中研国际

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# Superhard abrasive tools

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## 中研（深圳）国际贸易有限公司

**SINOGRIND CO.,LTD**

创 新 | 合 作 | 共 赢

Committed to the manufacturing and service of high-end electroplated super-hard abrasives

# Catalogue

## 01 Product Description



## 02 Processing And Testing Equipment

# 01 Dressing Roller Series

## Internal Plating Dressing Roller



### Product Usage

This product series is designed for use with specialized grinding machines both domestically and internationally. It is primarily used for dressing grinding wheels used in the grinding of gears, bearings, guide rails and sliders, ball screws, steering gear rotors, RV reducer cycloidal gears,the root sections of aircraft engine turbine blades, and steam turbine blades.

### Product Features/Competitive Advantages

This series of dressing rollers is manufactured using an internal plating process, making them particularly suitable for dressing grinding wheels used to machine workpieces with complex contours. This is currently the most precise method in roller manufacturing.

## External Plating Finishing Roller

### Product Usage

This series of dressing rollers is manufactured using an external grinding process and is designed for use with specialized grinding machines from both domestic and international manufacturers.They are primarily used for rough and fine dressing of gear and worm grinding wheels.

## CVD Trim Roller

### Product Usage

This series of dressing rollers is manufactured using the CVD cladding process and is compatible with specialized grinding machines from both domestic and international manufacturers. They are primarily used for CNC trajectory dressing of forming grinding wheels across various industries and offer high versatility.



# Applications in the Mechanical Drive Industry /01

## Special CBN Grinding Wheel For Gear Grinding

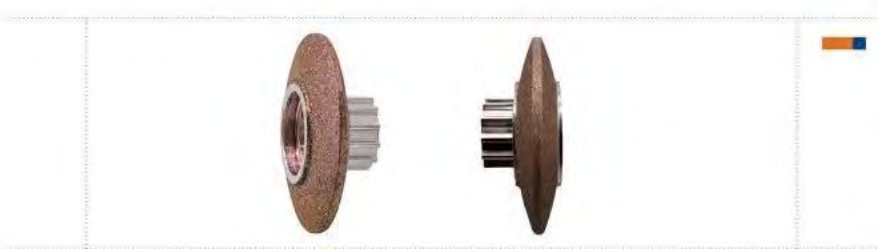
### Product Usage

This product is designed for use with domestic and international CNC gear grinding machines for the profile grinding of straight and helical gears.

### Product Features/Competitive Advantages

This product enables both rough and finish grinding in a single setup, requires no dressing during operation, and achieves a contour accuracy of up to 0.002 mm.

## CBN grinding wheel for small module gears



### Product Usage

This product is designed for use with specialized CNC gear grinding machines, both domestic and imported, for the profile grinding of small- and medium-module gears used in the aerospace industry or other precision components.

### Product Features/Competitive Advantages

This product requires no dressing during use and achieves a contour accuracy of up to 0.0015 mm.

# 01 Applications of Intelligent Robotics Industry

## RV reducer needle tooth slot grinding special CBN grinding wheel

### Product Usage

This product is designed for the profile grinding of pinion gear teeth on robotic RV reducers. It is compatible with specialized CNC grinding machines from domestic and international manufacturers such as Swiss Meggitt, German Kappa, and Japanese Ikebe, and the grinding wheel does not require dressing during use.

### Product Features/Competitive Advantages

This product offers contour accuracy of up to 0.0015 mm, resists sticking, maintains excellent contour accuracy, and delivers high grinding efficiency.

## RV Reducer Cycloidal Gear Grinding Special CBN Grinding Wheel

### Product Usage

This product is designed for the profile grinding of cycloidal gears in robotic RV reducers; the grinding wheel does not require dressing during use.

### Product Features/Competitive Advantages

This product is generally divided into rough grinding wheels and fine grinding wheels; the contour accuracy of the product after fine grinding can reach 0.003 mm.



# Grinding Wheels for Robot Polishing /01

## Specialized Grinding Wheel for Robotic Polishing

### Product Usage

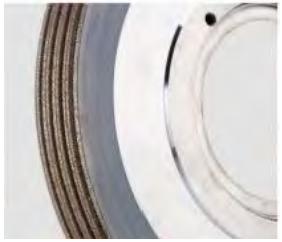
This product series is designed to work with industrial robotic equipment from both domestic and international manufacturers. It is suitable for the trimming, cutting, grinding, deburring, and polishing of ferrous metals (such as cast steel and cast iron), non-ferrous metals, and new materials (such as fiberglass and carbon fiber). It is used to remove flash, burrs, and parting lines from small and medium-sized workpieces, as well as to remove residual sprues and gates.

### Product Features/Competitive Advantages

This product features high manufacturing precision, a long service life, low per-unit processing costs, and energy efficiency and environmental friendliness. It operates stably at high speeds and delivers high grinding efficiency. It addresses the grinding challenges associated with large workpieces (such as aerospace cabins, ship hulls, wind turbine blades, and engine blades) and enables integrated deburring and polishing of workpieces with complex contours (such as various castings, including engine blocks and cylinder heads).

# 01 New Energy Vehicle Industry Applications

## Special CBN Grinding Wheel For Steering Gear Screw Grinding



**Product Usage**

This product is designed for use with specialized grinding machines from overseas for the rough grinding of steering rack lead screws for new energy vehicles.

**Product Features/Competitive Advantages**

Multi-tooth grinding is achieved in a single pass, with the stock removal gradually and uniformly reduced, resulting in higher machining efficiency compared to traditional grinding methods.

## Special CBN Grinding Wheel For Machining The Main Shaft of New Energy Clutch

**Product Usage**

This product is designed for use with specialized CNC grinding machines, both domestic and imported, for the profile grinding of the grooves and end faces of transmission clutch shafts.



# Applications in the Compressor Industry /01

## Special CBN grinding wheel for screw rotor grinding

**Product Usage**

This product is designed for use with high-speed CNC rotor grinding machines from manufacturers such as KAPP (Germany) and Qinghai No. 2 Machine Tool, and is used for rough and finish shaping grinding of compressor screw rotors, performing both rough and finish grinding in a single setup.

**Product Features/Competitive Advantages**

This product has a maximum allowable linear speed of 125 m/s and a recommended operating linear speed of 80–100 m/s. It achieves a contour accuracy of up to 0.005 mm, resists clogging, offers high grinding efficiency, and features a base material that can be re-plated. Customers can provide end-face profiles to customize the rotor grinding wheel profile.

## Special CBN grinding wheel for Roots rotor grinding

**Product Usage**

This product is designed for use with high-speed CNC screw rotor grinders and specialized cylindrical grinders, both domestic and imported, for the profile grinding of Roots vacuum pump rotors.

**Product Features/Competitive Advantages**

This product operates at a linear speed of approximately 60–80 m/s, enabling high-efficiency deep-cut grinding with a higher material removal rate than conventional grinding wheels. It achieves contour accuracy of up to 0.02 mm and a surface roughness of Ra 1.6 on rotors, and the substrate is suitable for re-plating.

# 01 Automotive Parts Industry Applications

## Full Hydraulic Steering Gear Inner Cavity Stator CBN Grinding Wheel

**Product Usage**

This product is primarily used for profile grinding of stator cores in fully hydraulic steering systems. It can be used directly with grinding machines such as those from KAPP, or it can replace dressable grinding wheels on CNC profile grinding machines such as those from Peter Wolters.

**Product Features/Competitive Advantages**

This grinding wheel achieves high dimensional accuracy and surface finish under low-speed grinding conditions (Vs ≤ 45 m/s) without the need for dressing. It offers excellent grinding stability, minimizes the risk of surface burning and microcracks on the workpiece, and significantly improves machining efficiency compared to dressable grinding wheels.

## CVT pulley groove CBN grinding wheel

**Product Usage**

This product is primarily used for the profile grinding of internal grooves in automotive CVT pulleys and is compatible with specialized grinding machines from manufacturers such as Koyo.

**Product Features/Competitive Advantages**

This product features high machining precision, excellent dimensional stability, and a long service life.





## Special CBN Tools for Engine Valve Processing

**Product Usage**

This product series is designed for form grinding of engine valve retainer grooves, necks, conical surfaces, outer diameters, and end faces, as well as for cutting off rod ends and combined machining of multiple areas.

This product is compatible with domestic and international CNC valve grinding machines and is suitable for machining common alloy steels and heat-resistant alloy steels such as 40Cr, 4Cr9Si$_2$, 4Cr10Si$_2$Mo, 21-4N, and 23-8N.

**Product Features/Competitive Advantages**

This product has a maximum operating linear speed of 180 m/s and employs slow-feed form grinding. The large contact area between the grinding wheel and the workpiece, combined with a high speed ratio, enables a high material removal rate. The contour accuracy of the machined workpiece can reach 0.01 mm, and the substrate can be re-plated.

## CBN grinding wheels specifically designed for machining the dovetail joints at the roots of aircraft engine blades

**Product Usage**

This product is designed for the form grinding of root dovetail grooves on aircraft engine blades. The grinding wheel requires no dressing during use, is suitable for a wide range of high-temperature alloy materials, and offers high grinding efficiency.

# 01 Automotive Parts Industry Applications

## Special CBN Grinding Wheel For Gear Shaft Processing

**Product Usage**

This product is designed for grinding deep grooves in transmission shafts, drive shafts, steering gears, and similar components, and is commonly used on grinding machines such as Junker and Overbeck.

## CBN Grinding Wheel Specially Designed For Crankshaft Machining

**Product Usage**

This product is designed for the rough grinding of automotive engine crankshafts. It is compatible with both domestic and imported specialized grinding machines. It is suitable for grinding cast iron materials such as cold-hardened cast iron, ductile iron, gray cast iron, and alloy cast iron, as well as high-carbon steels such as 20Cr, GCr15, and 80B, and 45 steel.



# Applications in the Automotive Parts Industry 01

## Special Diamond Tools For Brake Pad Processing

**Product Usage**

This product series is designed for machining drum brake shoes and disc brake pads in the friction materials industry, including outer-arc grinding, inner-arc grinding, face grinding, chamfering, and slotting.

**Product Features/Competitive Advantages**

This product series is compatible with both domestic and international brake pad grinding machines (such as COMEC from Italy and Shinseung from South Korea) as well as complete production lines, and provides all the grinding tools required for processes including rough grinding, fine grinding, slotting, and chamfering. It is suitable for machining all types of brake pads, including those made from low-metal, semi-metallic, and ceramic formulations.

# 01 Green Energy Industry Applications

## Specialized Tools for Processing New Materials in Clean Energy

**Product Usage**

**Specialized Cutting Blades for Composite Materials**: Designed for cutting and processing composite materials such as fiberglass-reinforced plastic (FRP) pipe joints, sheets, profiles, building materials, and skylight panels. Blades of various specifications can be customized to meet customer requirements.

**Fan Blade Saw Blades**: Designed for cutting fan blades, these blades feature a high-strength base and diamond abrasives. This combination ensures cutting efficiency while significantly increasing wear resistance, guaranteeing optimal performance and cost-effectiveness.

**Specialized Grinding and Polishing Tools**: Designed for grinding and polishing composite and semiconductor materials. Specific materials processed include synthetic resins, rubber, ceramics, graphite, carbon, fiberglass, carbon fiber, boron fiber, aramid fiber, silicon carbide fiber, asbestos fiber, fiberglass-reinforced plastic (FRP), stone, ceramics, crystal, and jade.

**Band Saws for Cutting Non-metallic Materials**: Designed for continuous cutting of brittle, hard non-metallic materials such as monocrystalline silicon for solar panels. Featuring an imported stainless steel band saw body and specialized diamond abrasives, these tools ensure sharpness, effectively prevent chipping, and minimize material waste.

**FRP Pipe Grinding Wheels**: Used for grinding FRP pipe joints. Grinding wheels of various specifications can be customized according to customer requirements.

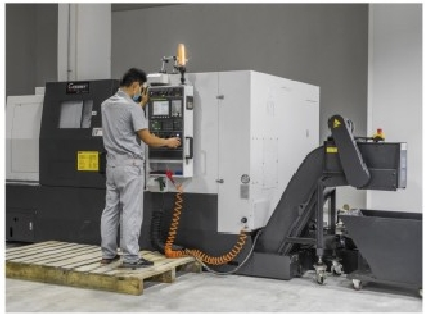


# Processing Equipment 02

DMG Machine Tools (Germany)

Harting Machine Tools (USA)

Japanese Optical Curved Grinding



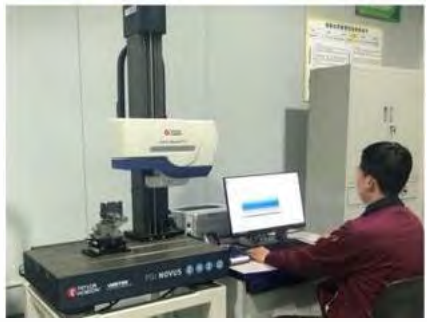
Chengtai CNC Machine Tools (Taiwan)

# 02 Testing Equipment

Zeiss Coordinate Measuring Machine (CMM)

Balancing machine

Keyence Super-Depth-of-Field Microscope



Taylor Profile Gauge (UK)

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