

SHUANG TE BALL VALVE

双特球阀





关于我们 About Us

双特所有的阀门都根据国际标准API, ANSI, ASTM, NACE, ISO, EN, BS, DIN, MSS SP 等进行设计, 制造, 和测试。其产品范围包括碳钢, 不锈钢和铅青铜球阀, 闸阀, 截止阀, 止回阀, 蝶阀, 孔尺寸1/2" 到42", 压力2500Lb。

双特员工对待阀门每一个细节, 都象婴儿般对待。由于我们优良的品质, 优惠的价格, 快速的服务, 赢的了广大客户的信赖。我们的阀门广泛应用于石油、天然气、工业管道等。

Shuang Te all valves are designed, manufactured, and tested according to international standards such as API, ANSI, ASTM, NACE, ISO, EN, BS, DIN, MSS SP, etc. Its product range includes carbon steel, stainless steel and al-bronze ball valve, gate valve, globe valve, check valve and butterfly valve, with bore sizes from 1/2" to 42"; pressures up 2500Lb.

Shuang Te staff treats every detail carefully and takes valves as our babies. Due to our superior quality, competitive price, and satisfying service, our valves are widely used in industrial oil & gas pipeline throughout.



为什么与我们合作 Why Us

我们有一个广泛的客户群, 其中包括贸易公司, 配货商, 工程承包商与油气经营。这些公司选择与我们合作。

因为:

- ◆完善的技术支持, 更高的产品质量, 更好的销售服务
- ◆独特的, 完全集成的内部生产设施
- ◆跟踪记录证明阀门长期可靠性
- ◆注重“准时交货”, 在“工程秩序”, 项目环境
- ◆有能力提供“一站式方案”, 特别是: 电, 气动, 液压驱动阀
- ◆促进密切和长期合作伙伴客户, 加上开放的承包政策, 卓越的管理工具

We have an extensive customer base which includes trading companies, stockist, engineering contractors and Oil & Gas operators. These companies choose to work with Carilo because:

- 'Sound technical support, higher product quality better sales service
- 'Unique, fully integrated in-house production facility
- 'Proven track record of long term valve reliability
- 'Focus on "on time delivery" in an "engineered to order", project-based environment
- 'Ability to provide a "one stop solution" especially for Electrical, pneumatic, hydraulic actuated valve
- 'Promotion of close and long-term partnership with customers, coupled with open contracting policies and superior management tools





将质量标准ISO 9001:2000, 所有员工与管理层一起努力和引导, 执行和遵守质量要求系统作为一个最小的期望。所有阀门符合主要国家及国际标准。严格的质量检验和完善的记录和文件维护, 不损害产品质量。所有的输入是密切监测不同的装配水平和生产程序。为了保证产品的质量, 双特提交所有必要的测试证书。

每一步, 从采购到生产, 焊接, 组装, 测试, 包装, 都根据书面程序和质量程序。

Incorporating Quality Standard ISO 9001:2000, all employees, together with management are encouraged and directed to implement and comply with the requirements of the quality system as a minimum expectation. All the valves conform to major National & International standards. Stringent quality inspection and perfect records & documentation are maintained at all the floor levels of the factory without compromising the product quality. All the inputs are closely monitored at the different assembly levels & manufacturing procedures, assuring the clients and of course end user with a long, trouble free & hassle free service life. To assure a client of the product quality, Shuang Te is submitting all the necessary test Certificates along with the supply.

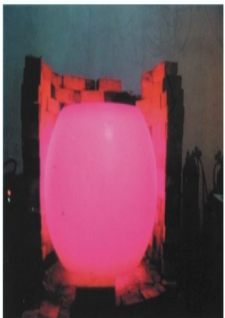
Every Step, from procurement to production, welding, assembly, testing and packaging, is in accordance with written quality programs and procedures.



生产设备 Production Equipment

双特积累了大量的人才和丰富的经验, 经过多年的发展, 以其特殊的技术和优质的产品, 吸引了许多客商。双特在国内外, 在与他们的交流中, 我们更清楚的了解了良好的质量和和服务的重要性。换句话说, 合作也是一个成长的过程。

Shuang Te has accumulated large number of talents and abundant experience after many years of development, with its special technology and fine quality of product. Shuang Te has attracted many merchants at home and abroad, during the communication with them, we have been more aware of the importance of good quality and service. In other words, cooperation is also a process of growing up and studying.



SHUANG TE BALL VALVE

双特球阀

目录 Contents

如何订购

How To Order-----01-02

浮动式球阀的设计特点

Floating Ball Valve Design Feature -----03-04

铸钢浮动式球阀

Cast Steel Floating Ball Valve-----05-08

锻钢浮动式球阀

Forged Steel Floating Ball Valve-----09-15

固定式球阀设计特点

Trunnion Mounted Ball Valve Design Feature-----16-17

铸钢固定式球阀

Cast Steel Trunnion Mounted Ball Valve-----18-23

锻钢固定式球阀

Forged Steel Trunnion Mounted Ball Valve-----24-30

如何订购固定式球阀

How To Order Trunnion Mounted Ball Valve-----31-32

固定式球阀设计特点

Trunnion Mounted Ball Valve Design Feature-----33-35

焊接固定式球阀

Welded Trunnion Mounted Ball Valve -----36-37

全焊接固定式球阀

Full Welded Trunnion Mounted Ball Valve-----38-39

法兰连接尺寸

Flanged Size -----40-43

如何订购 HOW TO ORDER

示例 Example

8 BT 1 R A 12666 - G

1 2 3 4 5 6 7

以下描述提供了基本的阀门规范:

Following descriptions provide a basic guideline in valve specification:

1 阀门尺寸 Valve Size

Code	S1	S2	S3	S4	S5	O1	A1	O2	A2	O3	60
Size	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/2"	2"	2"	2-1/2"	3".....	60"

2 球阀式符号 Symbol For Ball Valve Type

Symbol	Type	Symbol	Type
B	2-pcs Floating type in casting	BT	2-pcs side entry Trunnion Mounted type
BA	1-pc Floating type	BS	3-pcs side entry Trunnion Mounted type
BB	2-pcs Floating type in forging	BE	Top Entry Trunion Mounted type
BC	3-pcs Floating type	BM	Metal Seated Floating type

3 标准额定压力 ANSI Rating Pressure

Code	1	3	6	8	9	15	25
Class(LB)	150	300	600	800	900	1500	2500

4 连接端 End Connection

Symbol	Type	Symbol	Type
R	Raised face flanged end	W	A Wafer
J	RTJ flanged end	S	Socket welding end
B	Butt-welding end	N	Screwed

5 阀体材料 Body Material

Material	Symbol	Classification steel	ASTM Ref.	Recommended Temperature Limits		Application
				0°C	°F	
WCB (A105)	A	Carbon	A216 Grade WCB	-29 to 425	-20 to 800	Steam, water, oil, oil vapour, gas and general service
LCB (LF2)	B	Carbon	A352 Grade LCB	-46 to 350	-50 to 650	Low temperature
LCC	C	Carbon	A352 Grade LCC	-46 to 350	-50 to 650	
WC6 (F11)	D	Chromium Moly 1.25%Cr, 0.5%Mo	A217 Grade WC 6	-29 to 590	-20 to 1100	Steam, water, oil, oil vapour, gas and general service
WC9 (F22)	E	Chromium Moly 2.25%Cr, 1%Mo	A217 Grade WC 9	-29 to 590	-20 to 1100	
C5	F	Chromium Moly 5%Cr, 0.5%Mo	A217 Grade C 5	-29 to 650	-20 to 1200	Corrosive, erosive oil refinery service
CF8M (316)	G	Stainless 18%Cr, 9%Ni 2%Mo	A351 G Grade CF8M	-196 to 815	-320 to 1500	High and low temperature corrosion resistance
CF8 (304)	H	Stainless 18%Cr, 8%Ni	A351 Grade CF 8	-196 to 815	-320 to 1500	
CF3M (316L)	I	Low Carbon Stainless 18%Cr, 9%Ni	A351 Grade CF3M	-196 to 815	-320 to 1500	Cryogenic service is also available upon request
CF3 (304L)	J	Low Carbon Stainless 18%Cr, 8%Ni	A351 Grade CF3	-196 to 815	-320 to 1500	
CN7M Alloy 20	P	Stainless 19%Cr, 29%Ni	A351 Grade CN7M	-196 to 425	-320 to 800	Corrosion resistance

如何订购 HOW TO ORDER

6 装饰代码 Trim Code

阀座 Seat Insert		O形圈 O-ring		阀杆 Stem		球体 Ball		阀座 Seat	
代码 Code	材质 Material	代码 Code	材质 Material	代码 Code	材质 Material	代码 Code	材质 Material	代码 Code	材质 Material
1	PTFE	1	NBR	1	F6a	1	F6a	1	F6a
2	NYLON1010	2	VITON	2	F304	2	F304	2	F304
3	PEEK	3	VITON AED	3	A105/ENP	3	A105/ENP	3	A105/ENP
4	Polyphenylene	4	WITON B	4	17-4PH	4	17-4PH	4	17-4PH
5	DEVLON5	5	HSN	5	AISI 4140	5	AISI 4140	5	AISI 4140
6	KFL-F	6	PTFE COATED VITON	6	F316	6	F316	6	F316
7	NYLON12	7	VITON GLT	7	F304L	7	F304L	7	F304L
8	PCTFE	8	BUNA-N	8	F316L	8	F316L	8	F316L
9	MOLON	9	ELAST-OLION 101	9	LF2/ENP	9	LF2/ENP	9	LF2/ENP
A	PVDF	A	EPDM	A	F51	A	F51	A	F51
		B	PCTFE	B	LF/ENP	B	LF/ENP	B	LF/ENP
		C							

7 操作 Operation

符号 Symbol	类型 Description
L	Lever/wrench
G	Gear operator
E	Electric actuator
P	Pneumatic actuator
LL	Lever/wrench+Lock
GL	Gear+Lock
GC	Gear+Chain

8 其他规格 Other Specifications

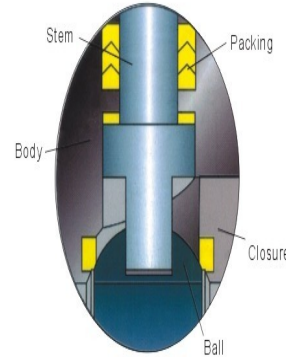
符号 Symbol	类型 Description
EB	Extended bonnet
ES	Extended stem
I	Indicator
NC	NACE
GI	Grease Injection in seat and stem

浮动式球阀的设计特点 Floating Ball Valve Design Feature

防喷阀杆 Blow-out Proof Stem

阀杆下端积分型设计是为了防井喷。内插功能的后座是为了保证压力阀杆密封。

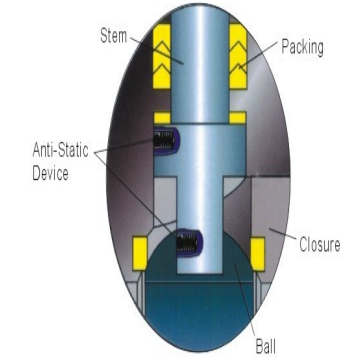
Stem lower end is integral T-shape designed to be blow-out proof. It is internally inserted and functions as the backseat to assure stem sealing under all pressures.



防静电装置 Anti-static Device

当静电产生和集中在球上时，弹簧式引阀安装在球上，可以确保电气连接到整个阀。

When static are generated and concentrated on the ball, the spring-loaded pins installed on the ball stem can ensure electrical continuity throughout the valve.

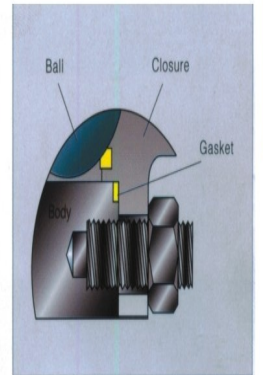
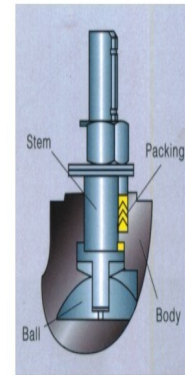


消防安全阀座密封 Fire Safe Seat Sealing

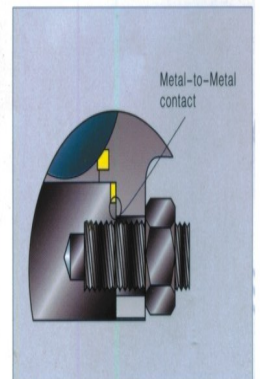
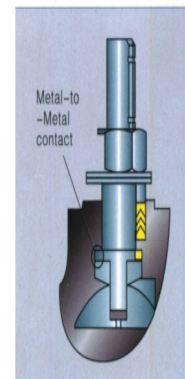
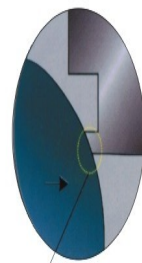
当非金属密封材料损坏着火，上游线的压力把球接触元座槽下方的软阀座关闭体线，减少内部泄漏。此外，消防安全座槽可以防止金属线压力侵蚀软座槽和尽量减少软阀座蠕变变形所有双特浮球阀消防安全设计和测试采用API607。

When non-metal sealing material is damaged a plant fire, the upstream line pressure pushes the ball to contact with the metal seat lip beneath the soft seat to shut off the fluid line, to minimize the internal leakage. Additionally, the fire safe metal seat can prevent the line pressure erosion on soft seat and minimize soft seat creep deformation. All ShuangTe floating ball valves are fire safe designed and tested in accordance with API 607.

火之前 Before Fire



火之后 After Fire

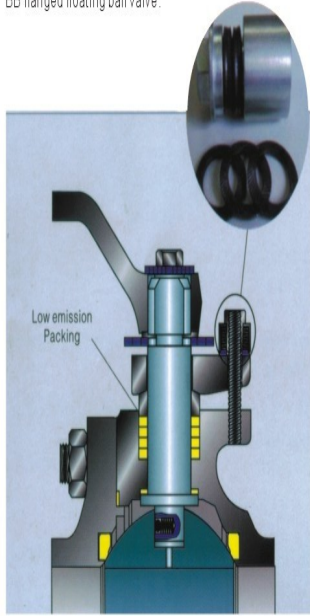


浮动式球阀的设计特点

Floating Ball Valve Design Feature

在化工厂，为了消除空气污染，它是必不可少的控制逃逸排放泄漏各种化学品的阀门。双特低排放球阀安装我们的排放防漏包装设计和测试，达到百分之百的最大排放水平（验收测试每壳取77/312）。这是双特标准规范所有系列的BA, B和BB法兰球阀。

For the elimination of air pollution, it is essential to control the fugitive emissions leakage of various chemicals from valves in your chemical plant. ShuangTe low emissions ball valves installed with our emissions defense packing have been designed and tested to meet the 100 PPM maximum emission level (acceptance test per Shell SPE 77/312). This is ShuangTe standard specification for all series BA, B and BB flanged floating ball valve.



完成控制阀杆和填料盒

Controlled Stem & Stuffing Box Finish

干表面光洁度控制在Ra0.4和Ra0.8
这将确保石墨填充和迁移到茎微划痕，和功能作为一个润滑剂减少干泄漏。
填料箱的表面是由一个最大的Ra3.2，相当粗糙的表面完成允许更好地保持填料环和结果在一个更好的密封性能。



设计特点

Design Feature

活载腺法兰

Live Loaded Gland Flange

活荷载设计提供瓣负荷保持，补偿预期的巩固包装。
一套垫圈上使用压盖螺栓帮助发挥持续的压缩的腺随法兰从而减少排放量。
垫圈受风雨让他们适应环境污染，使长期稳定的生活。

Live loading is designed to provide gland load retention, compensating for expected in-service consolidation of the packing. A set of Belleville-Spring Washers are used on each gland stud to help exert a continuous compressive force on the gland follower flange and therefore reduce fugitive emissions from the stem packing. ShuangTe standard Belleville-Spring Washers are protected by a weatherproof cap to keep them free from environmental contamination, resulting in a long stable life.

低污染排放填料

Low Emission Packing

包装套结合平行和垂直层密封元件，是由膨胀石墨填料环和有点的耐热性，减少松弛和蠕变。这种特殊结构，它允许一个低摩擦旋转及提升阀杆，因此提供稳定的密封性能，循环寿命长等。
中低温服务，标准型
聚四氟乙烯填料环安装低排放控制。

The packing set a combination of parallel and vertical layer sealing elements, which are made of expanding graphite in die-formed rings and have features of heat resistance, less stress relaxation and low creep. With this special structure, it allows for a low-friction on rotary & rising stem valves, therefore providing the stabilized seal performance for long cycle life. For medium and low temperature service, the standard V shape PTFE packing rings are installed for low emission control.

The stem surface finish is controlled between Ra0.4 and Ra0.8 which will ensure the graphite to fill and migrate into the stems micro scratches, and function as a lubricant to reduce stem leakage.

The stuffing box surface is controlled by a maximum of Ra3.2, a reasonably rougher surface finish to allow for better holding of the packing ring and results in a better sealing performance.

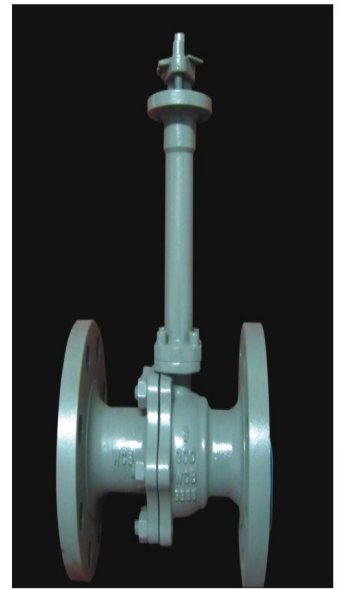


铸钢浮动式球阀

Cast Steel Floating Ball Valve

该系列球阀具有两件螺栓，碳钢法兰端体和浮球系列。
球阀大小从1/2"-12"，完整的港口或规则港口提供等级150到300，温度等级-46°C-200°C，满足所有阀门要求标准6755和607。
消防安全的试验已目睹并注册。美国标准要求为0175酸气服务应用。有多种选择的软座椅
材料：聚四氟乙烯，聚醚醚酮，聚甲基硅氧烷，聚苯可不同的工作压力和温度rating克。

This series ball valves are featured with two-piece bolted carbon steel with flanged end body and floating ball. B series ball valve is available in size from 1/2" to 12" full port or regular port and offers ANSI class rating 150 to 300 and temperature ratings of -46°C to 200°C. All valves meet the requirements of BS5351, 6755 and API 607. Fire safe tests have been witnessed and certified by Lloyds Register. Nace standard MR 0175 requirement can be satisfied for Sour Gas service application. A wide selection of soft seat material: Teflon, PEEK, Delrin, Polyphenylene are available for different working pressure and temperature rating.



防喷干，防静电装置和锁定装置标准设计，低排放的包装与活载腺法兰的设计可以根据要求提供。手柄操作基本标准，但充分加工安装垫也可以轻松地安装齿轮，电机或气动式操作。该系列球阀还具有低温和超金属性，在工作温度下的设计服务在-196°C或以上400°C。

Blowout-proof stem, anti-static device and locking device are standard design, low emission packing with live loaded gland flange design can be available upon request. Manual handle operation is basic standard, but fully machined mounting pad can also easily install with gear, motor or pneumatic operator.

This series ball valve also has cryogenic and super metal seated Design for servicing in working temperature down to -196°C or above 400°C.



铸钢浮动式球阀

Cast Steel Floating Ball Valve

主要部件名称

Form of Major Parts Name

No.	Part	No.	Part	No.	Part
1	左右阀体Left/Right body	7	阀体 Body	13	填料压盖 Packing gland
2	密封圈 Seal ring	8	防静电球体 Anti-static ball	14	间隔 Spacer
3	球体 Ball	9	防静电弹簧 Anti-static spring	15	轴用弹性挡圈 Circlip for shaft
4	垫片 Gasket	10	阀杆 Stem	16	螺钉 Screw
5	螺母 Nut	11	推力垫圈 Thrust washer	17	控制杆 Lever
6	螺柱 Stud	12	填料 Packing		

铸钢浮动式球阀

Cast Steel Floating Ball Valve

主要零件材质表

Form of Major Parts Materials

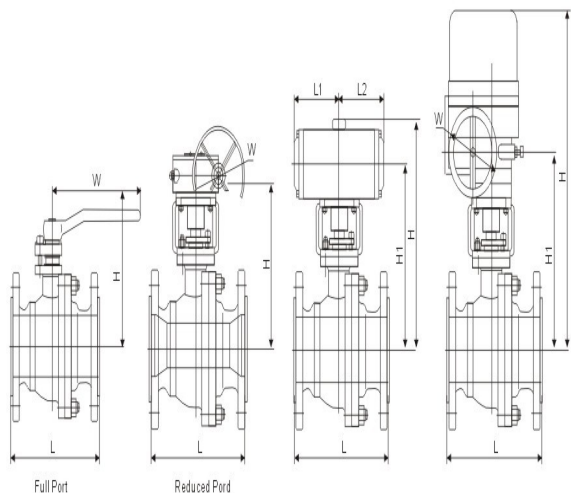
No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	左右阀体Left/Right body	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A352 LCB
2	密封圈 Seal ring	RPTFE/Nylon/PEEK	RPTFE/Nylon/PEEK	RPTFE/Nylon/PEEK	RPTFE/Nylon/PEEK
3	球体 Ball	ASTM A105+ENP	ASTM A182 F316	ASTM A182 F316	ASTM A350 LF2+ENP
4	垫片 Gasket	316SS+Graphite/PTFE	316SS+Graphite/PTFE	316SS+Graphite/PTFE	316SS+Graphite/PTFE
5	螺母 Nut	ASTM A194 2H	ASTM A194-8M	ASTM A194-2HM	ASTM A194-4
6	螺柱 Stud	ASTM A193 B7	ASTM A193-B8M	ASTM A193-B7M	ASTM A320-L7
7	阀体 Body	ASTM A216 WCB	ASTM A351 CF8M	ASTM A216 WCB	ASTM A352 LCB
8	防静电球体 Anti-static ball	SS 316	SS 316	SS 316	SS 316
9	防静电弹簧 Anti-static spring	SS 316	SS 316	SS 316	SS 316
10	阀杆 Stem	ASTM A182 F6a	ASTM A182 F316	ASTM A182 F316	ASTM A182 F6a
11	推力垫圈 Thrust washer	PTFE	PTFE	PTFE	PTFE
12	填料 Packing	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE
13	填料压盖 Packing gland	ASTM A216 WCB	ASTM A351 CF8M	ASTM A216 WCB	ASTM A352 LCB
14	间隔 Spacer	CS	SS	SS	SS
15	轴用弹性挡圈 Circlip for shaft	65MM	65MM	65MM	65MM
16	螺钉 Screw	ASTM A192 B7	ASTM A193 B8M	ASTM A193 B7M	ASTM A320 L7
17	控制杆 Lever	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB

SHANG TE BALL VALVE 07

SHANG TE BALL VALVE 06

铸钢浮动式球阀

Cast Steel Floating Ball Valve



尺寸 Dimensions

150LB

Full Port	Size in	1/2	3/4	1	1-1/2	2	2-1/2	3	4	5	6	8	10	12
	Dmm	13	19	25	38	49	62	74	100	127	150	201	252	303
Lmm	108	117	127	165	178	190	203	229	356	394	457	533	610	
Hmm	59	63	76	97	107	142	152	178	252	272	342	345	479	
Wmm	130	130	160	230	230	400	400	700	1100	300*	300*	400*	600*	
Weight(Kg)	1.78	2.00	3.51	7.23	11.05	14.0	22.0	53.0	58.0	108.0	195.0	312.0	346.0	

尺寸 Dimensions

300LB

Full Port	Size in	1/2	3/4	1	1-1/2	2	2-1/2	3	4	5	6	8	10
	Dmm	13	19	25	38	49	62	74	100	127	150	201	252
Lmm	140	152	165	190	216	241	283	305	381	403	502	568	
Hmm	59	63	76	97	107	142	152	178	252	272	342	345	
Wmm	130	130	160	230	230	400	400	700	1100	300*	400*	400*	
Weight(Kg)	2.29	3.6	5.1	10.0	14.0	23.0	30.6	50.5	93.0	116.0	234.5	493.0	

尺寸 Dimensions

150LB

Reduced Port	Size in	3/4	1	1-1/2	2	2-1/2	3	4	5	6	8	10	12
	dmm	13	19	25	38	49	62	74	100	150	150	201	253
Dmm	19	25	38	49	62	74	100	150	201	253	303	303	
Lmm	117	127	165	178	190	203	229	394	457	533	610	610	
Hmm	82	85	100	115	120	153	162	191	290	340	442	442	
Wmm	130	130	160	230	230	400	400	460	300*	300*	400*	400*	
Weight(Kg)	3.0	4.5	7.0	9.0	15.0	16.0	29.5	48.0	123.0	218.0	230.0	230.0	

尺寸 Dimensions

300LB

Reduced Port	Size in	3/4	1	1-1/2	2	2-1/2	3	4	5	6	8	10
	dmm	13	19	25	38	49	62	74	100	150	150	201
Dmm	19	25	38	49	62	74	100	150	201	253	303	303
Lmm	152	165	190	216	241	283	305	403	403	502	568	568
Hmm	82	85	100	115	120	153	162	191	290	340	442	442
Wmm	130	130	160	230	230	400	400	460	300*	300*	400*	400*
Weight(Kg)	3.5	5.5	10.0	11.0	23.5	30.0	39.0	72.5	148.0	148.0	320.0	320.0

*Gear Operator

锻钢浮动式球阀

Forged Steel Floating Ball Valve

球阀的这一系列精选组合螺栓本体与法兰端和浮球。阀体和关闭为充分锻钢无铸造缺陷，是理想的高压力工作。B系列球阀大小从2"-4"，等级600到2500，所有消防安全设计标准为BS 6755和API 607。

Ball valves of this series are featured of two-piece bolted body with flanged end and floating ball. Body and closure are made of fully forged steel which eliminates the inevitable casting defects and is ideal for high pressure service. BB series ball valves are available in size from 1/2" to 4" with ANSI class rating 600 to 2500, all fire safe designed as per BS 6755 and API 607.



防喷干，防静电装置和锁定装置标准设计，低排放的包装与活载法兰的设计可以根据要求提供。手册手柄操作基本标准，但充分加工安装垫也可以很容易地安装齿轮，电机或气动操作。等级150到300和三件式设计可提供根据要求。

Blowout-proof stem, anti-static device and locking device are standard design. Low emission packing with live loaded gland flange design can be available upon request. Manual handle operation is basic standard, but fully machined mounting pad can also easily be installed with gear, motor or pneumatic operator.

ANSI Class 150 to 300 and Three-piece design can be supplied upon request.



锻钢浮动式球阀

Forged Steel Floating Ball Valve

主要部件名称

Form of Major Parts Name

No.	Part	No.	Part	No.	Part
1	左右阀体Left/Right body	8	阀杆填料 Stem Packing	15	小弹簧 Small spring
2	螺母 Nut	9	压盖 Gland	16	小球体 Small Ball
3	垫片 Gasket	10	螺钉 Screw	17	阀体 Body
4	O形圈 O-ring	11	轴用弹性挡圈 Circlip for shaft	18	阀座圈 Seat ring
5	螺栓 Bolt	12	间隔 Spacer	19	球体 Ball
6	阀杆 Stem	13	螺钉 Screw		
7	垫片 Gasket	14	控制杆 Lever		

锻钢浮动式球阀

Forged Steel Floating Ball Valve

主要零件材质表

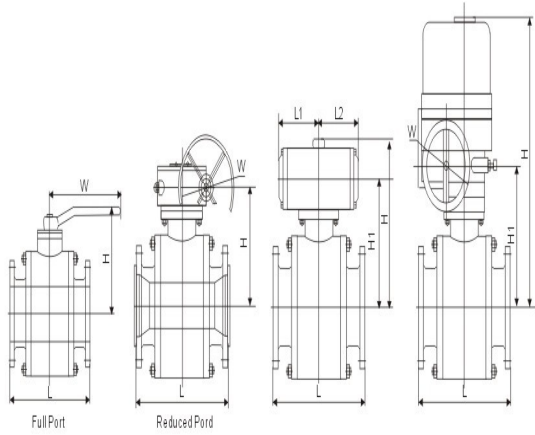
Form of Major Parts Materials

No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	左右阀体Left/Right body	ASTM A105	ASTM A182-F316	ASTM A105	ASTMA350LF2
2	螺母 Nut	ASTM A194-2H	ASTM A194-8M	ASTM A194-2HW	ASTM A194-4
3	垫片 Gasket	316+Graphite/PTFE	316+Graphite/PTFE	316+Graphite/PTFE	316+Graphite/PTFE
4	O形圈 O-ring	Viton	Viton	Viton	Viton
5	螺栓 Bolt	ASTM A193 B7	ASTM A193 B8M	ASTM A193 B7M	ASTM A320 L7
6	阀杆 Stem	ASTM A182-F6a	ASTM A182-F316	ASTM A182-F316	ASTM A182-F316
7	垫片 Gasket	PTFE	PTFE	PTFE	PTFE
8	阀杆填料 Stem Packing	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE
9	压盖 Gland	ASTM A105	ASTM A182-F316	ASTM A105	ASTM A350 LF2
10	螺钉 Screw	ASTM A193 B7	ASTM A193 B8M	ASTM A193 B7M	ASTM A320 L7
11	轴用弹性挡圈 Circlip for shaft	ASTM 1566	ASTM 1566	ASTM 1566	ASTM 1566
12	间隔 Spacer	CS	SS	SS	SS
13	螺钉 Screw	ASTM A193 B7	ASTM A193 B8M	ASTM A193 B7M	ASTM A320 L7
14	控制杆 Lever	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB
15	小弹簧 Small spring	SS316	SS316	SS316	SS316
16	小球体 Small Ball	SS316	SS316	SS316	SS316
17	阀体 Body	ASTM A105	ASTM A182-F316	ASTM A105	ASTMA350-LF2
18	阀座圈 Seat ring	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek	RPTFE/Nyoln/Peek	RPTFE/Nylon/Peek
19	球体 Ball	ASTMA105/ENP	ASTM A182-F316	ASTM A182-F316	ASTM 350 LF2+ENP

SHUANG TE BALL VALVE 11

SHUANG TE BALL VALVE 10

锻钢浮动式球阀 Forged Steel Floating Ball Valve



尺寸 Dimensions 600LB

Full Port	Size in	1/2	3/4	1	1-1/2	2	3	4
	Dmm	13	19	25	38	49	74	100
Lmm	165	190	216	241	292	356	432	
Hmm	66	88	90	120	135	180	224	
Wmm	160	170	170	280	300	450	500	
Weight(Kg)		3.5	5.8	6.5	13.2	29.0	60.0	135.5

尺寸 Dimensions 900LB

Full Port	Size in	1/2	3/4	1	1-1/2	2	3
	Dmm	13	19	25	38	49	74
Lmm	216	229	254	305	368	381	
Hmm	83	11	123	143	177	200	
Wmm	170	170	130	300	350	450	
Weight(Kg)		8.5	11.0	16.0	33.0	45.0	87.0

尺寸 Dimensions 600LB

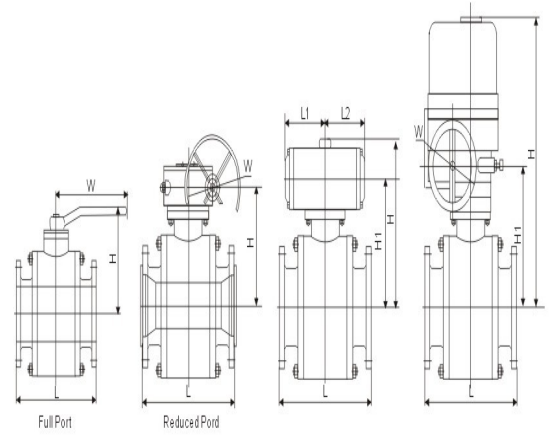
Reduced Port	Size in	1/2*1/4*1/2	3/4*1/2*3/4	1*3/4*1	1-1/2*1*1-1/2	2*1-1/2*2	3*2*3	4*3*4
	dmm	7	13	19	25	38	49	74
Dmm	13	19	25	38	49	74	100	
Lmm	165	190	216	241	292	356	432	
Hmm	43	66	88	90	120	135	180	
Wmm	130	160	170	170	280	300	450	
Weight(Kg)		2.9	5.0	5.3	10.6	25.0	42.0	81.5

尺寸 Dimensions 900LB

Reduced Port	Size in	1/2*1/4*1/2	3/4*1/2*3/4	1*3/4*1	1-1/2*1*1-1/2	2*1-1/2*2	3*2*3
	dmm	7	13	19	25	38	49
Dmm	13	19	25	38	49	74	
Lmm	216	229	254	305	368	381	
Hmm	70	83	112	123	143	177	
Wmm	140	170	170	230	300	300	
Weight(Kg)		7.5	10.0	15.0	28.0	40.0	69.0

*Gear Operator

锻钢浮动式球阀 Forged Steel Floating Ball Valve



尺寸 Dimensions 1500LB

Full Port	Size in	1/2	3/4	1	1-1/2	2	3
	Dmm	13	19	25	38	49	74
Lmm	216	229	254	305	368	470	
Hmm	83	112	123	143	177	200	
Wmm	230	230	300	400	450	700	
Weight(Kg)		6.8	11.0	16.0	32.6	64.0	90.0

尺寸 Dimensions 2500LB

Full Port	Size in	1/2	3/4	1	1-1/2	2	3
	Dmm	13	19	25	38	42	62
Lmm	264	273	308	368	451	578	
Hmm	88	117	128	148	183	205	
Wmm	230	230	300	400	450	700	
Weight(Kg)		9.0	15.0	17.5	34.0	55.0	110.0

尺寸 Dimensions 1500LB

Reduced Port	Size in	1/2*1/4*1/2	3/4*1/2*3/4	1*3/4*1	1-1/2*1*1-1/2	2*1-1/2*2	3*2*3
	dmm	7	13	19	25	38	49
Dmm	13	19	25	38	49	74	
Lmm	216	229	254	305	368	470	
Hmm	70	83	112	123	143	177	
Wmm	170	230	230	300	400	450	
Weight(Kg)		7.5	10.0	15.0	28.0	41.0	82.0

尺寸 Dimensions 2500LB

Reduced Port	Size in	1/2*1/4*1/2	3/4*1/2*3/4	1*3/4*1	1-1/2*1*1-1/2	2*1-1/2*2	3*2*3
	dmm	7	13	19	25	38	42
Dmm	13	19	25	38	42	62	
Lmm	264	273	308	368	451	578	
Hmm	75	88	117	128	148	183	
Wmm	170	230	230	300	400	450	
Weight(Kg)		8.0	14.0	16.0	32.0	52.0	102.0

*Gear Operator

锻钢浮动式球阀 Forged Steel Floating Ball Valve

主要部件名称

Form of Major Parts Name

No.	Part	No.	Part	No.	Part
1	螺母 Nut	7	阀座圈 Seat ring	13	阀杆填料 Stem Packing
2	左右阀体 Left/Right body	8	球体 Ball	14	压盖 Gland
3	垫片 Gasket	9	阀座圈 Seat ring	15	间隔 Spacer
4	O形圈 O-ring	10	阀杆 Stem	16	控制杆 Lever
5	阀体 Body	11	推力垫圈 Thust washer	17	六角螺母 Hexagon Nut
6	螺栓 Bolt	12	O形圈 O-ring	18	栓 Pin

锻钢浮动式球阀 Forged Steel Floating Ball Valve

主要零件材质表

Form of Major Parts Materials

No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	螺母 Nut	ASTM A194-2H	ASTM A194-8M	ASTM A194-2HM	ASTM A194-4
2	左右阀体 Left/Right body	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A352 LF2
3	垫片 Gasket	316+Graphite/PTFE	316+Graphite/PTFE	316+Graphite/PTFE	316+Graphite/PTFE
4	O形圈 O-ring	Viton	Viton	Viton	Viton
5	阀体 Body	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A352 LF2
6	螺栓 Bolt	ASTM A193 B7	ASTM A193-B8M	ASTM A193-B7M	ASTM A320 L7
7	阀座圈 Seat ring	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek
8	球体 Ball	ASTM A105+ENP	ASTM A182-F316	ASTM A182-F316	ASTM A320/LF2+ENP
9	阀座圈 Seat ring	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek
10	阀杆 Stem	ASTM A182 F6a	ASTM A182 F316	ASTM A182 F316	ASTM A182 F6a
11	推力垫圈 Thust washer	PTFE	PTFE	PTFE	PTFE
12	O形圈 O-ring	Vion	Vion	Vion	Vion
13	阀杆填料 Stem Packing	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE	Graphite/Peek
14	压盖 Gland	CS	CS	CS	CS
15	间隔 Spacer	SS316	SS316	SS316	SS316
16	控制杆 Lever	SS316	SS316	SS316	SS316
17	六角螺母 Hexagon Nut	ASTM A194-2H	ASTM A194-8M	ASTM A194-2HM	ASTM A194-4
18	栓 Pin	304	304	304	304

尺寸

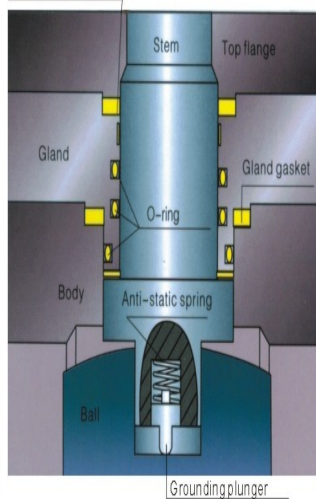
Dimmension of 800LB/1500LB(Full Port)

NPS	1/2"	3/4"	1"	1-1/4"	2"
d	12.7	17.5	22	28.5	47.5
D	21.7	27.05	33.8	42.55	61.1
H	65	72	80	80	114
A	10	13	13	13	16
L	92	111	127	140	155
B	150	150	170	170	240

固定式球阀设计特点

Trunnion Mounted Ball Valve Design Feature

Stem fire safe packing



防喷阀杆

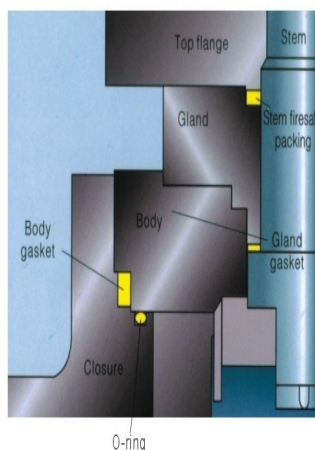
Anti Blow-out Stem

阀杆是由分开的下端球体；阀杆是一个完整的设计，防喷。
The stem is made separately from the ball; The lower end of the stem is designed with an integral collar to be blowout-proof.

防静电装置

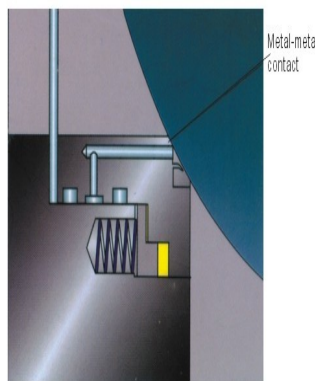
Anti-static Device

防静电装置是一个标准功能的双金属阀。
弹簧销球，阀杆和阀体，保证电气连续性，以避免火花时打开防喷阀杆和关闭阀门，在危险区域安装。
Antistatic device is a standard feature of Shuang Te ball valve. A spring-loaded pin between ball, stem and body, assures the electrical continuity, so as to avoid sparks during turning of the stem to open and close the valve, which could be dangerous in case of hazardous area installation.



When non-metal materials such as O-ring, seat insert and spacer are damaged by fire, the edge of the metal seat preloaded by the seat spring contacts with the ball to shut off the line fluid, and minimize internal leakage through the valve bore. Also the fire safe flexible graphite seat packing will be compressed by the seat spring to avoid fluid leakage between the valve body and the seat.

After fire



超级防火安全设计

Super Fire Safe Design

防泄漏

External Leakage Prevention

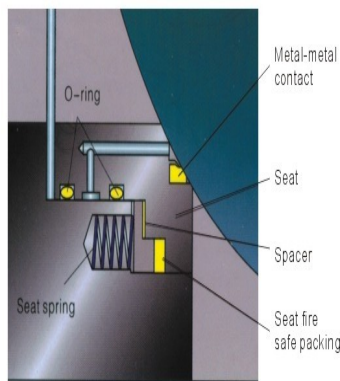
泄漏阀杆用2个O形圈密封及垫片。泄漏阀体接头也封锁了双重密封O形圈和阀体垫圈。火灾后损坏O形圈，垫片，垫片和消防安全包装，采用避免外部流体泄漏的措施。
Leakage from the valve stem area is prevented by double sealing with 2 O-rings and gland gasket. Leakage through the valve body joint is also blocked by double sealing with O-ring and body gasket. After a fire damages O-rings, gland gasket, body gasket and stem fire safe packing are the measure to avoid external fluid leakage.

防内泄漏

Internal leakage prevention

当非金属材料如O型密封圈，阀座及间隔被火灾破坏，边缘的金属座预装由弹簧接触球关闭了线的流体，并尽量减少内部泄漏，还用安全柔性石墨包装，避免液体泄漏。

Before fire



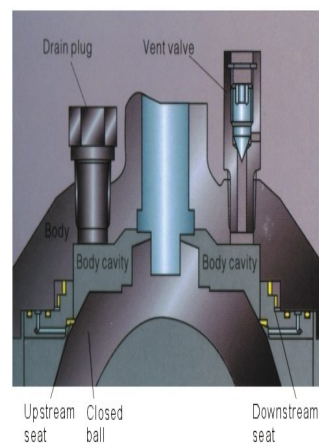
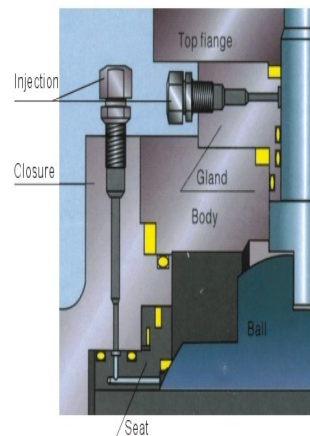
固定式球阀设计特点

Trunnion Mounted Ball Valve Design Feature

紧急注射系统

Emergency Sealant Injection System

6英寸和较大的双特固定球阀安装在阀杆和密封防喷装置。
当密封材料（阀座密封或O形圈）被烧毁或其他意外，泄漏的阀座和阀杆可以预防注射密封对这些配件。
配件也安装另一个止回阀提供备份密封。
6 inch and larger Shuang Te Trunnion mounted ball valve will be installed with sealant injection fittings on both stem and seats. When the sealing materials (seat sealing or stem o-ring) are damaged by fire or other accidental causes, leakage from the seat and stem can be prevented by injection of sealant into these fittings. Fitting is also integrally installed a second check valve to provide backup sealing.



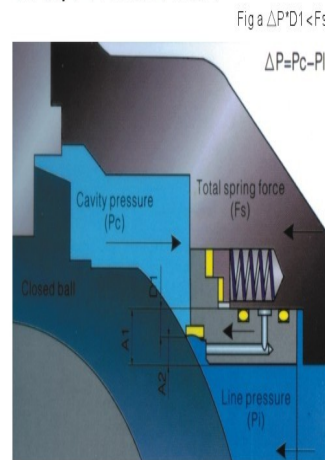
双块和流血

Double Block And Bleed

每个球体阀座关闭线体的独立的上游和下游侧，双块操作。当压力同时应用双方的球体在关闭位置，阀孔和体腔将彼此分离，残留在体腔可通过释放排水塞。
Each ball seat shuts off the line fluid independently on the upstream and downstream side, allowing double block operation. When the pressure is simultaneously applied to both sides of the ball in closed position, the valve bore and the body cavity will be isolated from each other, and the residue within the body cavity can be released through the drain plug.

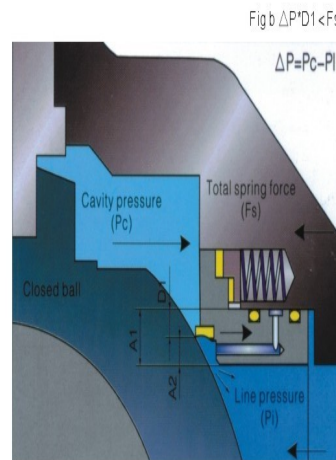
缓解压力

Cavity Pressure Relief



当腔压力 (Pc) 比低座弹簧压力 (Pi), i.e. $\Delta P \cdot D1 < Fs$, 然后之间的联系和座环可以确保紧密密封。

When cavity pressure (Pc) is low than seat spring and line pressure (Pi), i.e. $\Delta P \cdot D1 < Fs$, then contact between ball and seat ring can assure a tight seal.



当腔压力超过弹簧座和线压力, i.e. $\Delta P \cdot D1 < Fs$, 自我缓解行使阀门座会稍微远离球表面, 因此任何超压在腔体内排出进线恢复之间的平衡腔线 (无论是上游或下游)。

When cavity pressure is higher than seat spring and line pressure, i.e. $\Delta P \cdot D1 < Fs$, the self relieving action allows that valve seat will move slightly away from the ball surface, therefore any over pressure in the body cavity is discharged into the line to restore the balance between the body cavity and line (either upstream or downstream).

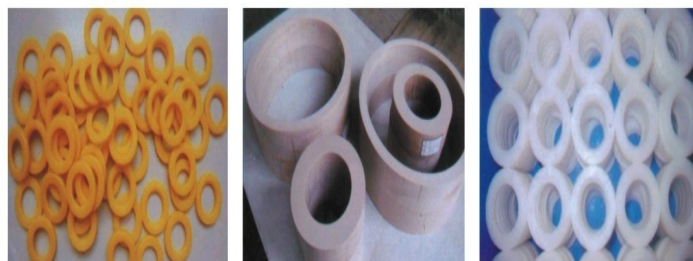
铸钢固定式球阀

Cast Steel Trunnion Mounted Ball Valve

主要零件材质表

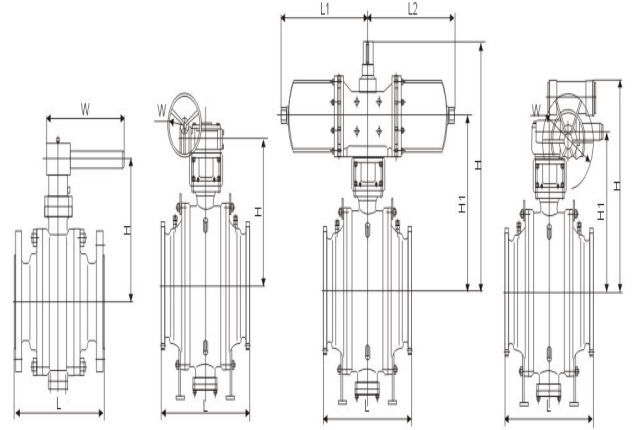
Form of Major Parts Materials

No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	阀盖 Bonnet	ASTMA216-WCB	ASTMA351-CF8M	ASTMA216-WCB	ASTMA352-LCB
2	发动机配件 Injection fitting	CS	SS	SS	SS
3	垫片 Gasket	316SS+Graphite	316SS+Graphite/PTFE	316SS+Graphite/PTFE	316SS+Graphite
4	O形圈 O-ring	Viton	Viton	Viton	Viton
5	消防安全圈 Fire safe ring	Graphite	Graphite	Graphite	Graphite
6	O形圈 O-ring	Viton	Viton	Viton	Viton
7	弹簧 Spring	17-7pH	17-7pH	17-7pH	17-7pH
8	阀座 Seat	ASTMA105+ENP	ASTMA182-F316	ASTMA182-F316+ENP	ASTMA350-LF2+ENP
9	阀座圈 Seating ring	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek
10	轴承 Bearing	316+PTFE	316+PTFE	316+PTFE	316+PTFE
11	轴承 Bearing	316+PTFE	316+PTFE	316+PTFE	316+PTFE
12	球体 Ball	ASTMA105/ENP	ASTMA182-F316	ASTMA105/ENP	ASTMA350-LF2/ENP
13	螺母 Nut	ASTMA1094-2H	ASTMA194-8M	ASTMA194-2HM	ASTMA194-4
14	螺栓 Bolt	ASTMA193-B7	ASTMA193-B8M	ASTMA193-B7M	ASTMA320-L7
15	螺钉 Screw	ASTMA193-B7	ASTMA193-B8M	ASTMA193-B7M	ASTMA320-L7
16	耳轴 Trunnion	ASTMA105	ASTMA182-F316	ASTMA182-F316	ASTMA350-LF2
17	O形圈 O-ring	Viton	Viton	Viton	Viton
18	垫片 Gasket	316SS+Graphite	316SS+Graphite/PTFE	316SS+Graphite/PTFE	316SS+Graphite
19	泄放阀 Bleed	CS	SS	SS	SS
20	阀体 Body	ASTMA216-WCB	ASTMA351-CF8M	ASTMA216-WCB	ASTMA352-LCB
21	排污塞 Block	CS	SS	SS	SS
22	阀杆 Stem	ASTMA182-F6a	ASTMA182-F316	ASTMA182-F316	ASTMA182-F6a
23	轴承 Bearing	316+PTFE	316+PTFE	316+PTFE	316+PTFE
24	O形圈 O-ring	Viton	Viton	Viton	Viton
25	填料箱 Stuffing box	ASTMA105	ASTMA182-F316	ASTMA182-F16	ASTMA350-LF2
26	螺钉 Screw	ASTMA193-B7	ASTMA193-B8M	ASTMA193-B7M	ASTMA320-L7
27	O形圈 O-ring	viton	viton	viton	viton
28	阀杆填料 Stem Packing	Graphite	Graphite/PTFE	Graphite/PTFE	Graphite
29	支架 Yoke	ASTMA105	ASTMA182-F316	ASTMA105	ASTMA350-LF2
30	螺钉 Screw	ASTMA193-B7	ASTMA193-B8M	ASTMA193-B7M	ASTMA320-L7
31	齿轮 Gear	Components	Components	Components	Components



铸钢固定式球阀

Cast Steel Trunnion Mounted Ball Valve



尺寸 Dimensions

150LB

Full Port	Size in	2	3	4	6	8	10	12	14	16	18	20	22	24
	Dmm	49	74	100	150	201	252	303	334	385	435	487	538	589
Lmm	178	203	229	394	457	533	610	686	762	838	914	1016	1067	
Hmm	165	193	231	329	393	401	441	481	598	643	708	798	863	
Wmm	230	400	460	1000	*500	*500	*500	*500	*500	*500	*500	*500	*500	
Weight(Kg)	17	33	50	93	166	273	457	570	778	935	1190	1346	1579	

尺寸 Dimensions

300LB

Full Port	Size in	2	3	4	6	8	10	12	14	16	18	20	22	24
	Dmm	49	74	100	150	201	252	303	334	385	435	487	538	589
Lmm	216	283	305	403	502	568	648	762	838	914	991	1092	1143	
Hmm	165	193	231	329	393	401	441	481	598	643	708	798	863	
Wmm	230	400	460	1000	*500	*500	*500	*500	*500	*500	*500	*500	*500	
Weight(Kg)	18	40	63	150	240	305	407	602	1000	1160	1320	1540	1874	

尺寸 Dimensions

150LB

Reduced Port	Size in	3*2*3	4*3*4	6*4*6	8*6*8	10*8*10	12*10*12	14*12*14	16*14*16	18*16*18	20*18*20	22*20*22	24*20*24
	dmm	49	74	100	150	201	252	303	334	385	435	487	487
Dmm	74	100	150	201	252	303	334	385	435	487	538	589	
Lmm	203	229	394	457	533	610	686	762	864	914	1016	1067	
Hmm	165	193	231	329	393	393	441	481	598	643	643	708	
Wmm	230	400	400	460	1000	*500	*500	*500	*500	*500	*500	*500	
Weight(Kg)	30	47	90	161	268	467	560	766	902	1130	1300	1520	

尺寸 Dimensions

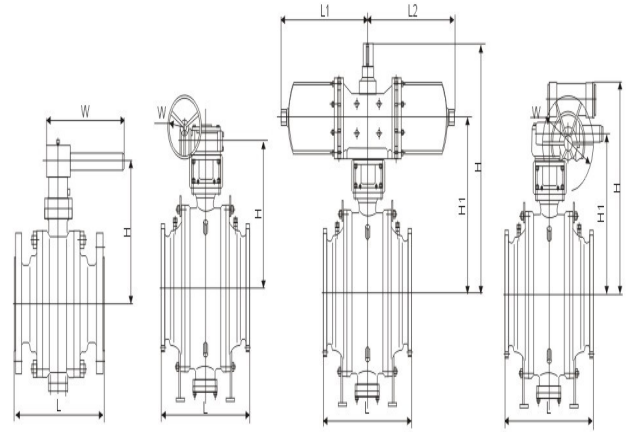
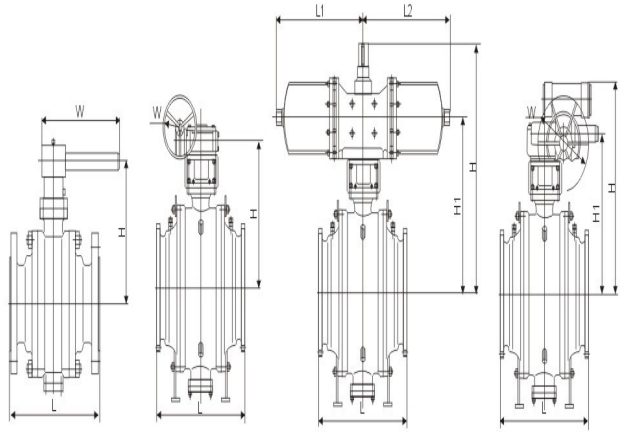
300LB

Reduced Port	Size in	3*2*3	4*3*4	6*4*6	8*6*8	10*8*10	12*10*12	14*12*14	16*14*16	18*16*18	20*18*20	22*20*22	24*20*24
	dmm	49	74	100	150	201	252	303	334	385	435	487	487
Dmm	74	100	150	201	252	303	334	385	435	487	538	589	
Lmm	283	305	403	502	568	648	762	838	914	991	1092	1143	
Hmm	165	193	231	329	393	393	440	481	598	643	643	708	
Wmm	230	400	750	1000	1500	*500	*500	*500	*500	*500	*500	*500	
Weight(Kg)	38	60	147	234	295	488	570	910	1020	1280	1360	1670	

*Gear Operator

铸钢固定式球阀 Cast Steel Trunnion Mounted Ball Valve

铸钢固定式球阀 Cast Steel Trunnion Mounted Ball Valve



尺寸 Dimensions

600LB

Full Port	Size in	2	3	4	6	8	10	12	14	16	18	20	24
	Dmm	49	74	100	150	201	22	303	334	385	435	487	598
Lmm	292	356	432	559	680	787	838	889	991	1092	1194	1397	
Hmm	176	247	276	363	363	426	548	598	648	740	810	920	
Wmm	400	750	1000	1500	*500	*500	*500	*500	*500	*500	*500	*500	
Weight(kg)	27	50	80	251.8	350	600	820	1130	1550	2100	2800	3626	

尺寸 Dimensions

1500LB

Full Port	Size in	2	3	4	6	8	10	12	14	16	18	20
	Dmm	49	74	100	144	192	238	287	315	360	406	454
Lmm	368	470	546	705	832	991	1130	1257	1384	1537	1664	
Hmm	252	300	272	341	493	565	700	747	795	877	985	
Wmm	750	1500	*500	*500	*500	*500	*500	*500	*500	*500	*610	*610
Weight(kg)	86	136	221	388	580	948	1338	1748	2228	2850	4860	

尺寸 Dimensions

900LB

Full Port	Size in	2	3	4	6	8	10	12	14	16	18	20	24
	Dmm	49	74	100	150	201	252	303	332	373	423	471	570
Lmm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	
Hmm	192	279	315	323	381	518	568	665	730	795	825	973	
Wmm	460	1000	1500	*500	*500	*500	*500	*500	*500	*500	*610	*610	
Weight(kg)	53	97	138	288	448	748	1018	1398	1828	2328	2928	4178	

尺寸 Dimensions

1500LB

Reduced Port	Size in	3*2*3	4*3*4	6*4*6	8*6*8	10*8*10	12*10*12	14*12*14	16*14*16	18*16*18	20*18*20
	dmm	49	74	100	144	192	238	287	318	360	406
Dmm	74	100	144	192	238	287	318	360	406	454	
Lmm	470	546	705	832	991	1130	1257	1384	1537	1664	
Hmm	252	300	272	341	493	565	700	747	795	877	
Wmm	750	1500	*500	*500	*500	*500	*500	*500	*500	*500	*610
Weight(kg)	98	138	288	448	748	1020	1400	1820	2328	4150	

尺寸 Dimensions

600LB

Reduced Port	Size in	3*2*3	4*3*4	6*4*6	8*6*8	10*8*10	12*10*12	14*12*14	16*14*16	18*16*18	20*18*20	24*20*24
	dmm	49	74	100	150	201	252	303	334	385	435	487
Dmm	74	100	150	201	252	303	334	385	435	481	589	
Lmm	356	432	559	680	787	838	889	991	1092	1194	1397	
Hmm	176	247	276	263	263	426	548	598	648	740	810	
Wmm	400	750	1000	1500	*500	*500	*500	*500	*500	*500	*500	
Weight(kg)	41	70	122	255	440	6620	1060	1440	1880	2400	3240	

尺寸 Dimensions

900LB

Reduced Port	Size in	3*2*3	4*3*4	6*4*6	8*6*8	10*8*10	12*10*12	14*12*14	16*14*16	18*16*18	20*18*20	24*20*24
	dmm	49	74	100	150	201	252	303	322	373	423	471
Dmm	74	100	150	201	252	303	322	373	423	471	570	
Lmm	381	457	610	737	838	965	1029	1130	1219	1321	1549	
Hmm	192	279	315	323	381	518	568	665	730	795	825	
Wmm	460	1000	1500	*500	*500	*500	*500	*500	*500	*500	*610	
Weight(kg)	83	103	201	348	598	768	1100	1420	1926	2428	3578	

*Gear Operator

锻钢固定式球阀

Forged Steel Trunnion Mounted Ball Valve

双特系列BS球阀现有的大小从2-48，等级从150-1500，温度等级-46℃-200℃。所有满足防火安全要求BS6755和API6A，充分发挥锻钢体，避免铸件缺陷。在现代石油和天然气工业，它也有优势，交货期短，因此更受欢迎。

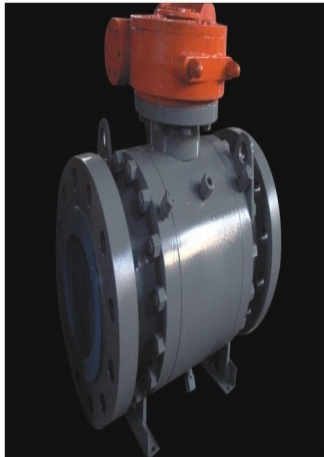
ShuangTe series BS ball valves are trunnion mounted and available in size from 2 to 48, ANSI class rating from 150 to 1500 and temperature ratings of -46°C to 200°C. All meet the fire safe requirements of BS 6755 and API 6A.

Fully forged steel body and closure eliminates the inevitable defects of castings. It also has advantage of short delivery time, thus more popular in modern oil and gas industry.



所有3系列球阀是精选的固定安装球体和独立浮动弹簧座，在低压力提供气密性关闭。双密封O形圈结合一个O形环和垫片在这个系列球阀适用于地上或地下服务。

All TB 3 Series ball valves are featured of trunnion mounted ball and independent floating spring loaded seats which provides bubble-tight shut off and low operating torques even at low different pressure. Double sealing O-rings or a combination of an O-ring and gasket in stem making this series of ball valve suitable for both above ground or under-ground service.



锻钢固定式球阀

Forged Steel Trunnion Mounted Ball Valve

主要部件名称

Form of Major Parts Name

No.	Part	No.	Part	No.	Part
1	阀盖 Bonnet	12	球体 Ball	23	垫片 Gasket
2	螺母 Nut	13	螺栓 Bolt	24	O形圈 O-ring
3	发动机配件 Injection fitting	14	阀体 Body	25	轴承 Bearing
4	弹簧 Spring	15	阀杆 Stem	26	填料箱 Stuffing box
5	垫片 Gasket	16	轴承 Bearing	27	螺钉 Screw
6	O形圈 O-ring	17	O形圈 O-ring	28	O形圈 O-ring
7	消防安全圈 Fire safe ring	18	泄放阀 Bleed	29	阀杆填料 Stem Packing
8	O形圈 O-ring	19	垫片 Gasket	30	支架 Yoke
9	阀座 Seat	20	耳轴 Trunnion	31	螺钉 Screw
10	阀座圈 Seat ring	21	O形圈 O-ring	32	齿轮 Gear
11	轴承 Bearing	22	排污塞 Block		

锻钢固定式球阀

Forged Steel Trunnion Mounted Ball Valve

主要零件材质表

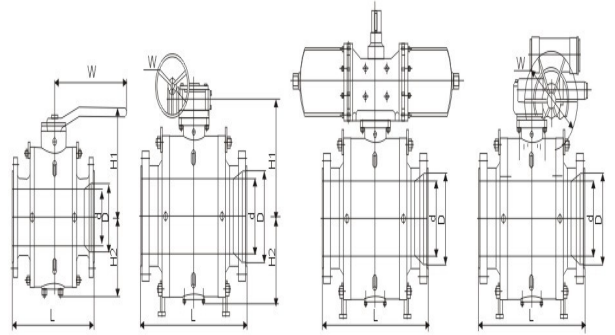
Form of Major Parts Materials

No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	阀盖 Bonnet	ASTMA105	ASTMA182-F316	ASTMA105	ASTMA350-LF2
2	螺母 Nut	ASTMA194-2H	ASTMA194-8M	ASTMA194-2HW	ASTMA194-4
3	发动机配件 Injection fitting	CS	SS	SS	SS
4	弹簧 Spring	17-7pH	17-7pH	17-7pH	17-7pH
5	垫片 Gasket	316SS+Graphite	316SS+Graphite	316SS+Graphite/PTFE	316SS+Graphite
6	O形圈 O-ring	Viton	Viton	Viton	Viton
7	消防安全圈 Fire safe ring	Flexible graphite rope	Flexible graphite rope	Flexible graphite rope	Flexible graphite rope
8	O形圈 O-ring	Viton	Viton	Viton	Viton
9	阀座 Seat	ASTMA105+ENP	ASTMA182F316	ASTMA182F316	ASTMA350 LF2+ENP
10	阀座圈 Seating ring	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek	RPTFE/Nylon/Peek
11	轴承 Bearing	316+PTFE	316+PTFE	316+PTFE	316+PTFE
12	球体 Ball	ASTMA105/ENP	ASTMA182F-316	ASTMA182F316	ASTMA350 LF2/ENP
13	螺栓 Bolt	ASTMA193 B7	ASTMA193 B8M	ASTMA193 B7M	ASTMA320L7
14	阀体 Body	ASTMA105	ASTMA182F-316	ASTMA105	ASTMA350 LF2
15	阀杆 Stem	ASTMA182 F6a	ASTMA182F-316	ASTMA182F316	ASTMA182 F6a
16	轴承 Bearing	316+PTFE	316+PTFE	316+PTFE	316+PTFE
17	O形圈 O-ring	Viton	Viton	Viton	Viton
18	泄放阀 Bleed	CS	SS	SS	SS
19	垫片 Gasket	316SS+Graphite	316SS+Graphite/PTFE	316SS+Graphite/PTFE	PTFE
20	耳轴 Trunnion	ASTMA105	ASTMA182F316	ASTMA182F316	ASTMA350 LF2
21	O形圈 O-ring	Viton	Viton	Viton	Viton
22	排污塞 Block	CS	SS	SS	SS
23	垫片 Gasket	316SS+Graphite	316SS+Graphite/PTFE	316SS+Graphite/PTFE	PTFE
24	O形圈 O-ring	Viton	Viton	Viton	Viton
25	轴承 Bearing	316+PTFE	316+PTFE	316+PTFE	316+PTFE
26	填料箱 Stuffing box	ASTMA105	ASTMA182F316	ASTMA182F316	ASTMA350 LF2
27	螺钉 Screw	ASTMA193 B7	ASTMA193 B8M	ASTMA193 B7M	ASTMA320L7
28	O形圈 O-ring	Viton	Viton	Viton	Viton
29	阀杆填料 Stem Packing	Graphite	Graphite/PTFE	Graphite/PTFE	Graphite
30	支架 Yoke	ASTMA105	ASTMA182F316	ASTMA105	ASTMA350 LF2
31	螺钉 Screw	ASTMA193 B7	ASTMA193 B8M	ASTMA193 B7M	ASTMA320 L7
32	齿轮 Gear	Components	Components	Components	Components



锻钢固定式球阀

Forged Steel Trunnion Mounted Ball Valve



尺寸 Dimensions

150LB

Full Port						Weight (Kg)
Size in	Dmm	Lmm	H1mm	H2mm	Wmm	
2	49	178	200	110	265	21.11
3	74	203	300	126	285	32.09
4	100	229	315	165	285	50
6	150	394	335	165	*300	164
8	201	457	405	200	*300	345
10	252	533	427	220	*300	440
12	303	610	465	262	*500	577
14	334	686	506	293	*600	859
16	385	762	622	341	*600	1144
18	436	864	666	92	*600	1440
20	487	914	730	435	*600	1944
22	538	1016	833	480	*600	2352
24	589	1067	895	518	*600	2803
26	633	1143	900	535	*600	3200
28	684	1245	935	542	*600	4050
30	735	1295	1010	605	*600	6200
32	779	1372	1060	650	*600	5490
34	830	1473	1077	650	*600	6704
36	874	1524	1115	700	*600	9600
40	976	1727	1400	865	*600	10271
42	1020	1855	1589	900	*600	12110
48	1166	2134	1722	1042	*600	18360

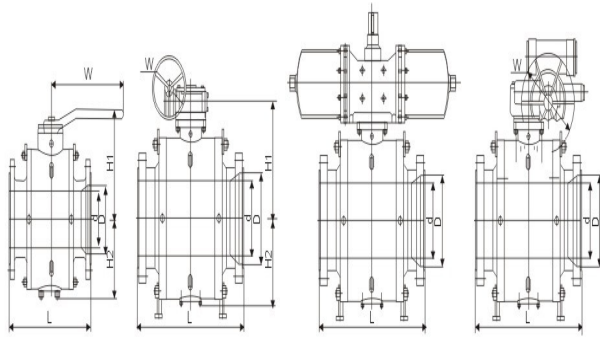
*Gear Operator

尺寸 Dimensions

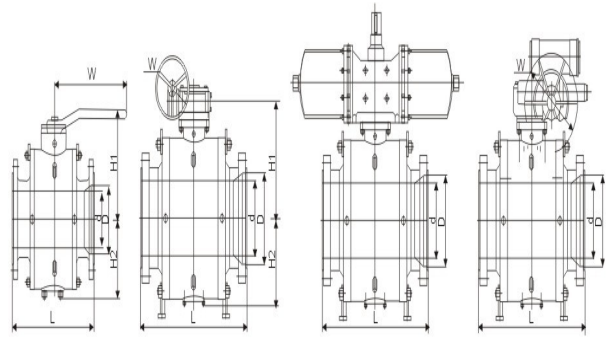
150LB

Reduced Port						Weight (Kg)	
Size in	dmm	Dmm	Lmm	H1mm	H2mm		Wmm
3*2*3	49	74	203	200	110	265	26.45
4*3*4	74	100	229	300	126	285	40
6*4*6	100	150	394	315	165	285	68
8*6*8	150	201	457	335	170	*300	177
10*8*10	201	252	533	405	200	*300	307
12*10*12	252	302	610	427	220	*300	509
14*12*14	303	334	686	465	262	*500	722
16*14*16	334	385	762	506	293	*600	920
18*16*18	385	436	864	622	341	*600	1241
20*18*20	436	487	914	666	392	*600	1670
22*18*22	436	538	1016	666	392	*600	2343
24*20*24	487	589	1067	730	435	*600	2060
26*22*26	538	633	1143	833	480	*600	2215
28*24*28	589	684	1245	895	518	*600	2700
30*24*30	589	735	1295	895	518	*600	2918
32*26*32	633	779	1372	900	535	*600	4005
34*28*34	684	830	1473	935	542	*600	4445
36*30*36	735	874	1524	1010	605	*600	4995
40*34*40	830	976	1727	1077	650	*600	8200
42*36*42	874	1020	1855	1115	700	*600	10871
48*40*48	976	1166	2134	1400	865	*600	13520

锻钢固定式球阀 Forged Steel Trunnion Mounted Ball Valve



锻钢固定式球阀 Forged Steel Trunnion Mounted Ball Valve



尺寸 Dimensions 300LB

Full Port						Weight (Kg)
Size in	Dmm	Lmm	H1mm	H2mm	Wmm	
2	49	216	206	113	265	25
3	74	283	315	129	400	45.68
4	100	305	330	169	750	77
6	150	403	345	148	*300	211
8	201	502	415	185	*300	322
10	252	568	427	226	*400	517
12	303	648	465	269	*500	758
14	334	762	519	300	*600	975
16	385	838	638	350	*600	1350
18	436	914	683	402	*600	1715
20	487	991	748	446	*600	2090
22	538	1092	854	492	*600	2220
24	589	1143	917	531	*800	2895
28	684	1346	958	556	*800	4575
30	735	1397	1035	620	*800	5590
32	779	1524	1087	666	*800	6240
34	830	1626	1104	666	*800	7370
36	874	1727	1143	718	*800	8435
40	976	1930	1435	887	*800	11200
42	1020	2032	1638	923	*800	13050
48	1166	2692	1765	1068	*800	19000

尺寸 Dimensions 300LB

Reduced Port							Weight (Kg)
Size in	dmm	Dmm	Lmm	H1mm	H2mm	Wmm	
3*2*3	49	74	283	206	113	265	36
4*3*4	74	100	305	315	129	400	55
6*4*6	100	150	403	330	169	750	112
8*6*8	150	201	502	345	148	*300	222
10*8*10	201	252	568	415	185	*300	381
12*10*12	252	303	648	427	226	*500	619
14*12*14	303	334	762	465	269	*600	920
16*14*16	334	385	838	519	300	*600	1050
18*16*18	385	436	914	638	350	*600	1530
20*18*20	436	487	991	683	402	*600	1830
22*18*22	436	538	1092	683	402	*600	2010
24*20*24	487	589	1143	748	446	*600	2220
28*24*28	589	684	1346	917	531	*800	3200
30*24*30	589	735	1397	917	531	*800	3200
34*28*34	684	830	1626	958	556	*800	4845
36*30*36	735	874	1727	1035	620	*800	6100
40*34*40	830	976	1930	1104	666	*800	8200
42*36*42	874	1020	2032	1143	718	*800	9200
48*40*48	976	1166	2692	1435	887	*800	15000

尺寸 Dimensions 600LB

Full Port						Weight (Kg)
Size in	Dmm	Lmm	H1mm	H2mm	Wmm	
2	49	292	206	113	400	33
3	74	356	315	129	750	63.5
4	100	432	330	169	1000	117
6	150	559	345	148	*300	285
8	201	660	415	185	*300	452
10	252	787	427	226	*400	736
12	303	838	465	269	*500	1000
14	334	889	519	300	*600	1329
16	385	991	638	350	*600	1730
18	436	1092	683	402	*600	2285
20	487	1194	748	446	*600	2814
22	538	1295	854	492	*600	3370
24	589	1397	917	531	*800	4920
28	684	1549	958	556	*800	6060
30	735	1651	1035	620	*800	6690
32	779	1778	1087	666	*800	7825
34	830	1930	1104	666	*800	8460
36	874	2083	1143	718	*800	10650
40	976	2337	1435	887	*800	14700
42	1020	2438	1638	923	*800	16410
48	1166	2845	1765	1068	*800	24200

尺寸 Dimensions 600LB

Reduced Port							Weight (Kg)
Size in	dmm	Dmm	Lmm	H1mm	H2mm	Wmm	
3*2*3	49	74	356	206	113	400	46.5
4*3*4	74	100	432	315	129	750	86
6*4*6	100	150	559	330	169	1000	178
8*6*8	150	201	660	345	148	*300	304
10*8*10	201	252	787	415	185	*300	536
12*10*12	252	303	838	427	226	*500	834
14*12*14	303	334	889	465	269	*600	1090
16*14*16	334	385	991	519	300	*600	1310
18*16*18	385	436	1092	638	350	*600	1876
20*18*20	436	487	1194	683	402	*600	2270
22*18*22	436	538	1295	683	402	*600	2430
24*20*24	487	589	1397	748	446	*600	3440
28*24*28	589	684	1549	917	531	*800	4250
30*24*30	589	735	1651	917	531	*800	4730
34*28*34	684	830	1930	958	556	*800	7200
36*30*36	735	874	2083	1035	620	*800	8600
40*34*40	830	976	2337	1104	666	*800	10020
42*36*42	874	1020	2438	1143	718	*800	11100
48*40*48	976	1166	2845	1435	887	*800	17200

*Gear Operator

*Gear Operator

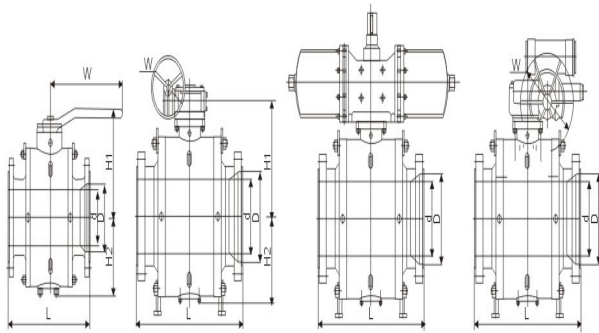
锻钢固定式球阀 Forged Steel Trunnion Mounted Ball Valve

如何订购固定式球阀 How To Order Trunnion Mounted Ball Valve

8*6 BS 1 R - G , A105N / 12666

1 2 3 4 5 6 7

以下描述提供了基本的阀门规范:
Following descriptions provide a basic guideline in valve specification:



尺寸 Dimensions 900LB

尺寸 Dimensions 900LB

Full Port						Weight (kg)
Size in	Dmm	Lmm	H1mm	H2mm	Wmm	
2	49	368	217	119	460	65
3	74	381	327	133	1000	92
4	100	457	343	176	1500	154
6	150	610	358	153	*300	392
8	201	737	431	193	*400	613
10	252	838	443	235	*500	820
12	303	965	484	280	*600	1125
14	322	1029	540	312	*600	1610
16	373	1130	660	365	*600	2010
18	423	1219	700	414	*600	2810
20	471	1321	770	459	*600	3460
22	522	1422	880	507	*800	4410
24	570	1549	945	547	*800	5497
28	665	1753	987	573	*800	10202
30	712	1880	1068	638	*800	11620
32	760	2032	1120	686	*800	12102
34	808	2159	1137	688	*800	17482
36	855	2286	1177	739	*800	20154

Reduced Port							Weight (kg)
Size in	dmm	Dmm	Lmm	H1mm	H2mm	Wmm	
3*2*3	49	74	381	217	119	460	71
4*3*4	74	100	457	327	133	1000	111
6*4*6	100	150	610	343	176	1500	214
8*6*8	150	201	737	358	153	*300	480
10*8*10	201	252	838	431	193	*400	650
12*10*12	252	303	965	443	235	*500	868
14*12*14	303	322	1029	484	280	*600	1310
16*14*16	322	373	1130	540	312	*600	1830
18*16*18	373	423	1219	660	365	*600	2205
20*18*20	423	471	1321	700	414	*600	3140
22*18*22	423	522	1422	700	414	*600	3288
24*20*24	471	570	1549	770	459	*600	4800
28*24*28	570	665	1753	945	547	*800	7580
30*24*30	570	712	1880	945	547	*800	7981
34*28*34	665	808	2159	987	573	*800	11202
36*30*36	712	855	2286	1068	638	*800	15853

尺寸 Dimensions 1500LB

尺寸 Dimensions 1500LB

Full Port						Weight (kg)
Size in	Dmm	Lmm	H1mm	H2mm	Wmm	
2	49	368	221	130	750	65
3	74	470	297	152	1500	145
4	100	546	345	166	*300	259
6	144	705	365	192	*400	475
8	192	832	423	238	*500	821
10	239	991	560	274	*600	1826
12	287	1130	608	318	*600	2170
14	315	1257	662	483	*600	2250
16	360	1384	796	534	*600	2760
18	406	1537	849	606	*600	3646
20	454	1684	964	686	*800	4497
22	500	1816	1025	731	*800	5731
24	546	2043	1065	775	*800	7151

Reduced Port							Weight (kg)
Size in	dmm	Dmm	Lmm	H1mm	H2mm	Wmm	
3*2*3	49	74	470	221	130	460	85
4*3*4	74	100	546	297	152	1000	169
6*4*6	100	144	705	345	166	1500	345
8*6*8	144	192	832	365	192	*300	599
10*8*10	192	239	991	423	238	*400	1196
12*10*12	239	287	1130	560	274	*500	1340
14*12*14	287	315	1257	608	318	*600	2070
16*14*16	315	360	1384	662	485	*600	2470
18*16*18	360	406	1537	796	534	*600	2950
20*18*20	406	454	1684	849	606	*600	3350
22*18*22	406	500	1816	849	303	*600	3600
24*20*24	454	546	2043	964	686	*800	5850

1 阀门尺寸 Valve Size

Full Bore:

In	2	2-1/2	3	3-1/2	4	5	6	8	10	12	14
mm	50	65	80	90	100	125	150	200	250	300	350
In	16	18	20	22	24	26	28	30	32	34	36
mm	400	450	500	550	600	650	700	750	800	850	900
In	38	40	42	44	48	52	54	56	60	-	-
mm	950	1000	1050	1100	1200	1300	1350	1400	1500		

Reduced Bore:

In	2x1-1/2	2-1/2x2	3x2	4x3	6x4	8x6	10x8	12x10	14x12	16x14	18x16
mm	50*40	65*50	80*50	100*80	150*100	250*200	250*200	300*200	350*300	400*350	450*400
In	20x16	22x20	24x20	26x24	28x24	32x30	34x30	34x30	36x30	38x32	40x36
mm	500*450	550*500	600*500	650*600	700*600	800*750	800*750	850*750	900*750	950*800	1000*900

2 阀门符号 Valve Types

Symbol	Valve Type	Symbol	Valve Type
BT	2-pcs Casting Trunnion Mounted type	BW	Fully Welded Trunnion Mounted type
BS	3-pcs Casting Trunnion Mounted type	BSP	Double Piston Effective Trunnion Mounted type
BE	Top Entry Trunnion Mounted type	BWP	Double Piston Effective Full Welded Trunnion Mounted type

3 ASME级 ASME Class

Code	1	3	4	6	8	9	15	25
Class(LB)	150	300	400	600	800	900	1500	2500

4 连接端 End Connection

Symbol	End	Symbol	End
R	Raised face flanged end	S	Socket weld end
J	RTJ flanged end	N	Screwed end
B	Butt-weld end	SN	Socket Weld/Screwed End
F	Flat Face Flanged End	NC	55° Taper Screwed End

5 操作机构 Operator

Symbol	Description	Symbol	Description
	Lever	BS	Bare shaft
G	Gear operator	H	Hydraulic actuator
M	Electric actuator	L	Gas over oil actuator
P	Pneumatic actuator	C	Gear operator (Operation face ≤ 350N)

如何订购固定式球阀

How To Order Trunnion Mounted Ball Valve

6 阀体材料 Body Material

Material	Classification steel	ASTM Ref.	Recommended		Application
			0°C	°F	
WCB (A105)	Carbon	A216 Grade WCB	-29 to 425	-20 to 800	Low temperature
LCB (LF2)	Carbon	A352 Grade LCB	-46 to 350	-50 to 650	
LCC	Carbon	A352 Grade LCC	-46 to 350	-50 to 650	
WC6 (F11)	Chromium Moly 1.25%Cr, 0.5%Mo	A217 Grade WC 6	-29 to 590	-20 to 1100	Steam, water, oil, oil vapour, gas and general service
WC9 (F22)	Chromium Moly 2.25%Cr, 1%Mo	A217 Grade WC 9	-29 to 590	-20 to 1100	
C5	Chromium Moly 5%Cr, 0.5%Mo	A217 Grade C5	-29 to 650	-20 to 1200	Corrosive, erosive oil refinery service
CF8M (316)	Stainless 18%Cr, 9%Ni, 2%Mo	A351 G Grade CF8M	-196 to 815	-320 to 1500	High and low temperature corrosion resistance
CF8 (304)	Stainless 18%Cr, 8%Ni	A351 Grade CF 8	-196 to 815	-320 to 1500	
CF3M (316L)	Low Carbon Stainless 18%Cr, 9%Ni	A351 Grade CF3M	-196 to 815	-320 to 1500	Cryogenic service is also available upon request
CF3 (304L)	Low Carbon Stainless 18%Cr, 8%Ni	A351 Grade CF3	-196 to 815	-320 to 1500	
CN7M Alloy 20	Stainless 19%Cr, 2.9%Ni	A351 Grade CN7M	-196 to 425	-320 to 800	Corrosion resistance

7 装饰代码 Trim Code

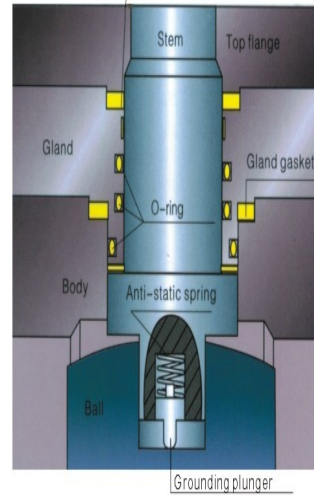
阀座 Seat Insert		O形圈 O-ring		阀杆 Stem		球体 Ball		阀座 Seat	
代码 Code	材质 Material	代码 Code	材质 Material	代码 Code	材质 Material	代码 Code	材质 Material	代码 Code	材质 Material
1	PTFE	1	NBR	1	F6a	1	F6a	1	F6a
2	NYLON1010	2	VITON	2	F304	2	F304	2	F304
3	PEEK	3	VITON AED	3	A105/ENP	3	A105/ENP	3	A105/ENP
4	Polyphenylene	4	WITON B	4	17-4PH	4	17-4PH	4	17-4PH
5	DEVLON5	5	HSN	5	AISI 4140	5	AISI 4140	5	AISI 4140
6	KFL-F	6		6	F316	6	F316	6	F316
7	NYLON12	7	PTFE COATED VITON	7	F304L	7	F304L	7	F304L
8	PCTFE	8	VITON GLT	8	F316L	8	F316L	8	F316L
9	MOLON	9	BUNA-N	9	LF2/ENP	9	LF2/ENP	9	LF2/ENP
A	PVDF	A	ELAST-DLION 101	A	F51	A	F51	A	F51
		B	EPDM						

Note: Other materials upon request

固定式球阀设计特点

Trunnion Mounted Ball Valve Design Feature

Stem fire safe packing



防喷阀杆

Anti Blow-out Stem

阀杆是由分开的下端球体；阀杆是一个完整的设计，防喷。

The stem is made separately from the ball. The lower end of the stem is designed with an integral collar to be blowout-proof.

防静电装置

Anti-static Device

防静电装置是一个标准功能的双金属。弹簧销球，阀杆和阀体，保证电气连续性，以避免火花对打开防喷阀杆和关闭阀门，在危险区域安装。

Antistatic device is a standard feature of Shuang Te ball valve. A spring-loaded pin between ball, stem and body, assures the electrical continuity, so as to avoid sparks during turning of the stem to open and close the valve, which could be dangerous in case of hazardous area installation.

超级防火安全设计

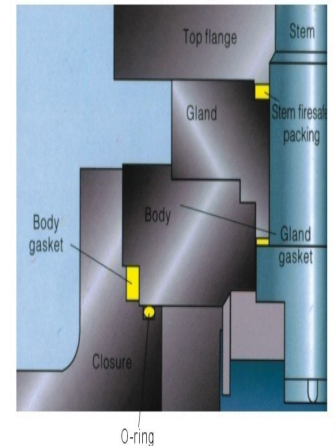
Super Fire Safe Design

防泄漏

External Leakage Prevention

泄漏阀杆用2个O形圈密封及垫片。渗漏阀体接头也封锁了双重密封O形环和阀体垫圈。火灾后损坏O形圈，膜垫片，垫片和消防安全包装，采用避免外部流体泄漏的措施。

Leakage from the valve stem area is prevented by double sealing with 2 O-rings and gland gasket. Leakage through the valve body joint is also blocked by double sealing with O-ring and body gasket. After a fire damages O-rings, gland gasket, body gasket and stem fire safe packing are the measure to avoid external fluid leakage.



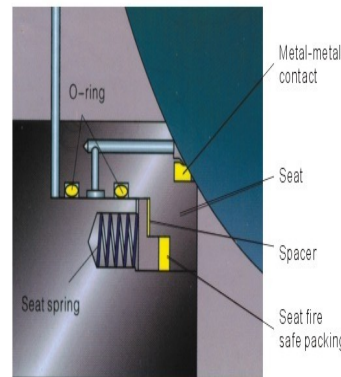
防内泄漏

Internal leakage prevention

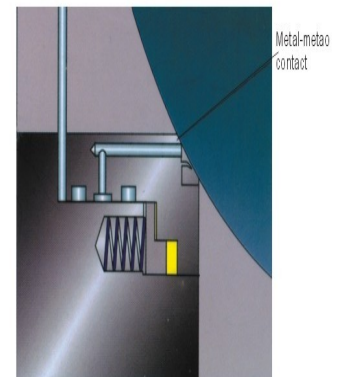
当非金属材料如O型密封圈，阀座及间隔被火灾破坏，边缘的金属座预装由弹簧座接触球关闭了线的流体，并尽量减少内部泄漏，还用安全柔性石墨包装，避免液体泄漏。

When non-metal materials such as O-ring, seat insert and spacer are damaged by fire, the edge of the metal seat preloaded by the seat spring contacts with the ball to shut off the line fluid, and minimize internal leakage through the valve bore. Also the fire safe flexible graphite seat packing will be compressed by the seat spring to avoid fluid leakage between the valve body and the seat.

Before fire



After fire



固定式球阀设计特点

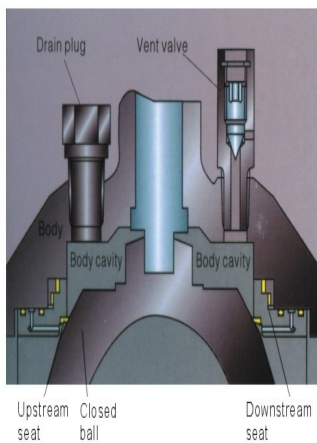
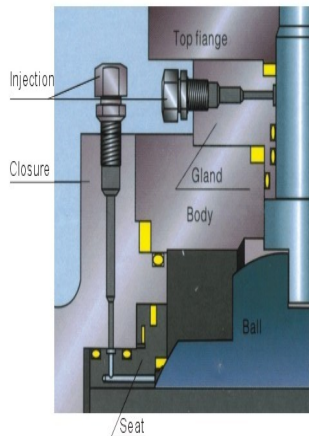
Trunnion Mounted Ball Valve Design Feature

紧急注射系统

Emergency Sealant Injection System

6英寸和较大的双特固定球阀安装在阀杆和密封防喷装置。当密封材料（阀座密封或O形圈）被烧毁或其他意外，泄漏的阀座和阀杆可以预防注射密封胶对这些配件。配件也安装另一个止回阀提供备份密封。

6 inch and larger ShuangTe Trunnion mounted ball valves will be installed with sealant injection fittings on both stem and seats. When the sealing materials (seat sealing or stem o-ring) are damaged by fire or other accidental causes, leakage from the seat and stem can be prevented by injection of sealant into these fittings. Fitting is also intergrally installed a second check valve to provide backup sealing.



双块和流血

Double Block And Bleed

每个球体阀座关闭线体的独立的上游和下游侧，双块操作。当压力同时应用双方的球体在关闭位置，阀孔和体腔将彼此分离，残留在体腔可通过释放排水塞。

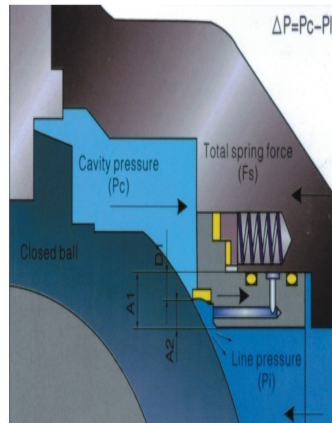
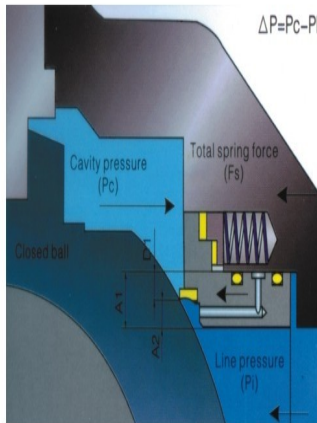
Each ball seat shuts off the line fluid independently on the upstream and downstream side, allowing double block operation. When the pressure is simultaneously applied to both sides of the ball in closed position, the valve bore and the body cavity will be isolated from each other, and the residue within the body cavity can be released through the drain plug.

缓解压力

Cavity Pressure Relief

Fig a $\Delta P^*D1 < Fs$

Fig b $\Delta P^*D1 < Fs$



当腔压力 (Pc) 比低座弹簧压力 (Pl), i.e. $\Delta P^*D1 < Fs$, 然后之间的联系球和座环可以确保紧密密封。

When cavity pressure (Pc) is low than seat spring and line pressure (Pl), i.e. $\Delta P^*D1 < Fs$, then contact between ball and seat ring can assure a tight seal.

当腔压力超过弹簧座和线压力, i.e. $\Delta P^*D1 < Fs$, 自我缓解行动使阀门座会稍微远离球体的表面, 因此任何超压在阀体内腔排进出线恢复之间的平衡腔线 (无论是上游或下游)。

When cavity pressure is higher than seat spring and line pressure, i.e. $\Delta P^*D1 < Fs$, the self relieving action allows that valve seat will move slightly away from the ball surface, therefore any over pressure in the body cavity is discharged into the line to restore the balance between the body cavity and line (either upstream or downstream).

固定式球阀设计特点

Trunnion Mounted Ball Valve Design Feature

双活塞阀座

Double Piston Effect Seats

在上游和下游的压力造成的压力下双活塞阀座起作用。因此, 阀座环向球体, 在任何时候, 如果上游阀座失败, 下游阀座还可以保证阀门的密封。由于不具备自身适应功能, 他们不能释放阀腔冗余压力。泄压设计特点是增加。

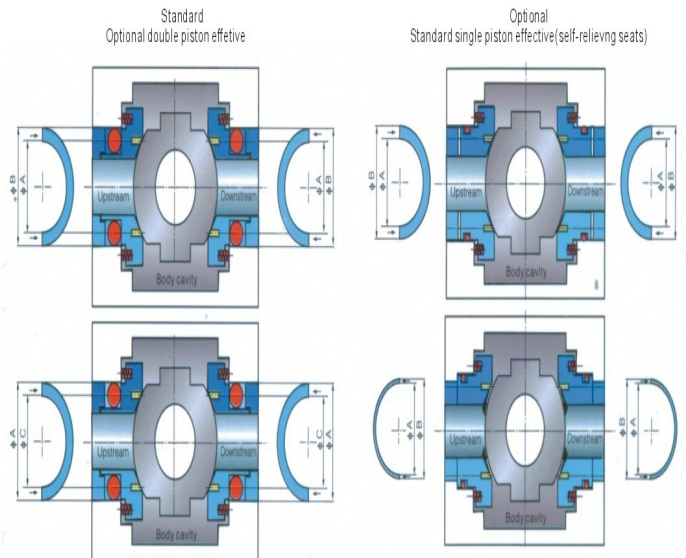
Double piston effect seats are pressure energized in both directions. Upstream and downstream pressure creates the thrust. So the seat rings are pushed toward the ball at all times. If the upstream seat fails, the downstream seat can still insure valve tightness. Since double piston effect valves do not have the self-relieving function, they can not release valve body cavity redundant pressure. A pressure relief design feature is added.

单活塞阀座

Self Relieving Seats (single Piston Effect)

单活塞是标准设计的固定安装球阀。无论是在上游和下游, 流体压力推动阀座环向球体。如果产生的腔体压力大于弹簧预紧力和流体压力推力, 该阀座推向球体。然后, 任何多余的压在阀体内腔自动解锁, 该阀门完全打开或完全关闭。

The single piston is the standard design for trunnion mounted ball valves. Both the upstream and downstream fluid pressure pushes the seat rings towards the ball. If the thrust created by the body cavity pressure is greater than the spring preload and the fluid pressure thrust, the seats are pushed against the ball. Then, any redundant pressure in the body cavity is released automatically in the valves fully opened or fully closed position.

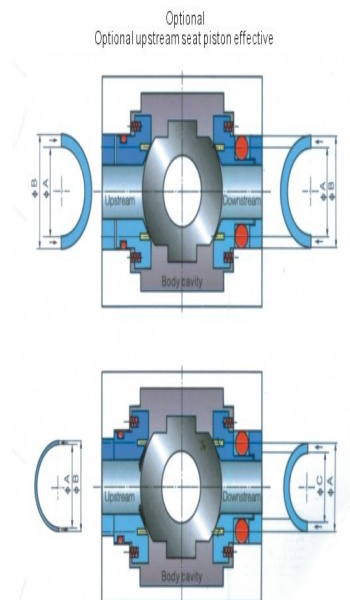


自身适应上游和下游阀座双活塞

Self Relieving Upstream Seat And Double Piston Effective Downstream Seat

流体在下游对双阀座推动活塞, 所以阀座压力在任何时候。如果上游阀座失败, 下游阀座仍然可以保证阀门的密封。在另一边, 上游阀座设计有一个活塞, 当压力比大弹簧预紧力和流体压力推力, 阀座被推向球体。然后, 任何多余的压力, 下游之间的阀座和体腔将自动释放到上游侧。

The fluid pushes the double piston effect seat towards the ball on the downstream side. So the seat is pressure energized at all times. If the upstream seat fails, the downstream seat can still insure valve tightness. On the other side, the upstream seat is designed with a single piston effect, when pressure is greater than the spring preload and the fluid pressure thrust, the seats are pushed against the ball. Then, any redundant pressure between downstream seats and the body cavity shall be released automatically into upstream side.



焊接固定式球阀 Welded Trunnion Mounted Ball Valve

主要部件名称

Form of Major Parts Name

No.	Part	No.	Part	No.	Part
1	阀盖 Bonnet	11	球体 Ball	21	垫片 Gasket
2	发动机配件 Injection fitting	12	轴承 Bearing	22	O形圈 O-ring
3	弹簧 Spring	13	O形圈 O-ring	23	轴承 Bearing
4	垫片 Gasket	14	泄放阀 Bleed	24	填料箱 Stuffing box
5	O形圈 O-ring	15	垫片 Gasket	25	螺钉 Screw
6	消防安全圈 Fire safe ring	16	耳轴 Trunnion	26	O形圈 O-ring
7	O形圈 O-ring	17	螺钉 Screw	27	阀杆填料 Stem Packing
8	阀座 Seat	18	阀体 Body	28	支架 Yoke
9	阀座圈 Seat ring	19	排污塞 Block	29	螺钉 Screw
10	轴承 Bearing	20	阀杆 Stem	30	齿轮 Gear

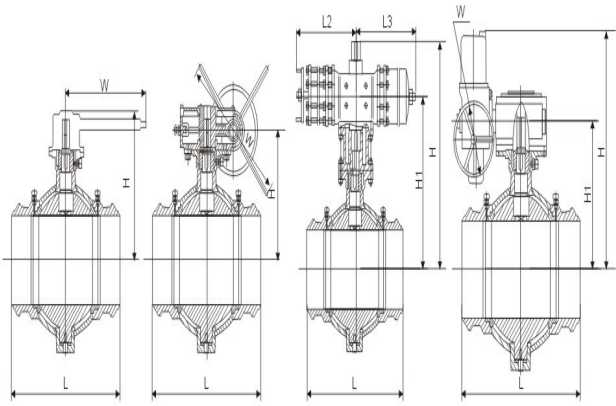
焊接固定式球阀 Welded Trunnion Mounted Ball Valve

主要零件材质表

Form of Major Parts Materials

No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	阀盖 Bonnet	ASTM A216-WCB	ASTM A351-CF8M	ASTM A216-WCB	ASTM A352-LCB
2	发动机配件 Injection fitting	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
3	弹簧 Spring	Inconel X-750	Inconel X-750	Inconel X-750	Inconel X-750
4	垫片 Gasket	316SS+Graphite	316SS+Graphite	316SS+Graphite	316SS+Graphite
5	O形圈 O-ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
6	消防安全圈 Fire safe ring	316SS+Graphite	316SS+Graphite	316SS+Graphite	316SS+Graphite
7	O形圈 O-ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
8	阀座 Seat	ASTM A105+ENP	ASTM A182 F316	ASTM A182 F316	ASTM A350-LF2/ENP
9	阀座圈 Seat ring	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK
10	轴承 Bearing	316+PTFE	316+PTFE	316+PTFE	316+PTFE
11	球体 Ball	ASTM A105/ENP	ASTM A105/ENP	ASTM A105/ENP	ASTM A350-LF2/ENP
12	轴承 Bearing	316+PTFE	316+PTFE	316+PTFE	316+PTFE
13	O形圈 O-ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
14	泄放阀 Bleed	CS	SS	SS	SS
15	垫片 Gasket	316SS+Graphite	316SS+Graphite	316SS+Graphite	316SS+Graphite
16	耳轴 Trunnion	ASTM A216-WCB/ENP	ASTM A351-CF8M	ASTM A216-WCB/ENP	ASTM A350-LCB/ENP
17	螺钉 Screw	ASTM A193 B7	ASTM A193 B8M	ASTM A193 B7M	ASTM A320 L7
18	阀体 Body	ASTM A216-WCB	ASTM A216-WCB	ASTM A216-WCB	ASTM A352-LCB
19	排污塞 Block	CS	SS	SS	SS
20	阀杆 Stem	ASTM A105/ENP	ASTM A182 F316	ASTM A105/ENP	ASTM A350-LF2/ENP
21	垫片 Gasket	316SS+Graphite	316SS+Graphite	316SS+Graphite	316SS+Graphite
22	O形圈 O-ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
23	轴承 Bearing	316+PTFE	316+PTFE	316+PTFE	316+PTFE
24	填料箱 Stuffing box	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350-LF2
25	螺钉 Screw	ASTM A193 B7	ASTM A193 B8M	ASTM A193 B7M	ASTM A320 L7
26	O形圈 O-ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
27	阀杆填料 Stem Packing	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE
28	支架 Yoke	ASTM A105	ASTM A182 F316	ASTM A105	ASTM A350-LF2
29	螺钉 Screw	ASTM A193 B7	ASTM A193 B8M	ASTM A193 B7M	ASTM A320 L7
30	齿轮 Gear	Components	Components	Components	Components

全焊接固定式球阀 Full Welded Trunnion Mounted Ball Valve



尺寸 Dimensions 150LB

Full Port	Size in	2	3	4	6	8	10	12	14	16	18	20	22	24
	Dmm	49	74	100	150	201	252	303	334	385	435	487	538	589
Lmm	46	283	305	457	521	559	635	762	838	914	991	1092	1143	
Hmm	165	193	231	329	393	401	441	481	598	643	708	798	863	
Wmm	230	400	460	1000	*500	*500	*500	*500	*500	*500	*500	*500	*500	
Weight(kg)	17	33	50	93	166	273	475	570	778	935	1190	1346	1579	

尺寸 Dimensions 300LB

Full Port	Size in	2	3	4	6	8	10	12	14	16	18	20	22	24
	Dmm	49	74	100	150	201	252	303	334	385	435	487	538	589
Lmm	216	283	305	457	521	559	635	762	838	914	991	1092	1143	
Hmm	165	193	231	329	393	401	441	481	598	643	708	798	863	
Wmm	230	400	460	1000	*500	*500	*500	*500	*500	*500	*500	*500	*500	
Weight(kg)	18	40	63	150	240	305	407	602	1000	1160	1320	1540	1874	

尺寸 Dimensions 150LB

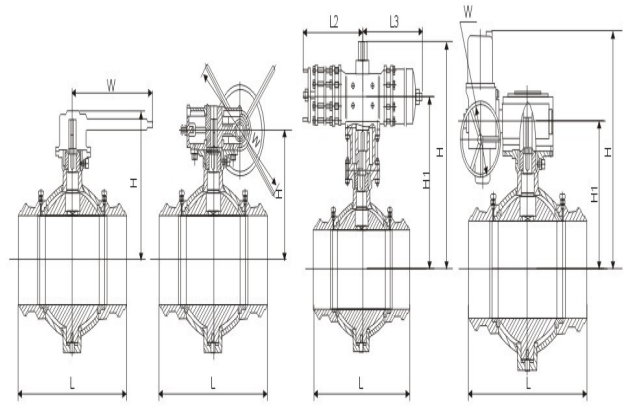
Reduced Port	Size in	3"2*3	4"3*4	6"4*6	8"6*8	10"8*10	12"10*12	14"12*14	16"14*16	18"16*18	20"18*20	22"20*22	24"20*24
	dmm	49	74	100	150	201	252	303	334	385	435	487	487
Dmm	74	100	150	201	252	303	334	385	435	487	538	589	
Lmm	283	305	457	521	559	635	762	838	914	991	1092	1143	
Hmm	165	193	231	329	393	393	441	481	598	643	643	708	
Wmm	230	400	400	460	1000	*500	*500	*500	*500	*500	*500	*500	
Weight(kg)	30	47	90	161	268	467	560	766	902	1130	1300	1520	

尺寸 Dimensions 300LB

Reduced Port	Size in	3"2*3	4"3*4	6"4*6	8"6*8	10"8*10	12"10*12	14"12*14	16"14*16	18"16*18	20"18*20	22"20*22	24"20*24
	dmm	49	74	100	150	201	252	303	334	385	435	487	487
Dmm	74	100	150	201	252	303	334	385	435	487	538	589	
Lmm	283	305	457	521	559	635	762	838	914	991	1092	1143	
Hmm	165	193	231	329	393	393	440	481	598	643	643	708	
Wmm	230	400	750	1000	1500	*500	*500	*500	*500	*500	*500	*500	
Weight(kg)	38	60	147	234	295	488	570	910	1020	1280	1360	1670	

*Gear Operator

全焊接固定式球阀 Full Welded Trunnion Mounted Ball Valve



尺寸 Dimensions 600LB

Full Port	Size in	2	3	4	6	8	10	12	14	16	18	20	24
	Dmm	49	74	100	150	201	252	303	334	385	435	487	598
Lmm	292	356	432	559	660	787	838	889	991	1092	1194	1397	
Hmm	176	247	276	363	363	426	548	598	648	740	810	920	
Wmm	400	750	1000	1500	*500	*500	*500	*500	*500	*500	*500	*500	
Weight(kg)	27	50	80	251.8	350	600	820	1130	1550	2100	2600	3626	

尺寸 Dimensions 900LB

Full Port	Size in	2	3	4	6	8	10	12	14	16	18	20	24
	Dmm	49	74	100	150	201	252	303	332	373	423	471	570
Lmm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	
Hmm	192	279	315	323	381	518	568	665	730	795	825	973	
Wmm	460	1000	1500	*500	*500	*500	*500	*500	*500	*500	*610	*610	
Weight(kg)	53	97	138	268	448	748	1018	1398	1828	2328	2928	4178	

尺寸 Dimensions 600LB

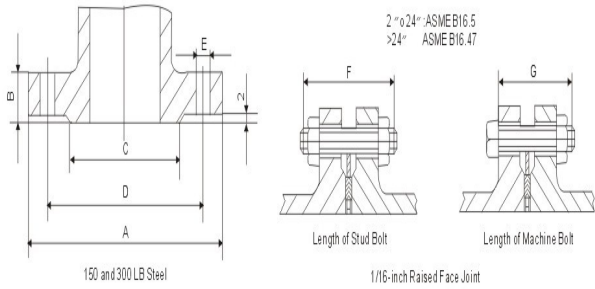
Reduced Port	Size in	3"2*3	4"3*4	6"4*6	8"6*8	10"8*10	12"10*12	14"12*14	16"14*16	18"16*18	20"18*20	24"20*24
	dmm	49	74	100	150	201	252	303	334	385	435	487
Dmm	74	100	150	201	252	303	334	385	435	481	589	
Lmm	356	432	559	660	787	838	889	991	1092	1194	1397	
Hmm	176	247	276	263	263	426	548	598	648	740	810	
Wmm	400	750	1000	1500	*500	*500	*500	*500	*500	*500	*500	
Weight(kg)	41	70	122	255	440	6620	1060	1440	1860	2400	3240	

尺寸 Dimensions 900LB

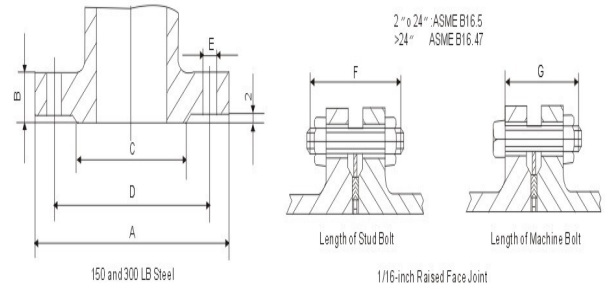
Reduced Port	Size in	3"2*3	4"3*4	6"4*6	8"6*8	10"8*10	12"10*12	14"12*14	16"14*16	18"16*18	20"18*20	24"20*24
	dmm	49	74	100	150	201	252	303	322	373	423	471
Dmm	74	100	150	201	252	303	322	373	423	471	570	
Lmm	381	457	610	737	838	965	1029	1130	1219	1321	1549	
Hmm	192	279	315	323	381	518	568	665	730	795	825	
Wmm	460	1000	1500	*500	*500	*500	*500	*500	*500	*500	*610	
Weight(kg)	83	103	201	348	598	768	1100	1420	1828	2428	3578	

*Gear Operator

法兰连接尺寸 Flanged Size



法兰连接尺寸 Flanged Size



CLASS 150.RF

Nominal Size	A		B*		C		D		E		Bolt		F		G		
	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Diam	in	mm	in	mm	
2	50	6.0	150	0.64	13.6	3.62	92.1	4.75	120.7	0.75	19	4	5/8	3.25	85	2.75	70
2 1/2	65	7.0	180	0.70	17.9	4.12	104.8	5.50	139.7	0.75	19	4	5/8	3.50	90	3.00	75
3	80	7.5	190	0.76	19.5	5.00	127.0	6.00	152.4	0.75	19	4	5/8	3.50	90	3.00	75
4	100	9.0	230	0.95	24.3	6.19	157.2	7.50	190.5	0.75	19	8	5/8	3.50	90	3.00	75
5	125	10.0	255	0.95	27.4	7.31	185.7	8.50	215.9	0.88	22	8	3/4	3.75	95	3.25	85
6	150	11.0	280	1.00	25.9	8.50	215.9	9.50	241.3	0.88	22	8	3/4	4.00	100	3.25	85
8	200	13.5	345	1.14	29	10.62	269.9	11.75	298.5	0.88	22	8	3/4	4.25	110	3.50	90
10	250	16.0	405	1.2	30.6	12.75	323.8	14.25	362.0	1.00	26	12	7/8	4.50	115	4.00	100
12	300	19.0	485	1.26	23.2	15.00	381.0	17.00	431.8	1.00	26	12	7/8	4.75	120	4.00	100
14	350	21.0	535	1.39	35.4	16.25	412.8	18.75	476.3	1.12	29	12	1	5.25	135	4.50	115
16	400	23.5	595	1.45	37	18.50	469.9	21.25	539.8	1.12	29	16	1	5.25	135	4.50	115
18	450	25.0	635.0	1.57	40.1	21.00	533.4	22.75	577.9	1.25	32	16	1 1/8	5.75	145	5.00	125
20	500	27.5	700	1.7	43.3	23.00	584.2	25.00	653.0	1.25	32	20	1 1/8	6.25	160	5.50	140
24	600	32.0	815	1.88	48.1	27.25	692.2	29.50	749.3	1.38	35	20	1 1/4	6.75	170	6.00	150
26	650	34.25	870.0	2.7	68.7	29.50	749	31.75	806.4	1.38	35	24	1-1/4	8.50	215	7.50	190
28	700	36.50	925	2.83	71.9	31.50	800	34.00	863.6	1.38	35	28	1-1/4	8.75	220	7.75	195
30	750	38.75	985	2.95	75.1	33.75	857	36.00	914.4	1.38	35	28	1 1/4	9.00	230	8.25	210
32	800	41.75	1060	3.2	81.4	36.00	914	38.50	977.9	1.62	41	28	1-1/2	10.00	255	8.75	220
34	850	43.75	1110	3.26	83	38.00	965	40.50	1028.7	1.62	41	32	1-1/2	10.25	260	9.00	230
36	900	46.0	1170	3.57	90.9	40.25	1022	42.75	1085.8	1.62	41	32	1 1/2	10.75	275	10.00	240
40	1000	50.75	1290	3.57	90.9	44.25	1124	47.25	1200.2	1.62	41	36	1-1/2	10.75	275	9.50	240
42	1050	53.00	1345	3.83	97.3	47.00	114	49.50	1257.3	1.62	41	36	1-1/2	11.25	285	10.00	255
44	1100	55.25	1405	4.02	102.1	49.00	1245	51.75	1314.4	1.62	41	40	1-1/2	11.50	290	10.25	260
48	1200	59.50	1510	4.26	108.4	53.50	1359	56.00	1422.4	1.62	41	44	1-1/2	12.25	310	11.00	280

1. The regular 1/16 inch (1.6mm) raised face 150 and 300 lb flanges is included in the minimum flange thickness given above, but other raised faces must be added thereto.

2. Flanges for nominal Pipe Size above 24 inches are available to BS 3293, API 605 and MSS-SP 44.

*For integral valve flange of class 150, the dimension "B" is 0.62 for 2" 1/2" and 0.75 for 3".

CLASS 300.RF

Nominal Size	A		B*		C		D		E		Bolt		F		G		
	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Diam	in	mm	in	mm	
2	50	6.50	165	0.89	22.7	3.62	92.1	5.00	127.0	0.75	19	8	5/8	3.50	90	3.00	75
2 1/2	65	7.50	190	1.00	25.9	4.12	104.8	5.88	149.2	0.88	22	8	3/4	4.00	100	3.25	85
3	80	8.25	210	1.14	29	5.00	127.0	6.62	168.3	0.88	22	8	3/4	4.25	110	3.50	90
4	100	10.00	255	1.26	32.2	6.19	157.2	7.88	200	0.88	22	8	3/4	4.50	115	3.75	95
5	125	11.00	280	1.39	35.4	7.31	185.7	9.25	235.0	0.88	22	8	3/4	4.75	120	4.25	110
6	150	12.50	320	1.45	37	8.50	215.9	10.62	269.9	0.88	22	12	3/4	4.75	120	4.25	110
8	200	15.00	380	1.64	41.7	10.62	269.9	13.00	330.2	1.00	25	12	7/8	5.50	140	4.75	120
10	250	17.50	445	1.89	48.1	12.75	323.8	15.25	387.34	1.12	29	16	1	6.25	160	5.50	140
12	300	20.50	520	2.01	51.3	15.00	381.0	17.75	450.8	1.25	32	16	1 1/8	6.75	170	5.75	145
14	350	23.00	585	2.14	54.4	16.25	412.8	20.25	514.4	1.25	32	20	1 1/8	7.00	180	6.25	160
16	400	25.50	650	2.26	57.6	18.50	469.9	22.50	571.5	1.38	35	20	1 1/4	7.50	190	6.50	165
18	450	28.00	710	2.39	60.8	21.00	533.4	24.75	628.6	1.38	35	24	1 1/4	7.75	195	6.75	170
20	500	30.50	775	2.52	64	23.00	584.2	27.00	685.8	1.38	35	24	1 1/4	8.00	205	7.25	185
24	600	36.00	915	2.76	70.3	27.25	692.2	32.00	812.8	1.62	41	24	1 1/2	9.00	230	8.00	205
26	650	38.25	970	3.14	79.8	29.50	749	34.50	876.3	1.75	45	28	1-5/8	10.00	255	8.75	220
28	700	40.75	1035	3.39	86.2	31.50	800	37.00	939.8	1.75	45	28	1-5/8	10.75	275	9.50	240
30	750	43.00	1090	3.64	92.5	33.75	857	39.25	997.0	1.88	48	28	1 3/4	11.50	290	10.75	275
32	800	45.25	1150	3.89	98.9	36.00	914	41.50	1054.1	2.00	51	28	1-7/8	12.25	310	10.75	275
34	850	47.50	1250	4.02	102.1	38.00	965	43.50	1104.9	2.00	51	28	1-7/8	12.50	320	11.00	280
36	900	50.00	1270	4.14	105.2	40.25	1022	46.00	1168.4	2.12	54	32	2	13.00	330	11.25	285
40	1000	48.75	1240	5.52	114.8	42.75	1086	45.50	1155.7	1.75	45	32	1-5/8	13.00	330	11.50	290
42	1050	50.75	1290	4.7	119.5	44.75	1137	47.50	1206.5	1.75	45	32	1-5/8	13.25	335	11.75	300
44	1100	53.25	1355	4.89	124.3	47.00	1194	49.75	1263.6	1.88	48	32	1-3/8	14.00	335	12.25	310
48	1200	57.75	1465	5.26	133.8	51.25	1302	54.00	1371.8	2.00	51	32	1-7/8	14.00	380	13.25	335

1. The regular 1/16 inch (1.6mm) raised face 150 and 300 lb flanges is included in the minimum flange thickness given above, but other raised faces must be added thereto.

2. Flanges for nominal Pipe Size above 24 inches are available to BS 3293, API 605 and MSS-SP 44.

*For integral valve flange of class 150, the dimension "B" is 0.62 for 2" 1/2" and 0.75 for 3".

Impact Test



Chemical Analyze



Mechanical Test



这些先进的软件应用程序并且双特具有15年以上丰富经验，应用在化工、石油、天然气和炼油工业，卓越的品质，满足客户的要求。所有的主要组成部分双特根据国际标准设计。预测的有限元分析应用水平和偏转是我们的标准程序设计验证组件和阀体组件。压力测试由应变计（一个也进行了验证有限元模型）对新产品原型检查，广泛的测试使用的研究与发展内部设施及程序研究。

These advanced software applications are combined in ShuangTe with extensive experience of more than 15 years in critical applications in the chemical, oil, gas and refining industries to design superior quality valves that meet the most demanding performance requirements of our customers. All main components of ShuangTe valves are designed in accordance with the applicable international standards. Prediction by Finite Element analysis of stress levels and deflection is part of our standard procedures to design and verify the components and the valve assembly. Stress tests by strain gauges (are also carried out to validate FE models. In the case of new products a prototype is checked by extensive physical testing using research & development department internal facilities and procedures.



Spectro Test

根据客户的要求可以设计，制造和测试以下国际标准：

According to customer's requirements valves can be designed, manufactured and tested to the following international standards:

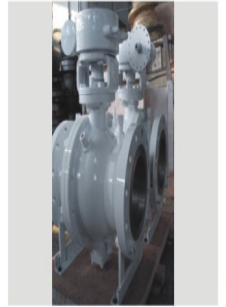
- API: 6A, 6D, 607, 598
- ASME: B16.5, B16.10, B16.25, B16.34, B31.3, B31.4, B31.8
- MSS: SP25, SP44, SP53, SP54, SP55, SP61, SP72, SP82
- BS: 1503, 1504, 1560, 2080, 4504, 5146, 5351, 6755
- ISO: 14313, 14723, 15156
- ASME: Section V, Section VIII Div.1 and 2 Section IX
- ASTM: E94, E142, E165, E280, E448, E709
- NACE: MR 01-75
- EN: 558, 1503, 1626, 1983, 5211, 12266, 12516, 12567, 12570, 12627, 12982



Fire Safe Test



Low Temperature Test



SHUANGTE BALL VALVE

