



Kaifeng Bell Stainless Steel Ball Manufacture Co.,Ltd.



About Us

Kaifeng Bell Stainless Steel Ball Manufacture Co., Ltd is a leading professional precision ball manufacturer in China, Established in 2003 and extensive worldwide marketing web. We are the major manufacturer in China offer you complete products line all proof to ISO-9001 certification. Main products: Stainless steel balls(440C, 420,304,316L,201), precision plastic balls Acetal (POM) ,Polypropylene (pp) ,Nylon (PA66) ,PTFE ,Acrylic ,Peek ,Torlon) ,glass ball ,chrome steel ball(GCr15),aluminium ball ,brass ball and ceramic balls Applicable for industrial usage such as hardware, toys wheels skates, bicycles, bearing, chemistry, etc.

We introduced Germany-made grinding machinery and precision inspection equipment to ensure inspection equipment to ensure excellent and stable quality. Wide range of specification and material are available for customers' individual and special demands. Our goal is to offer global customers the best products and services. We welcome you to provide information and suggestion to us.



AISI304 Stainless Steel Ball

Description: AISI type 304 and 304L stainless steel balls meet requirements for an unhardened ball with excellent toughness and resistance to corrosion. Corrosion resistance may be increased through annealing. Both non-annealed and annealed balls are widely used in valves and related equipment.

Stainless type 304 and 304L balls are capable of resisting corrosion by such agents as oxidizing solutions, most organic chemicals, food stuffs and sterilizing solutions. They are moderately resistant to sulfuric acids. Non-magnetic properties available upon request. Applications include aerosol, sprayers, finger pump mechanisms, milk machine blenders, food processing equipment and medical applications.

Specification:

Specification	Bell Balls- AISI 304 /304L Stainless Steel Balls W 1.4301/W 1.4306, X5CrNi18-10/X2CrNi19-11
Material Composition	304: C= max 0.15%, Cr=17 - 19%, Mn=max 2.0%, Si=max 1.00%, S= max0.03% P=max 0.045%, Ni=8-10% 304L: C=max 0.03%, Cr=18 - 20%, Mn=max 2.0%, Si=max 1.00%, S=max 0.03% P=max 0.045%, Ni=8-12%
Hardness	HRC26
Corrosion Resistance	Very high corrosion resistance, although not quite as good as 316. Chemical resistance is also reduced.
Availability	Good, Available in a fair range of sizes from 0.8-60mm. As with 316, can be produced in almost any required size.
Applications	B all Bearings, Valves, Ball Screws where the low hardness is acceptable.
General Information	An Austenitic stainless steel, 304 provides a high degree of corrosion resistance. However, its low hardness can provide problems if loadings are high, and balls are easily damaged.



AISI316 Stainless Steel Ball

Description: AISI type 316 and 316L stainless steel balls meet requirements for an unhardened ball with excellent toughness and resistance to corrosion. Corrosion resistance may be increased through annealing. Both non-annealed and annealed balls are widely used in valves and related equipment.

Stainless type 316 and 316L balls are capable of resisting corrosion by such agents as oxidizing solutions, most organic chemicals, food stuffs and sterilizing solutions. They are moderately resistant to sulfuric acids. Non-magnetic properties available upon request. Applications include aerosol, sprayers, finger pump mechanisms, milk machine blenders, food processing equipment and medical applications

Specification:

Specification	Bell Balls- AISI 316 Stainless Steel Balls
Material Composition	316: C= max 0.07%, Cr=16.5 - 18.5%, Mn=max 2.0%, Si=max 1.00%, S= max 0.03%, P=max 0.045%, Ni=10.5 - 13.5%, Mo=2 - 2.5% 316L: C= max 0.03%, Cr=16 - 18%, Mn=max 2.0%, Si=max 1.00%, S= max 0.03% P=max 0.045%, Ni=8 - 12%, Mo=2 - 3%
Hardness	HRC26
Corrosion Resistance	Very high corrosion and chemical resistance. Can be supplied with approval for food processing and medical applications.
Availability	Good. Available in a fair range of sizes from 1.0mm to 25mm, but can be produced in almost any required size.
Applications	Ball Bearings, Valves, Ball Screws, Food Processing and Medical applications where the low hardness can be overcome. Body Jewelry.
General Information	An Austenitic stainless steel, 316 provides a high degree of corrosion and chemical resistance. However, its low hardness can provide problems if loadings are high.



AISI420C Stainless Steel Ball

Description: AISI Type 420 -C stainless steel balls afford the advantage of maximum hardness combined with corrosion-resisting properties. This hardness, together with precise geometry and fine surface finish, makes them especially useful for both bearing and valve applications in petroleum refineries and other severe environmental applications.

Consumable electrode vacuum melted (CEVM) and vacuum induction melted/vacuum arc remelted (VIM-VAR) material is available upon request. All sizes and grades of corrosion-resisting hardened stainless steel balls are passivated.

Specification:

Specification	Bell Balls -AISI 420C, W 1.3541, X47Cr14 2Cr13 3Cr13
Material Composition	C=0.42-0.50%, Cr=12.5-14.5%, Mn=max 1.0%, Si=max 1.0% maximum, S=max 0.025%, P=max 0.025%, Mo=0.40-0.65%, Ni=max 1%, Cu=max 0,3%
Hardness	HRC50-55
Corrosion Resistance	Provides a good combination of corrosion resistance with hardness. Although not quite as good as 440C it provides a good alternative in most situations.
Availability	Good, Available in a wide range of sizes from 0.35mm to 50mm+. Availability in larger sizes tends to be better than 440C.
Applications	Ball Bearings, Valves, Ball Screws
General Information	A hard stainless steel with similar properties to 440C, it provides a less expensive alternative to 440C.



AISI440C Stainless Steel Ball

Description:440C stainless steel balls exhibit excellent toughness and hardness properties combined with corrosion resistance. Typical applications include ball bearings, ball screws, ball bushings, valve applications and applications where some level of corrosion resistance is required. Vacuum Induction melted/vacuum arc re-melted (VM)-(VIN-MAR) materials are available upon request.

Specification:

Specification	Bell Balls -AISI 440C Stainless Steel Balls
Material Composition	C=0.86-1.21%, Cr=16-18%, Mn=max 1.0%, Si=max 1.0%, S=max 0.025%, P=max 0.025% Mo=0.40-0.65%, Ni=max 0,75%, Cu=max 0,5%
Hardness	56 to 60 HRC
Corrosion Resistance	No natural resistance to corrosion, prone to rusting in damp atmosphere. Care must be taken to avoid moisture in both use and storage.
Special Properties	Provides a good combination of corrosion resistance with hardness, at an affordable price
Availability	Good Available in a fair range of sizes from 0.5mm to 50mm, although availability is limited for sizes above 30mm.
Applications	Ball Bearings, Valves, Ball Screws where corrosion resistance is required.
General Information	440C provides very similar mechanical properties to Chrome Steel, combined with good corrosion resistance



Chrome Steel Ball

Description: Chrome steel is a bearing grade alloy steel. This material is known as 52100 steel in the US, 100Cr6 in Europe, SUJ2 in Japan and GCr15 in China. This fine-grain martensitic steel has high hardness, exceptional wear, surface characteristics and is exceptional for the creation of chrome steel balls.

Specification:

Specification	Bell Balls -Chrome Steel Balls
Material Composition	CHROMIUM:1.30%- 1.60% CARBON :0.98% -1.10% MANGANESE: 0.25% - 0.45% SILICON: 0.15% -0.35% PHOSPHOROUS:0.025% MAX. SULPHUR: 0.025% MAX
Hardness	HRC60-66
Corrosion Resistance	NO CORROSION RESISTANCE
Special Properties	Chrome Steel Balls offer superior wear resistance, high hardness and high load bearing capacity as a result of through-hardening.
Density	7.85g/cm3
Applications	Tumbling media Spray can agitation Ball bearings Drawer slides Writing instruments Locking mechanisms etc.
International Equivalents	China: GCr15 USA: 52100 Germany: 1.3505 Russia: 9Ch1 Japan: SUJ2



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Carbon Steel Ball

Description: Carbon steel balls are made from a combination of steel and carbon, they have excellent surface quality, high hardness and high load bearing capacity as a result of through hardening. According to the different materials can be divided into Low carbon steel ball, Medium carbon steel ball and High carbon steel ball

Specification:

Specification	Bell Balls -Carbon Steel Balls
Steel Grade	AISI1010 AISI1015 AISI1045 AISI1085 etc.
Hardness	HRC60
Grade	G100 G200 G500 G1000 G2000
CORROSION RESISTANCE	NOT CORROSION RESISTANCE
Density	7.85g/cm ³
Applications	BEARINGS, AUTOMOTIVE AND COMMERCIAL APPLICATIONS SUCH AS CASTORS, LOCKS, AND DRAWER SLIDES
Tensile Strength:	75kgf/mm ²



Silicon Nitride Ceramic Balls

Description: 440C stainless steel balls exhibit excellent toughness and hardness properties combined with corrosion resistance. Typical applications include ball bearings, ball screws, ball bushings, valve applications and applications where some level of corrosion resistance is required. Vacuum Induction melted/vacuum arc re-melted (VM)-(VIN-MAR) materials are available upon request.

Specification:

Material	Bell Balls -Silicon Nitride Ceramic Balls
Hardness	Typically 1500 to 1600 Hv5
Corrosion Resistance	Extremely Good Resistance to most chemical environments.
Density:	3.2
Special Properties	Low mass can significantly reduce forces and inertia in high speed applications. Hardness is retained to above 1100 degrees Celsius. Low wear rates in rolling contact with steel. High toughness.
Availability	Improving, but tends to be available in a small range of sizes.
Applications	Ball Bearings, Valves, Ball Screws, Pumps, Measuring Application, Fuel injection Systems.
General Information	Widely regarded as the most significant of the engineering ceramics, Silicon Nitride is being used in an ever increasing number of applications where it unique combination of hardness, low mass provide significant performance advantages. Cost has decreased significantly over the last 5 years, to the extent that Silicon Nitride is becoming a cost effective option for many applications.



Zirconia Ceramic Balls

Description: Zirconia ceramic balls (ZrO_2) have high strength and toughness at room temperature, good wear resistance, high temperature and corrosion resistance, high rigidity, non-magnetic conductivity, and electrical insulation. The strength and hardness of the zirconia ceramic ball is almost unchanged at $600^{\circ}C$. Its density is $6.00g/cm^3$, and its thermal expansion rate is close to that of metal. It can be used in conjunction with metal

Specification:

Product:	Bell Balls- Zirconia Ceramic Balls
Hardness	Typically 1200 to 1300 HV
Corrosion Resistance	Generally Inert, although may be effected by some extreme chemical environments.
Special Properties	Balls retain hardness and structural integrity to very high temperatures - ~ 1900#C. Toughness is high although the material has a tendency to porosity, which may degrade performance in high load applications. Modulus of thermal expansion is similar to that of steel allowing design clearances to be maintained after material substitution. Good low temperature performance
Availability	Good - balls are produced in a range of sizes, and can be made to almost any size required.
Applications	Low load Bearings particularly for X-ray applications. Valves, Pumps, Ball Screws
General Information	Zirconia balls are used across a wide range of chemical process applications, and are extensively used in oil well pumps. They offer long life in arduous environments.

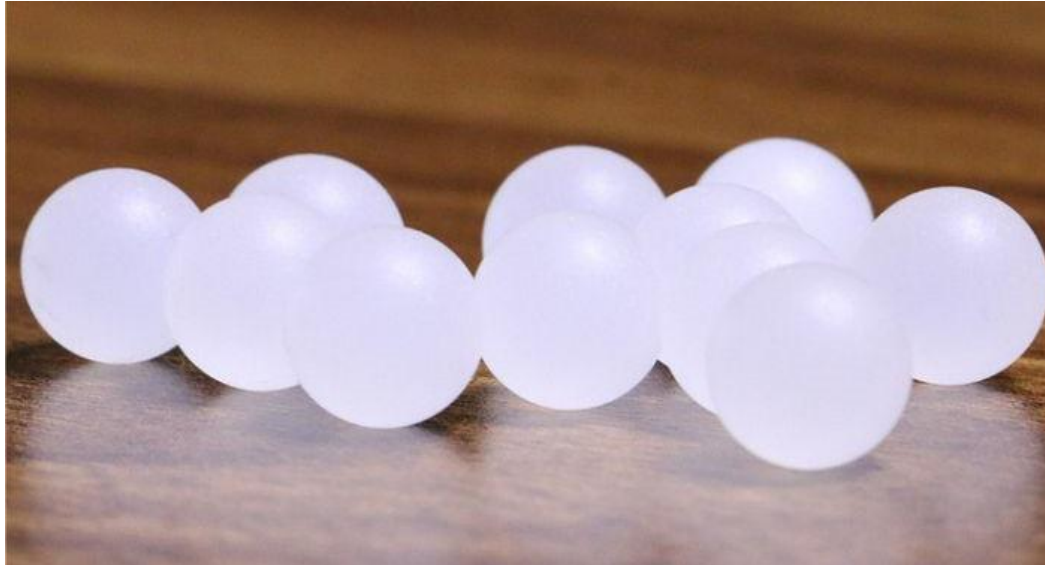


Delrin POM plastic Balls

Description: POM ball is one of the plastic ball, Pom polyformaldehyde (Pom) polyformaldehyde scientific name polyethylene oxide polyformaldehyde (Pom), also known as steel, special steel. It is based on formaldehyde and other raw materials polymerization. POM-H (polyformaldehyde homopolymer), POM-K (polyformaldehyde copolymer) is a high density, high crystallinity of thermoplastic engineering plastics. It has good physical, mechanical and chemical properties, especially excellent friction resistance. Polyformaldehyde is a kind of linear polymer with no side chains, high density and high crystallinity, which has excellent comprehensive properties. Polyformaldehyde is a smooth, lustrous, hard, dense material, pale yellow or white, that can be used for long periods at temperatures ranging from -40 to 100°C. Its wear resistance and self-lubricity is also superior to the vast majority of engineering plastics, and has a good oil resistance, resistance to peroxide performance.

Specification:

Product:	Bell Balls- POM (Polyoxymethylene) Delrin balls
Density	1.4-1.41g/cm ³
Special Properties	POM impatience alkali and oxidants, on the acid and weak acid have a certain stability. POM solvent resistance is good, resistant to hydrocarbons, alcohols aldehydes, ethers, gasoline, lubricants and weak base, and can maintain the chemical stability at high temperatures. Small water absorption, good dimensional stability
Availability	Good - balls are produced in a range of sizes, and can be made to almost any size required.
Applications	POM ball are widely used in table,drawer slide device bearings, rollers, valves electronic apparatus, sailing apparatus.



Polypropylene (PP) plastic Balls

Description: PP Plastic ball, also known as polypropylene plastic ball, is a thermoplastic polymer widely used in a variety of applications. It is an addition polymer made of the monomer propylene through chain growth polymerization. Polypropylene can be produced internally in a variety of structures, resulting in a variety of applications, including packaging and labelling, textiles, plastic parts and various types of reusable containers, laboratory equipment, automotive parts and medical equipment. It is a white, mechanically strong material, resistant to many chemical solvents, bases and acids.

Specification:

Product:	Bell Balls- Polypropylene PP plastic resin balls
Density	0.9g/cm ³
Special Properties	Good resistance and chemical resistance, density less than water, the highest melting point
Applications	Solid PP balls can be used in the check valve. Bearing balls are used in applications such as drawer slides, precision bearings pumps and valves, check valves, flow meters, and measurement instruments that operate in aggressive environments. PP bearing balls are specially useful for makeup bottle, low load bearings special valves, check valves, float valves, fluid level indicators, carburetors flow meters, chemical, laboratory devices.
General Information	Solid Polypropylene PP plastic balls has a high resistance to chemical substances, such as acid, alkali, alcohol, many inorganic substances, salt solutions, solvents, gasoline, water, oil, grease, cleaning agents, fruit juices, milk and the like, but not resistant to aromatic carbon hydrogen compounds and chlorate.....



Nylon plastic Balls

Description: Nylon is a generic title for a group of synthetic polymers known generically as polyamides, Solid nylon is used for mechanical parts such as machine screws, gears and other low- to medium-stress components formerly cast in metal. Engineering-grade nylon is developed by extrusion, casting, and injection molding. Type 6, 6 Nylon 101 is the most common commercial grade of nylon, and Nylon 6 is the most common commercial grade of molded nylon.

Specification:

Product:	Bell Balls- Nylon Plastic Ball (Polyamide Balls)
Shore-Hardness:	80(D)
Density	1.12-1.13g/cm ³
Temperature resistance:	100 °C – 150 °C
Performance properties	Electrical insulator, high strength, low thermal expansion, slippery, wear resistant-
Applications	Solid Nylon plastic balls are used in check valves, relief valves, float valves and everything from carburetors to toggle switches and more. They also work well for many manufacturers as light load ball bearings.



PTTF (Teflon) plastic Balls

Description: PTFE Material commonly known as plastic king, Chinese name teflon, is known for its frictionless materials with excellent chemical stability, sealing high lubrication and non-viscosity, electrical insulation and good anti-aging endurance, continuous use temperature of -180℃ to 250℃ PTFE plastic balls is the king of the plastic ball.

Specification:

Product:	Bell Balls-PTFE Plastic Ball
Shore-Hardness:	55D
Density	2.1-2.2g/cm ³
Temperature resistance:	-180 °C – 250 °C
Performance properties	No mold line on the surface, no burrs, smooth surface, high technology, high quality, low coefficient of friction, almost all solids, low temperature, excellent high temperature resistance, strong chemical stability, hardly eroded by any chemicals. The surface is non-sticky, excellent electrical insulation properties stable dielectric constant and small value in a wide frequency range, good aging resistance, free from oxygen, ozone, ultraviolet rays, incombustibility, and small water absorption. Products used in chemical, mechanical, electronic, electrical military, aerospace.
Applications	non-stick coatings, gears, slide plates, bearings and ball valves.



H62/65 Brass Balls

Description:Brass balls provide excellent resistance to corrosion by water, and they are substantially lower in cost than other corrosion-resisting balls. Brass balls are frequently used in many types of valve applications requiring small-size balls.

Brass balls also have the ability to resist the corrosive effects of fuel oil, gasoline, butane, dry carbon dioxide, benzene, lime-sulfur mixture and similar chemical agents.

Specification:

Product:	H62/65 Brass Ball
Brand	Bell Balls
Feature	Brass balls show fairish mechanical performance, good corrosion resistance, excellent electrical properties. They generate low frictions. Balls are provided in the passivated condition.
Density	8.5g/cm ³
Performance properties	The brass ball produced mainly used H62 copper, usually in kinds of electric switch, carburetor. Brass ball is soft so it is easy to be drilled, then usually used in valve and art ware.
Applications	Brass balls are widely used in Special valves, industrial pumps and valves, electronic devices, safety switches, heating units, appliances, furniture rails. They are used in the automotive, electronic and petrochemical industry.



Pure Copper Balls

Description:The Pure Copper Ball is purple-red from the inside to the outside, so it is called red copper or red copper. The copper content of the pure copper ball is more than 99.95%. Its surface is highly polished and very smooth. Our product grade is G100-G2000, reaching various industry standards. Our copper balls are available in a variety of specifications, the size is generally 0.5mm-100mm. However, we also provide customized services.

Specification:

Product:	Pure Copper Balls/ Copper Sphere
Brand	Bell Balls
Feature	Our Pure Copper Ball has been shown to enjoy popularity in the market because of its various advantages. First of all, because the copper material is soft, it is very easy to process, such as drilling, threading, and cutting. In addition, copper balls have very good electrical conductivity, so they are often used in electrical switches, valves, etc. Moreover, it has a wide range of uses, in addition to daily use, it is also often used in industrial operations.
Density	8.91g/cm ³
Performance properties	They show good mechanical and corrosion resistance properties, excellent thermal and electric conductivity. Small amounts of alloying elements as Cr, Zr, Ag, Cd, Mg, Sn allow to improve the mechanical properties.
Applications	Copper balls are used in galvanic applications and in the field of electronic industry.



Soda lime Glass Balls

Glass balls are resistant to corrosion and chemical absorption. They are dimensionally stable under high temperature conditions. Bell Balls produce 3 different types of glass: soda lime, borosilicate and black glass.

Soda-lime balls are recommended for applications requiring hardness and excellent resistance to corrosion. In applications where high temperatures and sudden temperature changes are expected, borosilicate glass is recommended for its additional resistance to chemical corrosion and temperature fluctuation.

Soda lime glass balls are the most common type of glass balls, Soda Lime glass balls are highly resistant to high alkaline solutions.

Specification:

Product Name	Bell balls- Soda lime precision glass ball	
Tolerance	$\pm 0.01\text{mm}$, $\pm 0.015\text{mm}$, $\pm 0.02\text{mm}$	
Color	transparent ,clear	
Size	1mm-50.8mm	
Applications	Bearings, lotion pump, sprayers, roll on bottle, plastic valves, perfume sprayer, wine bottle, decoration, spray paint, grinding food, trigger spray, etc	
Main component	Na ₂ O (14%-15%) CaO (7%-8.5%) SiO ₂ (70%-71%) Al ₂ O ₃ (2.5%-3%)	
Surface finish	Ground - 20-30 RMS	Polished - 10-20 RMS
Density	2.4 gm/cm ³	



Borosilicate Glass Balls

Description: Borosilicate glass balls are made from the special glass of the first hydrolytic class, which is well-known for its stability and pressure resistance, good workability and high thermal shock resistance due to its low rate of thermal expansion.

Specification:

Product Name	Bell balls- Borosilicate precision glass ball
Tolerance	$\pm 0.01\text{mm}$, $\pm 0.015\text{mm}$, $\pm 0.02\text{mm}$
Color	transparent ,clear
Size	1mm-50.8mm
Applications	These solid borosilicate glass beads can be used as distillation column packing, boiling stones or to provide support for chromatography columns used in gel filtrations. Borosilicate beads have excellent chemical resistance. Diameter and spherical variation maximum is 10% of glass bead diameter.
Feature	Borosilicate glass balls withstand high thermal shock; can mechanically give continuous service at 450°F with extreme temperature limit at 900°F; very high electrical resistivity and dielectric strength; high chemical stability, withstands high applied torque loads.
Surface finish	Ground - 20-30 RMS Polished - 10-20 RMS
Density	2.2gm/cm ³



Titanium Balls

Description: TITANIUM 6AL4V BALL 6AL4V-ELI, and CP-1 (Commercially Pure) are very human body or bio compatible. Basically what this means is that the human body does not reject these materials. This metal is widely used in the medical industry. Titanium balls are bio-compatibility, it is used in many medical implants.

Specification:

Product Name	Bell balls- Titanium Balls
Grade	G5 G100 G200 G1000
Density	4.5g/cm3
Size	1mm-50.8mm
Applications	Titanium Balls are used even in aesthetic applications. Grade 1 and grade 2 belongs to the Commercially Pure Titanium Alloys family. Titanium balls are used in aviation, aerospace, military, chemical, petrochemical industry in the medical field, jewelry, calibration of measurement instruments, piercing purposes.
Feature	Yield Strength: 120,000 psi Hardness: Rockwell C30 (Hard) Temper Rating: Softened (Annealed) Titanium balls provide low weight, good mechanical features, thermal properties and corrosion resistance.



Tungsten Carbide Balls

Description:

Tungsten carbide ball means for the sphere and ball bearings made of tungsten carbide materials, the tungsten carbide ball with high hardness, wear-resistance, rust free and anti-bending features, which is capable to be used in any conditions and replace the steel ball products.

Specification:

Product Name	Bell balls- Tungsten carbide balls
Grade	G10 G25
Density	14.9g/cm ³
Size	0.3mm-70mm
Specification	The tungsten carbide balls with sizes ranging from \varnothing 1mm to \varnothing 70mm, are produced according to the national standard GB308-2002, the ones reach precision degree at G5-G100 with good roundness, high precision, long service life, which are mainly taken for precision gauge valves, hydraulic fittings, hardness testers etc. Meanwhile, the common grades to make the carbide balls are YG3, YG6, YG6X, YG8, YG8X, YN6 and YN9 with precision degree as G5, G16, G25, G50, G100 etc.
Applications	The tungsten carbide balls are widely used in different areas, such as precision bearings, instruments, meters, pendulum production, spraying machines, water pumps, machinery accessories, sealing valves, brake pumps, oil deposits, hydrochloric acid laboratory, hardness testers, fishings, weighting blocks, ornaments, and precision machining etc top industries.
Feature	Tungsten carbide balls with high hardness, wear resistance, rust free and anti bending features, which are available to replace of steel balls in any working condition. Usually, they are produced with grade YG6 with hardness as HRA90.5 and density at 14.9g/cm ³ .



Flying saucer Steel Balls

Description:

Flying Saucer Steel ball, which looks like a flying saucer or UFO dish, is widely used for hardware defects polished, especially for irregular workpiece polished.

Specification:

Product Name	Bell balls- Flying saucer Steel Ball
Grade	
Material	Stainless Steel Ball, Carbon steel balls etc.
Size	0.3mm-70mm
Specification	Φ 2*3 Φ 2.5*3.5 Φ 3*5 Φ 5*7 Φ 7*10 Φ 8*11 Φ 9*12 etc.
Applied area	<ul style="list-style-type: none">• Applied Area:Flying saucer ball is mainly used for polishing all kinds of hardware especially well for the workpiece in anomalous form.• Speciality:The material of flying saucer ball mostly is caebon steel,201 stainless steel,304 stainless steel,the size is Φ 3.5×5.5 Φ 4×6 Φ 5×7 Φ 7×10, you can book in non-standard.
Application	Flying saucer ball is mainly used for polishing all kinds of hardware, Burnishing Media , polishing , cleaning the decanter ,grinding,bearing, cosmetic etc