MITSUBISHI MATERIALS
TOOL NEWS 2017.3 Update B195A

General Purpose Multi Corner Insert Type Face Milling Cutter

AHX Series

Series Expansion

Heptagonal double sided insert.
Economical 14 cutting edge inserts.

MIRACLE SIGMA

AHX440S for Machining : ISO P, M, K, H
AHX475S for Machining : ISO P, K, H
AHX640S for Machining : ISO P, M, K, S, H
AHX640W for Machining : ISO K

General Purpose Multi Corner Insert Type Face Milling Cutter

AHX Series

Unique 14 Cornered Insert

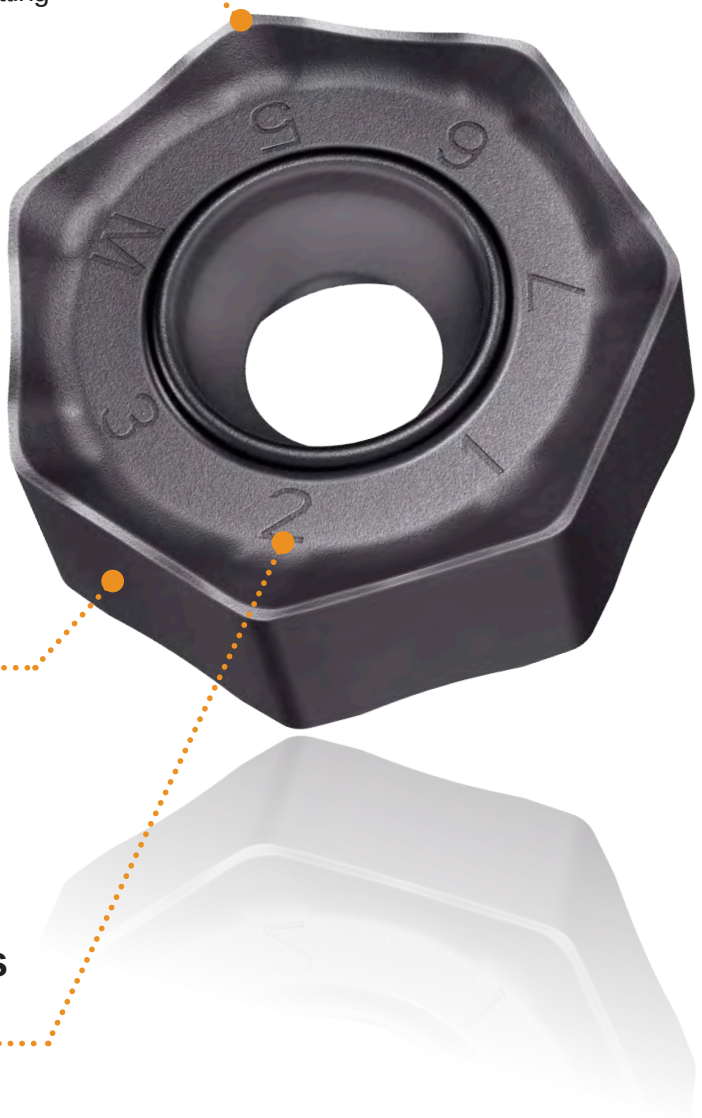
Economical Heptagonal Double Sided Insert

Double positive cutting edge geometry offers lower cutting resistance for improved machining efficiency.

(inch)

Tool Holder Number	IC	APMX	S
AHX4405	.528	.118	.227
NEW AHX4755	.528	.063	.227
AHX6405	.787	.236	.258 .315

* S = Thickness
The above "APMX" will vary depending on the breaker insert.



High Rigidity by Increasing the Thickness of the Inserts

Corner Number is Clearly Shown

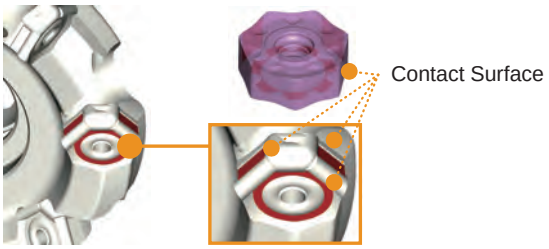
A Unique Face Mill for Machining of Steel, Stainless Steel and Cast Iron

AHX440S
AHX475S NEW
AHX640S

AHX475S is not recommended for machining stainless steel.

Designed to Control Abnormal Insert Breakage and Body Damage

The unique conical insert seat and Anti Fly mechanism (A.F.I) hold the insert securely. The outer edge of the insert is not in contact with the body, thereby preventing damage if sudden fracturing occurs.
The thick insert negates the need for a shim.

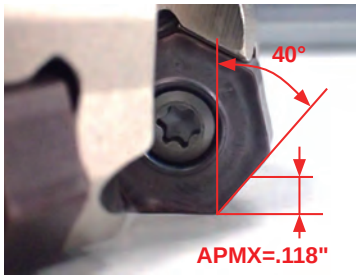


Through Coolant Holes

Improves chip discharge and prevents chip welding.

NEW AHX475S For High Feed Machining

High feed is possible with AHX440S by setting an RE = .126 inch insert to be used in a cutting body with a corner angle of 75° (KAPR15°).
The maximum depths of cut (APMX) will be limited to .063 inch.



AHX440S L Breaker

AHX475S

AHX Steel Series
Selection Reference Table (Cutting Edge Count and Cutting Conditions)

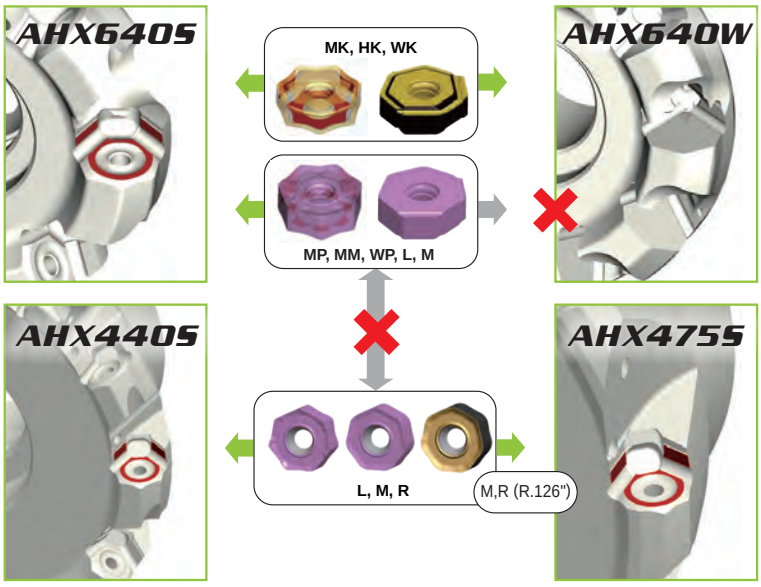
(inch)

DC	Type	Number of Teeth	AHX440S			AHX475S			AHX640S		
			General Cutting			High Feed Machining			General Cutting		
			Stock	fr (IPR)	APMX	Stock	fr (IPR)	APMX	Stock	fr (IPR)	APMX
1.500" 40mm	Fine Pitch	3	●	.024 — .047	.118						
	Extra Fine Pitch	4	●	.031 — .063	.118						
2.000" 50mm"	Fine Pitch	4	●	.031 — .063	.118	●	.094 — .157	.063			
	Extra Fine Pitch	5	●	.039 — .079	.118	●	.118 — .197	.063			
	Super Extra Fine Pitch	6	●	.047 — .094	.118						
2.500" 63mm	Coarse Pitch	4							●	.031 — .063	.236
	Fine Pitch	5	●	.039 — .079	.118	●	.118 — .197	.063	●	.039 — .079	.236
	Extra Fine Pitch	6	●	.047 — .094	.118	●	.142 — .236	.063			
	Super Extra Fine Pitch	8	●	.063 — .126	.118						
3.000" 80mm"	Coarse Pitch	4							●	.031 — .063	.236
	Fine Pitch	6	●	.047 — .094	.118	●	.142 — .236	.063	●	.047 — .094	.236
	Extra Fine Pitch	8	●	.063 — .126	.118	●	.189 — .315	.063			
	Super Extra Fine Pitch	10	●	.079 — .157	.118						
4.000" 100mm"	Coarse Pitch	5							●	.039 — .079	.236
	Fine Pitch	7	●	.055 — .110	.118	●	.165 — .276	.063	●	.055 — .110	.236
	Extra Fine Pitch	9				●	.213 — .354	.063			
		10	●	.079 — .157	.118						
	Super Extra Fine Pitch	12	●	.094 — .189	.118						
5.000" 125mm	Coarse Pitch	6							●	.047 — .094	.236
	Fine Pitch	8	●	.063 — .126	.118	●	.189 — .315	.063	●	.063 — .126	.236
	Extra Fine Pitch	10				●	.236 — .394	.063			
		12	●	.094 — .189	.118						
	Super Extra Fine Pitch	14	●	.110 — .220	.118						
6.000" 160mm	Coarse Pitch	7							●	.055 — .110	.236
	Fine Pitch	10	●	.079 — .157	.118	●	.236 — .394	.063	●	.079 — .157	.236
	Extra Fine Pitch	12				●	.283 — .472	.063			
		14	●	.110 — .220	.118						
	Super Extra Fine Pitch	16	●	.126 — .252	.118						
8.000" 200mm	Coarse Pitch	8							●	.063 — .126	.236
	Fine Pitch	12							●	.094 — .189	.236

(Note 1) fr: Feed rate per revolution (AHX475S: the feed rate per cutter (fz) will be limited by the cutting width ae. Please refer to page 17 for details.)
(Note 2) APMX: Maximum depths of cut (AHX440S: the maximum depths of cut will vary depending on the breaker)
(Note 3) The depths of cut and feed rate are identical to the recommended conditions for carbon steel and alloy steel.

Compatibility with Inserts for AHX Series

The RE = .126 inch insert for use with AHX440S can be mounted on AHX475S. All inserts for use with AHX640 can be mounted on AHX640S (note, however, that the set height will differ).
The inserts for mounting on AHX640W are the MK, HK, and WK breakers for casting.



Breaker System

Breaker Series for Varied Cutting Conditions

Focus on Cutting Edge Sharpness ← Stable Cutting (Continuous Cutting, Without Scale, etc.) — Unstable Cutting (Interrupted Cutting, With Scale, etc.) → **Focus on Cutting Edge Strength**

L Breaker

The high rake angle boosts cutting performance. Positive land retains strength and provides low cutting resistance.

M Breaker

First recommendation for general applications. A good balance of edge strength and sharpness is provided by the optimized positive land and rake angle.

R and *H* Breaker

For unstable applications. Enhanced edge strength and retention of sharpness is provided by the negative land and positive rake angle respectively.

Work Material	Cutting Conditions		
	Stable Cutting	General Cutting	Unstable Cutting
P	AHX440S: *L* With Wiper; *M* (R.031") With Wiper; *M* (R.126") Not with Wiper, Shared with AHX475; *R* Not with Wiper, Shared with AHX475		
	AHX640S: *M*; *MP*		
M	AHX440S: *L* With Wiper; *M* (R.031") With Wiper; *M* (R.126") Not with Wiper; *R* Not with Wiper		
	AHX640S: *MM*		
K	AHX440S: *L* With Wiper; *M* (R.031") With Wiper; *M* (R.126") Not with Wiper, Shared with AHX475; *R* Not with Wiper, Shared with AHX475		
	AHX640S: *MK*; *HK*		

Wiper Insert of AHX640S

Based on the number of inserts and the cutting conditions, use of wiper inserts can improve overall surface finishes.

P

WP + combination with ***MP***
Right-hand 2 corners, left-hand 2 corners.

K

WK + combination with ***MK***
Right-hand 2 corners, left-hand 2 corners.

Face Milling Cutter for High Efficiency Machining of Cast Irons

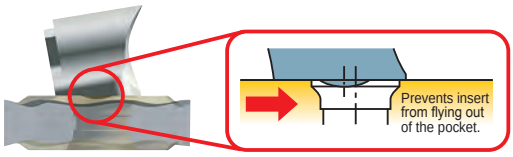
AHX640W

High Rigidity Inserts Suitable for High Feed Milling of Cast Irons

Sloped cutting edge and large rake angle

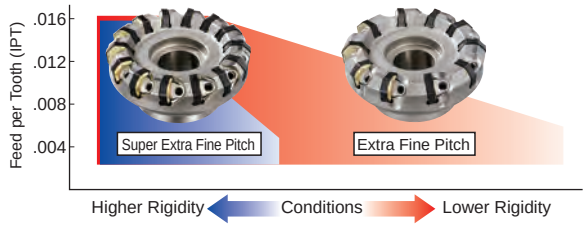
Innovative Clamp System

New wedge geometry developed to increase the permissible number of teeth.
Unique wedge geometry uses a protruding section that fits inside the insert hole acts as an Anti-Fly Insert (AFI) mechanism.

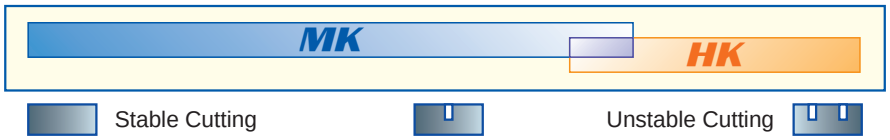


2 Variations for Different Applications

Extra fine pitch and super extra fine pitch types allow high efficiency milling under various machining conditions. Additionally, left hand type for use on special machines are also available as standard. Inserts can be used with both right and left hand type cutters.



Insert Applications



Stable Cutting — Unstable Cutting

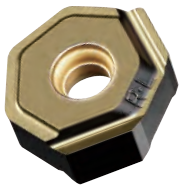
MK General-purpose Insert

High tolerance M-class insert.
Neutral, double sided 14 corners.
20º rake angle for low cutting resistance.
First recommendation for roughing and finishing.

HK Strong Cutting Edge Insert

High tolerance M-class insert.
Neutral, double sided 14 corners.
High cutting edge strength to prevent fracturing of the cutting edge during unstable machining of non-uniform workpieces and high feed machining.

WK Wiper Insert



Improved Surface Finish

Right-hand 2 corners, left-hand 2 corners.
Based on the number of inserts and the cutting conditions, by using the wiper inserts it is possible to improve the overall surface finish.

The insert for AHX640W is compatible with AHX640S.

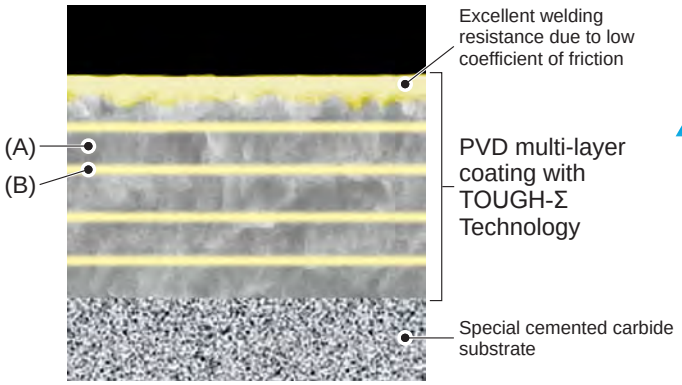
Insert Grades for a Wide Range of Materials

MIRACLE SIGMA Accumulated Al-Ti-Cr-N Based PVD Coating

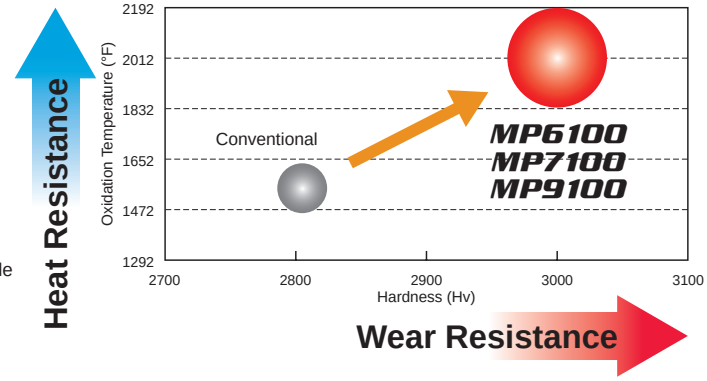
MP6100, MP7100, MP9100 **- With accumulated Al-Ti-Cr-N based PVD coating**

TOUGH-Σ Technology

A fusion of the separate coating technologies; PVD and multi-layering provides extra toughness.

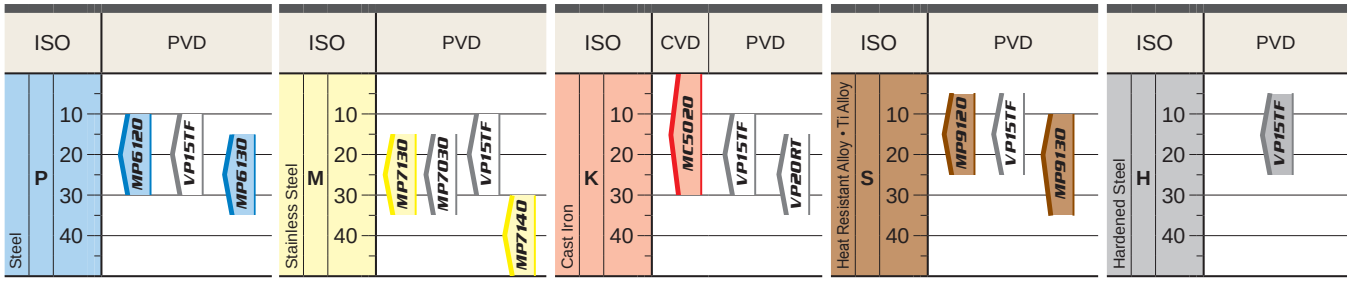


Dramatically Improving the Heat and Wear Resistance!



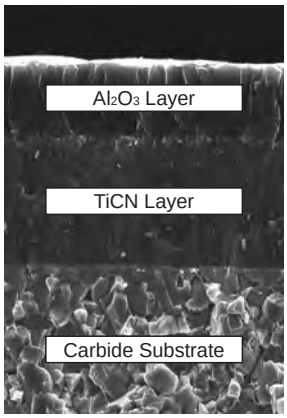
	Work material	Grade	Coating		Coefficient of Friction		
			Base Layer (A)	Optimized Layer for Work Material (B)	Measured at 1112° F		
					AISI 1055	AISI 304	Ti-6Al-4V
P	Carbon Steel, Alloy Steel	***MP6100***	**High Al-(Al, Ti)N** The new technology Al-(Al, Ti)N provides stability of the high hardness phase and succeeds in dramatically improving wear, crater and welding resistance.	(Al, Cr) N Based	.4		
				Tough! Resists Chipping			
M	Stainless Steel	***MP7100***		TiN Based		.5	
				Tough! Resists Notching			
S	Titanium Alloy, Heat Resistant Alloy	***MP9100***		CrN Based			.3
				Tough! Resists Thermal Cracking			
				Conventional	.7	.7	.7

Selection Standard



MC5020

MC5020 has excellent wear, chipping and thermal crack resistance. These features prevent the problems usually associated with machining cast irons over prolonged periods.



Structure of MC5020

Improved Wear Resistance

The micro-grain wear resistant Al_2O_3 and fibrous TiCN layers deliver excellent wear resistance when milling a wide range of cast irons.

Improved Fracture Resistance

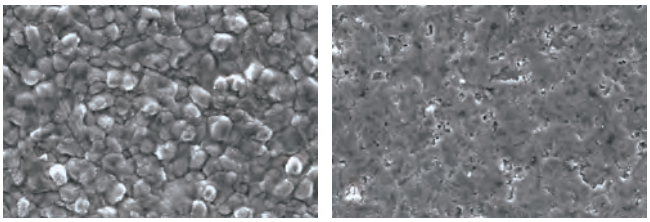
Use of a specially developed cemented carbide that provides superior resistance to fracture and thermal cracking prevents the cutting edge from sudden fracturing.

Reduced Abnormal Damage

A black super-smooth coating prevents abnormal damage such as weld chipping.

Black Super-smooth Coating

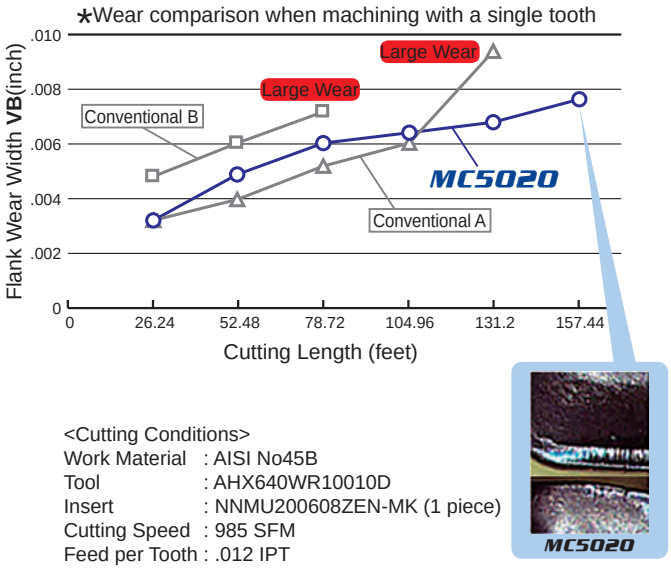
Comparison of Coating Surface



Conventional Coating　　Black Super-smooth Coating

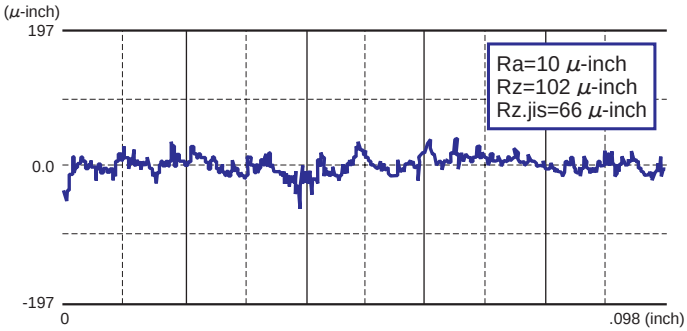
Cutting Performance

Wear Resistance

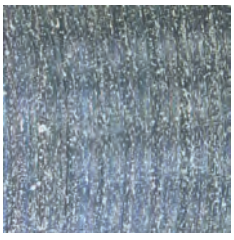


<Cutting Conditions>
Work Material : AISI No45B
Tool : AHX640WR10010D
Insert : NNMU200608ZEN-MK (1 piece)
Cutting Speed : 985 SFM
Feed per Tooth : .012 IPT
Depth of Cut : ap=.197 inch
Cutting Mode : Dry Cutting
Single Insert

Surface Finish



<Finish Condition>



<Cutting Conditions>
Work Material : AISI 100-70-03
Tool : AHX640WR10014D
Insert : NNMU200608ZEN-MK(13 pieces)
Wiper Insert : WNEU2006ZEN7C-WK(1 piece)
Cutting Speed : 1150 SFM
Feed per Tooth : .004 IPT
Depth of Cut : ap=.016 inch
: ae=3.150 inch
Cutting Mode : Air Blow

FACE MILLING
<GENERAL CUTTING>

40° Finishing Roughing

AHX440S

P M K N S H

- Heptagonal double sided insert.
- Economical 14 cutting edge inserts.
- Multi insert design for high feed machining.

Fig. 1
ø1.500"
ø2.000"
ø2.500"
ø3.000"

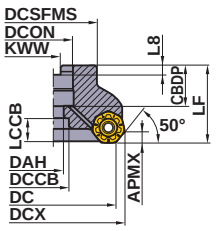
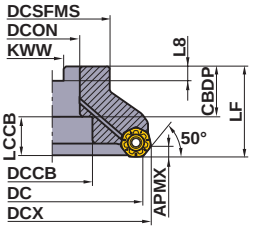
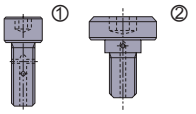


Fig. 2
ø4.000"
ø5.000"
ø6.000"



Right hand tool holder only.

DC	Set Bolt	Geometry
ϕ1.500	HSCU25011H	①
ϕ2.000	HSCU37513H	
ϕ2.500	HSCU50014H	
ϕ3.000		
ϕ4.000	MBAU75016H	②
ϕ5.000		
ϕ6.000		



KAPR :50° T :15° (When using the M breaker insert)
GAMP:-6° I :5°
GAMF:-7°
DC=Inch size, DCON=Inch size

(inch)

DC	Order Number	Stock	∗1 Coolant Thru	∗2 No.T	LF	DCX	DCON	Fig.	WT(lbs)	APMX
1.500	**AHX440SUR1503SA**	●	Y	3	1.750	1.829	.500	1	.7	.138
	AHX440SUR1504SA	●	Y	4	1.750	1.829	.500	1	.6	.138
2.000	**AHX440SUR0204AA**	●	Y	4	1.750	2.329	.750	1	1.0	.138
	AHX440SUR0205AA	●	Y	5	1.750	2.329	.750	1	1.0	.138
	AHX440SUR0206AA	●	Y	6	1.750	2.329	.750	1	.9	.138
2.500	**AHX440SUR2505CA**	●	Y	5	2.000	2.829	1.000	1	1.8	.138
	AHX440SUR2506CA	●	Y	6	2.000	2.829	1.000	1	1.7	.138
	AHX440SUR2508CA	●	Y	8	2.000	2.829	1.000	1	1.6	.138
3.000	**AHX440SUR0306CA**	●	Y	6	2.000	3.329	1.000	1	2.3	.138
	AHX440SUR0308CA	●	Y	8	2.000	3.329	1.000	1	2.2	.138
	AHX440SUR0310CA	●	Y	10	2.000	3.328	1.000	1	2.1	.138
4.000	**AHX440SUR0407EA**	●	Y	7	2.500	4.329	1.500	2	5.1	.138
	AHX440SUR0410EA	●	Y	10	2.500	4.329	1.500	2	5.0	.138
	AHX440SUR0412EA	●	Y	12	2.500	4.329	1.500	2	4.9	.138
5.000	**AHX440SUR0508EA**	●	Y	8	2.500	5.329	1.500	2	8.1	.138
	AHX440SUR0512EA	●	Y	12	2.500	5.329	1.500	2	7.9	.138
	AHX440SUR0514EA	●	Y	14	2.500	5.329	1.500	2	7.8	.138
6.000	**AHX440SUR0610EA**	●	Y	10	2.500	6.329	1.500	2	10.3	.138
	AHX440SUR0614EA	●	Y	14	2.500	6.329	1.500	2	10.1	.138
	AHX440SUR0616EA	●	Y	16	2.500	6.329	1.500	2	10.1	.138

(Note 1) The above "APMX" will vary depending on the breaker insert.
(Note 2) The cutter body includes a set bolt for an arbor.
∗1 Y=Yes
∗2 Number of Teeth

● : Inventory maintained.

MOUNTING DIMENSION ➢ P31

Metric Standard

For inch arbors

KAPR :50° T :15° (When using the M breaker insert)
GAMP:-6° I :5°
GAMF:-7°
DC=mm size, DCON=Inch size

Fig. 1
ø40
ø50
ø63
ø80

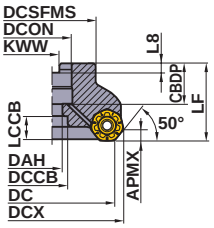


Fig. 2
ø100
ø125
ø160

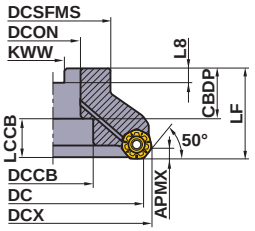
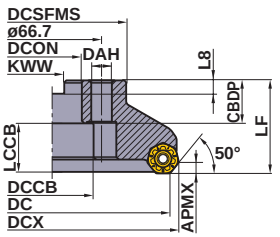


Fig. 3
ø160



Right hand tool holder only.

(mm)

DC	Order Number	Stock	⁎1 Coolant Thru	⁎2 No.T	LF	DCX	DCON		Fig.	WT(kg)	APMX
80	**AHX440SR08006CA**	★	Y	6	50	88.4	25.4	[1.0"]	1	1.1	3.5
	AHX440SR08008CA	★	Y	8	50	88.4	25.4	[1.0"]	1	1.1	3.5
	AHX440SR08010CA	★	Y	10	50	88.4	25.4	[1.0"]	1	1.1	3.5
100	**AHX440SR10007DA**	★	Y	7	50	108.4	31.75	[1.25"]	2	1.6	3.5
	AHX440SR10010DA	★	Y	10	50	108.4	31.75	[1.25"]	2	1.6	3.5
	AHX440SR10012DA	★	Y	12	50	108.3	31.75	[1.25"]	2	1.6	3.5
125	**AHX440SR12508EA**	★	Y	8	63	133.4	38.1	[1.50"]	2	3.0	3.5
	AHX440SR12512EA	★	Y	12	63	133.4	38.1	[1.50"]	2	3.0	3.5
	AHX440SR12514EA	★	Y	14	63	133.3	38.1	[1.50"]	2	2.9	3.5
160	**AHX440SR16010FA**	★	Y	10	63	168.4	50.8	[2.0"]	2	4.8	3.5
	AHX440SR16014FA	★	Y	14	63	168.4	50.8	[2.0"]	2	4.6	3.5
	AHX440SR16016FA	★	Y	16	63	168.4	50.8	[2.0"]	2	4.7	3.5

(Note 1) Set bolt not included.
(Note 2) The above "APMX" will vary depending on the breaker insert.
⁎1 Y=Yes
⁎2 Number of Teeth

Spare Parts

Tool Holder Number	⁎  Clamp Screw	 Wrench (Insert)
AHX440S	TS35R	TKY15T

⁎ Clamp Torque (lbf-in) : TS35R=31

★ : **Inventory maintained in Japan.**

Metric Standard

For metric arbors

KAPR :50° T :15° (When using the M breaker insert)
GAMP:-6° I :5°
GAMF:-7°
DC=mm size, DCON=mm size

(mm)

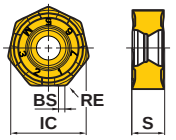
DC	Order Number	Stock	⁎1 Coolant Thru	⁎2 No.T	LF	DCX	DCON	Fig.	WT(kg)	APMX
40	**AHX440S-040A03AR**	★	Y	3	40	48.4	16	1	0.3	3.5
	AHX440S-040A04AR	★	Y	4	40	48.4	16	1	0.2	3.5
50	**AHX440S-050A04AR**	★	Y	4	40	58.4	22	1	0.4	3.5
	AHX440S-050A05AR	★	Y	5	40	58.4	22	1	0.4	3.5
	AHX440S-050A06AR	★	Y	6	40	58.4	22	1	0.4	3.5
63	**AHX440S-063A05AR**	★	Y	5	40	71.4	22	1	0.6	3.5
	AHX440S-063A06AR	★	Y	6	40	71.4	22	1	0.6	3.5
	AHX440S-063A08AR	★	Y	8	40	71.4	22	1	0.5	3.5
80	**AHX440S-080A06AR**	★	Y	6	50	88.4	27	1	1.1	3.5
	AHX440S-080A08AR	★	Y	8	50	88.4	27	1	1.1	3.5
	AHX440S-080A10AR	★	Y	10	50	88.4	27	1	1.1	3.5
100	**AHX440S-100B07AR**	★	Y	7	50	108.4	32	2	1.6	3.5
	AHX440S-100B10AR	★	Y	10	50	108.4	32	2	1.6	3.5
	AHX440S-100B12AR	★	Y	12	50	108.3	32	2	1.6	3.5
125	**AHX440S-125B08AR**	★	Y	8	63	133.4	40	2	3.0	3.5
	AHX440S-125B12AR	★	Y	12	63	133.4	40	2	3.0	3.5
	AHX440S-125B14AR	★	Y	14	63	133.3	40	2	2.9	3.5
160	**AHX440S-160C10NR**	★	N	10	63	168.4	40	3	4.8	3.5
	AHX440S-160C14NR	★	N	14	63	168.4	40	3	4.6	3.5
	AHX440S-160C16NR	★	N	16	63	168.4	40	3	4.7	3.5

(Note 1) Set bolt not included.
(Note 2) The above "APMX" will vary depending on the breaker insert.
⁎1 Y=Yes N=No
⁎2 Number of Teeth

MOUNTING DIMENSION ➢ P33

Inserts

(inch)

Application	Shape	Order Number	Class	Honing	Coated						IC	RE	BS	S	APMX	Geometry
					MP6120	MP6130	MP7130	MP7140	MC5020	VP15TF						
Stable Cutting		**NNMU130508ZER-L**	M	E	●	●	●	●	●	★	.528	.031	.039	.227	.118	
General Cutting		**NNMU130508ZEN-M**	M	E	●	●	●	●	●	★	.528	.031	.039	.219	*.157	
		NNMU130532ZEN-M	M	E	●	●	●	●	●	★	.528	.126	—	.219	*.157	
Unstable Cutting		**NNMU130532ZEN-R**	M	E	●	●	●	●	●	★	.528	.126	—	.215	*.157	

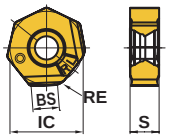
★ When not using the Wiper, APMX = .138 inch

Corner R on Opposite Side

If using corner R on the opposite side, APMX = .157 inch
If not using the opposite corner, APMX = .138 inch

Wiper Inserts

(inch)

Application	Shape	Order Number	Class	Honing	Coated						IC	RE	BS	S	APMX	Geometry
					MP6120	MC5020	VP15TF									
Finish Cutting		**WNEU1305ZEN4C-M**	E	E	●	●	●				.528	.106	.157	.201	.020	

Instructions for Use of Wiper Iinserts

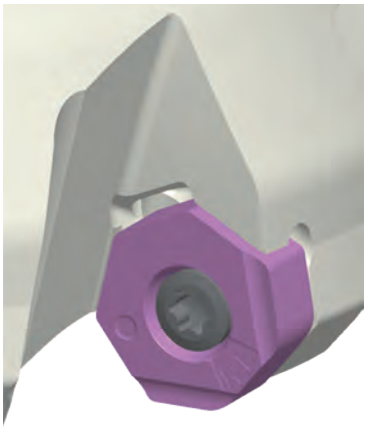


Fig.1

Fig.2

(Note 1) The specifications for these wipers are right hand body 2 corners and left hand body 2 corners. Refer to Figure 1.
(Note 2) A satisfactory finish surface can be achieved with one wiper insert.
However, if the feed rate per revolution will be equal to or greater than the width of the wiper edge, it is recommended to install the second and further wiper inserts spaced evenly within the cutting body.

● : Inventory maintained. ★ : Inventory maintained in Japan.
(10 inserts in one case)

Recommended Cutting Conditions

Dry Cutting

(inch)

	Work Material	Hardness	Grade	vc (SFM)	fz (IPT)	ap
P	Mild Steel	≤180HB	**MP6120,VP15TF**	820 (655—985)	.012 (.008—.016)	≤.118
			MP6130	785 (620—950)	.012 (.008—.016)	≤.118
	Carbon Steel,Alloy Steel	180—280HB	**MP6120,VP15TF**	720 (560—885)	.012 (.008—.016)	≤.118
			MP6130	655 (490—820)	.012 (.008—.016)	≤.118
	Carbon Steel,Alloy Steel	280—350HB	**MP6120,VP15TF**	460 (330—590)	.012 (.008—.016)	≤.118
			MP6130	395 (295—490)	.012 (.008—.016)	≤.118
	Alloy Tool Steel	≤350HB (annealing)	**MP6120,VP15TF**	460 (330—590)	.006 (.004—.008)	≤.039
			MP6130	395 (295—490)	.006 (.004—.008)	≤.039
	Pre-hardened Steel	35—45HRC	**MP6120,VP15TF**	460 (330—590)	.006 (.004—.008)	≤.039
			MP6130	395 (295—490)	.006 (.004—.008)	≤.039
M	Austenitic Stainless Steel	≤200HB	**MP7130,VP15TF**	655 (490—820)	.008 (.004—.012)	≤.118
			MP7140	590 (395—755)	.008 (.004—.012)	≤.118
		> 200HB	**MP7130,VP15TF**	490 (330—655)	.008 (.004—.012)	≤.118
			MP7140	425 (260—590)	.008 (.004—.012)	≤.118
	Ferritic and Maltensitic Stainless Steel	≤200HB	**MP7130,VP15TF**	655 (490—820)	.008 (.004—.012)	≤.118
			MP7140	590 (395—755)	.008 (.004—.012)	≤.118
		> 200HB	**MP7130,VP15TF**	490 (330—655)	.008 (.004—.012)	≤.118
			MP7140	425 (260—590)	.008 (.004—.012)	≤.118
	Two-phase Stainless Steel	≤280HB	**MP7130,VP15TF**	460 (330—590)	.006 (.002—.010)	≤.118
			MP7140	395 (260—525)	.006 (.002—.010)	≤.118
	Precipitation Hardening Stainless Steel	< 450HB	**MP7130,VP15TF**	425 (330—525)	.006 (.002—.010)	≤.118
			MP7140	360 (260—460)	.006 (.002—.010)	≤.118
K	Gray Cast Iron	Tensile Strength ≤350MPa	**MC5020**	720 (490—985)	.012 (.008—.016)	≤.118
			VP15TF	590 (425—755)	.012 (.008—.016)	≤.118
	Ductile Cast Ilon	Tensile Strength ≤450MPa	**MC5020**	655 (490—820)	.008 (.004—.012)	≤.118
			VP15TF	560 (395—720)	.008 (.004—.012)	≤.118
	Ductile Cast Ilon	Tensile Strength ≤800MPa	**MC5020**	560 (490—655)	.008 (.004—.012)	≤.118
			VP15TF	460 (330—590)	.008 (.004—.012)	≤.118
H	Hardened Steel	40—55HRC	**VP15TF**	260 (195—330)	.006 (.004—.008)	≤.039

Wet Cutting

(inch)

	Work Material	Hardness	Grade	vc (SFM)	fz (IPT)	ap
M	Austenitic Stainless Steel	≤200HB	**MP7130,VP15TF**	410 (330—490)	.006 (.004—.008)	≤.118
			MP7140	330 (260—460)	.045 (.004—.008)	≤.118
		> 200HB	**MP7130,VP15TF**	330 (245—410)	.006 (.004—.008)	≤.118
			MP7140	260 (180—345)	.006 (.004—.008)	≤.118
	Ferritic and Maltensitic Stainless Steel	≤200HB	**MP7130,VP15TF**	410 (330—490)	.006 (.004—.008)	≤.118
			MP7140	330 (260—460)	.006 (.004—.008)	≤.118
		> 200HB	**MP7130,VP15TF**	330 (245—410)	.006 (.004—.008)	≤.118
			MP7140	260 (180—345)	.006 (.004—.008)	≤.118
	Two-phase Stainless Steel	≤280HB	**MP7130,VP15TF**	260 (195—330)	.004 (.002—.006)	≤.118
			MP7140	195 (130—260)	.004 (.002—.006)	≤.118
	Precipitation Hardening Stainless Steel	< 450HB	**MP7130,VP15TF**	230 (165—295)	.004 (.002—.006)	≤.118
			MP7140	165 (100—230)	.004 (.002—.006)	≤.118

(Note 1) Refer to the above table and set up cutting conditions according to cutting applications.
(Note 2) When placing emphasis on surface finish quality, wet cutting is recommended. (tool life is lowered as compared to dry cutting)
(Note 3) Recommended depth of cut differs according to insert geometry.
(Note 4) When clamp rigidity is low and tool overhang is long, we recommended to reduce the cutting speed and the feed rate by 30%.
(Note 5) Recommended wet cutting for good surface finishing of stainless steel. (Tool life is short compared to wet cutting.)

Recommended Cutting Conditions

Cutting Conditions with Wiper Insert

(inch)

	Work Material	Hardness	Grade	vc (SFM)	fz (IPT)	ap
P	Mild Steel	≤180HB	**MP6120,VP15TF**	820 (655—985)	.012 (.008—.016)	≤.020
	Carbon Steel,Alloy Steel	180—280HB	**MP6120,VP15TF**	720 (560—885)	.012 (.008—.016)	≤.020
		280—350HB	**MP6120,VP15TF**	460 (330—590)	.012 (.008—.016)	≤.020
	Alloy Tool Steel	≤350HB (annealing)	**MP6120,VP15TF**	460 (330—590)	.006 (.004—.008)	≤.020
	Pre-hardened Steel	35—45HRC	**MP6120,VP15TF**	460 (330—590)	.006 (.004—.008)	≤.020
M	Austenitic Stainless Steel	≤200HB	**VP15TF**	410 (330—490)	.006 (.004—.008)	≤.020
		> 200HB	**VP15TF**	330 (245—410)	.006 (.004—.008)	≤.020
	Ferritic and Maltensitic Stainless Steel	≤200HB	**VP15TF**	410 (330—490)	.006 (.004—.008)	≤.020
		> 200HB	**VP15TF**	330 (245—410)	.006 (.004—.008)	≤.020
	Two-phase Stainless Steel	≤280HB	**VP15TF**	260 (195—330)	.004 (.002—.006)	≤.020
	Precipitation Hardening Stainless Steel	< 450HB	**VP15TF**	230 (165—295)	.004 (.002—.006)	≤.020
K	Gray Cast Iron	Tensile Strength ≤350MPa	**MC5020**	1050 (820—1310)	.012 (.008—.016)	≤.020
			VP15TF	720 (490—985)	.012 (.008—.016)	≤.020
	Ductile Cast Ilon	Tensile Strength ≤450MPa	**MC5020**	820 (655—985)	.008 (.004—.012)	≤.020
			VP15TF	655 (490—820)	.008 (.004—.012)	≤.020
		Tensile Strength ≤800MPa	**MC5020**	720 (655—820)	.008 (.004—.012)	≤.020
			VP15TF	560 (490—655)	.008 (.004—.012)	≤.020
H	Hardened Steel	40—55HRC	**VP15TF**	260 (195—330)	.006 (.004—.008)	≤.020

(Note 1) Refer to the above table and set up cutting conditions according to cutting applications.
(Note 2) When placing emphasis on surface finish quality, wet cutting is recommended. (tool life is lowered as compared to dry cutting)
(Note 3) Recommended depth of cut differs according to insert geometry.
(Note 4) When clamp rigidity is low and tool overhang is long, we recommended to reduce the cutting speed and the feed rate by 30%.
(Note 5) Recommended wet cutting for good surface finishing of stainless steel. (Tool life is short compared to wet cutting.)

Optional Parts

(inch)

Tool Holder Number	Set Bolt		Fig.	a	b	c	d	e	f	g	Geometry
	With Coolant Hole	Without Coolant Hole									
	Order Number	Order Number									
AHX440S-040A○○AR	HSC08025H	HSC08040	1	.512	M8×1.25	1.299	.315	.197	–	–	
AHX440S-050A○○AR	HSC10030H	HSC10035	1	.630	M10×1.5	1.575	.394	.236	–	–	
AHX440S-063A○○AR	HSC10030H	HSC10035	1	.630	M10×1.5	1.575	.394	.236	–	–	
AHX440S-080A○○AR	HSC12035H	HSC12035 HSC12045	1	.709	M12×1.75	1.850 2.244	.472	.394	–	–	
AHX440S-100B○○AR	MBA16033H	–	2	1.575	M16×2	1.693	.394	.551	.236	.906	
AHX440S-125B○○AR	MBA20040H	–	2	1.969	M20×2.5	2.126	.551	.669	.236	1.063	
AHX440S-160C○○NR	No coolant hole	–	2	1.969	M20×2.5	2.126	.551	.669	.236	1.063	
AHX440SR080○○CA	HSC12035H	HSC12035 HSC12045	1	.709	M12×1.75	1.850 2.244	.472	.394	–	–	
AHX440SR100○○DA	MBA16033H	–	2	1.575	M16×2	1.693	.394	.551	.236	.906	
AHX440SR125○○EA	MBA20040H	–	2	1.969	M20×2.5	2.126	.551	.669	.236	1.063	
AHX440SR160○○FA	MBA24045H	–	2	2.559	M24×3	2.323	.551	.669	.394	1.457	

Fig.1

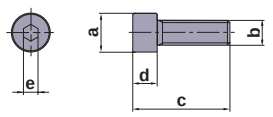
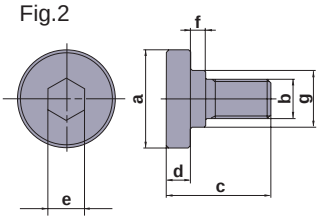


Fig.2



(Note 1) Internal coolant is necessary with the set bolt.

FACE MILLING

<HIGH FEED CUTTING FOR CAST IRON>

75°

Finishing Roughing

AHX475S

P M K N S H

Fig.1

ø2.000"
ø2.500"
ø3.000"
ø4.000"

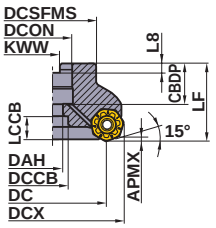
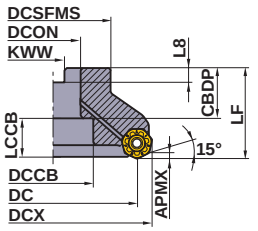


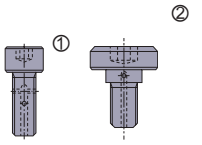
Fig.2

ø5.000"
ø6.000"



Right hand tool holder only.

DC	Set Bolt	Geometry
ϕ2.000	HSCU37513H	①
ϕ2.500	HSCU50014H	①
ϕ3.000	HSCU50014H	①
ϕ4.000	MBAU75016H	②
ϕ5.000	MBAU75016H	②
ϕ6.000	MBAU75016H	②



KAPR :15° T :16° (When using the R breaker insert)
GAMP :-6° I :9°
GAMF :-10°
DC = inch size, DCON = Inch size

(inch)

DC	Order Number	Stock	✶1 Coolant Thru	✶2 No.T	LF	DCX	DCON	Fig.	WT(lbs)	APMX
2.000	**AHX475SUR0204AA**	●	Y	4	2.000	2.616	.750	1	1.5	.063
	AHX475SUR0205AA	●	Y	5	2.000	2.616	.750	1	1.4	.063
2.500	**AHX475SUR2505CA**	●	Y	5	2.000	3.116	1.000	1	2.2	.063
	AHX475SUR2506CA	●	Y	6	2.000	3.116	1.000	1	2.2	.063
3.000	**AHX475SUR0306CA**	●	Y	6	2.000	3.614	1.000	1	3.2	.063
	AHX475SUR0308CA	●	Y	8	2.000	3.614	1.000	1	3.1	.063
	AHX475SUR0306DA	●	Y	6	2.500	3.614	1.250	1	4.1	.063
	AHX475SUR0308DA	●	Y	8	2.500	3.614	1.250	1	4.0	.063
4.000	**AHX475SUR0407EA**	●	Y	7	2.500	4.616	1.500	1	7.0	.063
	AHX475SUR0409EA	●	Y	9	2.500	4.616	1.500	1	6.9	.063
5.000	**AHX475SUR0508EA**	●	Y	8	2.500	5.616	1.500	2	8.8	.063
	AHX475SUR0510EA	●	Y	10	2.500	5.616	1.500	2	8.8	.063
6.000	**AHX475SUR0610FA**	●	Y	10	2.500	6.616	2.000	2	12.4	.063
	AHX475SUR0612FA	●	Y	12	2.500	6.616	2.000	2	12.5	.063

(Note 1) The above "APMX" will vary depending on the breaker insert.
(Note 2) The cutter body includes a set bolt for an arbor.
✶1 Y=Yes
✶2 Number of Teeth

● : **Inventory maintained.**

MOUNTING DIMENSION ➤ P31

Metric Standard

For inch arbors

Fig.1

ø50
ø63
ø80
ø100

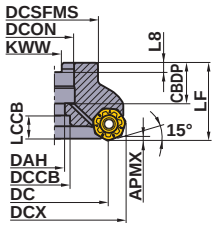
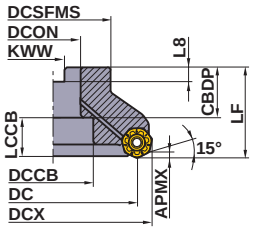


Fig.2

ø125
ø160



Right hand tool holder only.

KAPR :15° T :16° (When using the R breaker insert)
GAMP :-6° I :9°
GAMF :-10°
DC = mm size, DCON = Inch size

(mm)

DC	Order Number	Stock	✶1 Coolant Thru	✶2 No.T	LF	DCX	DCON	Fig.	WT(kg)	APMX
80	**AHX475SR08006DA**	★		6	63	95.6	31.75 [1.25"]	1	2.0	1.6
	AHX475SR08008DA	★	Y	8	63	95.6	31.75 [1.25"]	1	2.0	1.6
100	**AHX475SR10007DA**	★	Y	7	63	115.6	31.75 [1.25"]	1	3.2	1.6
	AHX475SR10009DA	★	Y	9	63	115.6	31.75 [1.25"]	1	3.2	1.6
125	**AHX475SR12508EA**	★	Y	8	63	140.6	38.1 [1.50"]	2	4.0	1.6
	AHX475SR12510EA	★	Y	10	63	140.6	38.1 [1.50"]	2	4.0	1.6
160	**AHX475SR16010FA**	★	Y	10	63	175.6	50.8 [2.0"]	2	5.5	1.6
	AHX475SR16012FA	★	Y	12	63	175.6	50.8 [2.0"]	2	5.5	1.6

(Note 1) Set bolt not included.
✶1 Y=Yes
✶2 Number of Teeth

Metric Standard

For metric arbors

DC = mm size, DCON = mm size

(mm)

DC	Order Number	Stock	✶1 Coolant Thru	✶2 No.T	LF	DCX	DCON	Fig.	WT(kg)	APMX
50	**AHX475S-050A04AR**	★	Y	4	50	65.7	22	1	0.6	1.6
	AHX475S-050A05AR	★	Y	5	50	65.7	22	1	0.6	1.6
63	**AHX475S-063A05AR**	★	Y	5	50	78.7	22	1	1.0	1.6
	AHX475S-063A06AR	★	Y	6	50	78.7	22	1	1.0	1.6
80	**AHX475S-080A06AR**	★	Y	6	50	95.6	27	1	1.6	1.6
	AHX475S-080A08AR	★	Y	8	50	95.6	27	1	1.6	1.6
100	**AHX475S-100A07AR**	★	Y	7	63	115.6	32	1	3.3	1.6
	AHX475S-100A09AR	★	Y	9	63	115.6	32	1	3.3	1.6
125	**AHX475S-125B08AR**	★	Y	8	63	140.6	40	2	4.0	1.6
	AHX475S-125B10AR	★	Y	10	63	140.6	40	2	4.0	1.6
160	**AHX475S-160B10AR**	★	Y	10	63	175.6	40	2	6.0	1.6
	AHX475S-160B12AR	★	Y	12	63	175.6	40	2	6.0	1.6

(Note 1) Set bolt not included.
✶1 Y=Yes
✶2 Number of Teeth

● : **Inventory maintained. (10 inserts in one case)**

MOUNTING DIMENSION ➢ P33

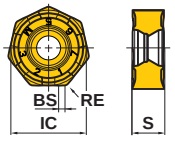
Spare Parts

Tool Holder Number	 *	
	Clamp Screw	Wrench (Insert)
AHX475S	TS35R	TKY15T

* Clamp Torque (lbf-in) : TS35R=31

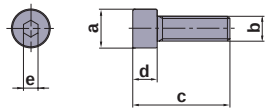
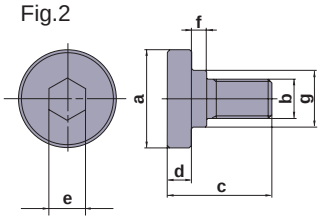
Inserts

(mm)

Application	Shape	Order Number	Class	Honing	Coated MP6120	Coated MP6130	Coated MC5020	Coated VP15TF			IC	RE	BS	S	APMX	Geometry
General Cutting		**NNMU130532ZEN-M**	M	E	●	●	●	★			.528	.126	–	.219	.063	
Unstable Cutting		**NNMU130532ZEN-R**	M	E	●	●	●	★			.528	.126	–	.215	.063	

Optional Parts

(inch)

Tool Holder Number	Set Bolt: With Coolant Hole Order Number	Set Bolt: Without Coolant Hole Order Number	Fig.	Reference Dimensions a	b	c	d	e	f	g	Geometry
AHX475S-050A○○AR	HSC10030H	HSC10035	1	.630	M10×1.5	1.575	.394	.236	–	–	Fig.1 
AHX475S-063A○○AR	HSC10030H	HSC10035	1	.630	M10×1.5	1.575	.394	.236	–	–	
AHX475S-080A○○AR	HSC12035H	HSC12035 HSC12045	1	.709	M12×1.75	2.244	.472	.394	–	–	
AHX475S-100B○○AR	HSC16040H	–	1	.945	M16×2	2.205	.630	.551	–	–	
AHX475S-125B○○AR	MBA20040H	–	2	1.969	M20×2.5	2.126	.551	.669	.236	1.063	Fig.2 
AHX475S-160C○○AR	MBA20040H	–	2	1.969	M20×2.5	2.126	.551	.669	.236	1.063	
AHX475SR080○○DA	HSC16040H	–	1	.945	M16×2	2.205	.630	.551	–	–	
AHX475SR100○○DA	HSC16040H	–	1	.945	M16×2	2.205	.630	.551	–	–	
AHX475SR125○○EA	MBA20040H	–	2	1.969	M20×2.5	2.126	.551	.669	.236	1.063	
AHX475SR160○○FA	MBA24045H	–	2	2.559	M24×3	2.323	.551	.669	.394	1.457	

(Note 1) Internal coolant is necessary with the set bolt.

(Note 2) AHX475S is not recommended for machining stainless steel.

Recommended Cutting Conditions

Dry Cutting

(inch)

	Work Material	Hardness	Grade	Breaker	vc (SFM)	fz (IPT)	ap	ae
P	Mild Steel	≤180HB	**MP6120**	**R**	490 (330—655)	.024	≤.063	≤0.5DC
			MP6120	**R**	490 (330—655)	.031	≤.063	0.5—0.8DC
			MP6120	**M**	490 (330—655)	.039	≤.063	0.8—1DC
			MP6130	**R**	425 (260—590)	.024	≤.063	≤0.5DC
			MP6130	**R**	425 (260—590)	.031	≤.063	0.5—0.8DC
			MP6130	**M**	425 (260—590)	.039	≤.063	0.8—1DC
	Carbon Steel,Alloy Steel	180—280HB	**MP6120**	**R**	425 (260—590)	.024	≤.063	≤0.5DC
			MP6120	**R**	425 (260—590)	.031	≤.063	0.5—0.8DC
			MP6120	**M**	425 (260—590)	.039	≤.063	0.8—1DC
			MP6130	**R**	360 (195—525)	.024	≤.063	≤0.5DC
			MP6130	**R**	360 (195—525)	.031	≤.063	0.5—0.8DC
			MP6130	**M**	360 (195—525)	.039	≤.063	0.8—1DC
	Carbon Steel,Alloy Steel	280—350HB	**MP6120**	**R**	330 (165—490)	.020	≤.063	≤0.5DC
			MP6120	**R**	330 (165—490)	.024	≤.063	0.5—0.8DC
			MP6120	**R**	330 (165—490)	.028	≤.063	0.8—1DC
			MP6130	**R**	260 (100—425)	.020	≤.063	≤0.5DC
			MP6130	**R**	260 (100—425)	.024	≤.063	0.5—0.8DC
			MP6130	**R**	260 (100—425)	.028	≤.063	0.8—1DC
	Alloy Tool Steel	≤350HB (annealing)	**MP6120**	**R**	330 (165—490)	.020	≤.063	≤0.5DC
			MP6120	**R**	330 (165—490)	.024	≤.063	0.5—0.8DC
			MP6120	**R**	330 (165—490)	.028	≤.063	0.8—1DC
			MP6130	**R**	260 (100—395)	.020	≤.063	≤0.5DC
			MP6130	**R**	260 (100—395)	.024	≤.063	0.5—0.8DC
			MP6130	**R**	260 (100—395)	.028	≤.063	0.8—1DC
	Pre-hardened Steel	35—45HRC	**MP6120**	**R**	330 (230—425)	.020	≤.063	≤0.5DC
			MP6120	**R**	330 (230—425)	.024	≤.063	0.5—0.8DC
			MP6120	**R**	330 (230—425)	.028	≤.063	0.8—1DC
			MP6130	**R**	260 (165—360)	.020	≤.063	≤0.5DC
			MP6130	**R**	260 (165—360)	.024	≤.063	0.5—0.8DC
			MP6130	**R**	260 (165—360)	.028	≤.063	0.8—1DC
K	Gray Cast Iron	Tensile Strength ≤350MPa	**MC5020**	**R**	490 (330—655)	.024	≤.063	≤0.5DC
			MC5020	**R**	490 (330—655)	.031	≤.063	0.5—0.8DC
			MC5020	**M**	490 (330—655)	.039	≤.063	0.8—1DC
			VP15TF	**M**	395 (260—525)	.024	≤.063	≤0.5DC
			VP15TF	**M**	395 (260—525)	.031	≤.063	0.5—0.8DC
			VP15TF	**M**	395 (260—525)	.039	≤.063	0.8—1DC
	Ductile Cast Ilon	Tensile Strength ≤450MPa	**MC5020**	**R**	490 (330—655)	.024	≤.063	≤0.5DC
			MC5020	**R**	490 (330—655)	.031	≤.063	0.5—0.8DC
			MC5020	**M**	490 (330—655)	.039	≤.063	0.8—1DC
			VP15TF	**R**	395 (260—525)	.024	≤.063	≤0.5DC
			VP15TF	**R**	395 (260—525)	.031	≤.063	0.5—0.8DC
			VP15TF	**M**	395 (260—525)	.039	≤.063	0.8—1DC
	Ductile Cast Ilon	Tensile Strength ≤800MPa	**MC5020**	**R**	490 (330—655)	.020	≤.063	≤0.5DC
			MC5020	**R**	490 (330—655)	.024	≤.063	0.5—0.8DC
			MC5020	**R**	490 (330—655)	.028	≤.063	0.8—1DC
			VP15TF	**R**	395 (260—525)	.020	≤.063	≤0.5DC
			VP15TF	**R**	395 (260—525)	.024	≤.063	0.5—0.8DC
			VP15TF	**R**	395 (260—525)	.028	≤.063	0.8—1DC
H	Hardened Steel	40—55HRC	**VP15TF**	**R**	230 (165—295)	.016	≤.063	≤0.5DC
			VP15TF	**R**	230 (165—295)	.020	≤.063	0.5—0.8DC
			VP15TF	**R**	230 (165—295)	.024	≤.063	0.8—1DC

(Note 1) When clamp rigidity is low and tool overhang is long, we recommended to reduce the cutting speed and the feed rate by 30%.

FACE MILLING
<GENERAL CUTTING>

40° Finishing Roughing

AHX640S

P M K N S H

- Heptagonal double sided insert.
- Economical 14 cutting edge inserts.
- Multi insert design for high feed machining.

Fig. 1
ø2.500"
ø3.000"

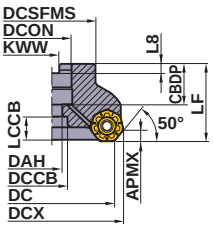


Fig. 2
ø4.000"
ø5.000"
ø6.000"

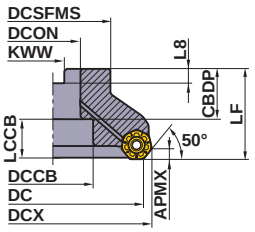
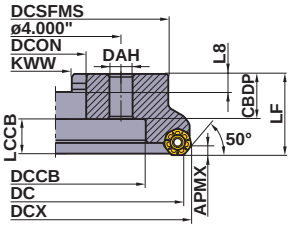
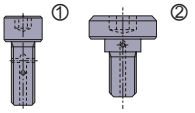


Fig. 3
ø8.000"



Right hand tool holder shown.

DC	Set Bolt	Geometry
ϕ2.500	HSCU37513H	①
ϕ3.000	HSCU62516H	
ϕ4.000	HSCU75016H	
ϕ5.000	MBAU75016H	②
ϕ6.000	MBAU100016H	
ϕ8.000	—	—



KAPR : 50° T : 10° (When using the MK breaker insert)
GAMP : -6° T : 20° (When using MP, MM breaker inserts)
GAMF : -5° I : +9°—+10°
DC=Inch size, DCON=Inch size

(inch)

DC	Order Number	Stock	✶1 Coolant Thru	✶2 No.T	Type	LF	DCX	DCON	Fig.	WT(lbs)	APMX
2.500	**AHX640SUR2504AA**	●	Y	4	R	2.000	2.994	.750	1	2.0	.236
	AHX640SUL2504AA	□	Y	4	L	2.000	2.994	.750	1	2.0	.236
	AHX640SUR2505AA	●	Y	5	R	2.000	2.994	.750	1	1.8	.236
	AHX640SUL2505AA	□	Y	5	L	2.000	2.994	.750	1	1.8	.236
3.000	**AHX640SUR0304DA**	●	Y	4	R	2.500	3.494	1.250	1	3.7	.236
	AHX640SUL0304DA	□	Y	4	L	2.500	3.494	1.250	1	3.7	.236
	AHX640SUR0306DA	●	Y	6	R	2.500	3.494	1.250	1	3.5	.236
	AHX640SUL0306DA	□	Y	6	L	2.500	3.494	1.250	1	3.5	.236
4.000	**AHX640SUR0405EA**	●	Y	5	R	2.500	4.494	1.500	2	6.4	.236
	AHX640SUL0405EA	□	Y	5	L	2.500	4.494	1.500	2	6.4	.236
	AHX640SUR0407EA	●	Y	7	R	2.500	4.494	1.500	2	6.4	.236
	AHX640SUL0407EA	□	Y	7	L	2.500	4.494	1.500	2	6.4	.236

(Note 1) The cutter body includes a set bolt for an arbor.
(Note 2) The above "APMX" will vary depending on the breaker insert.
✶1 Y=Yes
✶2 Number of Teeth

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

MOUNTING DIMENSION ➤ P31

Fig. 1
ø2.500"
ø3.000"

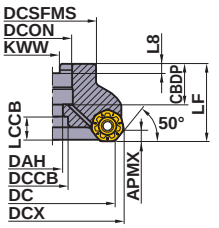


Fig. 2
ø4.000"
ø5.000"
ø6.000"

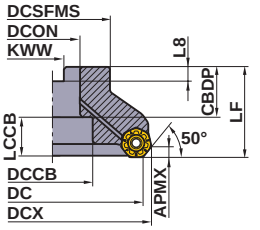
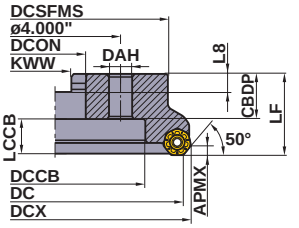


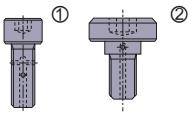
Fig. 3
ø8.000"



Right hand tool holder shown.

KAPR : 50° T : 10° (When using the MK breaker insert)
GAMP: -6° T : 20° (When using MP, MM breaker inserts)
GAMF: -5° I : +9°—+10°
DC=Inch size, DCON=Inch size

DC	Set Bolt	Geometry
ϕ2.500	HSCU37513H	①
ϕ3.000	HSCU62516H	
ϕ4.000	HSCU75016H	
ϕ5.000	MBAU75016H	②
ϕ6.000	MBAU100016H	
ϕ8.000	—	—



(inch)

DC	Order Number	Stock	✶1 Coolant Thru	✶2 No.T	Type	LF	DCX	DCON	Fig.	WT(lbs)	APMX
5.000	**AHX640SUR0506EA**	●	Y	6	R	2.500	5.494	1.500	2	8.2	.236
	AHX640SUL0506EA	□	Y	6	L	2.500	5.494	1.500	2	8.2	.236
	AHX640SUR0508EA	●	Y	8	R	2.500	5.494	1.500	2	7.9	.236
	AHX640SUL0508EA	□	Y	8	L	2.500	5.494	1.500	2	7.9	.236
6.000	**AHX640SUR0607FA**	●	Y	7	R	2.500	6.494	2.000	2	11.7	.236
	AHX640SUL0607FA	□	Y	7	L	2.500	6.494	2.000	2	11.7	.236
	AHX640SUR0610FA	●	Y	10	R	2.500	6.494	2.000	2	11.2	.236
	AHX640SUL0610FA	□	Y	10	L	2.500	6.494	2.000	2	11.2	.236
8.000	**AHX640SUR0808MN**	●	N	8	R	2.500	8.494	2.500	3	18.5	.236
	AHX640SUL0808MN	□	N	8	L	2.500	8.494	2.500	3	18.5	.236
	AHX640SUR0812MN	●	N	12	R	2.500	8.494	2.500	3	18.3	.236
	AHX640SUL0812MN	□	N	12	L	2.500	8.494	2.500	3	18.3	.236

(Note 1) Set bolt not included.
(Note 2) The above "APMX" will vary depending on the breaker insert.
✶1 Y=Yes, N=No
✶2 Number of Teeth

Spare Parts

Tool Holder Number	✶  Clamp Screw	 Wrench (Insert)
AHX640S	CS5015060T	TKY20T

✶ Clamp Torque (lbf-in) : CS5015060T=44

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

MOUNTING DIMENSION ➢ P31

Metric Standard

For inch arbors

Fig. 1
ø63
ø80

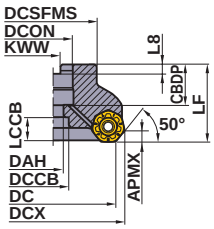


Fig. 2
ø100
ø125
ø160

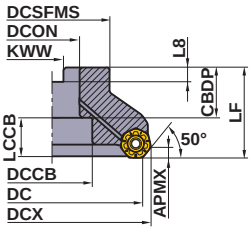
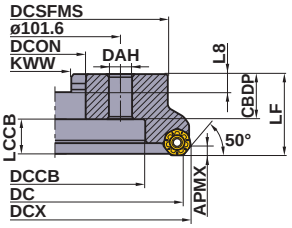
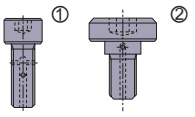


Fig. 3
ø200



Right hand tool holder only.

DC	Set Bolt	Geometry
ϕ63	HSC10030H	①
ϕ80	HSC12035H	
ϕ100	MBA16033H	②
ϕ125	MBA20040H	
ϕ160	MBA24045H	
ϕ200	—	—



KAPR : 50° T : 10° (When using the MK breaker insert)
GAMP : -6° T : 20° (When using MP, MM breaker inserts)
GAMF : -5° I : +9°—+10°
DC=mm size, DCON=Inch size

(mm)

DC	Order Number	Stock	⁎1 Coolant Thru	⁎2 No.T	LF	DCX	DCON	Fig.	WT(kg)	APMX
80	**AHX640SR08004CA**	★	Y	4	50	92.55	25.4 [1.0"]	1	1.1	6
	AHX640SR08006CA	★	Y	6	50	92.55	25.4 [1.0"]	1	1.0	6
100	**AHX640SR10005DA**	★	Y	5	50	112.55	31.75 [1.25"]	2	1.7	6
	AHX640SR10007DA	★	Y	7	50	112.55	31.75 [1.25"]	2	1.5	6
125	**AHX640SR12506EA**	★	Y	6	63	137.55	38.1 [1.50"]	2	3.0	6
	AHX640SR12508EA	★	Y	8	63	137.55	38.1 [1.50"]	2	2.9	6
160	**AHX640SR16007FA**	★	Y	7	63	172.55	50.8 [2.0"]	2	4.9	6
	AHX640SR16010FA	★	Y	10	63	172.55	50.8 [2.0"]	2	4.7	6
200	**AHX640SR20008KN**	★	N	8	63	212.55	47.625 [1.875"]	3	8.2	6
	AHX640SR20012KN	★	N	12	63	212.55	47.625 [1.875"]	3	7.9	6

(Note 1) Set bolt not included.
⁎1 Y=Yes, N=No
⁎2 Number of Teeth

Spare Parts

Tool Holder Number	⁎  Clamp Screw	 Wrench (Insert)
AHX640S	CS5015060T	TKY20T

⁎ Clamp Torque (lbf-in) : CS5015060T=44

MOUNTING DIMENSION ➤ P33

General Purpose Multi Corner Insert Type Face Milling Cutter

Metric Standard

For metric arbors

Fig. 1
ø63
ø80

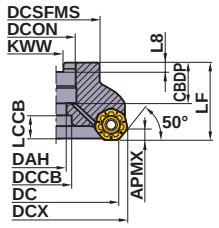


Fig. 2
ø100
ø125

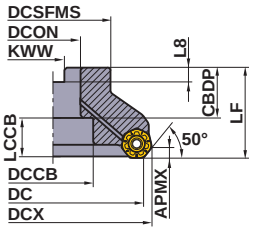


Fig. 3
ø160

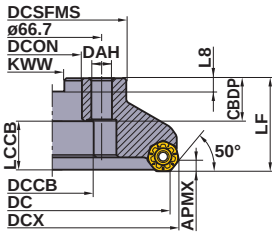
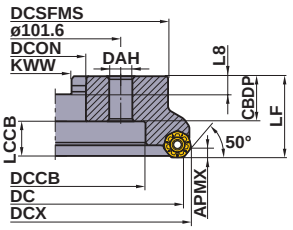
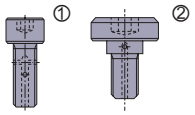


Fig. 4
ø200



Right hand tool holder only.

DC	Set Bolt	Geometry
ϕ63	HSC10030H	①
ϕ80	HSC12035H	
ϕ100	MBA16033H	②
ϕ125	MBA20040H	
ϕ160	—	—
ϕ200	—	—



KAPR : 50° T : 10° (When using the MK breaker insert)
GAMP : -6° T : 20° (When using MP, MM breaker inserts)
GAMF : -5° I : +9°—+10°
DC=mm size, DCON=mm size

(mm)

DC	Order Number	Stock	✶2 Coolant Thru	✶3 No.T	LF	DCX	DCON	Fig.	WT(kg)	APMX
63	**AHX640S-063A04AR**	★	Y	4	50	75.55	22	1	0.7	6
	AHX640S-063A05AR	★	Y	5	50	75.55	22	1	0.6	6
80	**AHX640S-080A04AR**	★	Y	4	50	92.55	27	1	1.1	6
	AHX640S-080A06AR	★	Y	6	50	92.55	27	1	1.0	6
100	**AHX640S-100B05AR**	★	Y	5	50	112.55	32	2	1.7	6
	AHX640S-100B07AR	★	Y	7	50	112.55	32	2	1.6	6
125	**AHX640S-125B06AR**	★	Y	6	63	137.55	40	2	3.1	6
	AHX640S-125B08AR	★	Y	8	63	137.55	40	2	3.0	6
160	**AHX640S-160C07NR**	★	N	7	63	172.55	40	3	5.4	6
	AHX640S-160C10NR	★	N	10	63	172.55	40	3	5.2	6
200	**AHX640S-200C08NR**	★	N	8	63	212.55	60	4	7.8	6
	AHX640S-200C12NR	★	N	12	63	212.55	60	4	7.5	6

✶1 Clamp Torque (lbf-in) : CS5015060T=44
✶1 Y=Yes, N=No
✶2 Number of Teeth

Spare Parts

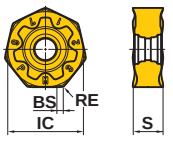
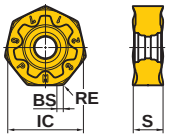
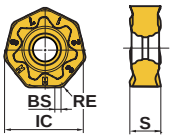
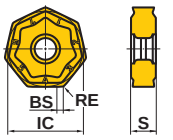
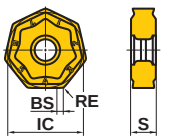
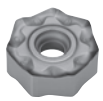
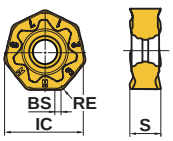
Tool Holder Number	✶1  Clamp Screw	 Wrench (Insert)
AHX640S	CS5015060T	TKY20T

● : Inventory maintained. ★ : Inventory maintained in Japan.
(10 inserts in one case)

MOUNTING DIMENSION ➤ P33

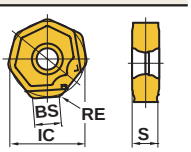
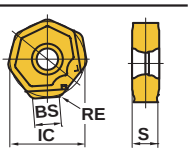
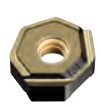
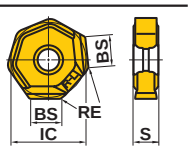
Inserts

(inch)

Application	Shape	Order Number	Class	Honing	Coated								IC	RE	BS	S	APMX	Geometry
					MP6120	MP6130	MP7030	MP9120	MP9130	MC5020	VP15TF	VP20RT						
For Steel General Cutting		**NNMU200708ZEN-M**	M	E	●	●							.787	.031	.039	.315	.236	
For Steel General Cutting		**NNMU200708ZEN-MP**	M	E							●		.787	.031	.039	.315	.236	
For Stainless Steel		**NNMU200712ZER-MM**	M	E			●						.787	.047	.039	.315	.236	
For Cast Iron General Cutting		**NNMU200608ZEN-MK**	M	E						●	●	●	.787	.031	.039	.258	.236	
For Cast Iron Strong Cutting Edge Type		**NNMU200608ZEN-HK**	M	E						●	●	●	.787	.031	.039	.258	.236	
For Titanium Alloy and Heat Resistant Alloy		**NNMU200712ZER-L**	M	E				●	●				.787	.047	.039	.315	.236	

Wiper Inserts

(inch)

Application	Shape	Order Number	Class	Honing	Coated								IC	RE	BS	S	APMX	Geometry
					MP6120	MP6130	MP7030	MP9120	MP9130	MC5020	VP15TF	VP20RT						
For Steel		**WNEU2007ZEN7C-M**	E	E	●								.787	.031	.283	.272	.020	
General Cutting		**WNEU2007ZEN7C-WP**	E	E							●		.787	.031	.280	.272	.020	
For Cast Iron		**WNEU2006ZEN7C-WK**	E	E						●			.787	.031	.291	.258	.020	

(Note) The height of cutter when setting MK, HK inserts are different from when setting MP, MM inserts.

Instructions for Use of Wiper Inserts

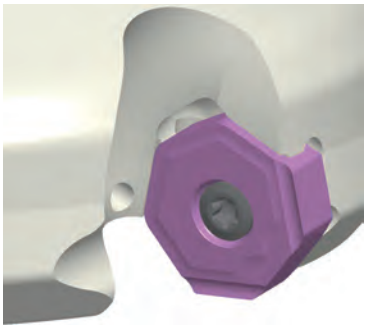


Fig.1

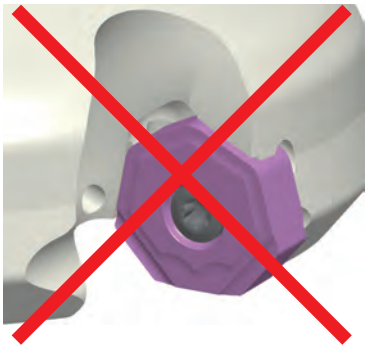


Fig.2

(Note 1) The specifications for these wipers are right hand body 2 corners and left hand body 2 corners. Refer to Figure 1.
(Note 2) A satisfactory finish surface can be achieved with one wiper insert.
However, if the feed rate per revolution will be equal to or greater than the width of the wiper edge, it is recommended to install the second and further wiper inserts spaced evenly within the cutting body.

Recommended Cutting Conditions

Dry Cutting

(inch)

	Work Material	Hardness	Grade	Breaker	vc (SFM)	fz (IPT)	ap	ae
P	Mild Steel	≤180HB	**MP6120**	**M**	820 (655－985)	.012 (.008－.016)	≤.197	≤0.8DC
			VP15TF	**MP**	820 (655－985)	.012 (.008－.016)	≤.197	≤0.8DC
			MP6130	**M**	720 (560－885)	.016 (.012－.020)	≤.197	≤0.8DC
	Carbon Steel,Alloy Steel	180－280HB	**MP6120**	**M**	720 (560－885)	.012 (.008－.016)	≤.197	≤0.8DC
			VP15TF	**MP**	720 (560－885)	.012 (.008－.016)	≤.197	≤0.8DC
			MP6130	**M**	620 (460－785)	.016 (.012－.020)	≤.197	≤0.8DC
	Carbon Steel,Alloy Steel	280－350HB	**MP6120**	**M**	460 (330－590)	.012 (.008－.016)	≤.197	≤0.8DC
			VP15TF	**MP**	460 (330－590)	.012 (.008－.016)	≤.197	≤0.8DC
			MP6130	**M**	360 (230－490)	.016 (.012－.020)	≤.197	≤0.8DC
	Alloy Tool Steel	≤350HB (annealing)	**MP6120**	**M**	460 (330－590)	.006 (.004－.008)	≤.118	≤0.8DC
			VP15TF	**MP**	460 (330－590)	.006 (.004－.008)	≤.118	≤0.8DC
			MP6130	**M**	360 (230－490)	.010 (.008－.012)	≤.118	≤0.8DC
	Pre-hardened Steel	35－45HRC	**MP6120**	**M**	460 (330－590)	.006 (.004－.008)	≤.118	≤0.8DC
			VP15TF	**MP**	460 (330－590)	.006 (.004－.008)	≤.197	≤0.8DC
			MP6130	**M**	360 (230－490)	.010 (.008－.012)	≤.118	≤0.8DC
M	Austenitic Stainless Steel	≤200HB	**MP7030**	**MM**	655 (490－820)	.008 (.004－.012)	≤.197	≤0.8DC
	Austenitic Stainless Steel	> 200HB	**MP7030**	**MM**	490 (330－655)	.008 (.004－.012)	≤.197	≤0.8DC
	Two-phase Stainless Steel	≤280HB	**MP7030**	**MM**	460 (330－590)	.006 (.002－.010)	≤.197	≤0.8DC
	Ferritic and Maltensitic Stainless Steel	≤200HB	**MP7030**	**MM**	655 (490－820)	.008 (.004－.012)	≤.197	≤0.8DC
	Ferritic and Maltensitic Stainless Steel	> 200HB	**MP7030**	**MM**	490 (330－655)	.008 (.004－.012)	≤.197	≤0.8DC
	Precipitation Hardening Stainless Steel	< 450HB	**MP7030**	**MM**	425 (330－525)	.006 (.002－.010)	≤.197	≤0.8DC
K	Gray Cast Iron	Tensile Strength ≤350MPa	**MC5020**	**MK,HK**	720 (490－985)	.012 (.008－.016)	≤.197	≤0.8DC
			VP15TF,VP20RT	**MK,HK**	590 (425－755)	.012 (.008－.016)	≤.197	≤0.8DC
			VP15TF	**MP**	590 (425－755)	.012 (.008－.016)	≤.197	≤0.8DC
	Ductile Cast Ilon	Tensile Strength ≤450MPa	**MC5020**	**MK,HK**	655 (490－820)	.008 (.004－.012)	≤.197	≤0.8DC
			VP15TF,VP20RT	**MK,HK**	560 (395－720)	.008 (.004－.012)	≤.197	≤0.8DC
			VP15TF	**MP**	560 (395－720)	.008 (.004－.012)	≤.197	≤0.8DC
	Ductile Cast Ilon	Tensile Strength ≤800MPa	**MC5020**	**MK,HK**	560 (490－655)	.008 (.004－.012)	≤.197	≤0.8DC
			VP15TF,VP20RT	**MK,HK**	460 (330－590)	.008 (.004－.012)	≤.197	≤0.8DC
			VP15TF	**MP**	460 (330－590)	.008 (.004－.012)	≤.197	≤0.8DC
H	Hardened Steel	40－55HRC	**VP15TF**	**MP**	260 (195－330)	.006 (.004－.008)	≤ .118	≤0.8DC

(Note1) Recommended wet cutting for good surface finishing of stainless steel. (Tool life is short compared to wet cutting.)
(Note2) Recommended wet cutting with internal coolant for titanium alloy and heat resistant alloy,
(Note3) When clamp rigidity is low and tool overhang is long, we recommended to reduce the cutting speed and the feed rate by 30%.

Wet Cutting

(inch)

	Work Material	Hardness	Breaker	Grade	vc (SFM)	fz (IPT)	ap	ae
M	Austenitic Stainless Steel	≤200HB	**MP7030**	**MM**	410 (330—490)	.006 (.004—.008)	≤.197	≤0.8DC
	Austenitic Stainless Steel	> 200HB	**MP7030**	**MM**	330 (245—410)	.006 (.004—.008)	≤.197	≤0.8DC
	Two-phase Stainless Steel	≤280HB	**MP7030**	**MM**	260 (195—330)	.004 (.002—.006)	≤.197	≤0.8DC
	Ferritic and Maltensitic Stainless Steel	≤200HB	**MP7030**	**MM**	410 (330—490)	.006 (.004—.008)	≤.197	≤0.8DC
	Ferritic and Maltensitic Stainless Steel	> 200HB	**MP7030**	**MM**	330 (245—410)	.006 (.004—.008)	≤.197	≤0.8DC
	Precipitation Hardening Stainless Steel	< 450HB	**MP7030**	**MM**	230 (165—295)	.004 (.002—.006)	≤.197	≤0.8DC
S	Titanium Alloy	—	**MP7030**	**MM**	130 (65—165)	.006 (.004—.008)	≤.118	≤0.6DC
		—	**MP9120**	**L**	195 (165—230)	.004 (.002—.006)	≤.118	≤0.6DC
		—	**MP9130**	**L**	130 (65—165)	.006 (.004—.008)	≤.118	≤0.6DC
	Heat Resistant Alloy	—	**MP7030**	**MM**	130 (65—165)	.006 (.004—.008)	≤.118	≤0.6DC
		—	**MP9120**	**L**	195 (165—230)	.004 (.002—.006)	≤.118	≤0.6DC
		—	**MP9130**	**L**	130 (65—165)	.006 (.004—.008)	≤.118	≤0.6DC

(Note1) Recommended wet cutting for good surface finishing of stainless steel. (Tool life is short compared to wet cutting.)
(Note2) Recommended wet cutting with internal coolant for titanium alloy and heat resistant alloy.
(Note3) When clamp rigidity is low and tool overhang is long, we recommended to reduce the cutting speed and the feed rate by 30%.

Cutting Conditions with Wiper Insert

(inch)

	Work Material	Hardness	Main Insert	Grade	Wiper Insert	Grade	vc (SFM)	fz (IPT)	ap	ae
P	Mild Steel	≤180HB	**VP15TF**	**MP**	**VP15TF**	**WP**	820 (655—985)	.012 (.008—.016)	≤.0197	≤0.8DC
			MP6120	**M**	**MP6120**	**M**	820 (655—985)	.012 (.008—.016)	≤.0197	≤0.8DC
	Carbon Steel,Alloy Steel	180—280HB	**VP15TF**	**MP**	**VP15TF**	**WP**	720 (560—885)	.012 (.008—.016)	≤.0197	≤0.8DC
			MP6120	**M**	**MP6120**	**M**	720 (560—885)	.012 (.008—.016)	≤.0197	≤0.8DC
	Carbon Steel,Alloy Steel	280—350HB	**VP15TF**	**MP**	**VP15TF**	**WP**	460 (330—590)	.012 (.008—.016)	≤.0197	≤0.8DC
			MP6120	**M**	**MP6120**	**M**	460 (330—590)	.012 (.008—.016)	≤.0197	≤0.8DC
K	Gray Cast Iron	Tensile Strength ≤350MPa	**MC5020**	**MK,HK**	**MC5020**	**WK**	1050 (820—1310)	.012 (.008—.016)	≤.0197	≤0.8DC
			VP15TF	**MP**	**VP15TF**	**WP**	720 (490—985)	.012 (.008—.016)	≤.0197	≤0.8DC
	Ductile Cast Ilon	Tensile Strength ≤450MPa	**MC5020**	**MK,HK**	**MC5020**	**WK**	820 (655—985)	.008 (.004—.012)	≤.0197	≤0.8DC
			VP15TF	**MP**	**VP15TF**	**WP**	655 (490—820)	.008 (.004—.012)	≤.0197	≤0.8DC
	Ductile Cast Ilon	Tensile Strength ≤800MPa	**MC5020**	**MK,HK**	**MC5020**	**WK**	720 (655—820)	.008 (.004—.012)	≤.0197	≤0.8DC
			VP15TF	**MP**	**VP15TF**	**WP**	560 (490—655)	.008 (.004—.012)	≤.0197	≤0.8DC
S	Heat Resistant Alloy	—	**VP15TF**	**MP**	**VP15TF**	**WP**	130 (65—165)	.006 (.004—.008)	≤.0197	≤0.8DC
H	Hardened Steel	40—55HRC	**VP15TF**	**MP**	**VP15TF**	**WP**	260 (195—330)	.006 (.004—.008)	≤.0197	≤0.8DC

(Note 1) When clamp rigidity is low and tool overhang is long, we recommended to reduce the cutting speed and the feed rate by 30%.
(Note 2) Use WP geometry insert in combination with MP or M geometry inserts, and use WK geometry insert in combination with MK or HK geometry inserts

FACE MILLING

<HIGH FEED CUTTING FOR CAST IRON>

40°

Finishing Roughing

AHX640W

P M **K** N S H

- **Heptagonal double sided insert.**
- **Economical 14 cutting edge inserts.**
- **Multi insert design for high feed machining.**

Fig.1 ø3.000" ø4.000"

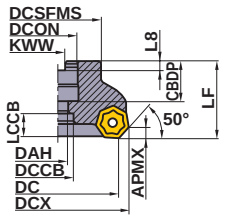


Fig.2 ø5.000" ø6.000"

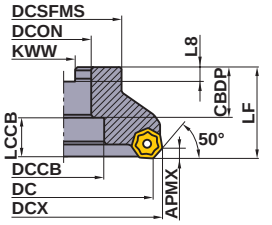


Fig.3 ø8.000" ø10.000"

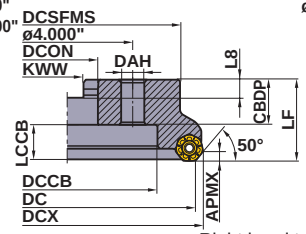
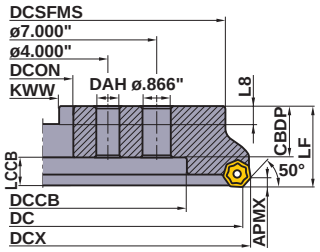


Fig.4 ø12.000"



Right hand tool holder shown.

KAPR : 50°
GAMP : -6° T : +10°
GAMF : -4° I : +9°—+10° (T, I : When using the MK breaker insert)
DC=Inch size, DCON=Inch size

(inch)

DC	Order Number	Stock	⁎1 Coolant Thru	⁎2 No.T	Type	LF	DCX	DCON	Fig.	WT(lbs)	APMX
3.000	**AHX640WR0308D**	●	N	8	R	2.500	3.494	1.250	1	4.2	.236
	AHX640WL0308D	□	N	8	L	2.500	3.494	1.250	1	4.2	.236
	AHX640WR0310D	●	N	10	R	2.500	3.494	1.250	1	4.2	.236
	AHX640WL0310D	□	N	10	L	2.500	3.494	1.250	1	4.2	.236
4.000	**AHX640WR0410E**	●	N	10	R	2.500	4.494	1.500	1	7.3	.236
	AHX640WL0410E	□	N	10	L	2.500	4.494	1.500	1	7.3	.236
	AHX640WR0414E	●	N	14	R	2.500	4.494	1.500	1	7.3	.236
	AHX640WL0414E	□	N	14	L	2.500	4.494	1.500	1	7.3	.236
5.000	**AHX640WR0512E**	●	N	12	R	2.500	5.494	1.500	2	8.8	.236
	AHX640WL0512E	□	N	12	L	2.500	5.494	1.500	2	8.8	.236
	AHX640WR0518E	●	N	18	R	2.500	5.494	1.500	2	8.8	.236
	AHX640WL0518E	□	N	18	L	2.500	5.494	1.500	2	8.8	.236
6.000	**AHX640WR0614F**	●	N	14	R	2.500	6.494	2.000	2	12.6	.236
	AHX640WL0614F	□	N	14	L	2.500	6.494	2.000	2	12.6	.236
	AHX640WR0620F	●	N	20	R	2.500	6.494	2.000	2	12.6	.236
	AHX640WL0620F	□	N	20	L	2.500	6.494	2.000	2	12.6	.236

(Note 1) Set bolt not included.
(Note 2) The above "APMX" will vary depending on the breaker insert.
⁎1 N=No
⁎2 Number of Teeth

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

MOUNTING DIMENSION ➢ P35

Fig.1
ø3.000"
ø4.000"

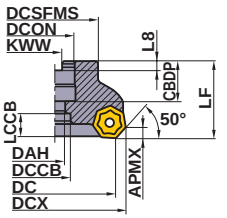


Fig.2
ø5.000"
ø6.000"

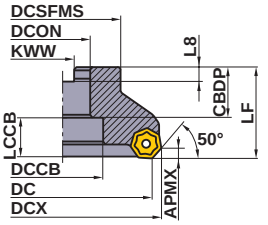


Fig.3
ø8.000"
ø10.000"

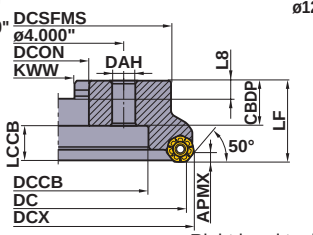
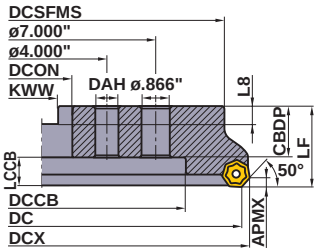


Fig.4
ø12.000"



Right hand tool holder shown.

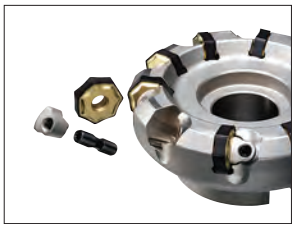
KAPR : 50°
GAMP : -6° T : +10°
GAMF : -4° I : +9°—+10° (T, I : When using the MK breaker insert)
DC=Inch size, DCON=Inch size

(inch)

DC	Order Number	Stock	✶1 Coolant Thru	✶2 No.T	Type	LF	DCX	DCON	Fig.	WT(lbs)	APMX
8.000	**AHX640WR0820M**	●	N	20	R	2.500	8.494	2.500	3	19.6	.236
	AHX640WL0820M	□	N	20	L	2.500	8.494	2.500	3	19.6	.236
	AHX640WR0828M	●	N	28	R	2.500	8.494	2.500	3	19.6	.236
	AHX640WL0828M	□	N	28	L	2.500	8.494	2.500	3	19.6	.236
10.000	**AHX640WR1024M**	●	N	24	R	2.500	10.494	2.500	3	32.0	.236
	AHX640WL1024M	□	N	24	L	2.500	10.494	2.500	3	32.0	.236
	AHX640WR1036M	●	N	36	R	2.500	10.494	2.500	3	32.0	.236
	AHX640WL1036M	□	N	36	L	2.500	10.494	2.500	3	32.0	.236
12.000	**AHX640WR1228M**	●	N	28	R	2.500	12.494	2.500	4	49.2	.236
	AHX640WL1228M	□	N	28	L	2.500	12.494	2.500	4	49.2	.236
	AHX640WR1242M	●	N	42	R	2.500	12.494	2.500	4	49.2	.236
	AHX640WL1242M	□	N	42	L	2.500	12.494	2.500	4	49.2	.236

(Note 1) Set bolt not included.
(Note 2) The above "APMX" will vary depending on the breaker insert.
✶1 N=No
✶2 Number of Teeth

Spare Parts



Tool Holder Number	 Wedge	 ✶ Clamp Screw	 Wrench
AHX640W Type	CWAHX640WN	LS0622T	TKY15T

✶ Clamp Torque (lbf-in) : LS0622T=53

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

MOUNTING DIMENSION ➢ P35

Metric Standard

For inch arbors

KAPR : 50°
GAMP: -6° T : +10°
GAMF: -4° I : +9°—+10° (T,I : When using the MK breaker insert)
DC=mm size, DCON=Inch size

Fig.1
ø80

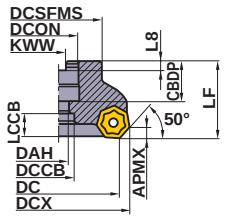


Fig.2
ø100
ø125
ø160

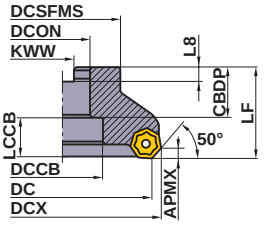


Fig.3
ø200
ø250

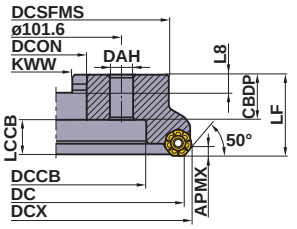
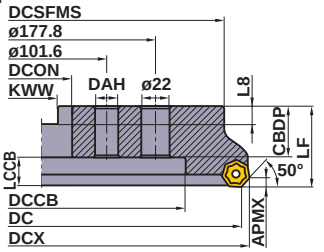


Fig.4
ø315



Right hand tool holder shown.

(mm)

DC	Order Number	Stock	✶1 Coolant Thru	✶2 No.T	Type	LF	DCX	DCON	Fig.	WT(kg)	APMX
80	**AHX640WR08008C**	★	N	8	R	50	92.6	25.4 [1.0"]	1	1.5	6
	AHX640WL08008C	★	N	8	L	50	92.6	25.4 [1.0"]	1	1.5	6
	AHX640WR08010C	★	N	10	R	50	92.6	25.4 [1.0"]	1	1.5	6
	AHX640WL08010C	★	N	10	L	50	92.6	25.4 [1.0"]	1	1.5	6
100	**AHX640WR10010D**	★	N	10	R	50	112.6	31.75 [1.25"]	2	2.1	6
	AHX640WL10010D	★	N	10	L	50	112.6	31.75 [1.25"]	2	2.1	6
	AHX640WR10014D	★	N	14	R	50	112.6	31.75 [1.25"]	2	2.1	6
	AHX640WL10014D	★	N	14	L	50	112.6	31.75 [1.25"]	2	2.1	6
125	**AHX640WR12512E**	★	N	12	R	63	137.6	38.1 [1.50"]	2	3.5	6
	AHX640WL12512E	★	N	12	L	63	137.6	38.1 [1.50"]	2	3.5	6
	AHX640WR12518E	★	N	18	R	63	137.6	38.1 [1.50"]	2	3.5	6
	AHX640WL12518E	★	N	18	L	63	137.6	38.1 [1.50"]	2	3.5	6
160	**AHX640WR16016F**	★	N	16	R	63	172.6	50.8 [2.0"]	2	5.6	6
	AHX640WL16016F	★	N	16	L	63	172.6	50.8 [2.0"]	2	5.6	6
	AHX640WR16022F	★	N	22	R	63	172.6	50.8 [2.0"]	2	5.6	6
	AHX640WL16022F	★	N	22	L	63	172.6	50.8 [2.0"]	2	5.6	6
200	**AHX640WR20020K**	★	N	20	R	63	212.6	47.625 [1.875"]	3	9.0	6
	AHX640WL20020K	★	N	20	L	63	212.6	47.625 [1.875"]	3	9.0	6
	AHX640WR20028K	★	N	28	R	63	212.6	47.625 [1.875"]	3	9.0	6
	AHX640WL20028K	★	N	28	L	63	212.6	47.625 [1.875"]	3	9.0	6
250	**AHX640WR25024K**	★	N	24	R	63	262.6	47.625 [1.875"]	3	14.4	6
	AHX640WL25024K	★	N	24	L	63	262.6	47.625 [1.875"]	3	14.4	6
	AHX640WR25036K	★	N	36	R	63	262.6	47.625 [1.875"]	3	14.4	6
	AHX640WL25036K	★	N	36	L	63	262.6	47.625 [1.875"]	3	14.4	6
315	**AHX640WR31528P**	★	N	28	R	63	327.6	47.625 [1.875"]	4	23.8	6
	AHX640WL31528P	★	N	28	L	63	327.6	47.625 [1.875"]	4	23.8	6
	AHX640WR31544P	★	N	44	R	63	327.6	47.625 [1.875"]	4	23.8	6
	AHX640WL31544P	★	N	44	L	63	327.6	47.625 [1.875"]	4	23.8	6

(Note 1) Set bolt not included.
(Note 2) The above "APMX" will vary depending on the breaker insert.
✶1 N=No
✶2 Number of Teeth

MOUNTING DIMENSION ➤ P36

General Purpose Multi Corner Insert Type Face Milling Cutter

Fig.1 ø80

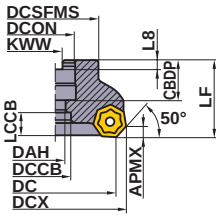


Fig.2 ø100 ø125

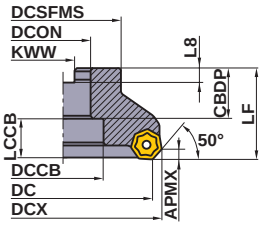


Fig.3 ø160

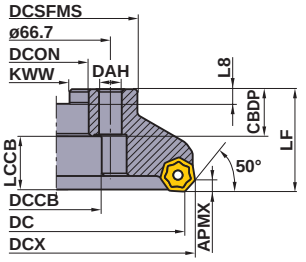


Fig.4 ø200 ø250

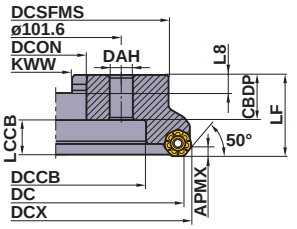
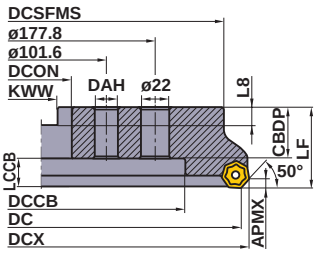


Fig.5 ø315



Metric Standard

For metric arbors

KAPR : 50°
GAMP: -6° T : +10°
GAMF: -4° I : +9°—+10° (T,I : When using the MK breaker insert)
DC=mm size, DCON=mm size

Right hand tool holder shown.

(mm)

DC	Order Number	Stock	✶1 Coolant Thru	✶2 No.T	Type	LF	DCX	DCON	Fig.	WT(kg)	APMX
80	**AHX640W-080A08R**	★	N	8	R	50	92.6	27	1	1.5	6
	AHX640W-080A08L	★	N	8	L	50	92.6	27	1	1.5	6
	AHX640W-080A10R	★	N	10	R	50	92.6	27	1	1.5	6
	AHX640W-080A10L	★	N	10	L	50	92.6	27	1	1.5	6
100	**AHX640W-100B10R**	★	N	10	R	50	112.6	32	2	2.1	6
	AHX640W-100B10L	★	N	10	L	50	112.6	32	2	2.1	6
	AHX640W-100B14R	★	N	14	R	50	112.6	32	2	2.1	6
	AHX640W-100B14L	★	N	14	L	50	112.6	32	2	2.1	6
125	**AHX640W-125B12R**	★	N	12	R	63	137.6	40	2	3.1	6
	AHX640W-125B12L	★	N	12	L	63	137.6	40	2	3.1	6
	AHX640W-125B18R	★	N	18	R	63	137.6	40	2	3.1	6
	AHX640W-125B18L	★	N	18	L	63	137.6	40	2	3.1	6
160	**AHX640W-160C16R**	★	N	16	R	63	172.6	40	3	5.6	6
	AHX640W-160C16L	★	N	16	L	63	172.6	40	3	5.6	6
	AHX640W-160C22R	★	N	22	R	63	172.6	40	3	5.6	6
	AHX640W-160C22L	★	N	22	L	63	172.6	40	3	5.6	6
200	**AHX640W-200C20R**	★	N	20	R	63	212.6	60	4	8.0	6
	AHX640W-200C20L	★	N	20	L	63	212.6	60	4	8.0	6
	AHX640W-200C28R	★	N	28	R	63	212.6	60	4	8.0	6
	AHX640W-200C28L	★	N	28	L	63	212.6	60	4	8.0	6
250	**AHX640W-250C24R**	★	N	24	R	63	262.6	60	4	12.6	6
	AHX640W-250C24L	★	N	24	L	63	262.6	60	4	12.6	6
	AHX640W-250C36R	★	N	36	R	63	262.6	60	4	12.6	6
	AHX640W-250C36L	★	N	36	L	63	262.6	60	4	12.6	6
315	**AHX640W-315C28R**	★	N	28	R	80	327.6	60	5	31.5	6
	AHX640W-315C28L	★	N	28	L	80	327.6	60	5	31.5	6
	AHX640W-315C44R	★	N	44	R	80	327.6	60	5	31.5	6
	AHX640W-315C44L	★	N	44	L	80	327.6	60	5	31.5	6

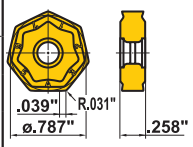
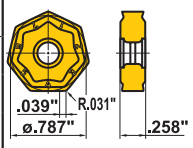
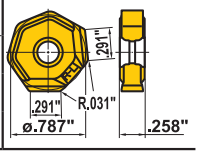
(Note 1) Set bolt not included.
(Note 2) The above "APMX" will vary depending on the breaker insert.
✶1 N=No
✶2 Number of Teeth

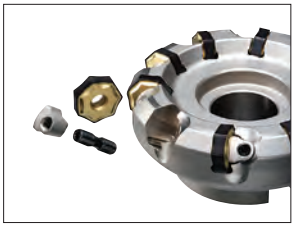
● : Inventory maintained. ★ : Inventory maintained in Japan.
(10 inserts in one case)

MOUNTING DIMENSION ➢ P36

Insert

(inch)

Shape	Order Number	Class	Honing	Coated MC5020	Coated VP15TF	Coated VP20RT	Geometry
 General Cutting	NNMU200608ZEN-MK	M	E	●	●	●	
 Strong Cutting Edge Type	NNMU200608ZEN-HK	M	E	●	●	●	
 Wiper	WNEU2006ZEN7C-WK	E	E	●			



Spare Parts

Tool Holder Number	 Wedge	 * Clamp Screw	 Wrench
AHX640W	CWAHX640WN	LS0622T	TKY15T

* Clamp Torque (lbf-in) : LS0622T=53

Recommended Cutting Conditions

Dry·Wet Cutting

(inch)

Work Material		Tensile Strength	Grade	vc (SFM)	fz (IPT)
K	Gray Cast Iron	≤350MPa	**MC5020**	720 (490—985)	.012 (.008—.016)
			VP15TF VP20RT	590 (425—755)	.012 (.008—.016)
	Ductile Cast Iron	≤450MPa	**MC5020**	655 (490—820)	.008 (.004—.012)
			VP15TF VP20RT	560 (395—720)	.008 (.004—.012)
		≤800MPa	**MC5020**	560 (490—655)	.008 (.004—.012)
			VP15TF VP20RT	460 (330—590)	.008 (.004—.012)

*Use 2-3 pcs of Wiper inserts in case of 'over .236 IPR'.

Finishing (Use of Wiper Inserts)

(inch)

Work Material		Grade	ap	vc (SFM)	fz (IPT)
K	Gray Cast Iron	**MC5020**	<.0197	1050 (820—1310)	.008 (.004—.012)
			.0197—.118	855 (655—1150)	
	Ductile Cast Iron		<.0197	855 (655—1150)	
			.0197—.118	720 (655—820)	

(Note) With reference to the above examples, adjust the cutting conditions according to the use environment.
(Note) Tool life when wet cutting is short compared to dry cutting.

AHX440S, AHX475S, AHX640S Mounting Dimension

Fig. 1

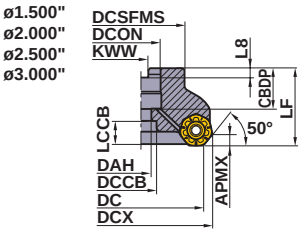


Fig. 2

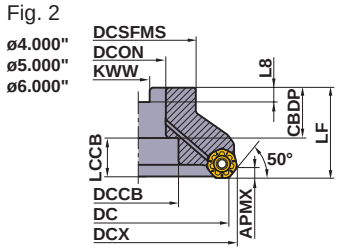
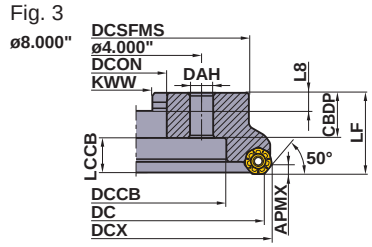


Fig. 3



Right hand tool holder shown.

(inch)

DCON	DC	Order Number	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
.500	1.500	**AHX440SUR1503SA**	.630	.276	.433	.602	1.44	.250	.156	1
.500	1.500	**AHX440SUR1504SA**	.630	.276	.433	.602	1.44	.250	.156	1
.750	2.000	**AHX440SUR0204AA**	.748	.413	.630	.642	1.75	.313	.187	1
.750	2.000	**AHX440SUR0205AA**	.748	.413	.630	.642	1.75	.313	.187	1
.750	2.000	**AHX440SUR0206AA**	.748	.413	.630	.642	1.75	.313	.187	1
.750	2.000	**AHX475SUR0204AA**	.748	.413	.630	.609	1.88	.313	.187	4
.750	2.000	**AHX475SUR0205AA**	.748	.413	.630	.609	1.88	.313	.187	4
.750	2.500	**AHX640SUL2504AA**	.748	.413	.630	.591	1.75	.313	.187	1
.750	2.500	**AHX640SUL2505AA**	.748	.413	.630	.591	1.75	.313	.187	1
.750	2.500	**AHX640SUR2504AA**	.748	.413	.630	.591	1.75	.313	.187	1
.750	2.500	**AHX640SUR2505AA**	.748	.413	.630	.591	1.75	.313	.187	1
1.000	2.500	**AHX440SUR2505CA**	.945	.539	.787	.695	2.19	.375	.219	1
1.000	2.500	**AHX440SUR2506CA**	.945	.539	.787	.695	2.19	.375	.219	1
1.000	2.500	**AHX440SUR2508CA**	.945	.539	.787	.695	2.19	.375	.219	1
1.000	2.500	**AHX475SUR2505CA**	.945	.539	.787	.688	2.38	.375	.219	4
1.000	2.500	**AHX475SUR2506CA**	.945	.539	.787	.688	2.38	.375	.219	4
1.000	3.000	**AHX440SUR0306CA**	.945	.539	.787	.695	2.19	.375	.219	1
1.000	3.000	**AHX440SUR0308CA**	.945	.539	.787	.695	2.19	.375	.219	1
1.000	3.000	**AHX440SUR0310CA**	.945	.539	.787	.695	2.19	.375	.219	1
1.000	3.000	**AHX475SUR0306CA**	.945	.539	.787	.688	2.75	.375	.219	4
1.000	3.000	**AHX475SUR0308CA**	.945	.539	.787	.688	2.75	.375	.219	4
1.250	3.000	**AHX475SUR0306DA**	1.260	.669	1.024	.794	2.88	.500	.281	4
1.250	3.000	**AHX475SUR0308DA**	1.260	.669	1.024	.794	2.88	.500	.281	4
1.250	3.000	**AHX640SUL0304DA**	1.260	.669	1.024	.776	2.88	.500	.281	1
1.250	3.000	**AHX640SUL0306DA**	1.260	.669	1.024	.776	2.88	.500	.281	1
1.250	3.000	**AHX640SUR0304DA**	1.260	.669	1.024	.776	2.88	.500	.281	1
1.250	3.000	**AHX640SUR0306DA**	1.260	.669	1.024	.776	2.88	.500	.281	1
1.500	4.000	**AHX440SUR0407EA**	1.417	—	1.500	.801	3.50	.625	.375	2
1.500	4.000	**AHX440SUR0410EA**	1.417	—	1.500	.801	3.50	.625	.375	2

Fig.4

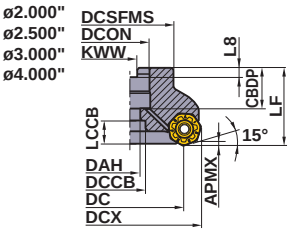
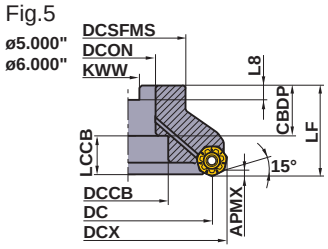


Fig.5



Right hand tool holder only.

(inch)

DCON	DC	Order Number	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
1.500	4.000	**AHX440SUR0412EA**	1.417	—	1.500	.801	3.50	.625	.375	2
1.500	4.000	**AHX475SUR0407EA**	1.181	.787	1.181	.952	3.75	.625	.375	4
1.500	4.000	**AHX475SUR0409EA**	1.181	.787	1.181	.952	3.75	.625	.375	4
1.500	4.000	**AHX640SUL0405EA**	1.181	—	.787	.933	3.81	.625	.375	2
1.500	4.000	**AHX640SUL0407EA**	1.181	—	.787	.933	3.81	.625	.375	2
1.500	4.000	**AHX640SUR0405EA**	1.181	—	.787	.933	3.81	.625	.375	2
1.500	4.000	**AHX640SUR0407EA**	1.181	—	.787	.933	3.81	.625	.375	2
1.500	5.000	**AHX440SUR0508EA**	1.417	—	1.500	.801	3.81	.625	.375	2
1.500	5.000	**AHX440SUR0512EA**	1.417	—	1.500	.801	3.81	.625	.375	2
1.500	5.000	**AHX440SUR0514EA**	1.417	—	1.500	.801	3.81	.625	.375	2
1.500	5.000	**AHX475SUR0508EA**	1.417	—	1.500	.794	3.81	.625	.375	5
1.500	5.000	**AHX475SUR0510EA**	1.417	—	1.500	.794	3.81	.625	.375	5
1.500	5.000	**AHX640SUL0506EA**	1.575	—	2.205	.855	3.81	.625	.375	2
1.500	5.000	**AHX640SUL0508EA**	1.575	—	2.205	.855	3.81	.625	.375	2
1.500	5.000	**AHX640SUR0506EA**	1.575	—	2.205	.855	3.81	.625	.375	2
1.500	5.000	**AHX640SUR0508EA**	1.575	—	2.205	.855	3.81	.625	.375	2
1.500	6.000	**AHX440SUR0610EA**	1.417	—	1.500	.801	3.81	.625	.375	2
1.500	6.000	**AHX440SUR0614EA**	1.417	—	1.500	.801	3.81	.625	.375	2
1.500	6.000	**AHX440SUR0616EA**	1.417	—	1.500	.801	3.81	.625	.375	2
2.000	6.000	**AHX475SUR0610FA**	1.417	—	3.228	.755	4.88	.750	.437	5
2.000	6.000	**AHX475SUR0612FA**	1.417	—	3.228	.755	4.88	.750	.437	5
2.000	6.000	**AHX640SUL0607FA**	1.693	—	3.228	.737	4.88	.750	.437	2
2.000	6.000	**AHX640SUL0610FA**	1.693	—	3.228	.737	4.88	.750	.437	2
2.000	6.000	**AHX640SUR0607FA**	1.693	—	3.228	.737	4.88	.750	.437	2
2.000	6.000	**AHX640SUR0610FA**	1.693	—	3.228	.737	4.88	.750	.437	2
2.500	8.000	**AHX640SUL0808MN**	1.378	—	5.512	1.052	6.89	1.000	.560	3
2.500	8.000	**AHX640SUL0812MN**	1.378	—	5.512	1.052	6.89	1.000	.560	3
2.500	8.000	**AHX640SUR0808MN**	1.378	—	5.512	1.052	6.89	1.000	.560	3
2.500	8.000	**AHX640SUR0812MN**	1.378	—	5.512	1.052	6.89	1.000	.560	3

AHX440S, AHX475S, AHX640S Mounting Dimension

Fig. 1

ø40
ø50
ø63
ø80

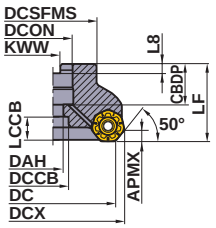


Fig. 2

ø100
ø125
ø160

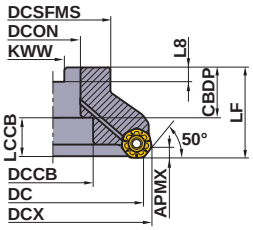
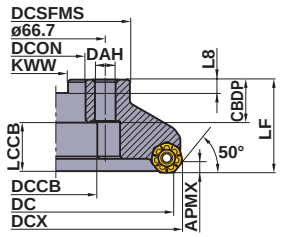


Fig. 3

ø160



Right hand tool holder only.

(mm)

DCON	DC	Order Number	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
16	40	**AHX440S-040A03AR**	18	9	14	13.9	37	8.4	5.6	1
16	40	**AHX440S-040A04AR**	18	9	14	13.9	37	8.4	5.6	1
22	50	**AHX440S-050A04AR**	20	11	17	11.9	47	10.4	6.3	1
22	50	**AHX440S-050A05AR**	20	11	17	11.9	47	10.4	6.3	1
22	50	**AHX440S-050A06AR**	20	11	17	11.9	47	10.4	6.3	1
22	50	**AHX475S-050A04AR**	20	11	17	16.7	47	10.4	6.3	5
22	50	**AHX475S-050A05AR**	20	11	17	16.7	47	10.4	6.3	5
22	63	**AHX440S-063A05AR**	20	11	17	11.9	50	10.4	6.3	1
22	63	**AHX440S-063A06AR**	20	11	17	11.9	50	10.4	6.3	1
22	63	**AHX440S-063A08AR**	20	11	17	11.9	50	10.4	6.3	1
22	63	**AHX475S-063A05AR**	20	11	17	16.7	60	10.4	6.3	5
22	63	**AHX475S-063A06AR**	20	11	17	16.7	60	10.4	6.3	5
22	63	**AHX640S-063A04AR**	20	11	17	16.2	50	10.4	6.3	1
22	63	**AHX640S-063A05AR**	20	11	17	16.2	50	10.4	6.3	1
25.4	80	**AHX440SR08006CA**	26	13	20	14.9	56	9.5	6	1
25.4	80	**AHX440SR08008CA**	26	13	20	14.9	56	9.5	6	1
25.4	80	**AHX440SR08010CA**	26	13	20	14.9	56	9.5	6	1
25.4	80	**AHX640SR08004CA**	26	13	20	14.2	56	9.5	6	1
25.4	80	**AHX640SR08006CA**	26	13	20	14.2	56	9.5	6	1
27	80	**AHX440S-080A06AR**	23	13	20	14.9	56	12.4	7	1
27	80	**AHX440S-080A08AR**	23	13	20	14.9	56	12.4	7	1
27	80	**AHX440S-080A10AR**	23	13	20	14.9	56	12.4	7	1
27	80	**AHX475S-080A06AR**	23	13	20	14.7	76	12.4	7	5
27	80	**AHX475S-080A08AR**	23	13	20	14.7	76	12.4	7	5
27	80	**AHX640S-080A04AR**	23	13	20	15.2	56	12.4	7	1
27	80	**AHX640S-080A06AR**	23	13	20	15.2	56	12.4	7	1
31.75	80	**AHX475SR08006DA**	32	17	26	19.7	76	12.7	8	5
31.75	80	**AHX475SR08008DA**	32	17	26	19.7	76	12.7	8	5
31.75	100	**AHX440SR10007DA**	37	—	45	11.9	70	12.7	8	2
31.75	100	**AHX440SR10010DA**	37	—	45	11.9	70	12.7	8	2
31.75	100	**AHX440SR10012DA**	37	—	45	11.9	70	12.7	8	2
31.75	100	**AHX475SR10007DA**	32	17	26	19.7	96	12.7	8	5
31.75	100	**AHX475SR10009DA**	32	17	26	19.7	96	12.7	8	5
31.75	100	**AHX640SR10005DA**	35	—	45	13.2	70	12.7	8	2
31.75	100	**AHX640SR10007DA**	35	—	45	13.2	70	12.7	8	2
32	100	**AHX440S-100B07AR**	32	—	45	16.9	78	14.4	8	2
32	100	**AHX440S-100B10AR**	32	—	45	16.9	78	14.4	8	2
32	100	**AHX440S-100B12AR**	32	—	45	16.9	78	14.4	8	2

Fig. 4
ø200

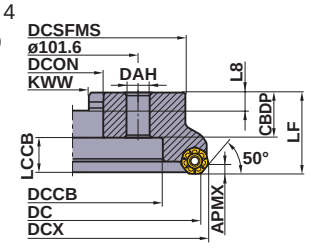


Fig.5
ø50
ø63
ø80
ø100

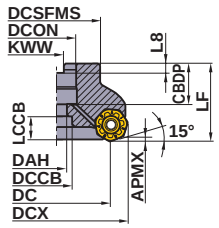
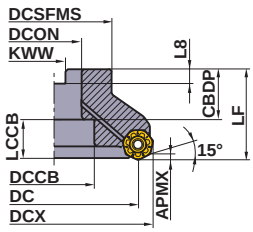


Fig.6
ø125
ø160



Right hand tool holder only.

(mm)

DCON	DC	Order Number	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
32	100	**AHX475S-100A07AR**	26	17	26	25.7	96	14.4	8	5
32	100	**AHX475S-100A09AR**	26	17	26	25.7	96	14.4	8	5
32	100	**AHX640S-100B05AR**	32	—	45	16.2	78	14.4	8	2
32	100	**AHX640S-100B07AR**	32	—	45	16.2	78	14.4	8	2
38.1	125	**AHX440SR12508EA**	42	—	56	19.9	80	15.9	10	2
38.1	125	**AHX440SR12512EA**	42	—	56	19.9	80	15.9	10	2
38.1	125	**AHX440SR12514EA**	42	—	56	19.9	80	15.9	10	2
38.1	125	**AHX475SR12508EA**	42	—	56	19.7	100	15.9	10	6
38.1	125	**AHX475SR12510EA**	42	—	56	19.7	100	15.9	10	6
38.1	125	**AHX640SR12506EA**	42	—	56	19.2	80	15.9	10	2
38.1	125	**AHX640SR12508EA**	42	—	56	19.2	80	15.9	10	2
40	125	**AHX440S-125B08AR**	40	—	56	21.9	89	16.4	9	2
40	125	**AHX440S-125B12AR**	40	—	56	21.9	89	16.4	9	2
40	125	**AHX440S-125B14AR**	40	—	56	21.9	89	16.4	9	2
40	125	**AHX475S-125B08AR**	40	—	56	21.7	100	16.4	9	6
40	125	**AHX475S-125B10AR**	40	—	56	21.7	100	16.4	9	6
40	125	**AHX640S-125B06AR**	42	—	56	19.2	89	16.4	9	2
40	125	**AHX640S-125B08AR**	42	—	56	19.2	89	16.4	9	2
40	160	**AHX440S-160C10NR**	40	14	56	21.9	100	16.4	9	3
40	160	**AHX440S-160C14NR**	40	14	56	21.9	100	16.4	9	3
40	160	**AHX440S-160C16NR**	40	14	56	21.9	100	16.4	9	3
40	160	**AHX475S-160B10AR**	40	—	56	21.7	100	16.4	9	6
40	160	**AHX475S-160B12AR**	40	—	56	21.7	100	16.4	9	6
40	160	**AHX640S-160C07NR**	29	14	56	32.2	120	16.4	9	3
40	160	**AHX640S-160C10NR**	29	14	56	32.2	120	16.4	9	3
47.625	200	**AHX640SR20008KN**	35	18	140	26.2	175	25.4	14.22	4
47.625	200	**AHX640SR20012KN**	35	18	140	26.2	175	25.4	14.22	4
50.8	160	**AHX440SR16010FA**	45	—	72	16.9	100	19.1	11	2
50.8	160	**AHX440SR16014FA**	45	—	72	16.9	100	19.1	11	2
50.8	160	**AHX440SR16016FA**	45	—	72	16.9	100	19.1	11	2
50.8	160	**AHX475SR16010FA**	45	—	72	16.7	100	19.1	11	6
50.8	160	**AHX475SR16012FA**	45	—	72	16.7	100	19.1	11	6
50.8	160	**AHX640SR16007FA**	43	—	72	18.2	100	19.1	11	2
50.8	160	**AHX640SR16010FA**	43	—	72	18.2	100	19.1	11	2
60	200	**AHX640S-200C08NR**	32	18	140	29.2	175	25.7	14.22	4
60	200	**AHX640S-200C12NR**	32	18	140	29.2	175	25.7	14.22	4

AHX640W Mounting Dimension

Fig.1

ø3.000"
ø4.000"

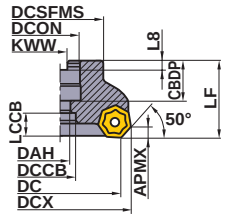


Fig.2

ø5.000"
ø6.000"

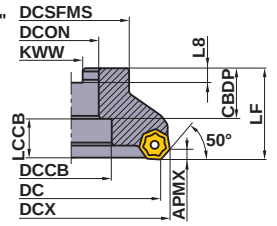


Fig.3

ø8.000"
ø10.000"

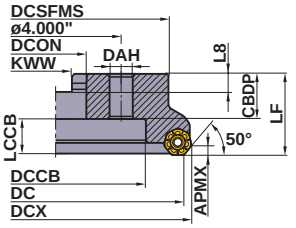
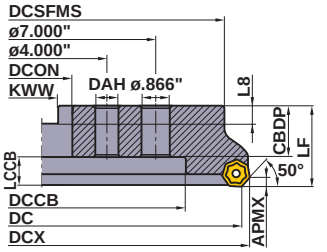


Fig.4

ø12.000"



Right hand tool holder shown.

(inch)

DCON	DC	Order Number	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
1.250	3.000	**AHX640WL0308D**	1.260	.669	1.024	.800	2.87	.500	.281	1
1.250	3.000	**AHX640WL0310D**	1.260	.669	1.024	.800	2.87	.500	.281	1
1.250	3.000	**AHX640WR0308D**	1.260	.669	1.024	.800	2.87	.500	.281	1
1.250	3.000	**AHX640WR0310D**	1.260	.669	1.024	.800	2.87	.500	.281	1
1.500	4.000	**AHX640WL0410E**	1.181	.787	1.181	.879	3.80	.625	.375	1
1.500	4.000	**AHX640WL0414E**	1.181	.787	1.181	.879	3.80	.625	.375	1
1.500	4.000	**AHX640WR0410E**	1.181	.787	1.181	.879	3.80	.625	.375	1
1.500	4.000	**AHX640WR0414E**	1.181	.787	1.181	.879	3.80	.625	.375	1
1.500	5.000	**AHX640WL0512E**	1.378	—	2.362	1.076	3.80	.625	.375	2
1.500	5.000	**AHX640WL0518E**	1.378	—	2.362	1.076	3.80	.625	.375	2
1.500	5.000	**AHX640WR0512E**	1.378	—	2.362	1.076	3.80	.625	.375	2
1.500	5.000	**AHX640WR0518E**	1.378	—	2.362	1.076	3.80	.625	.375	2
2.000	6.000	**AHX640WL0614F**	1.496	—	3.150	.958	4.72	.750	.437	2
2.000	6.000	**AHX640WL0620F**	1.496	—	3.150	.958	4.72	.750	.437	2
2.000	6.000	**AHX640WR0614F**	1.496	—	3.150	.958	4.72	.750	.437	2
2.000	6.000	**AHX640WR0620F**	1.496	—	3.150	.958	4.72	.750	.437	2
2.500	8.000	**AHX640WL0820M**	1.378	—	5.512	1.076	6.89	1.000	.560	3
2.500	8.000	**AHX640WL0828M**	1.378	—	5.512	1.076	6.89	1.000	.560	3
2.500	8.000	**AHX640WR0820M**	1.378	—	5.512	1.076	6.89	1.000	.560	3
2.500	8.000	**AHX640WR0828M**	1.378	—	5.512	1.076	6.89	1.000	.560	3
2.500	10.000	**AHX640WL1024M**	1.378	—	7.087	1.076	8.66	1.000	.560	3
2.500	10.000	**AHX640WL1036M**	1.378	—	7.087	1.076	8.66	1.000	.560	3
2.500	10.000	**AHX640WR1024M**	1.378	—	7.087	1.076	8.66	1.000	.560	3
2.500	10.000	**AHX640WR1036M**	1.378	—	7.087	1.076	8.66	1.000	.560	3
2.500	12.000	**AHX640WL1228M**	1.575	—	9.646	.879	11.22	1.000	.560	4
2.500	12.000	**AHX640WL1242M**	1.575	—	9.646	.879	11.22	1.000	.560	4
2.500	12.000	**AHX640WR1228M**	1.575	—	9.646	.879	11.22	1.000	.560	4
2.500	12.000	**AHX640WR1242M**	1.575	—	9.646	.879	11.22	1.000	.560	4

AHX640W Mounting Dimension

Fig.1

ø80

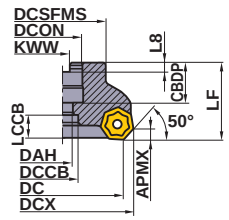


Fig.2

ø100
ø125
ø160

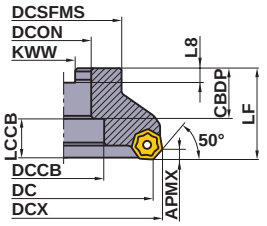


Fig.3

ø160

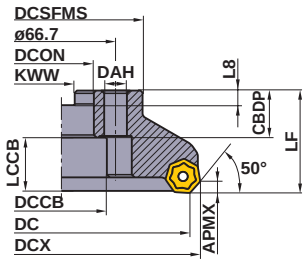


Fig.4

ø200
ø250

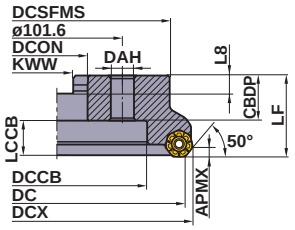
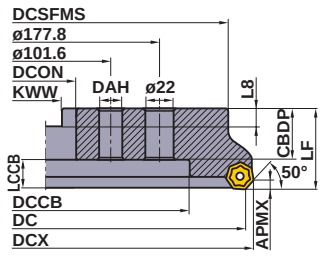


Fig.5

ø315



Right hand tool holder shown.

(mm)

DCON	DC	Order Number	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
25.4	80	**AHX640WL08008C**	26	13	20	14.8	56	9.5	6	1
25.4	80	**AHX640WL08010C**	26	13	20	14.8	56	9.5	6	1
25.4	80	**AHX640WR08008C**	26	13	20	14.8	56	9.5	6	1
25.4	80	**AHX640WR08010C**	26	13	20	14.8	56	9.5	6	1
27	80	**AHX640W-080A08L**	23	13	20	14.8	56	12.4	7	1
27	80	**AHX640W-080A08R**	23	13	20	14.8	56	12.4	7	1
27	80	**AHX640W-080A10L**	23	13	20	14.8	56	12.4	7	1
27	80	**AHX640W-080A10R**	23	13	20	14.8	56	12.4	7	1
31.75	100	**AHX640WL10010D**	32	—	45	16.8	70	12.7	8	2
31.75	100	**AHX640WL10014D**	32	—	45	16.8	70	12.7	8	2
31.75	100	**AHX640WR10010D**	32	—	45	16.8	70	12.7	8	2
31.75	100	**AHX640WR10014D**	32	—	45	16.8	70	12.7	8	2
32	100	**AHX640W-100B10L**	32	—	45	16.8	70	14.4	8	2
32	100	**AHX640W-100B10R**	32	—	45	16.8	70	14.4	8	2
32	100	**AHX640W-100B14L**	32	—	45	16.8	70	14.4	8	2
32	100	**AHX640W-100B14R**	32	—	45	16.8	70	14.4	8	2
38.1	125	**AHX640WL12512E**	35	—	56	26.8	80	15.9	10	2
38.1	125	**AHX640WL12518E**	35	—	56	26.8	80	15.9	10	2
38.1	125	**AHX640WR12512E**	35	—	56	26.8	80	15.9	10	2
38.1	125	**AHX640WR12518E**	35	—	56	26.8	80	15.9	10	2
40	125	**AHX640W-125B12L**	32	—	56	29.8	80	16.4	9	2
40	125	**AHX640W-125B12R**	32	—	56	29.8	80	16.4	9	2
40	125	**AHX640W-125B18L**	32	—	56	29.8	80	16.4	9	2
40	125	**AHX640W-125B18R**	32	—	56	29.8	80	16.4	9	2
40	160	**AHX640W-160C16L**	29	14	56	32.8	100	16.4	9	3
40	160	**AHX640W-160C16R**	29	14	56	32.8	100	16.4	9	3
40	160	**AHX640W-160C22L**	29	14	56	32.8	100	16.4	9	3
40	160	**AHX640W-160C22R**	29	14	56	32.8	100	16.4	9	3

AHX640W Mounting Dimension

Fig.1

ø80

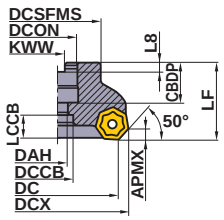


Fig.2

ø100
ø125
ø160

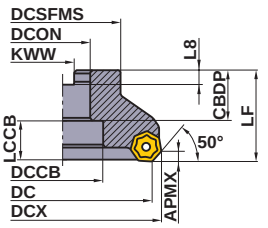


Fig.3

ø160

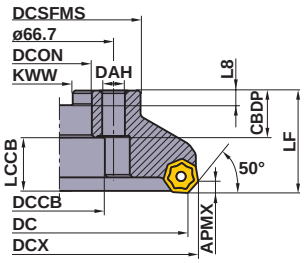


Fig.4

ø200
ø250

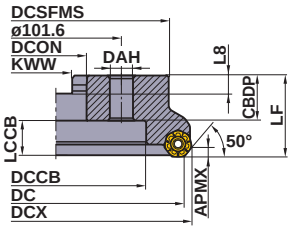
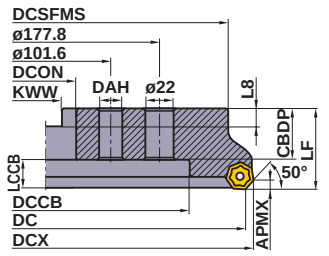


Fig.5

ø315

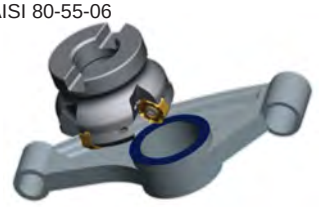


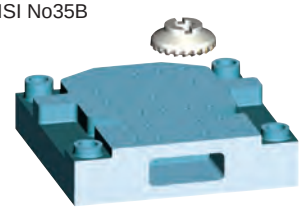
Right hand tool holder shown.

(mm)

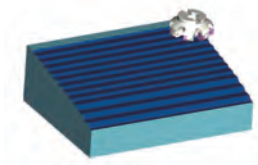
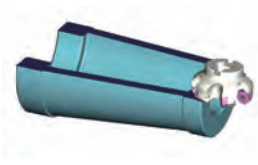
DCON	DC	Order Number	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
47.625	200	**AHX640WL20020K**	35	18	140	26.8	175	25.4	14.22	4
47.625	200	**AHX640WL20028K**	35	18	140	26.8	175	25.4	14.22	4
47.625	200	**AHX640WR20020K**	35	18	140	26.8	175	25.4	14.22	4
47.625	200	**AHX640WR20028K**	35	18	140	26.8	175	25.4	14.22	4
47.625	250	**AHX640WL25024K**	35	18	180	26.8	220	25.4	14.22	4
47.625	250	**AHX640WL25036K**	35	18	180	26.8	220	25.4	14.22	4
47.625	250	**AHX640WR25024K**	35	18	180	26.8	220	25.4	14.22	4
47.625	250	**AHX640WR25036K**	35	18	180	26.8	220	25.4	14.22	4
47.625	315	**AHX640WL31528P**	40	18	225	21.8	285	25.4	14.22	5
47.625	315	**AHX640WL31544P**	40	18	225	21.8	285	25.4	14.22	5
47.625	315	**AHX640WR31528P**	40	18	225	21.8	285	25.4	14.22	5
47.625	315	**AHX640WR31544P**	40	18	225	21.8	285	25.4	14.22	5
50.8	160	**AHX640WL16016F**	38	—	72	23.8	100	19.1	11	2
50.8	160	**AHX640WL16022F**	38	—	72	23.8	100	19.1	11	2
50.8	160	**AHX640WR16016F**	38	—	72	23.8	100	19.1	11	2
50.8	160	**AHX640WR16022F**	38	—	72	23.8	100	19.1	11	2
60	200	**AHX640W-200C20L**	32	18	135	29.8	155	25.7	14	4
60	200	**AHX640W-200C20R**	32	18	135	29.8	155	25.7	14	4
60	200	**AHX640W-200C28L**	32	18	135	29.8	155	25.7	14	4
60	200	**AHX640W-200C28R**	32	18	135	29.8	155	25.7	14	4
60	250	**AHX640W-250C24L**	32	18	180	29.8	200	25.7	14	4
60	250	**AHX640W-250C24R**	32	18	180	29.8	200	25.7	14	4
60	250	**AHX640W-250C36L**	32	18	180	29.8	200	25.7	14	4
60	250	**AHX640W-250C36R**	32	18	180	29.8	200	25.7	14	4
60	315	**AHX640W-315C28L**	57	18	225	21.8	285	25.7	14	5
60	315	**AHX640W-315C28R**	57	18	225	21.8	285	25.7	14	5
60	315	**AHX640W-315C44L**	57	18	225	21.8	285	25.7	14	5
60	315	**AHX640W-315C44R**	57	18	225	21.8	285	25.7	14	5

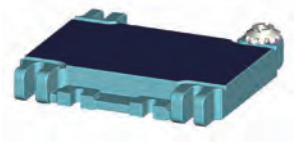
Application Example

Component		Parts for Turbo	Automobile Parts	Steel Plate for Pressure Containers
Workpiece		ASTM 309 	AISI 80-55-06 	W-nr 1.0425 
Tool		**AHX440S-063A08AR**	**AHX440S-050A04AR**	**AHX440S-100B10AR**
Cutting Conditions	Cutting Speed (SFM)	325	460	820
	Feed per Tooth (IPT)	.012	.006	.006
	Depth of Cut **ap** (inch)	.118	.031	.059
	Cutting Width **ae** (inch)	1.969	1.378	3.150
Cutting Mode		Dry Cutting	Dry Cutting	Wet Cutting
Results		AHX440S achieved 1.4 times the tool life of conventional.	AHX440S achieved 1.4 times the tool life of conventional. 160min. could be expanded. The tool life was expanded 160 min in total of rough and finish cutting.	AHX440S showed 1.3 times longer tool life than that of conventional in heavy interrupted cutting. Tool life was evaluated based on wheather burrs were generated around holes.

Component		Press Mold Base	Housing Case	Automotive Suspension Part
Workpiece		AISI No35B 	AISI No35B 	AISI 100-70-03 
Tool		**AHX640WR16016F**	**AHX640WR12512E**	**AHX640WR10014D**
Cutting Conditions	Cutting Speed (SFM)	785	490	785
	Table Feed (IPM)	121	19.7	118.1
	Feed per Tooth (IPT)	.016	.004	.011
	Depth of Cut **ap** (inch)	.118–.157	.118	.118–.157
	Cutting Width **ae** (inch)	6	1.57	3.15
Cutting Mode		Dry Cutting	Dry Cutting	Dry Cutting
Results		In comparison with the conventional insert that suffered sudden fracturing during machining of surface scale, AHX640W gave a stable performance even at 3 times higher table feeds, thus substantially improving machining efficiency and reliability.	In comparison with a conventional 8 corner insert that fractured while machining an unstable component, the AHX640W gave double tool life. In combination with the use of the extra cutting edges a substantial saving can be made.	Even when machining ductile cast irons, AHX640W gave double tool life compared to a conventional tool.

● With reference to the above examples, adjust the cutting conditions according to the machine specifications, workpiece geometry and clamping method used.

Component		Machine Parts		Machine Parts		Mold	
Workpiece		AISI 1045 		AISI 4140 		AISI L6 (HRC43) 	
Tool		Conventional	**AHX640SR10007DA**	Conventional	**AHX640SR10007DA**	Conventional	**AHX640SR10007DA**
Cutting Conditions	Cutting Speed (SFM)	655	820	245	330	310	310
	Feed per Tooth (IPT)	.007	.009	.002	.007	.008	.010
	Depth of Cut **ap** (inch)	.197	.197	.039	.079	.118	.118
	Cutting Width **ae** (inch)	2.953	2.953	2.756	2.756	2.362	2.362
Cutting Mode		Air Blow	Air Blow	Air Blow	Air Blow	Air Blow	Air Blow
Results		With older products, raising the cutting speed to 820 SFM caused chattering and damage to the inserts, but the AHX640S enables stable machining even when the feed is raised. In addition, the inserts have more usable corners, helping to reduce costs.		Previously, low rigidity workpiece clamping led to chattering, making it impossible to raise cutting conditions. However, with the low cutting resistance of the AHX640S, cutting conditions can be raised, achieving more than six times the efficiency of existing products.		With conventional products, insert wear occurred frequently. In contrast, the AHX640S with 30% higher feed enables stable cutting with no damage to the inserts.	

Component		Mold	
Workpiece		AISI No45B 	
Tool		Conventional	**AHX640SR16010FA**
Cutting Conditions	Cutting Speed (SFM)	230	785
	Feed per Tooth (IPT)	.059	.012
	Depth of Cut **ap** (inch)	.039	.118
	Cutting Width **ae** (inch)	3.937	3.937
Cutting Mode		Air Blow	Air Blow
Results		Compared with earlier tools for high feed milling, depth of cut is three times greater with the equivalent table feed. In addition, the inserts have more usable corners than earlier products, helping to reduce costs.	

● With reference to the above examples, adjust the cutting conditions according to the machine specifications, workpiece geometry and clamping method used.

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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