



有氟密
陶瓷
阀

Ceramic Valve



节能 / 环保 / 创新 / 服务

Energy saving, environmental protection, innovation, service





合作进取 共创未来

please take note of that:

WE ARE NOT ONLY MANUFACTURER BUT ALSO YOUR FRIEND AND PARTNER FOR PROVIDING THE WHOLE SOLUTION FOR INDUSTRIAL FLOW CONTROL GLOBAL ENVIRONMENTS



企业历程
COMPANY
DEVELOPMENT

1989



历史渊源，行业翘楚

1989年3月，朱孝有先生在温州永中创办氟塑料产品加工的小型工厂公司在起步阶段制造氟塑料制品。后来转向衬氟阀门的生产，并以这两大产品的研制和销售为主，奠定了今天有氟密公司的历史渊源。在公司成立8周年华诞之际，企业名称与品牌名称实现统一，改为“浙江有氟密阀门有限公司”

YOUFUMI, founded in Wenzhou China in 1989 by Mr. Xiaoyou Zhu, is a high-tech enterprise specialised in the manufacture of corrosive resistant products for industrial applications. Youfumi is an ISO 9001:2008 approved company and all the products are CE, PED, TS marked where required. Youfumi also conducts 100% quality control tests on all incoming materials to ensure the constant quality and zero defect of its products.

2004



快速扩张，规模发展

怀着对行业发展的强烈使命感，在2004年有氟密公司组建起“福建有氟密泵阀有限公司”。在技术领域不断创新并取得突破，公司快速发展成为防腐蚀阀门、补偿器、管件、工业容器专业制造商，掌握衬氟控制阀制造领先核心技术，多项技术指标填补了国内空白，有氟密先后被认定为省级、国家级高新技术企业

The production base was built in Fujian in 2004, which cover an area of 60,000 m² with an annual output of 160,000 pieces. With continues new product development, Youfumi quickly became one of the largest and the most professional manufacturer of corrosive resistant products in industrial applications, and awarded as national high-tech enterprise.

2011



科技创新，掌控未来

2011年8月，座落于温州永中高新园区的浙江有氟密新总部始投运行浙江新总部联结着福建有氟密高科园生产基地、数十家高校及科研机构、数十项省市级、国家级科研攻关项目，以“高效、智能、环保”为主导的创新型特色产品广泛应用于石油、化工、水利、印染、电力、医疗、军工等防腐控制领域，满足全国和全球30多个国家和地区的需求

The new headquarters was established in Wenzhou High-tech Zone in 2011. Align with several colleges and universities, scientific research institutions and national R&D projects, Youfumi made an outstanding contribution to the technical innovation. The product range now expands to include valves, pipes, fittings and vessels etc. that lined with PTFE, PFA, FEP and PP, PO that meet the requirements of all recognized international standards.

2015



心怀感恩，成就梦想

2015年建设中的有氟密陶瓷管阀科技有限公司大楼，厂房面积达七千多平方米
The new factory for ceramic valve and pipe is building, covering more than 7000 sq m.

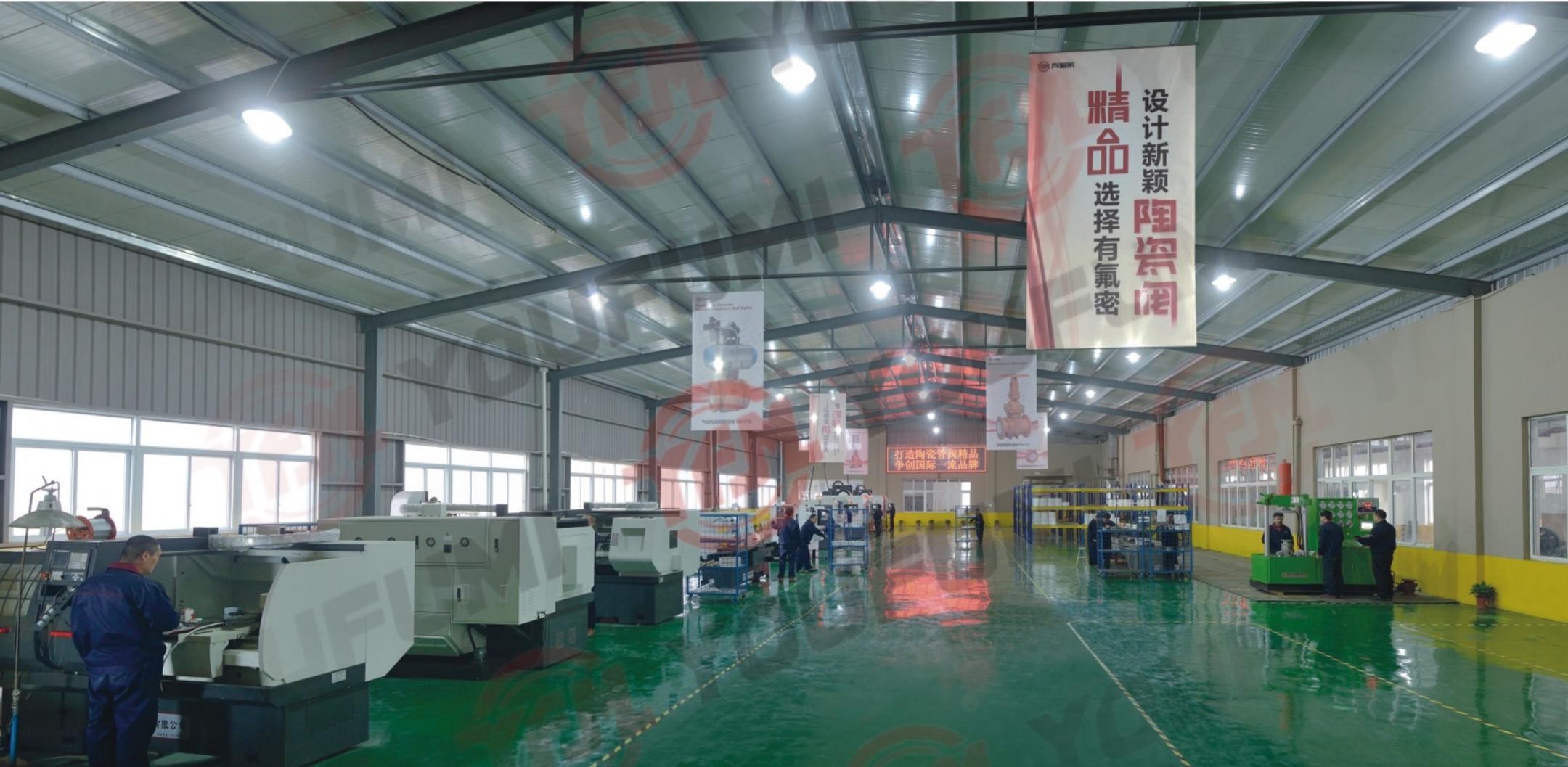


STRATEGY 企业文化

Youfumi's value is continuous innovation, **developing new products and solutions according to customer requirements** with reliable quality and **promptly service** to save customer costs.

有氟密的价值在于不断创新，开发设计新产品和解决客户难题，根据客户要求设计，质量可靠，及时服务，节省客户的成本。





QUALITY CONTROL
品质保证

打造陶瓷管阀精品 争创国际一流品牌

TO BE THE NO. 1 MANUFACTURER OF CERAMIC VALVE & PIPE



※陶瓷性能指标 Ceramic Performance Specification

项目 Item	单位 Unit	氧化铝 Alumina (AL ₂ O ₃)			氧化锆 Zirconia(ZrO ₂)	
		AL ₂ O ₃ ≥95%	AL ₂ O ₃ ≥99%	AL ₂ O ₃ ≥99.5%	3Y-TZP	Ce-TZP
体积密度 Density	g/cm ³	3.7	3.9~3.95	3.95	6.0~6.05	6.0
硬度 Hardness	HRA≥	86	88	88	87	87
抗弯强度 Flexural Strength	MPa≥	300	350	400	1300	800
最高使用温度 Max. temperature	°C	1200	1200	1200	900	1100
线膨胀系数 Liner Expansion Coefficient	10 ⁻⁶ /°C	7.5	8.2	8.2	9.8	9.6
介电常数 Permittivity	ε r20°C, 1MHz	9.0	9.2	9.2	9.3	9.3
介质损耗 Dielectric Loss	tan δ × 10 ⁴ , 1MHz	3	2	2	2	2
体积电阻率 Volume Resistivities	Ω .cm20°C	10 ¹³	10 ¹⁴	10 ¹⁴	10 ¹⁶	10 ¹⁶
击穿强度 Puncture Stength	KV/mm, DC≥	20	20	20	20	20
抗压强度 Compressive Strength	MPa≥	2500	2500	2500	4500	4500
抗折强度 Rupture Strength	MPa≤	200	350	350	1000	1000
弹性模数 Elastic Modulus	Gpa	300	350	350	----	----
泊松比 Poisson Ratio	----	0.20	0.22	0.22	----	----
导热系数 Thermal Conductivity	W/m•K(20°C)	20	25	25	----	----

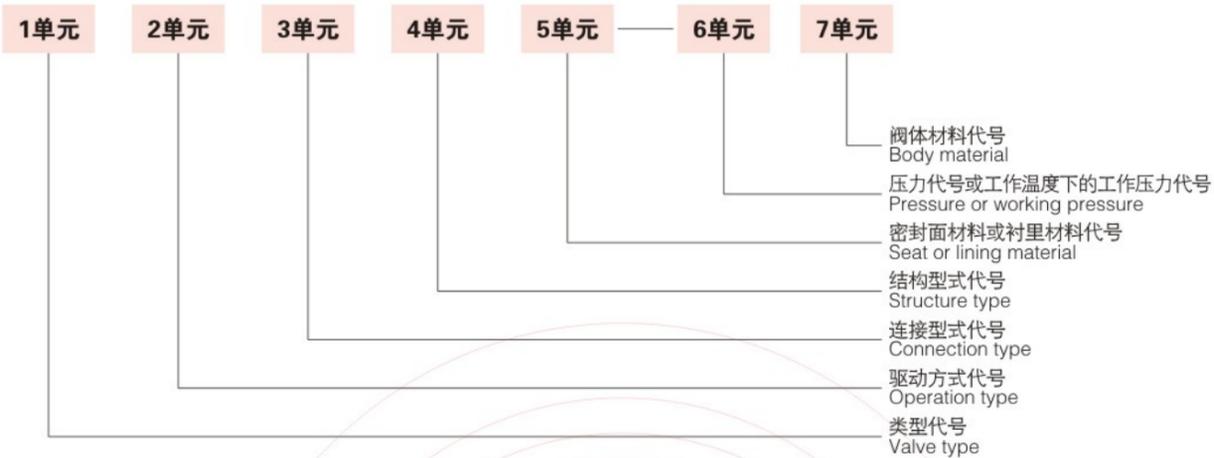
注: 有热冲击请特别说明。 Note: If thermal shock needed, please specify.

※材料耐腐蚀性对照表 Corrosion Resistance Reference Table

介质 Medium	HCL		H ₂ SO ₄		H ₃ PO ₄	
质量分数 Mass Fraction	20%	20%	90%	90%	60%	60%
温度 Temperature	60°C	95°C	60°C	95°C	60°C	95°C
99.0%AL ₂ O ₃	a	a	a	a	a	a
99.5%AL ₂ O ₃	a	a	a	a	a	a
ZrO ₂	a	a	a	a	a	a
SS304	c	x	c	c	c	c
SS316	c	x	c	c	c	c

介质 Medium	HF	HNO ₃		NaOH		
质量分数 Mass Fraction	10%	46%	60%	60%	30%	30%
温度 Temperature	60°C	95°C	60°C	95°C	60°C	95°C
99.0%AL ₂ O ₃	b	c	a	b	b	b
99.5%AL ₂ O ₃	b	c	a	a	a	a
ZrO ₂	a	c	a	a	a	b
SS304	c	x	a	b	a	a
SS316	c	x	a	a	a	b

a. 无腐蚀或腐蚀可以忽略, 推荐使用 b. 轻微腐蚀或较少腐蚀, 适合使用 c. 腐蚀中等或较大, 不推荐使用 x. 腐蚀严重不能使用
a. Recommend to use because of no corrosion or corrosion can be ignored b. Suitable to use because of light or less corrosion c. Not recommend to use because of medium or high corrosion x. forbid to use because of serious corrosion



一单元：阀门类型代号 (1. Valve type)

类型 Type	蝶阀 Butterfly Valve	隔膜阀 Diaphragm valve	止回阀 Check valve	截止阀 Globe valve	节流阀 Throttle valve	排污阀 Discharge valve	球阀 Ball Valve	旋塞阀 Plug Valve	闸阀 Gate valve
代号 Code	D	G	H	J	L	P	Q	X	Z

当阀门还具有其他功能作用或带有其他特殊结构时，在阀门类型代号前再加一个汉语拼音字母，按下表的规定。
When the valve also has other functions or with other special structure, in the valve type before charging a Chinese phonetic alphabet, by the following table.

第二功能作用名称 Function	保温型 Jacket type	防火型 Fire safe type	视镜球型 Sight glass ball type	排渣型 Discharge type	V型球阀 V-port ball valve	(阀杆密封)波纹管型 (Stem sealing) Bellow type
代号 Code	B	F	S	P	V	W

二单元：传动方式 (2. Operation type)

传动方式 Operation type	蜗轮 Worm gear	正齿轮 Spur gear	伞齿轮 Bevel gear	气动 Pneumatic	电动 Electric	手柄手轮 Handwheel
代号 Code	3	4	5	6	9	无代号 N/M

对于气动机构操作的阀门：常开式用6K、7K表示；常闭式用6B、7B表示 For pneumatic:6K,7k stand for normally open, 6B,7B stand for normally close.

三单元：连接型式 (3. Connection type)

连接方式 Connection type	内螺纹 FNPT	外螺纹 MNPT	法兰 Flange	焊接 Welding	对夹 Wafer
代号 Code	1	2	4	6	7

五单元：衬里材料 (5. Lining material)

材料 Materia	氟塑料 Fluorine	陶瓷 Ceramic	硬质合金 Alloy Steel	阀体直接加工 None
代号 Code	F(注)	TC	Y	W

注：氟塑料为FEP、PTFE、PO、PFA时，代号分别为F46、F4、PO、PFA；半衬时，需加上阀瓣的材料。 Note: FEP,PTFE,PO, PFA code is F46,F4,PO,PFA

六单元：公称压力 (6. Nominal pressure)

公称压力数值用阿拉伯数字直接表示，它是MPa的10倍 It marked with arabic number, which is 10 times of MPa.

七单元：阀体材料 (7. Body material)

阀体材料 Material	碳钢 Carbon steel	Cr13系不锈钢 Cr13 Stainless steel	铬钼钢 Cr-Mo steel	18-8系不锈钢 18-8 Stainless steel	球墨铸铁 Ductile Iron	Mo2Ti系不锈钢 Mo2Ti Stainless steel	塑料 Plastic
代号 Code	C	H	I	P	Q	R	S

四单元：结构型式 (4. Structure types)

阀门结构形式用阿拉伯数字表示，按下表规定 Valve structure code refer to the following table.

闸阀结构形式代号 Gate Valve Structure Type

结构形式 Structure type		代号 Code
阀杆升降式 Rising stem (明杆)	楔式闸板 Wedge type	弹性闸板 Flexible disc 0
		单闸板 Single disc 1
	平行式闸板 Parallel type	双闸板 Double disc 2
		单闸板 Single disc 3
阀杆非升降式 Non-rising stem wedge (暗杆)	楔式闸板 Wedge type	双闸板 Double disc 4
		单闸板 Single disc 5
	平行式闸板 Parallel type	双闸板 Double disc 6
		单闸板 Single disc 7
刚性闸板 Solid wedge		双闸板 Double disc 8

止回阀结构形式代号 Check Valve Structure Type

结构形式 Structure type		代号 Code
球型止回阀 Ball check valve		0
升降式阀瓣 Lift disc	卧式直通 Horizontal through way	1
	立式直通 Lift through way	2
	角式流道 Y through way	3
旋启式阀瓣 Swing disc	单瓣结构 Single disc	4
	多瓣结构 Multi-disc	5
	双瓣结构 Double disc	6
蝶形止回式 Wafer Check Valve		7

隔膜阀结构形式代号 Diaphragm Valve Structure Type

结构形式 Structure type	代号 Code	结构形式 Structure type	代号 Code
屋脊流道 Weir type	1	直通流道 Straight type	6
直流流道 Through type	5	Y形角式流道 Y type	8

排污阀结构形式代号 Drain Valve Structure Type

结构形式 Structure type		代号 Code
液面连接排放 Liquid level connection discharge	截止型直通式 Throttle through way	1
	截止型角式 Throttle angle way	2
液底间断排放 The bottom of the liquid connection discharge	截止型直通式 Throttle straight way	5
	截止型角式 Throttle angle type	6
	截止型直通式 Throttle straight way	7
	浮动闸板型直通式 Floating gate through way	8

蝶阀结构形式代号 Butterfly Valve Structure Type

结构形式 Structure Type		代号 Code
密封型 Seat	单偏心 Single Eccentric	0
	中心垂直板 Vertical disc	1
	双偏心 Double Eccentric	2
	三偏心 Tri-Eccentric	3
	连杆机构 One piece stem	4

球阀结构形式代号 Ball Valve Structure Type

结构形式 Structure Type		代号 Code
浮动球 Floating ball	直通流道 Straight way	1
	Y形三通流道 Y three-way	2
	L形三通流道 L three-way	4
	T形三通流道 T three-way	5

截止阀、节流阀和柱塞阀结构形式代号 Globe Valve, Throttle Valve, Plunger Valve Structure Type

结构形式 Structure Type		代号 Code
阀瓣非平衡式 Non-balance disc	直通流道 Straight way	1
	Z形流道 Z way	2
	三通流道 Three way	3
	角式流道 Angle way	4
	直流流道 Through way	5

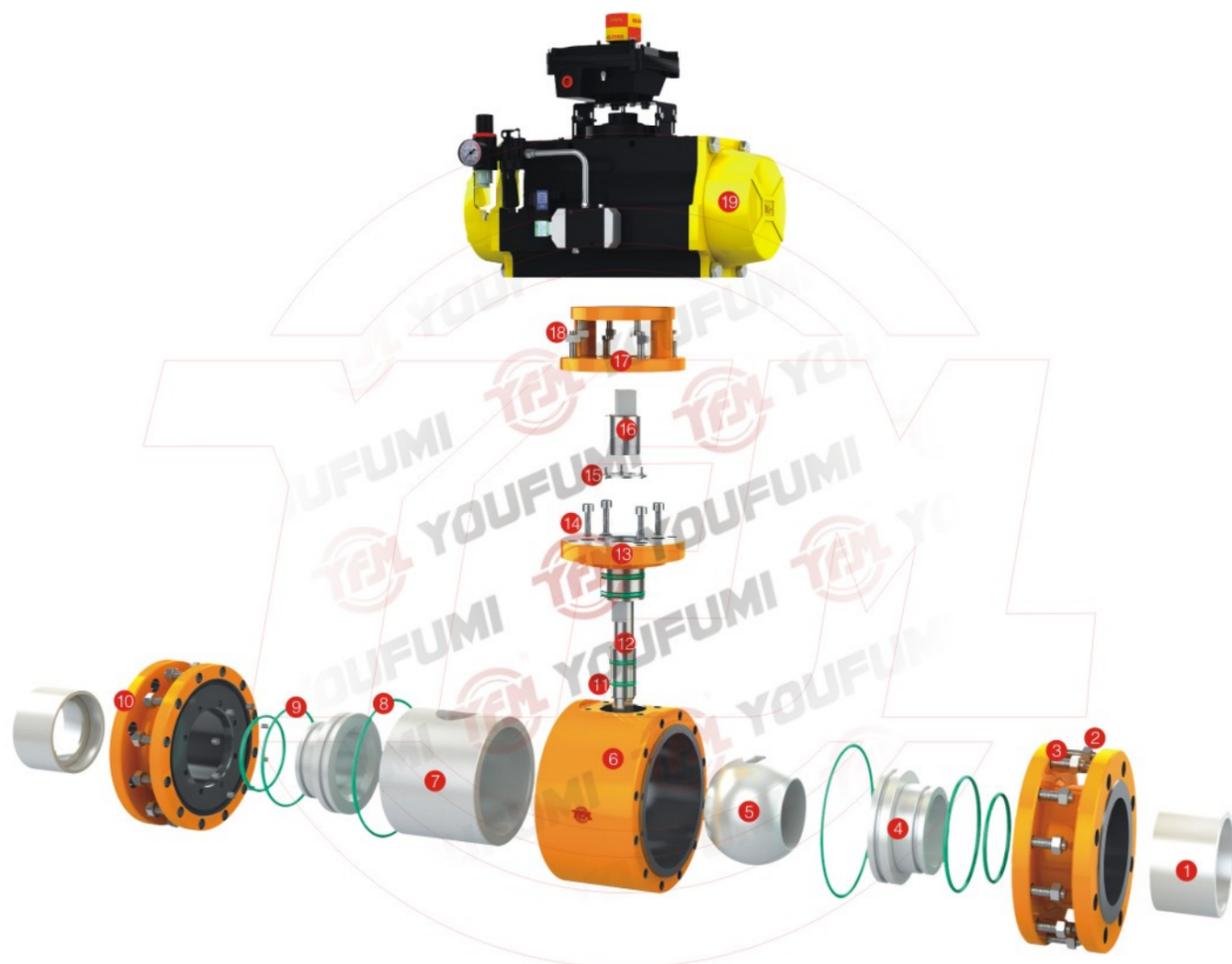
旋塞阀结构形式代号 Plug Valve Structure Type

结构形式 Structure Type		代号 Code
填料密封 Packing	直通流道 Straight way	1
	L形三通流道 L three-way	4
	T形三通流道 T three-way	5

举例:

- Q41TC-16P** 表示为：
手动法兰式陶瓷球阀，公称压力1.6MPa，阀体材料为不锈钢，衬里材料为结构陶瓷；
Q41TC-16P stands for manual flange type ceramic ball valve with 1.6 MPa nominal pressure, stainless steel body material and ceramic lining.
- Z73TC-16C** 表示为：
手动对夹式陶瓷刀型闸阀，公称压力1.6MPa，阀体材料为碳钢，衬里材料为结构陶瓷；
Z73TC-16C stands for manual wafer type ceramic knife gate valve with 1.6 MPa nominal pressure, carbon steel body material and ceramic lining.
- PZ644TC-16C** 表示为：
气动法兰式陶瓷排渣闸阀，公称压力1.6MPa，阀体材料为碳钢，衬里材料为结构陶瓷；
PZ644TC-16C stands for pneumatic flanged ceramic slug gate valve with 1.6 MPa nominal pressure, carbon steel body material and ceramic lining material.

※ 分解图(Cutway view)



※ 扭矩表 Torque Table

规格 Size	DN	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150
	NPS	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"
扭矩 Torche (N.M)	气压 0.6MPa	15	20	20	30	40	50	70	110	140	240	350
	水压 1.6MPa	19	30	30	50	70	90	110	200	240	360	450

以上数据是在实验条件下测得，可能与阀门实际使用工况有所不同，仅供参考，建议与我司联系以选用正确的执行机构。
The data shown above was acquired under test conditions that may be some the actual site conditions. This is only for reference, and please contact us for more information.

※ 各部件材质表 Material Specification

序号 No.	名称 Name	材质 Material	序号 No.	名称 Name	材质 Material	序号 No.	名称 Name	材质 Material
01	接管 Tube	结构陶瓷 Structural ceramics	08	O型圈 O-ring	氟橡胶 Viton	15	防飞垫 Control pad	2Cr13/SS304
02	螺柱 Bolt	A193-B7/B8	09	O型圈 O-ring	氟橡胶 Viton	16	连接轴 Coupling shaft	2Cr13/SS304
03	螺母 Nut	A194-2H/B8	10	阀盖 Bonnet	A105/SS304	17	支架 Bracket	WCB/CF8
04	阀座 Seat	结构陶瓷 Structural ceramics	11	O型圈 O-ring	氟橡胶 Viton	18	支架螺栓 Bracket bolt	A193-B7/B8
05	球体 Ball	结构陶瓷 Structural ceramics	12	阀杆 Stem	2Cr13	19	气动执行机构 Pneumatic actuator	组件 Assembly
06	中阀体 Middle body	A105/SS304	13	填料函 Stuffing box	SS316			
07	中体 Middle body	结构陶瓷 Structural ceramics	14	压盖螺钉 Gland bolt	A193-B7/B8			

注:具体材质选用依工况可能有所不同,以上数据仅供参考。
Note: Material selection according to specific conditions may be vary, the above data is for reference only.

※ 陶瓷阀门的优势

我国各行业生产中目前普遍使用的阀门为金属阀门,但金属阀门受金属材料自身条件的限制,越来越不能适应高磨损、强腐蚀等恶劣工况的需要。主要体现在使用寿命短、泄露严重,极大地影响了系统运行的稳定性。因此陶瓷阀门有以下几点优势:

- 1、采用高强度新型结构陶瓷材料制作阀门的密封部件和易损部件,提高了阀门产品的耐磨性、防腐性及密封性,极大延长了阀门的使用寿命,是钛合金阀与蒙乃尔阀的2~4倍。
- 2、陶瓷阀门的使用可以极大地降低阀门的维修、更换次数,提高配套设备运行系统的安全性、稳定性,减轻工人的劳动强度,节约设备修理费用。
- 3、陶瓷阀门的使用能提高工业管路系统的密封性,最大限度的杜绝泄露。同时,陶瓷阀门对环境保护也起到积极地推进作用。另外,制造陶瓷的原料广泛、成本低廉,用铝、碳、硅等普通元素就能制造出性能优越的陶瓷材料,可以节约大量金属材料和稀有的矿产资源。

※ The Advantages of Ceramic Valve

The metal valves are widely used in industrial applications. However there are many restrictions of the metal material under the harsh condition of high abbrasion and corrosion, which will cause serious leakage, shorten life time and affect the stability of the plant operation. Here are the advantages of ceramic valve that can make up for metal valve:

1. The sealing parts and the wearing parts are made by new high-tech structural ceramic material, which improve the performance of abrasive resistance and corrosive protection, prolonging the service life of the valve.
2. It can greatly reduce the replacement, repair cost if the ceramic valve applied, which can further improve the stability of equipment operation, and save labor cost.
3. It can improve the sealing performance of the industrial piping system. At the same time, using ceramic valve has the positive affect on environment protection. Moreover, the raw material of ceramic valve is low cost, can save a lot of metal and rare mineral resources.



Q941TC 电动陶瓷球阀
Q941TC Electric Ceramic Ball Valve



Q41TC 手动 (手柄) 陶瓷球阀
Q41TC Manual (lever) Ceramic Ball Valve



Q641TC 气动陶瓷球阀
Q641TC Pneumatic Ceramic Ball Valve

※结构特点与用途

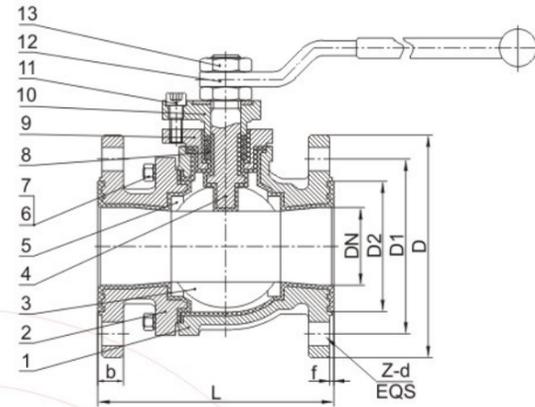
- 陶瓷球阀内部阀芯组件采用的是增韧氧化铝或氧化锆陶瓷，其化学稳定性及硬度极高（洛氏硬度HRC88），仅次于金刚石，具有极高的耐磨损、耐腐蚀、耐冲蚀性能，而且隔热性好，热膨胀系数小，有高硬度及高电热绝缘性，性能方面优于其它的材料。广泛应用于很难使用金属或其他材料的恶劣工况下，如化学设备，废物焚化设备，烟气脱硫设备等，覆盖电力、石油、化工、冶金、采矿、污水处理等工业领域。
- 球体采用先进研磨设备及工艺制造，球圆度精度高，表面质量好，与阀座对研后，利用ZrO2结构陶瓷的自润滑性，具有优异的密封性能。彻底改变了金属硬密封球阀易泄漏、扭矩大、密封面不耐腐蚀的缺点。
- 陶瓷球阀采用高技术新型陶瓷结构材料制作阀门的密封件和易损部件，提高了阀门产品的耐磨性、防腐性及密封性，大大延长了阀门的使用寿命，是钛合金阀和蒙乃尔阀的2-4倍。陶瓷阀门的使用可以大大降低阀门的修理更换次数，提高配套设备运行系统的安全性、稳定性，节约设备修理费用。
- 本阀适用于高硬度的颗粒介质，或有软颗粒但又有腐蚀性的介质管道上作启闭之用。公称压力PN10~ PN40，适应温度 $\leq 200^{\circ}\text{C}$ 。可按照GB、JIS、API等标准数据制造。

※Product Description

- Trim components of ceramic ball valve adopt Alumina or zirconia ceramic with high chemical stability and hardness (HRC88), only inferior to diamond. The ceramic lined valve has very good performance on abrasion erosion, and corrosion resistance, and excellent heat-shielding, electric insulation. Mainly used in electric power, petroleum, chemical, metallurgy, mining, sewage treatment and other industrials where the metal valve cannot be applicable.
- The ball is made by advanced grinding equipment and advanced process technology that can ensure high precision ball roundness, good surface. The self-lubricating capability of ceramic ensures the good sealing after polishing, which radically changed the defects that metal hard sealing valve has such as big torque, non-corrosion-resistant sealing surface.
- Ceramic valve adopts new high-tech type structural ceramic material as sealing and wearing parts, which can improve abrasion and corrosion resistance, and sealing performance, prolonging lifespan, 2-4 times of lifespan than Titanium Alloy and Monel valve. Using ceramic valve can reduce repair or replacement costs and improve safety, stability of operating system.
- This valve fit in granule medium of high hardness, or medium with erosion soft granule. Nominal pressure PN10-PN40, applicable temperature $\leq 200^{\circ}\text{C}$. Manufacture and design accordance to GB, JIS, API standards.

※产品说明

- 耐磨陶瓷球阀是我公司最新研发的高新技术产品，是在全衬PFA球阀的基础上改进而成。结构紧凑，外形美观，适用于有软颗粒但又有腐蚀性的介质，尤其是高磨损、强腐蚀等恶劣工况。目前已广泛应用于石油化工、医药、水处理等领域。
- 我公司生产的衬氟陶瓷球阀，球体与阀座均采用增韧氧化铝或氧化锆结构陶瓷，其化学稳定性及硬度极高（洛氏硬度HRC88），具有极高的耐磨损性能，且隔热性好，热膨胀小，有高硬度及高电热绝缘，密封性能强，比普通衬氟球阀更耐磨损。与介质接触的其他部件，采用全衬PFA材料，具有很强的耐腐蚀、抗冲蚀性能，相比与陶瓷阀门，既减轻了整体重量，又增强了阀门的耐腐蚀性能。
- 公称通径DN15~DN300，公称压力PN10~PN40，适应温度≤200℃，驱动方式有手动、气动、电动等；也可根据GB、API、JIS等标准制造。



序号 No.	名称 Name	材料 Material
1	阀体 body	WCB/CF8+PFA
2	阀盖 bonnet	WCB/CF8+PFA
3	球体 ball	高强度结构陶瓷 High strength structural ceramic
4	阀杆 stem	2Cr13/SS304
5	阀座 seat	高强度结构陶瓷 High strength structural ceramic
6	螺柱 Bolt	A193-B7/B8
7	螺母 Nut	A194-2H/B8
8	组合填料环 Parking ring	PTFE
9	填料函 Stuffing box	WCB/CF8
10	填料压盖 Gland	WCB/CF8
11	内六角螺栓 Body bolt	A193-B7/B8
12	手柄 Lever	WCB
13	锁紧螺母 Nut	A194-2H/B8

※技术规范 Technical Specification

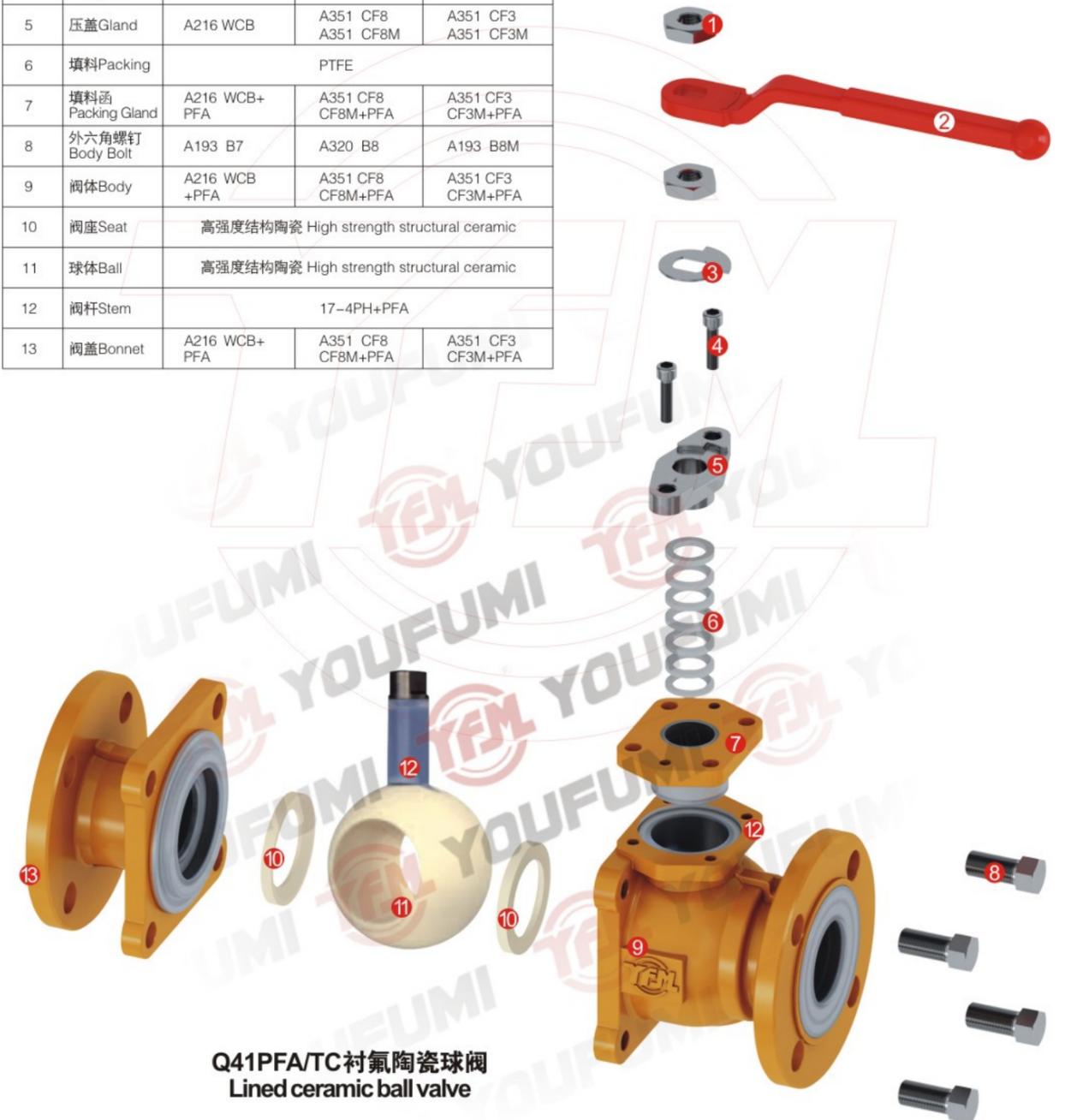
设计与制造 Design & Manufacture		API 6D / GB/T12237
连接端尺寸 Connection Size	结构长度 Face-to-face	ASME B16.10 / GB/T12221
	法兰尺寸 Flange	ASME B16.5 / GB/T9113
检验与试验 Inspection & Test		API598 / GB/T13927
材料 Material	碳钢 Carbon steel	GB/T12229
	不锈钢 Stainless steel	GB/T12230
标志 Mark		GB/T12220
供货 Delivery		GB/T12252
口径 Size		DN15-350
压力 Pressure		1.0MPa 1.6MPa 150LB

※Product Description

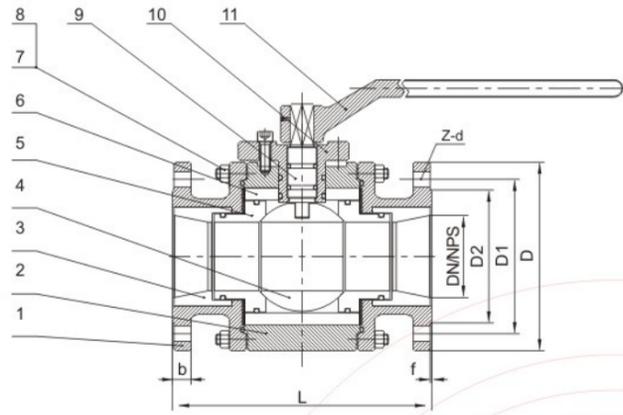
- This type of ceramic ball valve is YFM's first developed high-tech product, features PFA lined body. It is compact and good surface and widely used in soft particals with corrosion medium, especially for high wear, strong corrosion and other harsh conditions. Current ceramice valve widely used in petrochemical, medicine and water treatment industries.
- The ball and seat adopts alumina or zirconia ceramic with high chemical stability and hardness (HRC88). The ceramic lined valve has a very high abrasion resistance, corrosion resistance, erosion resistance, good insulation. The wetted body is fully lined with PFA that also has good performance on corrosion resistant. Comparing to the fully lined ceramic valve, PFA lined one lower the whole weight and also more economic.
- Diameter size: DN15-DN300. Nominal pressure: PN10-PN25. Applicalbe temperature:≤200℃. Operation methods can be manual, pneumatic, electric. Manufacture and design as per GB, API, JIS standard.

※材料明细表 Material Specification

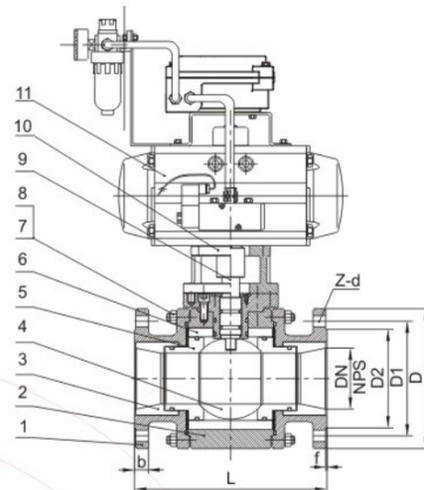
序号No.	名称 Name	材料明细 Material details		
1	螺母Nut	A194 2H	A194 8	A194 8M
2	手柄Wrench	A216 WCB	A351 CF8 A351 CF8M	A351 CF3 A351 CF3M
3	定位片 Locating piece	25# SS304		
4	内六角螺钉 Body bolt	A193 B7	A320 B8	A193 B8M
5	压盖Gland	A216 WCB	A351 CF8 A351 CF8M	A351 CF3 A351 CF3M
6	填料Packing	PTFE		
7	填料函 Packing Gland	A216 WCB+PFA	A351 CF8 CF8M+PFA	A351 CF3 CF3M+PFA
8	外六角螺钉 Body Bolt	A193 B7	A320 B8	A193 B8M
9	阀体Body	A216 WCB+PFA	A351 CF8 CF8M+PFA	A351 CF3 CF3M+PFA
10	阀座Seat	高强度结构陶瓷 High strength structural ceramic		
11	球体Ball	高强度结构陶瓷 High strength structural ceramic		
12	阀杆Stem	17-4PH+PFA		
13	阀盖Bonnet	A216 WCB+PFA	A351 CF8 CF8M+PFA	A351 CF3 CF3M+PFA



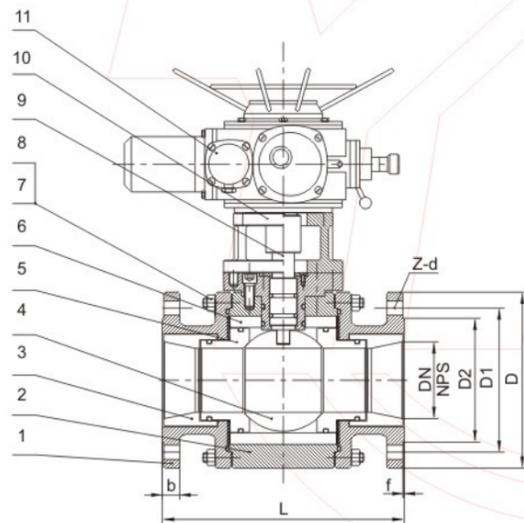
Q41PFA/TC衬氟陶瓷球阀
Lined ceramic ball valve



Q41TC手动(手柄)陶瓷球阀
Q41TC Manual (lever) Ceramic Ball Valve



Q641TC气动陶瓷球阀
Q641TC Penumatic Ceramic Ball Valve



Q941TC电动陶瓷球阀
Q941TC Electric Ceramic Ball Valve

※技术规范 Technical Specification

设计与制造 Design and Manufacture	API 6D / GB/T12237	
连接端尺寸 Connection End	结构长度 Face-to-face Dimension	ASME B16.10 / GB/T12221
	法兰尺寸 Flange End	ASME B16.5 / GB/T9113
检验与试验 Inspection & Test	API598 / GB/T13927	
材料 Material	碳钢 Carbon steel	GB/T12229
	不锈钢 Stainless steel	GB/T12230
标志Mark	GB/T12220	
供货Delivery	GB/T12252	

※主要部件材料 Material Specification

序号No.	名称Name	材料Material	序号No.	名称Name	材料Material
1	阀盖Bonnet	A105/SS304	7	螺柱Stud	A193-B7/B8
2	中阀体Middle body	A105/SS304	8	螺母Nut	A194-2H/B8
3	接管Coupling	高强度结构陶瓷 High strength structural ceramic	9	阀杆Stem	SS316/SS316L
4	球体Ball	高强度结构陶瓷 High strength structural ceramic	10	支架(电、气动) Yoke	Q235/SS304
5	阀座Seat	高强度结构陶瓷 High strength structural ceramic		填料函(手动) Packing Gland	Q235/SS304
6	中体Middle sleeve	高强度结构陶瓷 High strength structural ceramic	11	驱动装置 Driving actuator	组件 Components

※主要外形和连接尺寸 Main Dimension (GB/T 9113)

DN	L	PN10(1.0MPa)						PN16(1.6MPa)					
		D	D1	D2	b	f	Z-d	D	D1	D2	b	f	Z-d
15	130	95	65	45	16	2	4-Φ14	95	65	45	16	2	4-Φ14
20	130	105	75	58	18	2	4-Φ14	105	75	58	18	2	4-Φ14
25	140	115	85	68	18	2	4-Φ14	115	85	68	18	2	4-Φ14
32	165	140	100	78	18	2	4-Φ18	140	100	78	18	2	4-Φ18
40	165	150	110	88	18	3	4-Φ18	150	110	88	18	3	4-Φ18
50	203	165	125	102	18	3	4-Φ18	165	125	102	18	3	4-Φ18
65	220	185	145	122	18	3	4-Φ18	185	145	122	18	3	4-Φ18
80	241	200	160	138	20	3	8-Φ18	200	160	138	20	3	8-Φ18
100	305	220	180	158	20	3	8-Φ18	220	180	158	20	3	8-Φ18
125	356	250	210	188	22	3	8-Φ18	250	210	188	22	3	8-Φ18
150	394	285	240	212	22	3	8-Φ22	285	240	212	22	3	8-Φ22
200	457	340	295	268	24	3	8-Φ22	340	295	268	24	4	12-Φ22
250	533	395	350	320	26	3	12-Φ22	405	355	320	26	4	12-Φ26
300	610	445	400	375	26	4	12-Φ22	460	410	375	28	4	12-Φ26

※ASME B16.5

NPS	L	Class150					
		D	D1	D2	b	f	Z-d
1/2	110	89	60.5	35	2	12	4-16
3/4	117	98	70.0	43	2	12	4-16
1	127	108	79.5	51	2	12	4-16
1 1/4	140	117	89.0	64	2	13	4-16
1 1/2	165	127	98.5	73	2	15	4-16
2	178	152	120.5	92	2	16	4-19
2 1/2	190	178	139.5	105	2	18	4-19
3	203	190	152.5	127	2	19	4-19
4	229	229	190.5	157	2	24	8-19
5	254	254	216.0	186	3	24	8-22
6	267	279	241.5	216	3	26	8-22
8	292	343	298.5	270	3	29	8-22
10	330	406	362.0	324	4	31	12-25

注: 更多尺寸, 请联系我们工程师。 Note: more size, please contact our engineer

※结构特点与用途

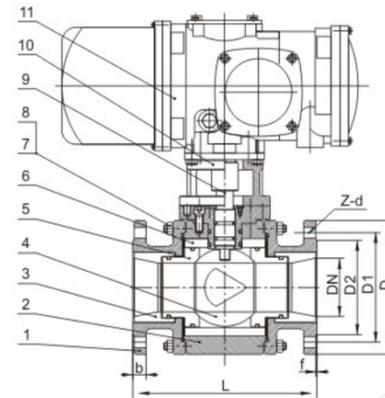
- V型电动陶瓷调节球阀具有等百分比流量调节（对数）特性，在阀门小开度工作时不会产生启跳，振荡具有微调功能。可以满足小流量的调节。且工作状态十分稳定。可以更精确、更灵活地对介质进行流量调节。可调范围大，调节速度快，维护简单，成本经济。且结构陶瓷具有很好的自洁性，在开启与关闭的过程中，球体的V型通道与阀座间具有楔形剪切作用，可将介质中的纤维、固体颗粒等切碎并除去，防止球芯卡死，特别适用于管线结垢冻结场合。适宜于控制纸浆、污水，含有纤维和颗粒固体悬浊介质及粉粒状介质。
- 与介质接触的部分均为结构陶瓷材料，其化学稳定性及硬度极高（洛氏硬度HRC88），仅次于金刚石。因此，本阀具有极高的耐磨损、耐腐蚀、耐冲蚀性能，而且隔热性好，热膨胀系数小。主要应用于电力、石油、化工、冶金、采矿、污水处理等工业领域，尤其是在高磨损、强腐蚀、高温等恶劣工况下，更显示出它卓越的性能。
- 本阀适用于高硬度的颗粒介质，或有软颗粒但又有腐蚀性的介质管道上作启闭之用。公称压力PN10~PN40，适应温度≤200℃。可按照GB、JIS、API等标准数据制造。

※Product Description

- Electric V-port ceramic control ball valve has equal percentage character which can adjust the flow. It can satisfy small flow control and work stabile, more accurate and flexible besides more wide adjustable range, speed regulation, easy maintenance and cost-saving. In the process of opening and closing, the sphere of the v-shaped channel and the seat with shearing action between medium can be chopped fiber, solid particles, to prevent ball stuck. Especially suitable for freezing pipeline site and control pulp, sewage with fiber and solid particles and powder medium.
- The wetted part adopts ceramic material (HRC88), which only inferior to diamond. The ceramic lined valve has a very high abrasion resistance, corrosion resistance, erosion resistance, good insulation and small thermal expansion, and mainly applied in electric power, petroleum, chemical, metallurgy, mining, sewage treatment and other harsh conditions.
- This valve fit in granule medium of high hardness, or medium with erosion soft granule. Nominal pressure PN10-PN40. Applicable temperature ≤200°C. Manufacture and design as per GB, JIS, API standards.



VQ941TC V型电动陶瓷调节球阀
Electric V-port ceramic control ball valve



VQ941TC V型电动陶瓷调节球阀
Electric V-port ceramic control ball valve

※技术规范 Technical Specification

设计与制造 Design and Manufacture		API 6D / GB/T12237
连接端尺寸 Connection End	结构长度 Face-to-face Dimension	ASME B16.10 / GB/T12221
	法兰尺寸 Flange End	ASME B16.5 / GB/T9113
检验与试验 Inspection & Test		API598 / GB/T13927
材料 Material	碳钢 Carbon steel	GB/T12229
	不锈钢 Stainless steel	GB/T12230
标志Mark		GB/T12220
供货Delivery		GB/T12252

※主要部件材料 Material Specification

序号No.	名称Name	材料Material	序号No.	名称Name	材料Material
1	阀盖Bonnet	A105/SS304	7	螺柱Stud	A193-B7/B8
2	中阀体 Middle body	A105/SS304	8	螺母Nut	A194-2H/B8
3	接管Coupling	高强度结构陶瓷 High strength structural ceramic	9	阀杆Stem	SS316/SS316L
4	球体Ball	高强度结构陶瓷 High strength structural ceramic	10	支架Yoke	Q235/SS304
5	阀座Seat	高强度结构陶瓷 High strength structural ceramic	11	电动装置 Electric actuator	组件 Components
6	中体 Middle sleeve	高强度结构陶瓷 High strength structural ceramic			

※主要外形和连接尺寸 Main Dimension(GB/T 9113)

DN	L	PN10(1.0MPa)						PN16(1.6MPa)					
		D	D1	D2	b	f	Z-d	D	D1	D2	b	f	Z-d
15	130	95	65	45	16	2	4-Φ14	95	65	45	16	2	4-Φ14
20	130	105	75	58	18	2	4-Φ14	105	75	58	18	2	4-Φ14
25	140	115	85	68	18	2	4-Φ14	115	85	68	18	2	4-Φ14
32	165	140	100	78	18	2	4-Φ18	140	100	78	18	2	4-Φ18
40	165	150	110	88	18	3	4-Φ18	150	110	88	18	3	4-Φ18
50	203	165	125	102	18	3	4-Φ18	165	125	102	18	3	4-Φ18
65	220	185	145	122	18	3	4-Φ18	185	145	122	18	3	4-Φ18
80	241	200	160	138	20	3	8-Φ18	200	160	138	20	3	8-Φ18
100	305	220	180	158	20	3	8-Φ18	220	180	158	20	3	8-Φ18
125	356	250	210	188	22	3	8-Φ18	250	210	188	22	3	8-Φ18
150	394	285	240	212	22	3	8-Φ22	285	240	212	22	3	8-Φ22
200	457	340	295	268	24	3	8-Φ22	340	295	268	24	4	12-Φ22
250	533	395	350	320	26	3	12-Φ22	405	355	320	26	4	12-Φ26
300	610	445	400	375	26	4	12-Φ22	460	410	375	28	4	12-Φ26

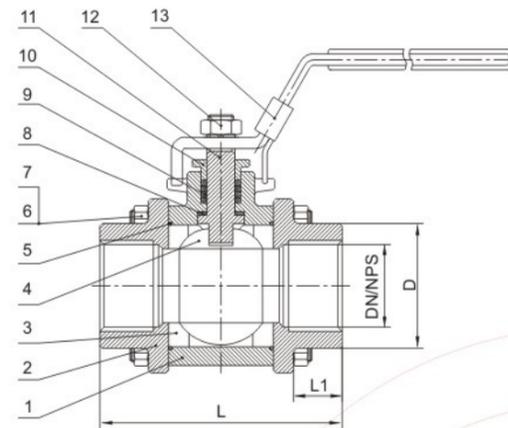
注：更多尺寸，请联系我们工程师。 Note: more size, please contact our engineer

※应用规范

- 三片式陶瓷球阀和旋塞阀是同属一个类型的阀门，只有它的关闭件是个陶瓷球体，陶瓷球体绕阀体中心线作水平旋转来达到开启、关闭的一种阀门。在管路中主要用来做快速切断、分配和改变介质的流动方向。
- 三片式球阀只需要阀杆旋转90度的操作和很小的转动力矩就能关闭严密。全通径的阀体内腔为介质提供了阻力小、直通的流道。主要特点是本身结构紧凑，易于操作和维修，适用于给水处理、煤气管道、锅炉蒸汽、石灰浆液、纺织、含颗粒海水等介质，已广泛应用于矿山、石油、化工、发电、造纸等环境条件恶劣的工况。
- 常用通径为DN15-100，公称压力PN10-PN25，适用温度 -20~280℃，也可根据用户特殊要求定制。

※Product Description

- Pneumatic three-pieces ceramic ball valve is a valve that the ball rotates around the body center line to control on-off, and only trim part adopts ceramic material. It mainly used for quickly cut, distribute and change the deriction of the flow medium in pipeline.
- Pneumatic three pieces ceramic ball valve can close tightly only need rotate 90 degree with small torque by air supply. The equal body cavity provided little resistance with straight flow channel. It suitable for water treatment, gas pipeline, steam boiler, lime slurry, textile, particles seawater medium etc. with characters like compact structure, easy operation and maintenance free. It had been widely used in mining, petroleum, chemical, electricity generation, papermaking and other harsh conditions.
- Nomnal diameter: DN15-100.
Nominal pressure: PN10-PN25.
Applicable temperature: -20~280°C.
It also can be designed according to customer's requirement.



三片式陶瓷球阀
3-PC Ceramic Ball Valve

※技术规范 Technical Specification

设计与制造 Design and Manufacture		API 6D / GB/T12237
连接端尺寸 Connection End	结构长度 Face-to-face Dimension	ASME B16.10 / GB/T12221
	法兰尺寸 Flange End	ASME B16.5 / GB/T9113
检验与试验 Inspection & Test		API598 / GB/T13927
材料 Material	碳钢 Carbon steel	GB/T12229
	不锈钢 Stainless steel	GB/T12230
标志Mark		GB/T12220
供货Delivery		GB/T12252

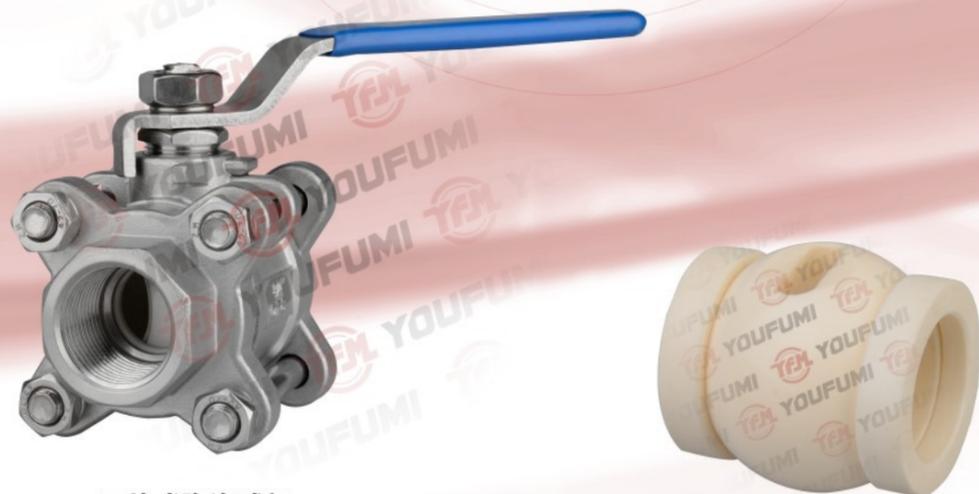
※主要部件材料 Material Specification

序号No.	名称Name	材料Material	序号No.	名称Name	材料Material
1	中阀体 Middle body	WCB/CF8	8	垫圈Washer	柔性石墨 Flexible graphite
2	左右阀体Body	WCB/CF8	9	填料 Packing	PTFE
3	阀座 Seat	高强度结构陶瓷 High strength structural ceramic	10	填料压盖 Gland	WCB/CF8
4	球体 Ball	高强度结构陶瓷 High strength structural ceramic	11	阀杆Stem	SS316/SS316L
5	O型圈 O-ring	氟橡胶Viton	12	锁紧螺母 Nut	A194-2H/B8
6	双头螺柱 Stud	A193-B7/B8	13	手柄 Lever	SS316/SS316L
7	螺母 Nut	A194-2H/B8			

※主要外形和连接尺寸 Main Dimension (GB/T 9113 ASME B16.5)

DN	NPS	L	L1	D
15	1/2"	72	10	22
20	3/4"	85	13	28
25	1"	90	13	35
32	1 1/4"	112	16	43
40	1 1/2"	120	16	49
50	2"	145	18	62
65	2 1/2"	185	18	77
80	3"	215	20	90
100	4"	270	20	115

注：更多尺寸，请联系我们工程师。 Note: more size, please contact our engineer



三片式陶瓷球阀
3-PC Ceramic Ball Valve

※结构特点与用途

- 气动陶瓷出料阀采用结构陶瓷做密封件，耐冲刷、耐磨性好。对撑式双闸板密封结构，阀门关闭时双向密封；根据不同工况可设置吹扫口、灰渣漏斗，适用于干灰系统、渣浆等介质的输送系统中；具有积灰少，无卡涩，维护简单，使用寿命长等优点。
- 气动执行器采用全封闭推杆式直缸驱动，性能可靠，输出扭矩大，可满足在恶劣工况条件下工作，也可适用于矿山、造纸、化工等各类有磨损的干粉尘、水、蒸汽等介质。
- 本阀专为气力除灰系统设计，具有启闭动作快速可靠、启动负荷小；本阀料口全流通无阻挡物，有吹堵装置，不容易积灰。耐磨性能强，卡灰及结灰现象少。安装检修方便、使用寿命长、密封性能好等特点。独特的设计理念在于阀门动作时闸板对阀座密封面产生自研磨，有抛光作用，使它在恶劣工况的使用过程中能不断提高耐磨性和密封性。
- 公称压力PN10~PN25; 适用温度：≤250°C; 气动执行机构公称压力：0.6~0.8MPa; 可根据用户要求定制，也可定做单向密封结构。

※Product Description

- Pneumatic ceramic discharge valve has merits of high wearproof, good abrasion resistance and good eroding resistance. Both sides of sealing performance are choiceness and according to different working conditions it can set the blowing mouth, ash hopper, which is suitable for dry ash system by conveying slurry medium; It is excellent that less ash, no jam, easy maintenance and long life durability.
- Pneumatic actuator adopts a totally enclosed push rod type with straight-cylinder driving, which has reliable performance and large output torque, and can work in the harsh conditions, and also can be suitable for mining, papermaking, chemical industry and other kinds of wear dry dust, water, steam media, etc.

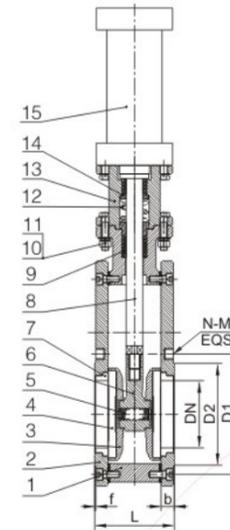
- This valve is designed for ash removal system, with reliable on-off action, and small starting load. Unique designed concept is that the valve action, when the valve plate to the valve seat sealing surface via mutual grinding and polishing, make it improve abrasion resistance and sealing performance in the harsh conditions.
- Nominal pressure: PN10~PN25. Applicable temperature: ≤250°C. Actuator pressure: 0.6~0.8MPa. It can be designed according to customer's requirement.



Z674TC气动陶瓷出料阀
Pneumatic Ceramic Discharge Valve

※技术规范 Technical Specification

设计与制造 Design and Manufacture	GB/T12234	
连接端尺寸 Connection End	结构长度 Face-to-face Dimension	厂商标准
	法兰尺寸 Flange End	GB/T9113 / ASME B16.5
检验与试验 Inspection & Test	JB/T9092	
材料 Material	碳钢 Carbon steel	GB/T12229
	不锈钢 Stainless steel	GB/T12230
标志Mark	GB/T12220	
供货Delivery	GB/T12252	



Z674TC气动陶瓷出料阀
Pneumatic Ceramic Discharge Valve

※主要部件材料 Material Specification

序号No.	名称Name	材料Material	序号No.	名称Name	材料Material
1	阀体 Body	WCB/CF8	9	组合填料环 Parking ring	PTFE
2	阀盖Bonnet	A105/SS304	10	螺柱Stud	A193-B7/B8
3	阀板座Plate seat	WCB/ CF8	11	螺母Nut	A194-2H/B8
4	阀板Plate	结构陶瓷Structural ceramic	12	弹簧Spring	16Mn
5	弹簧Spring	16Mn	13	气缸支架 Cylinder bracket	WCB/CF8
6	吊钩Hook	WCB/CF8	14	填料压环 Packing ring	45#
7	阀座Seat	结构陶瓷Structural ceramic	15	气动装置 Pneumatic actuator	组件 Components
8	阀杆Stem	2Cr13/SS304			

※主要外形和连接尺寸 Main Dimension (GB/T 9113)

DN	L	PN10(1.0MPa)					
		D	D1	D2	b	N-M	Z-d
50	120	160	125	100	16	4-M16	4-Φ18
65	120	180	145	120	18	4-M16	4-Φ18
80	120	195	160	135	20	8-M16	8-Φ18
100	120	210	180	155	20	8-M16	8-Φ18
125	160	245	210	185	22	8-M16	8-Φ18
150	160	280	240	210	24	8-M20	8-Φ18
200	160	335	295	265	26	8-M20	8-Φ22
250	200	405	350	320	30	12-M22	12-Φ26
300	200	460	400	368	30	12-M22	12-Φ26

注：更多尺寸，请联系我们工程师。 Note: more size, please contact our engineer

※结构特点与用途

- 气动陶瓷双闸板阀采用结构陶瓷做密封件，耐冲刷、耐磨性好。对撑式双闸板密封结构，阀门关闭时双向密封；根据不同工况可设置吹扫口、灰渣漏斗，适用于干灰系统、渣浆等介质的输送系统中；具有积灰少，无卡涩，维护简单，使用寿命长等优点。
- 气动执行器采用全封闭推杆式直缸驱动，性能可靠，输出扭矩大，可满足在恶劣工况条件下工作，也可适用于矿山、造纸、化工等各类有磨损的干粉尘、水、蒸汽等介质。
- 本阀专为气力除灰系统设计，具有启闭动作可靠、启动负荷小；本阀料口全流通无阻挡物，有吹堵装置，不容易积灰。耐磨性能强，卡灰及结灰现象少。安装检修方便、使用寿命长、密封性能好等特点。独特的设计理念在于阀门动作时闸板对阀座密封面产生自研磨，有抛光作用，使它在恶劣工况的使用过程中能不断提高耐磨性和密封性。
- 公称压力PN10~PN25; 适用温度：≤250℃；气动执行机构公称压力：0.6~0.8MPa; 可根据用户要求定制，也可定做单向密封结构。

※Product Description

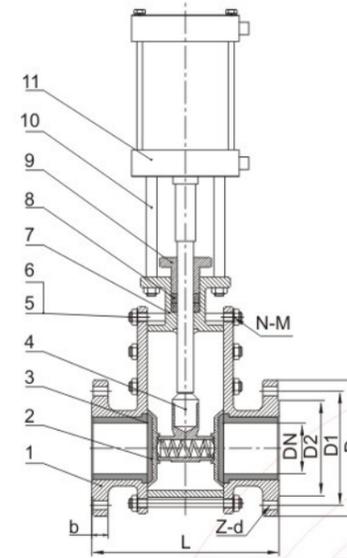
- Pneumatic ceramic discharge valve has merits of heat stabilization good eroding resision. Both sides of sealing performance are choiceness with ppen dual-plate gate seal structure. According to different conditions can set the blowing mouth, ash hopper, which suitable for dry ash system by conveying of slurry medium. It is excellent that less ash, no jam, simple maintenance and long life durability.
- Pneumatic actuator adopts a totally enclosed push rod type with straight-cylinder driving, which has reliable performance and large output torque. It can work in the harsh conditions, and also can be suitable for mining, papermaking, chemical industry and other kinds of wear dry dust, water, steam media, etc.
- This valve is designed for ash removal system, with reliable on-off action. Unique designed concept is the valve action that when the valve plate to the valve seat sealing surface via mutual grinding and polishing, make it improve abrasion resistance and sealing performance in the harsh conditions.
- Nominal pressure: PN10~PN25.
Applicable Temperature: ≤250℃.
Actuator Pressure: 0.6~0.8MPa.
It can be designed according to customer's requirement.



Z644TC气动陶瓷双闸板阀
Pneumatic Ceramic Discharge Valve

※技术规范 Technical Specification

设计与制造 Design and Manufacture	GB/T12234	
连接端尺寸 Connection End	结构长度 Face-to-face Dimension	厂商标准
	法兰尺寸 Flange End	GB/T9113 / ASME B16.5
检验与试验 Inspection & Test	JB/T9092	
材料 Material	碳钢 Carbon steel	GB/T12229
	不锈钢 Stainless steel	GB/T12230
标志Mark	GB/T12220	
供货Delivery	GB/T12252	



Z644TC气动陶瓷双闸板阀
Pneumatic Ceramic Discharge Valve

※主要部件材料 Material Specification

序号No.	名称Name	材料Material	序号No.	名称Name	材料Material
1	阀盖Bonnet	WCB/CF8	7	填料Packing	PTFE/柔性石墨 PTFE/Flexible graphite
2	阀板Plate	CF8/WCB+结构陶瓷 CF8/WCB+Structural ceramic	8	填料压盖 Packing Gland	WCB/CF8
3	阀座Seat	结构陶瓷 Structural ceramic	9	螺母Nut	A194-2H/B8
4	吊钩Hook	WCB/CF8	10	双头螺柱 Stud	A193-B7/B8
5	阀杆Stem	2Cr13/SS304	11	气缸支架 Cylinder bracket	Q235/SS304
6	中阀体 Middle body	WCB/CF8	12	气动装置 Pneumatic actuator	组件 Components

※主要外形和连接尺寸 Main Dimension (GB/T 9113)

DN	L	PN10(1.0MPa)					
		D	D1	D2	b	N-M	Z-d
50	200	160	125	100	16	4-M16	4-Φ18
65	220	180	145	120	18	4-M16	4-Φ18
80	240	195	160	135	20	8-M16	8-Φ18
100	280	215	180	155	20	8-M16	8-Φ18
125	300	245	210	185	22	8-M16	8-Φ18
150	320	280	240	210	24	8-M20	8-Φ22
200	350	335	295	265	26	8-M20	8-Φ22
250	400	405	350	320	30	8-M20	8-Φ22
300	450	460	400	370	30	12-M20	12-Φ22

注：更多尺寸，请联系我们工程师。 Note: more size, please contact our engineer

※结构特点与用途

- 耐磨陶瓷刀闸阀适用于高硬度的颗粒（例如灰渣水等），或有软颗粒但又有腐蚀性的介质的管道上作启闭之用。产品广泛适用于灰渣、泥渣、煤浆、矿浆、污水等固体、液固、气固二相介质输送系统，尤其适用于火力发电厂石子煤系统。
- 闸板、阀座密封面材料采用结构陶瓷制造，耐磨损、耐腐蚀、抗高温。密封面采用硬密封与介质接触的部分均为结构陶瓷材料，其化学稳定性及硬度极高。因此，本阀具有极高的耐磨损、耐腐蚀、耐冲蚀性能，且隔热性好，热膨胀系数小。
- 本阀料口全流通无阻挡物，耐磨性能强，密封性能好，启动负荷小，卡灰及结灰现象少。
- 本阀采用高档曾切结构陶瓷密封，机械强度高，耐磨性能好，使用寿命长。结构紧凑可任意角度安装。
- 公称压力PN10~PN25; 适用温度：≤250℃；驱动方式有电动、气动、手动等，气动执行机构公称压力：0.6~0.8MPa; 也可根据用户要求定。

※Product Description

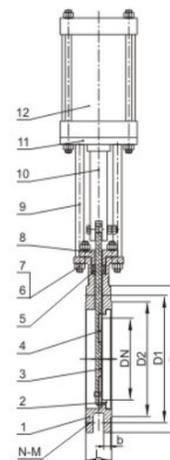
- Ceramic knife gate Valve is suitable for corrosive medium with high hardness of particles (such as slag water), or soft particles in pipeline. The products are widely used in ash, sludge, coal slurry, pulp, sewage and other solid, especially for stone coal system for thermal power plant.
- Disc and seat sealing surface adopt an advanced ceramics materials technologies for abrasion resistance, corrosion resistance, high temperature resistance. Therefore, this valve has a very high abrasion resistance, corrosion resistance, and good insulation, low thermal expansion.
- This valve outlet is full circulation without blocking, good abrasion resistance and sealing performance. Opening-load is low, and there's less ash jam phenomenon.
- This valve has ductile structural ceramic sealing, high mechanical strength, good abrasion resistance, long life durability. The structure is compact and can be installed at any angle.
- Norminal pressure: PN10~PN25.
Applicable temperature: ≤250℃.
Actuator Pressure: 0.6~0.8MPa.
It can be designed according to customer's requirement.



Z673TC气动薄型陶瓷刀闸阀
Pneumatic Ceramic Knife Gate Valve

※技术规范 Technical Specification

设计与制造 Design and Manufacture	GB/T12234	
连接端尺寸 Connection End	结构长度 Face-to-face Dimension	厂商标准
	法兰尺寸 Flange End	GB/T9113 / ASME B16.5
检验与试验 Inspection & Test	JB/T9092	
材料 Material	碳钢 Carbon steel	GB/T12229
	不锈钢 Stainless steel	GB/T12230
标志Mark	GB/T12220	
供货Delivery	GB/T12252	



Z673TC气动薄型陶瓷刀闸阀
Pneumatic Ceramic Knife Gate Valve

※主要部件材料 Material Specification

序号No.	名称Name	材料Material	序号No.	名称Name	材料Material
1	阀体 Body	WCB/CF8	7	螺母Nut	A194-2H/B8
2	阀座Seat	结构陶瓷Structural ceramic	8	填料压盖 Packing Gland	WCB/CF8
3	阀板Plate	301/304	9	气缸支架 Cylinder bracket	Q235/SS304
4	陶瓷密封座 Ceramic seal seat	结构陶瓷Structural ceramic	10	阀杆Stem	2Cr13/SS304
5	填料Packing	PTFE/柔性石墨 PTFE/Flexible graphite	11	气缸连接板 cylinder connecting plate	Q235/SS304
6	螺柱Stud	A193 B7/B8	12	气动装置 Pneumatic actuator	组件 Components

※主要外形和连接尺寸 Main Dimension (GB/T 9113)

DN	L	PN10(1.0MPa)			PN16(1.6MPa)		
		D	D1	N-M	D	D1	N-M
50	43	165	125	4-M16	165	125	4-M16
65	46	185	145	4-M16	185	145	8-M16
80	46	200	160	8-M16	200	160	8-M16
100	52	220	180	8-M16	220	180	8-M16
125	56	250	210	8-M16	250	210	8-M16
150	56	285	240	8-M20	285	240	8-M20
200	60	340	295	8-M20	340	295	12-M20
250	68	395	350	12-M20	405	355	12-M24
300	78	445	400	12-M20	460	410	12-M24
350	78	505	460	16-M20	520	470	16-M24
400	102	565	515	16-M24	580	525	16-M27
450	114	615	565	20-M24	640	585	20-M27
500	127	670	620	20-M24	715	650	20-M30
600	154	780	725	20-M27	840	770	24-M33

注：更多尺寸，请联系我们工程师。 Note: more size, please contact our engineer

※结构特点与用途

- 陶瓷排渣阀适用于液、固混合介质，特殊的结构设计，排渣效果非常好，阀体内不积渣，关闭严密。闸板、阀座密封面材料均采用陶瓷制造，提高了耐磨性和耐腐蚀性，大大延长了阀门的使用寿命。该阀门适用于电力、石化、冶金、矿山、输煤厂、水泥厂、水处理厂等行业，尤其适用于磨损严重的灰浆、灰渣管路输送系统。
- 本阀主要由阀体、闸板、支架、阀杆、结构陶瓷等组成。手轮采用推力轴承设计，减小了启闭阻力；也可根据阀体易磨损部分使用抗磨材料复合而成，出口流线型设计，使用过程不结渣，可采用电动、气动、手动等驱动方式。
- 耐磨排渣阀是用于燃煤电厂除灰渣系统的专业阀门，亦可用于矿山洗矿管道、选煤系统、化工系统中的磨损管道，尤其是面对高磨损、强腐蚀、高温、高压等恶劣工况，陶瓷阀更显示出它卓越的性能。
- 本阀采用高档曾初结构陶瓷密封，机械强度高，耐磨性能好，使用寿命长。结构紧凑可任意角度安装。使用公称压力PN10~PN40，适应温度≤200℃。

※Product Description

- Ceramic discharge valve is suitable for liquid, solid mixed media, special structural design, slag removal effect is very good, no slag accumulation in body, tight closing. Disc and seat sealing materials are composed of ceramic, improve abrasion resistance and corrosion resistance, extended life durability. The valve is widely used in electric power, petrochemical, metallurgy, mining, coal plant, cement plant, water treatment plants and other industries, especially suitable for serious wear of the mortar, ash pipeline transportation system.
- The valve mainly consists of a body, disc, yoke, wire rod, engineering ceramics. The handwheel adopts thrust bearing design, reducing on-off resistance power; Using the anti-abrasion compound material according to wear parts of the body. Exit streamlined design, and using process is no slag. Operated methods has electric, manual, etc...

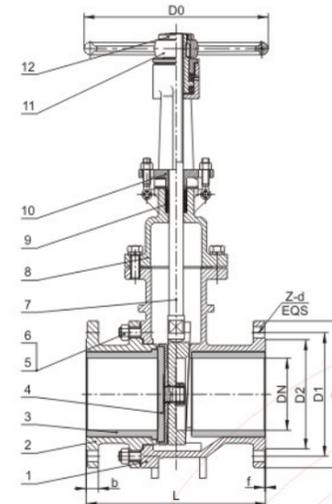
- Abrasion resistance slag valve is professional valve suitable for ash removal system of coal-fired power plant, It can also be used in mine ore, washing pipeline, choosing coal system and wear pipeline in chemical systems. Ceramic valve has superior performance for the medium with high abrasion, strong corrosion, high temperature, high pressure and other harsh conditions.
- This valve has ductile structural ceramic sealing, high mechanical strength, good abrasion resistance, long life durability. The structure is compact and can be installed at any angle. Nominal Pressure: 1.0, 1.6, 2.5, 4.0MPa, Applicable temperature ≤ 200°C.



PZ41TC手动陶瓷排渣阀
Manual Ceramic Drain Valve

※技术规范 Technical Specification

设计与制造 Design and Manufacture	GB/T12234	
连接端尺寸 Connection End	结构长度 Face-to-face Dimension	GB/T12221
	法兰尺寸 Flange End	GB/T9113
检验与试验 Inspection & Test	JB/T9092	
材料 Material	碳钢 Carbon steel	GB/T12229
	不锈钢 Stainless steel	GB/T12230
标志Mark	GB/T12220	
供货Delivery	GB/T12252	



PZ41TC手动陶瓷排渣阀
Manual Ceramic Drain Valve

※主要部件材料 Material Specification

序号No.	名称Name	材料Material	序号No.	名称Name	材料Material
1	主阀体 Main body	WCB/CF8	7	阀杆Stem	2Cr13/SS304
2	左阀体 Left body	WCB/CF8	8	阀盖Bonnet	WCB/CF8
3	阀座Seat	复合结构陶瓷	9	填料Packing	PTFE/柔性石墨 PTFE/Flexible graphite
4	闸板Plate	WCB/CF8 + 结构陶瓷 WCB/CF8 + Structural ceramic	10	填料压盖 Packing Gland	WCB/CF8
5	螺母Nut	A194-2H/B8	11	手轮hand wheel	QT400/SS304
6	双头螺柱 Stud	A193-B7/B8	12	阀杆螺母Stem Nut	青铜Bronze

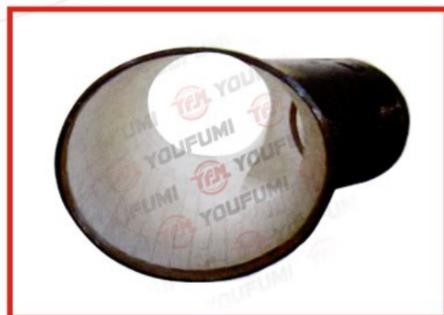
※主要外形和连接尺寸 Main Dimension (GB/T 9113)

DN	L	PN10(1.0MPa)					PN16(1.6MPa)				
		D	D1	b	f	Z-d	D	D1	b	f	Z-d
50	250	165	125	20	3	4-Φ18	165	125	20	3	4-Φ18
80	280	200	160	20	3	8-Φ18	200	160	20	3	8-Φ18
100	300	220	180	22	3	8-Φ18	220	180	22	3	8-Φ18
125	325	250	210	22	3	8-Φ18	250	210	22	3	8-Φ18
150	350	285	240	24	3	8-Φ22	285	240	24	3	8-Φ22
200	400	340	295	24	3	8-Φ22	340	295	24	3	12-Φ22
250	450	395	350	26	3	12-Φ22	395	350	26	3	12-Φ26
300	500	445	400	26	4	12-Φ22	460	410	28	4	12-Φ26
350	550	505	460	26	4	16-Φ22	520	470	30	4	16-Φ26
400	600	565	515	26	4	16-Φ26	580	525	32	4	16-Φ30

注：更多尺寸，请联系我们工程师。 Note: more size, please contact our engineer

※耐磨陶瓷管性能及用途

- 陶瓷内衬钢管耐磨性能高,抗流体冲刷能力强。在实践中,内衬陶瓷耐磨钢管使用1-2年后打开观察并测量,均无明显磨损或脱落。
- 陶瓷管耐腐蚀性能好,能耐酸碱和耐海水腐蚀,并同时具有防垢特性。
- 陶瓷管耐高温性强,内衬陶瓷经过1700°C以上高温烧结。
- 耐磨陶瓷管可广泛应用于电厂除灰、排渣、送粉、回粉系统;钢厂炼钢的高炉喷煤、输渣等管道、炼钢输送铁合金、炉外精炼等;水泥厂生产线的生料浆输送、煤粉输送、提升机的下料、混凝土输送管道。



※Features and Applications of Ceramic Lined Composite Steel Pipe

- With high wear resistance and favorable erosion resistance, the ceramic composite steel pipe is widely used in the high corrosive and high-temperature environment like thermal power plants, mining, metallurgy, cement plants, etc.

※产品种类 Products

- 除尘管道 Dedusting pipe
- 煤粉管道 Coal pipe
- 风管弯头 Wind pipe elbow
- 排渣管道 Slag pipe
- 内磨煤机出口管 Outlet pipe of the coal pulverizer
- 粗细粉分离进口管 Inlet pipe of powder separator

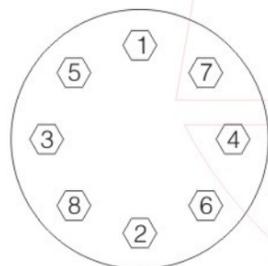


※ 储存

1. 阀门应存放于干燥通风的室内，流道两端须用封盖堵塞，并远离震动和机械冲击。
2. 在搬运阀门时，轻拿轻放，避免任何突然的撞击或摔落。
3. 陶瓷阀门若长期存放，使用前应先清洗干净，并确保阀门开关灵活。

※ 安装与使用

1. 在安装阀门之前，请首先确保所有相关设备的有效性，详情请参照合格证使用范围。
2. 轻拿轻放，任何突然的撞击或摔落均有可能造成陶瓷阀门损坏。
3. 安装阀门时，应先检查法兰是否正确地对直以确保垫片的均匀接触，并按图示顺序安装螺柱并锁紧螺母。这样会防止在垫片上出现不均匀的负载并防止法兰断裂的危险。
4. 在安装过程中，请勿用铁锤或其它硬物敲击阀门，以防止损坏陶瓷零部件。
5. 在阀门不能操作或被卡死时，切记不能强行打开或关闭。首先尝试冲洗管道，或者将阀门从管道上卸下，除去阀门内部杂物，重新将阀门装入管道。
6. 在安装陶瓷球阀前请先确认管道杂物或长条铁屑排净，否则陶瓷球损坏，不予保修。



图示

※ Storage

1. Ceramic valves should be stored indoors away from vibration and/or mechanical shock and both of the ends must be sealed tightly.
2. When transit, please handle the ceramic valves with care and avoid any sudden shock or dropping.
3. After a long period of storage, it is recommended to clean the ceramic valves before installing, and make sure that they are flexible enough.

※ Installation and Operation

1. Before installation, please ensure all relevant equipments are available
2. Do not handle the valve roughly when transit. Sudden shock or dropping of the ceramic valves may result in damage.
3. It is recommended to check that the flanges are properly aligned to ensure even gasket contact. Fit the bolts and tighten the nuts in the Order shown in the following figure. This will prevent uneven loading on the gasket and risk of flange breakage.
4. During installation, do not use a hammer or other hard objects that might damage the ceramic parts.
5. Once the ceramic valve does not operate, or has become stuck, please do not force the valve to turn on or turn off. Attempt to flush the line first, and take the valve out of the line and remove anything from the valve and re-install the valve.
6. Please confirm pipeline debris of long iron filings has been removed before install the ceramic ball valve, otherwise the ceramic ball is damaged not warranty.



※ 执行机构安装

1. 如无特殊要求，我司陶瓷阀门与执行机构连接尺寸均依照ISO5211标准执行
2. 非我司提供的执行机构，应严格控制其扭矩，建议与我司联系以选用合适的执行机构
3. 执行机构初始位置应处于全开或全关状态，以保证阀门与执行机构开关标识一致。
4. 保证执行机构与阀杆的同心度控制在±0.05mm之内，严重的偏心可能导致阀杆处填料泄漏，甚至造成陶瓷球体的破裂。

※ Actuator Installation

1. Generally, the actuator mounting kits dimensions is designed according to ISO 5211.
2. If the actuator is not supplied by our company, the torque value should be paid more attention, and It is recommended to contact us to obtain a actuator selection advice.
3. The initial actuator position should be full-open or full-closed, so that the valve can be driven in right direction.
4. Ensure the actuator is concentric to the actuator with an error of ±0.05mm, excess eccentric may cause stem leakage, Or the ceramic ball may be broken.

我司对阀门在允许的工况条件下，投入使用一年内负责免费保修,但不超过发货期18个月，违规使用及人为损坏不在保修范围之内。如果阀门出现故障，在将阀门退回返修之前，请首先依照如下措施进行排除，以尽量减少停工时间。

In general, we provide a one(1) year warranty after the valves are put into use in proper conditions, but no longer than 18 months after delivery. Damages caused by illegal using and human negligence will not be covered by the warranty. If the valves are disabled, please perform the following steps.

可能发生的故障 Possible Failures	故障原因 Failure causes	排除办法 Trouble Shootings
法兰连接部位泄漏 Flange Leakage	连接法兰的螺柱或螺母未拧紧或拧紧不均匀 The flange bolts and(or) nuts have not been tightened up evenly	将螺柱或螺母松开后再重新均匀地拧紧 Loose the bolts and(or) nuts, and re-tighten up them evenly
	法兰密封面间有杂物 Scraps are sandwiched between the raised faces of flanges	卸下清洗 Clean the flanges
	法兰密封垫片失效 Gasket failures	更换新垫片 Replace the failed gasket with a new one
阀杆部位泄漏 Stem Leakage	填料压盖偏斜或未压紧 Gland is defective or is not impacted	重新均匀锁紧填料压盖 retighten up the gland bolt evenly
	填料不足 Lack packing	增加填料 Add new packing
	填料失效 Packing failures	更换新填料 Replace the packing
阀杆不能转动 或转动异常 Valve does not operate or abnormal	执行机构气源压力不足 Pressure of the supply air is insufficient	调整气源压力 Adjust the pressure of the supply air
	执行机构没有足够的扭矩驱动阀门 The installed actuator has not ample torque	更换执行机构 Replace the actuator
	执行机构损坏 The actuator is damaged	更换执行机构 Replace the actuator
	控制信号失效或异常 The control signal does not work or become abnormal	检查控制信号以确保控制信号工作正常 Inspect the control signal and make sure it works well
	阀门前后压差超过限制 The differential pressure across the valve exceeds the limits	检查阀门前后压差并确保其在正常范围之内 Inspect the differential pressure across the valve and make sure it is within limits
阀门不能完全打开 或完全关闭 Valve does not open or close fully	气源压力不足 The pressure of the supply air is not ample	调整气源压力 Re-regulate the pressure of the supply air
	定位装置故障 Actuator limit stops are damaged	修理或更换定位装置 Repair or replace the actuator limit stops
	密封面间夹有杂物 Scraps are sandwiched between the sealing face	卸下阀门，清理内部杂物 Remove the valve from the line, and clear the foreign objects

应用介绍 Applications and Mediums

乙酸 Acetic Acid	绿液 Green Liquor	砂浆 Sand/Tailings Slurry	氧化铝土 Alumina Hydrate	石膏浆液 Gypsum Slurry	苯酸钠 Sodium Benzoate	氧化铝粉 Alumina Poeder	盐酸 Hydrochloric Acid
碳酸钠 Sodium Carbonate	氯化铝 Alumina Chloride	回收纸 Recycled Paper	氯酸钠 Sodium Chlorate	氨水 Ammonia	过氧化氢 Hydrogen Peroxide	氯化钠 Sodium Chloride	碳酸铵 Ammonium Carbonate
高岭土 Kaolin Slurry	氰化钠 Sodium Cyanide	氯化铵 Ammonium Chloride	煤油 Kerosene	氟化钠 Sodium Fluoride	氟化铵 Ammonium Fluoride	石灰/石灰石浆液 Lime/Limestone Slurry	氢氧化钠 Sodium Hydroxide
硅酸铵 Ammonium Silicate	氢氧化镁 Magnesium Hydroxide	次氯酸钠 Sodium Hypochlorite	锐钛浆 Anatase Slurry	氧化镁浆液 Magnesium Oxide Slurry	硝酸钠 Sodium Nitrate	苯胺 Aniline	硫酸镁 Magnesium Sulfate
硫酸钠 Sodium Sulfate	灰浆 Ash Slurry	镁粉 Mandesium Slurry/Ore	煤灰浆 Soot Slurry	铝土浆 Bauxite Slurry	氯化汞 Mercuric Chloride	蒸汽 Steam	氯苯 Benzyl Chloride
甲醇 Methanol	二氧化硫 Sulfur Dioxide	黑液 Black Liquor	甲基丙酮 Methyl Acetone	硫酸 Sulfuric Acid	硼酸 Boric Acid	氯甲烷 Methyl Chloride	滑石水 Talcum Water
卤水 Brine	丁酮 Methyl Ethyl Krtone	钛酸 Tarnic Acid	碳酸钙 Calcium Carbonate	二氯甲烷 Methylene Chloride	二氧化钛 Tianium Dioxide	氯酸钙 Calcium Chlorate	石灰乳 Milk of Lime
四氯化钛 Tianium Tetrachloride	氯化钙 Calcium Chloride	母液 Mother Liquor	甲苯 Toluene	次氯酸钙 Calcium Hypochlorite	萘 Naphthalene	三氯乙烷 Trichloroethane	硫酸钙 Calcium Sulfate
天然气 Natural Gas	松节油 Turpentine	碳粉 Carbon Slurry	硝酸 Nitric Acid	废酸 Waste Acids	湿氯气 Chlorine(Wet)	发烟硫酸 Oleum	毛屑 Wool Fines
氯硅烷蒸汽 Chlorosilane Vapor	纸浆 Papered Slurry	二甲苯 Xylene	铬酸 Chromic Acid	原油 Petroleum	硫酸锌 Zinc Sulfate	柠檬酸 Citric Acid	苯酚 Phenol
三氯氢硅 Trichlorosilane	粘土浆液 Clay Slurry	磷酸 phosphoric Acid	四氯化硅 Silicon Tetrachloride	氯化铜 Copper Chloride	溴酸钾 Potassium Bromate	氰化铜 Copper Cyanide	碳酸钾 Potassium Carbonate
硫酸铜 Copper Sulfate	氯酸钾 Potassium Chlorate	氯化亚铜 Cuprous Chloride	氯化钾 Potassium Chloride	乙醇 Ethanol	铬酸钾 Potassium Dichromate	乙胺 Ethyl Amine	高氯酸钾 potassium Perchlorate
乙醚 Ethyl Ether	高锰酸钾 Potassium Permanganate	氯化铁 Ferric Chloride	硫酸钾 Potassium Sulfate	硫酸亚铁 Ferrous Sulfate	沉淀碳酸钙 Precipitated Calcium	烟气 Flue Gas	碳酸盐 Carbonate(PCC)
粉煤灰(干湿) Fiyash(Wet and Dry)	泥浆 Radioactive Slurry	蚁酸 Formic Acid	硅粉 Silica Fume	单晶硅 Monocrystalline Silicon	多晶硅 Polycrystalline Silicon	海水 Sea Water	盐矿 Salt Mine
矿浆 pulp	氧化镁 Oxidation Of Beauty	煤灰 Coal Ash	焦粉 Coke Powder	喷煤 PCI	干灰 Dry Ash	氯硅烷 Chlorosilane	浆渣 Chlorosilane

有氟密封陶瓷阀在大部分苛刻工况中都有十分出色的表现，上图列出有氟密封陶瓷阀门适用的行业和工况介质，以供参考。
YFM ceramic valves are superior in most severe applications. Here we list some typical industries and applications above for your reference, in which YFM ceramic valves have proven superior performances and long serving time.

1、制浆和造纸行业的应用

纸浆准备：
纸浆 + 硫酸H₂SO₄ 或者和亚硫酸钠(Na₂S)+ 石灰

造纸机器：
生产优质纸产品：填充及吸收材料，即：高岭土，氧化镁，含氢煤，纸张定型/增光剂：二氧化钛，硅，滑石...

控制高密度流体意味着 = 腐蚀 & 侵蚀

2、化肥应用

磷酸 (43% H₃PO₄) 混有磷酸钙固体，
80°C, 3-6 帕, 密度达到1.500 公斤/立方米。

硝酸铵 (NH₄NO₃), + 泥浆, 140°C,
固体硝酸铵 4-8帕, 密度为 1.300公斤/立方米

含白云石的泥浆 (CaCO₃ 来源于矿物石), 60°C, 5 帕, 密度大
于1.300 公斤/立方米

取代现有的更换频繁的金属或衬氟衬胶阀门需克服磨损和侵蚀!

经济可行性 (一年收回成本):
(现有阀门的价格*每年更换次数) + 更换期间的生产损失 + 更换
的人工成本 ≥ 陶瓷阀门的价格

3、电厂应用

煤电厂

废气脱硫FGD:
石灰浆备料(研磨).
对石灰浆到达清洗器和吸收器前的控制
脱硫后硫酸钙加入再循环.
加工水再循环(其中只有少量固体).

飞灰:
在经过电子静力过滤后用气体力学传送灰和剩余未燃烧固体 Dry
& bulk. 开关式

4、炼钢炼铁厂应用

PCI, 煤粉末注入熔铁炉.
干散气动喷射和控制.

EAF, 电弧炉(煤磨粒喷射)
气动喷射控制 (O₂ or N₂ - carbon)

原铁脱硫 (熔化)加入添加材料改变钢的质量: CaC₂, MgO₂, SiO₂.
气动喷射控制. 直接减少矿砂铁矿石在700°C高温下被“减少”

5.废物焚烧炉应用

城市垃圾焚烧炉=硫到大气中
炉气净化在某些国家是严格要求的

6.二氧化钛TiO₂应用

脱硫 & 漂白
硫酸二氧化钛提取液 如:
30% TiO₂浆料砂-20%固体硫酸

氯二氧化钛和流体反应过程 如:
TiCl₄泥浆, 焦炭颗粒, 在悬浮液中的金属颗粒

再生:
硫酸精制: 从稀释的20% H₂SO₄回到98% H₂SO₄

1. Pulp and Paper Application

Pulp preparation
Pulp+sulphuric acid H₂SO₄ or sodium sulfite(Na₂S)+lime

Paper making:
Offer the high-quality product: Fill and absorb material, i.e kaoline,
magnesium peroxide, orthohydrous coal
Paper hold / brighteners: titanium dioxide, silicon, talc etc.

High density of flow control=corrosion resistance & erosion resistance

2. Fertilizer Application

Phosphoric acid(43% H₃PO₄) mix with solid calcium phosphate 80°C,
3-6Pa, Density achieved at 1.500 kg/m³

Ammonium Carbonate(NH₄NO₃)+slurry, 140°C, with solid ammonium
carbonate 4-8Pa, Density achieved at 1.300kg/m³

Slurry with dolomite (CaCO₃ origin mineral), 60°C, 5Pa, Density
bigger than 1.300kg/m³

To replace metal and teflon/rubber lined valve which exchange
frequently for prevent abrasion and erosion.

Economic feasibility
(Regular valve price*exchange time each year)+Production loss
during exchange period +labor cost of exchange ≥ Ceramic valve
cost

3. Power Plant Application

Coal factory

Desulphurization of exhaust gas FGD
Lime slurry and preparation (grind)
To control the lime before reach the cleaner and absorber
Recycle the sulphuric acid after desulfuration
Recycle the processed water(only little solid include)

Ash
Transfer ash and not burn by gas Dynamics after filter from
electric-static force

4. Ironmaking And Steelmaking Plant Application

PCI,
Dry bulk pneumatic injection & control

EAF, electric arc furnace (coal powder injection)
Pneumatic injection and control (O₂ or N₂ - carbon)

The original iron desulfurization (injection into): material
added to change the steel qualityCaC₂, MgO₂, SiO₂. Pneumatic
injection & control
DRI, iron ore is "reduced" at high temp. 700°C

5. Waste Incinerator Application

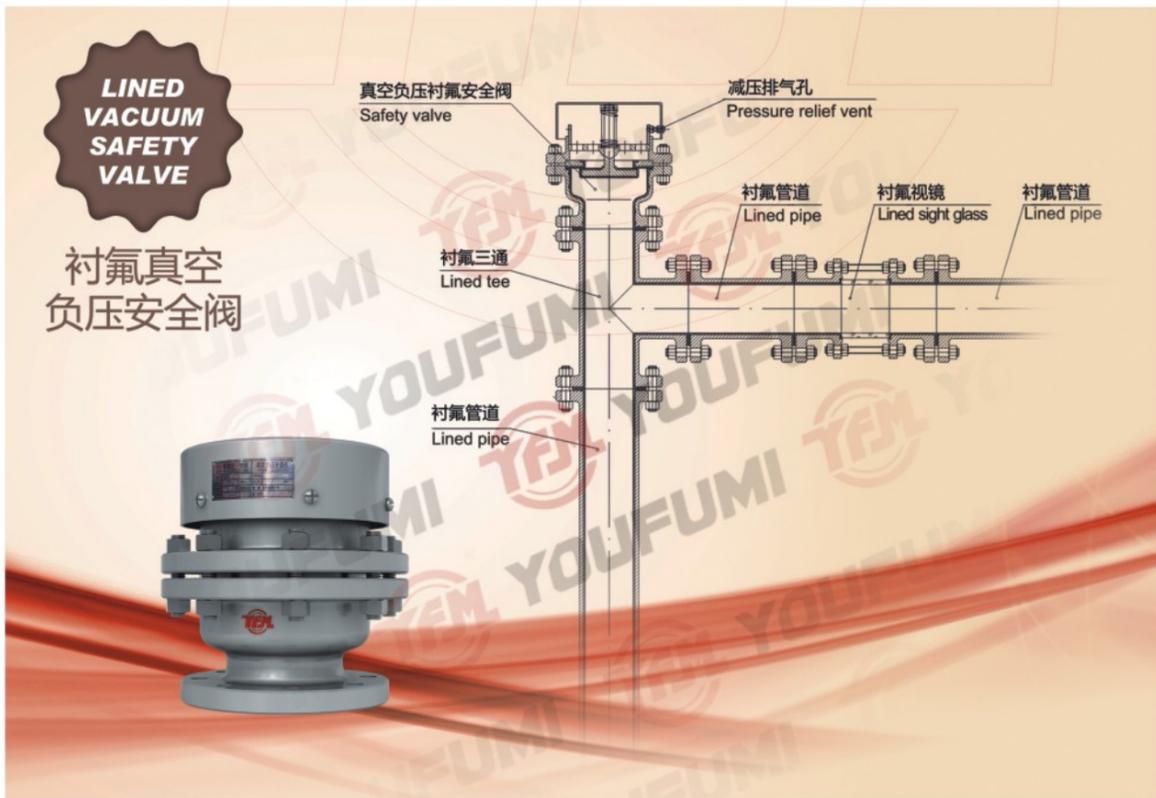
MSW incinerator= Disperse sulphur into air
Flue gas cleaning is strictly required in some countries.

6. Titanium Dioxide TiO₂ Application

Desulfidation & bleach
Sulfuric TiO₂ extraction process fluids such as:
TiO₂ slurry 30% sand - solids with 20% H₂SO₄ app. 50°C, 3-5 bar,
low pH, control valves.

Chlorine TiO₂ reaction process with fluids such as:
TiCl₄ slurry, coke particles (pneumatic injection), FeCl₃ (metal particles
in suspension). in the TiCl₄ case, temp. can be up to 500°C !!!

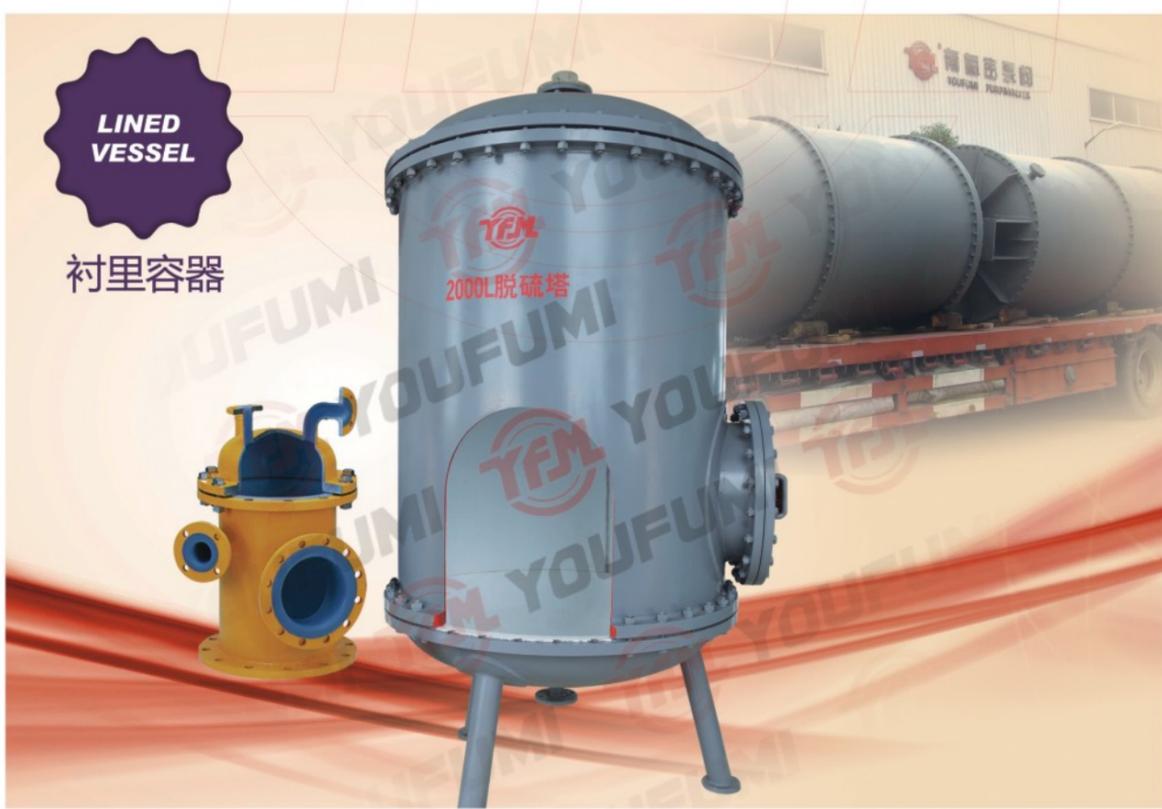
Bi-process:
sulfuric acid treatment. from diluted 20% H₂SO₄ back to 98% H₂SO₄





LINED PIPE & FITTINGS

衬氟管件



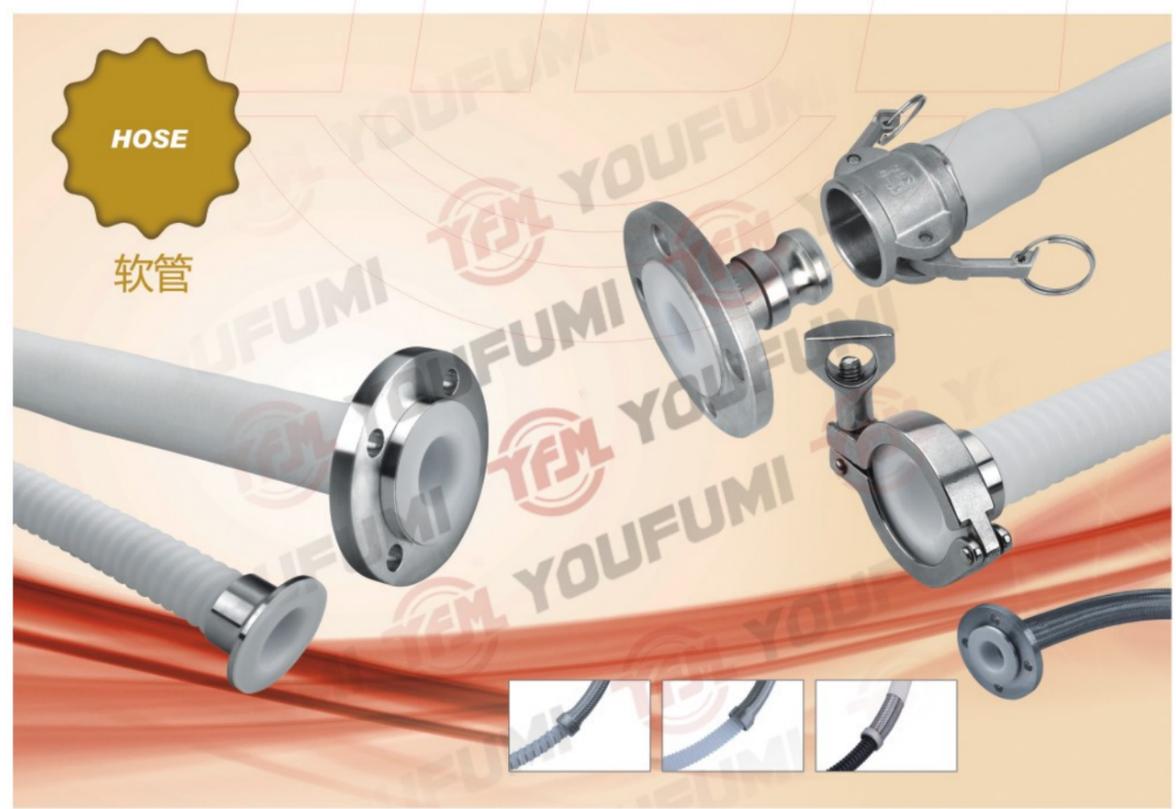
LINED VESSEL

衬里容器



EXPANSION JOINT

补偿器



HOSE

软管



节能 / 环保 / 创新 / 服务

Energy saving,
environmental protection,
innovation,
service

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