

TMV Chipbreaker

For OD Turning | Specially designed for vibration cutting
on automatic lathes

CITIZEN ×



Specialized for



*LFV is a registered trademark of Citizen Watch Co., Ltd.

The birth of dedicated vibration cutting tools

CERTainly | but not only | ***CERamics***
Outstanding solutions for demanding applications

The birth of dedicated vibration cutting tools

Cutting tools developed to maximize performance for vibration cutting and achieve efficient machining.
The best selection of tooling to cover a large range of machining applications.

Specialized for



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TMV Chipbreaker

For OD Turning | Specially designed for vibration cutting on automatic lathes

| Compatible models (Cincom)



L12



L20



L20XIIB5



L32



A20



D25



M16



M32

CITIZEN MACHINERY CO., LTD.

Achieving extended tool life and stable cutting performance in vibration cutting

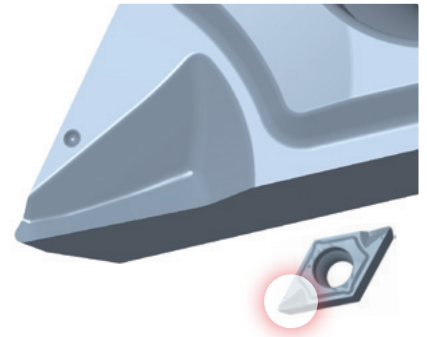
Performance

- **Significantly reducing damage of cutting edge**

Extended lifespan can be expected even in the machining of difficult-to-cut materials

- **More stable of chip control**

Stable chip formation during vibration cutting



Applications

Front turning process using an automatic lathe with vibration cutting function

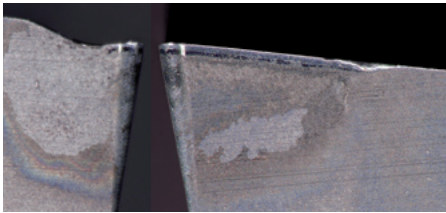
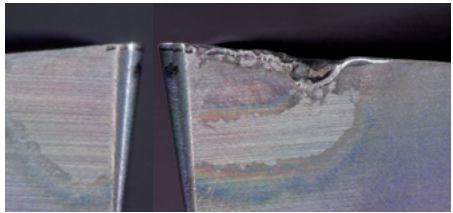
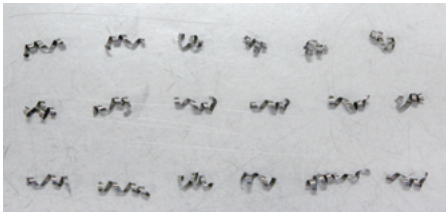

Cutting conditions

Grade	Material	Machining method	Cutting conditions			Vibration condition (LFV)		
			Cutting speed (SFM)	Feed (IPR)	D.O.C. (inch)	P	Q	D
ST4	Austenitic stainless steel (SUS304 / SUS316 etc)	Front Turning	130 - 330	.0008 - .0024	.02 - .08	Mode 1	0.5	0.5
DM4	Carbon steel / Alloy steel (SCM435 / S45C etc)	Front Turning	170 - 400	.0008 - .0024				
TM4	Non-ferrous (Aluminum / Titanium etc)	Front Turning	200 - 500	.0008 - .0024				


⚠ Our products are designed with a low cutting edge, please use them after aligning with the center.

⚠ When using insert radius R.003, please set the feed rate to .0008"/rev or less. If you want to increase the feed rate beyond .0008"/rev, we recommend using the [Mode 2 / E4.0 / R0.5]


Case study





		TMV Chipbreaker	Competitor
Machine	Cincom L20-LFV		
Material	SUS316L		
Speed	270 SFM		
Feed	.002 IPR		
D.O.C.	.040"		
Coolant	WET		
Vib condition	Mode 1 Q0.5 D0.5		
Chip condition			

Construction equipment parts

Material	SGD material (SS polish) Machining Dia: φ.31" / .425" / .472"	
Rotation speed (rpm)	2,500	
Feed (IPR)	.0012	
D.O.C. (inch)	.0787 / .1024 / .1575	
Vib condition (LFV)	Mode 1 / Q1.0 / D0.5	
DM4 DCGT11T302MRTMV		600pcs / Corner
Competitor PVD coated insert		300pcs / Corner

Valve component

Material	SUS304 Machining Dia: φ.15"	
Rotation speed (rpm)	2,263	
Feed (IPR)	.0008	
D.O.C. (inch)	.1220	
Vib condition (LFV)	Mode 2 / E3.0 / R0.5 / 10.02	
ST4 DCGT11T302MRTMV		3,000pcs / Corner
Competitor PVD coated insert		2,200pcs / Corner

Shape	Insert number		Qty /Case	PVD coated grade			Dimensions		
	ISO	ANSI		ST4	DM4	TM4	I.C.	Thickness	Radius
	DCGT11T301MRTMV	DCGT32.504MRTMV	10	●	●	●	3/8	5/32	.003*
	DCGT11T302MRTMV	DCGT32.508MRTMV	10	●	●	●	3/8	5/32	.007
	DCGT11T304MRTMV	DCGT32.51MRTMV	10	●	●	●	3/8	5/32	.015
	CCGT09T301MRTMV	CCGT32.504MRTMV	10	●	●	●	3/8	5/32	.003*
	CCGT09T302MRTMV	CCGT32.508MRTMV	10	●	●	●	3/8	5/32	.007
	CCGT09T304MRTMV	CCGT32.51MRTMV	10	●	●	●	3/8	5/32	.015
	VCGT110302MRTMV	VCGT2208MRTMV	10	●	●	●	1/4	1/8	.007
	VCGT110304MRTMV	VCGT221MRTMV	10	●	●	●	1/4	1/8	.015
	TNGG160402MRTMV	TNGG3308MRTMV	10	●	●	●	3/8	3/16	.007
	TNGG160404MRTMV	TNGG331MRTMV	10	●	●	●	3/8	3/16	.015

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