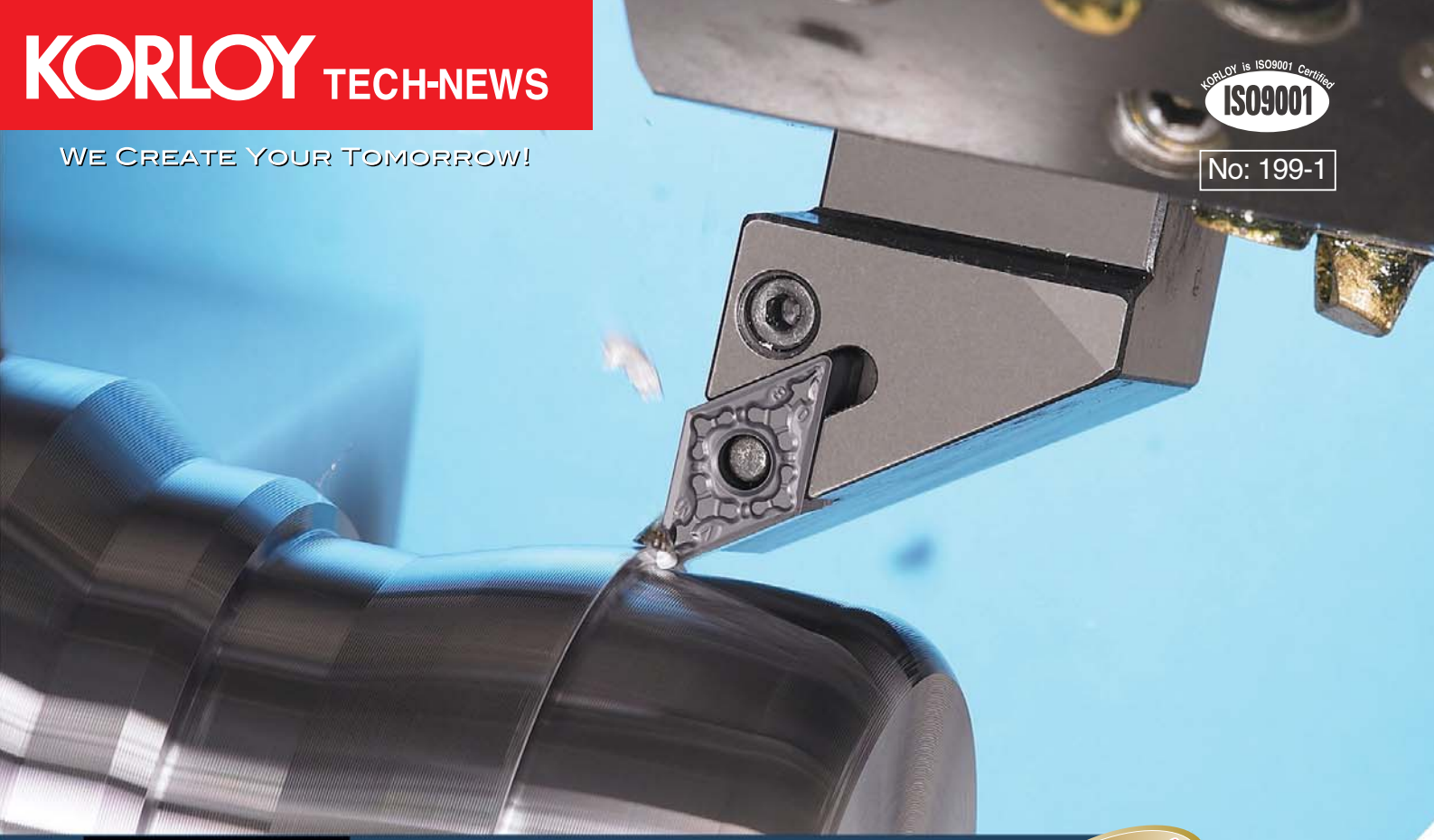
KORLOY TECH-NEWS

We Create Your Tomorrow!

KORLOY is ISO9001 Certified
ISO9001

No: 199-1



VISION Series

General Inserts for turning

VM Breaker

New

Features

- VM chip breaker ensures stable cutting performance even in high feed and deep depth of cut.
- Specially designed 3-dimensional chip breaker having low cutting resistance and improved rigidity of cutting.
- The best cutting performance is accomplished due to improved chip control on various workpiece under the continuous machining of high speed.

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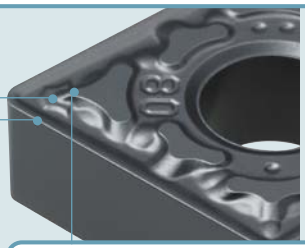
VM Breaker

Features of VM C/B

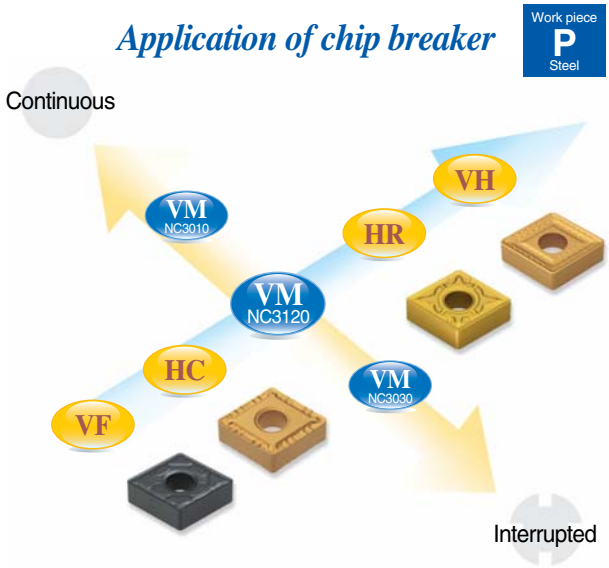
· The “convex part” for smooth chip breaking
- Excellent chip control in medium to roughing operations



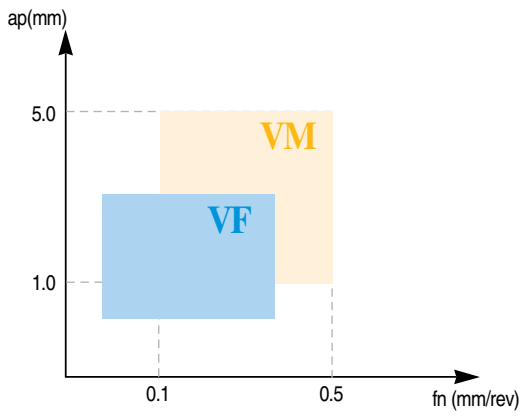
· Chip breaker with 2-step geometry
- Reduce chip control resistance at high speed & feed cutting due to smooth chip curling

· Rigid cutting edge
- Improved the rigidity of cutting edge and increased toughness guarantees long tool life under the heavy intermittent cutting

Application of chip breaker

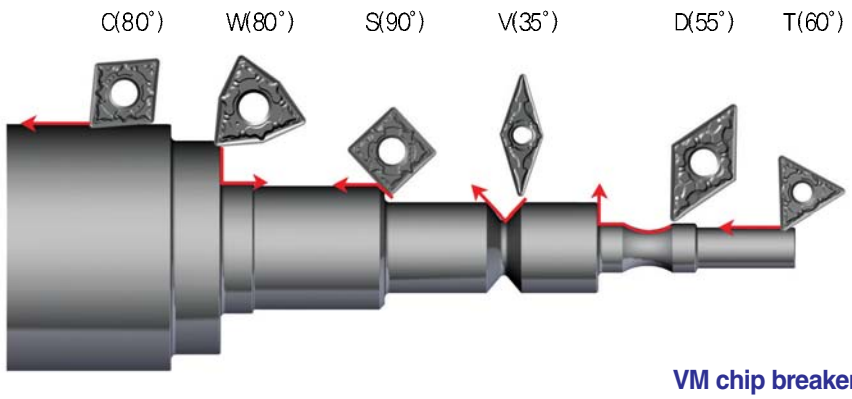


Chip Control Range



Recommended Cutting Conditions

	Workpiece	Hardness	Grade	vc (m/min)
P	Soft Steels (SM10C~SM25C SS400, SCR415 SCM415. etc)	≤180HB	NC3010	310 (270~350)
			NC3120	290 (250~330)
			NC3030	270 (230~300)
	General Steels (SM45C, SM55C, SCM430, SCM440. etc)	180~260HB	NC3010	220 (180~250)
			NC3120	200 (170~230)
			NC3030	190 (160~210)
	Hardened Steels (SNC415, SNC815, SNCM240, SNCM439, STS12, STS61. etc)	260~350HB	NC3010	130 (100~150)
			NC3120	120 (90~140)
			NC3030	110 (80~130)

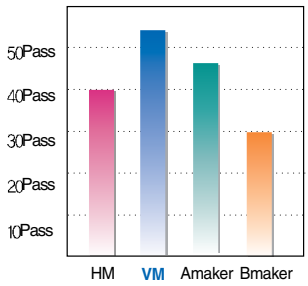


VM chip breaker tooling system

VM Breaker

Wear resistance | Shock resistance | Application examples

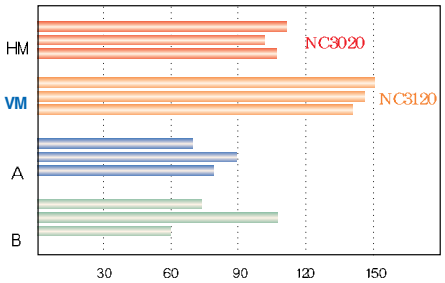
Wear resistance



Cutting Conditions

Designation : CNMG120408-VM
Grade : NC3120
Workpiece : SCM440
vc=250m/min
ap=2.0mm
fn=0.25~0.35mm/rev

Shock resistance



Cutting Conditions

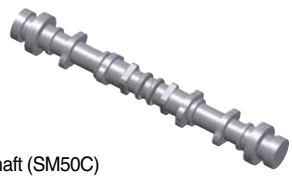
Designation : CNMG120408-VM
Grade : NC3120
Workpiece : SCM440(Interrupted)
vc=200 m/min
ap=2.0mm
fn=0.45mm/rev

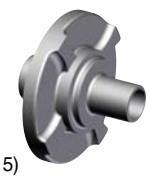
Application examples

Workpiece	Korloy		Competitor
Hub (SM45C)	**Desingation**	CNMG120408-VM (NC3010)	CNMG120408-O
	vc (m/min)	250	←
	fn (mm/rev)	0.35 ~ 0.4	←
	ap (mm)	1.5	←
	Machined part	Outer & Face	←
	Result	120ea	100ea

Workpiece	Korloy		Competitor
Hub Wheel (SM45C)	**Desingation**	CNMG120412-VM (NC3120)	CNMG120412-O
	vc (m/min)	300	←
	fn (mm/rev)	0.25	←
	ap (mm)	2.5	←
	Machined part	Outer & Face	←
	Result	25ea	20ea

Workpiece	Korloy		Competitor
Ring (SCM440)	**Desingation**	CNMG120408-VM (NC3120)	CNMG120408-O
	vc (m/min)	240	←
	fn (mm/rev)	0.2	←
	ap (mm)	2.0	←
	Machined part	Outer & Face	←
	Result	200ea	100ea

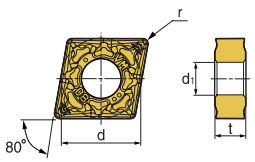
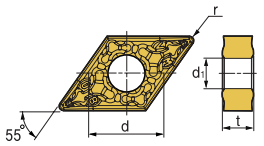
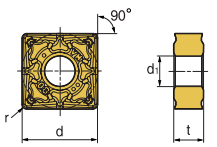
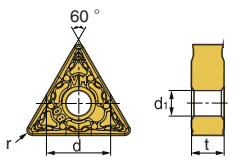
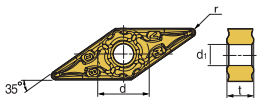
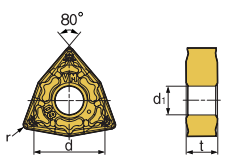
Workpiece	Korloy		Competitor
 Cam Shaft (SM50C)	**Desingation**	DNMG15068-VM (NC3120)	DNMG15068-O
	vc (m/min)	157	←
	fn (mm/rev)	0.15 ~ 0.4	←
	ap (mm)	1.0 ~ 1.5	←
	Machined part	Outer & Face	←
	Result	150ea	120ea

Workpiece	Korloy		Competitor
 Pin Gear (SCM415)	**Desingation**	TNMG160408-VM (NC3120)	TNMG160408-O
	vc(m/min)	336	←
	fn (mm/rev)	0.25	←
	ap (mm)	2.0	←
	Machined part	Outer & Face	←
	Result	180ea	150ea

VM Breaker

VM-Insert

VM-Insert

Geometry	Designation	CVD					PVD		CERMET
		NC3010	NC3120	NC3030	NC6110	NC9020	PC8010	PC9030	CN2000
	CNMG090304-VM	●	○	○					●
	CNMG090308-VM	●	○	○					●
	CNMG120404-VM	●	●	●	●			●	●
	CNMG120408-VM	●	●	●	●	●	●	●	●
	CNMG120412-VM	●	●	●	●		●		
	CNMG160608-VM	●	○	○					
	CNMG160612-VM		○	○					
	CNMG190608-VM	●	○	○					
	CNMG190612-VM	●	○	○					
	DNMG110404-VM								●
	DNMG110408-VM	○	○						●
	DNMG110412-VM	○	○						
	DNMG150404-VM	○	●	●	●	○			●
	DNMG150408-VM	○	●	●	●	○			●
	DNMG150412-VM								●
	DNMG150604-VM	○	●	●		○		●	●
	DNMG150608-VM	●	●	●		●		●	●
	DNMG150612-VM					○			●
	SNMG090304-VM	○	○						●
	SNMG090308-VM	○	○	●					●
	SNMG120404-VM	○	○	●	○				●
	SNMG120408-VM	●	●	●	●	●	●	●	●
	SNMG120412-VM	○	○	○	○				●
	SNMG190612-VM		○	○					
	TNMG110308-VM				○	○			
	TNMG160404-VM	●	●	●	●	○			●
	TNMG160408-VM	●	●		●			●	●
	TNMG160412-VM		●	●		○			●
	TNMG220404-VM		○			○			
	TNMG220408-VM		○						
	TNMG220412-VM		○						
	VNMG160404-VM	●	○						●
	VNMG160408-VM	●	●	●	●			●	●
	VNMG160412-VM								
	VNMG220404-VM								
	VNMG220408-VM								
	WNMG060404-VM		○						●
	WNMG060408-VM	○	○		○				●
	WNMG060412-VM		○						
	WNMG080404-VM	○	○						●
	WNMG080408-VM	●	●	●	●	●	●	●	●
	WNMG080412-VM		●	●	●				●

●Stock item, ○Under preparing for stock

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