

NPA

New Product Announcement No. 2023-04



CERAMIC SFEED

HARDPART & EXOTIC MATERIALS

High-Speed & Feed Milling Solution CERAMIC-SFEED for Super Alloys



KEY POINT

The 06 mm size insert has been added to TaeguTec's CERAMIC-SFEED line, which also includes dedicated holders for the BNGX insert.

When machining super alloys such as Inconel, using carbide inserts requires machining at a low speed of 30 m/min, but with ceramic inserts, characterized by excellent heat resistance, higher speed machining between 800-1,000 m/min is recommended. By applying high-speed conditions with ceramic inserts, intense heat is generated causing the workpiece to melt. This enables the ceramic inserts to effectively machine super alloys like Inconel. By combining ceramic characteristics with TaeguTec's unique high feed cutting edge geometry, CERAMIC-SFEED presents a new high-speed & high feed machining paradigm for the machining of super alloys.

Now the new 06 mm size BNGX insert offers more options to improve productivity in super alloy steel machining. The new insert's 6 mm smaller IC size increases productivity and is supported by a larger number of dedicated tooth cutters in the same diameter.

**Caution: Due to the thermal deformation of the workpiece when using CERAMIC-SFEED's high-speed milling techniques, it is recommended for roughing applications only.*

For further information, please contact the product manager.

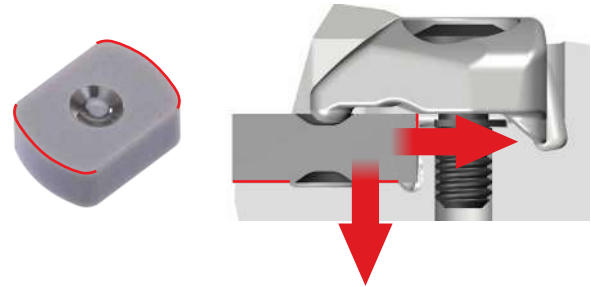
CERAMIC-SFEED BNGX Insert

BNGX 06 new	BNGX 09	BNGX 12
		



Features

- Dimpled type double-sided 4-corner insert
- Ceramic inserts required for high-speed: 800-1,000 m/min
- Optimized edge for high-feed machining
- Large corner radius for stable tool life
- Top-clamp design for rigid clamping



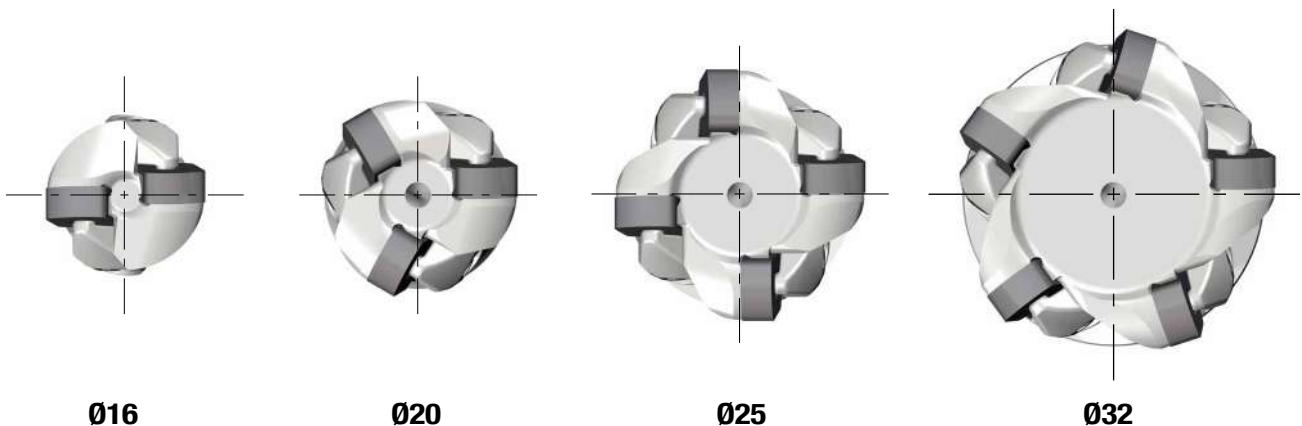
CERAMIC-SPEED Cutter

- Cutter diameter range

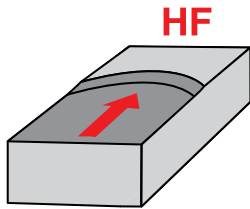
Insert	Cutter			Clamp type
	Modular head	End mill	Face mill	
BNGX 06	Ø16-Ø32	Ø16-Ø32		Top-clamp
BNGX 09		Ø25-Ø40	Ø40-Ø50	Top-clamp
BNGX 12			Ø50-Ø80	Wedge

- Max. number of teeth

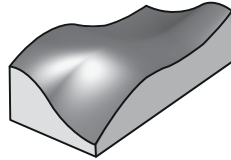
Insert	Cutter diameter							
	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63	Ø80
BNGX 06	2	3	4	5				
BNGX 09			3	3	4	5		
BNGX 12						5	7	8



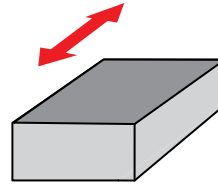
Covers a wide variety of applications:



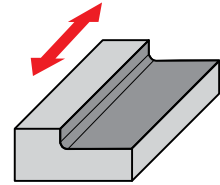
High feed milling



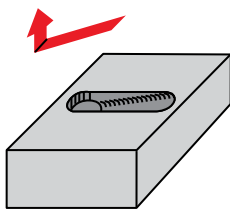
Profiling



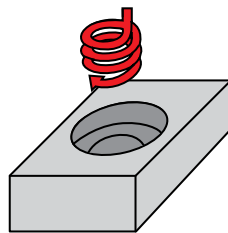
Facing



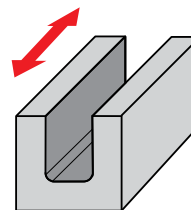
Shouldering



Straight ramping



Helical ramping



Slotting

Availability

In stock

Price

Available in the GAL system

Sincerely,
TaeguTec

Cho Yeo-myeong

Rotating
Adviser

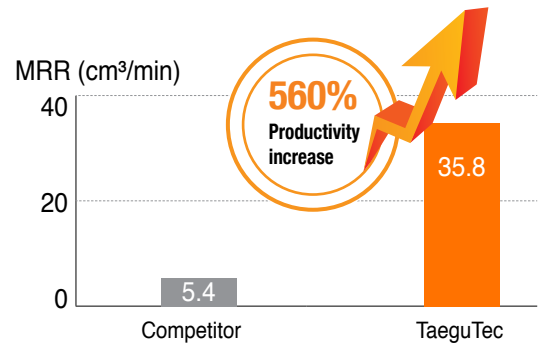
Sincerely,
TaeguTec

Lee Jae-wook

Milling
Product Manager

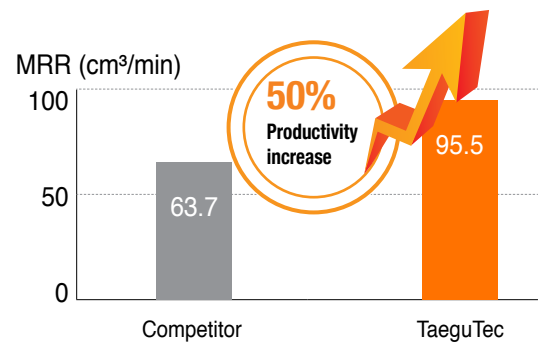
Case Study 1

		Competitor	TaeguTec
Material		Inconel 718 (HB 331)	
Insert		Carbide insert (single-sided, two-coners)	BNGX 06
Cutter		Ø32 cutter	TEBN 532-32-06CH-L120
Number of teeth		5	5
Cutting speed	V (m/min)	30	800
	RPM	300	8000
Feed	fz (mm/tooth)	0.12	0.3
	F (mm/min)	180	12000
Depth of cut	Ap (mm)	3.0	3.0 (0.3 x 10)
Cutting width	Ae (mm)	10.0	10.0
Tool life (pcs/corner)		0.5	0.25
MRR (cm³/min)		5.4	35.8





Case Study 2

		Competitor	TaeguTec
Material		Inconel 718 (HB 331)	
Insert		Round type ceramic insert (single-sided)	BNGX 06
Cutter		Ø25 cutter	TEBN 425-25-06CH-L100
Number of teeth		4	4
Cutting speed	V (m/min)	1000	1000
	RPM	12740	12740
Feed	fz (mm/tooth)	0.1	0.15
	F (mm/min)	5100	7650
Depth of cut	Ap (mm)	0.5	0.5
Cutting width	Ae (mm)	25.0	25.0
MRR (cm³/min)		63.7	95.5



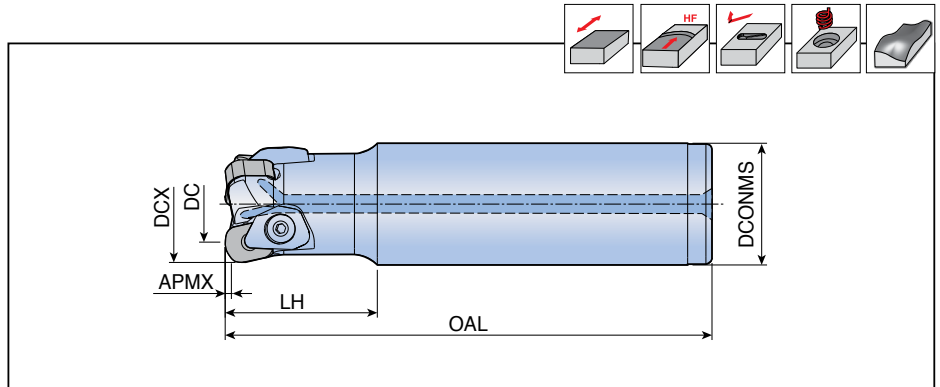
Case Study 3

		TaeguTec	TaeguTec
Material		Inconel 718 (HB 331)	
Insert		BNGX 06	
Cutter		TEBN 425-25-06CH-L100	
Number of teeth		4	4
Cutting speed	V (m/min)	430	1000
	RPM	5500	12732
Feed	fz (mm/tooth)	0.15	0.15
	F (mm/min)	3300	7639
Depth of cut	Ap (mm)	0.5	0.5
Cutting width	Ae (mm)	25.0	25.0
Insert wear after machining		 bad	 good



TEBN-06CH

High feed end mills

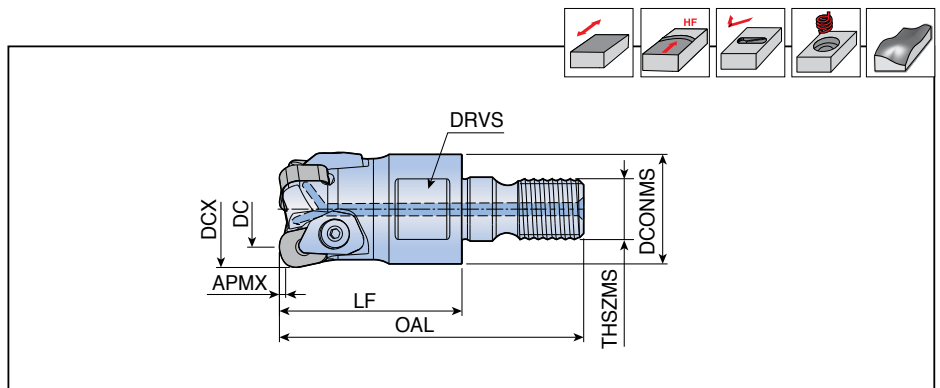


Designation		Dimension (mm)						Air ⁽¹⁾ hole	Insert
		DCX	DC	DCONMS	OAL	LH	APMX		
TEBN 216-16-06CH-L80	2	16	8.6	16	80	25	1.0	x	BNGX 0603...
320-20-06CH-L80	3	20	12.5	20	80	25	1.0	●	
425-25-06CH-L100	4	25	17.4	25	100	40	1.0	●	
532-32-06CH-L120	5	32	24.3	32	120	40	1.0	●	

▶ (1) Use only air (coolant is prohibited)

TEBN-M-06CH

High feed modular heads



Designation		Dimension (mm)								Air ⁽¹⁾ hole	Insert
		DCX	DC	DCONMS	LF	OAL	THSZMS	APMX	DRVS		
TEBN 216-M08-06CH	2	16	8.6	13	25	42.5	8	1.0	10	x	BNGX 0603...
320-M10-06CH	3	20	12.5	18	30	50	10	1.0	15	●	
425-M12-06CH	4	25	17.4	21	35	57	12	1.0	17	●	
532-M16-06CH	5	32	24.3	29	43	68	16	1.0	25	●	

▶ Matched with T-FLEXTEC holder ▶ (1) Use only air (coolant is prohibited)

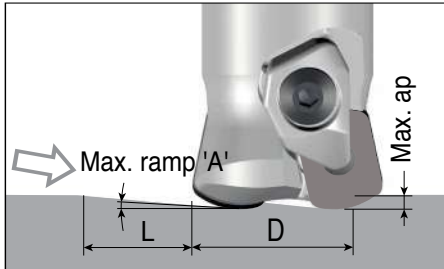
Spare parts

Designation	Clamp	Screw	Snap ring	Wrench	
TEBN-06CH	CCL-2S	CLS-25A080	CSR M2.5	L-W 1.5	

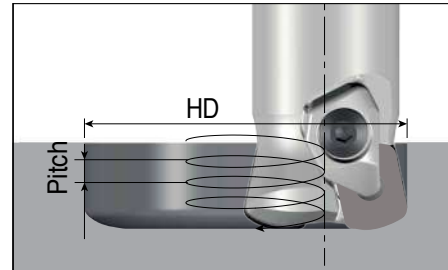
Ramping Data



Straight ramping



Helical ramping

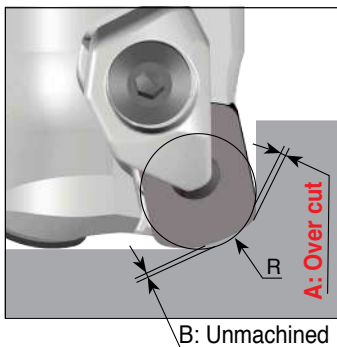


BNGX 06

(unit: mm)

Cutter dia. (D)	Straight ramp down			Helical ramp down		
	Max. ramp (A°)	Max. ap	Min. length (L)	Min. dia. (HD)	Max. dia. (HD)	Max. pitch/rev.
Ø16	0.5	1.0	115	25.6	32	0.2
				33.4	40	0.3
Ø20	0.5		115	43.4	50	0.4
				57.3	64	0.5
Ø25	0.4		144	57.3	64	0.4
Ø32	0.3		191	57.3	64	0.4
		57.3		64	0.6	

Programming technical data



	R Program	A Over cut	B Unmachined
BNGX 06	1.5	0	0.60
	2.0	0	0.42
	2.5	0.10	0.27

 : Recommended program 'R'