



## VISION Series

# General Inserts for turning VF Breaker

**New**

### Features

#### Finishing purpose of negative chip breaker for steel turning

- Improved chip control on various workpiece such as soft steel, alloy steel and etc.
- Combination of specially designed 3 dimensional chip breaker and rigid cutting edge guarantee long tool life.
- Very good surface finish in medium-finishing.





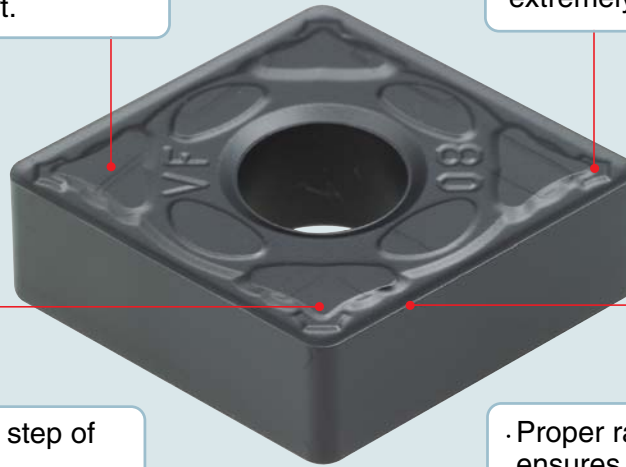
# VF Breaker

Concept of VF Design | Recommended Cutting Conditions

## Concept of VF Design

· Wide contact area of insert with holder prevents chipping due to fully clamped of insert.

· Unique design in cutting area ensures superior chip control in extremely small depth-of-cut

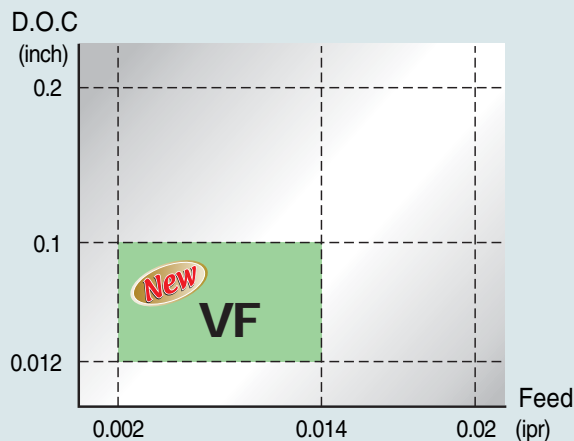


· Smooth chip curling in 2 step of chip breaker.  
· Reduce chip control resistance at high speed & feed cutting

· Proper rake angle of cutting edge ensures better surface finish and low cutting resistance

## Chip Control Range

Feed = 0.002 ~ 0.014 ipr  
D.O.C = 0.012 ~ 0.100 inch



## Recommended Cutting Conditions

Workpiece	Hardness	Grade	vc (sfm)
P	≤180HB	Soft Steels (1010-1025, 5115, 4115 etc.)	NC3010 1020(890~1160)
			NC3120 960(830~1090)
			NC3030 890(760~990)
	180~260HB	General Steels (1045, 1055, 4140 etc.)	NC3010 730(590~830)
			NC3120 660(560~760)
			NC3030 630(530~690)
	260~350HB	Hardened Steels (3115, 3130, 8637, 4340 etc.)	NC3010 430(330~500)
			NC3120 400(300~460)
			NC3030 360(260~430)



# VF Breaker

Application examples | Chip Control Evaluation

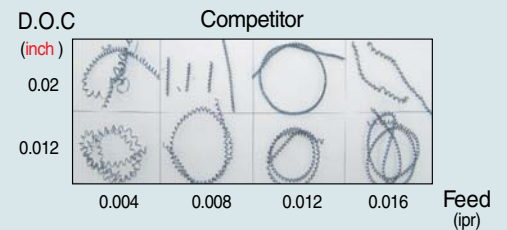
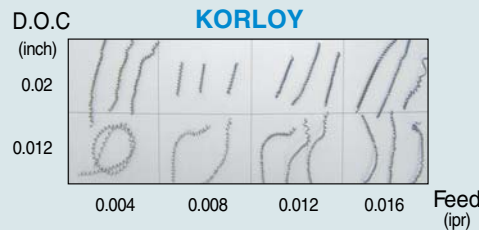
## Application examples

Workpiece	Workpiece (Material)	Designation (Grade)	Cutting condition		Result
	Shaft (1020)	DNMG441-VF (NC3120)	vc	650 sfm	
			fn	0.012~0.014 ipr	
			ap	0.02~0.04 inch	
	Front Piston (1010)	CNMG432-VF (NC3120)	vc	590 sfm	
			fn	0.014 ipr	
			ap	0.02~0.04 inch	
	Flange (1045)	CNMG432-VF (NC3120)	vc	820 sfm	
			fn	0.012 ipr	
			ap	0.04~0.06 inch	
	bearing parts (52100)	DNMG442-VF (NC3010)	vc	880 sfm	
			fn	0.008~0.01 ipr	
			ap	0.04~0.08 inch	

## Chip Control Evaluation

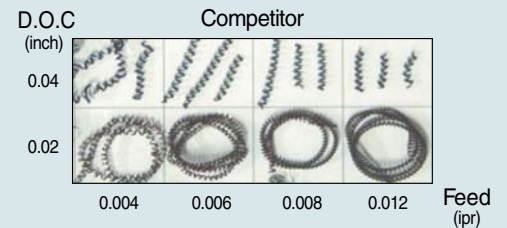
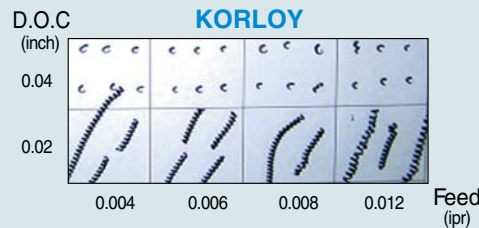
### ■ Cutting condition

- Workpiece : 1025
- Designation : CNMG432-VF
- vc = 660 sfm



### ■ Cutting condition

- Workpiece : 4140
- Designation : CNMG432-VF
- vc = 660sfm





# VF Breaker

VF-Insert

## VF-Insert

Geometry	Designation	Coated			Dimensions(inch)			
		NC3010	NC3120	NC3030	d	t	r	d <sub>1</sub>
	CNMG321-VF	●	●		0.38	0.13	0.02	0.15
	CNMG322-VF	●	●		0.38	0.13	0.03	0.15
	CNMG431-VF	●	●		0.5	0.19	0.02	0.20
	CNMG432-VF	●	●		0.5	0.19	0.03	0.20
	CNMG433-VF		●		0.5	0.19	0.05	0.20
	DNMG330.5-VF		●		0.38	0.19	0.01	0.15
	DNMG331-VF	○	●		0.38	0.19	0.02	0.15
	DNMG332-VF	○	●		0.38	0.19	0.03	0.15
	DNMG431-VF	○	●		0.5	0.19	0.02	0.20
	DNMG432-VF	○	●		0.5	0.19	0.03	0.20
	DNMG433-VF		●		0.5	0.19	0.05	0.20
	DNMG441-VF	●	●		0.5	0.25	0.02	0.20
	DNMG442-VF	●	●		0.5	0.25	0.03	0.20
	DNMG443-VF		●		0.5	0.25	0.05	0.20
	SNMG321-VF		●		0.38	0.13	0.02	0.15
	SNMG431-VF		●	○	0.5	0.19	0.02	0.20
	SNMG432-VF	●	●	○	0.5	0.19	0.03	0.20
	TNMG221-VF		●		0.25	0.13	0.02	0.09
	TNMG331-VF		●		0.38	0.19	0.02	0.15
	TNMG332-VF	●	●		0.38	0.19	0.03	0.15
	TNMG333-VF		●		0.38	0.19	0.05	0.15
	TNMG431-VF		●		0.5	0.19	0.02	0.20
	TNMG432-VF		●		0.5	0.19	0.03	0.20
	VNMG330.5-VF		●		0.38	0.19	0.01	0.15
	VNMG331-VF	●	●		0.38	0.19	0.02	0.15
	VNMG332-VF		●		0.38	0.19	0.03	0.15
	WNMG331-VF	●	●		0.38	0.19	0.02	0.15
	WNMG332-VF	●	●		0.38	0.19	0.03	0.15
	WNMG431-VF	●	●		0.5	0.19	0.02	0.20
	WNMG432-VF		●		0.5	0.19	0.03	0.20

● Stock item, ○ Under preparing for stock

**KORLOY AMERICA Inc.**

2750 Oregon Court, South Bay Business Park, Suite M7, Torrance, CA90503, USA  
 TEL:+1 310 782 3800 TOLL FREE:+1 888 711 0001 FAX:+1 310 782 3885  
 E-MAIL: KorloyAmerica@korloy.com WEB: www.KorloyAmerica.com

**KORLOY Inc.**

Holystar B/D 953-1, Doksanbon-Dong, Geumcheon-Gu, Seoul, Korea  
 TEL:+82 2 522 3181 FAX:+82 2 522 3184, +82 2 3474 4744  
 E-MAIL: export@korloy.com WEB: www.korloy.com