












## Diamond Dresser Tools

Products Selection Manual

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## COMPANY PROFILE

Chongqing Yangtze River Diamond Tools Factory is a specialized manufacturer engaged in the development, production, sales, and technical services of wheel dressing tools for grinding machines. Founded in February 1995, the company is headquartered in Chongqing, one of China's four national municipalities. In 2010, the company established a partnership with Germany's LACH DIAMANT in the field of precision diamond tools, breaking the domestic reliance on imported precision wheel dressing tools. LACH DIAMANT is globally renowned for its high-precision diamond tools, and its high-performance products meet the demands of advanced grinding technology. Through this collaboration, we have introduced Germany's rigorous grinding technology to China, offering unparalleled advantages in tool angles, curvature, surface roughness, stability, and cost-effectiveness compared to similar products.

As a large-scale manufacturer of wheel dressing tools in China, our products enjoy widespread recognition in the industry. We provide comprehensive, multi-series grinding wheel dressing solutions and precise product applications, serving as a preferred supplier for many well-known domestic and international automotive manufacturers.

### PRODUCT

Yangtze River Diamond Tools has accumulated extensive experience in the design, development, manufacturing, and application services of grinding wheel dressing tools. Its main product lines include: single-tip diamond dresser series, form grinding wheel dressing tool series, large-particle natural diamond dressing tool series, and multi-point diamond dresser series, covering over fifty varieties and hundreds of specifications. The products are widely used in automotive and motorcycle parts, aerospace machinery, metallurgical rollers, internal combustion engine components, machine tools and cutting tools, construction machinery, mold accessories, shipbuilding machinery, pump industries, and various precision machinery manufacturing fields.

### SERVICE

Yangtze River Diamond Tools boasts a team of experienced technical personnel and a professional service team. Over the years of development, the company has established a modern management system and mature operational mechanisms, fostering a corporate culture that respects technology and champions innovation. Equipped with a world-class diamond tool processing line, which includes a range of high-end precision machining equipment and testing instruments, the company has significantly enhanced its capability and manufacturing standards for producing precision and complex tools. Its products are sold in over 20 countries and regions across Asia, Europe, and the Americas, competing directly with top international tool brands and earning widespread recognition and affirmation from users.

Over its 32-year journey, Yangtze River Diamond Tools has consistently driven growth and expansion through the spirit of innovation and a pragmatic approach. By integrating innovation and practicality into its products, the company ensures that Yangtze River Diamond Tools offerings continue to deliver value to users.

### QUALITY

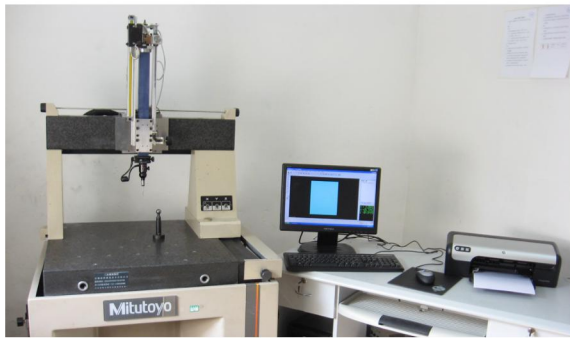
Through continuous technological innovation and scientific management, Yangtze River Diamond Tools consistently improves product quality and enhances after-sales service. Guided by the business philosophy of "Innovation, Pragmatism, and Service," the company was the first in China's grinding wheel dressing tool industry to obtain ISO 9001:2008 international quality management system certification. In accordance with the ISO 9001 quality management system, every step—from material selection and processing to quality inspection and shipment—is strictly controlled. Its products hold strong competitiveness in the international market, with some even entering high-end global manufacturing sectors.



Yangtze River Diamond Tools is a Chinese enterprise specializing in the manufacture of grinding wheel dressing tools. Since its establishment, it has been focusing on the practice and exploration of precision grinding applications. Aiming at users of cylindrical grinders, centerless grinders, surface grinders, and internal grinders, they have introduced long-life and stable quality grinding wheel dressing tools to reduce costs for users and provide accurate product selection based on the dressing of special-shaped grinding wheels

## Testing Equipment

Yangtze River Diamond Tools has multiple sets of advanced precision testing equipment, leading the industry in testing efficiency and precision. According to the ISO9001 international quality management system, we strive to ensure the consistency and high standards make our products more competitive in the market for quality of product selection, products design, quality control testing and shipment packaging.



◀ **Coordinate measuring instrument**

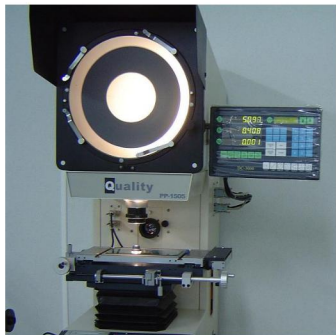


**Hardness Tester** ▲

**Laser Cutting Machine** ▶



◀ **Two-dimensional Projector**



◀ **Image Measuring Instrument**



◀ **Universal Tool Microscope**



## Process Flow



Strict selection of raw materials: The quality of diamond raw materials determines the using life and performance of the tool. Diamond Tools Pro Line implements strict standards for the hardness, structure and shape of the material, reduces the defective rate, improves the stability of the tool, and is for precision grinding Provide hardware support.



Welding process: The traditional welding process of diamond tools is high-temperature sintering, the temperature is up to 1200-1300°, the temperature of diamond surface carbonization is 650-700°, the diamond surface gradually transforms to graphite over 700°, the high temperature penetrates from the surface into the diamond Changes in the internal structure, resulting in reduced hardness and cracks. Diamond Tools Pro Line uses vacuum low-temperature welding equipment to weld the diamond parts. In a vacuum environment, the diamond is not carbonized and the hardness will not be reduced.



Grinding process: Diamond Tools Pro Line uses our self-developed grinding process, which has high efficiency and low loss. Diamond can be formed by only losing 15%, so that the material can be fully utilized, and the grinding accuracy is 50% higher than the traditional process.

Grinding equipment: The grinding of the diamond part is one of the most important production processes. The grinding quality affects the machining accuracy of the tool. Diamond Tools Pro Line selected the high-precision CNC grinder imported from Switzerland to make the quality of dressing more stable and reduce the size error.



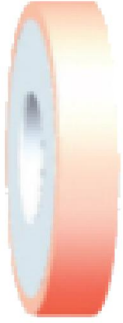
Strict testing: Each product shipped from Diamond Tools Pro Line has to go through 4 testing procedures of hardness, angle, radian, and shank size error to prevent unqualified products from flowing to the user market.

# Single-Point Diamond Dresser



Products are mainly used in the manufacturing of automobile parts, engines and accessories, molds, and various precision mechanical parts. It is suitable for grinding wheel grinding of ordinary cylindrical grinder, centerless grinder, surface grinder, internal grinder, various special grinders and some CNC grinders.

## Types Of Grinding Wheels Dressing



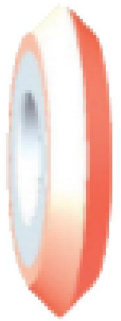
Parallel



One Side Tapered






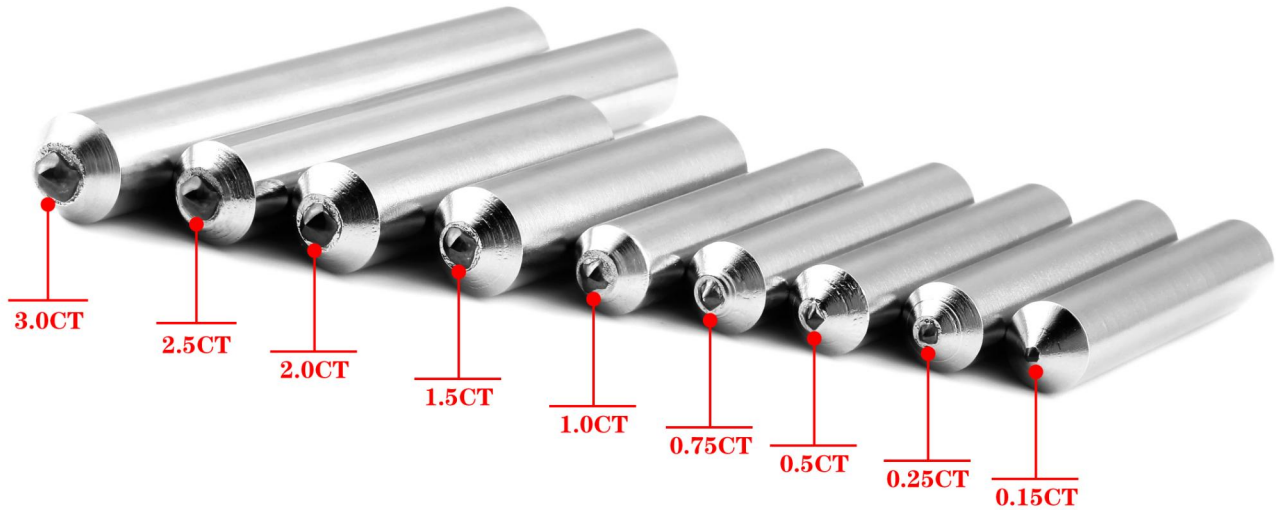
External Arc



Double Hypotenuse

## Product Display

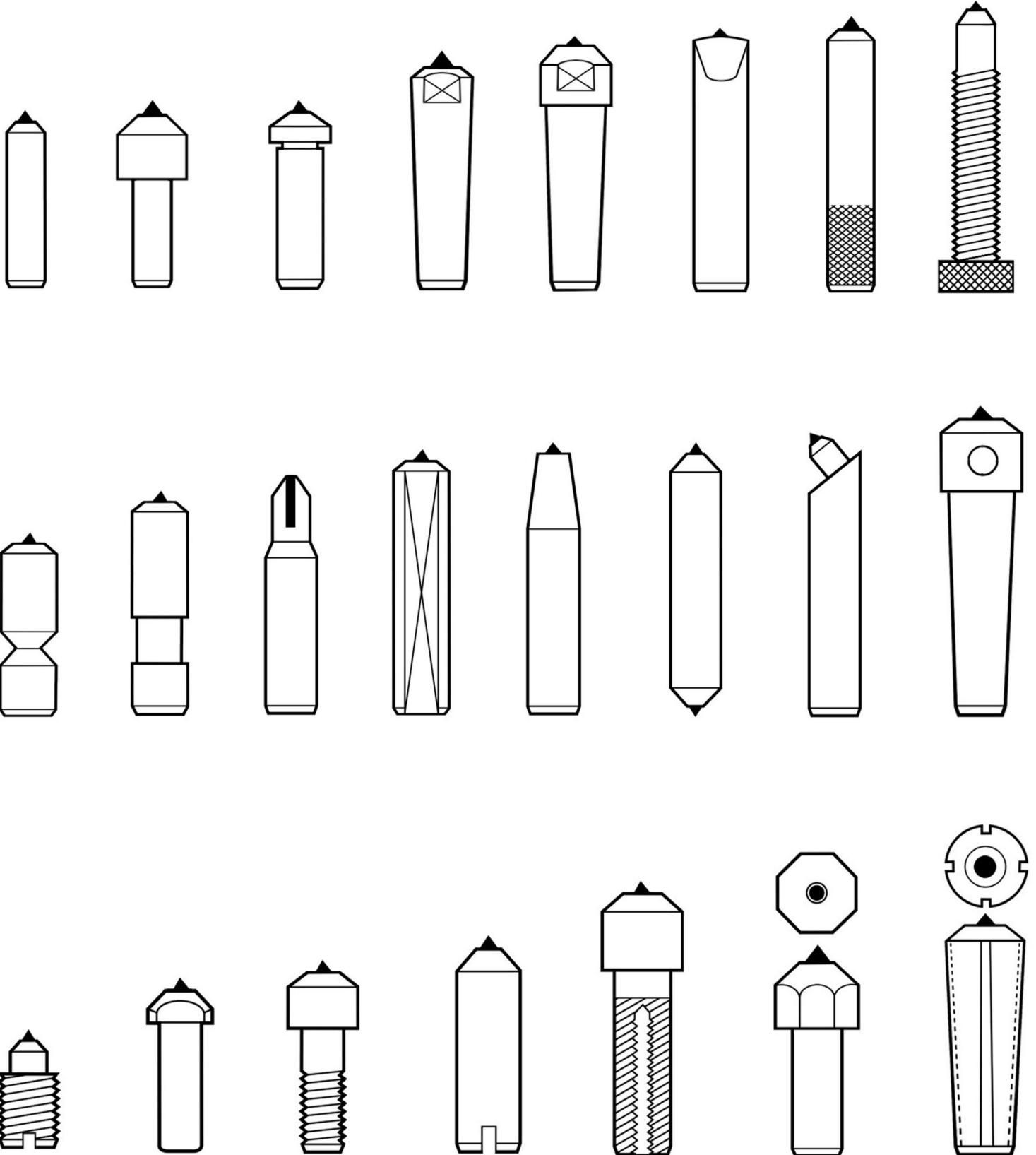
Code	Grade	Shape	Schematic Diagram	Surface Roughness Grade Of The Grinding Workpiece
T	Elite grade	Octahedron		0.2
A	1st grade	Hexahedron		0.2-0.4
B	2nd grade	Polyhedron		0.4-0.8
C	3rd grade	Polyhedron		about Ra0.8



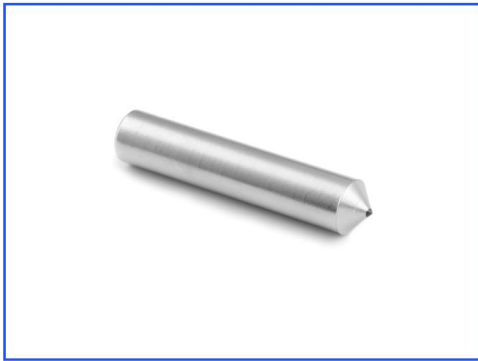
## Natural Diamond Quality Grade Standard

SKU	The Diamond Weight	The Diamond Degree	The Grinding Wheel Diameter	Roughness Height
DT2002-250	0.2 Carat	A、B、Cgrade	20-250mm	Ra=0.4-0.1um
DT2003-400	0.3 Carat	A、B、Cgrade	100-400mm	Ra=0.4-0.1um
DT2005-600	0.5 Carat	A、B、Cgrade	300-550mm	Ra=0.8-0.2um
DT2008-750	0.8 Carat	A、B、Cgrade	350-700mm	Ra=0.8-0.2um
CTS1010	1 Carat	A、B、Cgrade	400-750mm	Ra=0.4-0.1um
CTS10102	1.2 Carat	A、B、Cgrade	400-800mm	Ra=0.4-0.1um
CTS1015	1.5 Carat	A、B、Cgrade	500-900mm	Ra=0.4-0.2um
CTS1020	2 Carat	A、B、Cgrade	600-1000mm	Ra=0.4-0.2um
CTS1025	2.5 Carat	A、B、Cgrade	750-1100mm	Ra=0.4-0.2um
CTS1030	3 Carat	A、B、Cgrade	900-1300mm	Ra=0.4-0.2um

## Common Shape Product Display



## Product Display



1-1



1-2



1-3



1-4



1-5



1-6



1-7



1-8



1-9



1-10

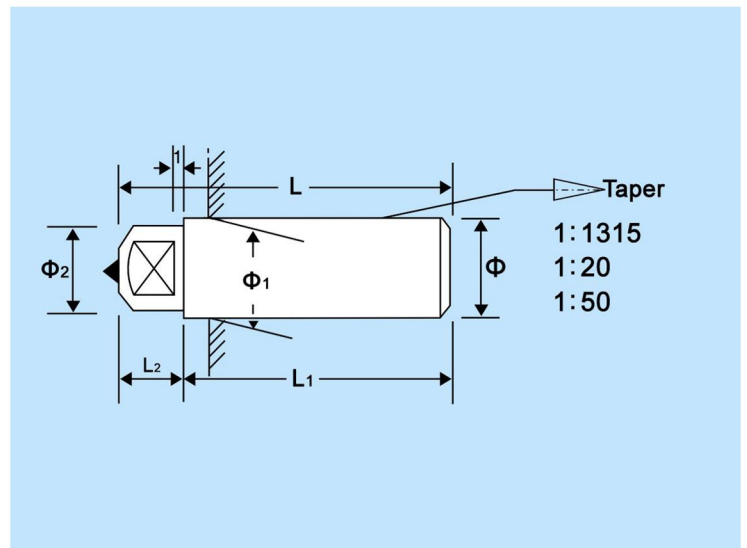
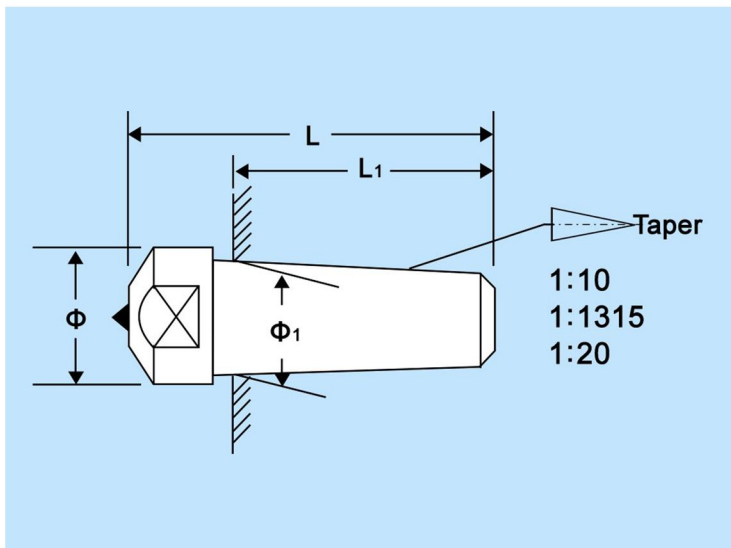
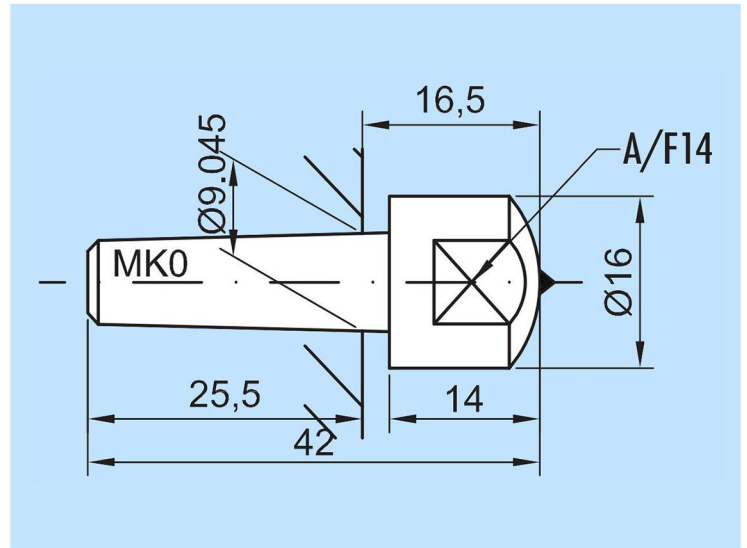
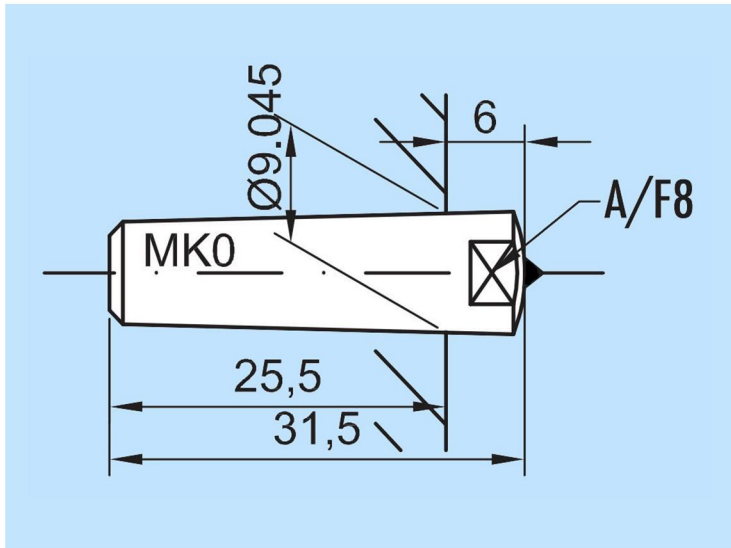
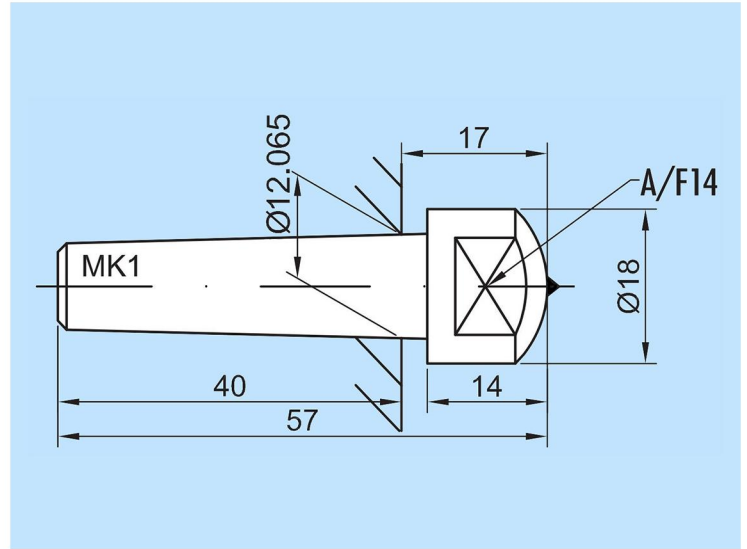
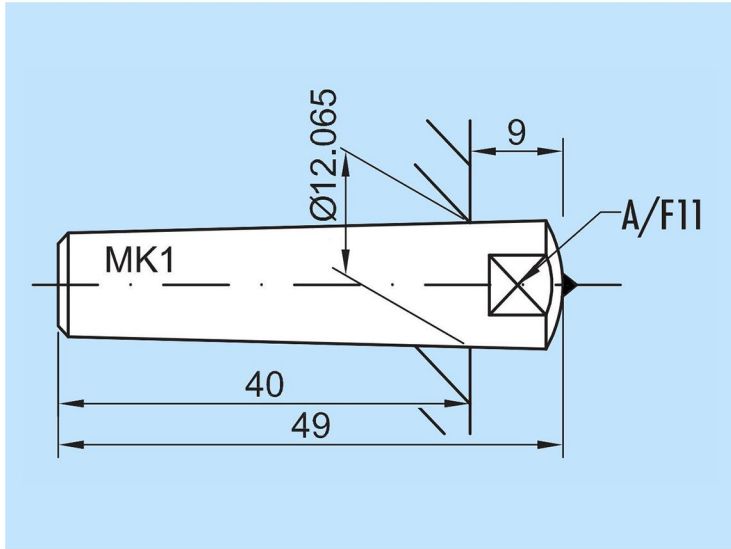


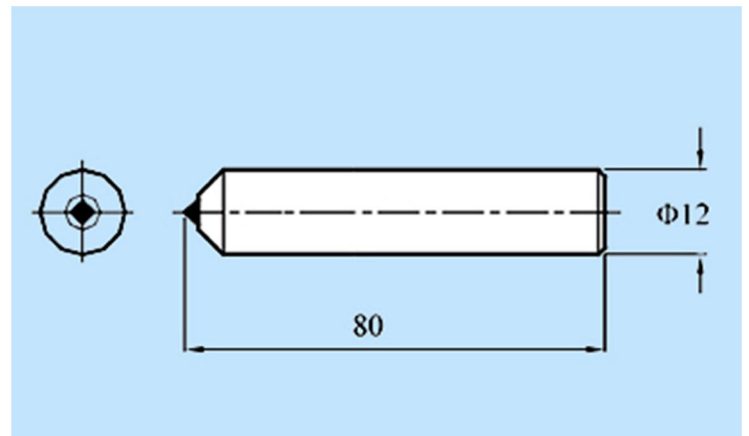
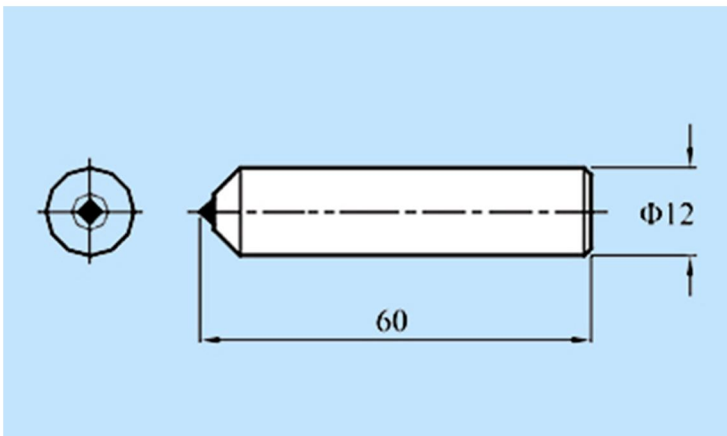
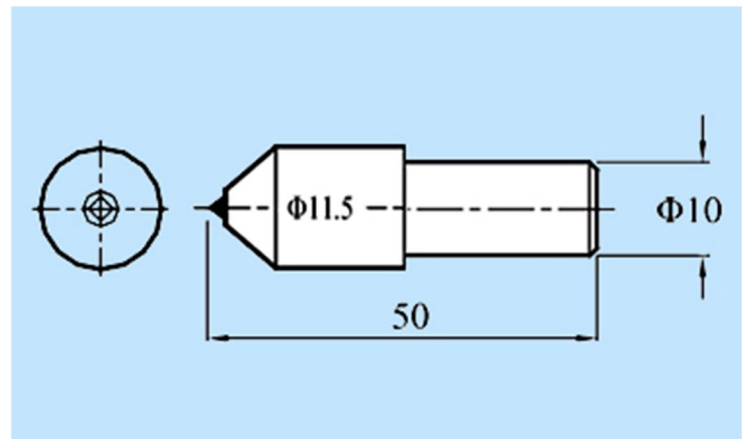
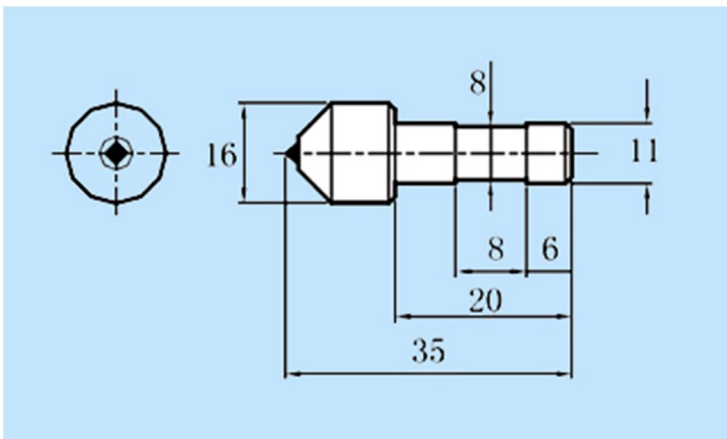
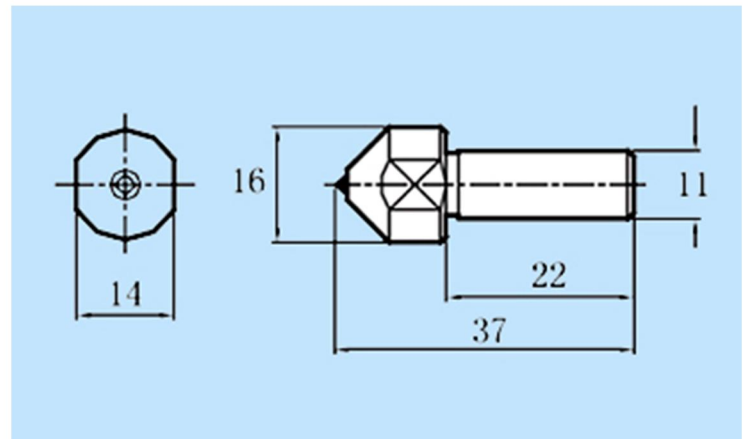
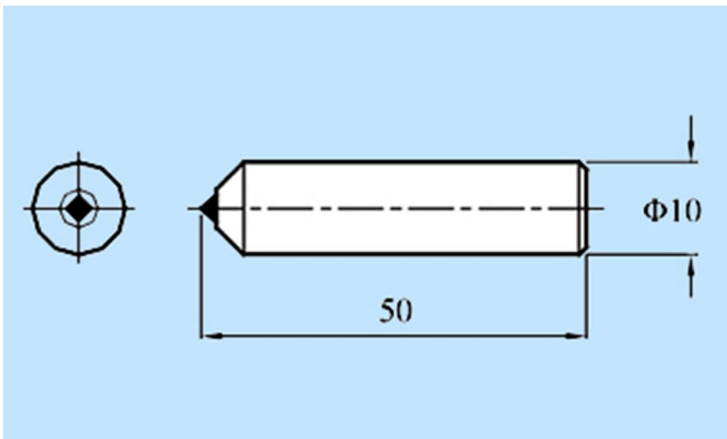
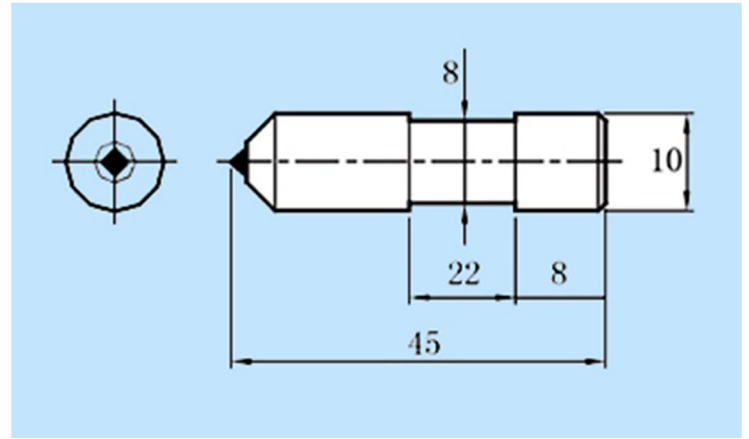
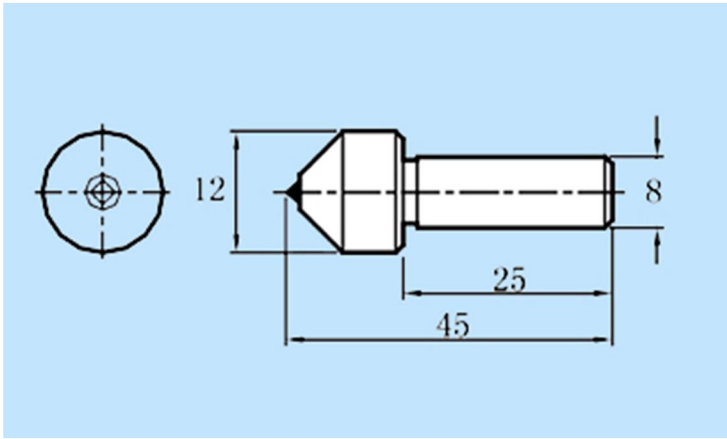
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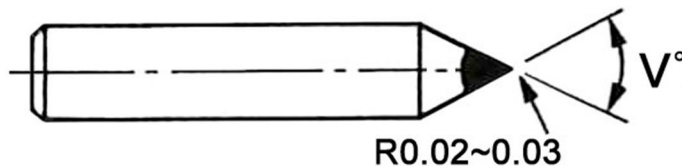
1-12

# Common Model Drawing





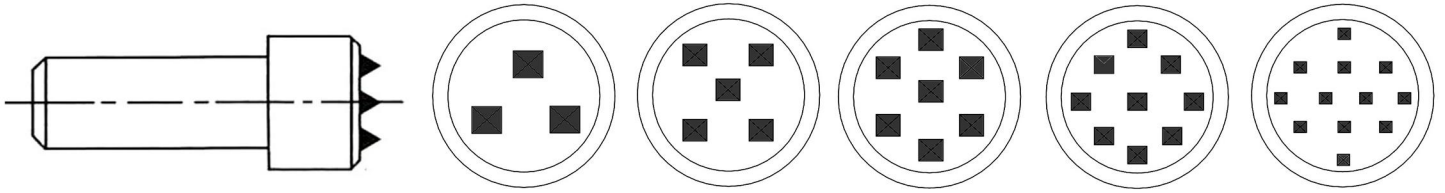
## Taper Knife Repaired



The product USES high quality natural diamond material to grind the diamond into sharp corners. The tip of the sharp corners is perpendicular to the center line of the handle body. It is suitable for shaping and dressing the grinding wheel of precision grinding machines in bearing, mould, tool, electronics and other industries.

SKU	Diamond Angle	Diamond Shape	The Handle Body Size
DA060	60°		Φ3.175×25.4 Φ6.35×25.4
DA075	75°		Φ6.35×50 Φ8×35
DA090	90°		Φ10×50
DV060	60°		Φ6×30
DV090	90°		Φ8×40 Φ10×50
DV110	110°		Φ12×50

## Multi Point Diamond Grinding Wheel Dresser



SKU	Diamond Quantity	Suitable Wheel Diameter	Schematic Diagram Of Diamond Material	Use
DM103	3	Φ200~Φ400	high hardness middle hardness low hardness	centerless grinding machine dressing of grinding wheel surface of cylindrical grinder
DM105	5	Φ400~Φ600		
DM107	7	Φ500~Φ750		
DM109	9	Φ750-Φ900		
DM112	12	Φ900-Φ1100		

# Diaform Dresser Series

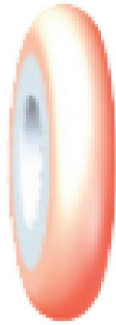


Diamond dresser knife shape series: The product is mainly suitable for the precision dressing of various CNC grinder grinding wheels furnishing complex surface such as outer circle, end face, arc, angle and groove of grinding wheel. It is widely used in the manufacture of precision spare parts for engine parts, internal combustion engines and parts, reducers, gears and so on.

## Types Of Grinding Wheels Dressing



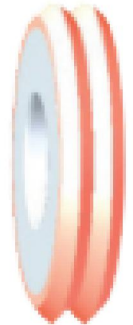
Double Hypotenuse



External Arc



Inside Arc

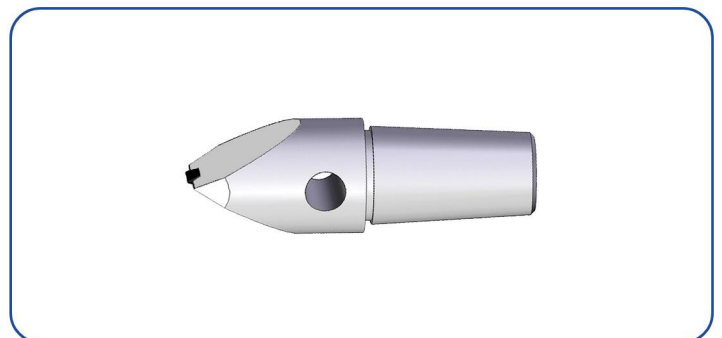
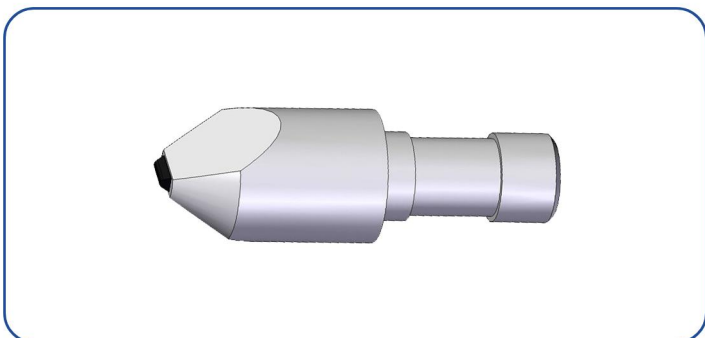
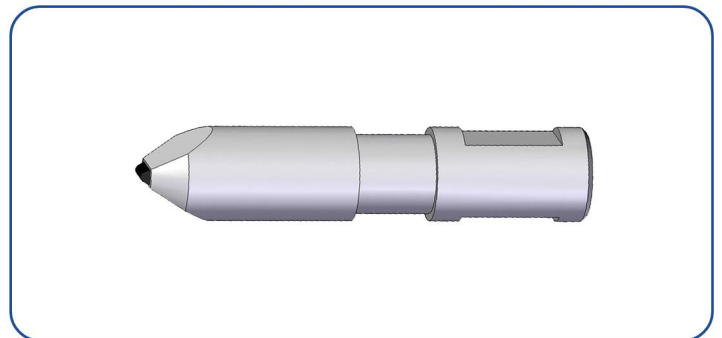
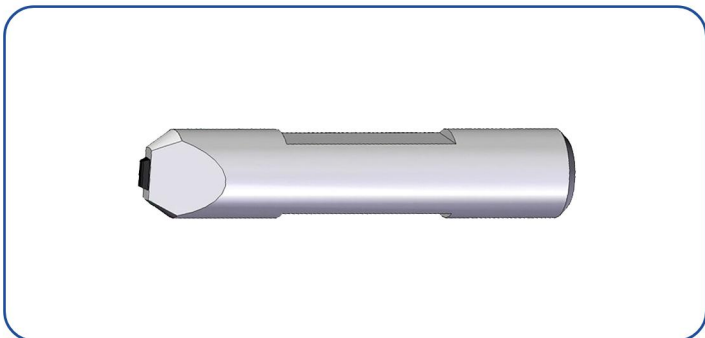
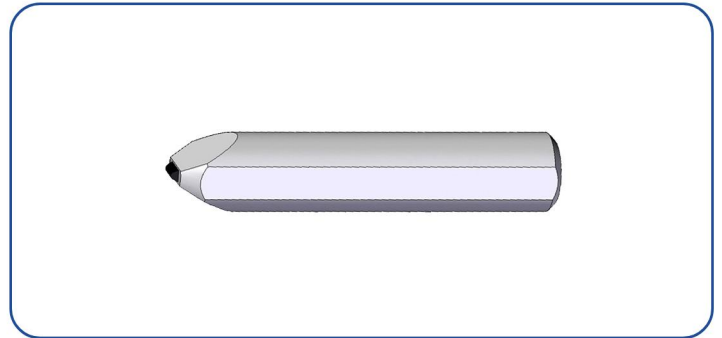
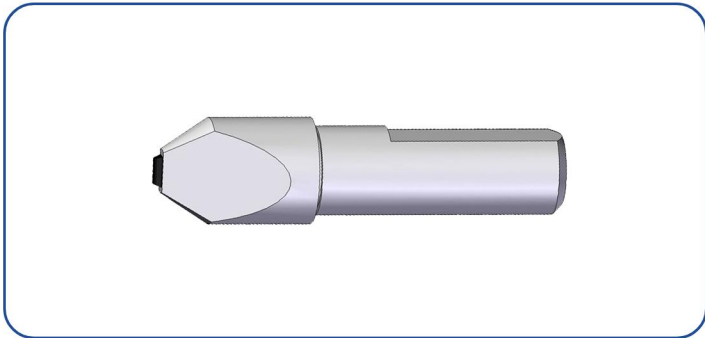
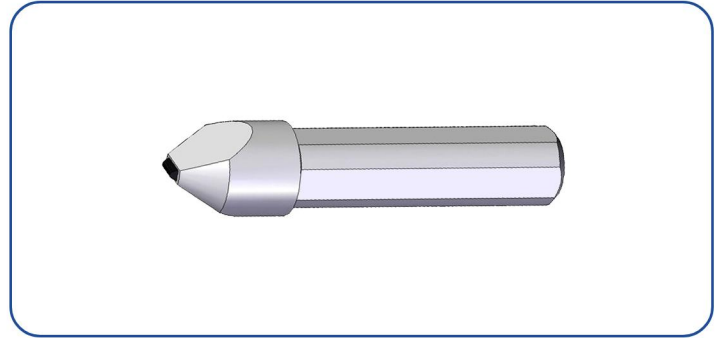
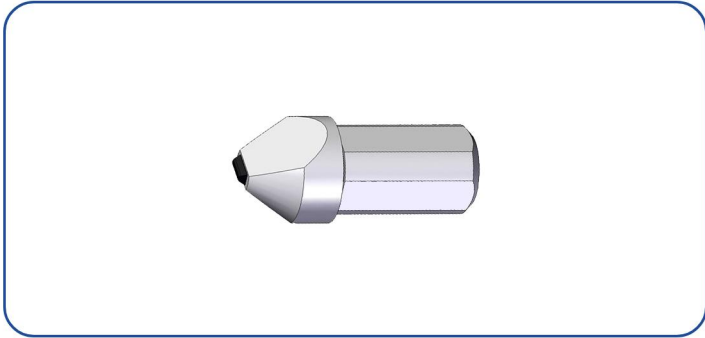


Special Shaped

## Commonly Used Models

SKU	Diamond Weight	Type	Grade	Suitable Grinding Wheel Particle Size	Angle	Arc
C3015	0.8 Carat	Natural Diamond Artificial Diamond	A、B	60-80#	40°	R0.05
C3515	1.0 Carat	Natural Diamond Artificial Diamond	A、B	60-100#		R0.1
C4020	1.25 Carat	Natural Diamond Artificial Diamond	A、B	60-100#	55°	R0.15
T3500	0.8 Carat	Natural Diamond	A、B	80-220#	60°	R0.2
T25308	1 Carat	Natural Diamond	A、B	60-300#	70°	R0.25
T3030	1.2 Carat	Natural Diamond	A、B	80-500#		R0.3
						R0.5
						R0.8
						R1.0

## Common Shape Product Display



## Product Display



2-1



2-2



2-3



2-4



2-5



2-6



2-7



2-8



2-9



2-10

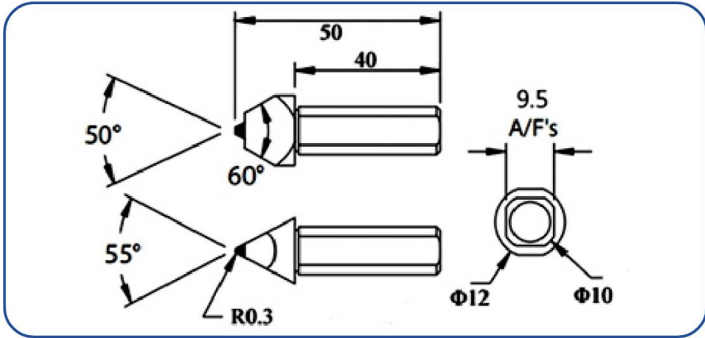


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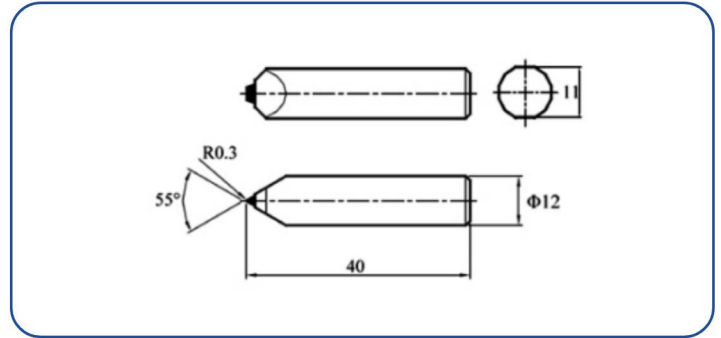


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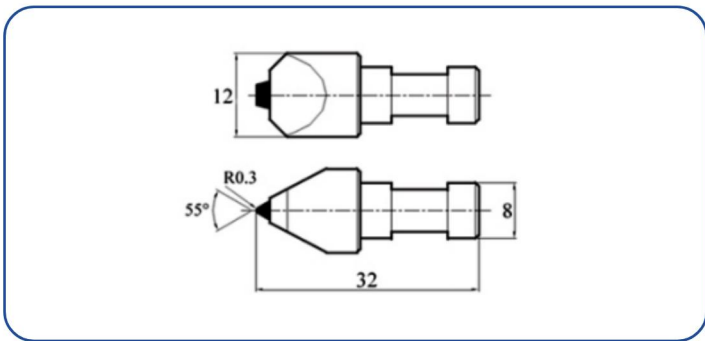
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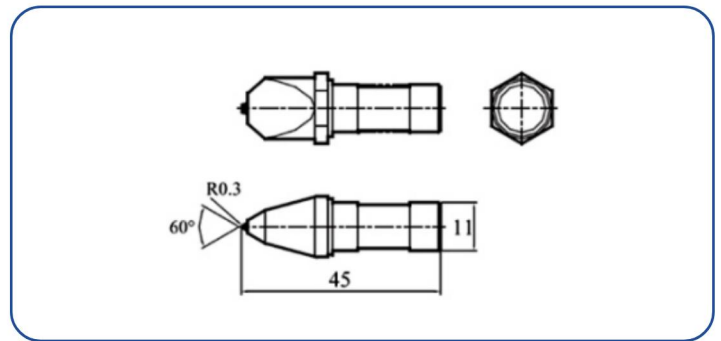
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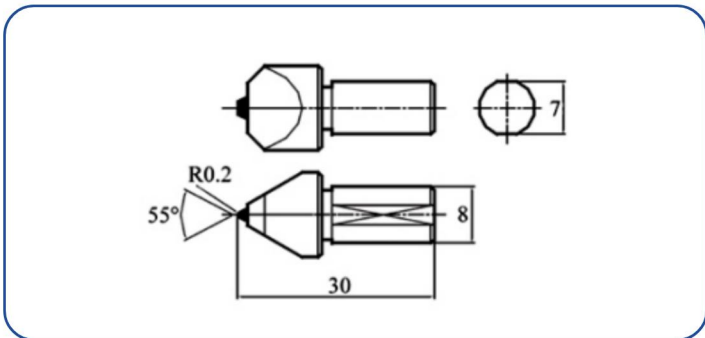
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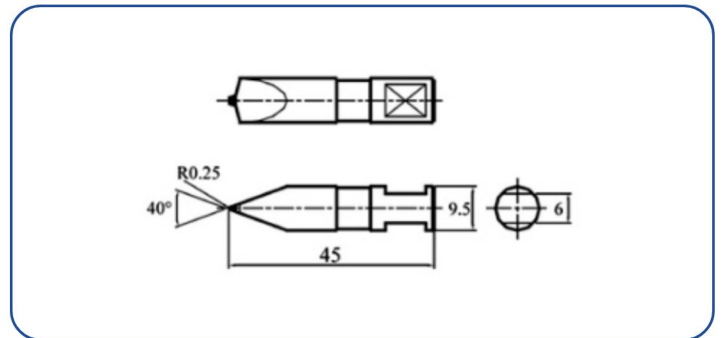
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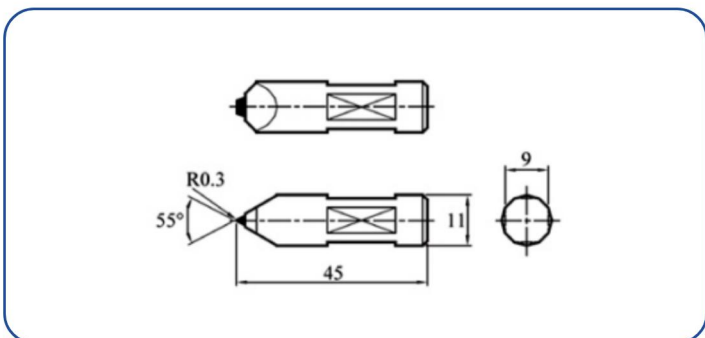
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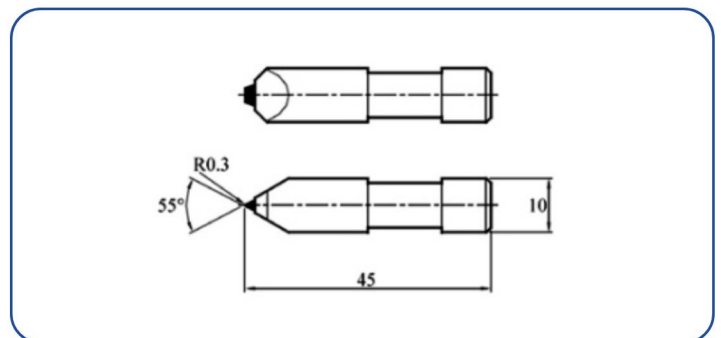
2-5



2-6



2-7



2-8

# Multi Point Diamond Dresser Series



The product is suitable for the dressing of ordinary cylindrical grinders, centerless grinders, surface grinders, and is also suitable for the shaping and dressing of complex surfaces such as the grinding wheel surface, angles and arcs of CNC grinders. It is especially suitable for the dressing of coarse-grained grinding wheels. Under high-frequency and high-strength working environment, it is wear-resistant and has high dressing efficiency, and has both long life and stability.

## Types Of Grinding Wheels Dressing



Parallel



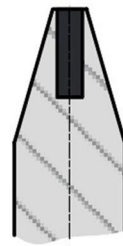
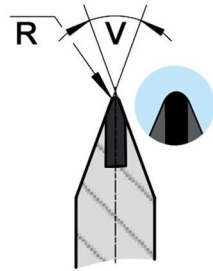
One Side Tapered



Double Hypotenuse

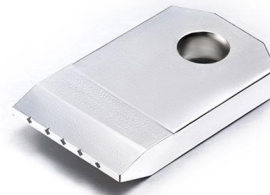


External Arc Round



SKU	Number Of Diamonds	Suitable Grinding Diameter	Schematic Diagram Of Cutter Head Shape	Arc	Angle
M011	1	φ100-φ250		R0.1	V30°
M012	2	φ200-φ300		R0.2	V40°
M018	3	φ350-φ500		R0.25	V50°
M0110	4	φ500-φ750		R0.3	V55°
C0105	5	φ350-φ500		R0.5	V60°
C0106	6	φ450-φ600		R0.8	V85°
C0107	7	φ600-φ750		R1.0	V110°
C0109	9	φ500-φ900			
C0111	11	φ600-φ1100			

## Parameters Of Flake Diamond Dresser



SKU	Number Of Diamonds	Suitable Grinding Diameter	Working Part Shape
D102	2	φ350-φ500	
D103	3	φ500-φ750	
D104	4	φ350-φ500	
D105	5	φ450-φ600	
D107	7	φ600-φ750	
D109	9	φ500-φ900	
D111	11	φ600-φ1100	

Diamond diameter corresponding to grinding wheel size and particle size:

Grinding Wheel Diameter	Grinding Wheel Particle Size	Diamond Diameter	Schematic Diagram Of Stripe Diamond Material
φ200	180-200#	0.4mm	
φ200-φ350	120#-180#	0.6mm	
φ350-φ500	80#-120#	0.8mm	
φ400-φ750	60#-80#	1.0mm	
φ600-φ900	46#	1.2mm	

## Powder diamond dresser

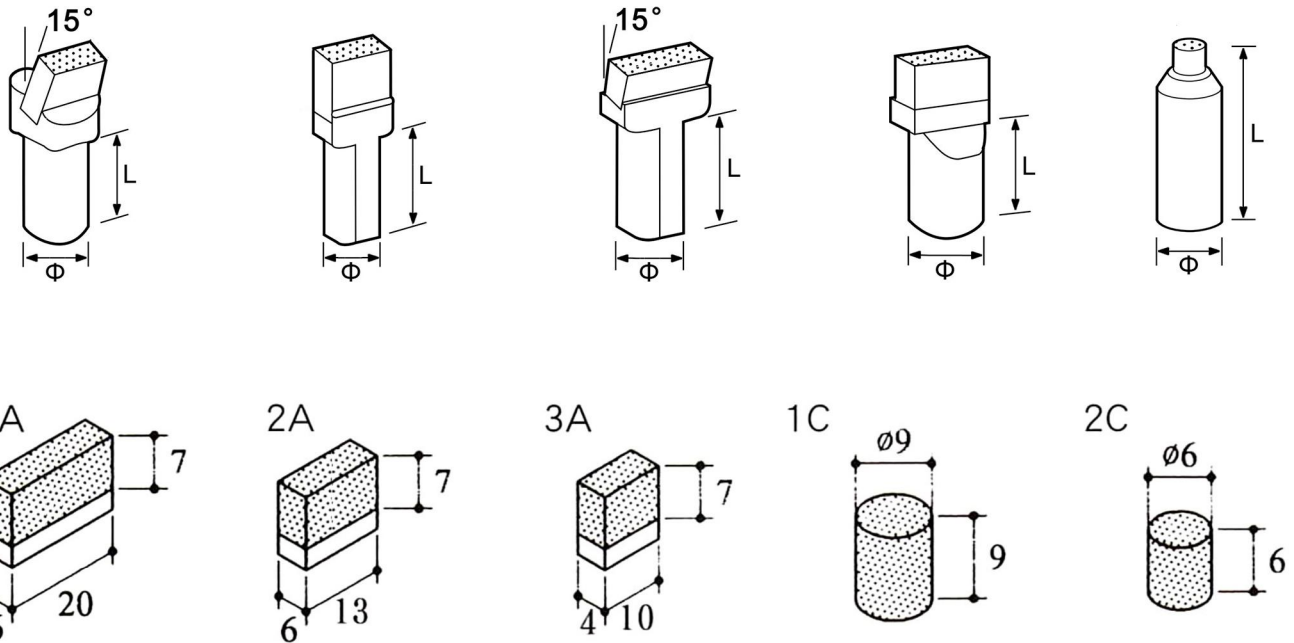


The products are mainly used for the coarse dressing of grinding wheels on ordinary cylindrical grinder, centerless grinder, surface grinder and some special grinders (such as thread grinder and gear grinder), and the production with fine particle diamond raw materials (as shown in the figure below) :

### Description of diamond mesh:

Particle Size Code	Diamond Particle Size	Suitable Grinding Wheel Particle Size
<b>R</b>	16-20#	36-46#
	20-30#	46#
<b>M</b>	30-40#	46-60#
	40-50#	46-60#
<b>F</b>	50-60#	60-80#
	80-100#	80-100#
	100-120#	100-140#
<b>T</b>	140-170#	140-200#
	170-200#	200-240#

## Diamond Part Size Shape And Size Schematic Diagram



SKU	Diamond Size	Diamond Particle Size	Schematic Diagram	The Handle Body Size	Suitable Scope
DF20#	1A、2A	16#-200#		Φ10×L30	Centerless grinding machine, Cylindrical grinding machine, Surface grinding machine
DF40#	1A、2A、3A			Φ10×L50	
DF50#	1A、2A、3A			Φ11×L20	
DF60#	1A、2A、3A			Φ11×L25	
DF80#	2A、3A			Φ12×L30	
DY100#	1C、2C			Φ8×L50	Internal grinder, Gear grinder, Centerless grinding machine, Thread grinding machine
DY140#	1C、2C			Φ10×L60	
DY170#	1C、2C	Φ11×L60			
				Φ12×L80	
				MK0、MK1	
				MK0	
				MK1	

## Product Display



3-1



3-2



3-3



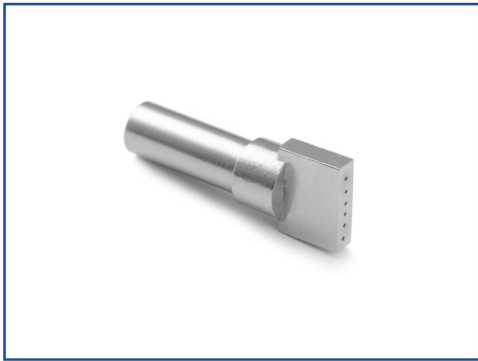
3-4



3-5



3-6



3-7



3-8



3-9



3-10

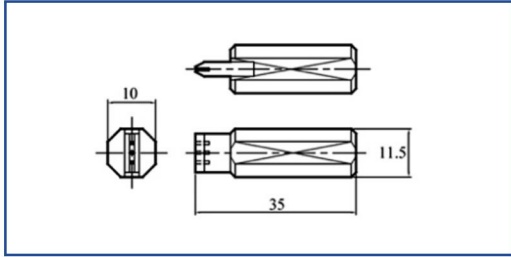


3-11

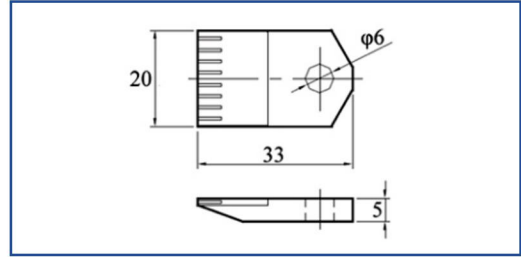


3-12

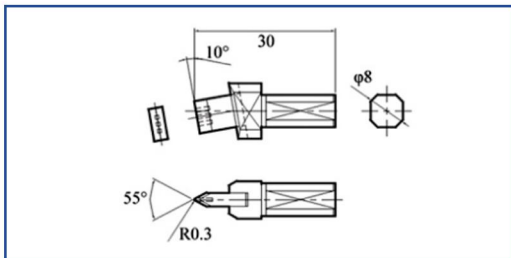
# Product Display



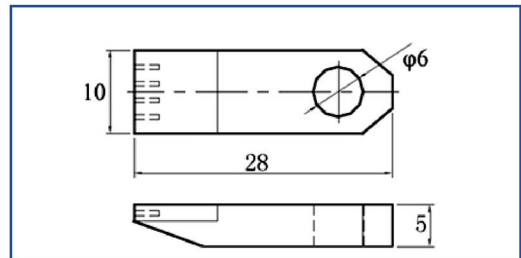
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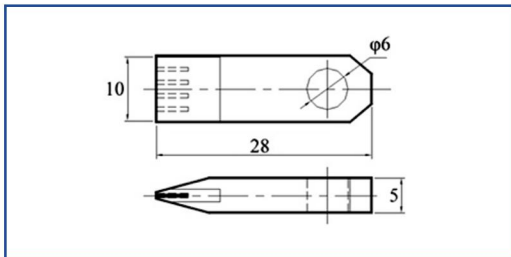
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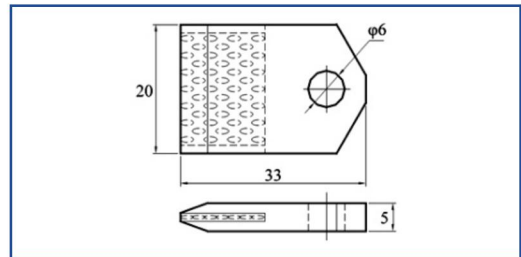
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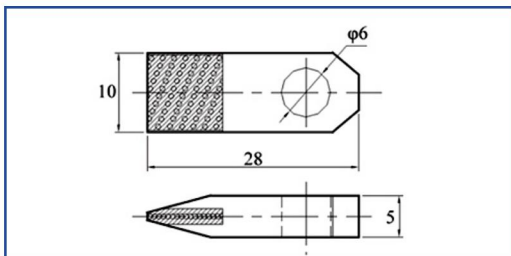
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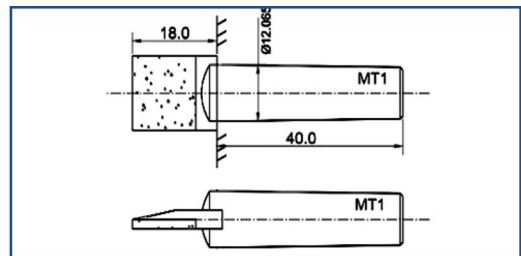
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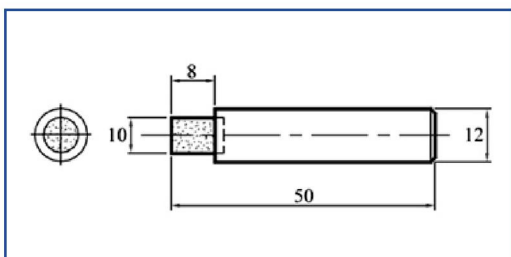
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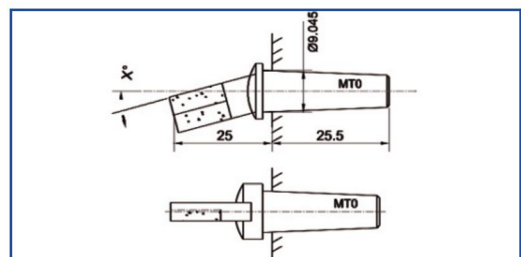
4-7



4-8



4-9



4-10

# Diamond Indenter for Hardness Measurement



The products are made of the superior natural diamond, with high precision CNC grinding machine grinding angle and arc, and low loss, and the test data is accurate and fast. It is mainly used for ferrous and nonferrous metals (for example, steel, iron, aluminum), it also can be used for the metals which hardness is over 70HRC (for example, hard alloy steel, chilled casting, annealed steel, surface quenching parts), and it also can be used for the test of nonmetallic materials.

## Powder Diamond Dresser

Name	Normal Size	Drawings	Diamond Angle Diagram
Diamond Rockwell head	HRC-2		
	HRC-3		
Diamond Vickers head	HV-2		
	HV-6		

## Powder Diamond Dresser



4-1



4-2



4-3



4-4



4-5



4-6



4-7



4-8



4-9



4-10

## Typical Industry Application



gear



bearing



The crankshaft



nozzle



Piston and piston ring



Reducer accessories



camshaft



valve



Car universal joint



Internal Combustion engine and Accessories



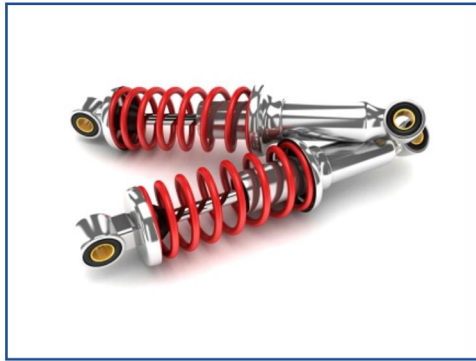
Ship machinery



Aircraft accessories



Various precision parts



Shock absorber



engineering machinery



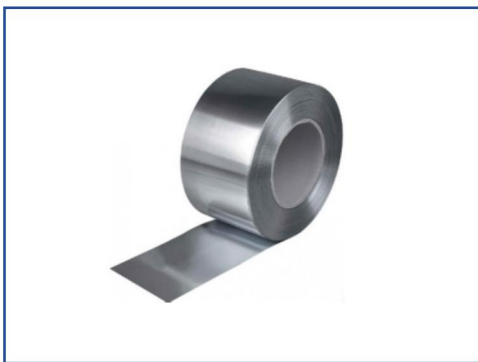
Pump industry



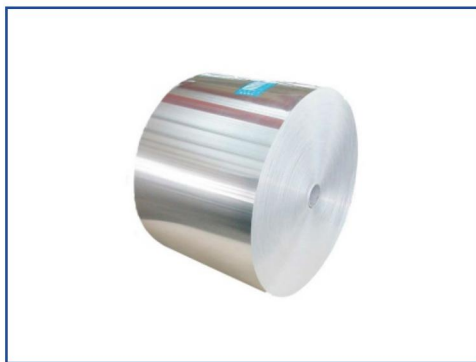
Textile machinery accessories



Metallurgical roller



Precision steel plate steel strip



Aluminum clad and aluminum foil



Copper clad and copper foil



The paper industry



Instrument and meter



Molds and Accessories

# The Feedback Form Of The User's Grinding Wheel Parameters

The products are mainly used for the coarse dressing of grinding wheels on ordinary cylindrical grinder, centerless grinder, surface grinder and some special grinders (such as thread grinder and gear grinder), and the production with fine particle diamond raw materials (as shown in the figure below) :

Grinding Wheel Parameters	Grinding Wheel Shape	Diameter	Thickness	Aperture Diameter
	Grinding Wheel Material: Particle Size: Thinkness: Linear Velocity:			
Grinding Way	<input type="checkbox"/> Coarse grinding <input type="checkbox"/> Half Fine Grinding <input type="checkbox"/> Fine Grinding <input type="checkbox"/> Coarse Grinding And Fine Grinding			
	<input type="checkbox"/> External Round <input type="checkbox"/> Inside Round <input type="checkbox"/> End Face <input type="checkbox"/> Centerless <input type="checkbox"/> Plane			
	<input type="checkbox"/> Arc <input type="checkbox"/> Groove <input type="checkbox"/> Molding <input type="checkbox"/> Angle			
Artifacts	Material		Hardness	
	Grinding Allowance		Surface Roughness	
Machine Tool	Grinding Machine Type:		The Manufacturer Name:	
	Grinding wheel dressing frequency:grinding _____artifactsneed to dressing once dressing quantity:every time dressing _____ um, divided it into _____ times to dressing,Every time feed _____			
Grinding Wheel Dressing Tool Is Used Now	Type of grinding wheel for dressing is used now: <input type="checkbox"/> single point grinding wheel dresser <input type="checkbox"/> Axe type grinding wheel dresser <input type="checkbox"/> multi point grinding wheel dresser <input type="checkbox"/> Grinding wheel dressing block			
	Handle Body Size	Diamond Quantity And Size	Diamond Quality Grade	The Product Price
	The Quantity Problem <input type="checkbox"/> Diamond wears fast and is not durable; <input type="checkbox"/> Diamond breaks, loosens, falls off; <input type="checkbox"/> The workpiece is easy to burn, the surface has grain after grinding; <input type="checkbox"/> The surface roughness of grinding workpiece does not meet the requirement; <input type="checkbox"/> The low cost performance of the products and the highpurchase cost			



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