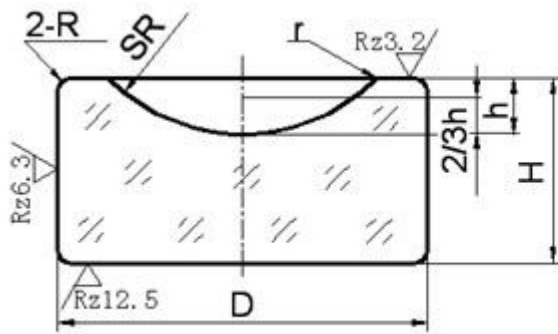


Special gem components

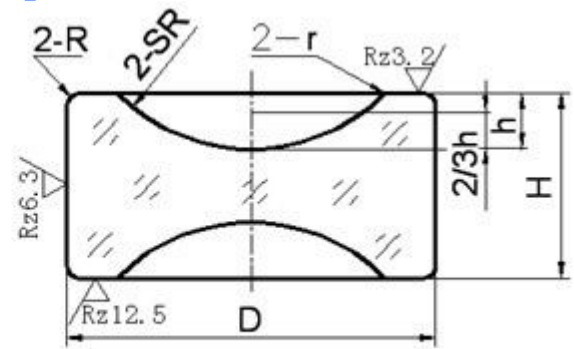


Cup jewels contain four types: spherical bearing, conical bearings, double cups on one surface bearing, and single cup on double surfaces bearing. These cup jewels are mainly used for movement system in electronic meter, hot water meter, liquid measuring instrument, single-phase KHW meter, triphase KHW meter, aviation and navigation instruments, weather apparatus and many other kinds of instruments and apparatus.

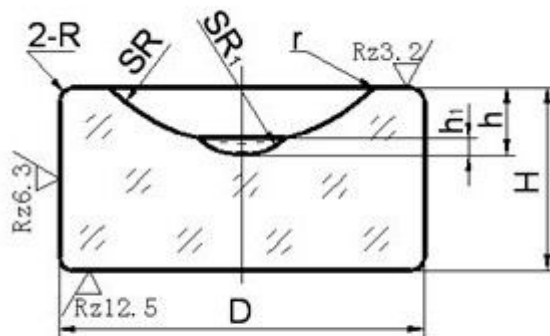
Types:



Cup Jewel Bearing (Synthetic Sapphire/Ruby, Agate)



Single Cup on Double Surfaces Bearing (Synthetic Sapphire/Ruby, Agate)



Double Cups on One Surface Bearing (Synthetic Sapphire/Ruby, Agate)

Special gem components

Outside Diameter: $\Phi 0.80 \sim \Phi 10.00$ mm, Max Deviation of Outside Diameter: h7~h9

Height: 0.60 ~ 5.00mm, Max Deviation of Height: ± 0.01

Cup Depth: 0.20 ~ 0.80mm, Max Deviation of Cup Depth: 0 ~ 0.06

Curvature Radius SR: 0.60 ~ 5.00mm, Max Deviation of Curvature Radius: ± 0.03

Depth of Tapered Cup: 0.20 ~ 0.60mm, Max Deviation of Depth of Tapered Cup: $\pm 0.02 \sim \pm 0.05$

Taper: $60^\circ \sim 120^\circ$, Max Deviation of Taper: $\pm 5^\circ$

Curvature Radius of Bottom of Tapered Cup SR: 0.15 ~ 25, Max Deviation of Curvature Radius of Bottom of Tapered Cup SR: ± 0.05

Technical Index:

Material: Synthetic sapphire/ruby single crystal $\alpha\text{-Al}_2\text{O}_3$, natural agate, crystallite glass and ceramic, etc.

Order:

Customized. Produce according to specific requirements and drawings, and also can design products for customers.



Joy with your eyes

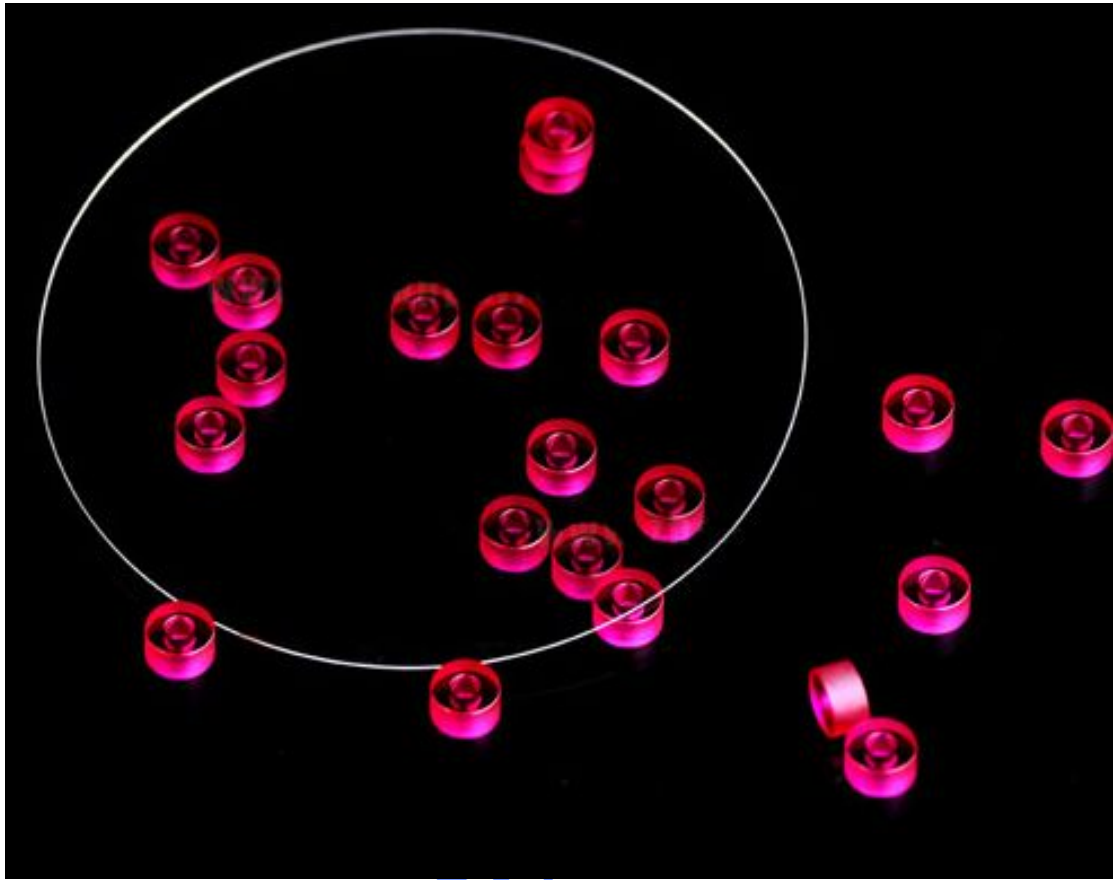
Chongqing MIC Technology Co., Ltd

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Email: info@sapphiredome.com

TEL: +86-13436078184; FAX: +86-23-63913139

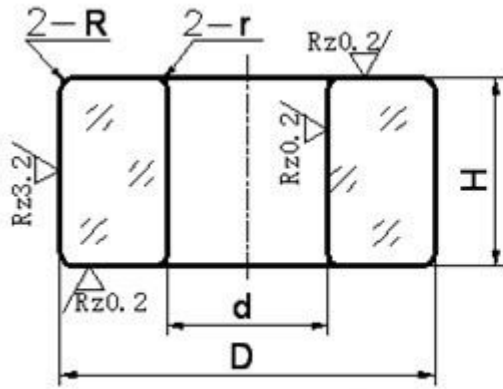
Special gem components



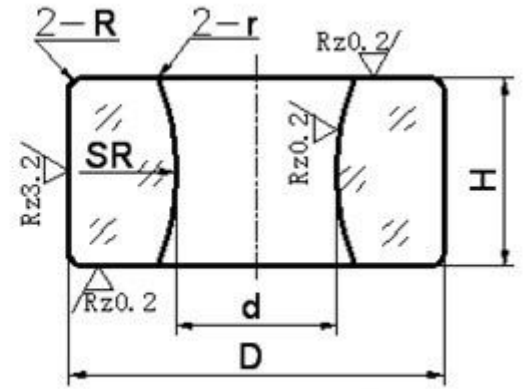
Special gem components

Hole Jewel contains a series of components that are chiefly applied as supporting bearings to the rotational systems of various accurate chronographs, auto-memorizing apparatus, precise instruments (micrometer, dial indicator) and other apparatus.

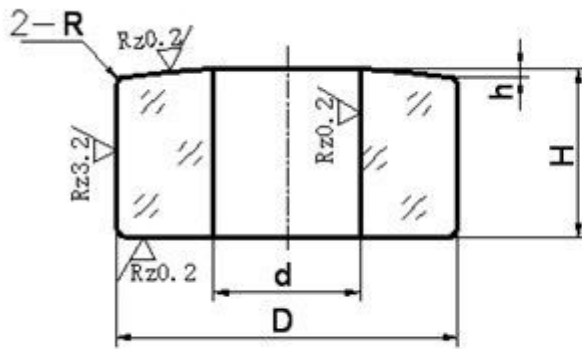
Main types of hole jewel: Plane straight/olive holed bearing, single-cup plane straight/olive holed bearing, double-cups plane straight/olive holed bearing, convex olive holed bearing, and single-cup convex olive holed bearing, etc.



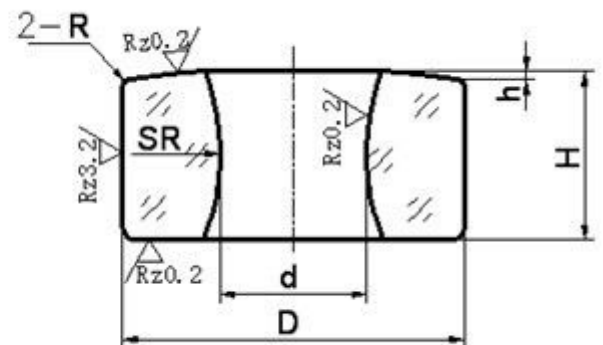
Plane Straight Holed Jewel Bearing



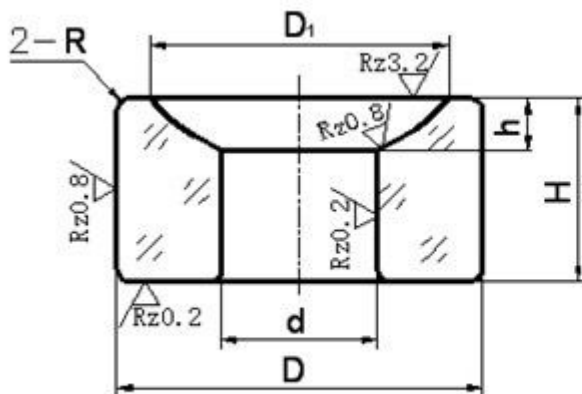
Plane Olive Holed Jewel Bearing



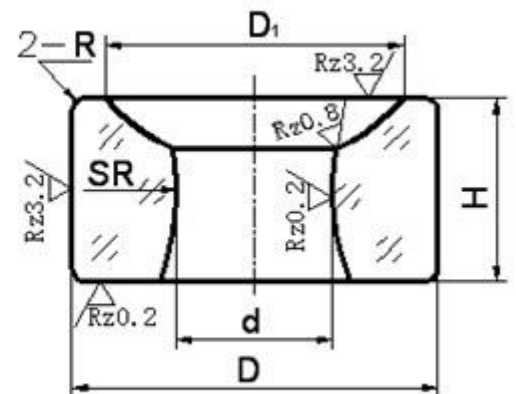
Convex Straight Holed Jewel Bearing



Convex Olive Holed Jewel Bearing

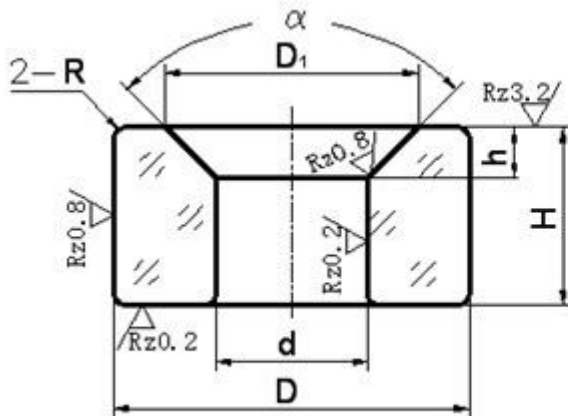


Single-cup Plane Straight Holed Jewel Bearing

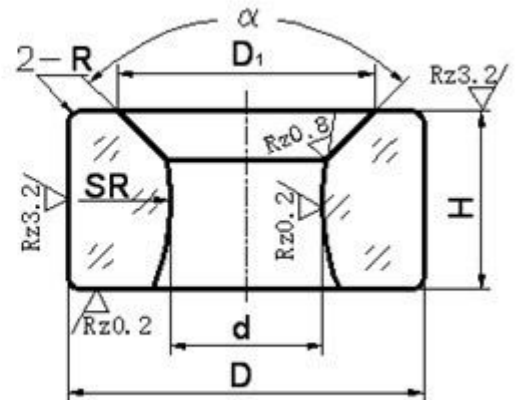


Single-cup Plane Olive Holed Jewel Bearing

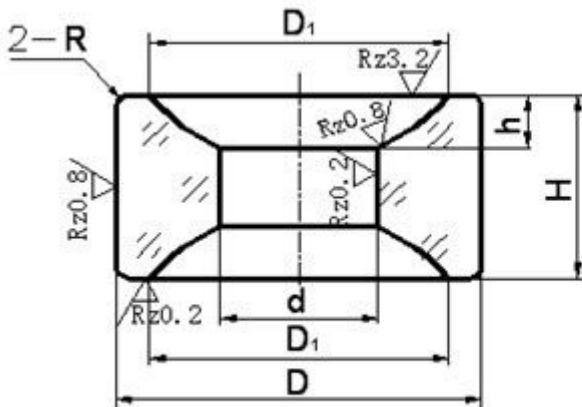
Special gem components



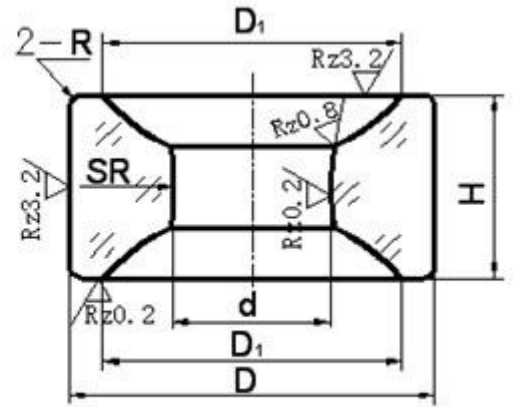
Single-conical Cup Plane Straight Holed Jewel Bearing



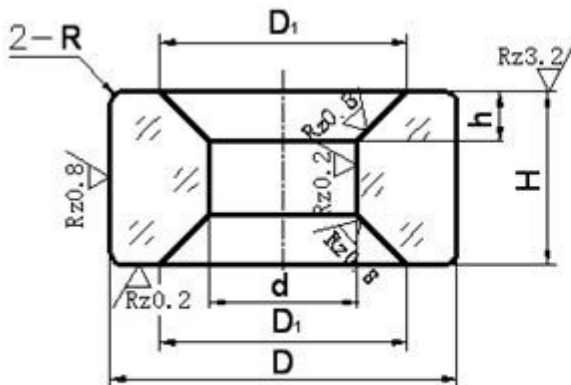
Single-conical Cup Plane Olive Holed Jewel Bearing



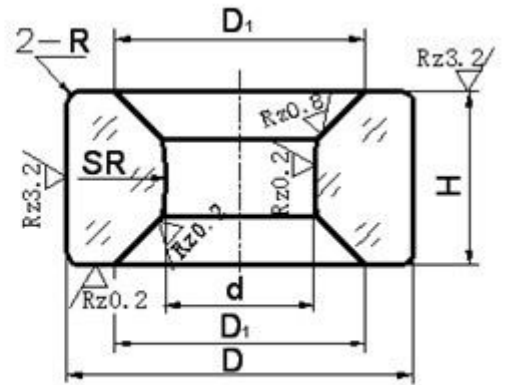
Double-cups Plane Straight Holed Jewel Bearing



Double-cups Plane Olive Holed Jewel Bearing

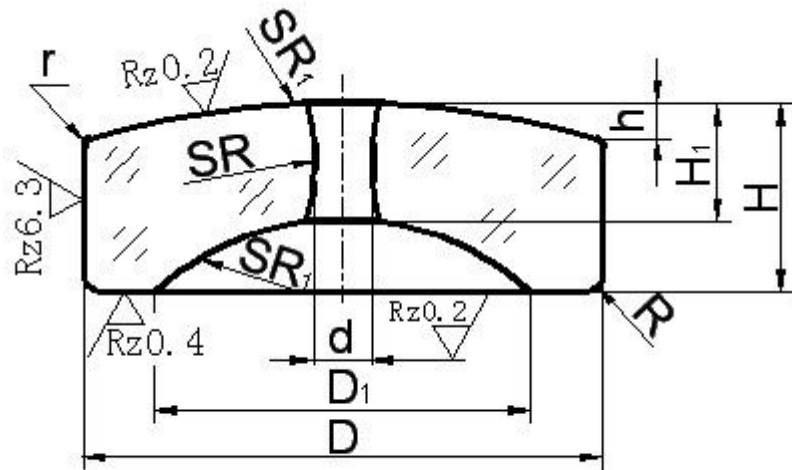


Double-Conical cups Plane Straight Holed Jewel Bearing



Double-Conical cups Plane Olive Holed Jewel Bearing

Special gem components



Single-cup Convex Olive Holed Jewel Bearing

Specification:

Outside Diameter: $\Phi 0.80 \sim \Phi 8.00\text{mm}$, Max Deviation of Outside Diameter: $h7 \sim h9$

Height: $0.125 \sim 20.00\text{mm}$, Max Deviation of Height: $\pm 0.01\text{mm}$

Inside Diameter: $\Phi 0.08 \sim \Phi 5.00$, Max Deviation of Inside Diameter: $0.004 \sim 0.02$

Radius SR of Inside Diameter: $(2 \sim 3) H$

Curvature Radius SR1 of Cup: $<$ Outside Diameter, Max Deviation of Curvature Radius of Cup: ± 0.03

Curvature Radius SR2 of Convex: $>$ Outside Diameter, Max Deviation of Curvature Radius SR2 of Convex: ± 0.05

Surface Roughness: application surfaces RZ0.1, RZ0.2, assembled surfaces: RZ3.2

Technical Index:

Material: Synthetic Sapphire/Ruby, Crude Agate, Spinnelle, and ceramic, etc.

Order:

Customized. Produce according to specific requirements and drawings, and also can design products for customers.

Special gem components

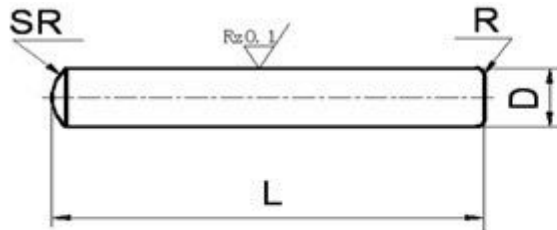


Special gem components

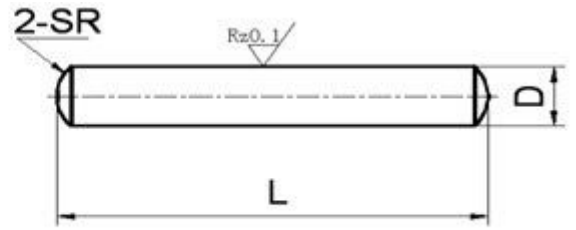
End-face bearing includes two sorts: the flat end-face bearing and the convex end-face bearing. The jewel end-face bearings made of synthetic sapphire and ruby are widely used for end-face supporting in different high precision instruments, watermeters, flowmeters and many other kinds of apparatus.

Main Types: Flat End-face Jewel Bearing

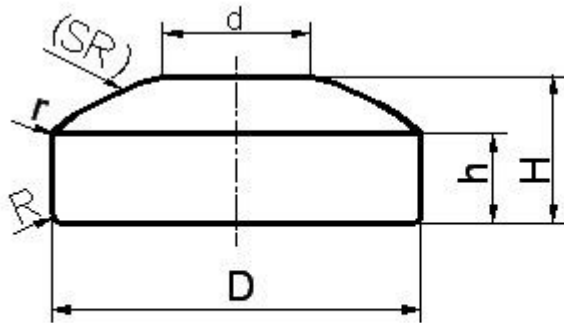
Convex End-face Jewel Bearing



Single Convex-end Synthetic Sapphire/Ruby Rod



Double Convex-ends Synthetic Sapphire/Ruby Rod



Flat End-face Jewel Bearing

Technical Index:

Outside Diameter: $\Phi 1.20 \sim \Phi 8.00\text{mm}$, Max Deviation of Outside Diameter: h7 ~ h9

Height: 0.50 ~ 5.00mm, Max Deviation of Height: h7 ~ h9

Height of Convex Part: 0.10 ~ 0.75mm, Max Deviation of Outside Diameter: +/-0.05

Curvature Radius SR: 4.80 ~ 41.50mm, Max Deviation of Outside Diameter: +/-0.10

Surface Roughness Rz: see drawing indication

Order:

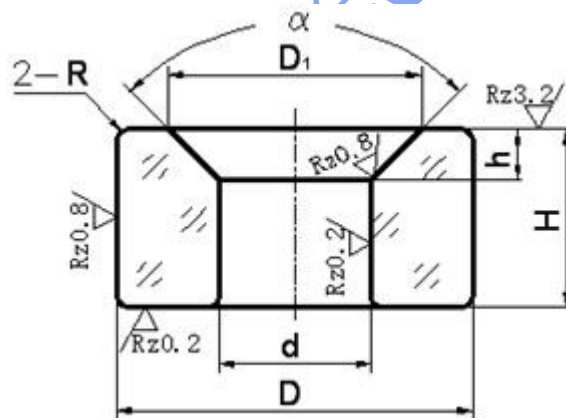
Customized. Produce according to specific requirements and drawings, and also can design products for customers.

Special gem components



Jewel nozzles are made of synthetic sapphire/ruby ($\alpha\text{-Al}_2\text{O}_3 \geq 99.99\%$) and embedded with brass, red copper, stainless steel and alloy. They are mainly applied to high precision measuring instrument, machinery, high-pressure water, liquid cutting, and medicine. They are also widely used in various auto-memorizing apparatuses of synthetic fiber, dyestuff, food processing, heat instrument, railway and aviation surveying and drawing, such as standard diameter gauge, indicator, observer, clock, potentiometer, and gyroscope of space navigation, aviation and spaceflight.

Type:



Specification: Outside Diameter: 0.60 ~ 8.00mm, Max Deviation of Outside Diameter: 0.006 ~ 0.03

Height: 0.40 ~ 4.50mm, Max Deviation of Height: 0.02 ~ 0.10

Inside Diameter: 0.08 ~ 3.00mm, Max Deviation of Inside Diameter: 0.004 ~ 0.03

Length of Straight Hole: 0.10 ~ 2.50mm, Max Deviation of Length of Straight Hole: 0.02 ~ 0.08

Taper: $60^\circ \sim 120^\circ$, Max Deviation of Taper: $\pm 5^\circ$

Technical Index:

Material: $\alpha\text{-Al}_2\text{O}_3 \geq 99.99\%$ (Synthetic Sapphire/Ruby);

No bubble or impurity in material;



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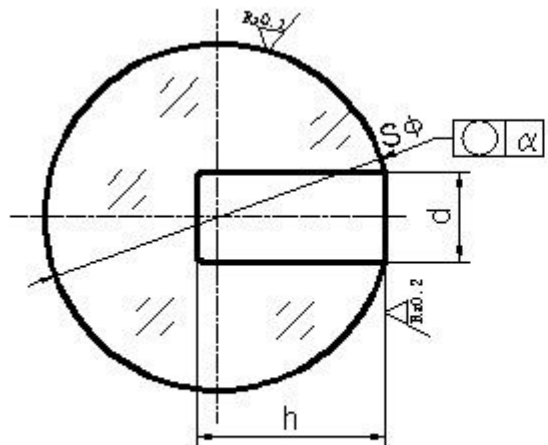
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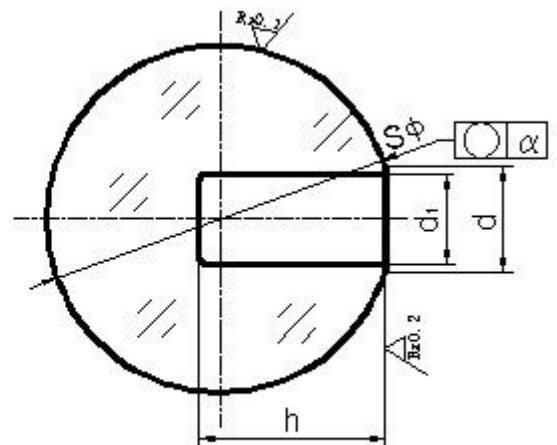
Special gem components



Convex Jewel Lens, Semi-circular Jewel Lens, Jewel Measuring Probe, Special Measuring Probe (Type A and Type B), Half-Side Balde Types:

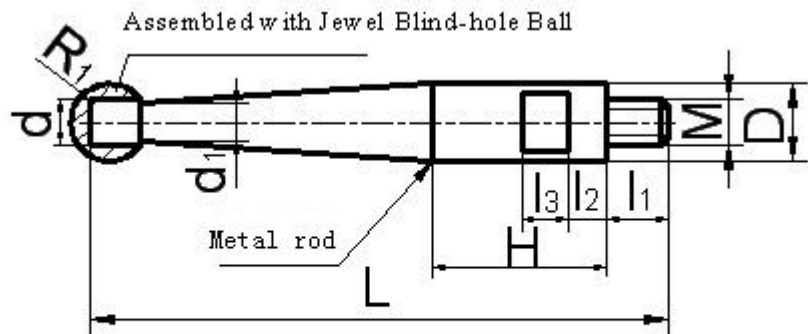
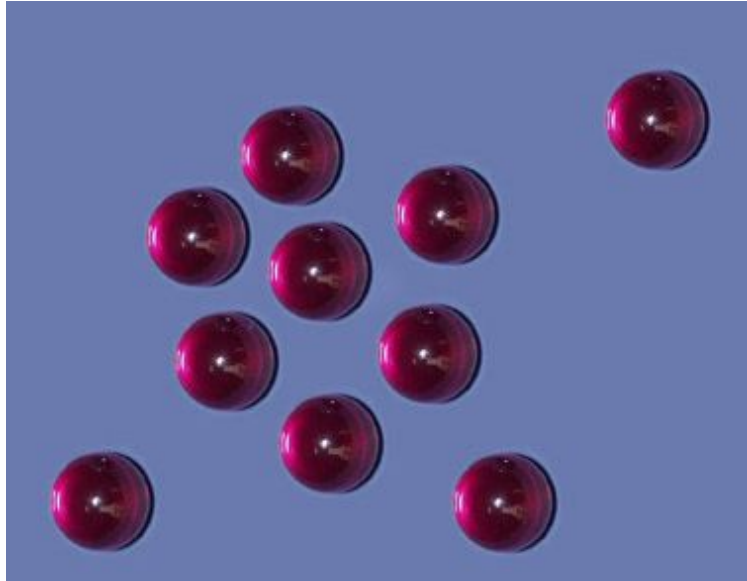


Jewel Probe -Type A



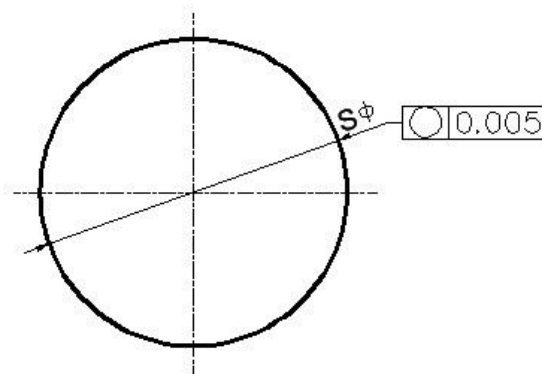
Jewel Probe -Type B

Special gem components



Jewel Measuring Probe

Jewel balls are made of synthetic sapphire/ruby. They are largely used in heavily corrosive environment and optical fiber communication because of its anticorrosion, wearable and fine transmission characteristics. Jewel blind holed balls are used as insulated measuring probe in high precision instruments.



Jewel Ball

Types:



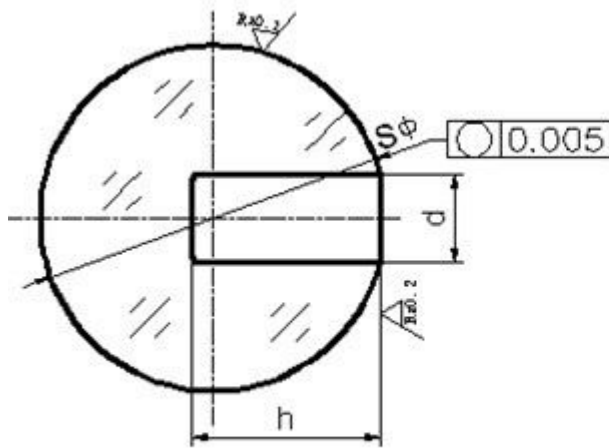
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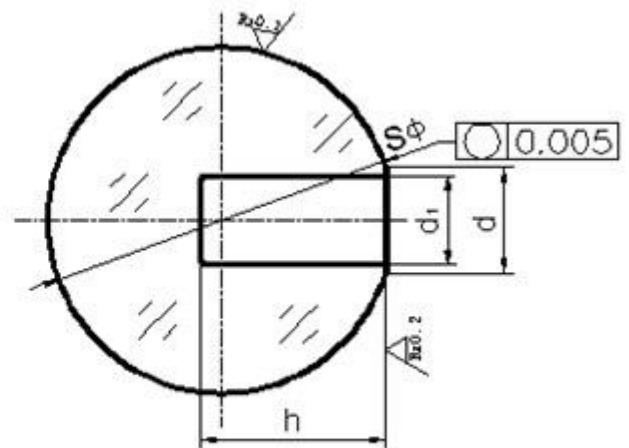
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Special gem components



Jewel Blind Hole Ball (Measuring Probe of Type A)



Jewel Blind Hole Ball (Measuring Probe of Type B)

Specification:

Diameter: $\Phi 0.80 \sim \Phi 12.00$ mm(Sapphire), Max Deviation of Diameter: ± 0.00127

$\Phi 0.60 \sim \Phi 8.00$ mm (Ruby), Max Deviation of Diameter: ± 0.00127

Technical Index:

Material: Synthetic Sapphire/Ruby ($\alpha\text{-Al}_2\text{O}_3$) $\geq 99.99\%$

Diameter Tolerance: 0.00125mm

Surface Roughness: Rz0.1

Roundness: Grade 5 (0.000127)

Surface Quality: S/D 40/20

Process from synthetic sapphire, ruby, crude agate, spinelle, carborundum, cemented carbides, and ceramic

Order

Customized. Produce according to specific requirements and drawings, and also can design products for customers.

Special gem components

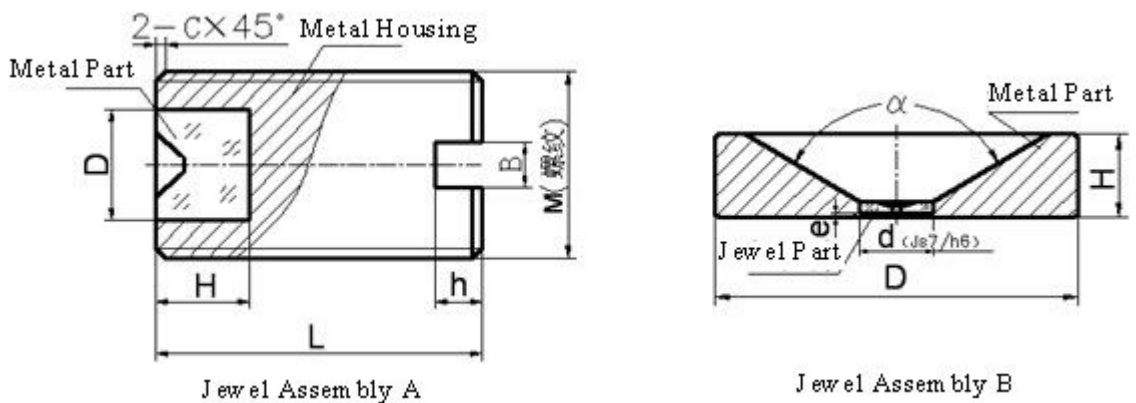


Jewel Assembly

Jewel assembly is made up of inside and outside metal housing and jewel part. The inside metal housing is generally made of brass H59 and H62, and the outside metal housing is generally made of brass, stainless steel 303 and duralumin LY12, etc, and the jewel part is generally made of synthetic sapphire and ruby. There are many sorts of sapphire and ruby part, mainly including cup jewel, flat-end surface bearing, flat surface straight holed bearing, flat surface olive holed ring, single cup straight holed ring, single cup olive holed ring, double cups straight holed ring, double cups olive holed ring, hyperboloid straight holed ring, hyperboloid olive holed ring.

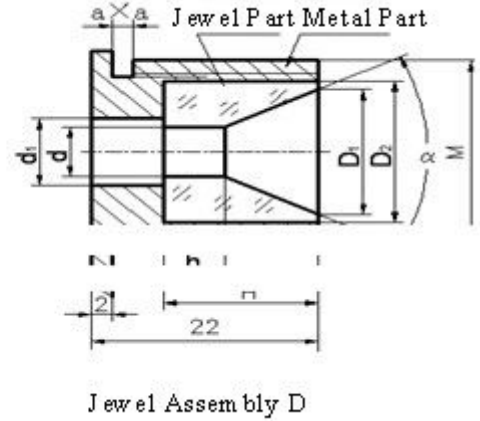
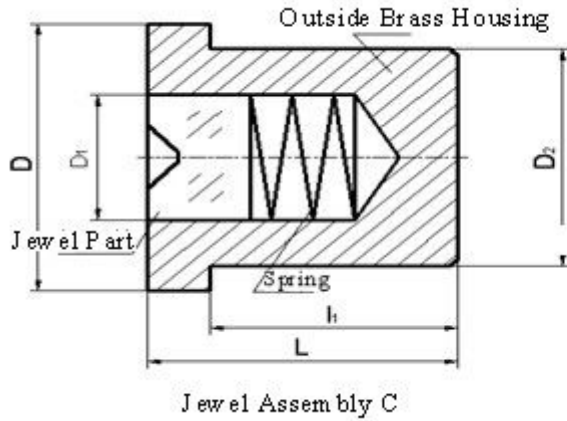
The main application part of jewel assembly is the jewel part which is quite wearable. The friction coefficient between jewel part and stainless steel part is 0.14. As its friction resistance is small, and its sensitivity is high, the jewel assemblies are intensively used as movable and supporting parts on accurate measuring instrument and military apparatus.

Major form



Special gem components

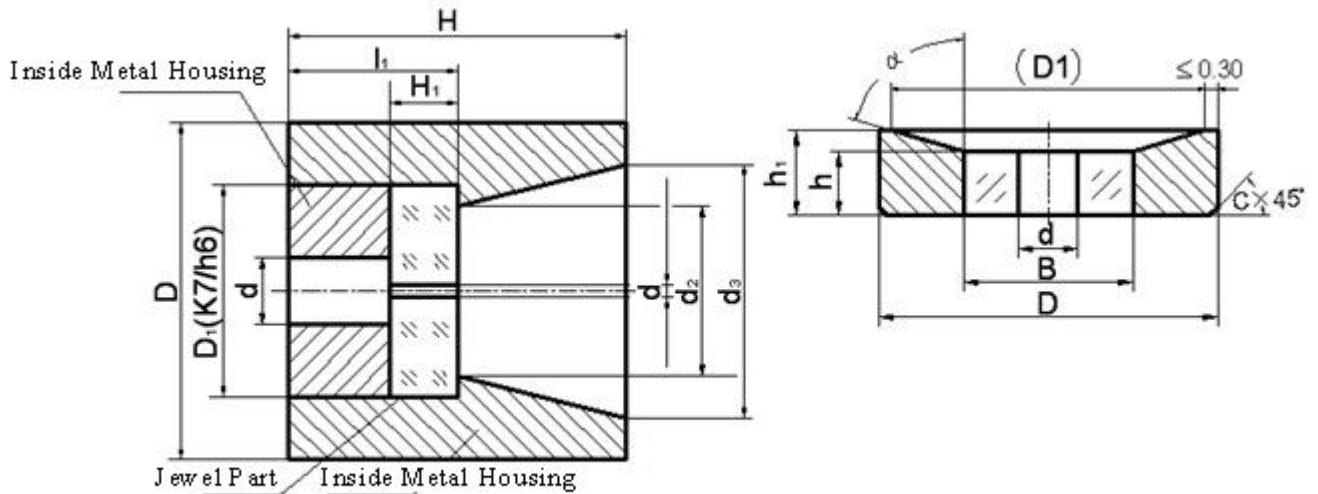
Metal Housing
 Metal Part
 Jewel Part
 Jewel Assembly A
 Jewel Assembly B



Outside Brass Housing
 Jewel Part
 Spring
 Metal Part
 Jewel Assembly C
 Jewel Assembly D

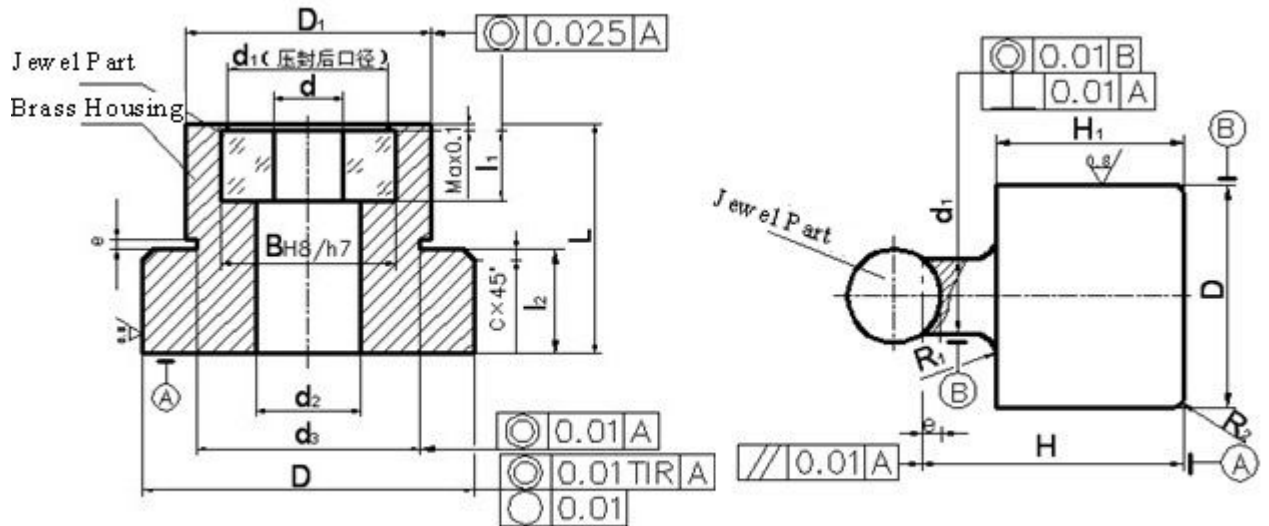
Inside Metal Housing
 Jewel Part
 Outside Metal Housing
 Jewel Assembly E
 Jewel Assembly F

Special gem components



Jewel Assembly E

Jewel Assembly F

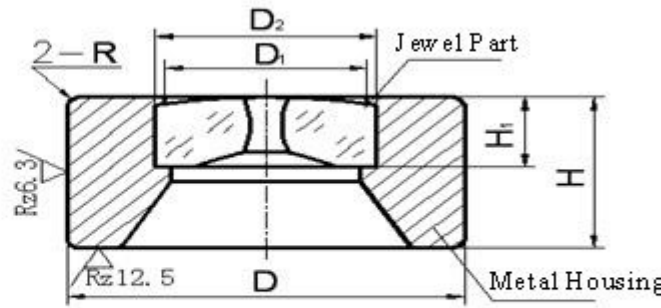
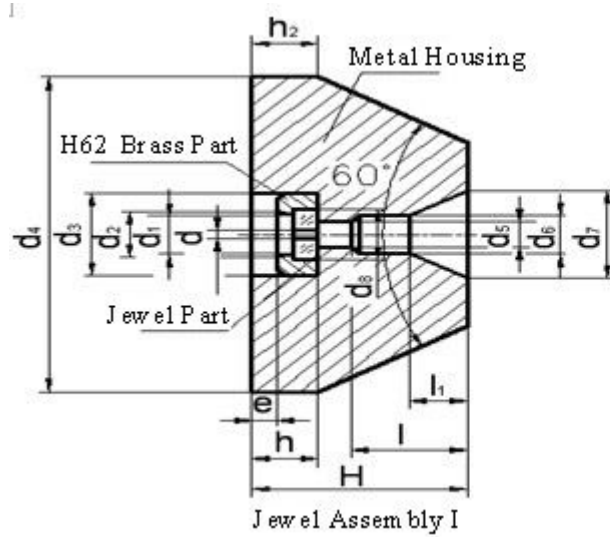


Jewel Assembly G

Jewel Assembly H

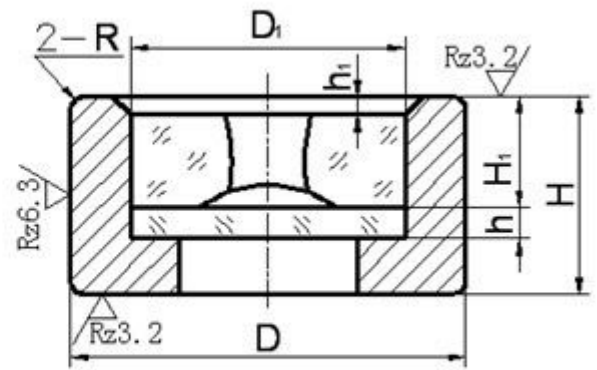
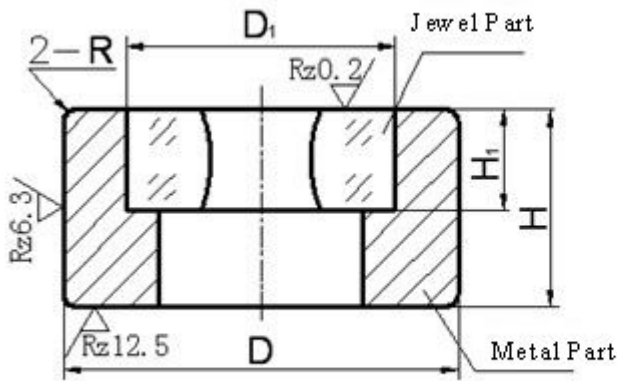
Jewel Part
 Brass Housing
 Diameter after Pressing
 Jewel Assembly G
 Jewel Assembly H

Special gem components



Metal Housing
 H62 Brass Part
 Jewel Part
 Metal Part
 Jewel Assembly I
 Jewel Assembly J

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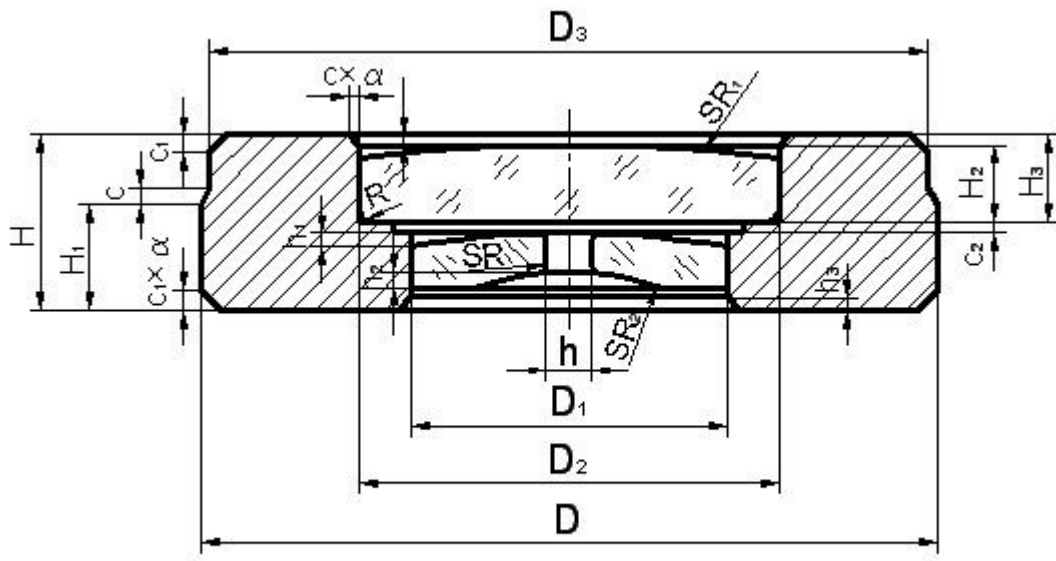
Jewel Part
 Metal Part
 Jewel Assembly K
 Jewel Assembly L



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Special gem components



Jewel Assembly M

Jewel Assembly M

▲ Technical Index

Material: Synthetic sapphire/ruby single crystal α -Al₂O₃

Housing Material: Brass, red copper, duralumin and stainless steel, etc

▲ Order:

Customized. Produce according to specific requirements and drawings, and also can design products for customers.