

Utmost®

品质与艺术完美结合

艾坦姆流体控制技术有限公司
Utmost Flow Control Tech. Co., Ltd

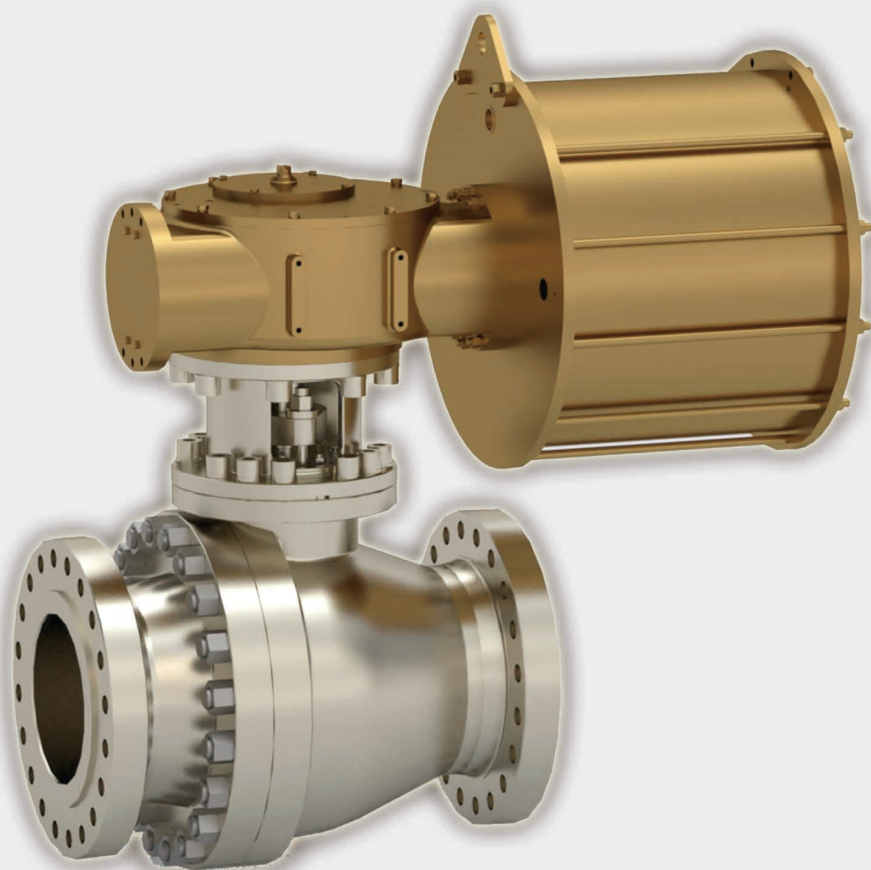


艾坦姆

BA-F/S/P系列金属硬密封球阀

BA-F/S/P Series Metal Sealing Ball Valve





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BA-F/S/P系列金属硬密封球阀简介

Brief Introduction of BA-F/S/P Series Metal Sealing Ball Valve

球阀是一种紧凑而可靠的切断阀，广泛应用于各种场合。金属硬密封球阀可以在极为苛刻的应用条件下使用，例如高温、高压、高频、磨蚀、腐蚀介质以及结晶的介质中，开关时间短、扭矩稳定，使用寿命长，密封可靠，相比于闸阀、截止阀、蝶阀，介质流阻极低。阀门可选用气动、电动、液动、气-液联动、电-液联动、手动等驱动方式。公司拥有自己的气动执行机构品牌，也可以根据用户要求，选择执行器的品牌及结构。

Ball valve is a compact and reliable shut-off valve, which is widely used in various working conditions. The metal hard seal ball valve can be used under extremely harsh application conditions, such as high temperature, high pressure, high frequency, abrasion, corrosive medium and crystalline medium. The hard seal ball valve has its own characteristics and advantages, such as short opening and closing time, stable torque, long service life and reliable sealing which can ensure free opening and closing. Compared with gate valve, stop valve and butterfly valve, the medium flow resistance is extremely low. The valve can be driven by pneumatic, electric, hydraulic, gas-liquid linkage, electric-liquid linkage, manual, etc. Utmost has its own brand of pneumatic actuator, and can also select the brand and structure of actuator according to the customers' requirements.

应用领域

Application Area

广泛应用在各种领域，特别是在煤化工、精细化工、炼化、造纸、硅化工、电力、石油化工、油气输送、冶金、制药、食品饮料等行业。

It is widely used in various fields, especially in coal chemical, fine chemical, refining, papermaking, silicon chemical, electric power, petrochemical, oil and gas transportation, metallurgy, pharmaceutical, food and beverage industries.

BA-F/S/P系列金属硬密封球阀

BA-F/S/P Series Metal Sealing Ball Valve

BA-F/S/P系列金属硬密封球阀特点

BA-F/S/P Series Metal Sealing Ball Valves Characteristics

Ultmost金属硬密封球阀有F、S、P型等结构，它们具有共同的特点：

Ultmost metal sealing ball valves have F, S, P type structures with same characteristics:

密封可靠的设计

阀门两片或三片式分体结构。

主轴采用17-4PH或Inconel718材质，球体采用F316或Inconel，根据不同的工况的要求，进行特殊的硬化处理，保证阀门的密封性能与使用性能。

Reliable Sealing Design

The valve housing was designed in two or three split pieces. The spindle is made of 17-4PH or Inconel718, the seat is made of F316 or Inconel718, the ball is made of F316 or Inconel625, and special hardening treatment is carried out according to the requirements of different working conditions to ensure the sealing and service performance of the valve.

高强度、可靠阀杆设计

高压大口径球阀主轴与球体采用花键连接，对中性好，强度高。独立防喷出结构设计，避免其它外力破坏防喷出结构，导致安全事故。

Design of High Strength and Reliable Valve Stem

The high pressure large diameter ball valve spindle and ball are connected by spline, with good alignment, high strength. Independent anti-spouting structure design could solid defence other external forces to destroy the anti-spouting structure which resulting in safety accidents.

自清洗设计

根据工况要求，阀座采用带刮刀清洗结构，可对球表面实现自清洗，防止流体介质堵塞在密封面上。

Self-cleaning Design

To meet the requirements of different working condition, the valve seat adopts scraper cleaning structure, which can realize self-cleaning on the ball surface and prevent the fluid medium from blocking on the sealing surface.

蝶形弹簧预紧设计

保证低压差下密封优良。刚性系数大，不受温度影响。

Butterfly Spring Preload Design

Ensures excellent sealing performance at low differential pressure. High stiffness factor, independent of temperature.

动态加载与低逸散密封

填料采用动态加载结构，补偿填料磨损，延长填料寿命，可以持续提供可靠的密封性。

低逸散阀杆填料，确保易燃易爆或有毒有害的危险介质无外漏。

Dynamic loading with low fugitive seal

The packing adopts dynamic loading structure to compensate for packing wear and extend packing life, which can continuously provide reliable sealing. Low fugitive stem packing ensures no leakage of flammable, explosive or toxic hazardous media.

泄放功能设计

当球阀关闭时，即使阀门进出口两端同时受压，阀门中腔和两端通道也可以能被相互阻断，中腔内的剩余介质在压力升高时可以排到阀门上游或下游。

Drainage Function Design

When the ball valve is closed, even if both ends of the valve inlet and outlet are under pressure at the same time, the valve cavity and both channels can be blocked from each other, and the remaining medium in the cavity can be discharged to the upstream or downstream of the valve when the pressure rises.

自然的防静电结构设计

金属硬密封球阀的阀体、端盖、阀座、球体等金属零件紧密接触自然形成了静电通道。

特殊工况下设置专门的防静电装置。

Natural Anti-static Structure Ddesign

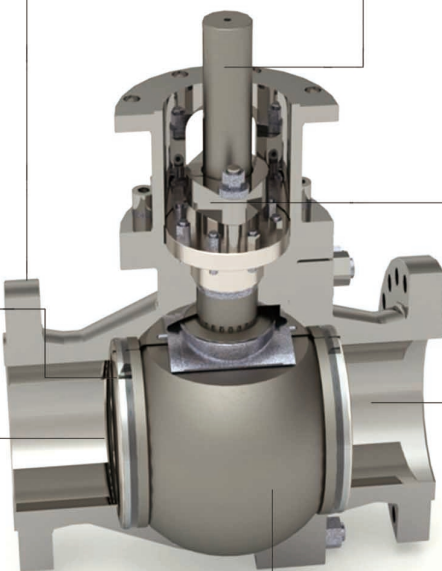
Metal sealing ball valve's valve body, end cap, valve seat, ball and other metal parts in close contact naturally form an electrostatic channel. Special anti-static devices are set up for special working conditions.

完全的防火结构设计

固有的防火设计，阀门的密封面采用金属对金属密封结构。非金属密封件采用石墨材料。

Fully Fire Resistant Structural Ddesign

Inherently fire resistant design, the valve has a metal-to-metal sealing structure on the sealing surface. Non metallic seals are made of graphite.



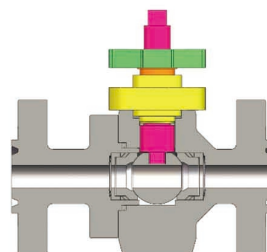
BA-F/S/P系列金属硬密封球阀特点 BA-F/S/P Series Metal Sealing Ball Valves Characteristics

BA-F型浮动球阀结构特点

Structural Characteristics of BA-F Floating Ball Valve

结构紧凑、零件数量少、外漏点少，不易卡死等特点，适用于口径或压力较低的氧气阀门、高频球阀、高温球阀、低温球阀、管道球阀等。

Compact structure, small number of parts, few external leakage points, not easy to jam, etc., suitable for caliber or low pressure oxygen valves, high frequency ball valves, high temperature ball valves, low temperature ball valves, pipeline ball valves.



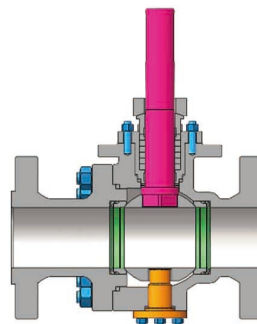
BA-F型结构图 Structure Diagram of The BA-F

BA-S型固定球阀结构特点

Structural Characteristics of BA-S Type Fixed Ball Valve

前座密封、摩擦力矩小等特点，适用于中高压、中大口径的氧气球阀、高频球阀、锁渣阀、粉煤锁斗阀、煤浆切断阀、管道球阀等

The front seat is sealed with small friction torque, it is suitable for medium and high pressure, medium and large caliber oxygen ball valve, high frequency ball valve, slag lock valve, pulverized coal lock bucket valve, coal slurry cut-off valve, pipeline ball valve.



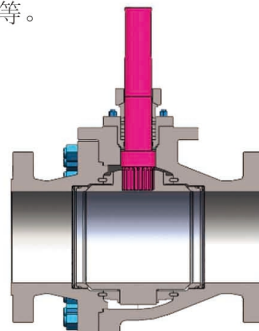
BA-S型结构图 Structure Diagram of The BA-S

BA-P型固定球阀结构特点

Structural Characteristics of BA-P Type Fixed Ball Valve

结构紧凑、重量轻、外漏点少等特点，摩擦力矩小，阀杆只承受扭矩，适用于中高压、中大口径的氧气球阀、高频球阀、锁渣阀、粉煤锁斗阀、煤浆切断阀、管道球阀等。

It has the characteristics of compact structure, light weight, few leakage points, small friction torque, and the valve stem only bears torque. It is suitable for medium and high pressure, medium and large diameter oxygen ball valves, high frequency ball valves, slag lock valves, pulverized coal lock hopper valves, coal slurry shut-off valves, pipeline ball valves, etc.



BA-P型结构图 Structure Diagram of The BA-P

BA-F/S/P系列金属硬密封球阀特点 BA-F/S/P Series Metal Sealing Ball Valves Characteristics

硬化处理工艺 Hardening Process

金属硬密封球阀的球体与阀座采用金属对金属的密封方式，为了确保阀门在各种温度和压力下的可靠密封，根据工况的不同，艾坦姆有多种硬化处理方式可供选择。硬化工艺包括HVOF、HVAF、高速激光熔覆、喷焊、PVD、CVD、表面改性等先进处理方式，硬化材料包括氧化物、碳化物、氮化物、硼化物及硅化物金属陶瓷或镍基、钴基、铁基自熔合金等。通过调整硬化工艺参数、硬化材料成分配比及粉末形态，经过大量耐磨损对比试验，研发出了适合不同工况且艾坦姆独有的硬化方案，保证密封面具有很好的耐摩擦、耐冲击、耐腐蚀等性能，保证密封面在高温高频高压等苛刻工况下具有稳定持久的密封性能。

The metal sealing valve adopt metal to metal sealing method between the ball and the valve seat to ensure the reliable sealing of the valve under various temperatures and pressures. Utmost has a variety of hardening treatment methods to choose from according to different working conditions. The hardening process includes HVOF, HVAF, high speed laser cladding, spray welding, PVD, CVD, surface modification and other advanced treatment methods. The hardening materials include oxide, carbide, nitride, boride and silicide cermet, nickel base, cobalt base, iron base self fluxing alloy, etc. By adjusting the hardening process parameters and the composition ratio of hardening materials and the powder morphology, Utmost has developed its own hardening scheme suitable for different working conditions. With good friction resistance, impact resistance and other properties for the sealing surface, stable and durable sealing performance under harsh working conditions such as high temperature, high frequency and high pressure was ensured.



硬化处理后的阀座
Hardened Seat



硬化处理后的球体
Hardened Valve Housing

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BA-F/S/P Series Metal Sealing Ball Valve

BA-F/S/P系列金属硬密封球阀技术数据
BA-F/S/P Technical Data of Metal Sealing Ball Valve

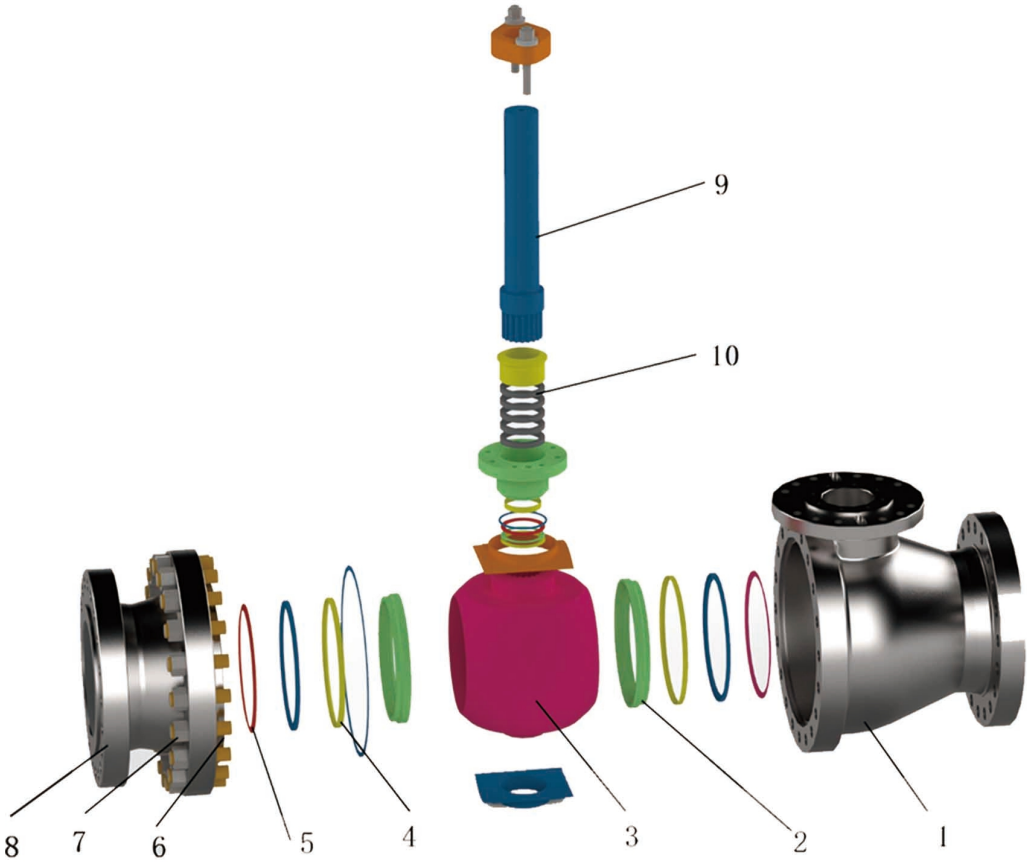
硬密封球阀技术数据
Technical Data of Sealing Ball Valve

结构形式 Structural Style	BA-F、BA-S、BA-P
公称尺寸 Nominal Size DN/NPS	NPS1/4 (DN6) — NPS24 (DN600)
压力等级 Nominal Pressure PN/ANSI	Class150 (PN20) — Class2500 (PN420)
适用温度 Applicable Temperature	-196℃ — 816℃
阀体材质 Valve Housing Material	碳钢、合金钢、不锈钢、镍基高温合金、钛合金 Carbon Steel, Alloy Steel, Stainless steel, Nickel-based High-temperature Alloys, Titanium Alloys
阀体结构 Valve Structure	2/3片式, 铸造/锻造 2/3 Piece Type, Cast/Forged
适用介质 Suitable Media	氧气、氢气、渣水、煤渣等 Oxygen, Hydrogen, Slag Water, Cinder
执行机构 Actuator Type	气动齿轮齿条式、气动拨叉式、电动、电液、气液等 Pneumatic Rack and Pinion Type, Pneumatic Fork Type, Electric, Electro-hydraulic, Gas-hydraulic
密封试验标准 Seal Test Standards	API 598、MSS SP-61、ISO 5208、ANSI/FCI 70-2等
参照标准 Reference Standards	ASME B16. 10、ASME B16. 34、ASME B16. 5、API 6D、API 608等

BA-F/S/P系列金属硬密封球阀
BA-F/S/P Series Metal Sealing Ball Valve

BA-F/S/P系列金属硬密封球阀技术数据
BA-F/S/P Technical Data of Metal Sealing Ball Valve

主要零部件
Main Parts



1 阀体 Valve Housing	2 阀座 Seat	3 球体 Ball	4 密封垫片 Sealing Gasket	5 弹簧 Springs
6 螺柱 Studs	7 螺母 Nut	8 端盖 End Caps	9 阀杆 Stem	10 填料组件 Packing Assembly

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材质
Material

零件名称 Parts Name	阀体 Valve Housing	内件 Trim	阀杆 Stem	密封件 Sealing Parts	紧固件 Fastener
材质 Material	A216 WCB	A182 F22	A630 17-4PH	聚四氟乙烯 PTFE 石墨 Graphite	A193 B7/A194 2H A193 B8M/A194 8
	A216 WCC	A182 F91	A276 XM-19		
	A217 WC6	A182 F304L	Inconel 718		
	A217 WC9	A182 F304	Inconel X-750		
	A351 CF3	A182 F316L			
	A351 CF8	A182 F316			
	A351 CF3M	Inconel 625			
	A351 CF8M	A105			
	A494 CW-6MC				
	A182 F22				
	A182 F91				
	A182 F304L				
	A182 F304				
	A182 F316L				
	A182 F316				
	Inconel 625				
	Inconel 600				
	A494 CY40				
	A105				

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For special material requirements, please contact our sales department.



不仅仅是性能卓越的产品.....

艾坦姆还通过技术方案和综合的售后服务体系,
增强产品价值,为您的工厂提供全面支持!

More than just excellent products!

Utmmost also supply technical solution and integrated after service
system to increase products value and fully support your factory!

声明: 艾坦姆保留技术进步与结构更改的权力, 更新恕不另行通知。

Statement: Utmmost reserves the right to technical progress and structural
changes without notice.

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