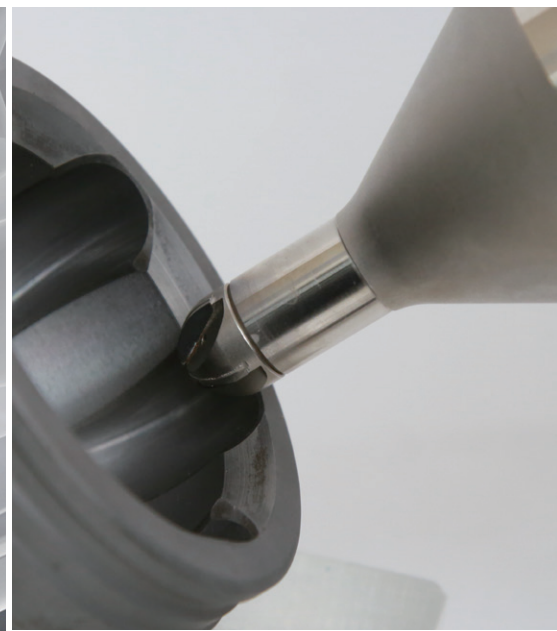
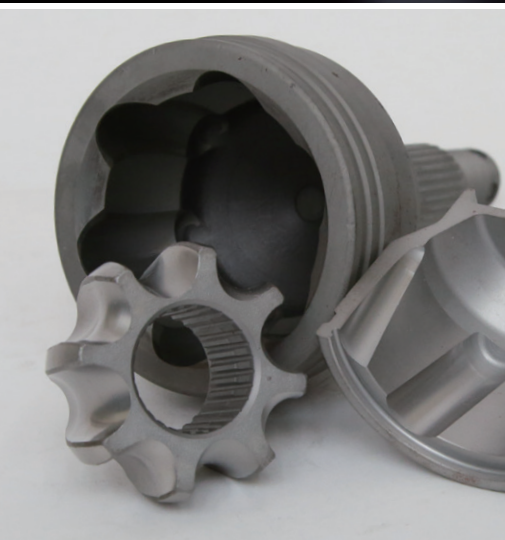


APPLICATION FOR
CV JOINTS



Ball Track Milling Cutter
Hard Turning Insert
Vitrified CBN wheel
Rotary dresser



CV joints

Application

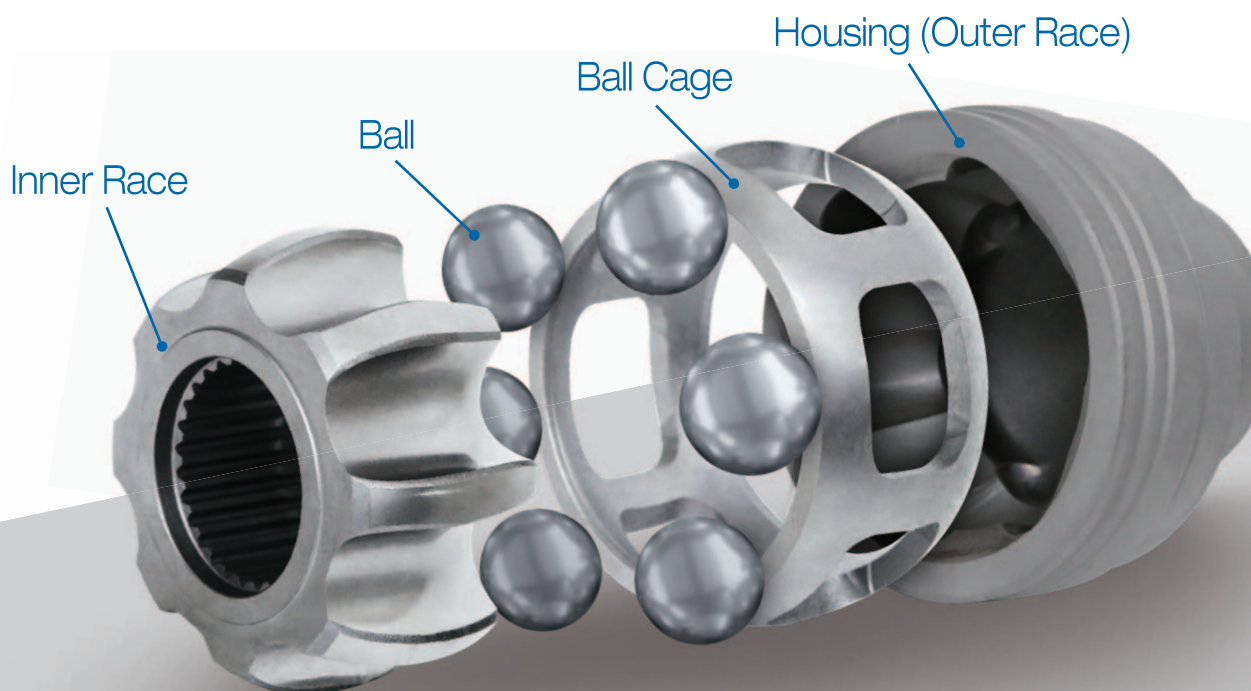


CV joints (Constant-velocity joints) allow a drive shaft to transmit power through a variable angle, at constant rotational speed, without an appreciable increase in friction or play.

CV joints are mainly composed of outer race, inner race, ball cage, and ball, which have been machined by grinding process, but recently PCBN hard machining process are replacing the grinding process.

PCBN tools are suitable for this kind of hard machining.

EHWA provides optimum designs and PCBN solutions with high technology in hard machining.



01 | Ball Track Milling Cutter

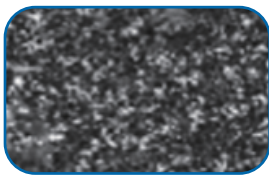


■ EHWA CUTTER TYPES

EHWA offers two customized milling cutters with specific PCBN grades and edge preparations for each application.

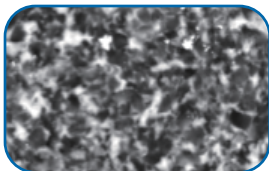
SPEC	EBEB-HF				EBEB-ST		
Body Type (Steel)	HF10	HF12	HF14	Customized	ST10	ST12	Customized
Flute (Z)	4	4	4		4	4	
Material	PCBN				PCBN		
Photo							

■ PCBN GRADE FOR MILLING CUTTER



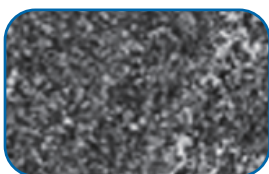
EB37X

Better Chemical Resistance & Higher Toughness



EB11

Better Wear Resistance & High Toughness



EB710

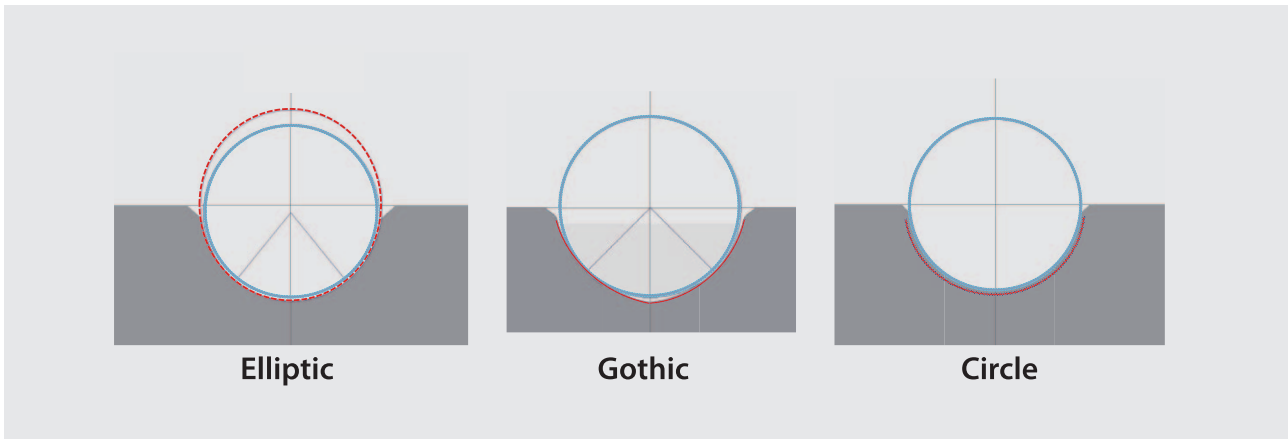
Good Chemical & Wear Resistance



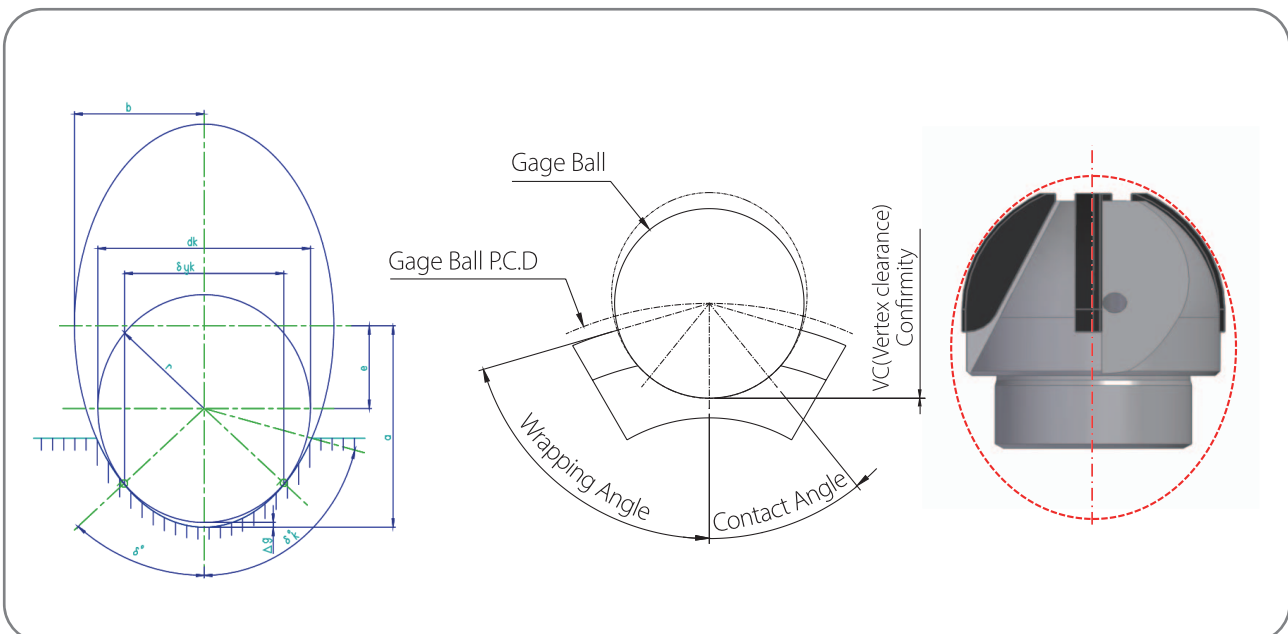
■ PROFILE

CV joints have several types such as AC, UF, SX, GI, DO and etc, in which track geometries of Elliptic, Gothic and Circle are applicable for inner race and outer race.

EHWA offers an optimized cutter design for each component geometry with superior accuracy.



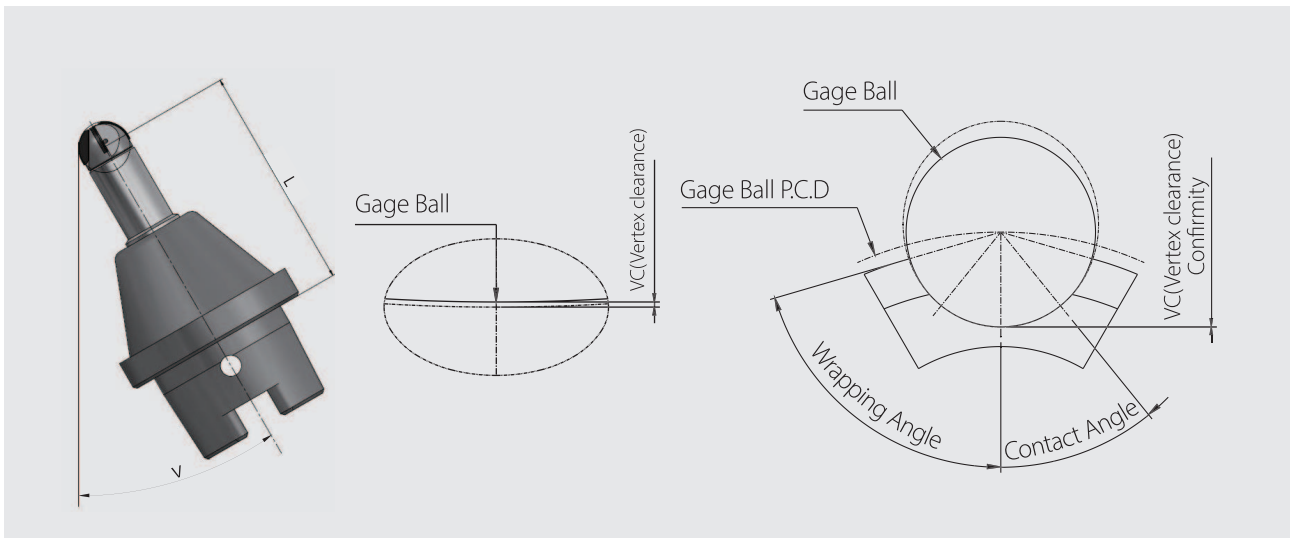
■ Designing Of Optimized Tool For Each Track Geometry



Questionnaire Form For Ball Track Milling Cutter

Workpiece

Component	Inner Race	Outer Race	
Track Geometry	Elliptic	Gothic	Circle
Gage Ball Diameter			[mm]
Ball Track Diameter (P.C.D)			[mm]
Contact Angle			[degree]
Vertex Clearance			[mm]
Conformity			[mm]
Contact Radius			[mm]
Wrapping Angle			[degree]



Tool

Tool Length (L)		[mm]
Tool Setting Angle (V)		[degree]

Machine

Machine Interface	HSK63	Special
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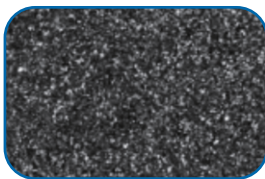
02 | Hard Turning Insert For CV joints

EHWA PCBN inserts show excellent performance in hard turning for outer race, inner race, cage and tripod with heavy interruption. In these applications, PCBN tools with high edge strength and thermal-chemical wear resistance are required. EHWA PCBN grades, EB73 & EB210 perform perfectly in the heavy interruption application. Also, they provide fine surface finish and longer tool life.

■ PCBN INSERT SHAPE

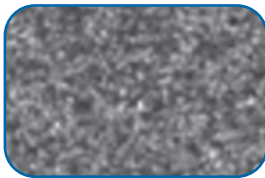
SPEC	TNGA160412(16)	CNGA120408	DCGW11T308
Application	Outer & Inner Race Cage (OD,ID)	Tripod Joint Shaft (OD)	Tripod (Spider)

■ PCBN GRADE FOR TURNING



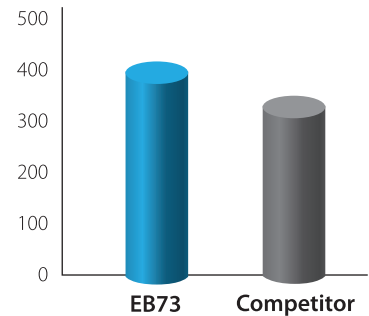
EB73

Better Chemical Resistance & Good Toughness



EB210

Better Wear Resistance & High Toughness



Outer Race Turning



Inner Race Turning



Ball Cage Turning

03 | Vitrified CBN wheel For CV joints

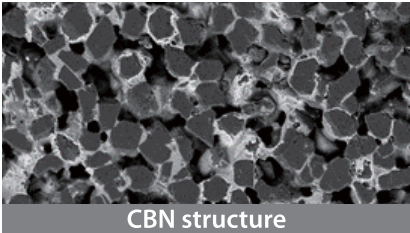


Advantages

- High stock removal for improved production capacity
- Outstanding surface quality with low heat and tight tolerance
- Longer dressing intervals & less wheel wear to reduce cost and improve consistency
- EHWA has specialized solution for cv joint part grinding

Cage Window Grinding

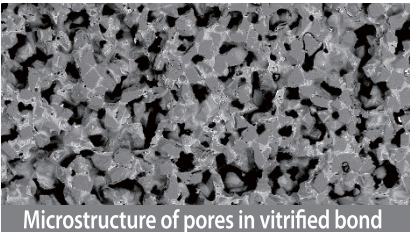
Standard specification
B126M180VBTM



CBN structure

Outer Race Grinding

Standard specification
B181M160VBTM



Microstructure of pores in vitrified bond

04 | Rotary dresser For CV joints



CV joints

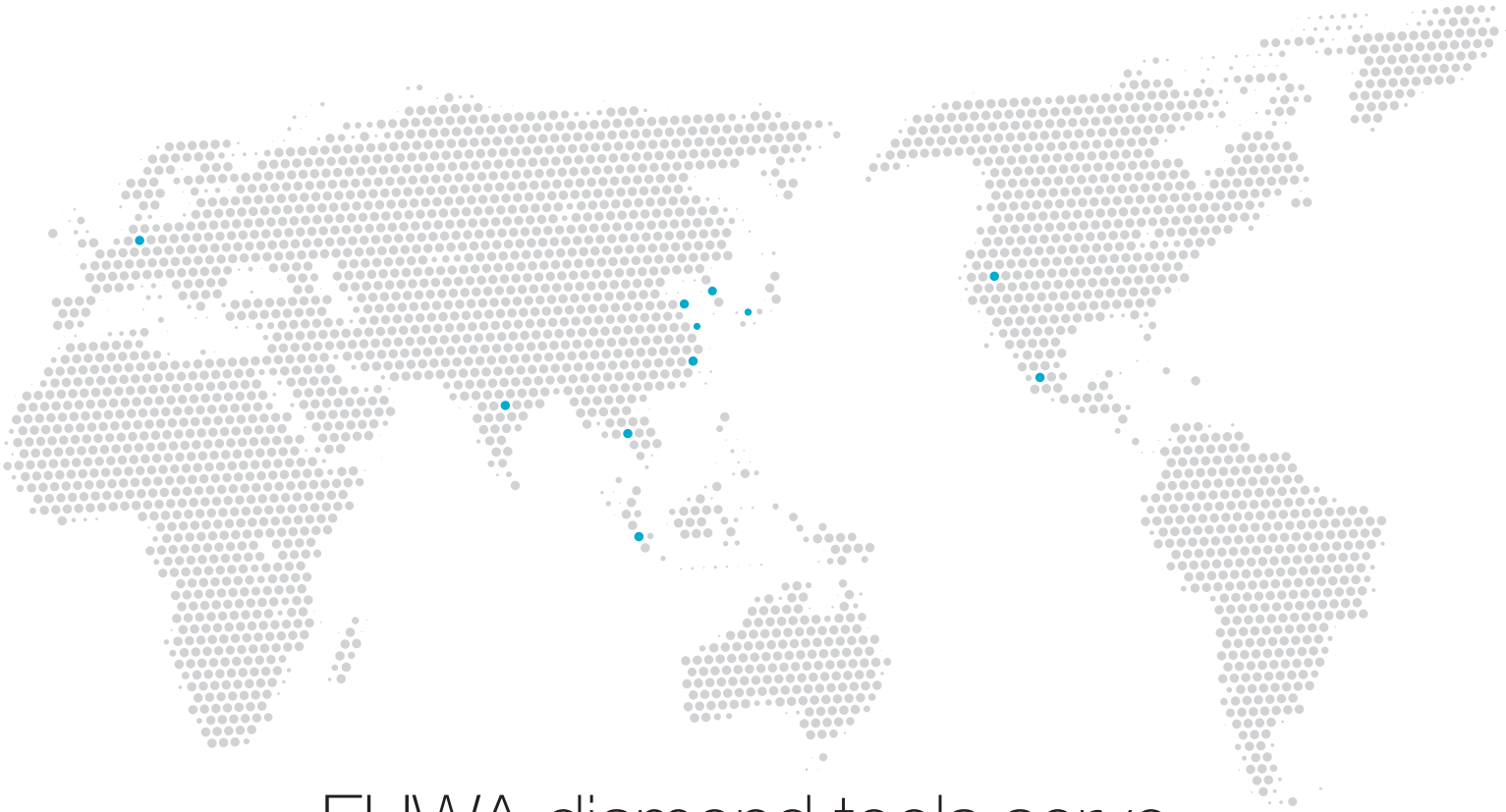
Components that transmit the power of the engine delivered to the transmission to the wheels at constant speed.

Advantages

- Customized design
- Highly precise tolerance
- Outstanding grinding performance due to high diamond exposure



GLOBAL NETWORK



EHWA diamond tools serve as a promoter of globalization

Since 1975, EHWA DIAMOND has been growing by developing long-term partnerships with customers worldwide and across the industries. EHWA is tirelessly striving to provide the very best customer satisfaction through continuous product innovation and world class service.

Korea



Osan (HQ)

Osan 2

Dongtan (R&D)

Pyeongtaek

Secheon

Cheongju

Global location



China (shanghai)

China (weihai)

China (fujian)

Indonesia (jakarta)

Vietnam (hanoi)

Vietnam (hai duong)

USA (irvine)

Japan (nagoya)

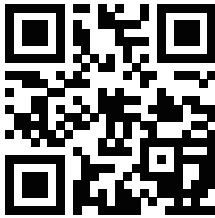
Thailand (bangkok)

Germany (frankfurt)

India (chennai)

Mexico (monterrey)

Italy (carrara)



EHWA

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