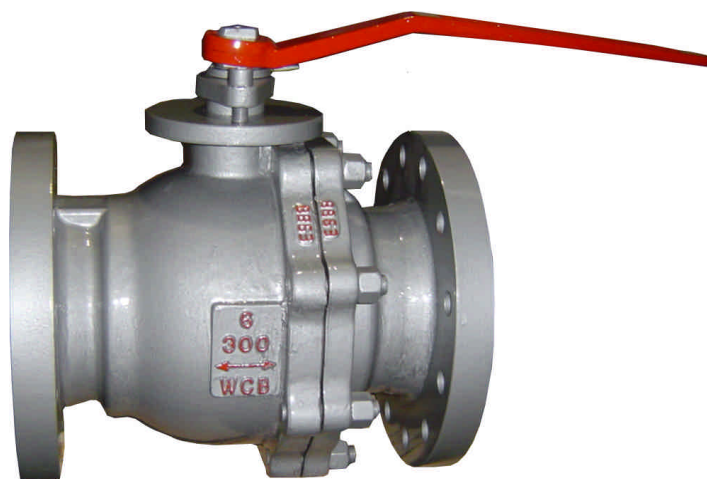


Coosai

美标浮动球阀选型样本 Product catalog of floating ball valves



温州科赛阀门有限公司
Wenzhou coosaivalve co.,ltd



企业简介

科赛阀门有限公司坐落在中国泵阀之乡——温州瓯北，厂区紧临104国道，东临温州机场，南临温州火车站，交通便利。

科赛阀门有限公司是一家专业生产阀门、阀门驱动装置、过滤器、及隔膜泵等产品的生产企业。阀门设计和制造标准有 API6D，API609、GB/T4213。阀门产品等级 class150 ~ class2500，公称口径 1/2 " ~ 48 "，工作温度 -29℃ ~ 425℃，阀体材料主要为 ASTM A216-WCB。可以根据客户要求冶炼和制造。电动执行机构有 PSL、PSQ 和 HQ 三大类，控制模式有 4~20mA 标准信号和现场总线。隔膜泵分气动隔膜泵和电动隔膜泵两大类。公司拥有数控车床、数控铣床等加工设备 70 多台套以及各种测量器具，并辅以 CAD 计算机辅助设计，保证了公司产品的设计检测和制造能力。

公司贯彻执行 ISO9001: 2000 质量体系，严格按照产品标准设计检测和制造(CE API)，遵守相关的法律和法规，确保产品安全可靠，满足客户的要求。

欢迎光临科赛公司指导！

Brief introduction

Wenzhou Kesai Valve Co., Ltd is located in "china pump & valve town"——Oubei, which is along side the national highway G104, and is not far from wenzhou airport and train station. It enjoys a very convenient transportation.

We Coosai (brand name of Wenzhou Kesai Valve Co., Ltd), mainly manufactures various kinds of valves, valve actuators, strainers and diaphragm pumps and so on according to API6D, API609 GB/T4213 and also our own company's manufacturing standard,, with pressure ranges from class150~class2500, size 1/2 " ~ 48 ",and temperature -29℃~425℃. Also, we can produce in various kinds of materials according to customers' requirements. Our electric actuators covers PSL, PSQ, HQ series, which can be controlled by 4 ~ 20mA analog signals as well as field bus. Besides, we produce pumps like air operated diaphragm pumps and electric operated diaphragm pumps and so on.

We Coosai possesses 70 sets of advanced digital lathes, digital milling machines, testing equipments etc., further more, Coosai is assisted with CAD design system, all these guarantees our designing, manufacturing and testing capability.

As an ISO9001:2000(CE, API) granted company we design and manufacture strictly according to international standards, to make sure we produce the reliable products for you.

Welcome to Coosai.



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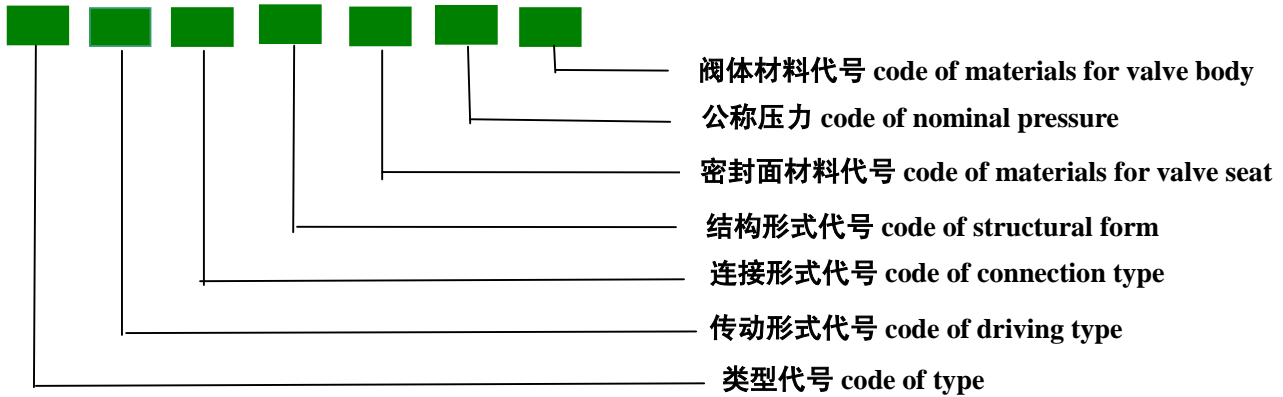
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浮动球阀型号说明 Establishment method of floating ball valve model



1	类型代号 code of type	球阀 Ball valve			Q		
2	传动形式代号 code of driving type	蜗轮 worm gear	3	气动 pneumatic	6	电动 electric	9
3	连接形式代号 code of connection type	法兰 Flange			4		
4	结构形式代号 code of structural form	浮动球直通 full bore floating ball			固定球直通 full bore trunnion mounted ball		
		1			7		
5	密封面材料代号 code of materials for valve seat	氟塑料 fluorine plastic	硬质合金 hard alloy	石墨 graphite	橡胶 Rubber	合金钢 alloy steel	
		F	Y	S	X	H	
6	公称压力 code of nominal pressure	GB	16 20 25 40 50 64	CLASS	150 300		
7	阀体材料代号 code of materials for valve body	灰铸铁 Gray iron	球墨铸铁 ductile iron	碳钢 carbon steel	不锈钢 stainless steel		
		Z	Q	C	P		

说明 Note:

1、型号编制 Model explanation

如一阀体材料为 WCB，公称压力为 150LB，密封面材料为四氟，结构为浮动球直通式，法兰连接的浮动球阀，其型号编制为：Q41F150C。通常情况下，写为 Q41F。本公司在编制型号时可在阀体材料后面编写阀门口径。如：Q41F150C25。

Take a WCB floating ball valve with 150LB ,PTFE sealing , flange connection for example the model should be like this Q41F150C. Normally written as SQ41F. Also the valve size can be put to the model i. e. Q41F150C25.

浮动式铸钢球阀 Q41 Cast steel floating ball valve



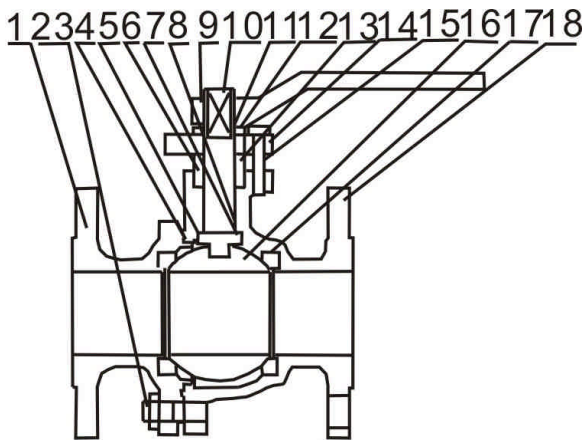
产品采用标准 Technical specification

设计依据 Design reference		API	ASME
设计标准 design standard		API6D	ASME B16.34
结构长度 Structural length	法兰端 Flanged ends	API6D	ASME B16.10
连接法兰 Flanged ends		ASME B16.5	
试验和检验 Test & inspection		API6D	API598

注：系列阀门的连接法兰及对焊端尺寸可按客户要求设计制造。

Note: The dimension of connecting flange and butt welding can be designed according to customers' requirements.

主要零件材料 Materials of major parts

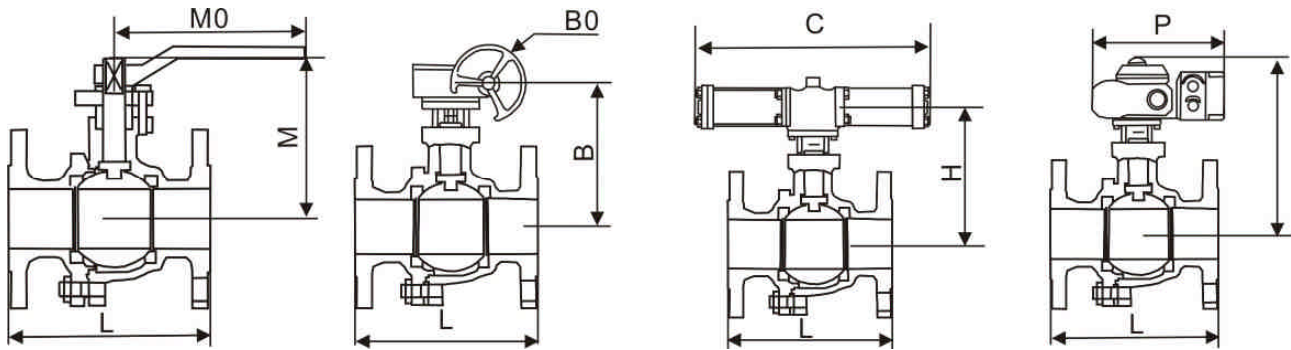


No	零件名称 accessory name	材料 Material (ASTM)
1	左体 Body	A216 WCB
2	螺母 Nut	A194 2H
3	螺栓 Stud	A193 2B
4	垫片 Ring	PTFE
5	止推垫片 Ring	PTFE
6	填料 Packing	PTFE
7	弹簧 Spring	LnconelX-750
8	弹簧座 Spring seat	A182-F304
9	手柄 Lever	A216 WCB
10	阀杆 Stem	A182-F304
11	弹性挡圈 Ring	AISI 1556
12	定位块 Lock piece	A36
13	压套 Packing gland	A216-420
14	压板 Gland flange	A216-WCB
15	螺钉 Bolt	A193-B7
16	球体 Ball	A182-F304
17	阀座 Seat	PTFE
18	阀体 Body	A216 WCB

注：系列阀门主要零部件及密封面的材质可根据实际工况条件或用户特殊要求设计选用。

Note: Major parts of the valve series and materials of sealing surface differ according to casual working condition and customers' special requirements.

浮动式铸钢球阀 Q41 Cast steel floating ball valve



主要外型尺寸 External dimensions

压力等级 pressure	公称通径 nominal diameter		法兰 flange	对焊 Butt Welding	手动 Manual		蜗轮箱 worm gear		气动 Pneumatic operated			电动 electric operated		
	mm	in	L	L1	M	M0	B	B0	B	H	Type	P	H	Type
Class150	15	1/2	108	140	59	130	-	-	182	199	GT83	208	346	PSQ100
	20	3/4	117	152	63	130	-	-	182	204	GT83	208	350	PSQ100
	25	1	127	165	75	160	-	-	182	208	GT83	208	360	PSQ100
	32	1¼	140	140	95	230	-	-	182	213	GT83	208	365	PSQ100
	40	1½	165	190.5	95	230	-	-	182	230	GT83	208	374	PSQ100
	50	2	178	216	107	230	-	-	182	243	GT83	208	393	PSQ100
	65	2½	191	241	142	400	-	-	640	322	BAW13	364	407	PSQ200
	80	3	203	283	152	400	-	-	640	329	BAW13	364	418	PSQ200
	100	4	229	305	178	650	-	-	827	389	BAW17	364	441	PSQ200
	125	5	356	381	252	1050	-	-	827	401	BAW17	364	473	PSQ400
Class300	15	1/2	140	140	59	130	-	-	182	201	GT83	208	293	PSQ100
	20	3/4	152	152	63	130	-	-	182	213	GT83	208	305	PSQ100
	25	1	165	165	75	160	-	-	182	216	GT83	208	308	PSQ100
	32	1¼	178	178	95	230	-	-	182	221	GT83	208	313	PSQ100
	40	1½	190.5	190.5	95	230	-	-	182	232	GT83	208	324	PSQ100
	50	2	216	216	107	230	-	-	182	237	GT83	208	329	PSQ100
	65	2½	241	241	142	400	-	-	640	328	BAW13	364	381	PSQ200
	80	3	283	283	152	400	-	-	640	338	BAW13	364	390	PSQ200
	100	4	305	305	178	650	-	-	827	401	BAW17	364	412	PSQ200
	125	5	381	381	252	1050	-	-	827	414	BAW17	364	425	PSQ400
Class600	15	1/2	165	165	59	160	-	-	182	202	GT83	364	333	PSQ200
	20	3/4	190.5	190.5	63	160	-	-	182	213	GT83	364	344	PSQ200
	25	1	216	216	75	230	-	-	182	216	GT83	364	347	PSQ200
	32	1¼	178	178	95	230	-	-	222	247	GT110	364	352	PSQ200
	40	1½	241	241	95	400	-	-	284	268	GT127	364	363	PSQ200
	50	2	292	292	167	400	-	-	378	197	GT160	364	368	PSQ400
	65	2½	330	330	180	650	-	-	640	329	BAW13	398	494	PSQ1000
	80	3	356	356	198	650	292	400	640	338	BAW13	398	503	PSQ1000
	100	4	432	432	198	1050	398	600	827	411	BAW17	398	535	PSQ1000
	125	5	-	-	-	-	-	-	827	439	BAW17	398	563	PSQ2000
150	6	559	559	-	-	400	800	827	452	BAW17	540	826	HQ300-1	
200	8	660	660	-	-	430	800	1162	523	BAW20	540	858	HQ300-1	

注：缩径阀门结构长度、连接法兰按不缩径规格；阀门高度、驱动尺寸缩小一个规格尺寸。

Note: the face to face dimension and connecting flange of a diameter reduced valve are per the non-reducing norms . the sizes of both valve height and actuator are reduced by one norm size.

Commitment on Quality Service

质量服务承诺

我们承诺我们公司的所有产品均按相应的国家或国际标准以及有关的法律法规的要求进行设计、制造和检验，保证符合相关的质量要求。

我们公司的产品质量保证期为 12 个月。用户对我公司产品提出质量异议，公司保证在接到客户提出异议后，24 小时做出处理意见。

我们公司的阀门产品由中国人民财产保险股份有限公司（**PICC**）承担质量保险。

We hereby confirm that the design, manufacture, and inspection of our products are strictly in accordance with the relevant state and international standards, and meet the relative quality requirement.

The guarantee period of our products is valid for 12 months. If any doubt to the quality of our products, we hereby promise to deal with it with in 24 hours upon receiving the quality objection.

Our valve series is guaranteed by PICC for insurance.



保险证
Insurance card



Wenzhou coosaisai valve co., ltd
Quality Control Department

附录 Appendix

结构说明和工作原理 About the structure and work principle

◎浮动式球阀 Floating ball valve

1. 阀门开关位置指示

球、阀杆、手柄是一个装配单元，阀杆头部采用扁方结构，由于手柄所处位置容易辨别出阀门是处于开位置或关位置。当手柄或阀杆头部的扁方与管线平时时，阀门处于全开位置。当手柄或阀杆扁方与管线垂直时，阀门处于全关位置。

1. Indication of valve's open and close positions

Ball, stem and handle are one assembly unit. The stem head is a flat square structure and the valve is easy to be seen either in the opened or close position from the place the handle is in. when the handle or the flat square of the stem head is parallel with the pipeline, the valve is in the fully opened or close opened position. While in the fully closed one when vertical to the pipeline.

2. 锁定装置

为防止误操作阀门，在阀门的全开和全关位置可挂锁锁定阀门，特别是安装在野外的阀门或工艺流程中不允许开关阀门时，为防止其他人错误的操作阀门，将阀门位置锁定死很重要的。

2. Locker

To prevent maloperation of the valve, a hanging lock can be used to lock it when in the fully opened or closed position, which is very important especially for the valve mounted outside or not allowed to be opened or closed by the technological flow.

3. 阀门的防飞溅结构

当介质通过阀门时，阀体中的压力可能将阀杆推出，为防止这种情况发生，在阀杆下部设置一防飞出结构（fig 1）。这样，即使火灾时，填料、止推轴承被烧损或其它原因引起填料等损坏，阀体内的介质压力将使阀杆台肩与上密封面紧密接触，防止介质大量从损坏的填料处泄漏。

3. Stem fly-resisting structure

The stem may be pushed out by the pressure in the middle cavity of the body when the medium goes through the valve. To prevent this, a fly-resisting structure is made on the lower part of the stem (fig 1). In this way, even if the packing and /or thrust bearing are burnt out in a fire or damaged by other causes, the medium's pressure inside of the body will have both stem flange and upper sealing face of body tightly contacted so as to prevent a lot of medium form leaking form the damaged packing place.

4. 防静电和防火结构

设计了防静电装置（fig 2）和防火装置（fig 3）。当火灾发生时，一旦阀座被烧毁，球将和阀体上的金属面接触，从而阻止介质大量从烧损处泄漏。

4. Electrostatic-proof device and fire-fighting structure

Both electrostatic-proof device and fire-fighting structure(fig 2) and fir-fighting structure (fig 3) are designed. Once the seat ring is burnt out in case of a fire. The ball would be directly contacted with the metal face of the body so as to prevent a lot of the body so as to prevent a lot of medium from leaking from the burnt place of the seat ring.

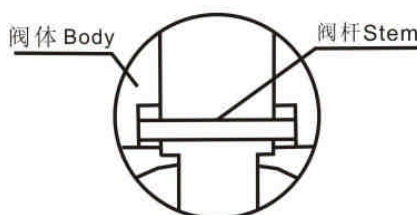


Fig 1

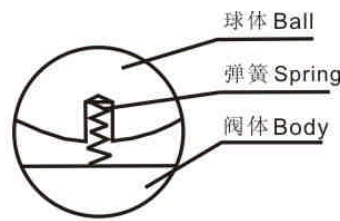


Fig 2

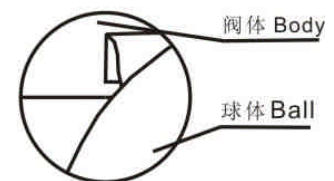


Fig 3

5.独特的阀座密封结构

我公司设计的双线密封结构 (Fig 4), 可自然泄压阀座 (Fig 5), 能保证高低压及真空状态下的完全密封。

5.Unique sealing structure of seat ring

The dual-line seal (fig 4) and the self-combustible pressure dischargeable seat ring (fig 5) designed by way of combining the years ball valve manufacturing experience and the foreign advanced know-how can ensure the full seal under a high or low pressure and a vacuum state.

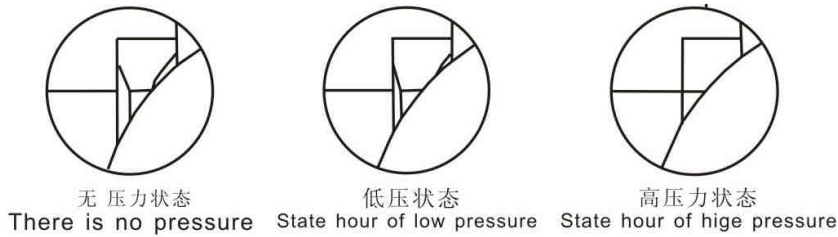


Fig 4

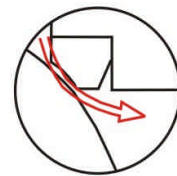


Fig 5

6.全通径和缩径

阀门公称通径和管线内径一致 (客户要求时可为缩径), 以便管线清扫 (Fig 6)

6. Full or reduced diameter

The valve nominal diameter is identical to the inner diameter of the pipeline (which can be reduced one if so required by users) for the sake of cleaning (fig 6).

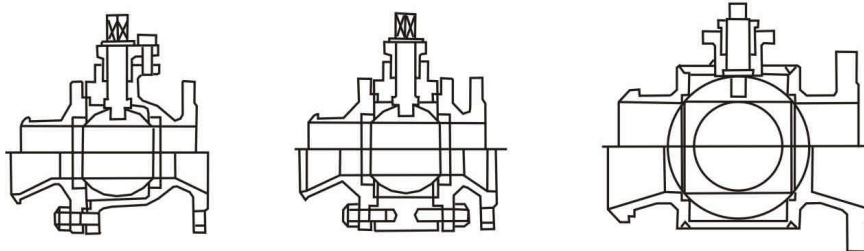


Fig 6

◎固定式球阀

1. 阻塞与排泄

阀门处于关闭状态时 (fig 7), 上下游侧的阀座使流体阻断, 阀体中腔的积滞物可以排泄, 排泄装置 (fig 8) 具有如下功能:

- 1) .事前可检查阀座是否泄漏损伤。
- 2) .减少介质更换你对阀门的污染。
- 3) .在工作压力下, 阀门处于全开或全关闭时, 可更换阀杆部填料函。

1.block-up and excretion

when the valve is in the closed state(fig 7), the seat ring on the upstream and downstream sides cuts off the fluid and the accumulated matters in the middle cavity of the body can be excreted. The excreting device (fig 8) features the following functions.

- 1).can check if the seat ring leaks or gets damaged beforehand.
- 2).reduce pollution to the valve due to the medium replacement.
- 3).the packing on the stem portion can be re4placed when the valve is the fully opened or closed state under the working pressure..

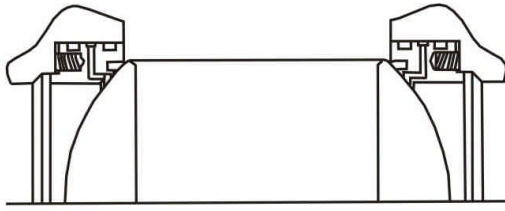


Fig 7

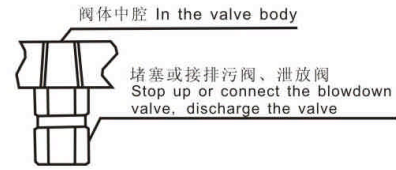


Fig 8

2.自动泄压

阀门中腔停滞的介质由于温度升高，而出现异常升压时，阀座脱离球体自动泄压（fig 9）或通过阀体上安装的安全阀泄压（fig 10）保证系统安全。

2.automatic pressure discharge

when an abnormal pressure rise occurs with the medium stayed in the middle cavity of the valve due to rising temperature, the seat ring will come off form the ball and automatically discharge pressure (fig 9) or the safety valve mounted on the body ensures the system safety.

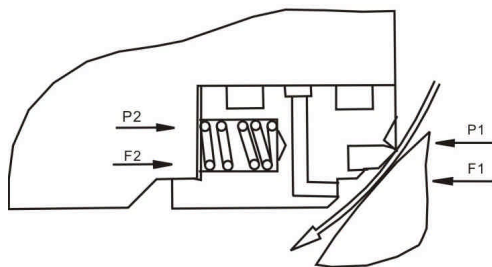


Fig 9



Fig 10

3. 完全密封:

科赛球阀独特的密封方式，可以使流体完全阻断。

3.complete seal

the unique sealing mode of the ball valve makes the fluid completely cut off.

4.防火结构:

一旦发生火灾或由于异常升温使特富龙阀座软化烧损时，为防止火灾扩大，阀门操作仍然可靠，同时阀座支承可以和球体接触（fig 11）起密封作用，符合 API607 的规定。

4.fire-fighting structure

if the Teflon seat ring is made softened and burnt in case of a fire or an abnormal temperature rise, the valve can be still reliably operated to prevent the fire from expanding and the seat ring's support can be contacted with the ball (fig 11) to act as an instantaneous seal, conforming with API607.

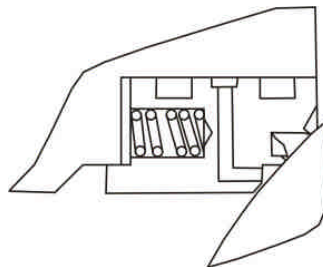


Fig 11

5.防静电结构:

当操作阀门时，由于球体和聚四氟乙烯阀座之间的摩擦，会产生静电电荷积聚在球体上。为防止产生静电火花，特在阀门上设置防静电装置（fig 12），通过弹簧使球体与阀体形成电路通路，将积聚在球体上的电荷导出。

5.Electrostatic-proof structure

during valve operation, the friction between the ball and the PTEE seat ring will produce electrostatic charges and they will be accumulated onto the ball. To prevent electrostatic spark from being produced, an electrostatic-proof device (fig 12) is mounted on the valve, which can guide the charges out through the electric path formed by both ball and body via the spring.

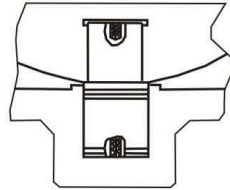


Fig12

6.密封的紧急救护

阀座（fig 13）及阀杆（fig 14）密封件出现损伤而引起泄漏时，通过注脂阀注入的密封脂可以起到瞬时密封的作用。

6.emergent rescue of seal

when the sealing parts of both seat ring (fig 13) and stem (fig 14) get damaged and thus leaks are caused, an instantaneous sealing action can be made available by injecting sealing grease through the grease injecting valve.

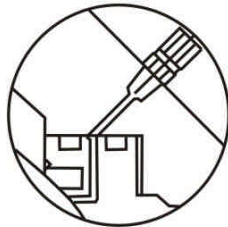


Fig 13

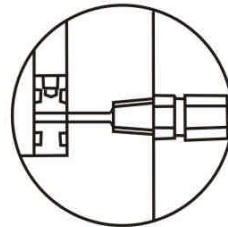


Fig14

7.阀座结构

阀座结构有两种：单密封（fig 15）和双密封（fig 16）。一般具有自动泄压功能的是单密封，双密封则是由阀体上附加的安全泄压

单密封结构阀座嵌入支承圈后靠弹簧的预紧力和活塞效应使阀座与球体压紧而密封。当阀体中腔由于某种原因而出现异常升压，阀座在压差作用下自动泄压，防止危险的发生。泄压后阀座自动复位（fig 9）。

双密封结构阀座支承圈和 O 形圈构成双密封结构，弹簧预紧力使阀座和球体接触，同时在管线上游/下游侧和阀体中腔压差作用下密封，无论那边的介质压力高，在弹簧的预紧力和活塞效应使上下游侧的阀座总是和球体紧密接触而完全阻塞流体，即使任何一方阀座损伤也能防止泄漏，但没有自动泄压作用，必须在阀体中腔装泄压装置，防止阀体中腔的异常升压。

7. structure of seat ring

Two kinds: single seal (fig 15) and dual seal (fig 16). In general, those of an automatic pressure discharge function are single seal while the dual seal means the additional safety pressure discharge to the body.

For the seat ring of the single seal structure, it depends on, after being inlaid into the support ring, the spring's pre-tightening force and the piston effect to have both set ring and ball pressed tightly so as to form sealing. When an abnormal pressure rise occurs inside of the middle cavity of the body due to some reason, the seat ring will automatically discharge the pressure under the action of pressure differential to prevent any danger from happening,

then after discharging the pressure it is reset automatically(fig 9).

For the dual seal structure formed with the supports of both dual seal structured seat ring and O ring, both seat ring and ball are made contacted under the spring's pre-tightening force and sealed under the pressure differential on the upstream (downstream) side of the pipeline and the middle cavity of the body, regardless of on which side the medium's pressure is higher, both spring's pre-tightening force and piston effect make the seat rings on both upstream and downstream sides always tightly contacted with the ball to completely cut off the fluid and prevent leak even if any one of them gets damaged, however there is no automatic pressure discharge function, so a pressure discharger has to be mounted in the middle cavity of the body to avoid abnormal pressure rise therein.

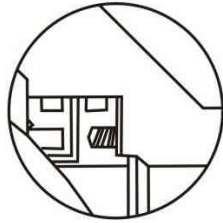


Fig 15

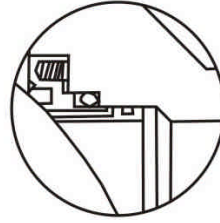


Fig16

8.全通径或缩径

阀门公称通径与管线内径一致（客户要求时可为缩径），以便管线清扫（fig 17）

8. full or reduced diameter

the valve nominal diameter is identical to the inner diameter of the pipeline (which can be reduced one if so required by users) for the sake of cleaning (fig 17)

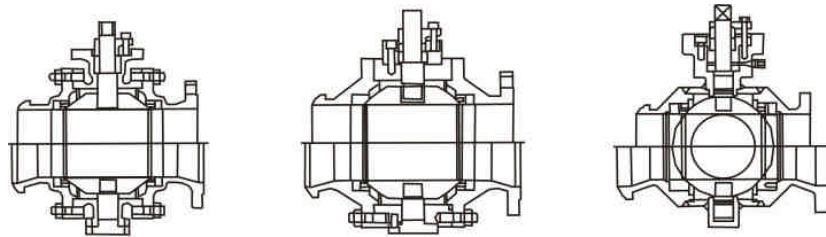


Fig 17

9.锁定装置

为防止误操作阀门，阀门用一个锁定装置固定，这样能确保阀门总是在一个正确的开关位置。

9.locker

use a locker to fix the valve so as to prevent maloperation of it and keep it in the correct opened or closed position

10.阀杆加长

阀杆加长适用于埋地及低温用，加长尺寸根据需要确定。操作方式根据需要可选手动、气动、电动、气液联动、液动等。

10.extension of stem

extension of the stem is suitable for use under-ground and at low temperature, the extended size is depended on the necessity and the operation mode can be manual, pneumatic, electric, gas-hydraulic jointed or hydraulic actuation, also upon the necessity.

11.操作的可靠性

大口径阀门的相对滑动部（阀座和阀杆轴承）由于采用了摩擦系数小的特富龙，因而操作扭矩小。及时在没有提供润滑的条件下，也能长时间的灵活操作。

11. the relative sliding portion (seat ring and stem bearing) of a large aperture ball valve has a small operational torque due to its use of Teflon which has a small friction coefficient and can be flexibly operated for a long time even if there is no lubrication supplied for it.

12.不同的驱动方式

被采用不同的有效驱动方式包括：手动、气动、电动、气液联动、液动等。

12.different actuation modes

the used different and effective actuation modes include manual, pneumatic, electric, hydraulic and gas-hydraulic jointed ones.

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