



**TO BECOME
A GLOBAL LEADING
VALVE ACCESSORY
MANUFACTURER**





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DEVELOPMENT HISTORY

VISION

To become the global leading valve accessory manufacturer

MISSION

To provide professional solutions for valves and harsh fluid conditions

VALUES

Integrity, Focus, Innovation, Win-win

2023
YEAR

ENVISION

Output value exceeds 150 millions CNY

2021
YEAR

UPGRADE

Factory relocation
Output value exceeds 100 millions CNY

2020
YEAR

LAYOUT

New machine tool equipment category
(Lapping Machine, Grinding Machine, CNC Ball Turning Machine)

2018
YEAR

KEEP FORGING AHEAD

Output value exceeds 50 millions CNY

2015
YEAR

BREAK THROUGH

Renamed to Wenzhou ARTECH Machinery Technology Co., Ltd

New production of ball and seat

2009
YEAR

ESTABLISH

Zhejiang Relis Machinery Co., Ltd

Specialized in metal surface coating processing

COMPANY PROFILE

Wenzhou ARTECH Machinery Technology Co., Ltd. is located in the Oujiangkou Industrial Cluster, Wenzhou, China. It is a technology-based manufacturing company with integrating high-end R&D, innovative design, precision production and global sales. Since its establishment in 2009, based on its predecessor 'Relis' focusing on metal surface spraying processing, the company has established a solid cooperative relationship with many well-known valve companies at home and abroad with its outstanding technological innovation and professional manufacturing capabilities. The company has won the certification of national high-tech enterprises and Specialization & Innovation enterprises.

- THE MAIN BUSINESS SCOPE:**
- Valve parts manufacturing (balls, seats, stems, etc.)
 - Thermal spraying on workpiece surface
 - Spray and fused hardfacing
 - Laser cladding
 - Special machine tool equipment manufacturing

QUALITY SYSTEM
The company has an ISO9001 quality management system, adhering to the principle of 'customer satisfaction, honest management, quality assurance, and technological innovation' to continuously improve product quality.

PROCESS STANDARD
The company has actively invested a lot in the field of production technology. Recently, it has introduced the concept of lean production, and continuously optimized the processing and manufacturing technology with the spirit of craftsmanship of striving for excellence.



SCIENTIFIC RESEARCH ACHIEVEMENTS

Solving the conditions of high temperature drain valves at 620°C.	2018
Solving wear-resistant ball valve of 500,000 on-off tests.	2019
Achieved the first domestic metal seated 20 inch with 2500LB high pressure gas zero leakage project.	2020
Achieved soft seated 36 inch with 1500LB high pressure gas zero leakage project.	2022
Breakthrough in metal seated 44 inch with 900LB high pressure hydrogenation zero leakage project.	2023
Breakthrough in metal seated 40 inch flow control valve project.	2024

CERTIFICATE



At present, we have more than 60 patents and continuously invest a lot of resources in the R&D and innovation of new processes every year. We are committed to promoting the development through technological reform and continuously improving the core competitiveness of our products.



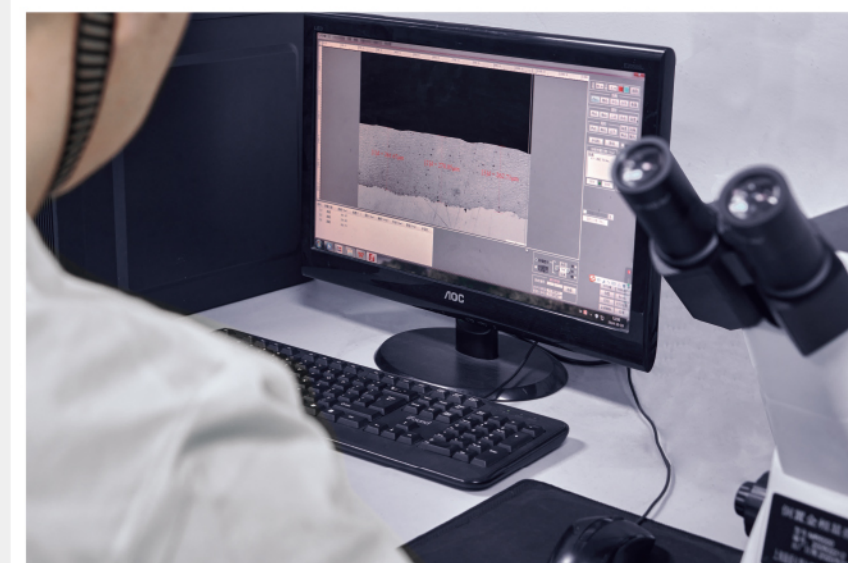
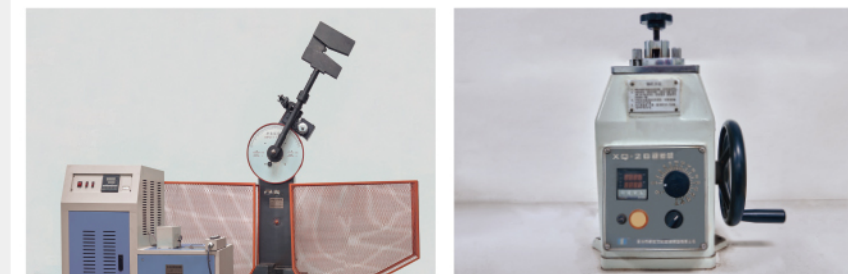
QUALITY CONTROL



STRIVING FOR EXCELLENT QUALITY

Quality is cornerstone of ARTECH's mission. We consistently uphold the craftsman spirit of excellence. We ensure that products meet the highest quality standards guided by ISO9001. ARTECH has introduced advanced testing equipment to ensure excellent quality, and has an experienced professional quality control team to operate them. From the inspection of raw material to the quality control of finished products, we implement precise monitoring and excellent management in every step. All inspection records are maintained with traceability for 5 years.

COATING INSPECTION



CMM



TENSILE TEST



QUALITY CONTROL

We perform thickness test for every coating product to ensure quality control.



ARTECH's nondestructive testing including:
Positive Material Identification
Ultrasonic Testing
Penetrant Testing



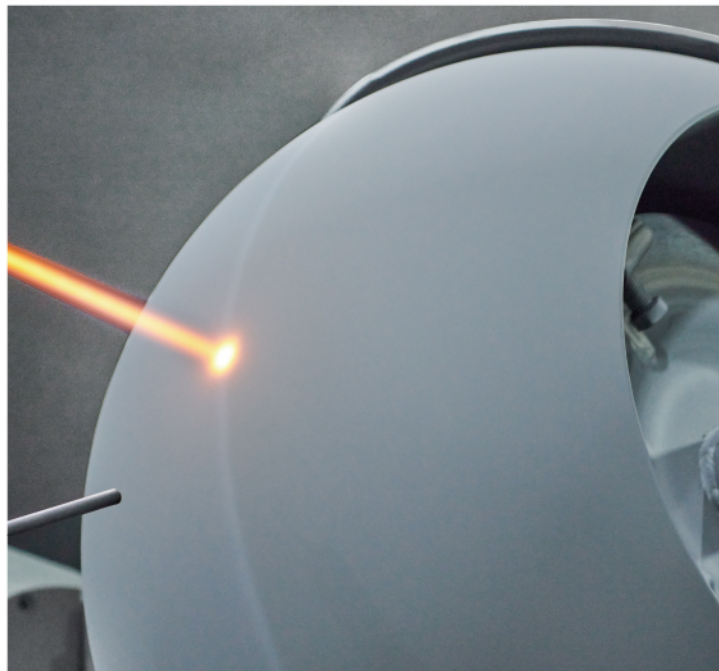
ARTECH has a series of self-developed roundness measuring instruments.



In order to ensure high quality, we can achieve roughness within Ra 0.02.

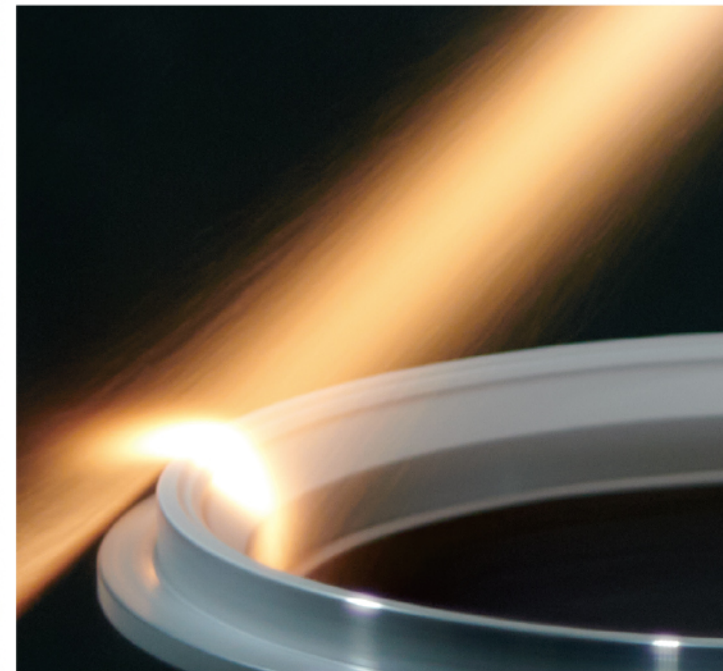


COATING PROCESS



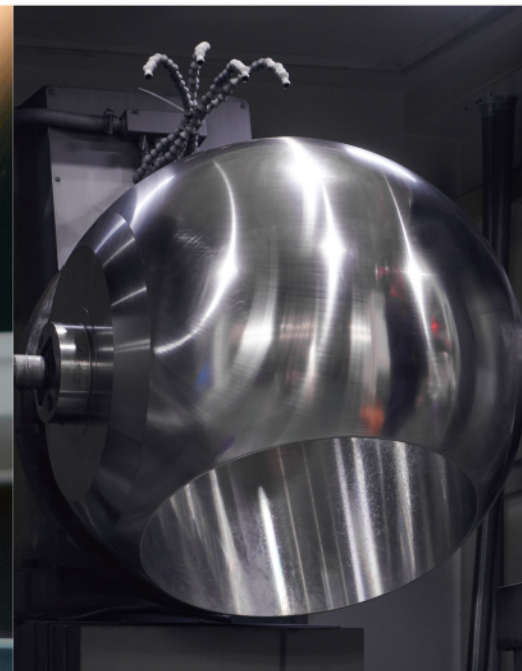
HVOF

We introduced the HVOF equipment from Kermetico of the United States to ensure the high quality.



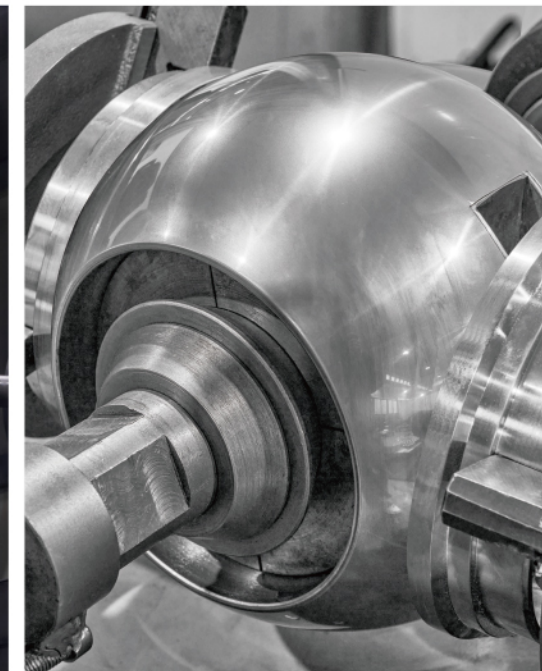
HVOF

We introduced the HVOF equipment from PRAXAIR of the United States to ensure the high quality.



GRINDING MACHINE

We introduced the high precision ball cylindrical grinding machine to ensure the high quality.



LAPPING MACHINE

In order to ensure the sealing performance, we developed our own lapping machine to achieve perfect match.



ROUGHNESS

The roughness can be within Ra 0.02.

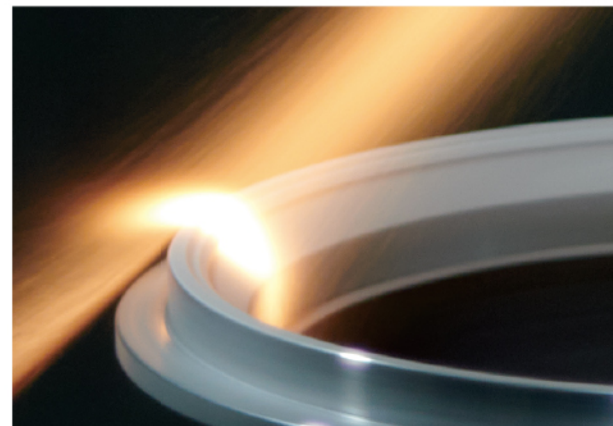
HVOF / HVOF

HVOF JP8000 System

To satisfy the needs of high-performance coating, we introduced JP8000 from Praxair in the United States. With over 60 years of coating experience, Praxair applies hardware, materials and technical expertise to HVOF products to produce the most advanced coating solutions.

Advantages of coating

- High and controllable hardness
- Porosity controlled within 1%
- Low residual stress
- Thickness up to 12.7mm
- High bond strength, up to 100 Mpa

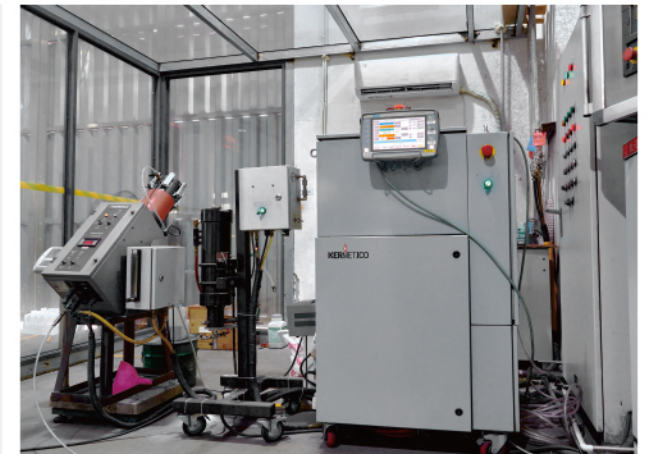


HVOF AK-C7 System

In order to improve the process of supersonic spraying, our company introduced the AK-C7 equipment from Kermetico in the United States. This addition addresses certain limitations associated with the JP8000. AK-C7 is the best equipment in HVOF spraying process.

Advantages of coating

- Enhance the toughness of the coating
- Reduce oxides and improve the corrosion resistance of the coating
- Porosity controlled within 1%
- High bond strength, up to 100 Mpa



SPRAY AND FUSE HARDFACING

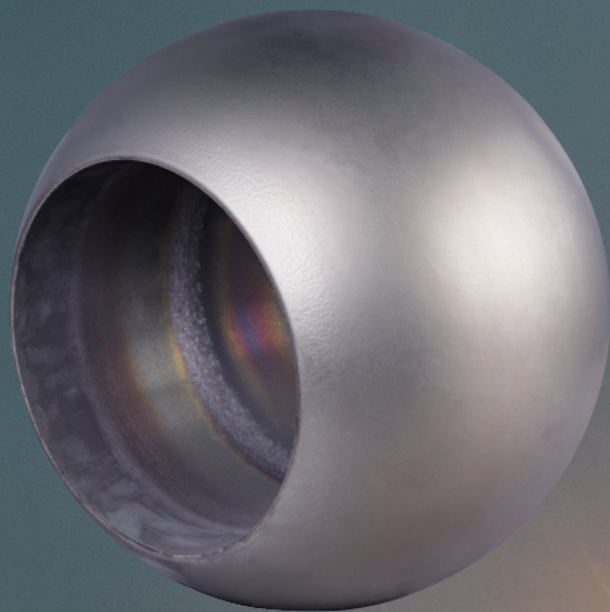
Spray and fused hardfacing is to spray the self-fluxing alloy powder evenly through the oxyacetylene flame and deposit it on the surface of the workpiece. After the flame melts until the surface has mirror reflection, the alloy powder and the workpiece base material are mutually clad, diffused and penetrated to form a dense structure and a firm semi-metallurgical bonding layer. We introduced PJ.85 spray gun from Koken, Japan. It has stable flame, good sealing and strong powder suction force. It can easily spray powder at any angle of workpiece surface, so that spray can be performed in all positions.

Advantages of coating

- The coating is dense and has no pores
- High bonding strength, up to 250 Mpa (the coating diffuses with the substrate after remelting, and is in metallurgical bonding state)
- High hardness of the coating, up to HRC65
- Sprayed nickel-based or cobalt-based alloy can be used below 600 °C, wear-resistant, corrosion-resistant, and impact-resistant



CastoDyn-DS-8000
(From Switzerland)



PLASMA SPRAY

Plasma spray is to use high temperature generated from plasma arc to combine alloy powder with basic material surface by heating rapidly and melting together, mixing, spreading, solidifying, then form a high-performance alloy layer so as to achieve the strengthening of parts surface and overwelding process.

Advantage of coating

- High density and zero porosity.
- High bonding strength and metallurgical bonding
- Alloy dilution rate less than 3%
- Fast melt duplicate rate, and tight overlay structure



LASER CLADDING



LASER CLADDING

It uses a concentrated laser beam as the heat source and melts the substrate that the feed stock is being applied to. This results in a metallurgical bond that has superior bonding strength over thermal spray.

Laser cladding is a new technology and a revolution for surfacing overlay. The one who masters laser cladding can have the future of surfacing overlay.



Advantages of coating

Low heat input (substrate deformation/residual stress/heat effected zone, all can be decreased, suitable for processing large parts)

Quick cooling rate (finer and more uniform crystal tructure, better performance after molten)

TECHNOLOGY EQUIPMENTS



Keep improving

Equipped with high-precision CNC and VMC, ARTECH adopts superb technology and strictly follows quality control system, committed to providing the highest standard of products.



FLOATING BALL

Product Details

Product Name	Nominal Diameter	Pressure Rating	Basic Material	Coatings
Floating Ball	1/2" - 20"	Class 150~2500	ASTM A105, A350 LF2, A182 F304, A182 F316, A182 F6A, A182 F51, A182 F53, Monel Inconel etc...	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...



TRUNNION BALL

Product Details

Product Name	Nominal Diameter	Pressure Rating	Basic Material	Coatings
Trunnion Ball	2" - 56"	Class 150~1500	ASTM A105, A350 LF2, A182 F304, A182 F316, A182 F6A, A182 F51, A182 F53, Monel Inconel etc...	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...
Supporting Plate Trunnion Ball	6" - 56"	Class 150~2500		



SPECIAL BALL

Product Details

Product Name	Nominal Diameter	Pressure Rating	Basic Material	Coatings
Stem Trunnion Ball	2"-56"	Class 150~2500	ASTM A105, A350 LF2, A182 F304, A182 F316, A182 F6A, A182 F51, A182 F53, Monel Inconel etc...	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...



SPECIAL BALL

Product Details

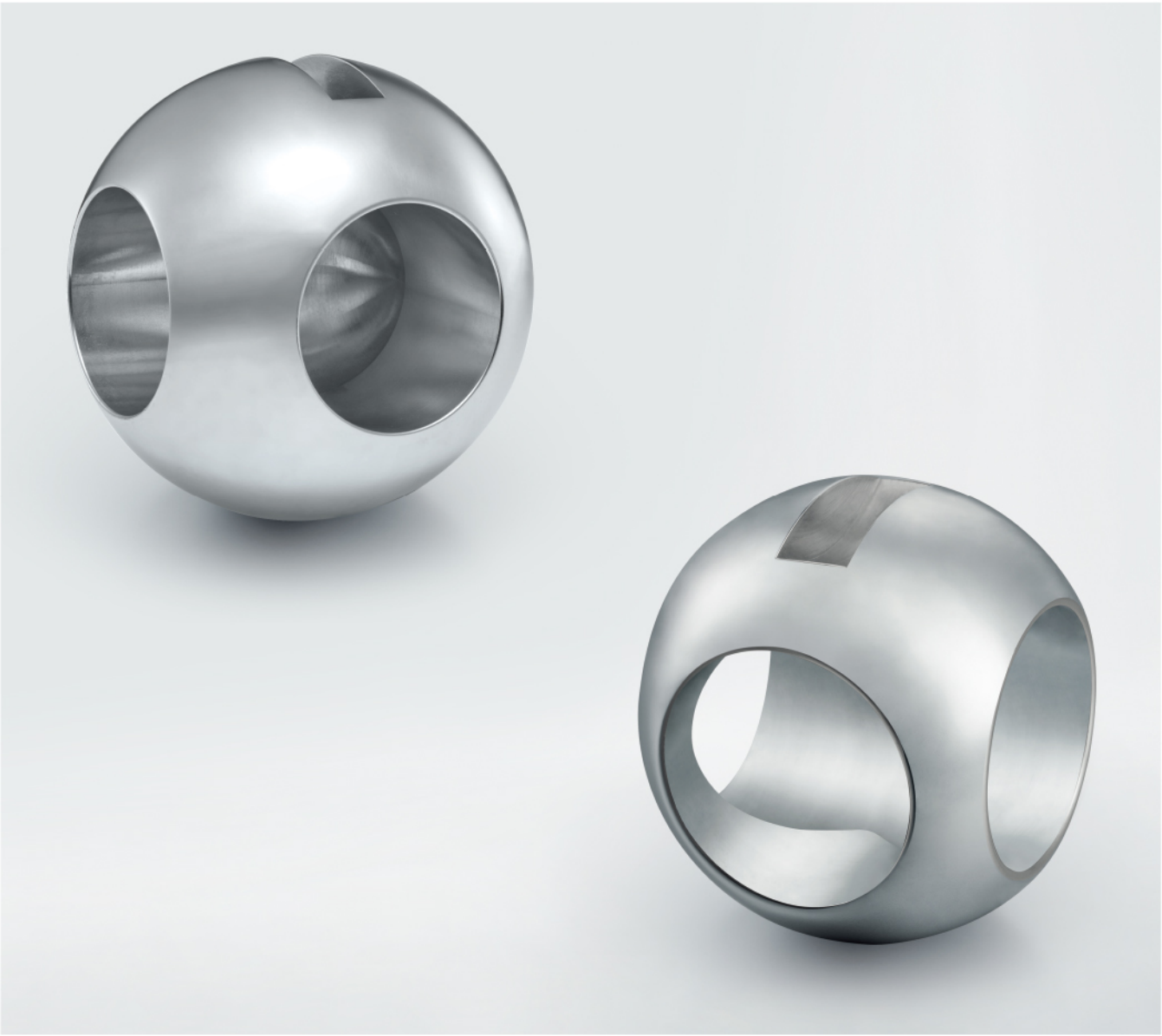
Product Name	Nominal Diameter	Pressure Rating	Basic Material	Coatings
Y-type Ball	2" - 24"	Class 150~2500	ASTM A105, A350 LF2, A182 F304, A182 F316, A182 F6A, A182 F51, A182 F53, Monel Inconel etc...	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...
V-type Ball	2" - 24"	Class 150~600		



SPECIAL BALL

Product Details

Product Name	Nominal Diameter	Pressure Rating	Basic Material	Coatings
L-type Three Way Ball	2" - 16"	Class 150~600	ASTM A105, A350 LF2, A182 F304, A182 F316, A182 F6A, A182 F51, A182 F53, Monel Inconel etc...	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...
T-type Three Way Ball	2" - 16"	Class 150~600		



SPECIAL MATERIAL COMPONENT

Product Details

Product Name	Nominal Diameter	Pressure Rating	Special Material	Coatings
BALL&SEAT	2" - 48"	Class 150~2500	Hastelloy:HC-276 Titanium alloy:TC4 Titanium: TA2,TA3,TA10 Monel alloy:M400,M500 Inconel: INC718,INC926 Alloy20,Copper alloy, Nickel Aluminum Bronze-C95800, etc.	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...



VALVE SEAT

Product Details

Product Name	Nominal Diameter	Pressure Rating	Basic Material	Coatings
Metal seated seat	1/2" - 48"	Class 150~2500	ASTM A105, A350 LF2, A182 F304, A182 F316, A182 F6A, A182 F51, A182 F53, Monel Inconel etc...	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...



VALVE SEAT

Product Details

Product Name	Nominal Diameter	Pressure Rating	Basic Material	Coatings
Soft seated seat	2" - 56"	Class 150~2500	ASTM A105, A350 LF2, A182 F304, A182 F316, A182 F6A, A182 F51, A182 F53, Monel Inconel etc...	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...



VALVE STEM

Product Details

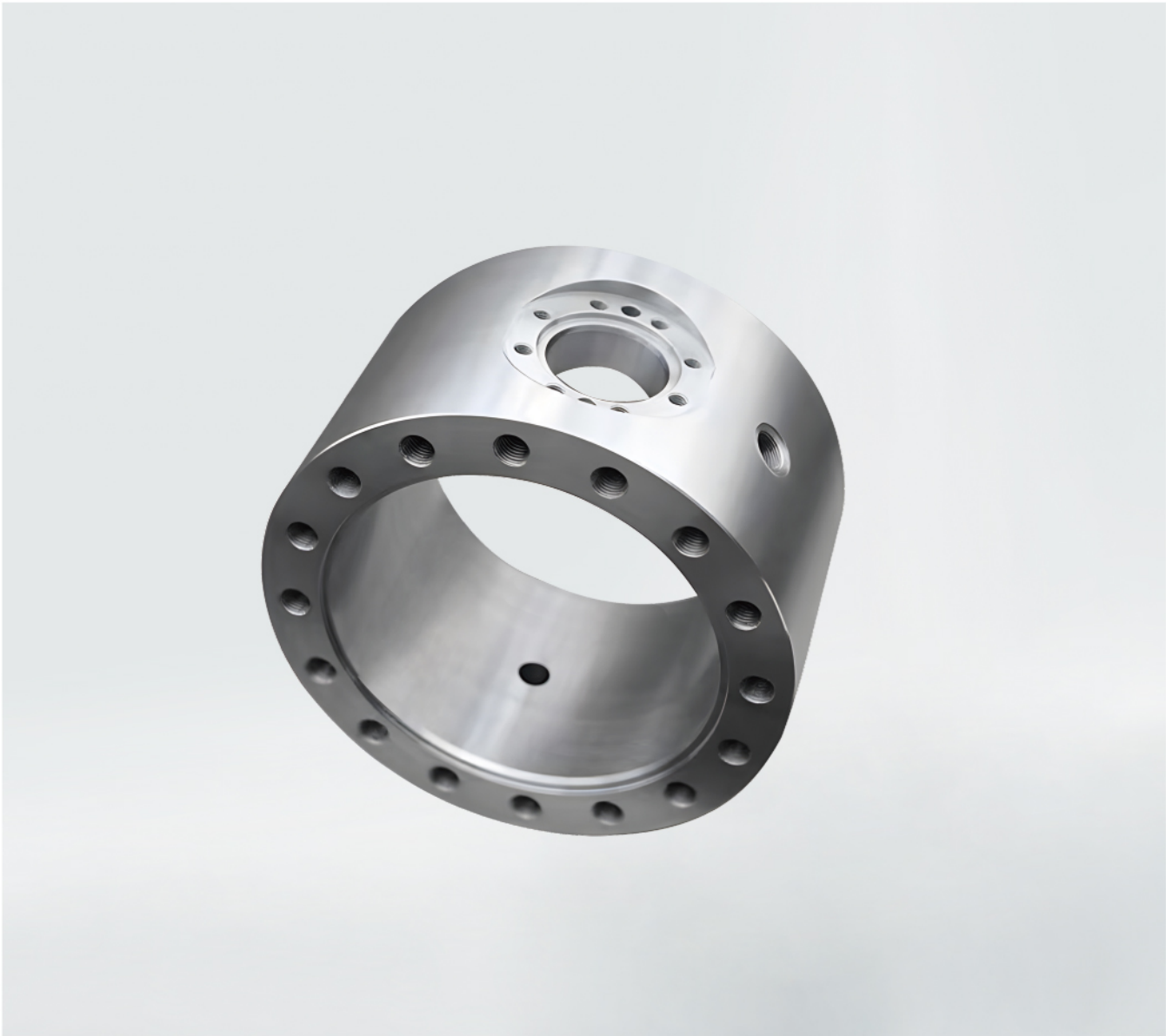
Product Name	Nominal Diameter	Pressure Rating	Basic Material	Coatings
Valve Stem	2" - 48"	Class 150~2500	ASTM A105, A350 LF2, A182 F304, A182 F316, A182 F6A, A182 F51, A182 F53, Monel Inconel etc...	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...



VALVE BODY

Product Details

Product Name	Nominal Diameter	Pressure Rating	Basic Material	Coatings
Valve Body	2" - 48"	Class 150~2500	ASTM A105, A350 LF2, A182 F304, A182 F316, A182 F6A, A182 F51, A182 F53, Monel Inconel etc...	ENP Chrome Plating Tungsten Carbide Chromium Carbide Cobalt-based alloy Nickel-based alloy Iron-based alloy etc...



VACUUM COATING

In order to meet the needs of critical working conditions, we apply new nanometer coating technology to add vacuum ion plating on the original coating surface.

Definition

Vacuum coating is a form of plasma arc discharge in a vacuum environment, using high-energy arc to evaporate the material on the target and deposit it onto the surface of the work piece to form a film.

Product Details

	Coating material	Process	Hardness	Thickness	Friction coefficient	Process Temperature	High temperature stability
DLC	α-C:H	PECVD	HV1500-2500	3-5	0.08-0.15	~150	350
TIN	Tin	ARC EVAPORATION	HV2000-2200	5-7	0.3-0.5	~400	500



ADVANTAGES OF DLC

- Low friction coefficient
- Low process temperature (below 150°C)
- Roughness better than taC and TiN, after coating it keeps the same as before coating
- Excellent self-lubricating properties reduce valve torque while increasing wear resistance

ADVANTAGES OF TIN

- Low cost
- Medium temperature process
- Mainly applied for Titanium alloy and keeps its corrosion resistance
- Thermal stability higher than DLC and taC (500°C)



- Our company has 20 years' experience in providing professional metal seated coating process.
- We have unique lapping process to achieve zero leakage of ball&seat and finish surface with mirror effect.
- We will provide you with professional coating solution according to your actual working condition and take into account the applicability, cost and other factors. Our products perform well in critical work condition and has long-term service life.

COMMON USED COATING MATERIAL & MAJOR PROPERTIES

MATERIAL INFO	CHEMICAL COMPOSITION	HARDNESS (HV)	POROSITY	BONDING STRENGTH (MPA)	PROPERTIES	APPLICATION	REMARK
WC-12Co	WC-12%Co	1150-1400	<1%	>68	Unparalleled ultimate hardness and density, wear resistance, maximum service temperature up to 450°C	Valves, molds, wire drawing wheel, plastic machine component, cryogenic roll mandrel etc	
WC-17Co	WC-17%Co	1000-1200	<1%	>75	High bonding strength,toughness,wear resistance,slide resistance,and fatigue strength better than WC-12Co	Pump and valve parts, molds, wire drawing wheel, support sections, plastic machine parts etc	
WC-10Ni	WC-10%Ni	1050-1250	<1%	>68	Unparalleled ultimate hardness and density, better corrosion resistance than WC-12Co	Oilfield equipments, pump and valve parts, molds,to protect facilities parts which work in corrosion and wear enviroment etc	
WC-10Co-4Cr	WC-10%Co-4%Cr	1150-1350	<1%	>68	Better corrosion resistance and wear resistance than the WC-12Co in humid environment,better fatigue strength than WC-12Co	Pump and valve parts, paper rolls, hydraulic poles, molds, and other parts need high wear resistance etc	
WC-CrC-7Ni	WC-23%CrC-7%Ni	950-1200	<1%	>75	Smooth coating with high hardness and density, better gas corrosion resistance, corrosion resistance than WC-12Co, maximum service temperature up to 650°C	Pump and valve parts, paper rolls, hydraulic poles etc	
Cr3C2-NiCr	75%Cr3C2-25%NiCr	850-1100	<2%	>65	High temperature oxidation resistance, high temperatureerosion resistance, hot gas erosion resistance, sulfur corrosion resistance,Unparalleled ultimate hardness and density, maximum service temperature up to 815°C	Pump and valve parts,high temperature furnace rollers,valve spindles on engines, nuclear industry parts, high temperature molds, to repalce hard chrome plating	
Cr3C3-NiCr	80%Cr3C2-20%NiCr	900-1150	<3%	>65	High temperature oxidation resistance, high temperature erosion resistance, hot gas erosion resistance, sulfur corrosion resistance, unparalleled ultimate hardness and density, maximum service temperature up to 850°C	Pump and valve parts,high temperature furnace rollers,valve spindles on engines, nuclear industry parts, high temperature molds, to repalce hard chrome plating	
Inconel Alloy	Inconel Alloy	450-650	<0.5%	>65	Show high corrosion resistance in alkalinity, acidity and water soluble salts enviroment,high thickness,maximum service temperature up to 850°C	Steamer in paper making industry ,valves, chemical treatment equipment parts, high temperature and corrosiveenvironment, garbage burning furnace parts, alloy repair etc	
Cobalt-based alloy	Stellite Alloy	600-1000	<0.5%	>70	Recommend using in vibration-resistant ,hard surface touched and particle abrasion enviroment.Maximum service temperature up to 815°C, high corrosion resistance and better hardness at high temperature resistance and hardness. It can replce overlay cladding in some conditions.	Corrosion protection: pump and valve parts,blender blade, blade, scraper, wear-resistance rings, paper rolls, etc.	
Iron-based alloy	FeNiCr alloy	350-650	<0.5%	>60	High corrosion resistance and gas corrosion resistance, good toughness, maximum service temperature up to 500°C	Corrosion-resistant parts, printing rollers, size repair etc	
MCrAlYS	MCrAlYS	400-550	<3%	>65	High temperature oxidation resistance, hot corrosion resistance ,thermal shock resistance, maximum service temperature up to 1000°C	Thermal-resistant coating, protective coating which can achieve high temperature resistance and wear resistance properties when mix with other alloy	
T800 Alloy	CoMoCrSi	700-950	<0.5%	>60	High temperature resistance,corrosion resistance,oxidation resistance,vibration resistantance,wear resistance between metal and metal,adhesiveness.Maximum service temperature up to 780°C	High temperature fretting parts, valve shaft, pump parts, piston rings, etc.	
Nickel based alloy	NiCrBSSiFeC	HRC 56-62			High bonding strength,corrosion resistance, heat shock resistance,particle abrasion resistance. Maximum service temperature up to 750°C	Pump and valve parts, heat conveyor roller, heat die casting mould, glass mold, seals etc	



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