

NEW PRODUCT NEWS

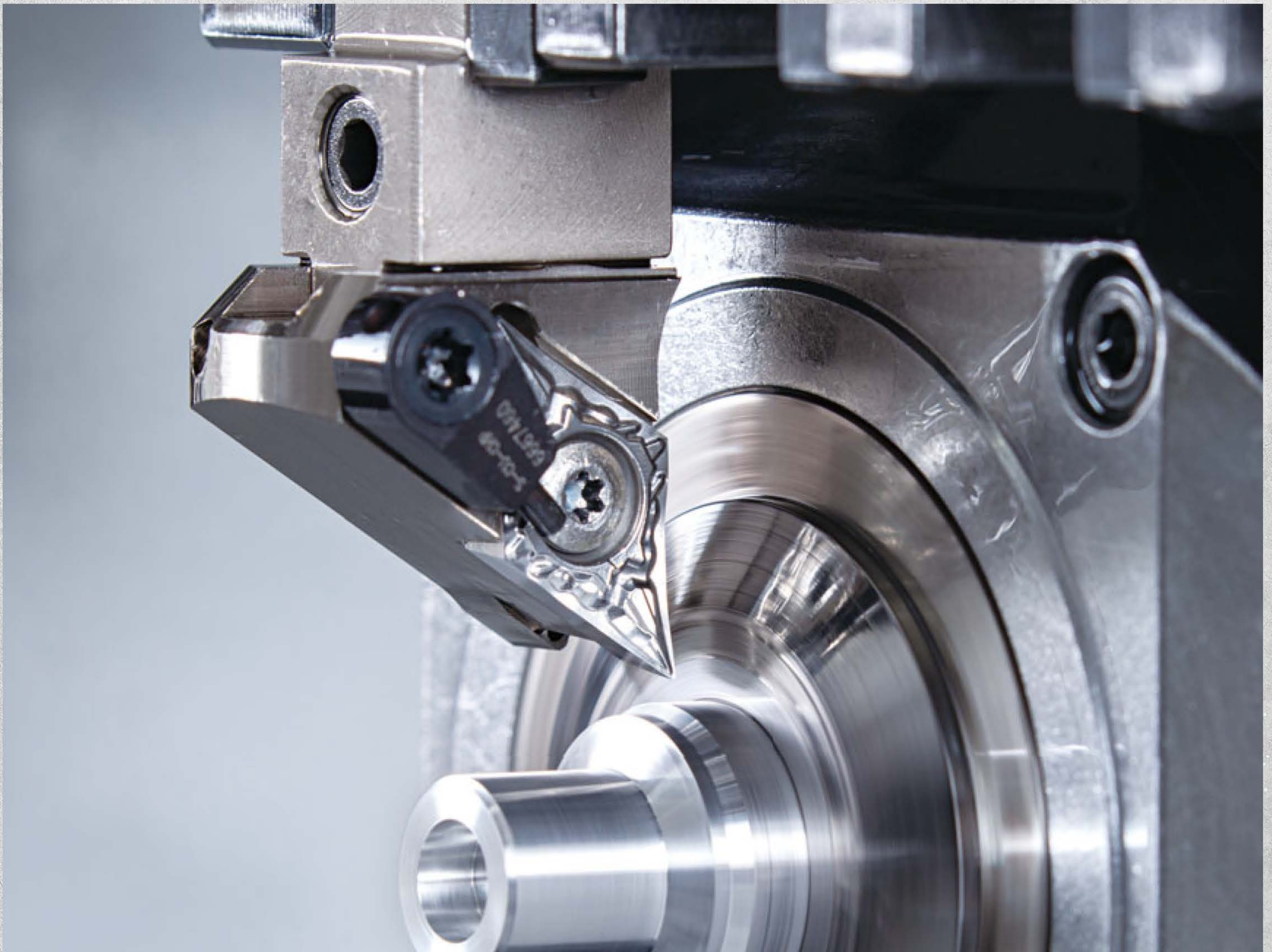


Tungaloy Report No. 555S4-G

Turning tool

Non-Ferrous Application Series

Expansion of JS, JP Chipbreaker insert with KS05F grade for non-ferrous alloy machining

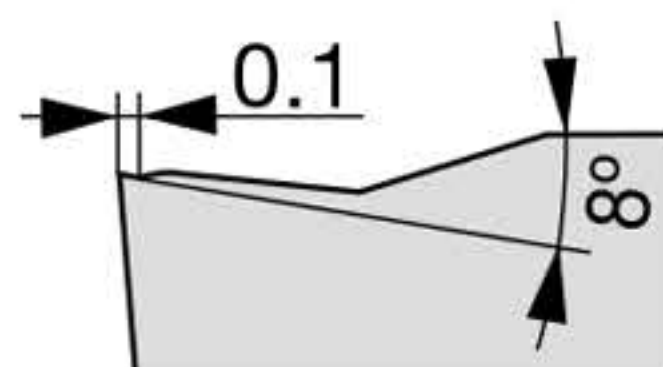


Non-Ferrous Application Series

High precision G-class 3D chipbreaker

Provides excellent chip control and superior surface finishing in non-ferrous materials

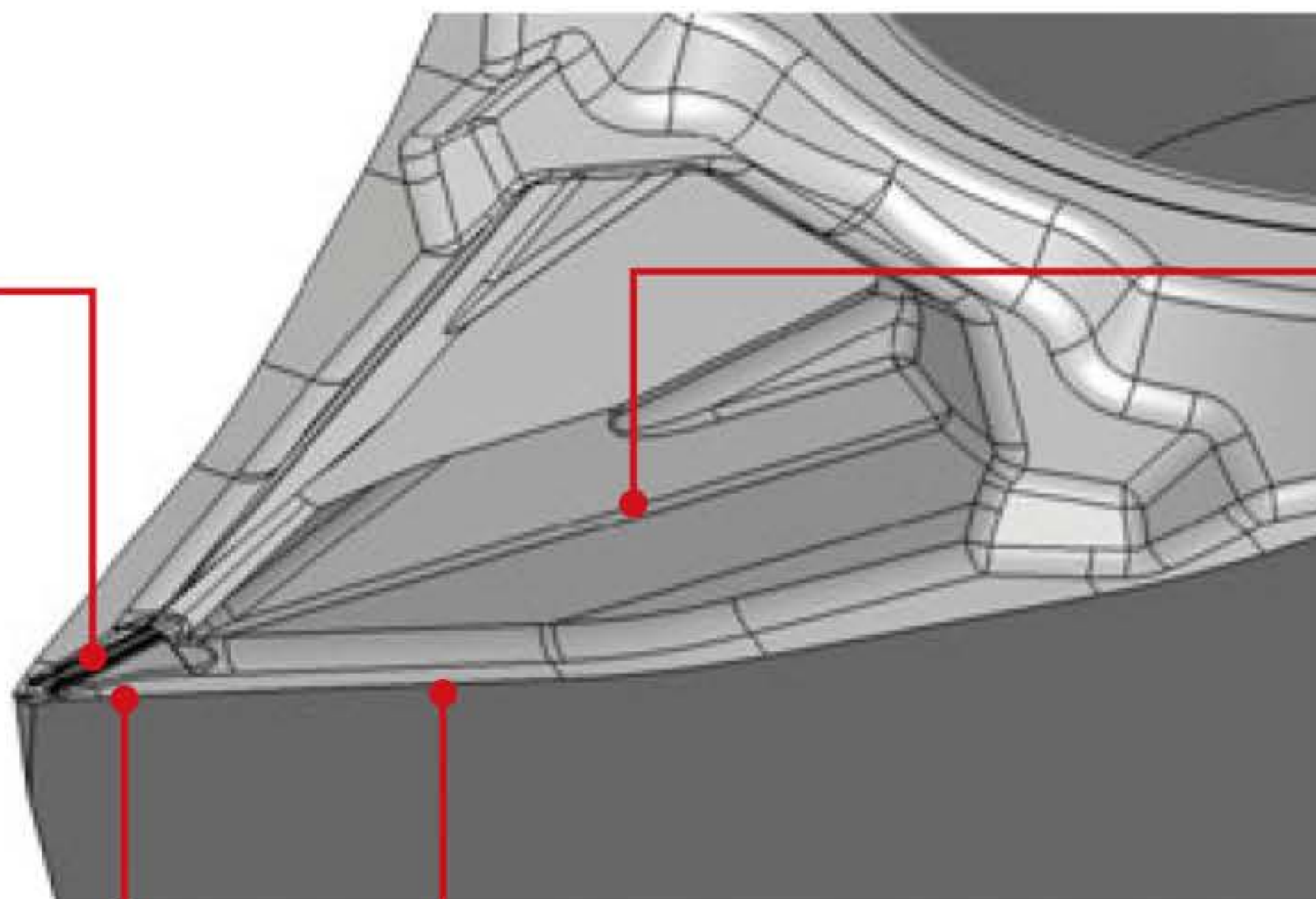
I JP First choice chipbreaker for high precision finishing



Eliminates chip nesting and other chip-associated issues that impede the shop's productivity and provides stable chip breaking over a wide range of feed rates and D.O.C.

- Effective chip breaking for high part quality
- Versatile geometry designed for a broad application range
- Eliminates burr generation and controls vibration during large depth of cut

A protrusion extending towards the nose radius
Provides excellent chip control in finish to precision finish cutting

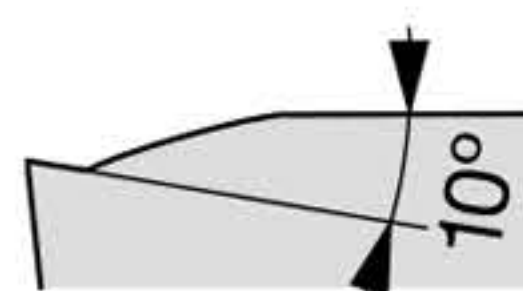


Secondary rake with multiple facets
Guides and redirects chips generated during machining at large depth of cut

Cutting edge with a steep inclination angle
- For better chip evacuation
- For reduced cutting force

Primary rake with variable angles
Controls the generation of burrs and vibration when machining at a large depth of cut capability

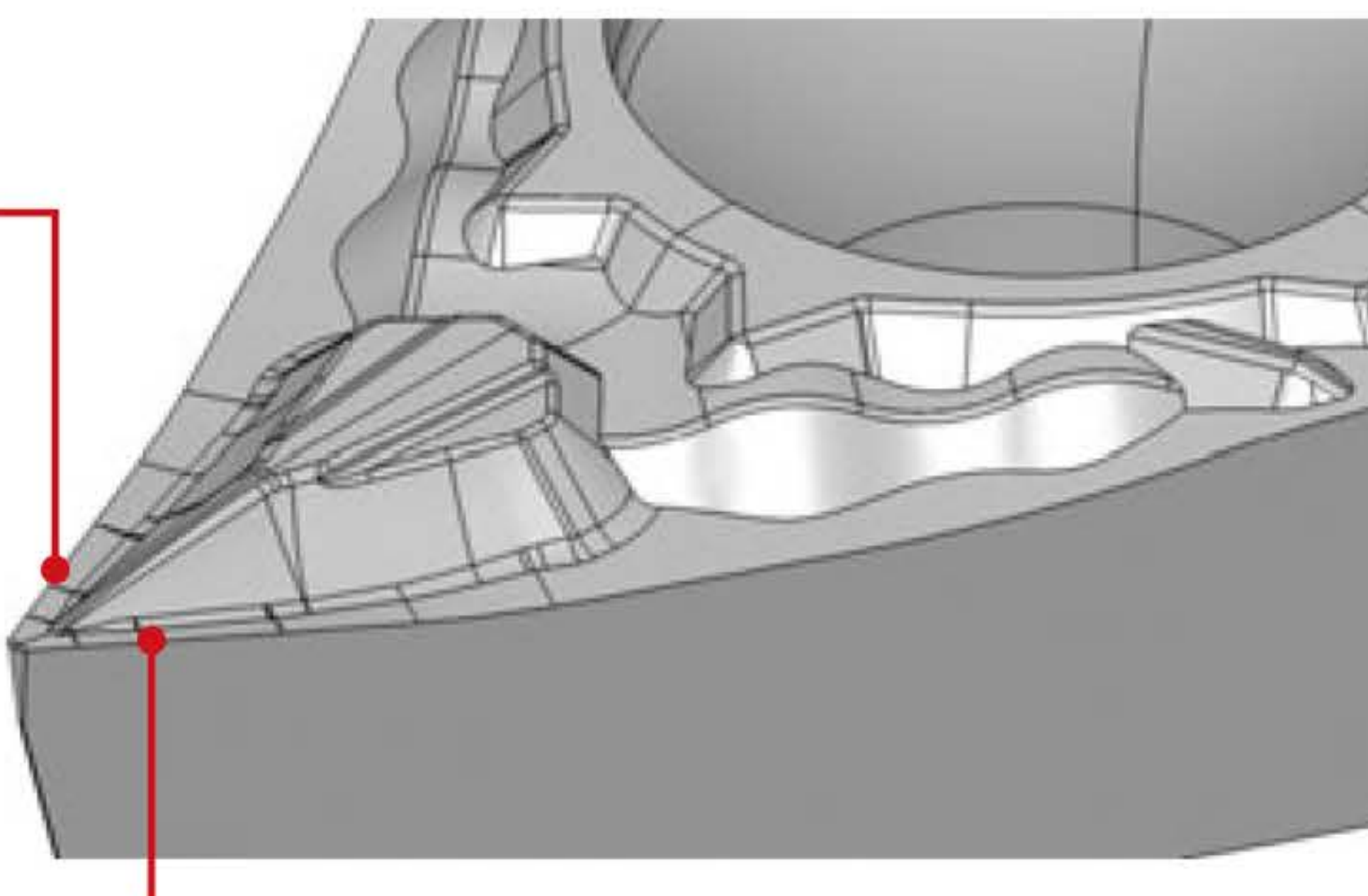
I JS First choice chipbreaker for finish cutting



Chipbreaker geometry that allows light cutting action and excellent chip breaking

- A steep cutting edge inclination angle for better chip control and reduced cutting force
- A unique protrusion that extends towards the radius effectively controls chip flow from small to large depth of cut

Cutting edge with a steep inclination angle
Provides good chip evacuation and reduced cutting force



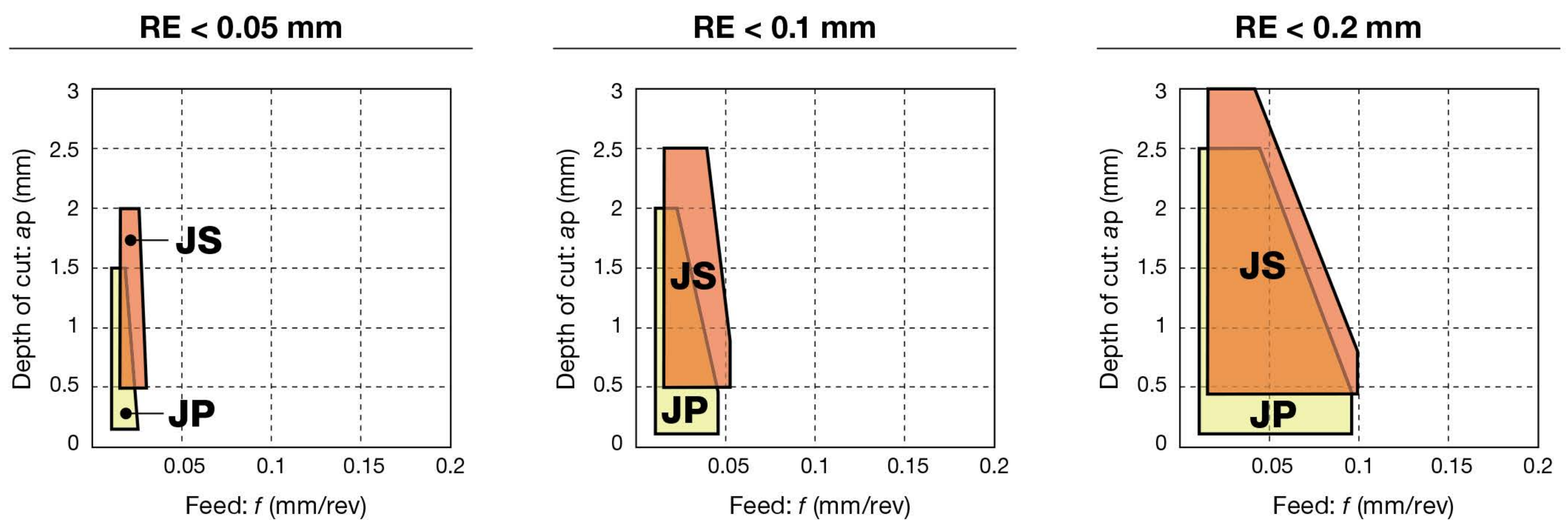
Rake with variable angles and step protrusion
Provides stable chip control in the small to large depth of cut range and also maintains cutting edge integrity and sharpness over extended period of time

KS05F



- Sub-micron grain cemented carbide with balanced wear and impact resistance
- Homogeneous fine-grained structure provides excellent resistance to wear, fracture, and built-up edge
- The rake face features a mirror finish that provides the cutting edge with built-up edge resistance

■ Chip control range



■ Chip control



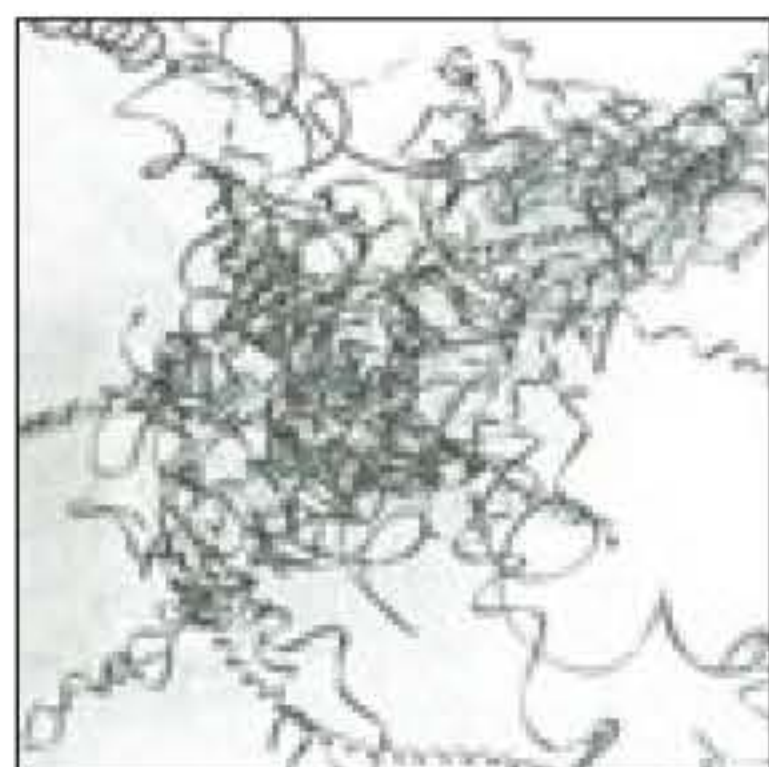


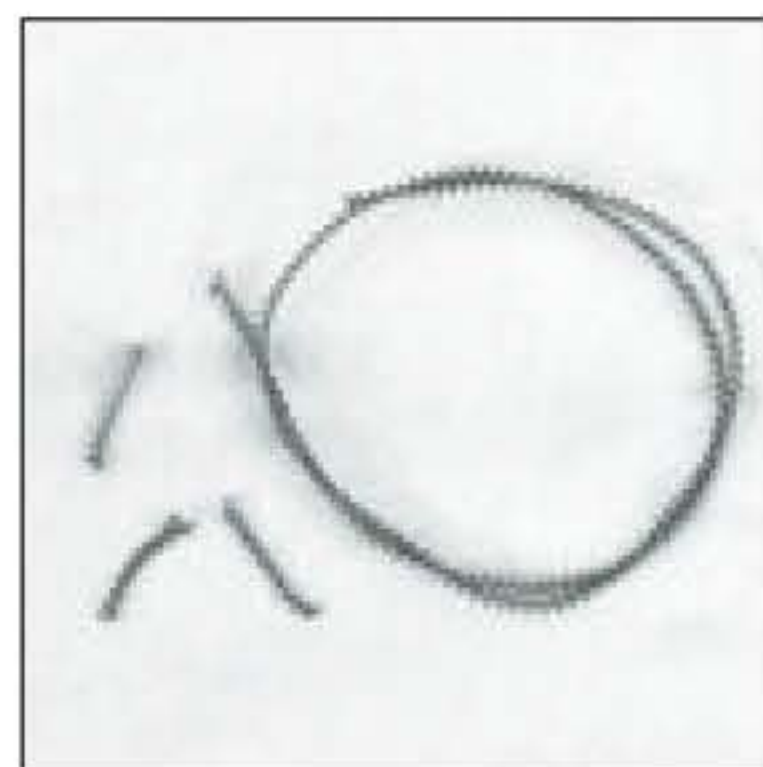
JP	Competitor	JP	Competitor	JS	Competitor
N Insert : DCGT11T0302MF-JP KS05F Workpiece material: A6061 / AlMg1SiCu Cutting speed : Vc = 300 m/min Feed : f = 0.025 mm/rev Depth of cut : ap = 0.1 mm Coolant : Wet		N Insert : DCGT11T302MF-JP KS05F Workpiece material: A5052 Cutting speed : Vc = 300 m/min Feed : f = 0.05 mm/rev Depth of cut : ap = 0.25 mm Coolant : Wet		N Insert : DCGT11T0304MF-JS KS05F Workpiece material: A6061 / AlMg1SiCu Cutting speed : Vc = 300 m/min Feed : f = 0.15 mm/rev Depth of cut : ap = 1 mm Coolant : Wet	

Non-Ferrous Application Series

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Chipbreaker	Grade	Cutting speed Vc (m/min)	Feed: f (mm/rev)				Depth of cut ap (mm)
					RE<0.05	RE<0.1	RE<0.2	RE<0.4	
N	Aluminium alloys (Si < 12%)	JP	KS05F	100 - 1200	0.02 - 0.03	0.02 - 0.05	0.02 - 0.1	-	0.05 - 2.5
		JS	KS05F	100 - 1200	0.02 - 0.03	0.02 - 0.05	0.02 - 0.1	0.05 - 0.2	0.5 - 3
	Aluminium alloys (Si ≥ 12%)	JP	KS05F	100 - 300	0.02 - 0.03	0.02 - 0.05	0.02 - 0.1	-	0.05 - 2.5
		JS	KS05F	100 - 300	0.02 - 0.03	0.02 - 0.05	0.02 - 0.1	0.05 - 0.2	0.5 - 3
	Copper and copper alloys	JP	KS05F	100 - 300	0.02 - 0.03	0.02 - 0.05	0.02 - 0.1	-	0.05 - 2.5
		JS	KS05F	100 - 300	0.02 - 0.03	0.02 - 0.05	0.02 - 0.1	0.05 - 0.2	0.5 - 3

PRACTICAL EXAMPLES

Workpiece type	Valve parts for the Brake system		Valve parts for the Brake system	
Insert	CCGT09T302MF-JS		VBGT110302MF-JP	
Grade	KS05F		KS05F	
Workpiece material	A6061 / AlMg1SiCu		A6061 / AlMg1SiCu	
		N		N
Cutting conditions	Cutting speed : Vc (m/min)	196	296	
	Feed : f (mm/rev)	0.1	0.06	
	Depth of cut : ap (mm)	0.5	0.25	
	Coolant	Wet	Wet	
Results	Conventional	JS chipbreaker	Conventional	JP chipbreaker
				
	<p>JS chipbreaker eliminated the formation of long chips and part surface damage caused by poor chip control.</p>		<p>JP chipbreaker improved productivity by eliminating machine downtime that was caused by the bird nesting of chips.</p>	

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