



# RHINO<sup>®</sup>TURN<sup>™</sup>

TURNING PRODUCTS



#### Insert Styles

- DNGG 3.53.5x
- VNGX 2.53x

#### Corner Radii

- DNGG-FU: .004", .008", .016"
- VNGX-FS: .004", .008"

#### Chip Breaker Designations

- FU - Medium & General Purpose
- FS - Super Finishing

#### Grades

- TT4410 - PVD AlTiCrN
- P05-P25; M05-M25; S05-S25
- Maximum Wear Resistance
- TT4430 - PVD AlTiCrN
- P20-P40; M20-M40; S20-S40
- General Purpose, First Choice

## New Chip Breakers for Swiss Type and Small Size Machining Applications

Ingersoll has introduced two new chip breakers specifically for smaller-size products machining. The **FU** and **FS** chip breakers extend tool life and provide more consistent results by significantly reducing built-up material that adheres to the cutting-edge during machining. A sharp cutting edge, optimized coating and post-coat treatment all contribute to the performance and success of these new inserts.

Designed as double-sided, four-corner inserts, these inserts are also more economical than existing single-sided (positive) inserts for Swiss turning. The **FU** and **FS** inserts are characterized by smooth cutting action, minimizing vibration during machining, and performing more like single-sided inserts with respect to cutting forces. Excellent precision and surface finish can be expected.

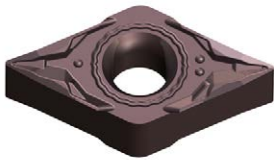
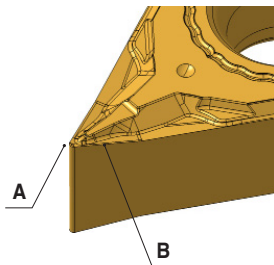

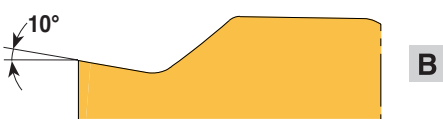
#### Features & Benefits:

- **FU** chip breaker, available in a DNGG shape and for general purpose machining, has a wide operating range with respect to feed rate and depth of cut
- **FS** chip breaker, available in a VNGX shape for super finishing applications, has excellent chip control capability at light cutting depths and eliminates chip disposal challenges during machining.
- Grades 4410 and TT4430, with PVD-AlTiCrN coating, provide excellent performance in Swiss type automatic lathe applications.

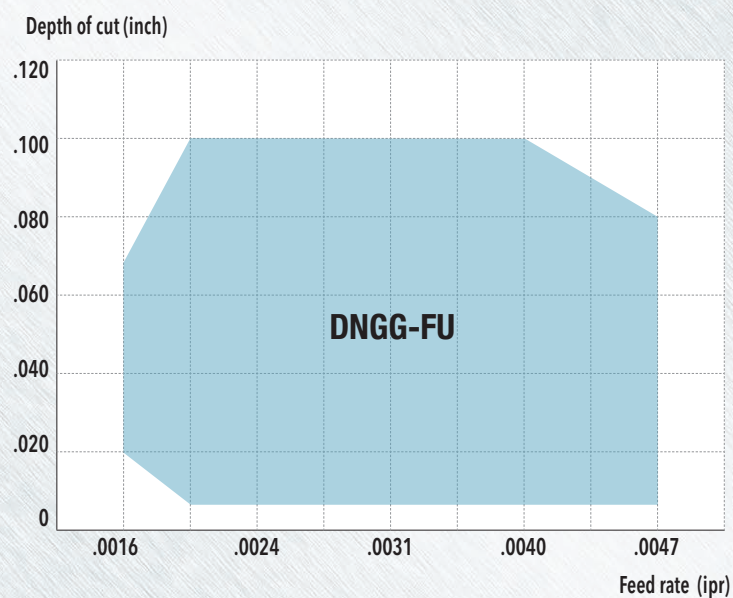




## RHINOTURN™ FU CHIP BREAKER GEOMETRY

Chip breaker	Cutting edge geometry
 <p>For medium (General purpose)</p>	  


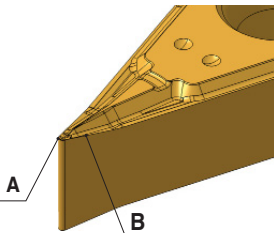
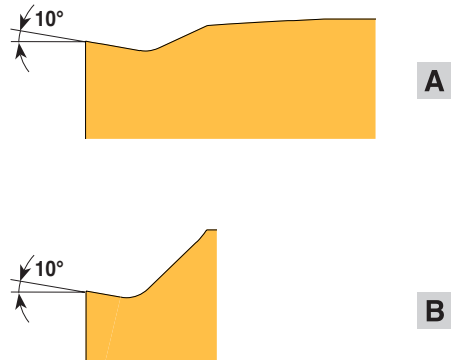
## RHINOTURN™ FU CHIP BREAKER RANGE



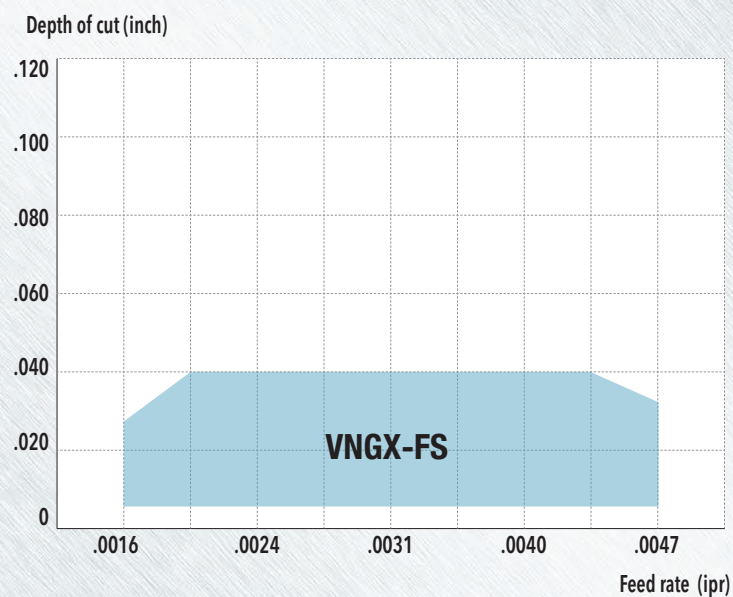
- Insert : DNGG 3.53.50.5M FU-F
- Cutting speed (V) : 260 sfm
- Material : AISI 304 (HB140-160)



## RHINO TURN™ FS CHIP BREAKER GEOMETRY

Chip breaker	Cutting edge geometry
 <p>For super finishing</p>	 

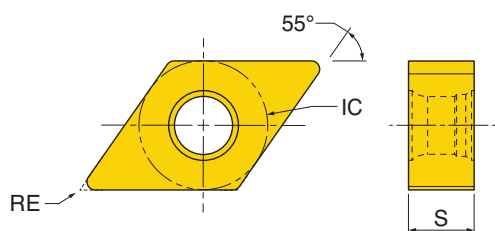
## RHINO TURN™ FS CHIP BREAKER RANGE




- Insert : VNGX 2.530.5M-FS-F
- Cutting speed (V) : 260 sfm
- Material : AISI 304 (HB140-160)



**RHINOTURN™ DNGG NEGATIVE 55° RHOMBIC INSERTS**

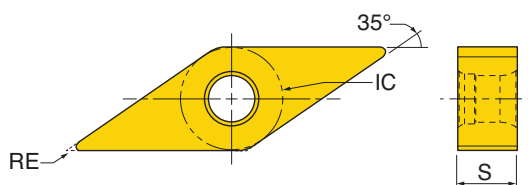


Size	Dimensions (inch)		
	IC Inscribed Circle Dia.	S Thickness	RE Corner Radius
3.53.50	.437	.219	.004
3.53.50.5	.437	.219	.008
3.53.51	.437	.219	.016


Insert	Part Number	ap (inch)	Feed (ipr)	PVD Coated	
				TT4410	TT4430
	DNGG3.53.50M-FU-F	.008-.100	.0012-.0047	•	•
	DNGG3.53.50.5M-FU-F	.008-.100	.0016-.0047	•	•
	DNGG3.53.51M-FU-F	.016-.100	.0020-.0047	•	•

•: Standard items

**RHINOTURN™ VNGX NEGATIVE 35° RHOMBIC INSERTS**



Size	Dimensions (inch)		
	IC Inscribed Circle Dia.	S Thickness	RE Corner Radius
2.530	.313	.187	.004
2.530.5	.313	.187	.008

Insert	Part Number	ap (inch)	Feed (ipr)	PVD Coated	
				TT4410	TT4430
	VNGX2.530M-FS-F	.008-.040	.0012-.0047	•	•
	VNGX2.530.5M-FS-F	.008-.040	.0016-.0047	•	•

•: Standard items