		Ductile Cast Iron	Tensile Strength ≤450MPa 330 (260–440)	UM	.0043	.0035	.0035	.0020
Ductile Cast Iron		Tensile Strength ≤800MPa 330 (230–410)	UM	.0043	.0035	.0035	.0020	
N	Aluminum Alloy	Si < 5% 655 (330–1150)	UN	.0048	.0048	.0048	.0032	
	Aluminum Alloy	5% ≤ Si ≤ 10% 490 (330–655)	UN	.0048	.0048	.0048	.0032	
	Aluminum Alloy	Si > 10% 490 (330–655)	UN	.0048	.0048	.0048	.0032	
H	Hardened Steel	38–45HRC 165 (100–260)	UH	.0032	.0024	—	—	

- 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.

JUST FIT SLEEVE [JFS]

● A sleeve for the shank of the drill to allow the cutting diameter to be increased.



(mm)

Order Number	Stock	Set Order Number	DCB	DCON	BD	LF	L5	*Increase (S5×2)	MXV Order Number The Last Three Letters
JFS2520-10	★	JFS-1	20	25	33	43	30	0.1	F20
JFS2520-20	★	JFS-1	20	25	33	43	30	0.2	F20
JFS2520-30	★	JFS-1	20	25	33	43	30	0.3	F20
JFS2520-40	★	JFS-1	20	25	33	43	30	0.4	F20
JFS2520-50	★	JFS-1	20	25	33	43	30	0.5	F20
JFS3225-10	★	JFS-2	25	32	40	50	34	0.1	F25
JFS3225-20	★	JFS-2	25	32	40	50	34	0.2	F25
JFS3225-30	★	JFS-2	25	32	40	50	34	0.3	F25
JFS3225-40	★	JFS-2	25	32	40	50	34	0.4	F25
JFS3225-50	★	JFS-2	25	32	40	50	34	0.5	F25
JFS4032-10	★	JFS-3	32	40	48	55	40	0.1	F32
JFS4032-20	★	JFS-3	32	40	48	55	40	0.2	F32
JFS4032-30	★	JFS-3	32	40	48	55	40	0.3	F32
JFS4032-40	★	JFS-3	32	40	48	55	40	0.4	F32
JFS4032-50	★	JFS-3	32	40	48	55	40	0.5	F32
NEW JFS5040-10	★	—	40	50	68	65	50	0.1	F40
NEW JFS5040-20	★	—	40	50	68	65	50	0.2	F40
NEW JFS5040-30	★	—	40	50	68	65	50	0.3	F40
NEW JFS5040-40	★	—	40	50	68	65	50	0.4	F40
NEW JFS5040-50	★	—	40	50	68	65	50	0.5	F40

It does not correspond to the shank diameter ø50mm.

*Increase : Size of the increase in the cutting diameter.

Guideline for Selecting a JUST FIT SLEEVE

Desired = (Drillø+ Increase of JFS) + 0.1 mm

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

$$\text{ø}20.3 = (\text{MVX2000 X } \text{F25} + \text{JFS3225-20}) + 0.1$$

↓ 20mm Drill
 ↓ Using JFS an Increase of 0.2mm.
 ↓ Oversize

<Tool Selected>
 MVX : MVX2000 X F25
 JUST FIT SLEEVE [JFS]
 : JFS3225-20

(Note) 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. (5 sleeves/set) When placing an order, please use the set order number.

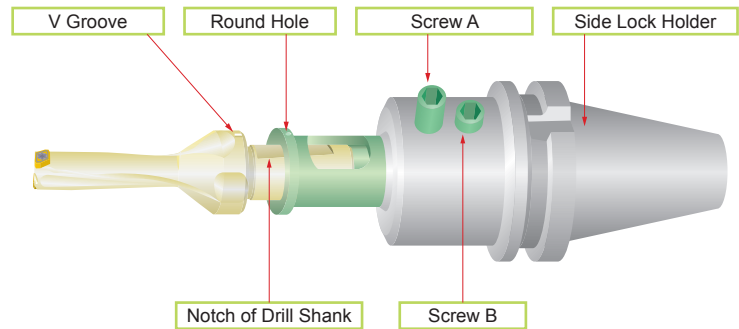
Purchasing Method 2

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

★ : Inventory maintained in Japan.

Application of JUST FIT SLEEVE

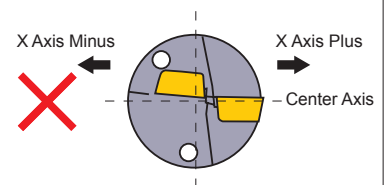
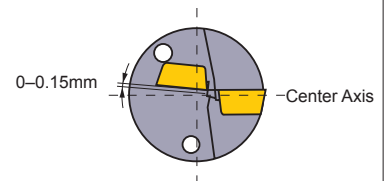
- When inserting the drill into the side lock holder, align the V groove on the outer peripheral edge of the drill flange, as well as the round holes of the outer peripheral edge of the sleeve flange and the screws of the side lock holder for fixing the drill. (If the drill does not have a V groove, align the notch of the drill shank with the round holes of the sleeve.)
- Insert screws A of the side lock holder directly to the open window of the sleeve and fix the drill. Tighten screw B to a degree so as not to damage the sleeve.



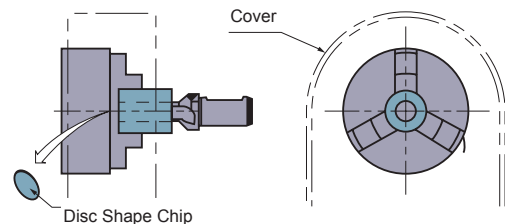
Application of MVX Type Drill

● Use on a Lathe

- The outer insert and machine X axis must be set parallel. The drill is designed that the center of the inner insert is 0-0.15mm lower when matching the drill center and the machine spindle center.
 - *The inner insert may fracture if the center height of inner insert is higher than the machine X axis.
- To adjust the hole diameter by off-setting the drill, please adjust to X axis plus direction (expanding direction of the hole diameter). Refer to the holder dimension list for the maximum adjustment rate of each holder.
 - *It is not recommended to adjust to X axis minus direction (reducing direction of the hole diameter) as the holder may interfere with the hole.



- When through hole drilling on a lathe the disc produced by the drill exiting the workpiece may be expelled at high velocity. To reduce the danger of injury or damage a cover guard is highly recommended.

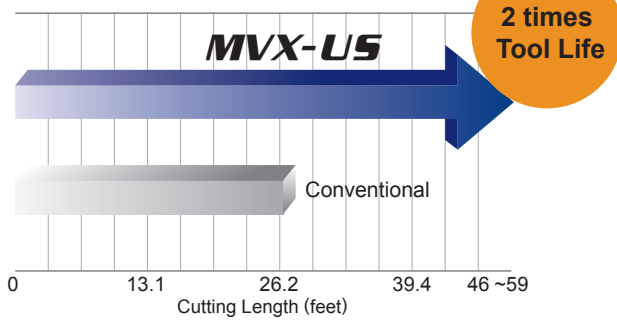


Cutting Performance

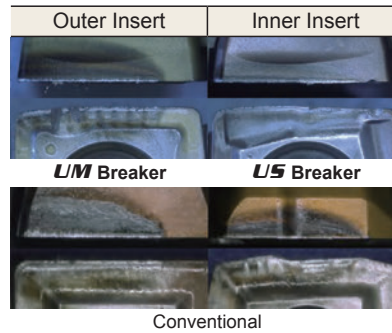
Stainless Steel (AISI 304)

MVX has double tool life compared with conventional products when using US breaker for the inner edge.

Comparison of Cutting Length



Comparison of Cutting Edge



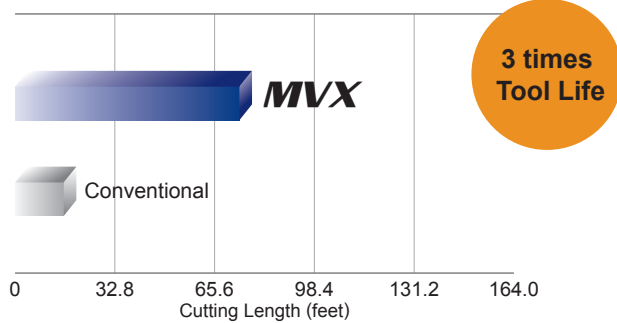
<Cutting Conditions>

Drill : MVX3000X3F32
 Insert : Outer MC1020-UM
 Inner VP15TF-US
 Work Material : AISI 304
 Cutting Speed : 395SFM
 Feed Rate : .005IPR
 Hole Depth : 1.97inch (Through Hole)
 Cutting Mode : Water Based

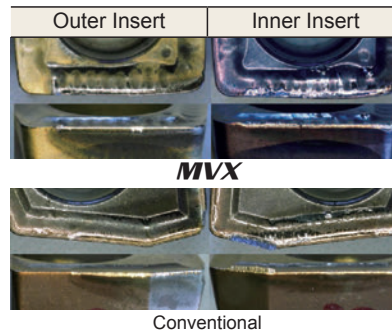
Carbon Steel (AISI 1049)

MVX drill achieved 3 times longer tool life compared with conventional products when drilling carbon steel.

Comparison of Cutting Length



Comparison of Cutting Edge



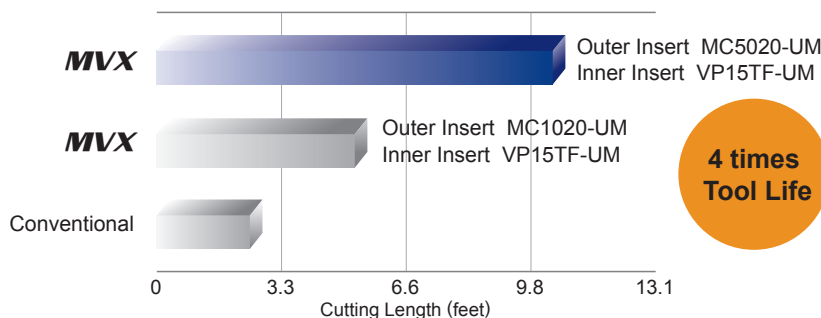
<Cutting Conditions>

Drill : MVX1900X3F25
 Insert : Outer MC1020-UM
 Inner VP15TF-UM
 Work Material : AISI 1049
 Cutting Speed : 720SFM
 Feed Rate : .0039IPR
 Hole Depth : 1.97inch (Through Hole)
 Cutting Mode : Water Based

Cast Iron (AISI No.35B)

MVX has 4 times longer tool life compared to conventional products, especially when using MC5020 grade outer inserts.

Comparison of Cutting Length



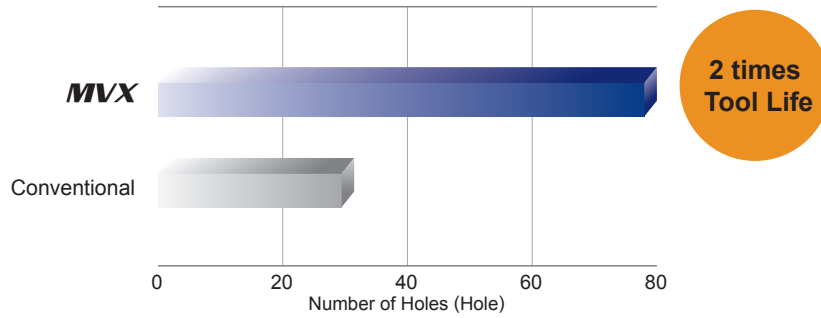
<Cutting Conditions>

Drill : MVX1900X3F25
 Insert : Outer MC5020-UM
 MC1020-UM
 Inner VP15TF-UM
 Work Material : AISI No.35B
 Cutting Speed : 525SFM
 Feed Rate : .0059IPR
 Hole Depth : 1.97inch (Through Hole)
 Cutting Mode : Water Based

Hardened Steel (AISI H13)

MVX has double tool life compared with conventional products.

Comparison of Number of Holes

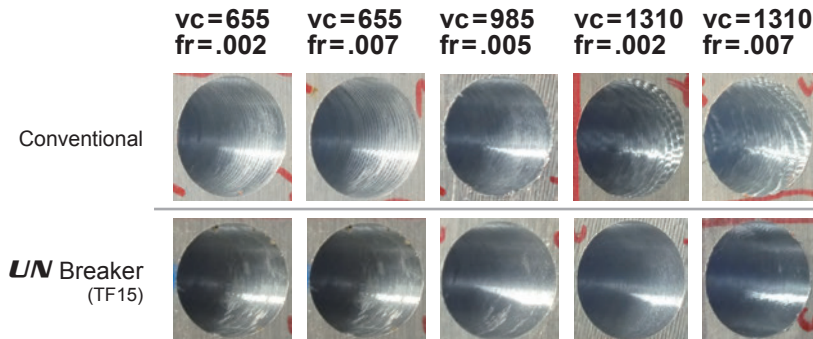


<Cutting Conditions>

Drill : MVX1700X3F20
 Insert : Outer MC1020-UM
 Inner DP8020-UH
 Work Material : AISI H13 (45HRC)
 Cutting Speed : 165SFM
 Feed Rate : .003IPR
 Hole Depth : 1.181 inch (Through Hole)
 Cutting Mode : Water Based

Aluminum Alloy

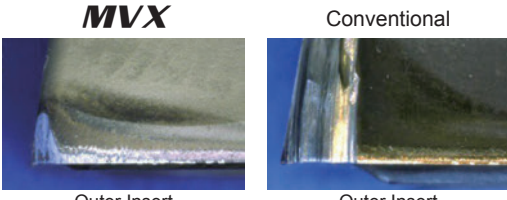
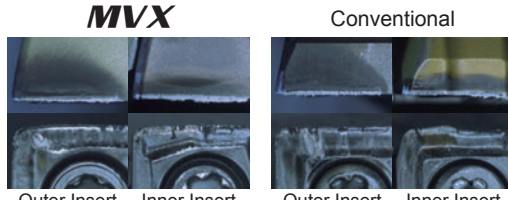
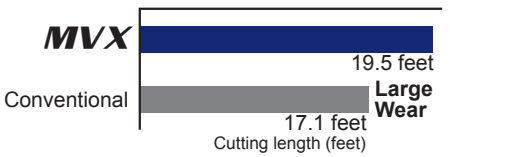
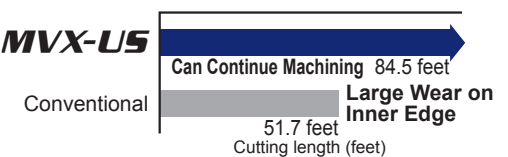
MVX corresponds to changes in cutting speed and feed rate.

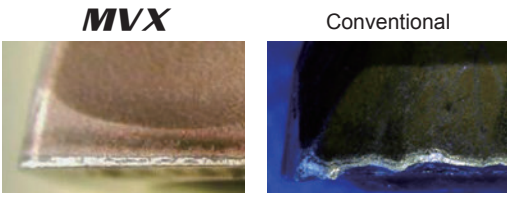
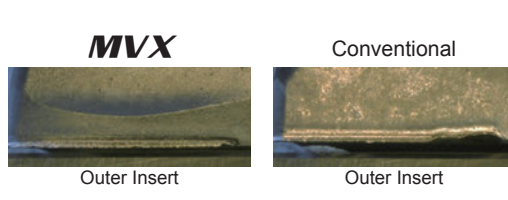
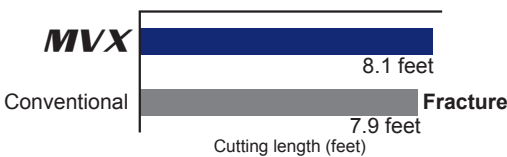
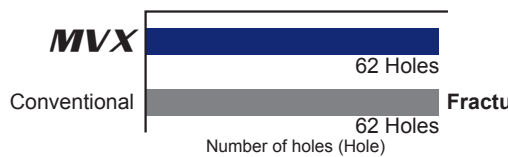


<Cutting Conditions>

Drill : MVX1700X5F20
 Insert : Outer TF15-UN
 Inner TF15-UN
 Work Material : Aluminum Alloy
 Cutting Speed : 655-1310SFM
 Feed Rate : .002-.007IPR
 Hole Depth : 1.575inch (Blind Hole)
 Cutting Mode : Water Based

Application Example

Drill		MVX3000X5F32	MVX1900X3F25	
Insert		UM (Outer:MC1020, Inner:VP15TF)	Outer:MC1020-UM, Inner:VP15TF-US	
Workpiece		Carbon Steel (AISI 1049)	Ferritic Stainless Steels (AISI 304)	
Cutting Conditions	Cutting Speed (SFM)	820	395	
	Feed Rate (IPR)	.0039	.004	
	Hole Depth (inch)	4.094 (Through Hole)	1.181 (Through Hole)	
	Cutting Mode	Water Based	—	
Results	 <p>Outer Insert Outer Insert</p>		 <p>Outer Insert Inner Insert Outer Insert Inner Insert</p>	
	 <p>MVX 19.5 feet Conventional 17.1 feet Cutting length (feet)</p> <p>Large Wear</p> <p>MVX drill had less insert wear and made a better hole surface finish than conventional products.</p>		 <p>MVX-US 84.5 feet Conventional 51.7 feet Cutting length (feet)</p> <p>Can Continue Machining</p> <p>Large Wear on Inner Edge</p> <p>MVX drill achieved 1.6 times longer tool life of the peripheral edge compared with conventional products.</p>	

Drill		MVX1800X3F25	MVX2650X6F32	
Insert		UM (Outer:MC1020, Inner:VP15TF)	UM (Outer:MC5020, Inner:VP15TF)	
Workpiece		Pump Austenitic Stainless Steel (AISI 316)	Tappet Hole Cast Iron (AISI No.35B)	
Cutting Conditions	Cutting Speed (SFM)	370	490	
	Feed Rate (IPR)	.0026	.0039	
	Hole Depth (inch)	.787 (Through Hole)	(Through Hole)	
	Cutting Mode	Water Based P=580 psi	—	
Results	 <p>Outer Insert Outer Insert</p>		 <p>Outer Insert Outer Insert</p>	
	 <p>MVX 8.1 feet Conventional 7.9 feet Cutting length (feet)</p> <p>Fracture</p> <p>MVX drill was able to continue drilling. Conventional insert fractured.</p>		 <p>MVX 62 Holes Conventional 62 Holes Number of holes (Hole)</p> <p>Fracture</p> <p>Improved surface finish and less drilling noise than a conventional drill.</p>	

For your safety

●Don't touch breakers and chips without gloves. ●Please machine within recommended application range, and exchange expired tools with new parts in advance. ●Please use safety cover and wear safety glasses. ●When using compounded cutting oils, please take fire prevention. ●When attaching inserts or spare parts, please use the attached wrench or driver. ●When using tools in revolution machining, please make a trial run to check run-out, vibration, abnormal sounds etc.

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(Tools specifications subject to change without notice.)

EXP-13-E011
Printed in U.S.A. 12/16