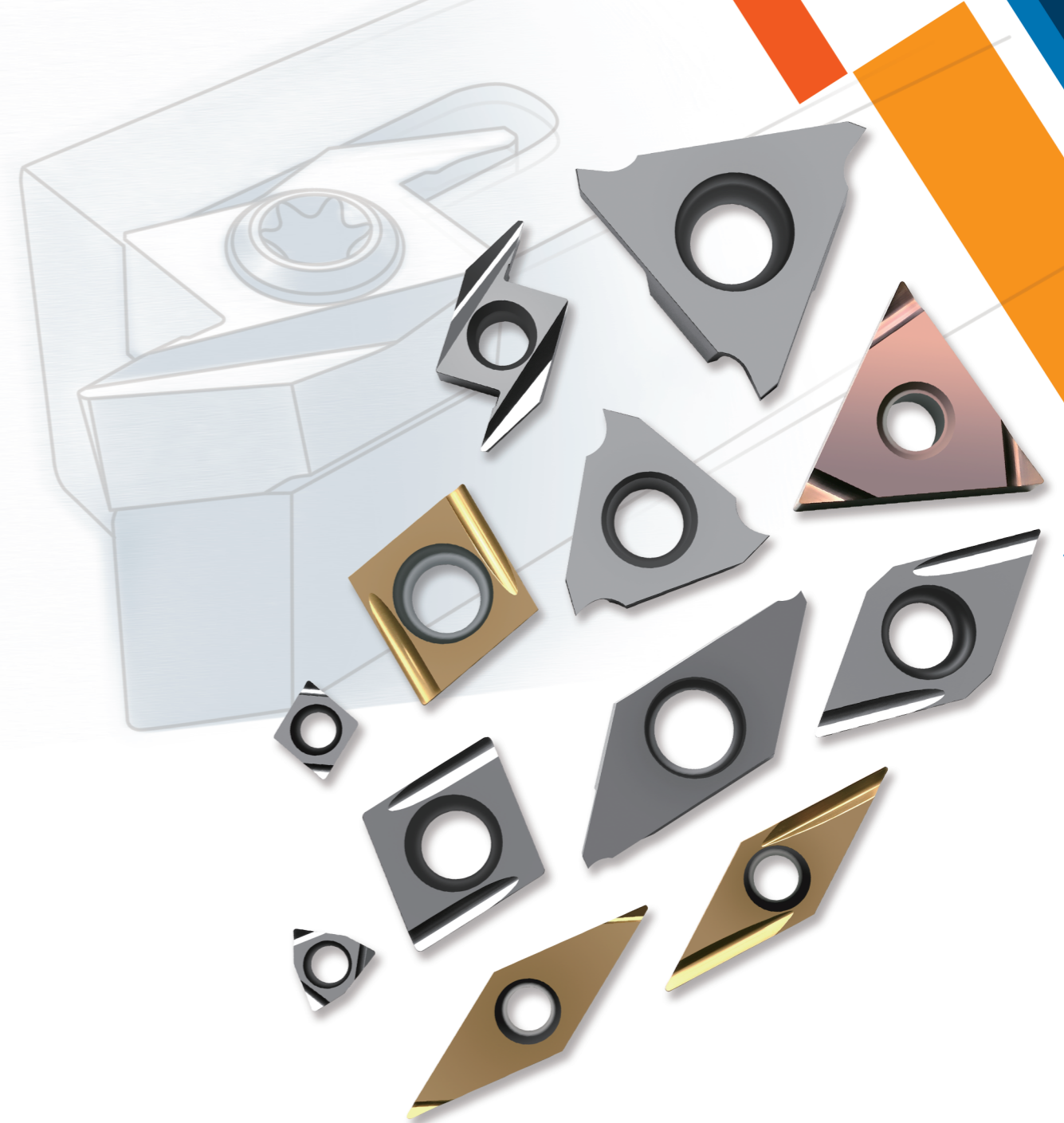


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Precise Inserts for Small Parts



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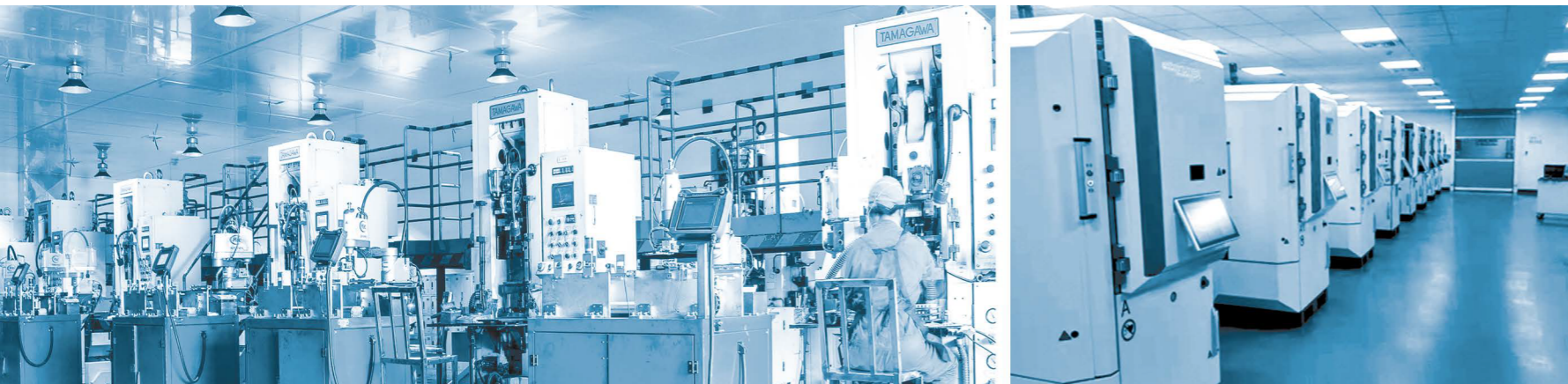
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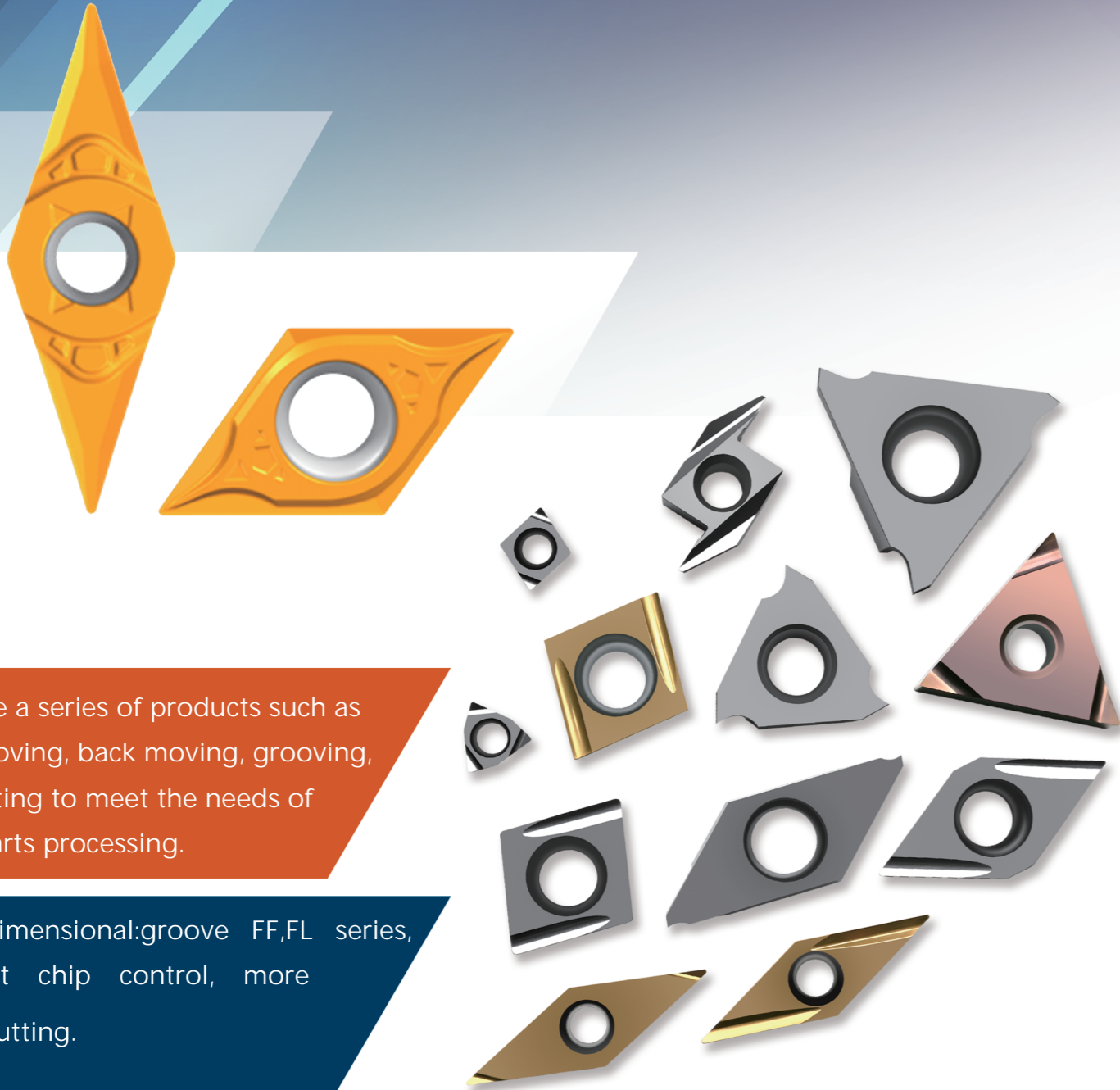
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Small parts machining inserts

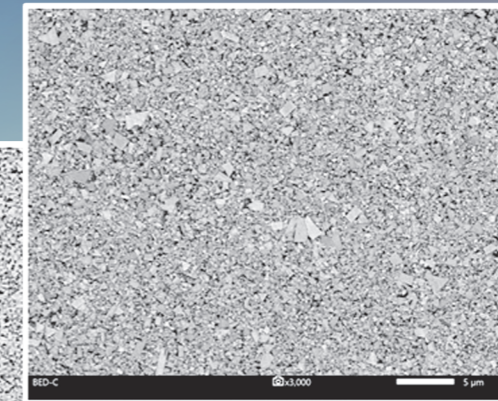


We have a series of products such as front moving, back moving, grooving, and cutting to meet the needs of small parts processing.

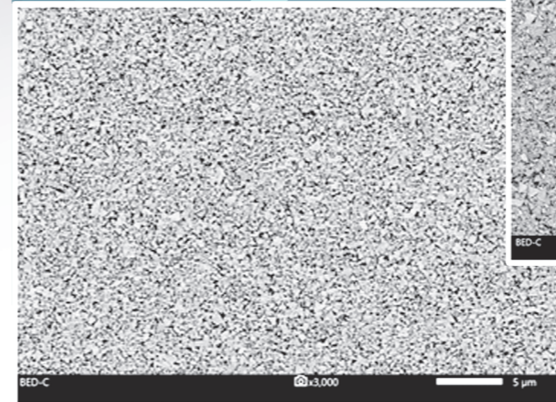
Three-dimensional:groove FF,FL series, excellent chip control, more stable cutting.

Advantages of base material

Competitor's CPD



VKD's CPD



Nano-ultrafine WC (0.5μm) uniform particle size CPD VKD launches Proprietary sintering

process to achieve high hardness and high strength

Process optimization, uniform material structure, ensuring material stability



Leading grinding technology

Zoom in on product details

Ultimate processing capabilities

The MIN surface Ra can reach 0.2 μ m

The MIN arc can reach R0.03mm

Optimized grinding pattern control

Can complete various complex blade grinding

Machine tools/grinding

Excellent PVD coating

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匠心打造

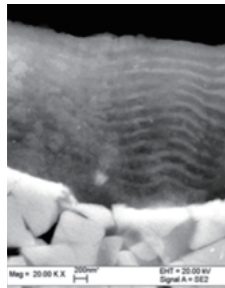
Multi-element (up to six) coatings

Ultrafine nanostructure (single layer minimum 15nm)

Optimized transition layer design

Better wear resistance and bonding strength

PVD Coating

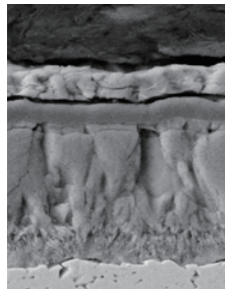


introduce

Properties

1. Multi-element (Ti, Cr, Al, W, Nb, Si, etc.) coating, better comprehensive cutting performance;
2. Ultra-fine nanocomposite process, high coating hardness, stronger wear resistance and resistance to crack expansion;
3. Special surface coating, low friction coefficient and good lubricity.
4. Dedicated base material, high strength, more stable cutting.

CVD Coating

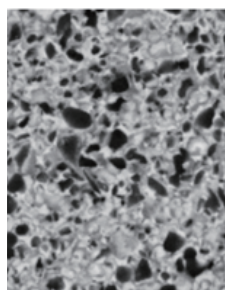


introduce

Properties

1. Ultrafine particle MT-TiCN coating process, with stable and excellent wear resistance;
2. Highly oriented Al₂O₃ coating process, excellent heat resistance;
3. Special surface treatment process, greatly improves the ability to resist adhesion and wear;
4. Rich cutting substrates and coating processes, suitable for turning, milling, drilling and other cutting processes.

Metal Ceramics



introduce

Properties

1. Composite binder technology, with better high temperature performance and impact resistance;
2. Stable and uniform tissue structure, improving the hardness and strength of the tissue;
3. Special wear-resistant coating for metal ceramics, expanding the scope of application.

PVD coating grades , list





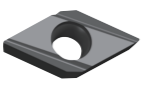
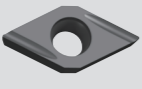
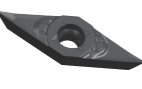

ISO	GRADE	COLOR	Coating composition	Features Application
ISO-P	VK052Y	Gray red	TiCN	Low speed machining of P-type materials Application: Precision machining with emphasis on surface quality
	VK151A	Purple	TiAlN	Good strength, excellent wear resistance and oxidation resistance Application: Grooving, parting and threading of P and M materials
	VK154A	Dark Red	Multi-layer coating	High hardness, excellent wear resistance and oxidation resistance, good anti-adhesion Application: P and M processing
	VK057A	silver	Nano-enhanced coating	Nano-reinforced coating, excellent wear resistance and oxidation resistance, effectively inhibit cracks and increase service life Application: P-type finishing
ISO-M	VK207A	silver	Nano-enhanced coating	The substrate has excellent wear resistance and impact resistance, the coating is nano-reinforced, and the overall performance is good. Application: P and M general processing
	VK204A	Dark Red	Multi-layer coating	The substrate has good comprehensive performance, and the coating has excellent wear resistance and oxidation resistance. Application: light intermittent to intermittent processing of stainless steel
	VK156A	color	Nano multi-element coating	Ultrafine grain matrix, with nano multi-element coating, high wear resistance, high stability Application: stainless steel finishing ~ semi-finishing
	VK356A	color	Nano multi-element coating	High-strength substrate, with nano multi-element coating, good cutting stability Application: semi-finishing to rough machining of stainless steel and heat-resistant alloy steel

Metal ceramic grades , list


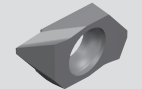
GRADE	COLOR	Material structure	Features Application
VKD15	silver	No coating	Excellent wear resistance, sharp cutting edge Application: Finishing to semi-finishing of P-type materials
CKD155A	gold	Composite coating	Metal ceramic substrate, with high temperature resistant coating, excellent wear resistance Application: P-type material finishing to semi-finishing

Groove application range




Precision turning groove type---front moving series

category	Name	shape	Application
finishing	None		Positive turning groove, controlled chips, sharp groove, effectively reduced cutting force.
finishing	S		Negative turning groove, sharp tool tip structure, effectively reduces cutting force and improves the brightness of the machined surface. Special lead angle effectively controls the direction of chip removal.
finishing	F		Positive turning groove, controlled chips, sharp groove, effectively reduced cutting force.
Semi-finishing	Y		Positive turning groove, low surface roughness, stable cutting pattern, high surface brightness.
Low feed	J		Positive turning groove, suitable for a wide range of cutting depths, can stably control chip deformation, curling and flow at different cutting depths and small feed processing.
Low feed	U		Positive turning groove, arc-shaped cross-section structure, more stable chip control, sharp cutting edge and low cutting force.
Universal type	FL		Positive turning groove, sharp cutting edge, wide feed adaptability range.
finishing	FF		Positive turning groove, excellent chip breaking performance, even under the conditions of small cutting depth and small feed, it can still break chips perfectly.


Precision turning groove type , back moving series

category	Name	shape	Application
Universal type	FL		Applied to back shoulder turning, ideal chip control effect.
finishing	FF		Applicable to rear shoulder turning, space saving, Y-axis turning.

Grooving Inserts

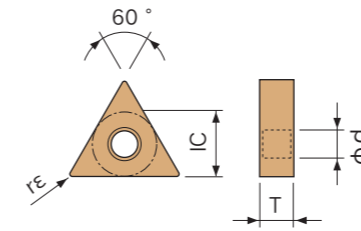
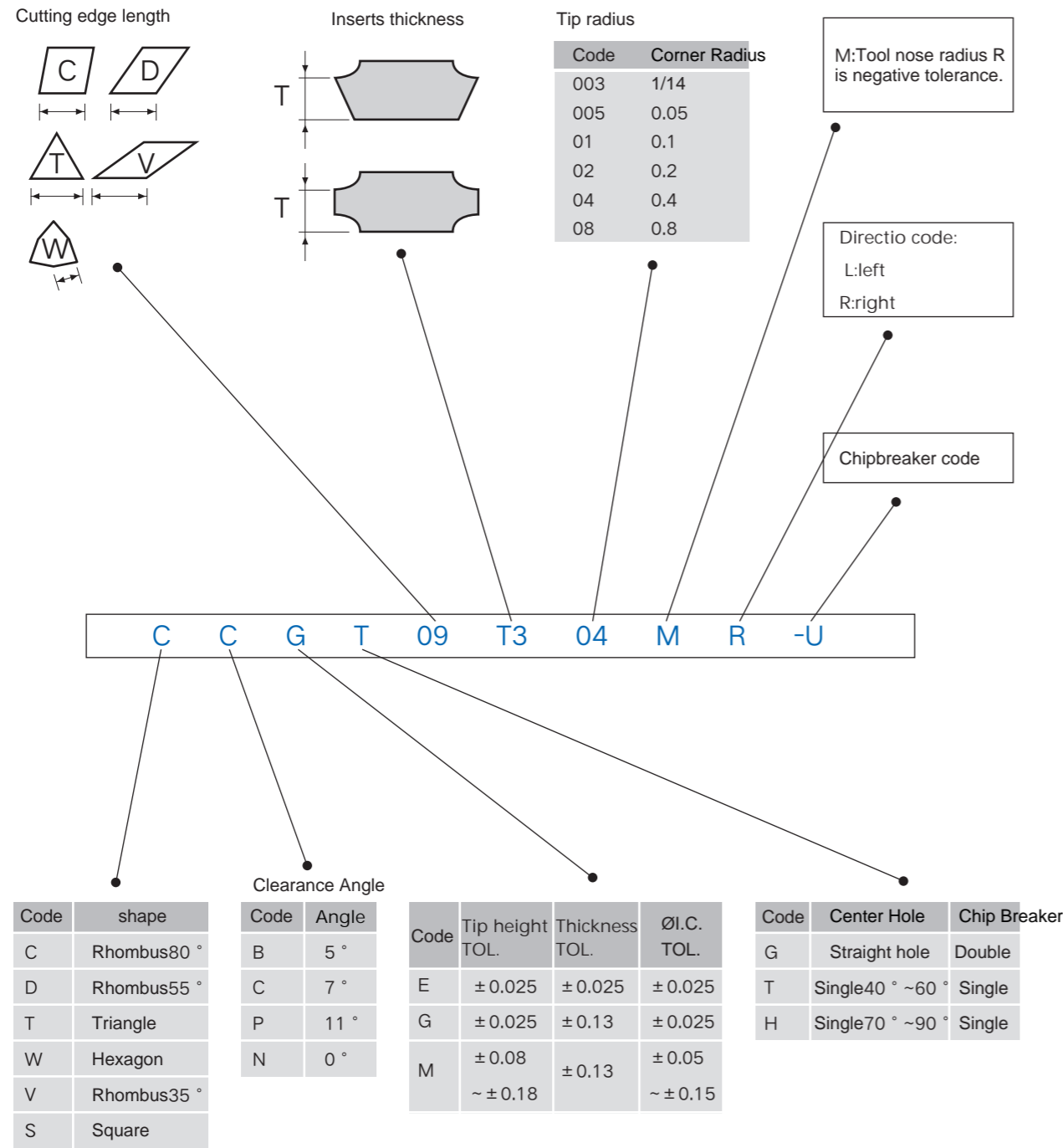
category	Name	shape	Application
GBA	*		Shallow groove processing, can process groove width of 1.25mm~4mm.
-GM	-GM		Shallow groove processing, three-dimensional chip breaker, excellent chip handling ability.
TGF	*		Shallow groove processing, can process groove width of 0.33mm~2.5mm.

Cutting Inserts

category	Name	shape	Application
TKF	*		Applicable to cutting of bars or tubes, groove width 0.5mm~2.0mm

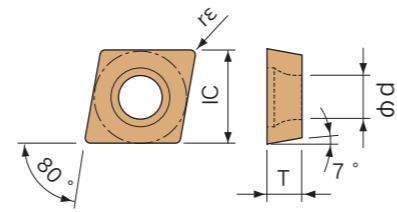
Inserts naming convention

TN triangle60° -negative



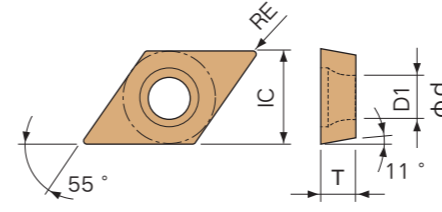
Insert shape	Model	Size				Grade					
		IC	T	φd	rε	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	TNGG110402R-S	6.35	4.76	2.26	0.2			●	●	○	
	TNGG110402L-S	6.35	4.76	2.26	0.2			●	●	○	
	TNGG110404R-S	6.35	4.76	2.26	0.4			●	●	○	
	TNGG110404L-S	6.35	4.76	2.26	0.4			●	●	○	
	TNGG110408R-S	6.35	4.76	2.26	0.8			●	●	○	
	TNGG110408L-S	6.35	4.76	2.26	0.8			●	●	○	
	TNGG160401R-S	9.525	4.76	3.81	0.1			●	●	○	
	TNGG160401L-S	9.525	4.76	3.81	0.1			●	●	○	
	TNGG160402R-S	9.525	4.76	3.81	0.2			●	●	○	
	TNGG160402L-S	9.525	4.76	3.81	0.2			●	●	○	
	TNGG160404R-S	9.525	4.76	3.81	0.4			●	●	○	
	TNGG160404L-S	9.525	4.76	3.81	0.4			●	●	○	
TNGG160408R-S	9.525	4.76	3.81	0.8			●	●	○		
TNGG160408L-S	9.525	4.76	3.81	0.8			●	●	○		
	TNGG160402R-C	9.525	4.76	3.81	0.2			●	●	○	
	TNGG160402L-C	9.525	4.76	3.81	0.2			●	●	○	
	TNGG160404R-C	9.525	4.76	3.81	0.4			●	●	○	
	TNGG160404L-C	9.525	4.76	3.81	0.4			●	●	○	
	TNGG160408R-C	9.525	4.76	3.81	0.8			●	●	○	
	TNGG160408L-C	9.525	4.76	3.81	0.8			●	●	○	

CC rhombus80° -positive



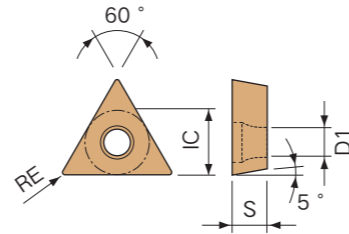
Insert shape	Model	Size				Grade					
		IC	T	φd	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	CCGT060201M-FF	6.35	2.38	2.8	<0.1	●		●	●	○	●
	CCGT060202M-FF	6.35	2.38	2.8	<0.2	●		●	●	○	●
	CCGT060204M-FF	6.35	2.38	2.8	<0.4	●		●	●	○	●
	CCGT09T301M-FF	9.525	3.97	4.4	<0.1	●		●	●	○	●
	CCGT09T302M-FF	9.525	3.97	4.4	<0.2	●		●	●	○	●
	CCGT09T304M-FF	9.525	3.97	4.4	<0.4	●		●	●	○	●
	CCGT060201M-FL	6.35	2.38	2.8	<0.1	●		●	●	○	●
	CCGT060202M-FL	6.35	2.38	2.8	<0.2	●		●	●	○	●
	CCGT060204M-FL	6.35	2.38	2.8	<0.4	●		●	●	○	●
	CCGT09T301M-FL	9.525	3.97	4.4	<0.1	●		●	●	○	●
	CCGT09T302M-FL	9.525	3.97	4.4	<0.2	●		●	●	○	●
	CCGT09T304M-FL	9.525	3.97	4.4	<0.4	●		●	●	○	●
	CCGT0401005MR/L-F	4.3	1.8	2.3	<0.05	●		●	○	○	●
	CCGT040101MR/L-F	4.3	1.8	2.3	<0.1	●		●	○	○	●
	CCGT040102MR/L-F	4.3	1.8	2.3	<0.2	●		●	○	○	●
	CCGT040104MR/L-F	4.3	1.8	2.3	<0.4	●		●	○	○	●
	CCGT0602005MR/L-F	6.35	2.38	2.8	<0.05	●		●	○	○	●
	CCGT060201MR/L-F	6.35	2.38	2.8	<0.1	●		●	○	○	●
	CCGT060202MR/L-F	6.35	2.38	2.8	<0.2	●		●	○	○	●
	CCGT060204MR/L-F	6.35	2.38	2.8	<0.4	●		●	○	○	●
	CCGT09T3005MR/L-F	9.525	3.97	4.4	<0.05	●		●	○	○	●
	CCGT09T301MR/L-F	9.525	3.97	4.4	<0.1	●		●	○	○	●
	CCGT09T302MR/L-F	9.525	3.97	4.4	<0.2	●		●	○	○	●
	CCGT09T304MR/L-F	9.525	3.97	4.4	<0.4	●		●	○	○	●
	CCGT060201MR/L-U	6.35	2.38	2.8	<0.1	●		●	○	○	●
	CCGT060202MR/L-U	6.35	2.38	2.8	<0.2	●		●	○	○	●
	CCGT060204MR/L-U	6.35	2.38	2.8	<0.4	●		●	○	○	●
	CCGT09T301MR/L-U	9.525	3.97	4.4	<0.1	●		●	○	○	●
	CCGT09T302MR/L-U	9.525	3.97	4.4	<0.2	●		●	○	○	●
	CCGT09T304MR/L-U	9.525	3.97	4.4	<0.4	●		●	○	○	●
	CCGT09T301MR/L-J	9.525	3.97	4.4	<0.1	●		●	○	○	●
	CCGT09T302MR/L-J	9.525	3.97	4.4	<0.2	●		●	○	○	●
	CCGT09T304MR/L-J	9.525	3.97	4.4	<0.4	●		●	○	○	●

DC rhombus55° -positive



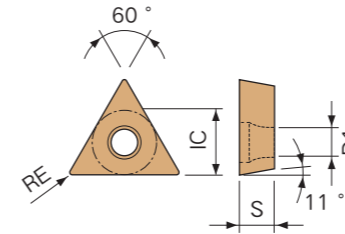
Insert shape	Model	Size				Grade					
		IC	T	φd	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	DCGT070201M-FF	6.35	2.38	2.8	<0.1			●	●	○	●
	DCGT070202M-FF	6.35	2.38	2.8	<0.2			●	●	○	●
	DCGT070204M-FF	6.35	2.38	2.8	<0.4			●	●	○	●
	DCGT11T301M-FF	6.35	2.38	2.8	<0.1			●	●	○	●
	DCGT11T302M-FF	6.35	2.38	2.8	<0.2			●	●	○	●
	DCGT11T304M-FF	9.525	3.97	4.4	<0.4			●	●	○	●
	DCGT070201M-FL	6.35	2.38	2.8	<0.1			●	●	○	●
	DCGT070202M-FL	6.35	2.38	2.8	<0.2			●	●	○	●
	DCGT070204M-FL	6.35	2.38	2.8	<0.4			●	●	○	●
	DCGT11T301M-FL	9.525	3.97	4.4	<0.1			●	●	○	●
	DCGT11T302M-FL	9.525	3.97	4.4	<0.2			●	●	○	●
	DCGT11T304M-FL	9.525	3.97	4.4	<0.4			●	●	○	●
	DCGT0702005MR/L-F	6.35	2.38	2.8	<0.05	●		●		○	●
	DCGT070201MR/L-F	6.35	2.38	2.8	<0.1	●		●		○	●
	DCGT070202MR/L-F	6.35	2.38	2.8	<0.2	●		●		○	●
	DCGT070204MR/L-F	6.35	2.38	2.8	<0.4	●		●		○	●
	DCGT11T3005MR/L-F	9.525	3.97	4.4	<0.05	●		●		○	●
	DCGT11T301MR/L-F	9.525	3.97	4.4	<0.1	●		●		○	●
	DCGT11T302MR/L-F	9.525	3.97	4.4	<0.2	●		●		○	●
	DCGT11T304MR/L-F	9.525	3.97	4.4	<0.4	●		●		○	●
	DCGT070201MR/L-U	6.35	2.38	2.8	<0.1	●		●		○	●
	DCGT070202MR/L-U	6.35	2.38	2.8	<0.2	●		●		○	●
	DCGT070204MR/L-U	6.35	2.38	2.8	<0.4	●		●		○	●
	DCGT11T301MR/L-U	9.525	3.97	4.4	<0.1	●		●		○	●
DCGT11T302MR/L-U	9.525	3.97	4.4	<0.2	●		●		○	●	
DCGT11T304MR/L-U	9.525	3.97	4.4	<0.4	●		●		○	●	
	DCGT11T301MR/L-J	9.525	3.97	4.4	<0.1	●		●		○	●
	DCGT11T302MR/L-J	9.525	3.97	4.4	<0.2	●		●		○	●
	DCGT11T304MR/L-J	9.525	3.97	4.4	<0.4	●		●		○	●

TB triangle 60° -positive



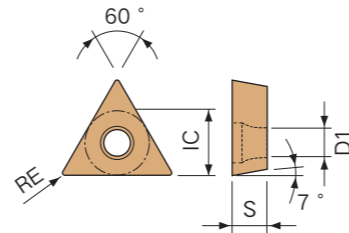
Insert shape	Model	Size				Grade					
		IC	S	D1	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	TBGT060201M-FF	3.97	1.59	2.3	<0.1	●		●		○	●
	TBGT060202M-FF	3.97	1.59	2.3	<0.2	●		●		○	●
	TBGT060204M-FF	3.97	1.59	2.3	<0.4	●		●		○	●
	TBGT060201M-FL	3.97	1.59	2.3	<0.1	●		●		○	●
	TBGT060202M-FL	3.97	1.59	2.3	<0.2	●		●		○	●
	TBGT060204M-FL	3.97	1.59	2.3	<0.4	●		●		○	●
	TBGT0602005MR/L	3.97	1.59	2.3	<0.05	●		●		○	●
	TBGT060201MR/L	3.97	1.59	2.3	<0.1	●		●		○	●
	TBGT060202MR/L	3.97	1.59	2.3	<0.2	●		●		○	●
	TBGT060204MR/L	3.97	1.59	2.3	<0.4	●		●		○	●

TP triangle 60° -positive



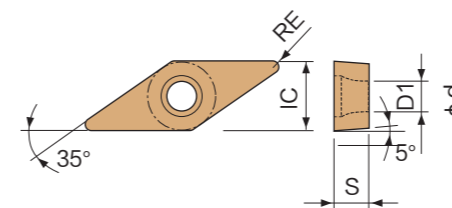
Insert shape	Model	Size				Grade					
		IC	S	D1	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	TPGH080201MR/L	4.76	2.38	2.3	<0.1	●		●		○	●
	TPGH080202MR/L	4.76	2.38	2.3	<0.2	●		●		○	●
	TPGH080204MR/L	4.76	2.38	2.3	<0.4	●		●		○	●
	TPGH090201MR/L	5.56	2.38	2.8	<0.1	●		●		○	●
	TPGH090202MR/L	5.56	2.38	2.8	<0.2	●		●		○	●
	TPGH090204MR/L	5.56	2.38	2.8	<0.4	●		●		○	●
	TPGH110301MR/L	6.35	3.18	3.3	<0.1	●		●		○	●
	TPGH110302MR/L	6.35	3.18	3.3	<0.2	●		●		○	●
	TPGH110302MR/L	6.35	3.18	3.3	<0.4	●		●		○	●

TC triangle 60° -positive



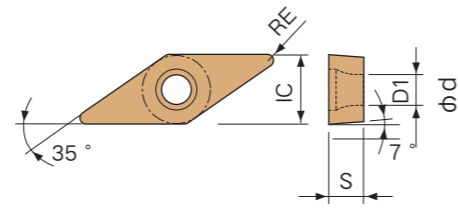
Insert shape	Model	Size				Grade					
		IC	S	D1	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	TCGT0802005MR/L	4.76	2.38	2.3	<0.05	●		●		○	●
	TCGT080201MR/L	4.76	2.38	2.3	<0.1	●		●		○	●
	TCGT080202MR/L	4.76	2.38	2.3	<0.2	●		●		○	●
	TCGT1103005MR/L	6.35	3.18	2.8	<0.05	●		●		○	●
	TCGT110301MR/L	6.35	3.18	2.8	<0.1	●		●		○	●
	TCGT110302MR/L	6.35	3.18	2.8	<0.2	●		●		○	●
	TCGT080201MR/L-U	4.76	2.38	2.3	<0.1	●		●		○	●
	TCGT080202MR/L-U	4.76	2.38	2.3	<0.2	●		●		○	●
	TCGT110301MR/L-U	6.35	3.18	2.8	<0.1	●		●		○	●
	TCGT110302MR/L-U	6.35	3.18	2.8	<0.2	●		●		○	●

VB rhombus 35° -positive



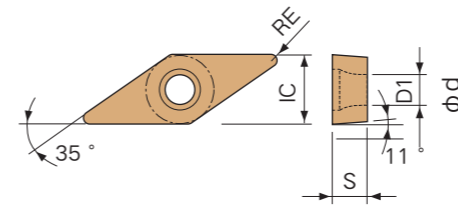
Insert shape	Model	Size				Grade					
		IC	S	D1	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	VBGT1103005MR/L-F	6.35	3.18	2.8	<0.05	●		●		○	●
	VBGT110301MR/L-F	6.35	3.18	2.8	<0.1	●		●		○	●
	VBGT110302MR/L-F	6.35	3.18	2.8	<0.2	●		●		○	●
	VBGT110301R/L-Y	6.35	3.18	2.8	<0.1	●		●		○	●
	VBGT110302R/L-Y	6.35	3.18	2.8	<0.2	●		●		○	●
	VBGT110304R/L-Y	6.35	3.18	2.8	<0.4	●		●		○	●
	VBGT160401R/L-Y	9.525	4.76	4.4	<0.1	●		●		○	●
	VBGT160402R/L-Y	9.525	4.76	4.4	<0.2	●		●		○	●
	VBGT160404R/L-Y	9.525	4.76	4.4	<0.4	●		●		○	●

VC rhombus35° -positive



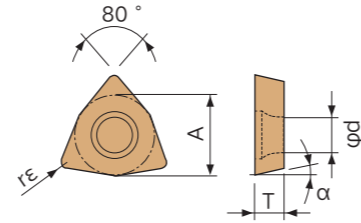
Insert shape	Model	Size				Grade					
		IC	S	φd	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	VCGT110301M-FF	6.35	3.18	2.8	<0.1			●	●	○	●
	VCGT110302M-FF	6.35	3.18	2.8	<0.2			●	●	○	●
	VCGT110301M-FL	6.35	3.18	2.8	<0.1			●	●	○	●
	VCGT110302M-FL	6.35	3.18	2.8	<0.2			●	●	○	●
	VCGT1103005MR/L-F	6.35	3.18	2.8	<0.05	●		●		○	●
	VCGT110301MR/L-F	6.35	3.18	2.8	<0.1	●		●		○	●
	VCGT110302MR/L-F	6.35	3.18	2.8	<0.2	●		●		○	●
	VCGT1103005MR/L-Y	6.35	3.18	2.8	<0.05	●		●		○	●
	VCGT110301MR/L-Y	6.35	3.18	2.8	<0.1	●		●		○	●
	VCGT110302MR/L-Y	6.35	3.18	2.8	<0.2	●		●		○	●

VP rhombus35° -positive



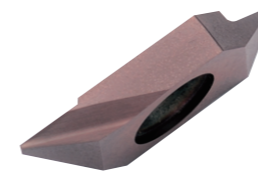
Insert shape	Model	Size				Grade					
		IC	S	φd	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	VPGT110301M-FF	6.35	3.18	2.8	<0.1			●	●	○	●
	VPGT110302M-FF	6.35	3.18	2.8	<0.2			●	●	○	●
	VPGT110301M-FL	6.35	3.18	2.8	<0.1			●	●	○	●
	VPGT110302M-FL	6.35	3.18	2.8	<0.2			●	●	○	●
	VPET0802005MR/L-F	4.76	2.38	2.3	<0.05	●		●		○	●
	VPET080201MR/L-F	4.76	2.38	2.3	<0.1	●		●		○	●
	VPET080202MR/L-F	4.76	2.38	2.3	<0.2	●		●		○	●
	VPET1103005MR/L-F	6.35	3.18	2.8	<0.05	●		●		○	●
	VPET110301MR/L-F	6.35	3.18	2.8	<0.1	●		●		○	●
	VPET110302MR/L-F	6.35	3.18	2.8	<0.2	●		●		○	●
	VPET0802005MR/L-U	4.76	2.38	2.3	<0.05	●		●		○	●
	VPET080201MR/L-U	4.76	2.38	2.3	<0.1	●		●		○	●
	VPET080202MR/L-U	4.76	2.38	2.3	<0.2	●		●		○	●
	VPET1103005MR/L-U	6.35	3.18	2.8	<0.05	●		●		○	●
	VPET110301MR/L-U	6.35	3.18	2.8	<0.1	●		●		○	●
	VPET110302MR/L-U	6.35	3.18	2.8	<0.2	●		●		○	●
	VPET1103005MR/L-J	6.35	3.18	2.8	<0.05	●		●		○	●
	VPET110301MR/L-J	6.35	3.18	2.8	<0.1	●		●		○	●
	VPET110302MR/L-J	6.35	3.18	2.8	<0.2	●		●		○	●

WB Hexagon80° -positive



Insert shape	Model	Size				Grade					
		IC	T	φd	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	WBG0601005MR/L-F	3.97	1.59	2.3	0.05	●		●		○	●
	WBG060101MR/L-F	3.97	1.59	2.3	0.1	●		●		○	●
	WBG060102MR/L-F	3.97	1.59	2.3	0.2	●		●		○	●
	WBG060104MR/L-F	3.97	1.59	2.3	0.4	●		●		○	●
	WBG080201MR/L-F	4.76	2.38	2.3	0.1	●		●		○	●
	WBG080202MR/L-F	4.76	2.38	2.3	0.2	●		●		○	●
	WBG080204MR/L-F	4.76	2.38	2.3	0.4	●		●		○	●

Vertical-style TKFB

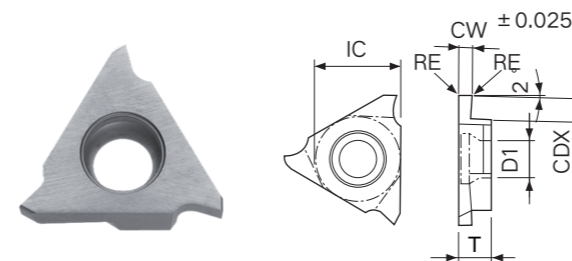


Model	Size							Grade					
	L	W	C.W. 1	C.W. 2	C.H.	φd	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
TKFB12R15005M		3	0.25	1.5	8.7	5.2	<0.05			●	●		
TKFB12R15010M		3	0.25	1.5	8.7	5.2	<0.1			●	●		
TKFB12R28005M		3	0.3	2.8	8.7	5.2	<0.05			●	●		
TKFB12R28010M		3	0.3	2.8	8.7	5.2	<0.1			●	●		
TKFB16R38005M		4	0.3	3.8	9.5	5.2	<0.05			●	●		
TKFB16R38010M		4	0.3	3.8	9.5	5.2	<0.1			●	●		
TKFB12L28005MR		3	0.3	2.8	8.7	5.2	<0.05			●	●		
TKFB12L28010MR		3	0.3	2.8	8.7	5.2	<0.1			●	●		
TKFB16L38005MR		4	0.3	3.8	9.5	5.2	<0.05			●	●		
TKFB16L38010MR		4	0.3	3.8	9.5	5.2	<0.1			●	●		

horizontal ABS/W

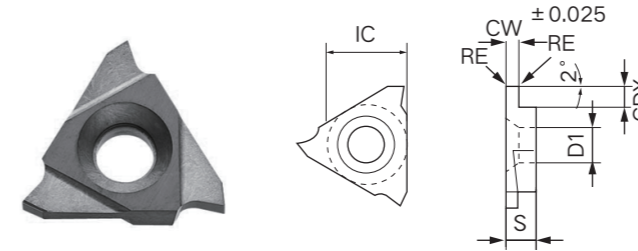
Insert shape	Model	Size						Grade						
		L	W	C.W. 1	C.W. 2	C.H.	φd	RE	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
	KABS/W15R4005	15.4	7	0.4	2.8	3.97	3.4	0.05	●		●			●
	KABS/W15R4005M	15.4	7	0.4	2.8	3.97	3.4	<0.05	●		●			●
	KABS/W15R4015	15.4	7	0.4	2.8	3.97	3.4	0.15	●		●			●
	KABS/W15R4015M	15.4	7	0.4	2.8	3.97	3.4	<0.15	●		●			●
	KABS/W15R4005	15.4	7	0.6	4.7	3.97	3.4	0.05	●		●			●
	KABS/W15R4005M	15.4	7	0.6	4.7	3.97	3.4	<0.05	●		●			●
	KABS/W15R4015	15.4	7	0.6	4.7	3.97	3.4	0.15	●		●			●
	KABS/W15R4015M	15.4	7	0.6	4.7	3.97	3.4	<0.15	●		●			●
	KABS/W23R4005	23.4	7	0.5	4.7	3.97	3.4	0.05	●		●			●
	KABS/W23R4005M	23.4	7	0.5	4.7	3.97	3.4	<0.05	●		●			●
	KABS/W23R4015	23.4	7	0.5	4.7	3.97	3.4	0.15	●		●			●
	KABS/W23R4015M	23.4	7	0.5	4.7	3.97	3.4	<0.15	●		●			●

Shallow groove cutter GBA



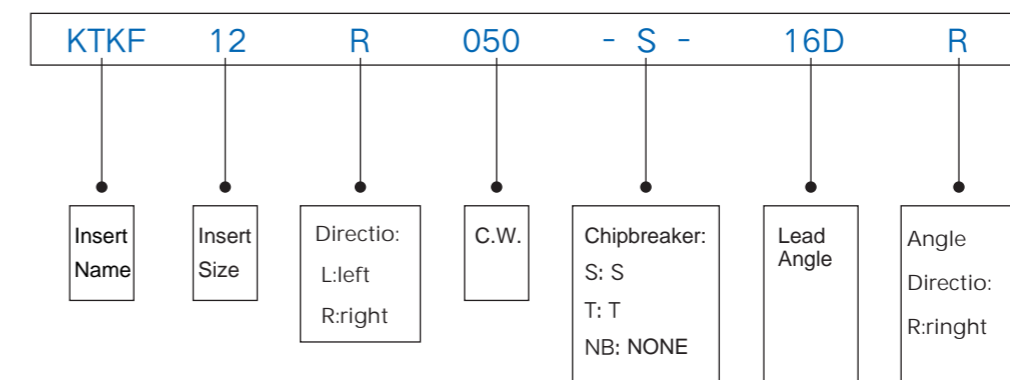
Model	Size						Grade					
	IC	T	D1	RE	S.W	S.H.	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
KGBA43R/L125-010	12.7	4.76	5.5	0.1	1.25	2	●	●	○		○	
KGBA43R/L125-020	12.7	4.76	5.5	0.2	1.25	2	●	●	○		○	
KGBA43R/L140-020	12.7	4.76	5.5	0.2	1.40	3.5	●	●	○		○	
KGBA43R/L145-020	12.7	4.76	5.5	0.2	1.45	3.5	●	●	○		○	
KGBA43R/L150-010	12.7	4.76	5.5	0.1	1.50	3.5	●	●	○		○	
KGBA43R/L150-020	12.7	4.76	5.5	0.2	1.50	3.5	●	●	○		○	
KGBA43R/L170-020	12.7	4.76	5.5	0.2	1.70	3.5	●	●	○		○	
KGBA43R/L175-020	12.7	4.76	5.5	0.2	1.75	3.5	●	●	○		○	
KGBA43R/L185-020	12.7	4.76	5.5	0.2	1.85	3.5	●	●	○		○	
KGBA43R/L195-020	12.7	4.76	5.5	0.2	1.95	3.5	●	●	○		○	

Shallow groove cutter TGF

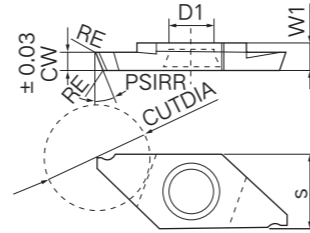
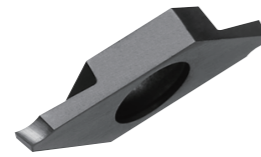


Model	Size						Grade					
	IC	T	D1	RE	S.W.	S.H.	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
KGBA43R/L200-010	12.7	4.76	5.5	0.1	2.00	3.5	●	●	○		○	
KGBA43R/L200-020	12.7	4.76	5.5	0.2	2.00	3.5	●	●	○		○	
KGBA43R/L225-020	12.7	4.76	5.5	0.2	2.25	3.5	●	●	○		○	
KGBA43R/L230-020	12.7	4.76	5.5	0.2	2.30	3.5	●	●	○		○	
KGBA43R/L250-010	12.7	4.76	5.5	0.1	2.50	5	●	●	○		○	
KGBA43R/L250-030	12.7	4.76	5.5	0.3	2.50	5	●	●	○		○	
KGBA43R/L265-030	12.7	4.76	5.5	0.3	2.65	5	●	●	○		○	
KGBA43R/L280-030	12.7	4.76	5.5	0.3	2.80	5	●	●	○		○	
KGBA43R/L300-010	12.7	4.76	5.5	0.1	3.00	5	●	●	○		○	
KGBA43R/L300-030	12.7	4.76	5.5	0.3	3.00	5	●	●	○		○	
KGBA43R/L325-030	12.7	4.76	5.5	0.3	3.25	5	●	●	○		○	
KGBA43R/L330-030	12.7	4.76	5.5	0.3	3.30	5	●	●	○		○	
KGBA43R/L350-010	12.7	4.76	5.5	0.1	3.50	5	●	●	○		○	
KGBA43R/L350-030	12.7	4.76	5.5	0.3	3.50	5	●	●	○		○	
KGBA43R/L400-010	12.7	4.76	5.5	0.1	4.00	5	●	●	○		○	
KGBA43R/L400-040	12.7	4.76	5.5	0.4	4.00	5	●	●	○		○	
KGBA43R/L450-040	12.7	4.76	5.5	0.4	4.50	5	●	●	○		○	
KGBA43R/L480-040	12.7	4.76	5.5	0.4	4.80	5	●	●	○		○	
KGBA43R/L100-050R	12.7	4.76	5.5	0.5	1.00	2	●	●	○		○	
KGBA43R/L150-075R	12.7	4.76	5.5	0.75	1.50	3.5	●	●	○		○	
KGBA43R/L200-100R	12.7	4.76	5.5	1	2.00	3.5	●	●	○		○	
KGBA43R/L250-125R	12.7	4.76	5.5	1.25	2.50	4	●	●	○		○	
KGBA43R/L300-150R	12.7	4.76	5.5	1.5	3.00	4	●	●	○		○	
KGBA43R/L400-200R	12.7	4.76	5.5	2	4.00	5	●	●	○		○	
KGBA43R/L140-010GM	12.7	4.76	5.5	0.1	1.40	3.5	●	●	○		○	
KGBA43R/L150-020GM	12.7	4.76	5.5	0.2	1.50	3.5	●	●	○		○	
KGBA43R/L175-020GM	12.7	4.76	5.5	0.2	1.75	3.5	●	●	○		○	
KGBA43R/L185-020GM	12.7	4.76	5.5	0.2	1.85	3.5	●	●	○		○	
KGBA43R/L200-020GM	12.7	4.76	5.5	0.2	2.00	3.5	●	●	○		○	
KGBA43R/L230-020GM	12.7	4.76	5.5	0.2	2.30	3.5	●	●	○		○	
KGBA43R/L250-030GM	12.7	4.76	5.5	0.3	2.50	5	●	●	○		○	
KGBA43R/L300-030GM	12.7	4.76	5.5	0.3	3.00	5	●	●	○		○	
KGBA43R/L330-030GM	12.7	4.76	5.5	0.3	3.30	5	●	●	○		○	
KGBA43R/L350-030GM	12.7	4.76	5.5	0.3	3.50	5	●	●	○		○	
KGBA43R/L400-030GM	12.7	4.76	5.5	0.3	4.00	5	●	●	○		○	

Model	Size						Grade					
	IC	S	D1	RE	S.W.	S.H.	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
KTGF32R/L033-005	9.525	3.18	4.6	0.05	0.33	0.8	●	●	○		○	
KTGF32R/L050-005	9.525	3.18	4.6	0.05	0.50	1.2	●	●	○		○	
KTGF32R/L075-010	9.525	3.18	4.6	0.1	0.75	2	●	●	○		○	
KTGF32R/L095-010	9.525	3.18	4.6	0.1	0.95	2	●	●	○		○	
KTGF32R/L100-010	9.525	3.18	4.6	0.1	1.00	2	●	●	○		○	
KTGF32R/L120-010	9.525	3.18	4.6	0.1	1.20	2	●	●	○		○	
KTGF32R/L125-010	9.525	3.18	4.6	0.1	1.25	2	●	●	○		○	
KTGF32R/L140-010	9.525	3.18	4.6	0.1	1.40	2	●	●	○		○	
KTGF32R/L145-010	9.525	3.18	4.6	0.1	1.45	2	●	●	○		○	
KTGF32R/L150-010	9.525	3.18	4.6	0.1	1.50	2	●	●	○		○	
KTGF32R/L175-010	9.525	3.18	4.6	0.1	1.75	2	●	●	○		○	
KTGF32R/L200-010	9.525	3.18	4.6	0.1	2.00	2.5	●	●	○		○	
KTGF32R/L250-010	9.525	3.18	4.6	0.1	2.50	2.5	●	●	○		○	



Cutting Inserts TKF



Model	Size								Grade					
	L	S	C.W.	C.H.	D1	RE	MAX	L.A.	VK052Y	VK154A	VK207A	VK356A	VK15	VK155A
KTKF12R/L050-S-16DR		3	0.5	8.7	5	0.03	5	16°			●	●		
KTKF12R/L070-S-16DR		3	0.7	8.7	5	0.03	8	16°			●	●		
KTKF12R/L100-S-16DR		3	1	8.7	5	0.03	12	16°			●	●		
KTKF12R/L125-S-16DR		3	1.25	8.7	5	0.03	12	16°			●	●		
KTKF12R/L150-S-16DR		3	1.5	8.7	5	0.03	12	16°			●	●		
KTKF12R/L200-S-16DR		3	2	8.7	5	0.03	12	16°			●	●		
KTKF12R/L050-S		3	0.5	8.7	5	0.03	5	0°			●	●		
KTKF12R/L070-S		3	0.7	8.7	5	0.03	8	0°			●	●		
KTKF12R/L100-S		3	1	8.7	5	0.03	12	0°			●	●		
KTKF12R/L125-S		3	1.25	8.7	5	0.03	12	0°			●	●		
KTKF12R/L150-S		3	1.5	8.7	5	0.03	12	0°			●	●		
KTKF12R/L200-S		3	2	8.7	5	0.03	12	0°			●	●		
KTKF12R/L050-NB-20DR		3	0.5	8.7	5	0	5	20°			●	●		
KTKF12R/L070-NB-20DR		3	0.7	8.7	5	0	8	20°			●	●		
KTKF12R/L125-NB-20DR		3	1	8.7	5	0	12	20°			●	●		
KTKF12R/L150-NB-20DR		3	1.5	8.7	5	0	12	20°			●	●		
KTKF12R/L200-NB-20DR		3	2	8.7	5	0	12	20°			●	●		
KTKF12R/L050-NB		3	0.5	8.7	5	0	5	0°			●	●		
KTKF12R/L070-NB		3	0.7	8.7	5	0	8	0°			●	●		
KTKF12R/L125-NB		3	1	8.7	5	0	12	0°			●	●		
KTKF12R/L150-NB		3	1.5	8.7	5	0	12	0°			●	●		
KTKF12R/L200-NB		3	2	8.7	5	0	12	0°			●	●		
KTKF16R/L150-S-16DR		4	1.5	9.5	5	0.05	16	16°			●	●		
KTKF16R/L200-S-16DR		4	2	9.5	5	0.05	16	16°			●	●		
KTKF16R/L150-S		4	1.5	9.5	5	0.05	16	0°			●	●		
KTKF16R/L200-S		4	2	9.5	5	0.05	16	0°			●	●		
KTKF16R/L150-NB-20DR		4	1.5	9.5	5	0.05	16	20°			●	●		
KTKF16R/L200-NB-20DR		4	2	9.5	5	0.05	16	20°			●	●		
KTKF16R/L150-NB		4	1.5	9.5	5	0	16	0°			●	●		
KTKF16R/L200-NB		4	2	9.5	5	0	16	0°			●	●		