

JPR Diamond Tools

Specialised in Special tools

Best Support to your Valuable Products

INTRODUCTION

JPR DIAMOND TOOLS

JPR Diamond Tools is Chennai based Indian Company, family-owned business. Since its inception in 1998, JPR Diamond Tools has transformed into a National enterprise. JPR Diamond Tools is much more than a company that brags about quality, service, innovation and knowledge. It's all about the many enjoyable experiences when dealing with JPR's many diversified relationships. Every JPR Employee knows that the job is not finished until you have an enjoyable experience.

“Remember..the value of a story, lies in using it.”

Mission Statement:

JPR Diamond Tools is the simplest company for you to do business with. We pride ourselves in developing intelligent systems solution, innovative products, comprehensive services and accredited training. JPR Diamond Tool has solved virtually every imaginable problem in Diamond Segment. We are truly a diversified enterprise. As JPR Diamond Tools ventures through its second Decade we promise to be the best company-not the biggest or most profitable. JPR Diamond Tools is a company where old-fashioned values and integrity meet modern-day challenges in developing intelligent system solutions. Be prepared to have many enjoyable experiences!

Communications Through Story Telling:

All cultures, all ages, all genders, all races, all levels of experience, all levels of education and all businesses-yesterday, today and tomorrow – believe in, and enjoy storytelling.

No dusty policy manuals or corporate complexities here, JPR disarms the thorniest of management problems with a simple story. And then, with cruise missile accuracy, drives the point home with an easy-to-apply moral.

Sincerely:

S.Revathy

Chief Executive Officer

JPR Diamond Tools





CBN PCD Insert

Features

JPR PCD products are manufactured by using high quality PCD tip which is made under ultra high temperature and pressure. The PCD tip has been welded on the qualified carbide insert. Since JPR supplies high quality PCD products for turning, milling and endmills, it is possible to meet the needs of variety of application.

- ✓ Excellent tool life for aluminum alloy and copper alloy
- ✓ Excellent tool life for Ceramic, high-Si aluminum and rock or stone
- ✓ Excellent tool life for rubber, carbon, graphite and wood

PCD Grade

| Features | Application | Grain size(μm) | Hardness(Hv) | TRS(kgf/mm ²) |
|--|---|-----------------------------|-------------------|---------------------------|
| Coarse diamond grain has been used to get excellent wear resistance enough to machine cemented-carbide, high Si aluminum alloy | Cemented carbide Ceramic roughing High Si aluminum alloy Rock, Stone | 50 | 10,000~ 12,000 | 110 |
| By use of fine diamond grain having good bonding property, it is suitable for machining of non-ferrous metal, graphite. | High Si aluminum alloy Copper, Bronze alloy Rubber, Wood, Carbon | 5 | 10,000~ 12,000 | 200 |
| By use of ultra fine diamond grain, it is possible to make sharp cutting edge. Thus it is appropriate grade to machine nonferrous material | Plastic Wood Precise finishing of aluminum | 0.5 | 8,000~ 10,000 | 220 |

Recommended cutting condition

| Workpiece | Cutting speed (m/min) | Feed (mm/rev) | Depth of cut (mm) |
|----------------------------|-----------------------|---------------|-------------------|
| Aluminum alloy (4%~8%Si) | 1000 ~ 3000 | 0.1 ~ 0.6 | ~ 3 |
| Aluminum alloy (9%~14%Si) | 600 ~ 2500 | 0.1 ~ 0.5 | ~ 3 |
| Aluminum alloy (15%~18%Si) | 300 ~ 700 | 0.1 ~ 0.4 | ~ 3 |
| Copper, Bronze alloy | ~ 1000 | 0.05 ~ 0.2 | ~ 3 |
| Reinforced plastic | ~ 1000 | 0.1 ~ 0.3 | ~ 2 |
| Wood | ~ 4000 | 0.1 ~ 0.4 | - |
| Cemented carbide | 10 ~ 30 | ~ 0.2 | ~ 0.5 |

PCD CBN Insert (+/-)



| Figure | Designation | Grades | Dimensions(mm) | | | |
|--------|-------------|----------|------------------|-----------|--------|-----------|
| | | JPRD 150 | Inscribed circle | Thickness | Nose R | Hole size |
| | CNMM 120404 | | 12.9 | 4.76 | 04 | 5.16 |
| | 120408 | | 12.9 | 4.76 | 08 | 5.16 |
| | CNMX 120404 | | 12.9 | 4.76 | 04 | 5.16 |
| | 120408 | | 12.9 | 4.76 | 08 | 5.16 |
| | CCMT 060202 | | 6.35 | 2.38 | 02 | 2.8 |
| | 060204 | | 6.35 | 2.38 | 04 | 2.8 |
| | 09T304 | | 9.525 | 3.97 | 04 | 4.4 |
| | 09T308 | | 9.525 | 3.97 | 08 | 4.4 |
| | DCMT 11T304 | | 9.525 | 3.97 | 04 | 4.4 |
| | 11T308 | | 9.525 | 3.97 | 08 | 4.4 |
| | TBGW 060102 | | 3.97 | 1.59 | 02 | 2.2 |
| | 060104 | | 3.97 | 1.59 | 02 | 2.2 |
| | TPGT 080204 | | 4.76 | 2.38 | 04 | 2.4 |
| | 110304 | | 6.35 | 3.18 | 04 | 3.4 |
| | TPGW 080204 | | 4.76 | 2.38 | 04 | 2.2 |
| | TPGB 080204 | | 4.76 | 2.38 | 04 | 2.4 |
| | VBMW 160408 | | 9.525 | 4.76 | 08 | 4.4 |
| | VCMT 110304 | | 6.35 | 3.18 | 04 | 3.4 |
| | 160408 | | 9.525 | 4.76 | 08 | 4.4 |
| | 160412 | | 9.525 | 4.76 | 12 | 4.4 |
| | CNMA 120404 | • • | 12.7 | 4.76 | 04 | 5.16 |
| | 120408 | | 12.7 | 4.76 | 08 | 5.16 |
| | DNMA 150404 | | 12.7 | 4.76 | 04 | 5.16 |
| | 150408 | | 12.7 | 4.76 | 08 | 5.16 |
| | SNMA 120404 | | 12.7 | 4.76 | 04 | 5.16 |
| | 120408 | | 12.7 | 4.76 | 08 | 5.16 |
| | TNMA 160404 | | 9.525 | 4.76 | 04 | 3.81 |
| | 160408 | | 9.525 | 4.76 | 08 | 3.81 |
| | VNMA 160404 | | 9.525 | 4.76 | 04 | 3.81 |
| | 160408 | | 9.525 | 4.76 | 08 | 3.81 |

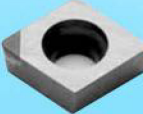
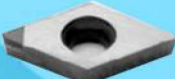


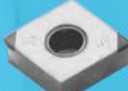
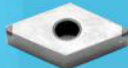


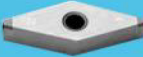




PCD CBN Insert (+/-)



| Figure | Designation | Grades | Dimensions(mm) | | | |
|--------|---|----------|------------------|-----------|--------|-----------|
| | | JPRD 150 | Inscribed circle | Thickness | Nose R | Hole size |
| | CCMW 060204 060208 09T304 09T308 | • | 6.35 | 2.38 | 04 | 2.8 |
| | | | 6.35 | 2.38 | 08 | 2.8 |
| | | | 9.525 | 3.97 | 04 | 4.4 |
| | | | 9.525 | 3.97 | 08 | 4.4 |
| | DCMW 070204 11T304 11T308 11T312 | | 6.35 | 2.38 | 04 | 2.8 |
| | | | 9.525 | 3.97 | 04 | 4.4 |
| | | | 9.525 | 3.97 | 08 | 4.4 |
| | | | 9.525 | 3.97 | 12 | 4.4 |
| | SCMW 09T304 09T308 | | 9.525 | 3.97 | 04 | 4.4 |
| | | | 9.525 | 3.97 | 08 | 4.4 |
| | TCMW 110204 TPGB 110304 110308 | • • | 6.35 | 2.38 | 04 | 2.8 |
| | | | 6.35 | 3.18 | 04 | 3.4 |
| | | | 6.35 | 3.18 | 08 | 3.4 |
| | VBMW 160404 160408 | • | 9.525 | 4.76 | 04 | 4.4 |
| | | | 9.525 | 4.76 | 08 | 4.4 |
| | NU-CNMA 120404 120408 | • • | 12.7 | 4.76 | 04 | 5.16 |
| | | | 12.7 | 4.76 | 08 | 5.16 |
| | NU-DNMA 150404 150408 | | 12.7 | 4.76 | 04 | 5.16 |
| | | | 12.7 | 4.76 | 08 | 5.16 |
| | NU-SNMA 120404 120408 | | 12.7 | 4.76 | 04 | 5.16 |
| | | | 12.7 | 4.76 | 08 | 5.16 |
| | NU-TNMA 160404 160408 | | 9.525 | 4.76 | 04 | 3.81 |
| | | | 9.525 | 4.76 | 08 | 3.81 |
| | NU-VNMA 160404 160408 | | 9.525 | 4.76 | 04 | 3.81 |
| | | | 9.525 | 4.76 | 08 | 3.81 |

CBN PCD Insert
Multi Corner Type (+/-)



| Figure | Designation | Grades | Dimensions(mm) | | | |
|---|-----------------|----------|------------------|-----------|--------|-----------|
| | | JPRD 320 | Inscribed circle | Thickness | Nose R | Hole size |
|  | NU-CCMW 060204 | | 6.35 | 2.38 | 02 | 2.8 |
| | 060208 | | 6.35 | 2.38 | 04 | 2.8 |
| | 09T302 | | 9.525 | 3.97 | 02 | 4.4 |
| | 09T304 | | 9.525 | 3.97 | 04 | 4.4 |
| | 09T308 | | 9.525 | 3.97 | 08 | 4.4 |
|  | NU-DCMW 070202 | | 6.35 | 2.38 | 02 | 2.8 |
| | 070204 | | 6.35 | 2.38 | 04 | 2.8 |
| | 11T302 | | 9.525 | 3.97 | 02 | 4.4 |
| | 11T304 | | 9.525 | 3.97 | 04 | 4.4 |
| | 11T308 | | 9.525 | 3.97 | 08 | 4.4 |
|  | NU-TPGW 080204 | | 4.76 | 2.38 | 04 | 2.8 |
| | 110304 | | 6.35 | 3.18 | 04 | 3.4 |
|  | NU-VBMW 160404 | | 9.525 | 4.76 | 04 | 4.4 |
| | 160408 | | 9.525 | 4.76 | 08 | 4.4 |
|  | 2NU-CNGA 120404 | • • | 12.7 | 4.76 | 04 | 5.16 |
| | 120408 | | 12.7 | 4.76 | 08 | 5.16 |
|  | 2NU-DNGA 150404 | • • | 12.7 | 4.76 | 04 | 5.16 |
| | 150408 | | 12.7 | 4.76 | 08 | 5.16 |
|  | 2NU-SNGA 120404 | • • | 12.7 | 4.76 | 04 | 5.16 |
| | 120408 | | 12.7 | 4.76 | 08 | 5.16 |
|  | 3NU-TNGA 160404 | • • | 9.525 | 4.76 | 04 | 3.81 |
| | 160408 | | 9.525 | 4.76 | 08 | 3.81 |
|  | 2NU-VNGA 160404 | • • | 9.525 | 4.76 | 04 | 3.81 |
| | 160408 | | 9.525 | 4.76 | 08 | 3.81 |
|  | 2NU-CCGW 09T304 | • • | 9.525 | 3.97 | 04 | 4.4 |
| | 09T308 | | 9.525 | 3.97 | 08 | 4.4 |
|  | 2NU-DCGW 11T304 | • • | 9.525 | 3.97 | 04 | 4.4 |
| | 11T308 | | 9.525 | 3.97 | 08 | 4.4 |
|  | 3NU-TPGB 110304 | • • | 6.35 | 3.18 | 04 | 3.4 |
| | 110308 | | 6.35 | 3.18 | 08 | 3.4 |
|  | 2NU-VBGW 160404 | • • | 9.525 | 4.76 | 04 | 3.81 |
| | 160408 | | 9.525 | 4.76 | 08 | 3.81 |

Cluster Dressers



Cluster type diamond dressers consist of a number of small natural diamonds of good crystal character, set in a geometric pattern in single layer and sintered into a special wear resistant bond.

The Cluster type diamond dresser is ideal for coarse or rough dressing of grinding wheels in sizes up to 80 grit (mainly rough grinding or grinding to eliminate imbalance). The diamonds can be fully utilised without re-setting or re-sharpening. Dressing costs are substantially reduced as the diamonds used in this type of dressers are much smaller in size than single point diamond dresser, so they are much economical.

Cluster type diamond dressers give rapid-dressing and produce a consistent even surface on the grinding wheel. These dressers are resistant to shock and impact. The dressing face of the cluster type diamond dresser should be set at an angle of 90 degree to the grinding wheel so that all the diamonds points are in contact at the same time.

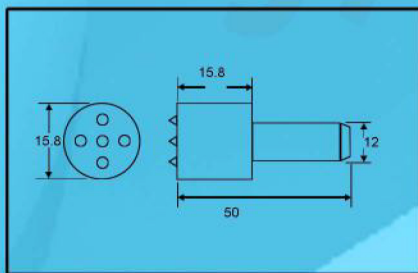
Depth of cut pre stroke of the dresser: 0.01-0.05mm max

Feed rate-in mm per revolution:

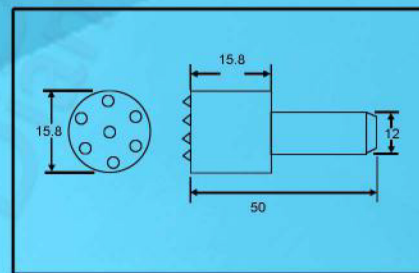
0.3-1.5 mm max

Finer in feeds & smaller Cuts will produce higher surface finishes. Normal wheel speeds should be used

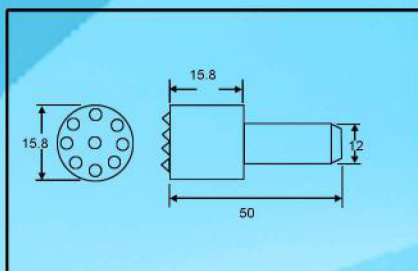
An adequate supply of coolant should be used both before and during the dressing



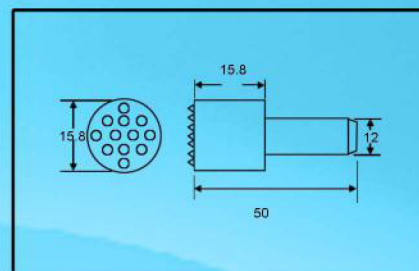
JPRD 100011



JPRD 100012



JPRD 100013



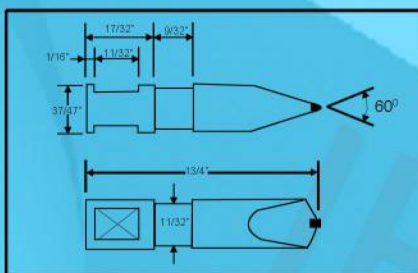
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Chisel Type Diamond Dressers

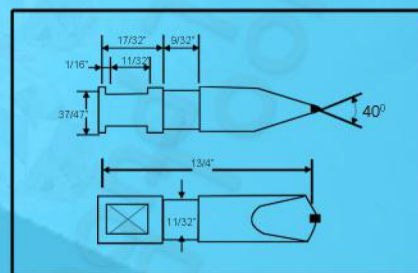


For use on diaform and true-path dressing attachments and other radius. Angle and profile dressing attachments Profiling and copy dressing of grinding wheels make high demands on profile retention capability and thus on wear-resistance of the diamond tool.

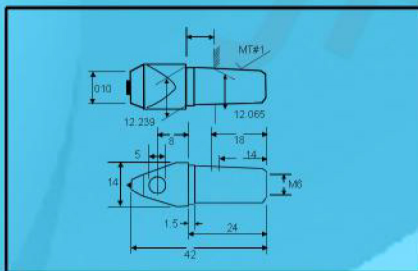
Wherever diamond blade type tools cannot meet these requirements due to the specific grinding wheel geometry, precision ground shaping tools are the solution. Shaping tools feature the unique “Structure-Cut” to ensure optimum tool life. They are manufacture only from the highest grade of natural diamonds and undergo stringent quality control during manufacturing



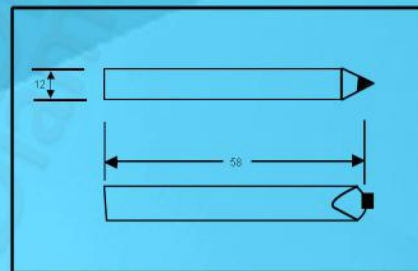
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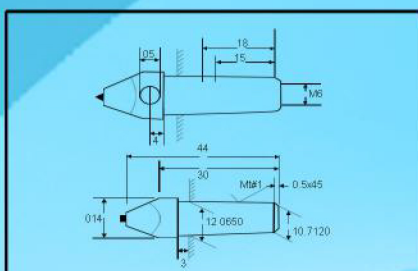
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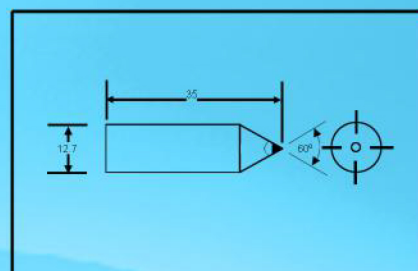
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JPRD 100004



JPRD 100005

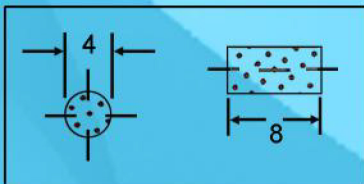


JPRD 100006

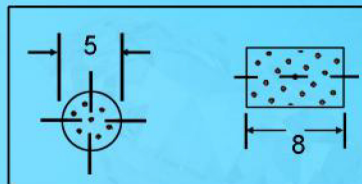
Diamond Grit Impregnated Tool



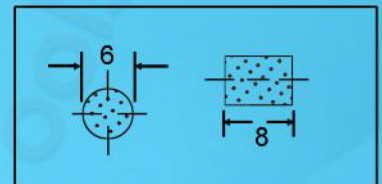
These consist of diamond powder in a sintered metal matrix. The tool is available in 6 Standard Size. Normal dressing speeds are used. A plentiful supply of coolant should be provided both before and during dressing to prolong dresser life. The diamond grit impregnated cutting face of the dresser should be set at an angle of 90 degree to the grinding wheel to be dressed, so that all the cutting edges of the diamonds grit are able to make contact with the wheel face



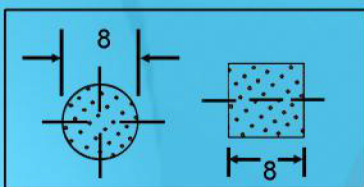
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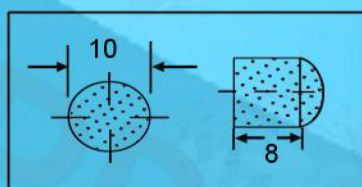
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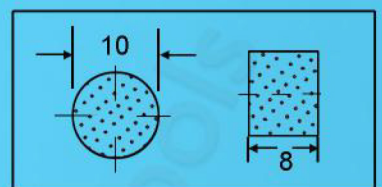
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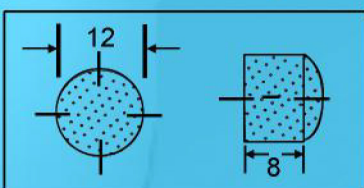
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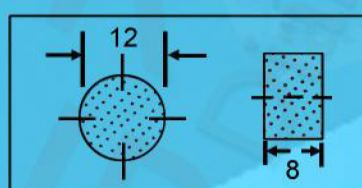
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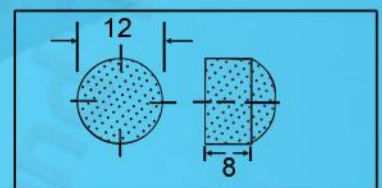
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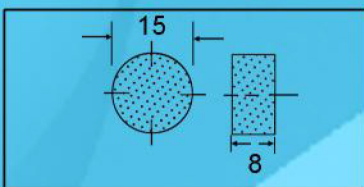
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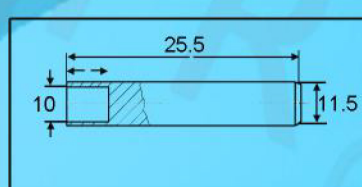
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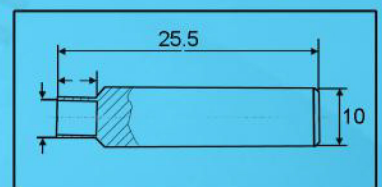
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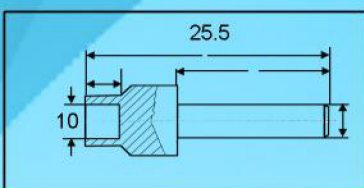
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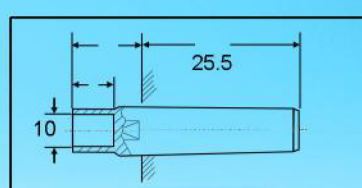
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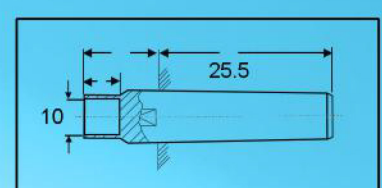
JPRD 100032



JPRD 100033



JPRD 100034



JPRD 100035

Single Point Diamond Dresser



Single Point "bruted Diamond" dressers are made with selected "Congo Rounds" mounted in a matrix. A Single Cutting Edge is presented to the grinding Wheel.

Diamonds for single point dressed are selected in accordance with quality and size. The question of using a superior, average or commercial quality depends on the grinding finish required and machines and working parameters.

We offer three grades namely A, B & C for all the diamond size, Availability: 0.25 Ct to 5.00 ct

Natural point Diamonds: The Diamond Points are naturally formed. (Not manmade like grades A, B & C) This is a gift of nature. Natural point Diamond Dressers have high form retention properties. Availability: 0.10 Ct to 2.50 Ct.

Considerable cares should be taken in mounting the diamond dresser in Position. Diamonds are sensitive to shock and impact.

The dresser must be clamped rigidly in place to avoid vibration once dressing begins

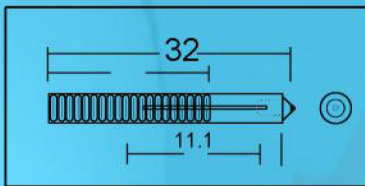
An ample supply of coolant should be directed at the diamond point before dressing begins, as the sudden application of coolant to the diamond once it has heated up can cause it to shatter.

The diamond holder should not be set directly on the center of the grinding wheel. But at an angle of 5-15 to the direction of rotation of the wheel so that it appears to be "trailing"

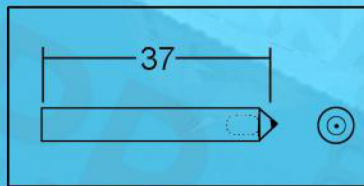
At normal wheel peripheral speeds dressing rates of approximately 20-25 m/sec can be achieved.

The maximum depth of cut achieved per dressing pass is 0.03 mm or on fine grit wheels, approximately 0.005-0.01 mm.

The Cross feed rate is dependent upon grit size and can have marked influence on the quality of the finish imparted to the grinding wheel surface. The lower the feed rate, the finer the surface finishes. We would recommend the following feed rates per revolution of the grinding wheel.



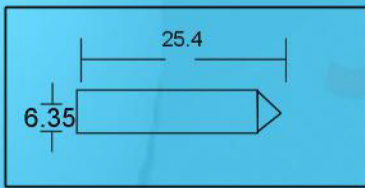
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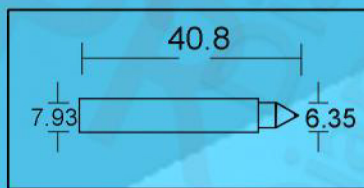
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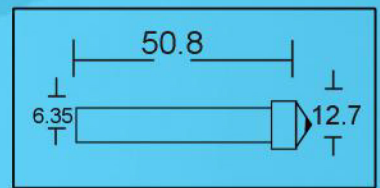
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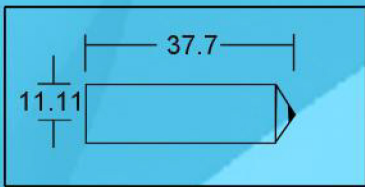
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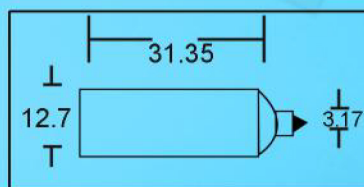
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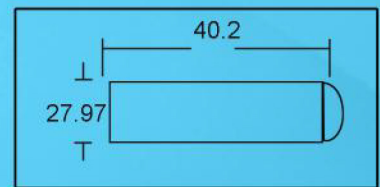
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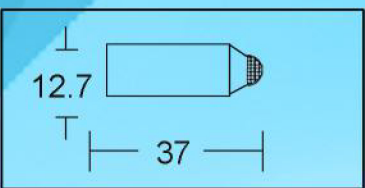
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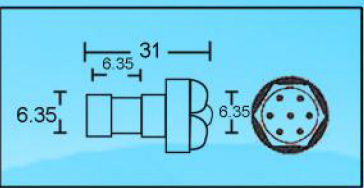
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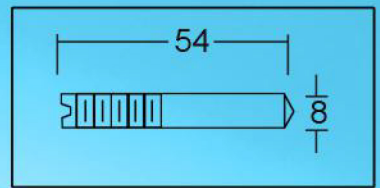
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JPRD 100050

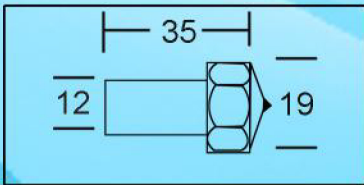


JPRD 100051

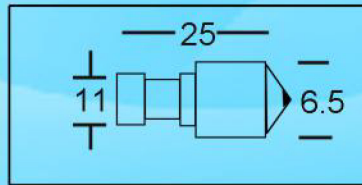


JPRD 100052

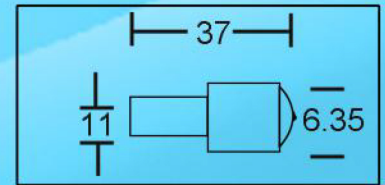
Single Point Diamond Dresser



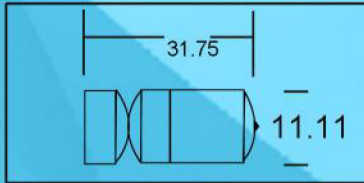
JPRD 100053



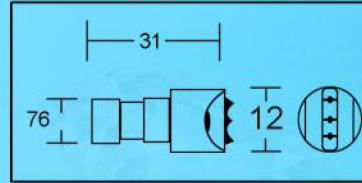
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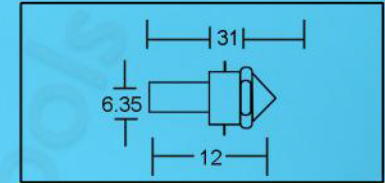
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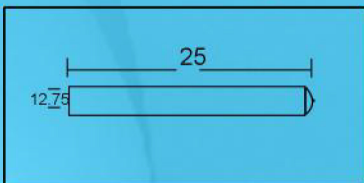
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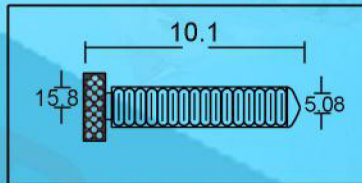
JPRD 100057



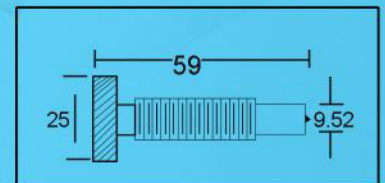
JPRD 100058



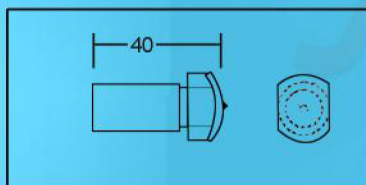
JPRD 100059



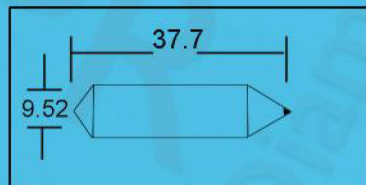
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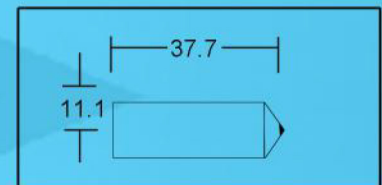
JPRD 100061



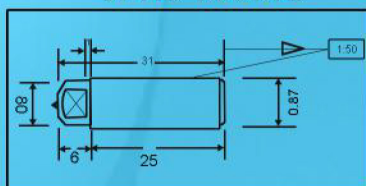
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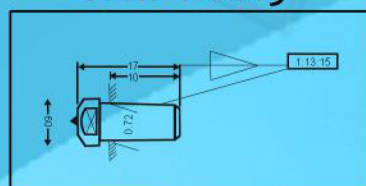
JPRD 100063



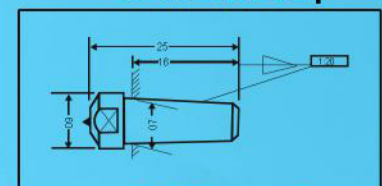
JPRD 100064



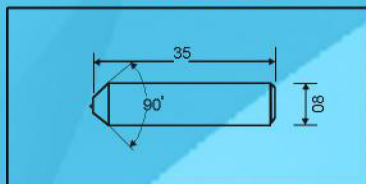
JPRD 100065



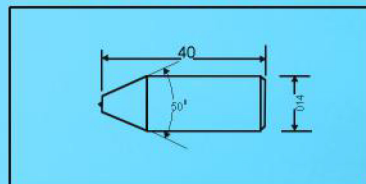
JPRD 100066



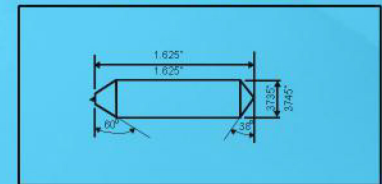
JPRD 100067



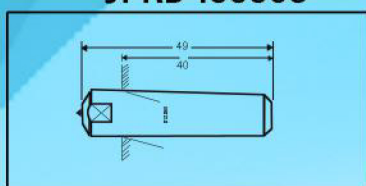
JPRD 100068



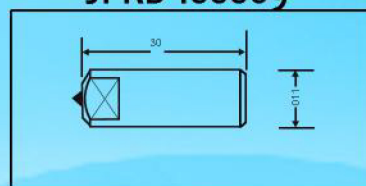
JPRD 100069



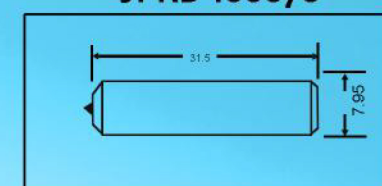
JPRD 100070



JPRD 100071



JPRD 100072



JPRD 100073

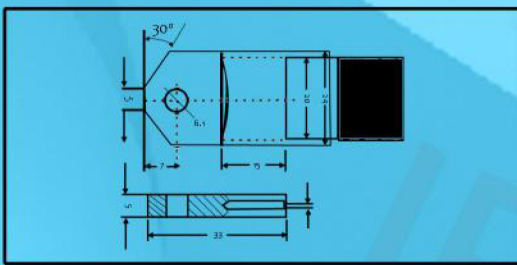
Blade type Dresser



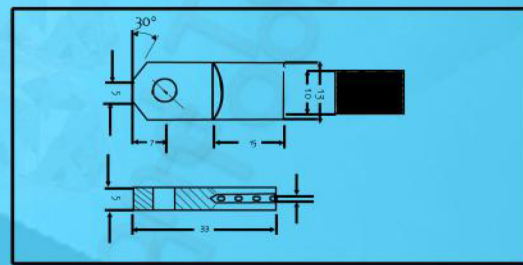
Dragon Blade dressers are basically conceived from the multi-point wheel dressing Concept – as an extension to the areas with a stringent control demand on quality & economy. On few heavy-duty grinders, especially centerless grinders, often the demands are high both on quality and productivity with the following essential characteristics of wheel dressing;

- ✓ Uniform dressing over the full strength of wheel
- ✓ Proper abrasive glaze-free surface on the wheel
- ✓ Wheel edges free of broken edge

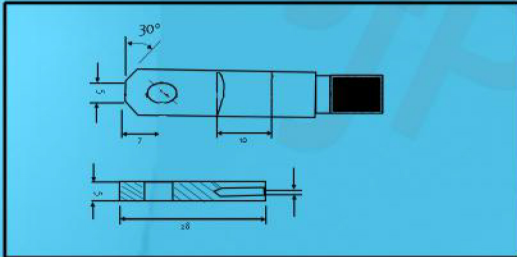
At the same time, from the economic point of view, the dresser becomes expensive when not properly designed to meet all the three requirements. However, a combination dresser has been conceived to combine quality with economy. The dresser consists of three dressing blades set in a bronze shank (like any other blade dresser) in the form of a sandwich. The blades are set with gaps to ensure a proper follow up action during dressing. The middle blade serves as the main load carrying member. The other two blades serve as leading and lagging point to ensure glaze free dressings.



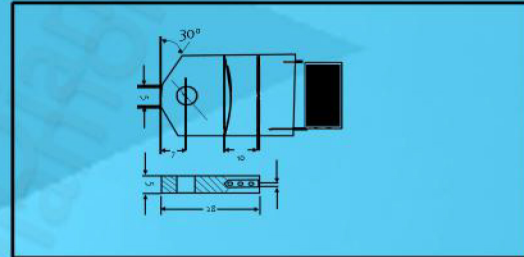
JPRD 100081



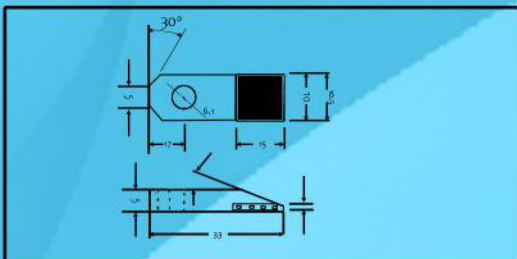
JPRD 100082



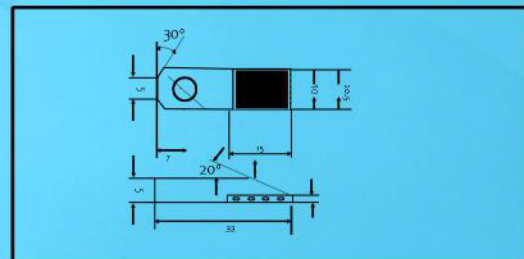
JPRD 100083



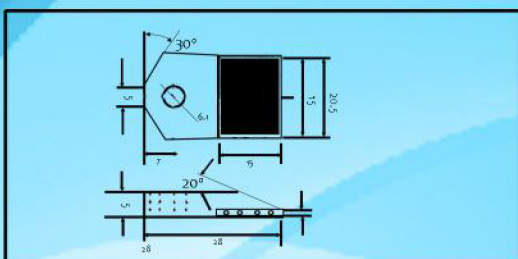
JPRD 100084



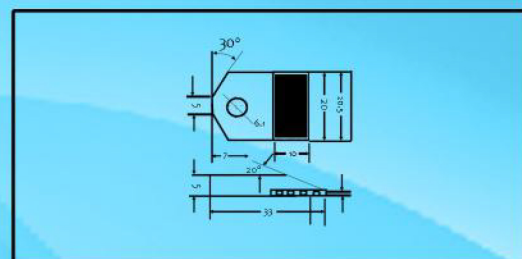
JPRD 100085



JPRD 100086

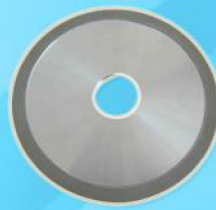


JPRD 100087

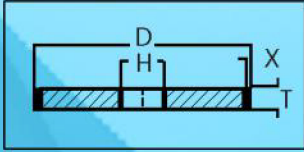


JPRD 100088

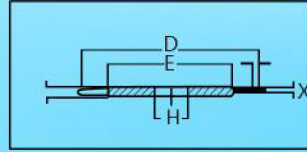
Diamond C.B.N./Resinoid Wheels



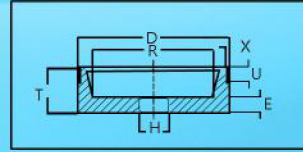
Resinoid Bonded Wheel is sharper in Grinding, better finishing and higher grinding efficiency compared with metal bonded wheel and mainly used for grinding cemented carbide extensively



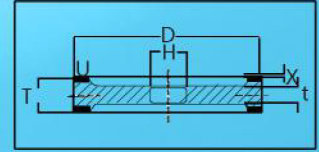
JPRD 100091



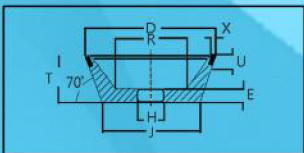
JPRD 100092



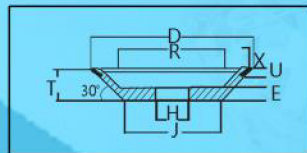
JPRD 100093



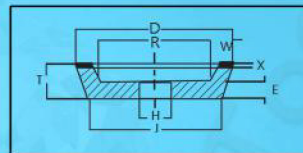
JPRD 100094



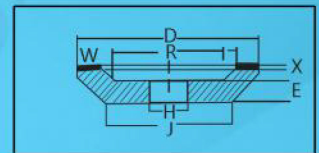
JPRD 100095



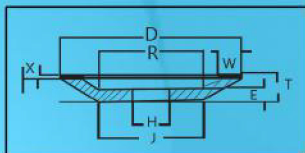
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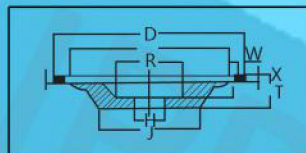
JPRD 100097



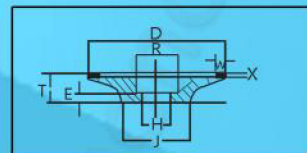
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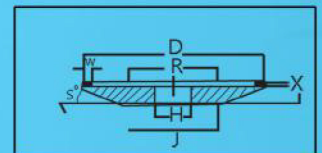
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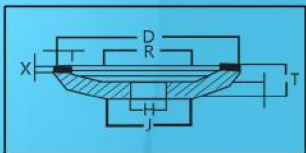
JPRD 100100



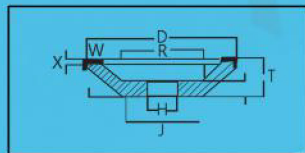
JPRD 100101



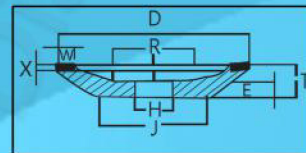
JPRD 100102



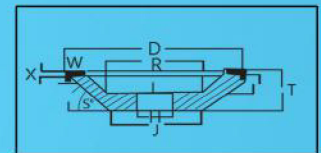
JPRD 100103



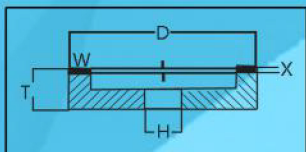
JPRD 100104



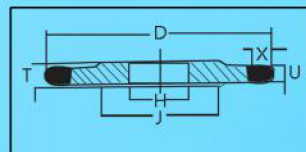
JPRD 100105



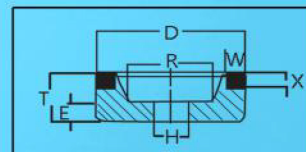
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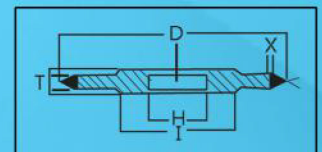
JPRD 100107



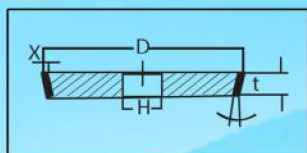
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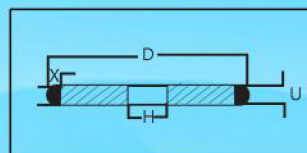
JPRD 100109



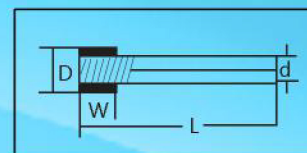
JPRD 100110



JPRD 100111



JPRD 100112



JPRD 100113

Sticks and Wheels



Honing sticks

JPR offers Honing sticks, made from CBN or Diamond. As we possess, under one roof, all the resources necessary to develop and build unique honing tools/sticks that address the longstanding customer problems and ultimately improve product performance.

Honing is a low-speed, high-pressure surface finishing operation in which stock is removed by the cutting action of abrasive grit embedded in one or more honing stones.

They are used for processing different materials (various cast iron, ceramic, aluminum alloy and plated chrome) cylinder sleeve, cylinder block and connecting rods. They are widely used for automotive, motorcycle, refrigeration, bearing, marine, aviation and so on



Resin/Metal/Diamond Grinding wheels

- 1, Product as customer's JPR
- 2, High quality
- 3, Factory no trading company

Main features:

Resin/Ceramic/Metal/Diamond Grinding wheels

- 1, Product as customer's JPR
- 2, High quality
- 3, Factory no trading company, reasonable price

Grinding wheels mainly used for glass, stone, metal, wood and so on.

We can produce any kinds of grinding wheel, just send me the JPR of the products, and we will give what you want.



Diamond Roller wheel

They are widely used for dressing the grinding wheels for processing screw of steering gear, universal joint, valve, bearing inner and outer raceway, camshaft, crankshaft and connecting rods and so on. We can produce high precision dressing rollers with inner galvanizing methods. For example, we can supply complicated multi-teeth rollers with small radius $R_{0.1}$ and teeth distance less than 1mm and heavy grinding rollers with height more than 200mm and height diameter ratio bigger than 1.5.

Our dressing rollers produced with outer galvanizing methods are used for dressing vitrified CBN grinding wheels and internal mounted points. Its features are high dressing efficiency and good straightness.



Vickers/Indenters/Diamond Paste



Vickers/Indenters

The Vickers hardness Test is similar to the brinell principle in that an indenter of definite Shape is pressed into the material to be tested, the load removed, the diagonals of the resulting indentation are measured, and the hardness number is calculated based on the area of Indentation. The Vickers indenter is Square based pyramid that has an angle of 136° between faces.

Diamond Paste

In Polishing or lapping such a various materials as tungsten carbide, hardened steel, sapphire, ruby and ceramics, mirror finish can be obtained in very short time compared with conventional polishing materials, The paste contain Diamonds in past condition,





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JPR

Diamond Tools