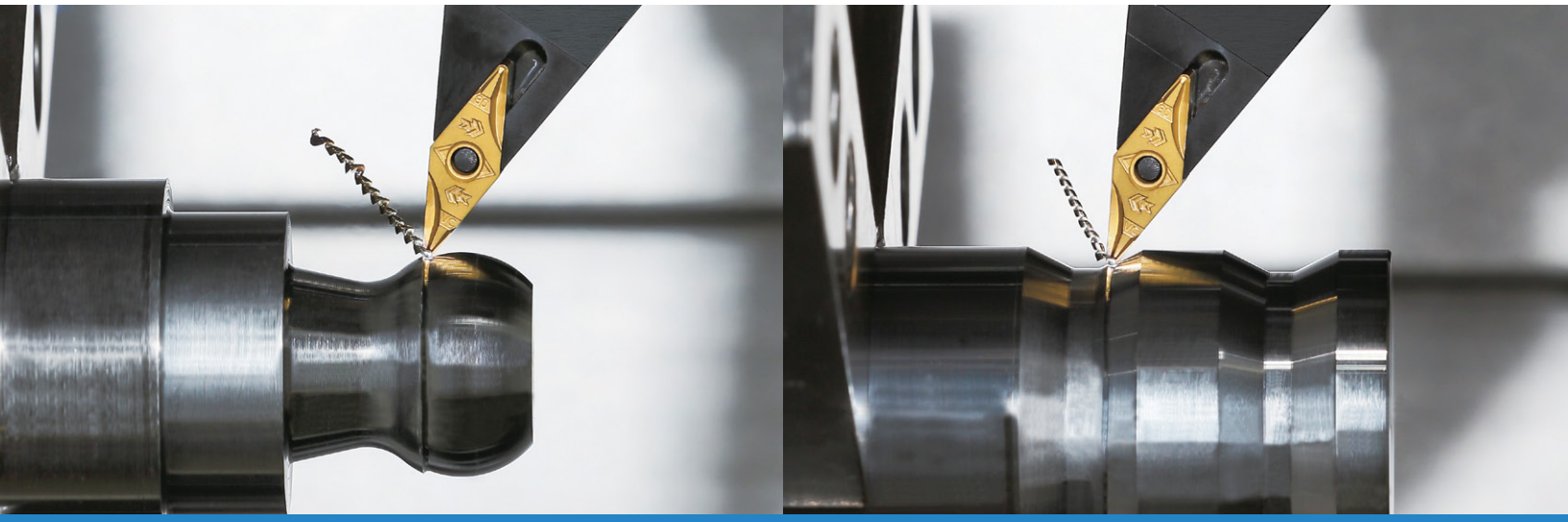
KYOCERA

VC Chipbreaker

for Copying



High Productivity Machining Various Shapes or Contours

Excellent Chip Control in a Wide Range of Machining Applications

Strong Edge Design

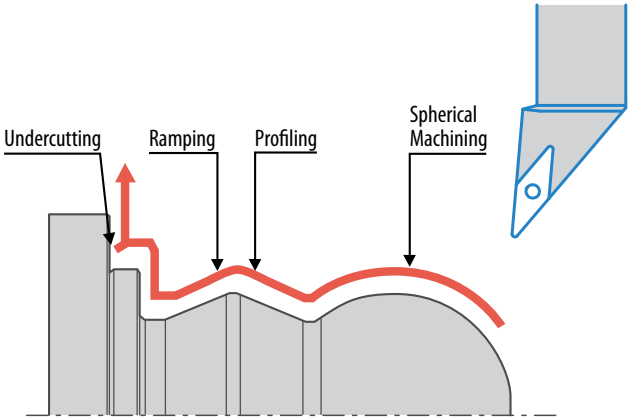
VC Chipbreaker

High Productivity Machining Various Shapes or Contours

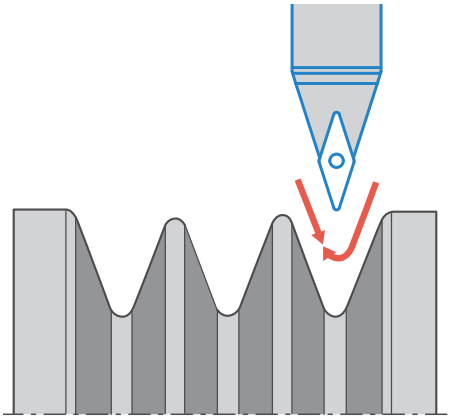
1 Excellent Chip Control in a Wide Range of Machining Applications

High Stability for Copying in Difficult Chip Control Situations and V-shaped Grooving

Copying



V-Groove



Large Cutting Land with Handed Design

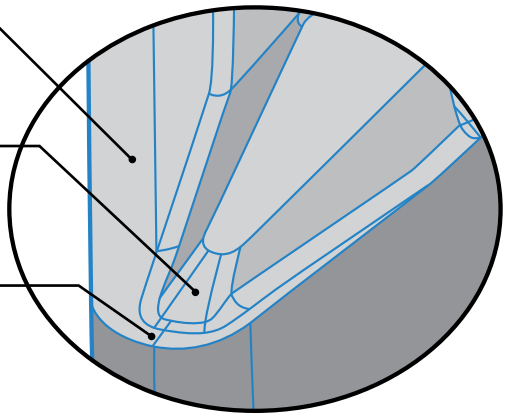
Stable chip control even in large depths of cut

Main Dot

Stable chip control even at small depths and low feed rates

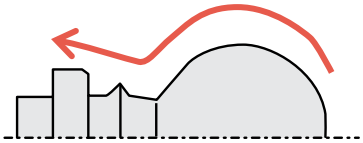
Insert Edge Geometry Creates Stable Machining

Stable edge strength and chip control by constant rake angle from corner radius to main cutting edge



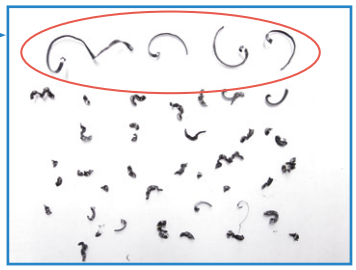
Left-hand Shown

The VC Chipbreaker breaks chips into smaller pieces even at large depths of cut with smooth chip control preventing galling on the workpiece

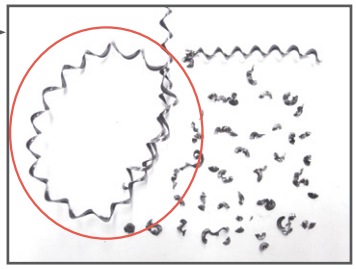


Chip Control Performance (Ball Stud) (In-house Evaluation)

D.O.C. (in)	0.079	0.059	0.039	0.028	0.020	0.008
VC Chipbreaker (Left-hand)						
Competitor A						



VC Chipbreaker

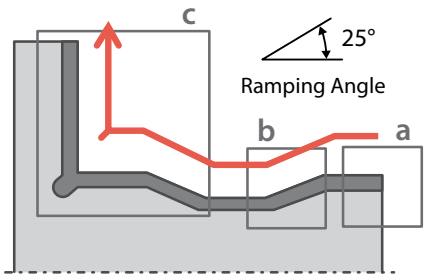


Competitor A

Cutting Conditions: Vc = 820 ~ 980 sfm (n = 2,500 RPM), f = 0.008 ipr, Wet
VNMG332 Insert Workpiece: Steel

VC Chipbreaker provides smooth chip control for general turning (a), ramping (b) and profiling (c)

Chip Control Performance (Copying / Undercutting) (In-house Evaluation)

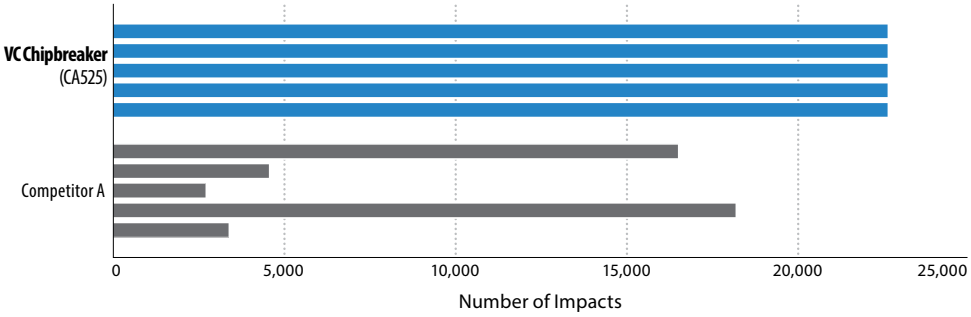


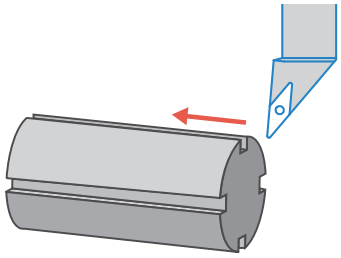
	Straight Line (a)	Ramping (b)	Profiling (c)
VC Chipbreaker (Left-hand)			
Competitor A			

Cutting Conditions: Vc = 660 ~ 980 sfm (n = 2,500 RPM), D.O.C. = 0.039", f = 0.008 ipr, Wet
VNMG332 Insert Workpiece: Steel

2 Strong Edge Design

Fracture Resistance Comparison (In-house Evaluation)





Cutting Conditions: Vc = 660 sfm, D.O.C. = 0.020"
f = 0.010 ipr, Interrupted, Wet
VNMG332 Insert
Workpiece: 4140 Steel Workpiece with 4 Grooves (0.197" Width Each)

Stock Items

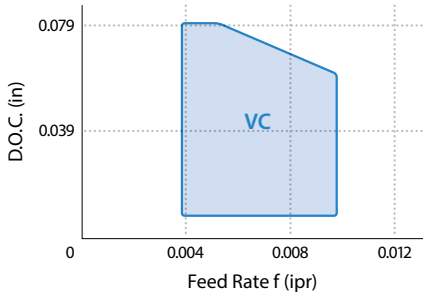
Shape (Right-handed Shown)	Description	Dimensions (in)				Cermet		MEGACOAT NANO Cermet		CVD Coated Carbide			
		I.C.	Thickness	Hole	Corner-R (rε)	TN610	TN620	PV710	PV720	CA510	CA515	CA525	CA530
 Finishing-Medium	VNMG 331 R/L-VC	3/8	3/16	0.150	1/64	○	○	○	●	○	●	○	○
	VNMG 332 R/L-VC				1/32	○	○	○	○	○	○	Ⓡ	○
	VNMG 333 R/L-VC				3/64	○	○	○	○	○	○	○	○

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) ○ : World Express (Shipping: 7-10 Business Days)

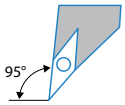
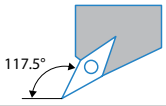
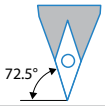
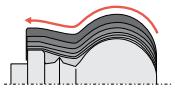
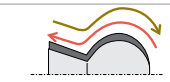
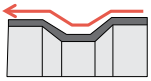
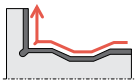
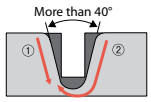
Cutting Conditions

Workpiece	Insert Grade	Min. - Recommendation - Max.		
		Cutting Speed Vc (sfm)	D.O.C. (in)	Feed Rate f (ipr)
Carbon Steel / Alloy Steel	TN610	430 - 760 - 1,120	0.012 - 0.039 - 0.079	0.003 - 0.007 - 0.010
	TN620	330 - 660 - 980		
	PV710	460 - 920 - 1,247		
	PV720	430 - 820 - 1,120		
	CA510	590 - 850 - 1,120		
	CA515	490 - 790 - 1,050		
	CA525	460 - 720 - 980		
	CA530	390 - 590 - 820		

Applicable Chipbreaker Range



Application and Selection of Recommended Holders

	D(P)VLN Type Toolholder	D(P)VPN Type Toolholder	D(P)VVNN Type Toolholder
			
Ball Stud			 Boring / Back Boring Possible (Depth of Cut Less than 0.020" for Back Boring)
Copying	 (Ramping Angle: Less than 47°)	 (Ramping Angle: Less than 25°)	
V-Groove			

Left-handed insert for normal mounting

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01/17