太航德克森
TAIHANG DIRKSEN

DQOF46/DQVF46 系列

耐腐蚀衬氟球/V 阀使用说明书

DQOF46/DQVF46 Series Corrosion-resistant lined fluorine ball/V valve Mannual

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1、概述

DQOF46 气动衬氟塑 O 型球阀是旋转式切断型球阀，它由气缸活塞式执行机构和衬氟塑球阀两部分组成。由于该阀内腔及球体均采用高压注塑工艺，衬有耐腐蚀、耐老化的聚全氟乙丙烯（简称 F46）,故具有可靠的耐腐蚀性和密封性。能广泛适用于化工、石油、冶金、医药、电力等工业部门，实现对生产过程中酸、碱等强腐蚀介质的调节或切断。

图 1 气动调节阀

(1)耐腐蚀：阀体内腔及球体均衬 2.5～3mm 厚的 F46，具有极高的化学稳定性，可以适用除“熔融碱金属和元素氟”，以外其他任何强腐蚀介质。

(2)采用全通径、浮动球机构，阀门可在软密封阀座，密封性能好。

(3)体积小，重量轻，结构简单，安装维修方便。

(4)流阻小，流通能力大。

(5)如配用阀门定位器，可实现比例调节。

1、Introduction

DQOF46 pneumatic fluorine-lined O-type ball valve is a rotary cut off type

ball valve, which is composed of two parts: cylinder piston actuator and fluorine-lined ball valve. Because the valve cavity and ball are made of high pressure injection molding process, lined with corrosion and aging resistant polyperfluorinated ethylene propylene (F46), it has reliable corrosion resistance and sealing property. It can be widely used in chemical, petroleum, metallurgy, medicine, electric power and other industrial sectors to achieve the adjustment or cutting of strong corrosive media such as acid and alkali in the production process.

Fig. 1 Pneumatic control valve

(1) Corrosion resistance: the body cavity and the ball are lined with 2.5 ~ 3mm t F46, with very high chemical stability, can be applied to the "molten alkali metal and elemental fluorine", other than any other strong corrosive medium.

(2) The use of full diameter, floating ball mechanism, the valve can be soft sealing seat, sealing performance is good.

(3) Small size, light weight, simple structure, easy installation and maintenance.

(4) Small flow resistance, large circulation capacity.

(5) Such as with the valve positioner, can achieve proportional adjustment.

2、主要技术参数

(1)公称压力：PN1.6MPa

(2)温度： 介质温度 -20℃～150℃

环境温度 一般为-20℃～+80℃

特殊为-40℃～+150℃

(3)转角行程：90。

(4)额定流量系数（见表 1）

表 1 额定流量系数表

公称通径 DN(mm)	15	20	25	32	40	50	65	80	100	125	150	200
额定流量系数 Kv	20	38	72	110	170	270	380	510	940	1400	2200	3500

(5)流量特性： 两位式：快开特性 。

调节式：近似线性或近似等百分比（配定位器后）。

泄漏量：软密封阀座：泄漏基本为零（相对而言）见表 2。

表 2 泄漏量表

公称通径 DN(mm)	15	20	25	32	40	50	65	80	100	125	150	200
泄漏量（毫升/分）	0.08	0.11	0.13	0.17	0.21	0.27	0.35	0.43	0.53	0.67	0.8	10

注：试验介质为常温水，试验压力为 PN1.6Mpa。

(6)气缸工作的气源压力：

单作用气缸执行器：0.3～0.8MPa

双作用气缸执行器：0.2～1.0MPa

(7)可配套附件：

1)各种型号的阀门定位器、空气过滤减压阀。

2)电磁阀、行程开关。

3)手动机构、气缸+手动机构。

2、Specifications

(1) Nominal pressure: PN1.6MPa

(2) Temperature: medium temperature -20℃ ~ 150℃

The ambient temperature is generally -20℃ ~ +80℃

Special range: -40℃ ~ +150℃

(3) Corner travel: 90.

(4) Rated flow coefficient (Table 1)

表 1 额定流量系数表

Table 1 Rated flow coefficient table

公称通径 DN(mm)	15	20	25	32	40	50	65	80	100	125	150	200
额定流量系数 Kv	20	38	72	110	170	270	380	510	940	1400	2200	3500

(5) Flow characteristics: two-position: fast opening characteristics.

Adjustment: approximately linear or approximately equal percentage (after positioning).

Leakage: Soft seal seat: Leakage is basically zero (relatively speaking) as shown in Table 2.

表 2 泄漏量表

Table 2 Leakage table

公称通径 DN(mm)	15	20	25	32	40	50	65	80	100	125	150	200
泄漏量 (ml/min)	0.08	0.11	0.13	0.17	0.21	0.27	0.35	0.43	0.53	0.67	0.8	10

Note: The test medium is normal temperature water, and the test pressure is PN1.6Mpa.

(6) Air source pressure of cylinder work:

Single acting cylinder actuator: 0.3 ~ 0.8MPa

Double acting cylinder actuator: 0.2 ~ 1.0MPa

(7) Accessories available:

1) Various types of valve positioner, air filter pressure reducing valve.

2) Solenoid valve, stroke switch.

3) Manual mechanism, cylinder + manual mechanism.

3、主要零件材料

3、The main parts materials

表 3 零件材料表

Table 3 Parts material table

零件名称 Part name	材料 Material	零件名称 Part name	材料 Material
阀体 Valve body	WCB+F46	气缸 Cylinder	压铸铝 Die-cast aluminum
带杆球体 With rod ball	2Cr13+F46	活塞杆、转轴 Piston rod, Shaft forging steel	锻钢 Forged steel

填料箱 Packing box	WCB+F46	活塞 Piston	压铸铝 Die-cast aluminum
密封圈 Sealing ring	PTFE	活塞环 Piston ring	氟橡胶、丁晴橡胶 Fluoro rubber, butadiene rubber
填料箱 Packing box	PTFE	轴用密封圈 Sealing ring for shaft	氟橡胶、丁晴橡胶 Fluoro rubber, butadiene rubber

4、标准规范

4、Standard specifications

表 4 标准规范表

Table 4 Standard specification table

设计标准 Design standard	GB12230-89、API6D	连接法兰尺寸标准 Size standard for connecting flanges	JB/T79.2-94、GB9113、HG20592、ANSI B16.5、JIS B2201-1984
结构长度 Structural length	GB12221-89、ANSI B16.10	检验标准 Inspection standard	JB/T13927-89、JB/T9092-99、API598

5、保管、安装和使用注意事项

(1)阀门未使用时，应将球体处于开启状态，阀门应整齐地存放在通风、干燥的仓库内，严禁堆置和露天存放。阀门两端应用堵盖封口，以防灰尘、杂质进入阀门内部。

(2)阀门安装前，应仔细核对阀门标志及合格证是否符合使用要求，确认无误后方可进行安装。安装过程中不允许将两端衬氟密封面损伤。

(3)球阀最好正立安装，如安装位置不允许（指气动球阀）也可垂直成一角度，但应考虑加设支承。

(4)球阀安装时，应留有一定的空间，以便阀门的拆装、修理、操作等。

(5)球阀安装前要彻底清洗管路中的污物、焊渣等残留物，阀门安装后应处于全开位置，以排除管道清洗后的残留剩余物，并试验连接处的密封效果。

(6)运行一定周期后，如阀门出现内漏现象，可以拆开阀门检查密封处（阀座和阀芯的球体表面）是否损坏，如已损坏应更换损坏的零件，保证阀门无内泄漏。

(7)衬氟球阀的环境温度一般为-20℃～+80℃，特殊为-40℃～+150℃，相对湿度不大于 90%，以保证球阀的使用寿命。

(8)内衬 F46 的衬氟球阀使用温度不能超过 150℃ ，所用的内衬材料是 F46，F46 材料短时间可到 150℃，长期工作温度要控制在 120℃以 下

(9)衬氟球阀使用压力不能有负压 ，负压会使衬氟球阀内衬氟层被吸出、脱壳、鼓出等现象，导致球阀启闭故障。

(10)介质的正压力要控制在规定使用范围内，超出范围会使内衬氟层出现龟裂、变形，造成渗漏。

(11)衬氟球阀使用的介质不能有硬质颗粒 、杂质和结晶等，以免在球阀启闭过程做刮伤衬氟层。

(12)如需手动操作气动球阀，需将手柄切换至手动位置方可操作。手操结束后应将手柄及时切换至自动位置。

(13)手动球阀启闭应用手动球阀的专用扳手，不能用其他扳手代替，以

防止操作失误。

(14)禁止使用杠杆开启和关闭衬氟球阀，注意观察衬氟球阀启闭指示位置和限位装置，开启和关闭到位后，不要再强行加力关闭，避免氟塑料密封面过早损坏。

(15)阀门在使用中，应随时观察，发现故障应立即停用，查明原因并消除。

5、Precautions for storage, installation and use

(1) When the valve is not used, the ball should be in the open state, the valve should be neatly stored in a ventilated and dry warehouse, and it is strictly prohibited to pile and open storage. Both ends of the valve should be sealed with a plug cover to prevent dust and impurities from entering the valve.

(2) Before the valve installation, should carefully check whether the valve mark and certificate meet the requirements of use, confirm the error before installation. Do not damage the fluorine sealing surfaces at both ends during installation.

(3) The ball valve is best installed vertically, if the installation position is not allowed (refers to the pneumatic ball valve) can also be vertically into an Angle, but should consider adding support.

(4) Ball valve installation, should leave a certain space for valve disassembly, repair, operation, etc.

(5) The ball valve should be thoroughly cleaned before the installation of dirt, welding slag and other residues in the pipeline, the valve should be in a

fully open position after installation, in order to eliminate the residual residue after pipeline cleaning, and test the sealing effect of the connection.

(6) After a certain period of operation, if there is internal leakage of the valve, the valve can be disassembled to check whether the sealing place (the ball surface of the valve seat and valve core) is damaged, if damaged, the damaged parts should be replaced to ensure that the valve has no internal leakage.

(7) The ambient temperature of the fluorine lined ball valve is generally -20 ° C ~ +80 ° C, especially -40 ° C ~ +150 ° C, and the relative humidity is not more than 90% to ensure the service life of the ball valve.

(8) Lined with F46 fluorine ball valve use temperature can not exceed 150 ° C, the lining material used is F46, F46 material can be 150 ° C for a short time, long-term working temperature should be controlled at 120 ° C

(9) The use of the fluorine ball valve pressure can not have negative pressure, negative pressure will make the fluorine lining of the fluorine ball valve is sucked out, shelled, bulge and other phenomena, resulting in the ball valve opening and closing failure.

(10) The positive pressure of the medium should be controlled within the specified range of use, beyond the range will make the lining fluorine layer crack, deformation, resulting in leakage.

(11) The medium used in the fluorine lined ball valve can not have hard particles, impurities and crystals, so as to avoid scratching the fluorine lined layer during the ball valve opening and closing process.

(12) If you need to manually operate the pneumatic ball valve, you need to switch the handle to the manual position to operate. After hand operation, the handle should be switched to the automatic position in time.

(13) The special wrench for manual ball valve opening and closing can not be replaced by other wrenches to prevent operation errors.

(14) Do not use the lever to open and close the fluorine lined ball valve, pay attention to observe the fluorine lined ball valve opening and closing indicating position and limiting device, open and close in place, do not force closure, to avoid premature damage to the fluorine plastic sealing surface.

(15) The valve in use, should be observed at any time, found that the fault should be immediately deactivated, identify the cause and eliminate.

6、常见问题及解决方案

6、 Common problems and solutions

故障现象 Fault phenomenon	可能发生的原因 Possible reasons for this	消除方法 Elimination method
手柄操纵力增大 阀杆转动不灵活 The lever control force increases and the valve stem rotation is not flexible	球体与密封面压得过紧 The sphere is too tight with the sealing surface	松动中法兰螺母，重新调整 Loosen the nut of the middle flange and adjust it again
	填料压得过紧 The packing is too tight	松动压盖螺母，重新压紧 Loosen the gland nut and tighten again
介质由填料箱处泄漏 The medium is	填料箱内填料没有压紧 The packing box is not compressed tightly	均匀的拧紧填料压盖螺母 Tighten the packing gland nut evenly

leaking from the packing box	填料磨损或使用过久，失效 Filler wear or use too long, failure	更换填料 Repacking
左右阀体连接处有介质泄漏 Medium leak at left and right valve body connection	中垫损坏 Middle pad failure	更换中垫片 Replace the center gasket
	左右阀体连接螺栓松动 The left and right valve body bolts are loose	均匀的拧紧螺母 Tighten the nuts evenly
关闭后密封面介质泄漏 The sealing surface medium leaks after closing	关闭力矩不够，不到位 Closing torque is not enough, not in place	适当加大关闭力矩，调整限位 Appropriately increase the closing torque and adjust the limit
	密封面有损伤 The sealing surface is damaged	拆开阀门修复密封面，更换密封圈 Disassemble the valve to repair the sealing surface and replace the
	在阀体下部有沉积物 Deposit under valve body	拆开阀门，清除沉积物 Remove the valve and remove sediment
壳体泄漏 Shell leakage	衬里层损坏，被腐蚀穿孔 The lining layer is damaged, corroded and perforated	修复破损层或更换阀门 Repair damaged layer or replace valve

7、订货须知

订货时，请写明：

(1)、产品型号

(2)、公称通径或额定流量系数

(3)、公称压力

(4)、阀体、阀座、阀芯、阀杆等直接与介质接触的零件材质

(5)、最大工作气源的压力

(6)、使用介质的温度及工作的环境温度

(7)、阀的开、关方式

(8)、需配附件

(9)、法兰连接密封面形式和连接标准

(10)、其他特殊要求

7、Instructions for ordering

When ordering, please state:

(1)、Product model

(2)、Nominal diameter or rated flow coefficient

(3)、Nominal pressure

(4)、Valve body, valve seat, spool, stem and other parts in direct contact with the medium material

(5)、The maximum pressure of the working air source

(6)、The temperature of the medium and the ambient temperature of the work

(7)、Opening and closing of the valve

(8)、Accessories are required

(9)、Flange connection sealing surface form and connection standard

(10)、Other special requirements

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