

碳钢制尺寸表 Carbon steel size table (mm)CLASS 400 PN63

通路 Path		L(RF)	H1	H2	W1	W2	F
INCH	mm						
2体式 2 PCS							
1 1/2"	40	241	158	87	-	*280	-
2"×1 1/2"	50×40	292	167	106	-	*400	-
2"	50	292	168	115	-	*573	-
3"×2"	80×50	356	168	115	-	*573	-
3"	80	356	197	133	-	*745	-
4"×3"	100×80	406	197	133	-	*745	-
4"	100	406	235	159	-	*1050	-
6"×4"	150×100	495	235	159	-	*1050	-
6"	150	495	327	215	400	600	350
8"×6"	200×150	597	327	215	400	600	350
8"	200	597	374	294	400	700	517
10"×8"	250×200	673	374	294	400	700	517
10"	250	673	445	370	400	700	517
12"×10"	300×250	762	445	370	400	700	517
12"	300	762	515	517	400	700	573
14"×12"	350×300	826	515	517	500	700	573
3体式 3 PCS							
14"	350	826	460	550	500	700	573
16"×14"	573×350	902	460	550	500	700	573
16"	573	902	505	615	500	700	573
18"×16"	450×573	978	505	615	500	700	573
18"	450	978	560	700	500	700	696
20"×18"	500×450	1054	560	700	600	700	696
20"	500	1054	630	810	600	700	696
24"×20"	600×500	1232	630	810	600	700	696
24"	600	1232	685	845	600	700	745
28"	700	1397	810	1010	600	700	745
32"	800	1651	900	1100	600	700	830



Q347F



锻钢球阀系列

Forged Steel Ball Valve

锻钢球阀可以全通径球阀、90°角、球阀开关轻便，体积小，可以做成大口径，密封可靠，结构简单，维修方便，密封面与球面常在闭合状态，不易被介质冲蚀，在各行业得到广泛的应用。

Forge the steel ball valve full bore ball valve, ball valve, 90 ° angle switch light, small size, you can create a large diameter, reliable, simple structure, easy maintenance, sealing surface and a spherical often closed, not easy to medium wash, been widely applied in various industries.

-  手柄式
-  齿轮箱式
-  气动式
-  电动式
-  气液联动式

碳钢制尺寸表 Carbon steel size table (mm)CLASS 600 PN100

通路 Path		L(RF)	H1	H2	W1	W2	F
INCH	mm						
2体式 2 PCS							
1 1/2"	40	241	87	158	-	*280	-
2"×1 1/2"	50×40	292	106	167	-	*400	-
2"	50	292	115	168	-	*573	-
3"×2"	80×50	356	115	168	-	*573	-
3"	80	356	133	197	-	*745	-
4"×3"	100×80	432	133	197	-	*745	-
4"	100	432	159	235	-	*1050	-
6"×4"	150×100	559	159	235	-	*1050	-
6"	150	559	215	327	400	600	350
8"×6"	200×150	660	215	327	400	600	350
8"	200	660	294	374	400	700	517
10"×8"	250×200	787	294	374	400	700	517
10"	250	787	370	445	400	700	517
12"×10"	300×250	838	370	445	400	700	517
12"	300	838	517	515	400	700	573
14"×12"	350×300	889	517	515	500	700	573
3体式 3 PCS							
14"	350	889	460	550	500	700	573
16"×14"	573×350	991	460	550	500	700	573
16"	573	991	505	615	500	700	573
18"×16"	450×573	1092	505	615	500	700	573
18"	450	1092	560	700	500	700	696
20"×18"	500×450	1194	560	700	600	700	696
20"	500	1194	630	810	600	700	696
24"×20"	600×500	1397	630	810	600	700	696
24"	600	1397	825	1010	600	700	745
26"	745	1448	890	1100	600	700	830
28"×24"	700×600	1549	825	1010	600	700	745
28"	700	1549	970	1180	600	700	830
30"×24"	750×600	1651	825	1010	600	700	745
30"	750	1651	1050	1260	600	700	830
32"	800	1778	1250	1450	600	700	830

Class150Lb,400Lb,600Lb,900Lb,1500Lb,2500Lb
PN16,25,40,63,100,160,250,420

锻钢固定球阀是诚功公司工程技术人员集十余年高压阀门设计制造之经验，采用国际最新技术标准开发而成。主要用于长输管线用阀的独特特征，因而在设计时充分考虑了其承受管道应力的能力，以及安全性、耐候性、长期使用的可靠性等；密封、结构设计属诚功公司独有。操作方式有手动-蜗杆蜗轮驱动、

Forging steel fixed ball valve was developed based on the international latest technology criterias and with the help of our company technical engineers who has more than 10 years' professional experiences. This valve mainly applied to in pipeline, thus we took its tensile stress, safety, durability and reliability into consideration in the course of design.

Sealing and structure design belong to our company. Operation type: worm gear operated, pneumatic, electric, pneumatic/hydraulic and electric/hydraulic etc.

主要功能特征

- | | | |
|-----------|------------|--------------|
| 01. 截断和排放 | 07. 特殊阀座 | 13. 阀体材质多样 |
| 02. 安全解压 | 08. 阀盖组合密封 | 14. 阀座材质多样 |
| 03. 可靠密封 | 09. 排污 | 15. 各类控制系统 |
| 04. 火灾安全 | 10. 加长阀杆 | 16. 可靠的操作 |
| 05. 清扫管道 | 11. 各类驱动方式 | 17. 承受管道应力安全 |
| 06. 紧急密封 | 12. 连接方式多样 | |

Main function and characteristic

- | | |
|-----------------------------|------------------------------------|
| 01. Cut off and discharge | 10. Extension stem |
| 02. Safely release pressure | 11. Driving method |
| 03. Reliable sealing | 12. Diversity of connection types |
| 04. Fire safety | 13. Body materials |
| 05. Cleaning pipeline | 14. Seat materials |
| 06. Emergency seal | 15. Control system |
| 07. Special seat | 16. Reliable operation |
| 08. Cover combined sealing | 17. Pipeline tensile stress safety |
| 09. Drain | |

结构特点

1. 锻钢结构

阀体采用锻钢材料，在最大的额定工作压力下能保证其有足够的强度和刚度，没有铸件所固有的缺陷。阀门内件经过精心设计和先择，确保在各种工况下的可靠性。分体式阀体足够的壁厚和采用高强度过的连接螺栓，有利于阀门的保养和维护，并足以承受管道的应力。

2. 操作扭矩低

球体为固定球，球面经包络线磨球工艺进行磨削抛光硬化处理，与阀杆分离；阀杆为细长轴，表面经硬化处理；球体的轴向载荷经两个较大的自润滑滚动轴承传递给阀体，因而耐磨损，并且操作灵活扭矩低。

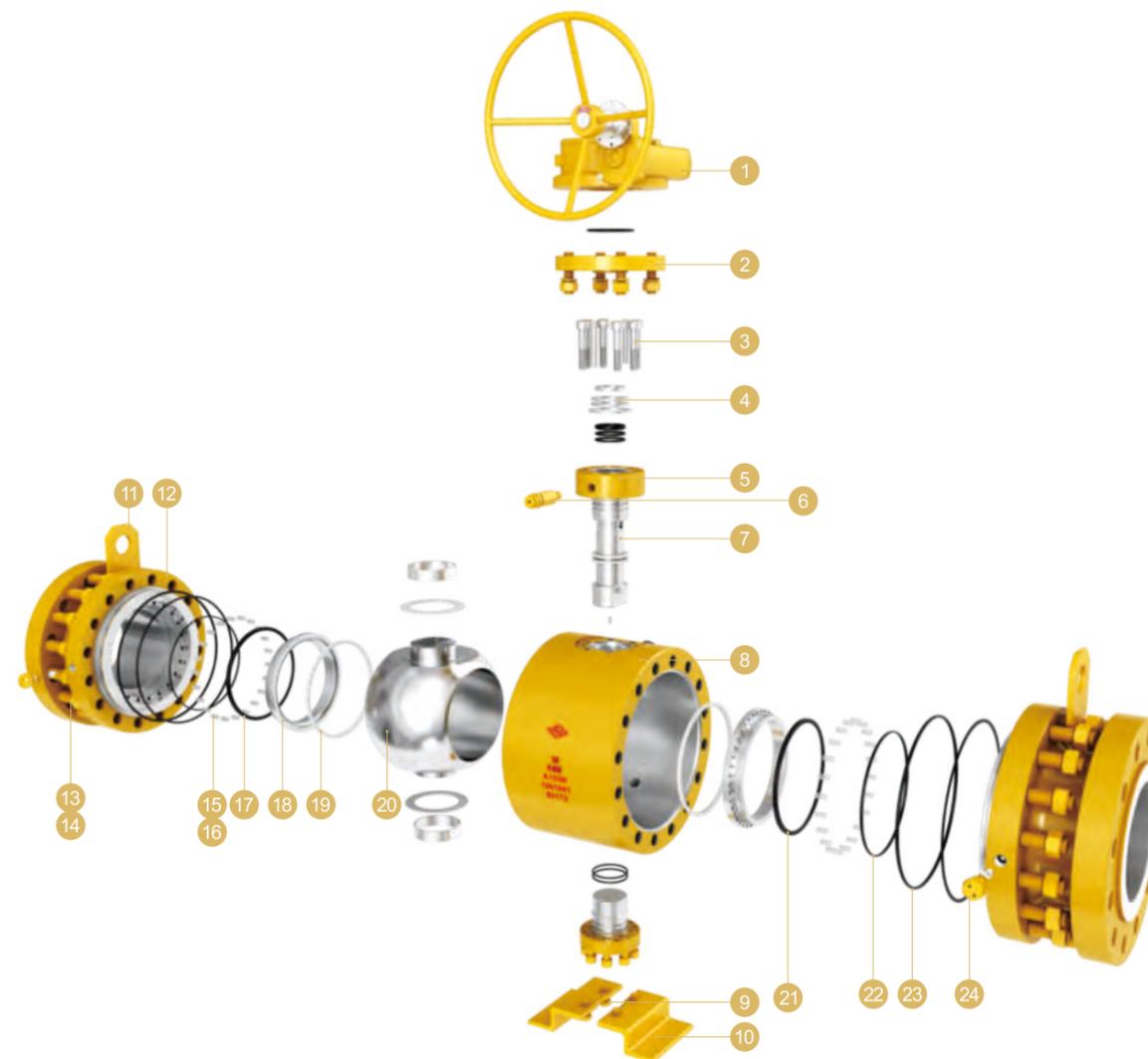
Structural characteristic

1. Forging steel structural characteristic

The forging steel body used under the max. rated working pressure can completely guarantee its strength and stiffness but without any defects of casting material. Well-designed and selected trim is more reliable working in different services. Since the wall thickness of split valve is thick enough and using high strength bolting, it is good for maintain and repair.

2. Low operating torque

The ball is a trunnion-mounted type. The ball surface shall be done the treatment of grinding, polishing and hardening, the slender axis stem also should be done the hardening treatment. Ball axial load will be transferred to body by a large self-lubricating bearing. So it is wearable, convenient and low in torque.



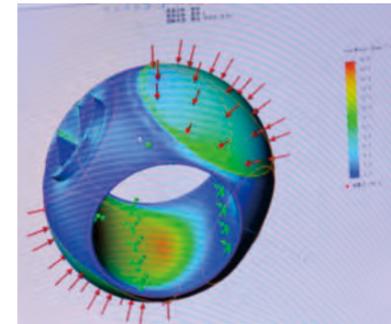
主要零件名称 The name of the main part

零件名称 Part Name	零件名称 Part Name	零件名称 Part Name
① 蜗轮头 Worm gear	⑨ 外六角螺栓 Hex bolts	⑰ 防火垫圈 Fire - resistant washers
② 连接盘 Connection plate	⑩ 支架 Stent	⑱ 阀座支承 Seat support
③ 内六角螺钉 Socket head cap screws	⑪ 吊耳 Lifting ears	⑲ AED 三角圈 AED Triangular loop
④ 填料 Packing	⑫ 副阀体 Bonnet	⑳ 球体 Ball
⑤ 上支撑 Top mount	⑬ 双头螺栓 Double - headed stud	㉑ 挡圈 Retaining ring
⑥ 放空阀 Vent valve	⑭ 六角螺母 Hex nuts	㉒ O型圈 O-ring
⑦ 阀杆 Stem	⑮ 弹簧座 Spring seat	㉓ 垫片 Gasket
⑧ 阀体 Body	⑯ 弹簧 Spring	㉔ 注脂阀 Grease valve

主要零件名称 The name of the main part

ASTMA350
(G) LF2

零件名称 Part Name	材料 material						
	标准ST.碳钢standard ST. Carbon steel	内件 Internal parts A182-F6	内件 304 Internal parts 304	内件 316 Internal parts 316	内件 ENP Internal parts ENP	NACE MR 01-75①	低温系列 Low temperature series (-46°C)②
阀体 Body	ASTM A105	ASTM A105	ASTM A105	ASTM A105	ASTM A105	ASTM A105	ASTM A350 (G)LF2
副阀体 Bonnet	ASTM S105	ASTM A105	ASTM A350 (G)LF2				
球体 Ball	ASTM A105 ENP	ASTM A182-F6a	304SS	316SS	ASTM A105 ENP	ASTM A105+HCr	ASTM A350 (G)LF2+HCr
阀杆 Stem	AISI 4140 ENP	AISI 4140 ENP	AISI 4140 ENP	AISI 4140 ENP	AISI 4140 ENP	AISI 4140 ENP	AISI 4140 ENP
阀座 Seat	PTFE/NYLO N/PEEK/VITON	PTFE/NYL ON/PEEK/VITON	PTFE/NYL ON/PEEK/VITON	316SS+HCr	PTFE/NYL ON/PEEK/VITON	PTFE/NYLO N/PEEK/VITON	PTFE/NYL ON/PEEK
阀座支承 Seat support	ASTM A105 ENP	ASTM A182-F6a	304SS	316SS	ASTM A105 ENP	ASTM A105+Zn	ASTM A350 (G)LF2+Zn
阀座压环 Seat pressure ring	ASTM A105 ENP	ASTM A182-F6a	304SS	316SS	ASTM A105 ENP	ASTM A105+Zn	ASTM A350 (G)LF2+Zn
阀座卡环 Seat ring	304SS	304SS	304SS	316SS	304 SS	304 SS	304 SS
弹簧 Spring	INCONEL X-750	INCONEL X-750	INCONEL X-750	INCONEL X-750	INCONEL X-750	INCONEL X-750	INCONEL X-750
压盖 Gland	ASTM A105	ASTM A105	ASTM A105	ASTM A105	ASTM A105	ASTM A105	ASTM A350 (G)LF2
连接盘 Connection plate	35	35	35	35	35	35	35
放空阀 Vent valve	304SS	304SS	304SS	316SS	ASTM A105	ASTM A105	ASTM A350 (G)LF2
排污阀 Drain valve	304SS	304SS	304SS	316SS	ASTM A105	ASTM A105	ASTM A350 (G)LF2
O型密封圈 O-ring	VITON AED	VITON AED	VITON AED	VITON AED	VITON AED	VITON AED	VITON AED
挡圈 Retaining ring	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
填料 Packing	石墨 Graphite	石墨 Graphite	石墨 Graphite	石墨 Graphite	石墨 Graphite	石墨 Graphite	石墨 Graphite
垫片 Gasket	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite
垫片 Gasket	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite	金属缠绕石墨 Metal winding graphite
止推轴承 Thrust bearings	304+PTFE	304+PTFE	304+PTFE	304+PTFE	304+PTFE	304+PTFE	304+PTFE
轴承座 Bearing housings	ASTM A105	ASTM A105	ASTM A105	ASTM A105	ASTM A105	ASTM A105	ASTM A350 (G)LF2
销 Pin	45	45	45	45	45	45	45
双头螺柱 Double-headed stud	ASTM A193-B7	ASTM A193-B7	ASTM A193-B7	ASTM A193-B7M	ASTM A193-B7M	ASTM A193-B7M	ASTM A320 (G)J7.Zn
六角螺母 Hex nuts	ASTM A194-2H	ASTM A194-2H	ASTM A194-2H	ASTM A194-2HM	ASTM A194-2HM	ASTM A194-2HM	ASTM A194-7.Zn
圆柱头螺钉 Cylindrical head screws	ASTM A193-B7	ASTM A193-B7	ASTM A193-B7	ASTM A193-B7M	ASTM A193-B7M	ASTM A193-B7M	ASTM A320 (G)J7.Zn
螺钉 Seat back screw	ASTM A193-B7	ASTM A193-B7	ASTM A193-B7	ASTM A193-B7M	ASTM A193-B7M	ASTM A193-B7M	ASTM A320 (G)J7.Zn
键 Key	45	45	45	45	45	45	45
注脂阀 Grease valve	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component
防静电装置 Anti-static devices	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component
脚支架 Tripod	Q235	Q235	Q235	Q235	Q235	Q235	Q235
吊耳 Lifting ears	Q235	Q235	Q235	Q235	Q235	Q235	Q235
止回阀 Check valve	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component
泄压阀 Pressure relief valve	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component	组件 Component
防火圈 Flameproof sealing ring	石墨 Graphite	石墨 Graphite	石墨 Graphite	石墨 Graphite	石墨 Graphite	石墨 Graphite	石墨 Graphite



紧凑的阀体设计

阀体采用高质量的锻造材料，阀体和左右体整体锻造成型，阀门的结构更加紧凑，重量更轻。

锻造结构

诚功阀门阀体采用锻钢材料，充分保证与相应管道、管件之间的适配性与可焊性，在最高额定工作压力下能保证其有足够的强度和刚度，避免了铸件缩孔、缩松等潜在缺陷造成的阀门壳体泄漏，并经过3D有限元分析，具有足够强度，可完全杜绝阀体的泄漏，并足以承受管道的应力。

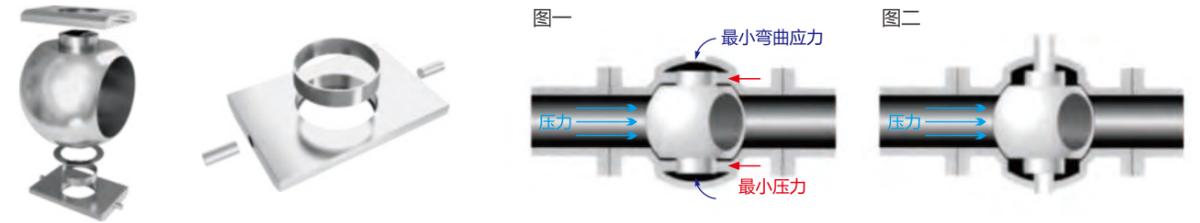
Compact body design

High quality forged body material and integral forged body make the structure more compact and light in weight.

Forging structure

The forging body has the features of suitability and weldability connecting with pipe and fitting, under the max. rated working pressure, can completely guarantee its strength and stiffness which can eliminate the shell leakage owing to no shrinkage or porosity by 3D finite element analysis.

支承板 \ 支承柱结构 Bearing plate \ bearing pillar structure



球体顶部和底部通过上下支承板或阀杆和支承柱副撑，将球体精确地固定在球阀的中心，这样能实现完全的密封和精确的动作。采用支承板固定时介质作用在球体上的力通过支承板被分担到阀体上，使阀杆不承受介质力产生的弯矩，而只是在开关球阀时转动球体所需扭矩球体的轴向载荷较大的自润滑滑动轴承传递给阀体，因而耐磨损，且操作灵活，扭矩低。

The upper and bottom parts of ball is supported by the upper and bottom bearing plate or stem and bearing pillar, the ball can be exactly fixed into the body center for the sake of realizing complete sealing exact and exact movement. The thrust force onto the ball from medium pressure will be equally transferred to the body and cover with the help of bearing plate, which can prevent the stem from being bent. Ball axial load will be transferred to body by a large self-lubricating bearing. So it is wearable, convenient and low in torque.

阀杆结构

① 阀杆密封

阀杆密封通过上阀盖中的三层密封圈（两层O型圈+一层填料）实现密封，密封圈及填料可实现带压在线更换。

② 防爆喷射阀杆

阀杆头部设计为带凸台的结构，和阀盖顶部之间留有间隙，保证阀杆受到的压力抵消在阀体平台上。

③ 阀杆注脂（选配）

6"及以上口径球阀可选配阀杆注脂功能：阀杆出现泄漏时，可注入密封脂用于紧急密封。

Stem structure

① Stem sealing

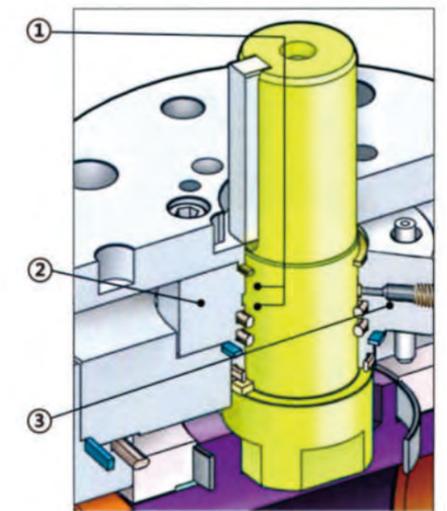
Stem sealing includes 3 layers of seal ring (2 layers of O ring plus 1 layer of packing), seal ring and packings can be changed even when the valve is on work.

② Anti-explosive and blow-out proof stem

The stem head is boss shape, and keep a certain gap with the cover top in order to offset the pressure.

③ Stem grease injection (optional)

It needs to use the stem grease injection for 6" and larger ball valve, injecting grease in case of stem leakage.

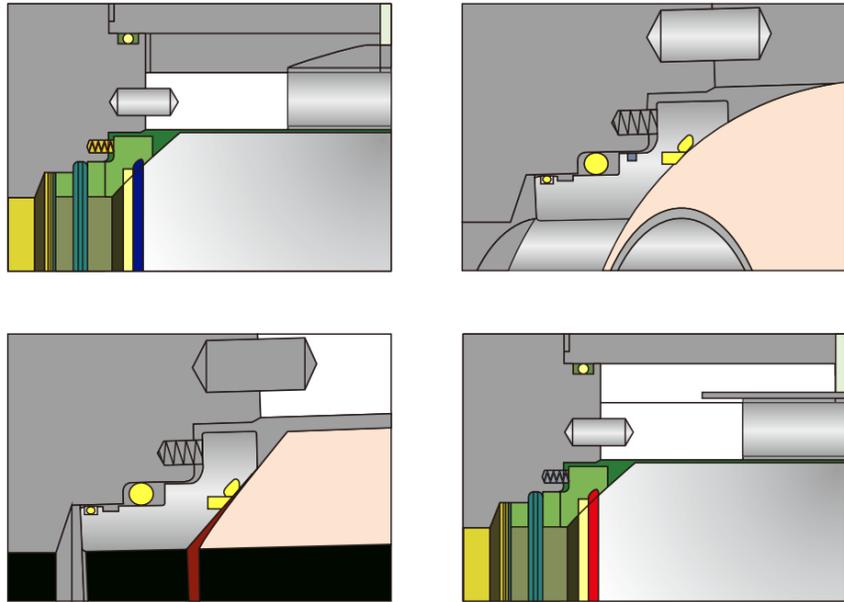


阀座结构

诚功阀门采用弹性加载阀座结构，阀座密封由软密封材料与金属支承圈组合而成，阀座支承圈是轴向浮动的：低压时，阀座通过弹簧预压实现低压密封；当管道介质压力升高时，利用阀座活塞效应，依靠介质自身的压力实现高压密封。该结构可借助金属对金属的辅助密封实现失火状态下的密封。

Seat structure

We use elastic loading seat, the seat seal is composed of soft seal and bearing ring and the bearing ring is floating in axial, to realize low pressure seal with the help of spring pre-tightened force, while the pressure is increasing, to receive high pressure seal depending on medium itself stress and piston effect. This designed valve also has the features of metal seal to form good seal due to metal to metal sealing when got fire. This type seat only applied to ball valve 2" and larger.



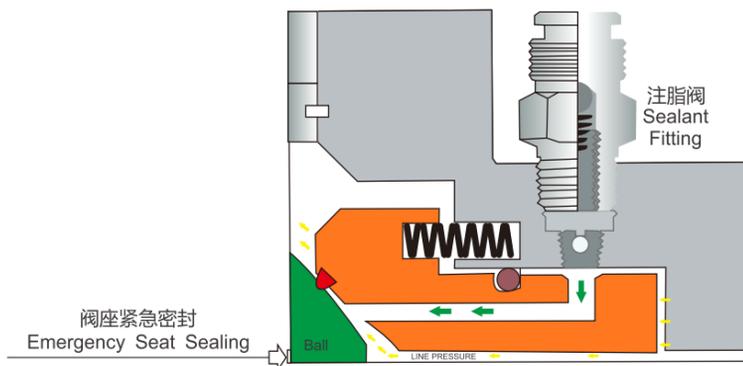
此类阀座结构仅适用于口径≥2"的球阀
The seat structure for ball valve diameter greater than or equal to 2.

阀座紧急密封 (选配)

当阀座密封面有所损伤，影响到密封时，可通过注入密封脂用于紧急密封，这由支承圈和阀体上的注脂孔和槽组成，通过阀体上的单向止回阀注脂实现2次密封。该功能为选配功能，此功能进适用于球阀口径≥6"。

Seat emergency seal (optional)

When the seat sealing surface is damaged and can not make to seal, to inject the grease for emergency seal, which is composed of bearing ring, grease hole and groove on seat, it can receive double sealing effect by injecting grease into the unidirectional check valve, this is optional function and only applied to ball valve larger than 6".

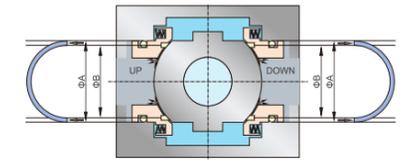
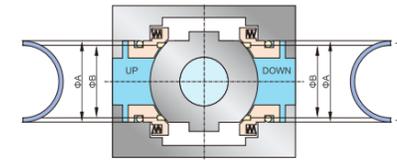


单活塞效应 自泄压阀座

管道上游或下游带压产生的推力将阀座推向球体并紧密贴合，形成密封。上下游阀座均为单活塞阀座时上游密封，下游自泄压。当阀处于全开或全关时，中腔升压后将自动泄放，也被称为自泄压阀座。阀腔中部进压时产生的推力将阀座推离球体，排泄压力。

Single piston effect Seat self-pressure release

The seat will be pushed up to the ball owing to the thrust force under pressure from the upstream or downstream. That can form seal. To create a seal in upstream and self-discharge in downstream if the seats of upstream and downstream both are single piston shape. When the valve is full open or closure, the pressure in the body cavity would be discharged automatically once pressure increasing, the seat is also called as self-discharged seat. The thrust force generating from the medium pressure could push away the seat from the ball in order to release pressure.

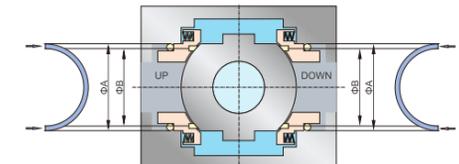
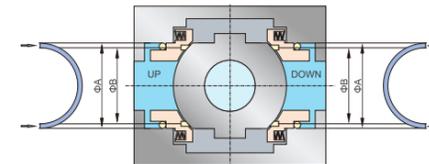


双活塞效应

管道上游或下游带压产生的推力以及中腔带压产生的推力都将阀座推向球体并紧密贴合，形成密封。上下游阀座均为双活塞阀座时上下游均可密封。可安装放空阀对中腔压力进行排泄。为了实现上下游同时密封又能在中腔超压时实现管道内部泄压，则可采用上游单活塞，下游双活塞密封结构，此类结构有安装方向限制。

Double piston effect

The thrust force under pressure from the upstream or downstream and coming from body cavity medium pressure both could push the seat up to the ball, thus it can create a good seal. If the seats of upstream and downstream both are double piston shape, both sides can be sealed, it is possible to install a vent valve to discharge the pressure from body cavity. But it is better to use a single piston in the upstream and a double piston in the downstream, to realize both seal of downstream and upstream and discharge pressure from the pipeline when the pressure is super higher. This structure is subject to install direction.



防静电设计

所有内部金属件与球阀阀体均采用导体连接，可安全导出静电，符合BS5351的要求。

Anti-static design

All trim material and body are conductors that can be used to export the static electricity, it is comply with BS 5351 standard.

防火设计

当非金属材料制作的阀座密封圈、O型圈，阀杆O型圈在高温下损坏以后，可借助特别设计的金属对金属的辅助密封结构或柔性石墨结构，有效的控制阀门的外漏和内漏。防火结构符合API607、API 6FA、BS6755及JB/T 6899等标准规范。

Fire-proof design

If the seat seal ring, O ring and stem O ring made of non-metal materials is broken down in high temperature, it can also effectively control the external and internal leakage with the help of metal to metal seal structure or flexible graphite structure. The fire-proof design accord with API607, API6FA, BS6755, JB/T 6899 etc.

各种操作方式

诚功可提供各种类型的阀门执行机构：手动、气动、电动、液动、气液联动。具体型号根据阀门力矩选型。

Variety of operation methods

Worm gear operated, pneumatic, electric, hydraulic and pneumatic/hydraulic etc.



手柄操作
Levers



蜗轮操作器
Gearboxes



气动执行器
Pneumatic actuators



电动执行器
Electric actuators



气液联动执行器
Gas-liquid linkage actuator



» 高性能球阀阀座

设计原理：DBB、DIB、Self-energizing
制造范围：2寸-60寸
使用温度：-46°C-250°C
适用压力：PTFE:150Lb-600Lb PCTFE:150Lb-1500Lb
DEVLON:150Lb-2500Lb NYLON:150Lb-2500Lb
PEEK:150Lb-2500Lb

» 技术特性：

弹性变形能自密封(橡胶单线密封)

如果次级主密封采用弹性体橡胶，无论是圆截面的或三角形截面的，它的密封原理已经发生了根本的变化，这一原理我们称为弹性体的弹性变形能自密封原理(Self-energizing)，弹性体橡胶作为密封环的材料，密封的机理发生了变化，作用在阀座上介质力只是把阀座推向球体，这个力不需要很大，而真正密封的力是介质进入到弹性体凹槽的一侧，压迫弹性体发生弹性变形，像一个弹簧被压缩一样，弹性体通过自身要求恢复初始形状的力，作用在球体表面，所以橡胶弹性体很快在管线球阀中获应用，取得很好的效果。在非腐蚀性的介质中取代高分子材料PTFE。

DBB结构

每个阀座都是为了单向运动效应而设计的，当阀门处在工作状态时：阀座内部自身所承受的压力和球体转动时给阀座带来的压力是相对的，我们设计的目的是为了当受到压力时阀座体内迅速产生的残余压力，能克服弹簧并自释放出去，即当中腔压力超压大于管道内压力1.33倍时，能够自动排压。

DIB结构

同时我们使用这样的阀座设计，可以运用于双向阀门的阀座上，这种情况下一方面球体的转动会给阀座带来一定的外部压力，而相反阀座内部的压力又会同时作用在阀座内部，使阀座双向密封，但是这种情况下阀座本身会承载大量和不断上升的压力，为了保证释放作用在球体上的压力，必须使用一个外部完全泄压阀。

镀镍

阀座产品的表面都有标准厚度达30、50、70微米的镍。此项工艺用于阀座、球体、阀杆的表面处理，目的是为了表面硬度HV600以上。该涂层的成份主要特点是高含量磷，在操作上符合美国ASTM B656-733-602-571-578的标准。

» High performance seat

design principle : DBB、DIB、Self-energizing
Manufacturing scope : 2"-60"
Use temperature : -46°C-250°C
Applicable pressure :
PTFE:150Lb-600Lb PCTFE:150Lb-1500Lb
DEVLON:150Lb-2500Lb NYLON:150Lb-2500Lb
PEEK:150Lb-2500Lb

Elastic deformation self-energizing(Single rubber seal)

The rubber elastomer as the secondary primer seal, Whether it is a circular cross section or triangular cross section, its seal principle has been altered fundamentally, we call this principle as Elastomer's Elastic Deformation Self-Energizing. The seal mechanism of elastic rubber seal ring has been changed, the medium stress slightly pushes the seat onto ball, it is not this medium stress to create seal, but just the medium stress oppresses the elastomer to make a elastic deformation when the medium getting into one side of elastomer groove, and the elastomer recover its original shape due to its stress so as to make a seal with the ball. Therefore the rubber is quickly used in the pipeline series ball valve which can replace high polymer material PTFE in the non-corrosive medium and obtain a good effect.

DBB structure

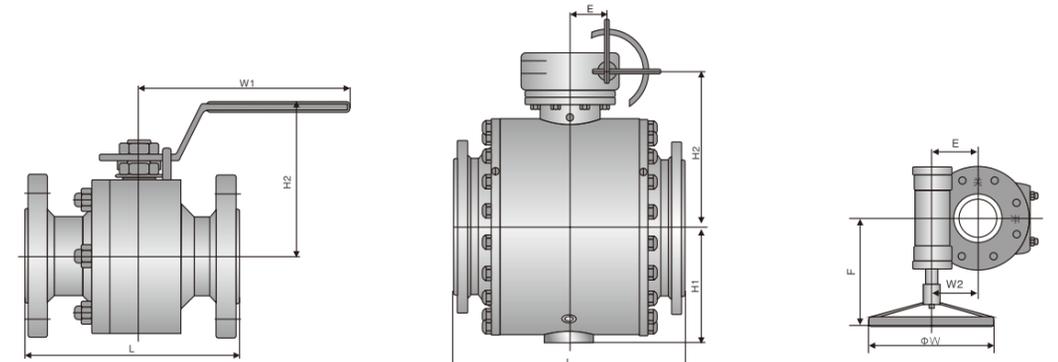
Usually seat is single direction seal structure, when the valve is working, the seat internal pressure from itself and the stress impacts on the seat from the ball are opposite. Our design purpose is that the pressed seat can quickly generate residual stress to overcome spring stress and release, that is to say, when cavity pressure is 1.33 times higher than pipeline pressure, it can automatically discharge pressure.

DIB structure

This structure can be used for bidirectional seal seat, stress on seat under the action of ball rotation, on the contrary, the seat stress impact on itself to realize bidirectional seal. But in this case, the seat itself will bear large pressure, it is necessary to install a vent valve to discharge the pressure.

Nickel plated

The nickel plated thickness on seat surface is 30mic,50mic, 70mic,which mainly used for seat, ball and stem surface treatment, this method is used for surface hardness HV600 or more. The plated coating mainly contain with a high phosphorus meeting the standard of ASTM B656-733-602-571-578.



浮动锻钢球阀 (代号F)
Float forged steel ball valve(Code F)

固定锻钢球阀 (代号G)
Fixed forged steel ball valve(Code G)

阀门尺寸表 Valve size table (CLASS 150LB PN16)

通径 Nominal diameter		LRF	LBW	W1	H1	H2	E	F	ΦW	类型代号 Type code
DN	INCH									
15	1/2"	108	140	145	-	65	-	-	-	F
20x15	3/4"x1/2"	117	152	145	-	68	-	-	-	F
20	3/4"	117	152	145	-	73	-	-	-	F
25x20	1"x3/4"	127	165	145	-	76	-	-	-	F
25	1"	127	165	165	-	96	-	-	-	F
32x25	1 1/4"x1"	140	178	165	-	105	-	-	-	F
32	1 1/4"	140	178	165	-	120	-	-	-	F
40x32	1 1/2"	165	191	165	-	130	-	-	-	F
40	1 1/2"	165	190	230	70	135	-	-	-	F
50x40	2"x1 1/2"	178	216	230	70	135	-	-	-	F
50	2"	178	216	230	80	150	-	-	-	F
80x50	3"x2"	203	283	230	80	150	-	-	-	F/G
80	3"	203	283	400	100	200	-	-	-	F/G
100x80	4"x3"	229	305	400	100	200	-	-	-	F/G
100	4"	229	305	650	134	192.5	-	-	-	F/G
150x100	6"x4"	394	457	650	134	192.5	-	-	-	F/G
150	6"	394	457	-	226	256	85	180	450	F/G
200x150	8"x6"	457	521	-	226	256	85	180	450	F/G
200	8"	457	521	-	263	301.5	116	350	600	F/G
250x200	10"x8"	533	559	-	263	301.5	116	350	600	F/G
250	10"	533	559	-	321.5	347	116	350	600	G
300x250	12"x10"	610	635	-	321.5	347	116	350	600	G
300	12"	610	635	-	367	405	171	420	800	G
350x300	14"x12"	686	762	-	367	405	171	420	800	G
350	14"	686	762	-	400	443	171	420	800	G
400x300	16"x12"	762	838	-	367	405	171	420	800	G
400x350	16"x14"	762	838	-	400	443	171	420	800	G
400	16"	762	838	-	450.4	499.5	257	400	800	G
450x350	18"x14"	864	914	-	400	443	171	400	800	G
450x400	18"x16"	864	914	-	450.4	499.5	257	400	800	G
450	18"	864	914	-	500	620	257	400	800	G
500x400	20"x16"	914	991	-	450.4	499.5	257	400	800	G
500x450	20"x18"	914	991	-	500	620	257	400	800	G
500	20"	914	991	-	555	680	257	400	800	G
550x450	22"x18"	1016	1092	-	500	620	257	400	800	G
550x500	22"x20"	1016	1092	-	555	680	257	400	800	G
550	22"	1016	1092	-	635	806	150	410	800	G
600x500	24"x20"	1067	1143	-	555	680	257	400	800	G
600x550	24"x22"	1067	1143	-	635	806	150	410	800	G
600	24"	1067	1143	-	700	870	150	410	800	G
700x600	28"x24"	1245	1346	-	700	870	150	410	800	G
700	28"	1245	1346	-	780	955	183	650	800	G

阀门尺寸表 Valve size table (CLASS 300LB PN25 PN40)

口径 Nominal diameter		LRF	LBW	W1	H1	H2	E	F	ΦW	类型代号 Type code
DN	INCH									
15	1/2"	140	140	145	-	70	-	-	-	F
20x15	3/4"x1/2"	152	152	145	-	75	-	-	-	F
20	3/4"	152	152	145	-	80	-	-	-	F
25x20	1"x3/4"	165	165	145	-	85	-	-	-	F
25	1"	165	165	165	-	100	-	-	-	F
32x25	1 1/4"x1"	178	178	165	-	105	-	-	-	F
32	1 1/4"	178	178	165	-	126	-	-	-	F
40x32	1 1/2"x1 1/4"	190	190	165	-	135	-	-	-	F
40	1 1/2"	190	190	230	70	135	-	-	-	F
50x40	2"x1 1/2"	216	216	230	70	135	-	-	-	F
50	2"	216	216	230	80	150	-	-	-	F/G
80x50	3"x2"	283	283	230	80	150	-	-	-	F/G
80	3"	283	283	400	100	200	-	-	-	F/G
100x80	4"x3"	305	305	400	100	200	-	-	-	F/G
100	4"	305	305	650	134	192.5	-	-	-	F/G
150x100	6"x4"	403	403	650	134	192.5	-	-	-	F/G
150	6"	403	403	-	226	256	85	180	450	F/G
200x150	8"x6"	502	521	-	226	256	85	180	450	F/G
200	8"	502	521	-	263	301.5	116	350	600	G
250x200	10"x8"	568	559	-	263	301.5	116	350	600	G
250	10"	568	559	-	321.5	348.5	116	350	600	G
300x250	12"x10"	648	635	-	321.5	348.5	116	350	600	G
300	12"	648	635	-	367	405	171	420	800	G
350x300	14"x12"	762	762	-	367	405	171	420	800	G
350	14"	762	762	-	400	443	171	420	800	G
400x300	16"x12"	838	838	-	367	405	171	420	800	G
400x350	16"x14"	838	838	-	400	443	171	420	800	G
400	16"	838	838	-	441	449.5	257	400	800	G
450x350	18"x14"	914	914	-	400	443	171	400	800	G
450x400	18"x16"	914	914	-	441	499.5	257	400	800	G
450	18"	914	914	-	500	620	257	400	800	G
500x400	20"x16"	991	991	-	441	449.5	257	400	800	G
500x450	20"x18"	991	991	-	500	620	257	400	800	G
500	20"	991	991	-	555	680	257	400	800	G
550x450	22"x18"	1092	1092	-	500	620	257	400	800	G
550x500	22"x20"	1092	1092	-	555	680	257	400	800	G
550	22"	1092	1092	-	635	806	150	410	800	G
600x500	24"x20"	1143	1143	-	555	680	257	400	800	G
600x550	24"x22"	1143	1143	-	635	806	150	410	800	G
600	24"	1143	1143	-	700	870	150	410	800	G
700x600	28"x24"	1346	1346	-	700	870	150	410	800	G

阀门尺寸表 Valve size table (CLASS 400LB PN63)

口径 Nominal diameter		LRF	LBW	W1	H1	H2	E	F	ΦW	类型代号 Type code
DN	INCH									
15	1/2"	165	165	160	-	102	-	-	-	F
20	3/4"	190	130	160	-	115	-	-	-	F
25	1"	216	216	230	-	125	-	-	-	F
40	1 1/2"	241	241	400	-	140	-	-	-	F
50x40	2"x1 1/2"	292	292	400	-	140	-	-	-	F
50	2"	292	292	400	93	190	-	-	-	F/G
80x50	3"x2"	356	356	650	93	190	-	-	-	F/G
80	3"	356	356	650	122	230	-	-	-	F/G
100x80	4"x3"	406	406	-	122	230	-	-	-	F/G
100	4"	406	406	-	142	223.5	85	180	450	F/G
150x100	6"x4"	495	495	-	142	223.5	85	180	450	F/G
150	6"	495	435	-	226	256	116	350	600	F/G
200x150	8"x6"	597	597	-	226	256	116	350	600	F/G
200	8"	597	597	-	263	301.5	171	420	800	G
250x200	10"x8"	673	673	-	263	301.5	171	420	800	G
250	10"	673	673	-	321.5	352.5	171	420	800	G
300x250	12"x10"	762	762	-	321.5	352.5	171	420	800	G
300	12"	762	762	-	367	400	257	400	800	G
350x300	14"x12"	826	826	-	367	400	257	400	800	G
350	14"	826	826	-	400	450	257	400	800	G
400x300	16"x12"	902	902	-	367	400	257	400	800	G
400x350	16"x14"	902	902	-	400	450	257	400	800	G
400	16"	902	902	-	441	507.5	257	400	800	G
450x350	18Mx14"	978	978	-	400	450	257	400	800	G
450x400	18"x16"	978	978	-	441	507.5	257	400	800	G
450	18"	978	978	-	560	700	150	410	800	G
500x400	20"x16"	1054	1054	-	441	507.5	257	400	800	G
500x450	20"x18"	1054	1054	-	560	700	150	410	800	G
500	20"	1054	1054	-	630	810	150	410	800	G
550x450	22"x18"	1143	1143	-	560	700	150	410	800	G
550x500	22"x20"	1143	1143	-	630	810	150	410	800	G
550	22"	1143	1143	-	660	830	180	565	800	G
600x500	24"x20"	1232	1232	-	630	810	150	410	800	G
600x550	24"x22"	1232	1232	-	660	830	180	565	800	G
600	24"	1232	1232	-	685	845	180	565	800	G
700x600	28"x24"	1397	1397	-	685	845	180	565	800	G
700	28"	1397	1397	-	810	1010	200	800	800	G

阀门尺寸表 Valve size table (CLASS 600LB PN100)

口径 Nominal diameter		LRF	LBW	W1	H1	H2	E	F	ΦW	类型代号 Type code
DN	INCH									
15	1/2"	165	165	160	-	102	-	-	-	F
20	3/4"	190	190	160	-	102	-	-	-	F
25	1"	216	216	230	-	115	-	-	-	F
40	1 1/2"	241	241	400	-	125	-	-	-	F
50x40	2"x1 1/2"	292	292	400	-	140	-	-	-	F/G
50	2"	292	292	400	93	140	-	-	-	F/G
80x50	3"x2"	356	356	650	93	190	-	-	-	F
80	3"	356	356	650	122	190	-	-	-	F
100x80	4"x3"	432	432	-	122	230	-	-	-	F
100	4"	432	432	-	142	228.5	85	180	450	F/G
150x100	6"x4"	559	559	-	142	228.5	85	180	450	G
150	6"	559	559	-	226	259.5	116	350	600	G
200x150	8"x6"	660	660	-	226	259.5	116	350	600	G
200	8"	660	660	-	288	319	171	420	800	G
250x200	10"x8"	787	787	-	288	319	171	420	800	G
250	10"	787	787	-	334	372	171	420	800	G
300x250	12"x10"	838	838	-	334	372	171	420	800	G
300	12"	838	838	-	375	429	257	400	800	G
350x300	14"x12"	889	889	-	375	429	257	400	800	G
350	14"	889	889	-	410	468.5	257	400	800	G
400x300	16"x12"	991	991	-	375	429	257	400	800	G
400x350	16"x14"	991	991	-	410	468.5	257	400	800	G
400	16"	991	991	-	450	508	257	400	800	G
450x350	18Mx14"	1092	1092	-	410	468.5	257	400	800	G
450x400	18"x16"	1092	1092	-	450	508	257	400	800	G
450	18"	1092	1092	-	560	700	150	410	800	G
500x400	20x16"	1194	1194	-	450	508	257	400	800	G
500x450	20"x18"	1194	1194	-	560	700	150	410	800	G
500	20"	1194	1194	-	630	810	150	410	800	G
550x450	22"x18"	1295	1295	-	560	700	150	410	800	G
550x500	22"x20"	1295	1295	-	630	810	150	410	800	G
550	22"	1295	1295	-	660	920	83	650	800	G
600x500	24"x20"	1397	1397	-	630	810	150	410	800	G
600x550	24"x22"	1397	1397	-	660	920	83	650	800	G
600	24"	1397	1397	-	685	1010	83	650	800	G
700x600	28"x24"	1549	1549	-	685	1010	83	650	800	G
700	28"	1549	1549	-	810	1180	123	800	800	G

阀门尺寸表 Valve size table (CLASS 900LB PN160)

口径 Nominal diameter		LRF	LBW	W1	H1	H2	E	F	ΦW	类型代号 Type code
DN	INCH									
15	1/2"	216	216	175	-	117	-	-	-	F
20	3/4"	229	229	280	-	140	-	-	-	F
25	1"	254	255	280	-	150	-	-	-	F
40	1 1/2"	305	305	400	119	210	-	-	-	F
50x40	2"x1 1/2"	368	368	400	119	210	-	-	-	F/G
50	2"	368	368	650	126	217	-	-	-	F/G
80x50	3"x2"	381	381	650	126	217	-	-	-	F/G
80	3"	381	381	-	191	259	116	350	600	F/G
100x80	4"x3"	457	457	-	191	259	116	350	600	F/G
100	4"	457	457	-	216	297	116	350	600	F/G
150x100	6"x4"	610	610	-	216	297	116	350	600	G
150	6"	610	610	-	270	360	116	350	600	G
200x150	8"x6"	737	737	-	270	360	116	350	600	G
200	8"	737	737	-	322	394	171	420	800	G
250x200	10"x8"	838	838	-	322	394	171	420	800	G
250	10"	838	838	-	420	502	257	400	800	G
300x250	12"x10"	965	965	-	420	502	257	400	800	G
300	12"	965	965	-	470	572	257	400	800	G
350x300	14"x12"	1029	1029	-	470	572	257	400	800	G
350	14"	1029	1029	-	510	675	150	410	800	G
400x300	16"x12"	1130	1130	-	470	572	257	400	800	G
400x350	16"x14"	1130	1130	-	510	675	150	410	800	G
400	16"	1130	1130	-	600	762	150	410	800	G
450x350	18"x14"	1219	1219	-	510	675	150	410	800	G
450x400	18"x16"	1219	1219	-	600	762	150	410	800	G
450	18"	1219	1219	-	700	866	180	650	800	G
500x400	20x16"	1321	1321	-	600	762	150	410	800	G
500x450	20"x18"	1321	1321	-	700	866	180	650	800	G
500	20"	1321	1321	-	720	894	180	650	800	G
600x500	24"x20"	1549	1549	-	720	894	180	650	800	G
600x550	24"x22"	1549	1549	-	765	925	220	735	800	G
600	24"	1549	1549	-	810	956	220	735	800	G

阀门尺寸表 Valve size table (CLASS 1500LB PN250)

通径 Nominal diameter		LRF	LBW	W1	H1	H2	E	F	ΦW	类型代号 Type code
DN	INCH									
15	1/2"	216	216	175	-	117	-	-	-	F
20	3/4"	229	229	280	-	140	-	-	-	F
25	1"	255	255	280	-	150	-	-	-	F
40	1 1/2"	305	305	400	119	210	-	-	-	F/G
50x40	2"x1 1/2"	368	368	400	119	210	-	-	-	F/G
50	2"	368	368	650	126	217	-	-	-	F/G
80x50	3"x2"	470	470	650	126	217	-	-	-	G
80	3"	470	470	-	191	259	116	350	600	G
100x80	4"x3"	546	546	-	191	259	116	350	600	G
100	4"	546	546	-	216	297	116	350	600	G
150x100	6"x4"	705	705	-	216	297	116	350	600	G
150	6"	705	705	-	296	365	171	420	800	G
200x150	8"x6"	832	832	-	296	365	171	420	800	G
200	8"	832	832	-	378	475	257	400	800	G
250x200	10"x8"	991	991	-	378	475	257	400	800	G
250	10"	1130	991	-	495	578	257	400	800	G
300x250	12"x10"	1130	1130	-	495	578	257	400	800	G
300	12"	1257	1130	-	542	696	150	410	800	G
350x300	14"x12"	1257	1257	-	542	696	150	410	800	G
350	14"	1384	1257	-	590	761	150	410	800	G
400x300	16"x12"	1384	1384	-	542	696	150	410	800	G
400x350	16"x14"	1384	1384	-	590	761	150	410	800	G
400	16"	1537	1384	-	670	831	180	650	800	G
450x350	18"x14"	1537	1537	-	590	761	150	410	800	G
450x400	18"x16"	1537	1537	-	670	831	180	650	800	G
450	18"	1664	1537	-	710	900	220	735	800	G
500x400	20"x16"	1664	1664	-	670	831	180	650	800	G
500x450	20"x18"	1664	1664	-	710	900	220	735	800	G
500	20"	2043	1664	-	750	950	220	735	800	G
600x500	24"x20"	2043	2043	-	750	950	220	735	800	G
600x550	24"x22"	2043	2043	-	800	1015	280	1010	800	G
600	24"		2043	-	850	1080	280	1010	800	G

全焊接球阀系列

Full Welding Ball Valve



全焊接球阀整体选用焊接式，无外部泄漏点，唯一可能出现外漏的地方就是阀杆的转动部位，而直埋式全焊球阀的阀杆转动部位可以采用三道密封确保阀门无外漏，安全可靠性能高。

Fully welded ball valve-overall selection of welding, no external leaks, only where leakage might occur is turning parts of the stem, buried welded ball valve stem three sealed rotating parts can be used to ensure that no leakage of the valve, high security and reliability.

-  手柄式
-  齿轮箱式
-  气动式
-  电动式
-  气液联动式