



Grades for heat-resistant alloy

AH8000 SERIES

Tungaloy Report No. 437S3-US

Expansion of **JS** chipbreaker inserts for heat-resistant superalloy machining



AH8000 SERIES

High precision G-class 3D chipbreaker

Provides excellent chip control and superior surface finishing in heat-resistant superalloys

I JS First choice chipbreaker for finish cutting



Chipbreaker geometry that allows light cutting action and excellent chip breaking

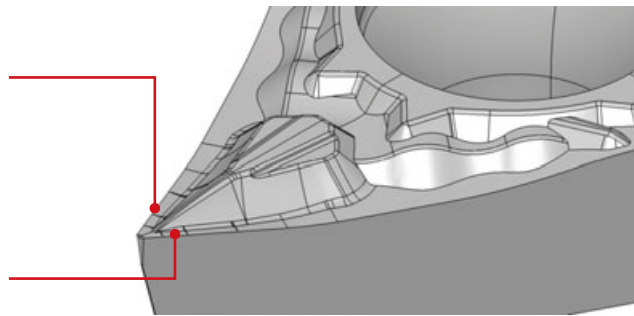
- A steep cutting edge inclination angle for better chip control and reduced cutting load
- A unique protrusion that extends towards the radius effectively controls chip flow from small to large cutting depths

Cutting edge with a steep inclination angle

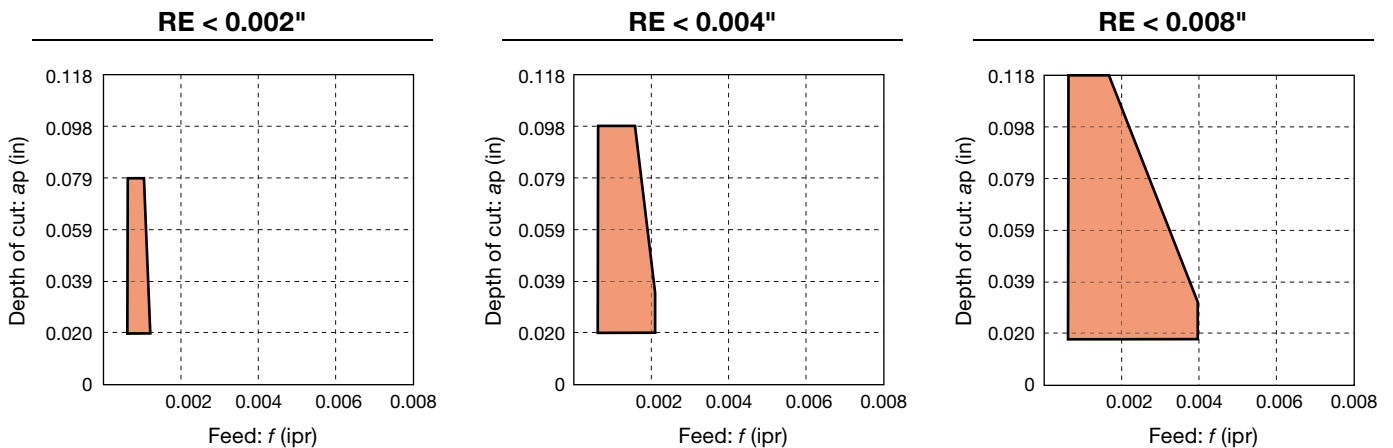
Provides good chip evacuation and reduced cutting loads

Rake with variable angles and steep protrusion

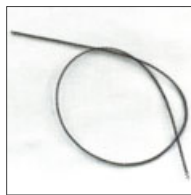
Provides stable chip control in the small to large cutting depth range and also maintains cutting edge integrity and sharpness over extended period of time



■ Chip control range



■ Chip control



S Insert : DCGT 32.50.5 M-JS AH8015
 Workpiece material : Inconel718
 Cutting speed : $V_c = 98$ sfm
 Feed : $f = 0.001$ ipr
 Depth of cut : $a_p = 0.079$ "
 Coolant : Wet

S Insert : DCGT 32.50.5 M-JS AH8015
 Workpiece material : Inconel718
 Cutting speed : $V_c = 98$ sfm
 Feed : $f = 0.002$ ipr
 Depth of cut : $a_p = 0.020$ "
 Coolant : Wet

S Insert : DCGT 32.50.5 M-JS AH8015
 Workpiece material : Inconel718
 Cutting speed : $V_c = 98$ sfm
 Feed : $f = 0.004$ ipr
 Depth of cut : $a_p = 0.004$ "
 Coolant : Wet

Insert POSITIVE TYPE

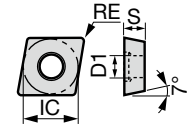
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

CC



Rhombic, 80°
with hole
Positive 7°

P	Steel																					
M	Stainless	c																				
K	Cast iron																					
N	Non-ferrous																					
S	Superalloy	c																				
H	Hard material																					



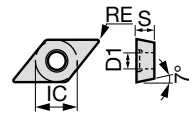
Application	Chipbreaker	Designation		Coated	Dimension (in)				
		Inch	Metric		RE	IC	S	D1	
Finishing		JS	CCGT 21.50 M-JS	CCGT060201M-JS	●	<0.004	0.250	0.094	0.110
			CCGT 21.50.5 M-JS	CCGT060202M-JS	●	<0.008	0.250	0.094	0.110
			CCGT 21.51 M-JS	CCGT060204M-JS	●	<0.016	0.250	0.094	0.110
			CCGT 32.50 M-JS	CCGT09T301M-JS	●	<0.004	0.375	0.156	0.173
			CCGT 32.50.5 M-JS	CCGT09T302M-JS	●	<0.008	0.375	0.156	0.173
			CCGT 32.51 M-JS	CCGT09T304M-JS	●	<0.016	0.375	0.156	0.173

DC



Rhombic, 55°
with hole
Positive 7°

P	Steel																					
M	Stainless	c																				
K	Cast iron																					
N	Non-ferrous																					
S	Superalloy	c																				
H	Hard material																					



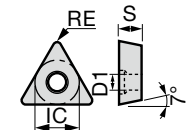
Application	Chipbreaker	Designation		Coated	Dimension (in)				
		Inch	Metric		RE	IC	S	D1	
Finishing		JS	DCGT 21.50 M-JS	DCGT070201M-JS	●	<0.004	0.250	0.094	0.110
			DCGT 21.50.5 M-JS	DCGT070202M-JS	●	<0.008	0.250	0.094	0.110
			DCGT 32.50 M-JS	DCGT11T301M-JS	●	<0.004	0.375	0.156	0.173
			DCGT 32.50.5 M-JS	DCGT11T302M-JS	●	<0.008	0.375	0.156	0.173
			DCGT 32.51 M-JS	DCGT11T304M-JS	●	<0.016	0.375	0.156	0.173

TC



Triangular, 60°
with hole
Positive 7°

P	Steel																					
M	Stainless	c																				
K	Cast iron																					
N	Non-ferrous																					
S	Superalloy	c																				
H	Hard material																					



Application	Chipbreaker	Designation		Coated	Dimension (in)				
		Inch	Metric		RE	IC	S	D1	
Finishing		JS	TCGT 21.50 M-JS	TCGT110201M-JS	●	<0.004	0.250	0.094	0.110
			TCGT 21.50.5 M-JS	TCGT110202M-JS	●	<0.008	0.250	0.094	0.110
			TCGT 21.51 M-JS	TCGT110204M-JS	●	<0.016	0.250	0.094	0.110

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product

Tolerance



AH8000 SERIES

Insert POSITIVE TYPE

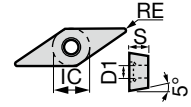
- : Continuous cutting
- ◐ : Light interrupted cutting
- * : Heavy interrupted cutting

VB

Rhombic, 35°
with hole
Positive 5°



P	Steel																			
M	Stainless	◐																		
K	Cast iron																			
N	Non-ferrous																			
S	Superalloy	◐																		
H	Hard material																			



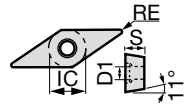
Application	Designation			Coated	Dimension (in)			
	Inch	Metric	Grade		RE	IC	S	D1
Finishing	JS	VBGT 220 M-JS	VBGT110301M-JS	●	<0.004	0.250	0.125	0.110
		VBGT 220.5 M-JS	VBGT110302M-JS	●	<0.008	0.250	0.125	0.110
		VBGT 221 M-JS	VBGT110304M-JS	●	<0.016	0.250	0.125	0.110

VP

35° Rhombic
with hole
Positive 11°



P	Steel																			
M	Stainless	◐																		
K	Cast iron																			
N	Non-ferrous																			
S	Superalloy	◐																		
H	Hard material																			



Application	Designation			Coated	Dimension (in)			
	Inch	Metric	Grade		RE	IC	S	D1
Finishing	JS	VPGT 220 M-JS	VPGT110301M-JS	●	<0.004	0.250	0.125	0.110
		VPGT 220.5 M-JS	VPGT110302M-JS	●	<0.008	0.250	0.125	0.110
		VPGT 221 M-JS	VPGT110304M-JS	●	<0.016	0.250	0.125	0.110

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Chipbreaker	Grade	Cutting speed Vc (sfm)	Depth of cut ap (in)	Feed: f (ipr)			
						RE <0.002"	RE <0.004"	RE < 0.008"	RE < 0.016"
S	Superalloys Inconel718, etc.	JS	AH8015	66 - 262	0.020 - 0.118	0.0008 - 0.0012	0.0008 - 0.002	0.0008 - 0.004	0.002 - 0.008



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