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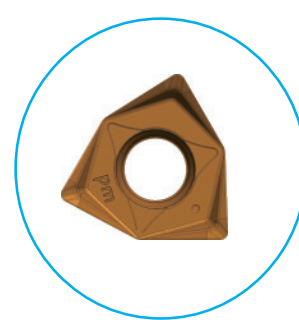
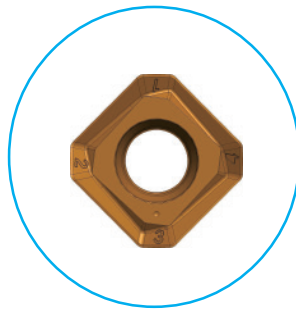
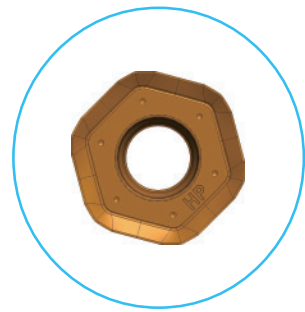


V
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WEIKEDUO

Milling Tools

CEMENTED CARBIDE TOOLS

FACE MILLING: A
COMPREHENSIVE GUIDE



株洲威克多硬质合金有限公司

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New Grades

■ **KM252S**

Ultrafine-grained cemented carbide.
Special high-temperature resistant elements are added to the coating.
TiAlSiN coating provides excellent heat resistance and is suitable for fine milling of stainless steel and heat-resistant steel.

■ **KM353S**

Fine-grained carbide.
AlTiN coating for excellent wear resistance.
Suitable for general milling applications.

■ **KM453S**

High-strength substrate.
TiN coating provides excellent wear resistance.
Suitable for rough milling of stainless steel and heat-resistant steel.

■ **KD154U**

High hardness substrate.
CVD coating.
Suitable for cast iron milling.

■ Recommended cutting speed (Vc: m/min)

ISO	KM252S	KM353S	KM453S	KD154U
M , S	160(120-200)	120(80-160)	90(60-120)	//
P	150(120-160)	120(100-140)	//	//
K	180(130-220)	//	//	200(160-240)

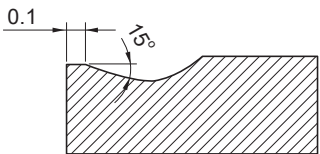
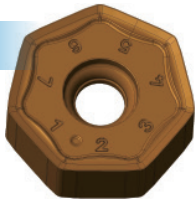
Cutter Model Description

FM 45 XN-8 100 B32 R-07-KT

1	2	3	4	5	6	7	8
Code	Describe						
1	FM	TM	LM				
	Face milling cutter	Side and face milling cutter	Rod-type milling cutter				
2	Main Declination						
3	Insert Shape						
4	Number of Teeth						
5	Cutting edge diameter (tip)						
6	Interface Type						
7	Tip rotation						
8	Cutting edge length						

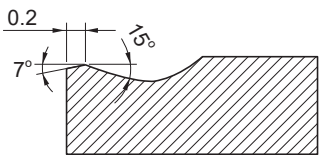
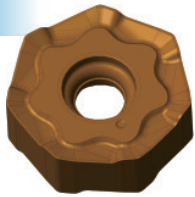
New Groove Type

WMM



Recommended for rough milling of stainless steel.

WPR

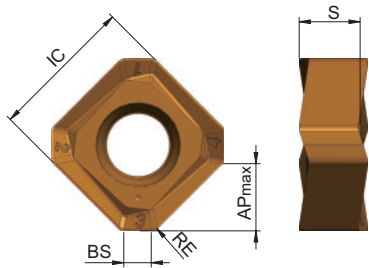


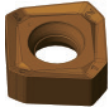
Recommended for steel and cast iron milling.

■ Recommended groove type

ISO	continuous	Intermittent	finishing
M , S	MF;WMM	MR	WMF
P	PM	HP	WPF
K	KM	KR	WKF;WPF

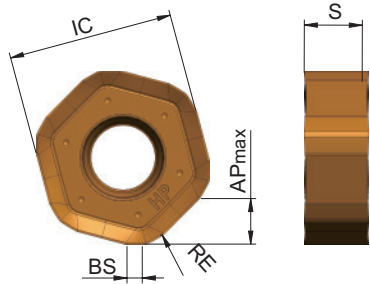
FM45SN-SERIES

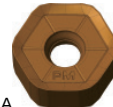
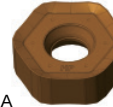


Insert Shape	Model	(Dimension)mm					Grade			
		IC	S	BS	RE	APmax	KM252S	KM353S	KM453S	KD154U
 ISCAR SNMU1305	SNMU1305ANTR	13.0	6.2	3.0	0.8	6.0		●		●
	SNMU1305ANTR-PR	13.0	6.2	3.0	0.8	6.0			●	
	SNMU1305ANTR-PF	13.0	6.2	3.0	0.8	6.0	●			
 ISCAR SXHU1606	SNHU1606ADTR	16.35	7.45	2.84	0.8	7.15		●		●
	SNHU1606ADTR-PR	16.35	7.45	2.84	0.8	7.15			●	
	SNHU1606ADTR-PF	16.35	7.45	2.84	0.8	7.15	●			

Tool Model		Dimension					Num of Teeth	Type
		Edge Diameter	Cutterhead Diameter	Interface Size	Maximum Depth	Cutter Height		
FM45SN-	450A22R-13-KT	50	47.65	22	6.0	41.2	4	A
	663A22R-13-KT	63	60.65	22	6.0	41.2	6	A
	780B27R-13-KT	80	77.65	27	6.0	51.2	7	B
	8100B32R-13-KT	100	97.65	32	6.0	51.2	8	B
	680B27R-16-KT	80	93.1	27	7.15	50	6	B
	7100B32R-16-KT	100	114.6	32	7.15	50	7	B
	8125C40R-16-KT	125	139.8	40	7.15	63	8	C
	10160C40R-16-KT	160	174.8	40	7.15	63	10	C
	12200C60R-16-KT	200	214	60	7.15	63	12	C

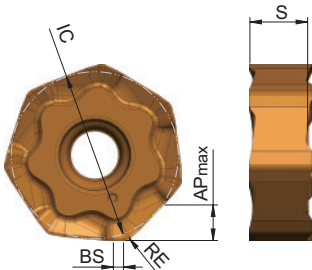
FM45HN-SERIES



Insert Shape	Model	(Dimension)mm					Grade			
		IC	S	BS	RE	APmax	KM252S	KM353S	KM453S	KD154U
 WIDIA HNPJ0704	HNPJ070412ANSN-HP	12.7	4.41	1.5	0.5	3.5			●	●
	HNPJ070412ANSN-PM	12.7	4.41	1.5	0.5	3.5	●	●		
	HNPJ070412ANSN-MF	12.7	4.41	1.5	0.5	3.5	●			
 WIDIA HNPJ0905	HNPJ0905ANSN-HP	15.88	5.46	1.9	1.0	4.5			●	●
	HNPJ0905ANSN-PM	15.88	5.46	1.9	1.0	4.5	●	●		
 WIDIA HNPJ1107	HNPJ1107ANSN-HP	22.3	7.39	2.65	1.4	5.5				●
	HNPJ1107ANSN-PM	22.3	7.39	2.65	1.4	5.5			●	

Tool Model		Dimension					Num of Teeth	Type
		Edge Diameter	Cutterhead Diameter	Interface Size	Maximum Depth	Cutter Height		
FM45HN-	450A22R-07-KT	50	59.7	22	3.5	41.2	4	A
	663A22R-07-KT	63	72.7	22	3.5	41.2	6	A
	780B27R-07-KT	80	89.7	27	3.5	51.2	7	B
	8100B32R-07-KT	100	109.7	32	3.5	51.2	8	B
	680B27R-09-KT	80	92.1	27	4.5	50	6	B
	7100B32R-09-KT	100	112.1	32	4.5	50	7	B
	8125C40R-09-KT	125	137.1	40	4.5	63	8	C
	10160C40R-09-KT	160	172.1	40	4.5	63	10	C
	12200C60R-11-KT	200	217.0	60	5.5	63	12	C
	16250C60R-11-KT	250	267.0	60	5.5	63	16	C
	20315D60R-11-KT	315	332.0	60	5.5	70	20	D

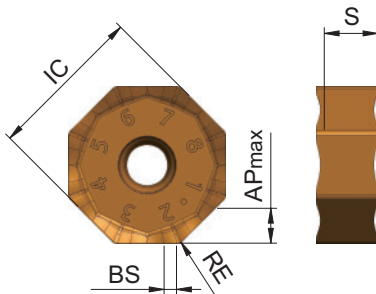
FM45XN-SERIES



Insert Shape	Model	(Dimension)mm					Grade			
		IC	S	BS	RE	APmax	KM252S	KM353S	KM453S	KD154U
 Walter XNMU0705	XNM/EU070508-WMM	14.5	5.0	1.0	0.8	4.0	●		●	
	XNM/EU070508-WPR	14.5	5.0	1.0	0.8	3.2	●	●		
 Taegutec XNMU0906	XNM/EU090608-WMM	19.05	5.9	1.2	1.2	5.4	●		●	
	XNM/EU090608-WPR	19.05	5.9	1.2	1.2	5.4	●	●		

Tool Model		Dimension					Num of Teeth	Type
		Edge Diameter	Cutterhead Diameter	Interface Size	Maximum Depth	Cutter Height		
FM45XN-	450A22R-07-KT	50	59.7	22	3.5	41.2	4	A
	663A22R-07-KT	63	72.7	22	3.5	41.2	6	A
	780B27R-07-KT	80	89.7	27	3.5	51.2	7	B
	8100B32R-07-KT	100	109.7	32	3.5	51.2	8	B
	9125C40R-07-KT	125	137.1	40	4.5	63	9	C
	680B27R-09-KT	80	92.1	27	4.5	50	6	B
	7100B32R-09-KT	100	112.1	32	4.5	50	7	B
	9125C40R-09-KT	125	137.1	40	4.5	63	9	C
	10160C40R-09-KT	160	172.1	40	4.5	63	10	C

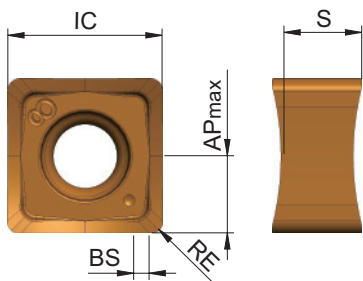
FM45ON-SERIES



Insert Shape	Model	(Dimension)mm					Grade			
		IC	S	BS	RE	APmax	KM252S	KM353S	KM453S	KD154U
 Walter ONHU0504	ONHU050408-PR	12.7	4.41	0	0.8	2.5	●			●
	ONHU050408-MF	12.7	4.41	0	0.8	2.5		●	●	
 Sceo ONHU0905	ONHU060408-PR	15.88	5.46	0	0.8	3.5	●			●
	ONHU060408-MR	15.88	5.46	0	0.8	3.5		●	●	
 Sceo ONHU0905	ONHU090520-PR	22.0	7.39	0	2.0	5.0	●			●
	ONHU090520-PM	22.0	7.39	0	2.0	5.0		●	●	

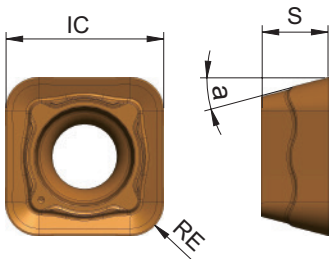
Tool Model		Dimension					Num of Teeth	Type
		Edge Diameter	Cutterhead Diameter	Interface Size	Maximum Depth	Cutter Height		
FM45ON-	450A22R-05-KT	50	57.44	22	2.5	41.2	4	A
	868A22R-05-KT	68	75.44	22	2.5	41.2	8	A
	880B27R-05-KT	80	87.44	27	2.5	51.2	8	B
	663A22R-06-KT	63	72.30	22	3.5	51.2	6	A
	780B27R-06-KT	80	89.30	27	3.5	63	7	B
	8100B32R-06-KT	100	109.30	32	3.5	50	8	B
	9125C40R-06-KT	125	134.30	40	3.5	50	9	C
	563A22R-09-KT	63	72.90	22	5.0	63	5	A
	780B27R-09-KT	80	92.90	27	5.0	63	7	B
	8100B32R-09-KT	100	112.90	32	5.0	63	8	B
	9125C40R-09-KT	125	137.90	40	5.0	63	9	C
	10160C40R-09-KT	160	172.90	40	5.0	63	10	C
	12200C60R-09-KT	200	212.90	60	5.0	63	12	C

FM88SN-SERIES



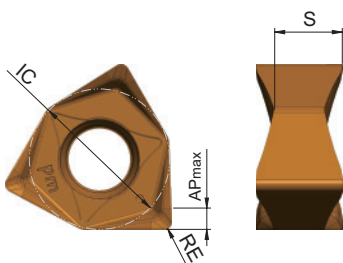
Insert Shape	Model	(Dimension)mm					Grade			
		IC	S	BS	RE	APmax	KM252S	KM353S	KM453S	KD154U
 Walter SNMX0904	SNMX090408-MF	9.5	4.8	1.0	0.8	4.5		●		
	SNMX090412-MF	9.5	4.8	1.0	1.2	4.5		●		
 Kyocera SNMU1305	SNMU130508EN-WPM	13.0	5.5	1.2	0.8	6.0		●		
	SNHU130610-MM	13.0	6.0	1.2	1.0	6.0		●		

FM45SD-SERIES



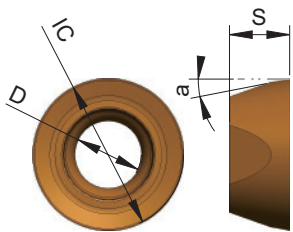
Insert Shape	Model	(Dimension)mm				Grade			
		IC	S	a	RE	KM252S	KM353S	KM453S	KD154U
 Walter SDMT06T2	SDMT06T208-MF	6.4	2.78	15°	0.8	●		●	
	SDMT06T208-PR	6.4	2.78	15°	0.8		●		●
 Walter SDMT09T3	SDMT09T308-MF	9.5	3.97	15°	0.8	●		●	
	SDMT09T308-PR	9.5	3.97	15°	0.8		●		●
 Walter SDMT1204	SDMT120408-MF	12.7	4.76	15°	0.8	●		●	
	SDMT120408-PR	12.7	4.76	15°	0.8		●		●

FM90WN-SERIES



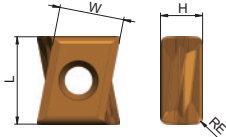
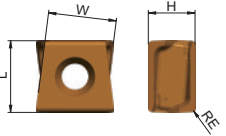
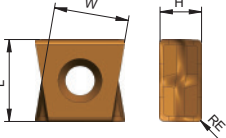
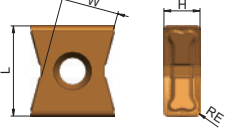
Insert Shape	Model	(Dimension)mm				Grade			
		IC	S	RE	APmax	KM252S	KM353S	KM453S	KD154U
 Kyocera WNMU080608	WNMU080608EN-PM	14.0	6.65	0.8	2	●	●		●
	WNMU080608EN-PR	14.0	6.65	0.8	2	●	●		●
 TaeguTec 6NGU0604 6NGU0905	6NGU060404R-KM	9.0	4.20	0.4	3	●	●		●
	6NGU060408R-KM	9.0	4.20	0.8	3	●	●		●
	6NGU090508R-KM	12.7	5.85	0.8	4	●	●		●
	6NGU090516R-KM	12.7	5.85	1.6	4	●	●		●

CM00RX-SERIES

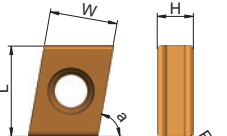
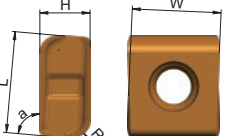
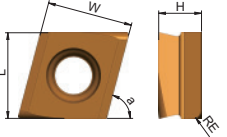
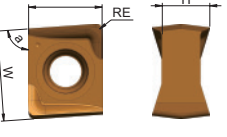
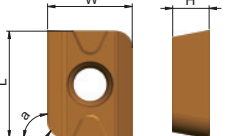
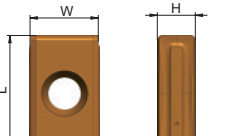


Insert Shape	Model	(Dimension)mm				Grade			
		IC	a	S	D	KM252S	KM353S	KM453S	KD154U
	RPKT10T3MOE-OR	10.0	11	3.97	4.4	●	●		
	RPKT10T3MOE-WR	10.0	11	3.97	4.4	●	●		
	RPK/MT1204MOE-MR	12.0	11	4.76	4.4	●	●		
	RPK/MT1204MOE-MF	12.0	11	4.76	4.4	●	●		
	RCKT1606MO	16.0	7	6.35	5.4	●	●		
	RDKT2006MO-OH	20.0	15	6.35	6.5	●		●	

FM90LN-SERIES

Insert Shape	Model	(Dimension)mm				Grade			
		L	W	H	RE	KM252S	KM353S	KM453S	KD154U
 Iskar T490-LNHT1306	LNHU130612PNTR-KPR	13.8	10.252	6.65	08	●	●		
	LNHU130612PNTR-KPR	13.8	10.252	6.65	12	●	●		
 Iskar T490-LNHT1306	LNHU150908ZNEN-MF	15	13.86	9.5	08	●	●		
	LNHU150912ZNEN-MF	15	13.86	9.5	12	●	●		
 Ingersoll DPM424	LNHU150708-KR	15	13.7	7.6	08	●	●		
	LNHU150712-KR	15	13.7	7.6	12	●	●		
 Iskar LNKX/LNMT1506PNTN	LNHU150608N-KR	15	9.555	6	08	●	●		
	LNHT150612N-KR	15	9.555	6	12	●	●		

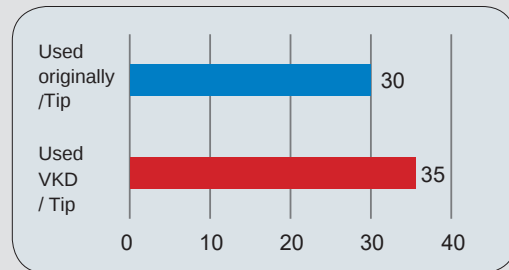
FASC-SERIES

Insert Shape	Model	(Dimension)mm					Grade			
		L	W	H	RE	a	KM252S	KM353S	KM453S	KD154U
 CNHX100508-PR	CNHX100508-PR	16.0	12.0	6.4	0.8	80	●		●	
	CNHX120508-PR	12.7	11.0	5.4	0.8	80	●		●	
	CNHX160608-PR	10.3	10.3	5.6	0.8	80	●		●	
 TaeguTec LNHU1306	LNHU120623-PM	12.7	11.2	6.3	2.3	85	●		●	
	LNHU130630-PM	13.0	11.2	6.7	3.0	85	●		●	
 CNHX120612R-PM	CNHX120612R-PM	12.7	12.7	6.35	1.2	75	●		●	
	CNHX120612L-PM	12.7	12.7	6.35	1.2	75	●		●	
 TaeguTec ZNHU110-08 ZNHU140-08	ZNHU110-08-WPF	10.6	13.0	6.8	0.8	94	●		●	
	ZNHU140-08-WPF	14	13.0	7.2	0.8	94	●		●	
 Coromant LPET1404	LPET140440R-KR	14.5	11.5	4.95	4.0	90	●		●	
	LPET140440L-KR	14.5	11.5	4.95	4.0	90	●		●	
 LNHU150905-4R80	LNHU150905-4R80	15.87	9.335	5.2	08	//	●			●
	LNHU150905-4T150	15.87	9.335	5.2	//	//	●			●

Work piece

Inline Engine

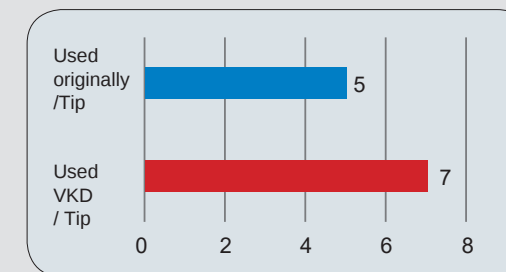
- Work piece material: 1.4837
- Machine Tool: Kitazawa-Okuma
- Insert: KM403S- XNMU070508-WMM
- Tool: FM45XN-7100B32R-07-KT



- Processing content: Rough milling air outlet flange
- Insert change criteria: Excessive Burr
- Cooling type: Dry Cut
- Cutting parameters:
 $V_c=110\text{m/min}$ $F_z=0.23\text{mm/z}$ $A_p=4\text{mm}$

Work piece

Titanium Alloy Rolled Billet

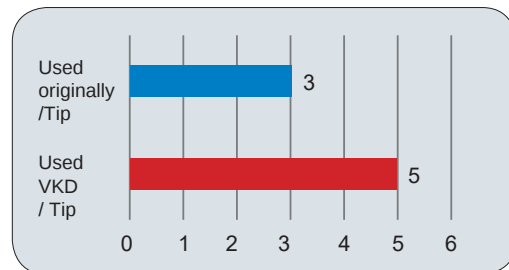


- Work piece material : CT4
- Machine Tool : Gantry End Milling Machine
- Insert : KM452S- ONHU090520-PM
- Tool : FM45ON-12200C60R-09-KT
- Processing content : Rough milling surface
- Insert change criteria : Insert wear amount
- Cooling type : External Water Cooling
- Cutting parameters :
 $V_c=43\text{m/min}$ $F_z=0.08\text{mm/z}$ $A_p=2.0\text{mm}$

Work piece

Press Crossbeam

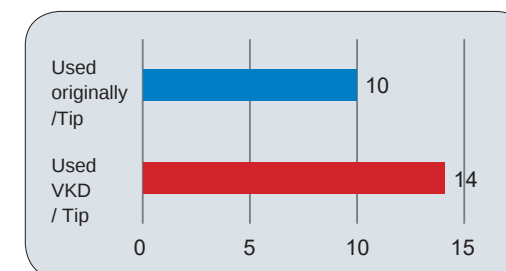
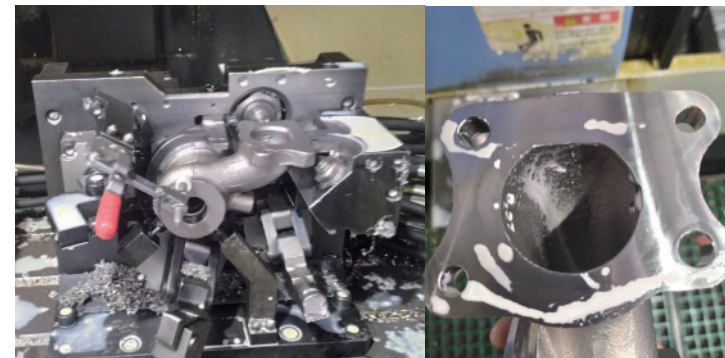
- Work piece material: QT500-7
- Machine Tool: Haitian Horizontal Milling Machine
- Insert): KM253S- WNMU080608EN-PM
- Tool: FM90WN-7100B32R-08-KT



- Processing content : Rough milling surface
- Insert change criteria : Insert wear amount
- Cooling type: External Oil Cooling
- Cutting parameters:
 $V_c=180\text{m/min}$ $F_z=0.15\text{mm/z}$ $A_p=2\text{mm}$

Work piece

Turbine Casing



- Work piece material : 1.4826
- Machine Tool : Machining Center
- Insert : KM252S- HNPJ070412ANSN-MF
- Tool : FM45HN-6100B32R-07-KT
- Processing content : Flange surface finishing
- Insert change criteria : Surface roughness
- Cooling type : Internal Cooling Emulsion
- Cutting parameters :
 $V_c=180\text{m/min}$ $F_z=0.1\text{mm/z}$ $A_p=0.2\text{mm}$