

### 范围 Scope

本说明书适用于2片式, 全流量, 1000WOG (PN63), 螺纹端球阀以及ISO 5211平台直接安装型球阀 (ART 320系列)。

This manual is applicable to 2-piece, full flow, 1000WOG (PN63), threaded end ball valve and ISO 5211 platform direct mount ball valve (Art 320 Series)

### 使用限制 Restrictions on use

#### 温度和压力限制

- 铭牌: 显示有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RTFE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 LIMITS

- Nameplate: it shows the maximum operating pressure of the valve under the maximum and minimum operating temperature
- The operating temperature of PTFE or RPTFE valve seat and seal shall be between - 29 ° C and 200° C. The operating temperature of other types of valve seat and seal shall be checked by factory
- The nominal pressure rating (PN) of the valve indicates the maximum working pressure of the valve at normal temperature (for example, PN63 indicates that the maximum working pressure of the valve at - 29° C ~38 ° C is 63bar)

### 流体限制

因使用软质阀座, 开关操作时流体会充填于阀体内空穴处, 所以不用于带颗粒或会凝固的流体(如煤渣, 糖.....)

### Fluid limit

Due to the use of soft valve seat, the fluid will fill the cavity in the valve body when the switch is operated, so it is not used for the fluid with particles or will solidify (such as coal slag, sugar

### 禁止节流操作

请不要使阀球经常处于半开状态(流量控制), 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。

### Throttling operation prohibited

Please do not make the valve ball always in the half open state (flow control), the pressure difference of the pipeline and the impact of the fluid will be able to Can cause damage to ball or seat

### 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、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、在安装期间, 请不要利用阀的阀杆或受柄(手轮)部分作为起重支点, 以避免出现倒塌和其他意外事故
- 5、安装点附近的管道不可有低垂或者承受外力的现象, 可以用管道支架或者支撑物来消除管线的偏离。

- 1、Remove the plastic protective covers on both sides of the mouth end, and wash them when the valve is fully open.
- 2、Before connecting with the pipeline, please wash and remove all accumulated impurities in the pipeline (these substances may damage the valve seat and ball).

- When connecting the valve and the pipeline end, use PTFE tape to seal the thread. When tightening the thread, use the pipe tongs to clamp on the cover end.
- Do not use the stem or handle (hand wheel) part of the valve as the lifting fulcrum during installation to avoid collapse and other accidents
- the pipeline near the installation point shall not be sagged or bear external force. The pipeline support or support can be used to eliminate the deviation of the pipeline

## 操作和使用 Operation and use

- 操作前确认管路和阀已被冲洗干净.
  - 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
  - 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.
  - 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, 管道压力合乎阀座的类型等. 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.
- Make sure the pipeline and valve have been flushed before operation.
  - The operation of the valve is completed by rotating the valve stem (manual or automatic control mode): when rotating clockwise for 1 / 4turn (90 °), the valve is closed; when rotating reversely for 1 / 4 turn (90 °), the valve is opened
  - when the groove direction at the top of handle or stem is parallel to the pipeline, the valve is open.
  - The torque of the valve stem will vary according to the following factors: the time length of valve opening and closing, the medium of the pipeline system, and the type of valve seat that the pipeline pressure conforms to. The values described in table a below are measured on the basis of water as the medium and PTFE valve seat.

表A: 阀杆扭力值

Table A Torque Value

SizeΔP		75 psig 5 bar		150 psig 10 bar		300 psig 20 bar		700 psig 50 bar		1000 psig 63 bar	
NPS	DN	N•m	in•lb	N•m	in•lb	N•m	in•lb	N•m	in•lb	N•m	in•lb
1/4&3/8	8&10	5	44	5	44	5	44	5	44	5	44
1!2	15	5	44	5	44	5	44	5	44	5	44
3!4	20	6	53	6	53	6	53	6	53	6	53
1	25	10	88	10	88	11	97	11	97	11	97
1!1/4	32	13	115	13	115	15	133	17	150	19	168
1!1/2	40	19	168	19	168	22	194	24	212	26	230
2	50	25	221	29	256	32	283	35	310	38	336
2!1/2	65	40	354	45	398	49	434	54	478	59	522
3	80	65	575	72	637	81	717	90	796	101	894

Table B: 阀杆螺母锁紧力矩

Table B: Torque figure for Stem Nut tighten & Body-Cap tighten

Valve Size		Stem Nut tighten		Body-Cap tighten	
NPS	DN	in•lb	N•m	in•lb	N•m
1!4	8	80~106	9~12	974~1150	110~130
3!8	10	80~106	9~12	974~1150	110~130
1!2	15	80~106	9~12	974~1150	110~130
3!4	20	80~106	9~12	1328-1593	150~180
1	25	106~142	12~16	1682-1947	190~220
1!1/4	32	106~142	12~16	2920-3186	330~360
1!1/2	40	151~195	17~22	3805-4160	430~470
2	50	151~195	17~22	4780-5310	540~600
2!1/2	65	221~283	25~32	6903-7346	780~830
3	80	221~283	25~32	9293-9824	1050~1100

## 维修 Maintain

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。

### 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。

## 更换阀座和密封件

### 拆卸

- 使阀处于半开位置, 冲洗, 清理阀体内外可能存在的危险物质。
  - 将球阀由管线上拆掉。
  - 依序拆卸手柄螺母(15), 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(8)。
  - 利用管钳, 将阀盖(2)与阀体分离, 并拿掉阀盖垫圈(18)。
  - 确认球阀(3)在“关闭”位置, 这可以将其较容易的从阀体拿出, 随后取出阀座。
  - 由阀体中孔向下轻推阀杆(5)直到完全取出, 然后取出O型圈(7)及阀杆下填料(6)。
- 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。

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

### Relock at packing

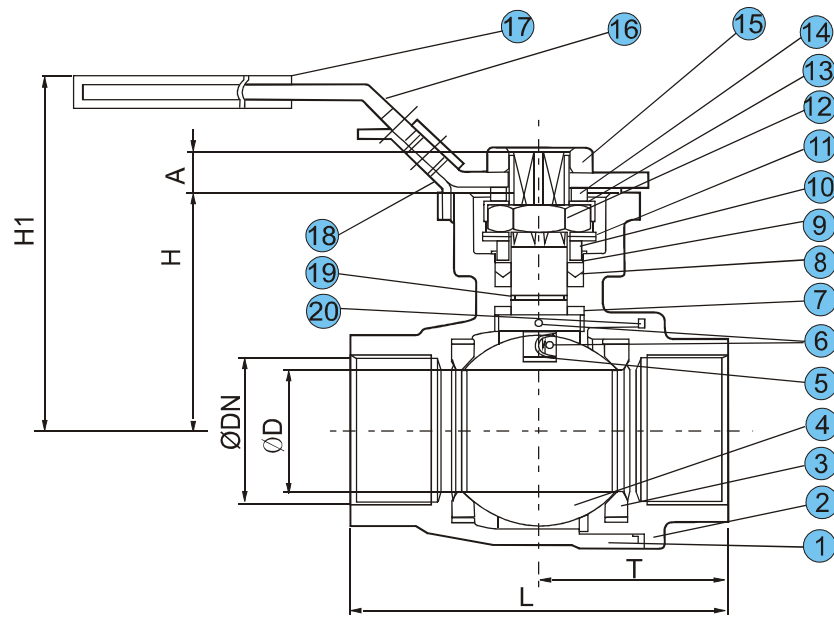
- If micro leakage occurs at the packing, the stem nut (12) must be locked again.
- Take care not to lock too tightly, usually lock again 30 ° - 60 °, leakage will stop.

### Disassembly

- keep the valve in the half open position, flush and clear the possible dangerous substances inside and outside the valve body.
  - Remove the ball valve from the pipeline.
  - Remove handle nut P (15), handle (16) or drive device, lock washer (13), stem nut (12), butterfly spring (11), gnan (10), wear plate (9), stem packing (8) in sequence.
  - Using a pipe wrench, separate the bonnet (2) from the body and remove the bonnet gasket (18).
  - Confirm that the ball (3) is in the "off" position, which can be easily taken out of the valve body, and then take out the valve seat.
  - Push down the valve rod (5) from the middle hole of the valve body until it is completely taken out, then take out the O-ring (7) and the lower packing (6) of the valve rod.
- 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规定的扭矩, 锁紧阀杆螺母(12)。
- 用温和的前后运动来旋转阀杆, 逐渐扩展至打开和关闭位置。
- 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。



### Reassembly

- 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 (12) with the torque specified in table B
- Rotate the stem with gentle back and forth motion, gradually expanding to the open and closed positions
- If possible, please conduct pressure test on the valve according to relevant standards before installing the return pipe

### 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