

范围 Scope

本说明书适用于3片式, 全流量, 1000WOG(PN63), 螺纹端、套焊端, 对焊端, 加长对焊端球阀, 以及带ISO5211安装平台球阀。

This instruction applies to 3-pcs body, full port, 1000 WOG (PN63), screwed, socket weld, butt-weld, extended butt-weld end, ball valve, and directly mounted ISO 5211 ball valve.

使用限制 Operation Limitation

温度和压力限制

- 铭牌有显示阀在最大和最小操作温度下所允许的最大操作压力。
- 使用PTFE或RPTFE材质的阀座和密封件, 操作温度应在-29°C到200°C之间, 其他类型的阀座和密封件的操作温度, 应受到工厂的检核。
- 阀的公称压力等级(PN), 可表明阀在正常温度状态下的最大工作压力。(例如: PN63, 表明其操作温度在-29°C~38°C时的最大工作压力为63Bar)

Temperature and pressure limit

- The normal maximum operating pressure at maximum or minimum operating temperature is shown on nameplate.
- The operating temperature is within -29°C~200°C for PTFE/RPTFE seat and sealing. Others seat and sealing operating temperature shall be checked with company.
- The nominal pressure rating (PN) describe body maximum working pressure in cold working temperature. e.g. PN63 (1000 WOG) describe body maximum working pressure 63 bar at -29 °C~38 °C. The working temperature may differ in case using different material of seat, stem packing and body gasket.

流体限制

因使用软质阀座, 所以不适用于带颗粒或会凝固的流体。

Fluids limit

With soft-seat, fluids containing particles or coagulable are not acceptable. Please refer anti-corrosion table and choosedifferent anti-corrosive materials for body and sealing.

禁止节流操作

请不要使阀球经常处于半开状态, 管道的压力差和流体的冲击将可能导致球或者阀座的损坏。

Do not throttling operation:

Do not leave the ball partly open(throttling operation), where the pressure drop and/or flow rate damage to the seats and/or ball.

安装 Installation

- 1、取掉牙口端两边的塑料保护盖, 在阀完全打开的状态下进行冲洗清洁。
- 2、准备与管道连接前, 请冲洗和清除干净管道中所有堆积的杂质(这些物质可能会损坏阀座和球)。
- 3、牙口端球阀的安装
阀与管线端连接时, 可利用PTFE胶带密封螺纹。旋紧螺纹时, 应采用管钳夹于盖端。
- 4、焊接端球阀的安装:
 - 保持球阀为打开状态。加长对焊端可以直接焊接: 在管线上将阀的两个焊接端, 分别用4点进行断续焊。较短对焊端或套焊端见下步。
 - 拆除体盖连接螺栓, 保留最后一条 并且将其螺母放松, 阀体将自然旋转。用胶带保护好阀座等配件。
 - 在管道上完成盖子两侧的焊接
 - 冷却后, 清洁阀体和盖子两侧
 - 旋转阀体到原来的位置, 插入螺栓, 轻锁所有螺母。在操作过程中, 保持体和盖的良好的平行度非常重量, 这样可以防止盖子的扭曲变形。
 - 均匀锁紧所有螺栓, 确认所有螺栓锁紧扭矩的最大值已被遵守(见表C)。
 - 对阀进行彻底的检查
- 5、安装后, 保证安装点附近的管道不能承受外力。

- 1、remove the plastic protective covers on both sides of the mouth end, and wash them when the valve is fully open
- 2、before preparing to connect to the pipe, flush and clean all accumulated impurities in the pipe (these substances may damage the valve seat and ball)
- 3、installation of ball valve at the mouth end:
when the valve is connected with the pipeline end, PTFE tape can be used to seal the thread.
when screwing the thread, use pipe tongs to clamp it on the cover end.
- 4、installation of ball valve at welding end:
 - keep the ball valve open. The long butt welding end can be directly welded: the two welding ends of the valve are welded intermittently with four points respectively on the pipeline. See the next step for short butt welding end or sleeve welding end.
 - remove the body cover connecting bolt, keep the last one and loosen its nut, and the valve body will rotate naturally. Protect the valve seat and other accessories with adhesive tape.
 - finish welding on both sides of the cover on the pipe
 - after cooling, clean both sides of valve body and cover
 - rotate the valve body to the original position, insert the bolt and lightly lock all nuts. During the operation, keep the good parallelism between the body and the cover very heavy, so as to prevent the distortion of the cover.
 - lock all bolts evenly, and confirm that the maximum value of locking torque of all bolts has been observed (see table C).
 - thoroughly inspect the valve
- 5、After installation, ensure that the pipeline near the installation point can not bear external force.

操作和使用 Operation and use

- 1、操作前确认管路和阀已被冲洗干净.
- 2、阀的操作由旋转阀杆(手动或自动控制方式)完成:顺时针旋转1/4圈(90°)时, 阀关断, 反向旋转1/4圈(90°)时, 阀开启.
- 3、当手柄或阀杆顶部沟槽方向与管线平行时, 阀门为开启状态.
- 4、阀杆的扭力将会依下列因素而有所差异: 阀门开关的时间长度, 管道系统的介质, 管道压力和阀座的类型等。下面表A的描述值, 是以清水为介质和PTFE阀座的基础上测得

- 1、Make sure the pipeline and valve have been flushed before operation
- 2、The operation of the valve is completed by rotating the valve stem (manual or automatic control mode): when rotating clockwise for 1 / 4 turn (90 °), the valve is closed; when rotating reversely for 1 / 4 turn (90 °), the valve is opened
- 3、When the groove direction at the top of handle or stem is parallel to the pipeline, valve is open.
- 4、The torque of the valve stem will vary depending on the following factors: the length of time the valve is opened and closed, the medium of the piping system, the pipe pressure and the type of valve seat, etc. The values described in table a below are measured on the basis of clean water and PTFE valve seat.

Table A: 阀杆扭力值
Table A: Torque Value

阀门规格	IN-LB	N.M
DN6-DN10	40	4.5
DN15	44	5
DN20	53	6
DN25	89	10
DN32	115	13
DN40	168	19
DN50	221	25
DN65	354	40
DN80	575	65

Table B: 阀杆螺母锁紧力矩
Table B: Torque figure for Stem Nut tighten

阀门规格	IN-LB	N.M
DN6-DN10	70-80	8.0-9.0
DN15	70-80	8.0-9.0
DN20	70-80	8.0-9.0
DN25	90-100	9.0-11.3
DN32	90-100	9.0-11.3
DN40	140-160	15.8-18.1
DN50	140-160	15.8-18.1
DN65	180-200	20.4-22.6
DN80	180-200	20.4-22.6

维修 Maintenance

拥有较长的使用寿命和免维修期, 将依赖以下几个因素: 正常的工作条件, 保持和谐的温度/压力比, 以及合理的腐蚀数据.

注意: ●球阀在关闭状态下, 阀体内部依旧存在受压流体.

●维修前, 解除管线压力并使阀门处于打开位置.

Having a long service life and maintenance free period will depend on the following factors: normal working conditions, maintaining a harmonious temperature / pressure ratio, and reasonable corrosion data.

Note: ●When the ball valve is closed, there is still pressure fluid inside the valve body.

●Before maintenance, relieve the pipeline pressure and keep the valve in the open position.

填料处得再锁紧

●若填料处有微泄发生, 须再锁紧阀杆螺母(12).

●注意不要锁太紧, 通常再锁30° -60°, 泄露即会停止.

Relock at packing

●If micro leakage occurs at the packing, the stem nut (12) shall be locked again.

●Pay attention not to lock too tightly, usually lock again 30° - 60°, leakage will stop.

更换阀座和密封件

拆卸

●使阀处于半开位置, 冲洗, 清楚阀体内外可能存在的危险物质.

●确认球阀(3)在“关断”位置, 拆除体盖连接螺栓, 保留一条并且放松螺母, 阀体将自然旋转

●取出阀盖垫圈(17)和阀座(4)。仔细检查球, 如有刮伤现象则需要更换。

●当阀杆填料需要更换时, 按照以下顺序进行拆卸: 手柄螺母, 手柄(16)或驱动装置, 防松垫圈(13), 阀杆螺母(12), 蝶形弹片(11), 格南(10), 耐磨片(9), 阀杆填料(7)

●由阀体中孔向下轻推阀杆(6)直到完全取出, 然后取出O型圈(15)及阀杆下填料(7)。

注意: 请谨慎操作, 以避免擦伤阀杆表面及阀体填料函密封部件。

Eplace seat and seal

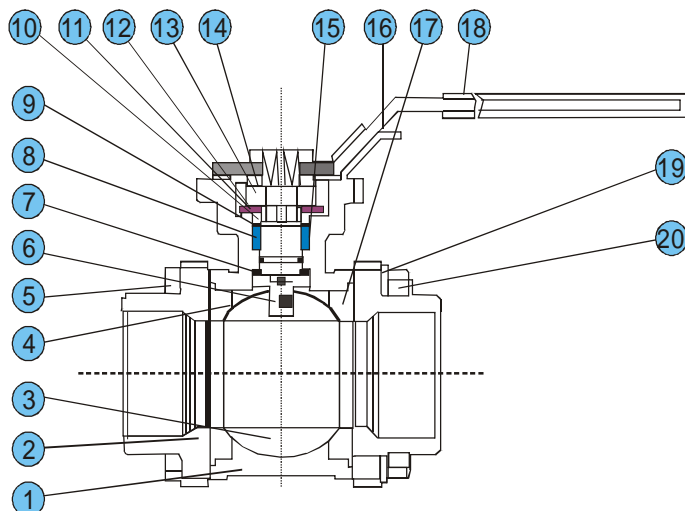
Disassembly

●keep the valve in the half open position, flush and clear the possible dangerous substances inside and outside the valve body

●confirm that the ball (3) is in the "off" position, remove the body cover connecting bolt, keep one and loosen the nut, and the valve body will rotate naturally

●remove the bonnet gasket (17) and seat (4). Check the ball carefully and replace it if there is any scratch .

●when the valve stem packing needs to be replaced, disassemble it according to the following sequence: handle nut, handle (16) or drive device, lock washer (13), valve stem nut (12), butterfly spring piece (11), gnan (10), wear piece (9), valve stem packing (7).



- push down the stem (6) from the middle hole of the valve body until it is completely taken out, then take out the O-ring (15) and the lower packing of the stem.

Caution: use caution to avoid galling the stem surface and body stuffing box seal.

重新组装

- 清洗和检查拆下零件, 强烈推荐用备用零件包更换其阀座及阀盖垫圈等密封件.
- 按拆卸的相反顺序进行重组过程.
- 用表B规定的扭距, 锁紧阀杆螺母(2).
- 用规定的扭矩, 交叉锁紧法兰连接螺栓(5). (参见表C)
- 如有可能, 请在安装回管道前, 按相关标准对阀进行压力测试.

Reassemble

- Clean and check the removed parts. It is strongly recommended to replace the seat, bonnet gasket and other seals with spare parts package
- Carry out the reorganization process in the reverse order of disassembly
- Lock the stem nut (2) with the torque specified in table B
- Cross lock the flange connection bolts (5) with the specified torque. (see table C)
- If possible, pressure test the valve according to relevant standards before installing the return pipe.

表C: 法兰连接螺栓锁紧力矩

Table C: locking torque of flange connection bolt

规格	材质	不锈钢 (B8)	
	单位	IN-LB	N.M
1/4-20UNC/M6		70	7.9
5/16-18UNC/M8		100	11.3
3/8-16UNC		160	18.1
7/16-14UNC/M10		280	31.7
1/2-13UNC/M12		400	45.3

规格	材质	不锈钢 (B8)	
	单位	IN-LB	N.M
5/8-11UNC/M16		800	90.5
3/4-10UNC/M20		1400	158.4
7/8-9UNC/M22		2250	254.6
1-8UNC/M24		3250	367.7
1,1/8-8UNC/M28		4000	452.6

Trouble shooting

故障现象 Problem	原因 Cause	对策 Remedy
内漏 Valve leakage on the line	球阀未完全关闭 Ball incomplete closure	检查操作系统 Check the manoeuvring system
	阀球、阀座磨损 Worn seats/ball	更换磨损配件 Replace worn parts
	实际工况条件超出了阀门的运行范围 operating conditions exceed the ones established for the project	联系我们 Contact us
外漏 Leakage on the outside	阀杆密封磨损 Damage on the stem seat	更换磨损件 Replace worn parts
	实际工况条件超出了阀门的运行范围 operating conditions exceed the ones established for the project	联系我们 Contact us
阀门不动作 Blocked valve	传动故障 Driving system fault	联系我们 Contact us
	阀腔内有异物 Accumulation of solid particulate in the cavities of the body	清理阀腔并更换磨损件 Clean up cavity of the body and Replace worn parts
	执行机构与阀门连接处断开 Actuator- valve connection's break	联系我们 Contact us