

D341F46 铸钢法兰衬氟蝶阀系列

D341F46 cast steel flange lined fluorine butterfly valve series

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Instruction Manual



开维喜阀门集团有限公司
Kaiweixi Valve Group Co., LTD.

D341F46 铸钢法兰衬氟蝶阀

D341F46 cast steel flange lined fluorine butterfly valve

型号: D341F46 规格: DN250-DN1200
公称压力: PN10~PN25 适用介质: 水、酸、碱及腐蚀性介质
适用温度: -50℃~150℃ 阀体材质: 铸铁衬氟、铸钢衬氟、不锈钢衬氟
连接方式: 法兰 驱动方式: 蜗轮蜗杆
Model: D341F46
Specification: DN250 - DN1200
Nominal Pressure: PN10 - PN25
Applicable Media: Water, acids, alkalis, and corrosive media
Operating Temperature: -50° C to 150° C
Valve Body Material: Cast iron lined with fluorine, cast steel lined with fluorine, stainless steel lined with fluorine
Connection Type: Flange
Actuation: Worm gear

概述

D341F46 铸钢法兰衬氟蝶阀是一种通过圆盘形蝶板绕其固定轴（阀杆）旋转来开启、关闭和调节流体通道的阀门。其阀杆轴线偏离蝶板密封面中心，采用“单偏心”或更复杂的结构设计，蝶板两侧为非对称。阀门采用法兰式连接，即阀体两端带有标准法兰，通过螺栓与管道法兰直接紧固。蝶板及阀体内腔表面整体衬覆氟塑料（如 F46，即聚全氟乙丙烯 FEP）作为密封面与防腐层，利用蝶板旋转压紧衬氟阀座实现密封。该阀门通过手动、电动或气动装置驱动阀杆旋转 90° 或更小角度，实现对强腐蚀性等严苛介质流体的可靠通断与流量控制。

Overview

D341F46 cast steel flange lined fluorine butterfly valve is a valve that opens, closes, and regulates fluid channels by rotating a disc-shaped butterfly plate around its fixed shaft (valve stem). The axis of its valve stem deviates from the center of the butterfly plate sealing surface, and adopts a "single eccentricity" or more complex structural design, with asymmetric sides on both sides of the butterfly plate. The valve adopts a flange connection, which means that the valve body has standard flanges at both ends and is directly fastened to the pipeline flange through bolts. The surface of the butterfly plate and the inner cavity of the valve body are lined with fluoroplastic (such as F46, also known as perfluoroethylene propylene FEP) as the sealing surface and anti-corrosion layer, and the butterfly plate is used to rotate and press the fluorine lined valve seat to achieve sealing. This valve is driven by manual, electric, or pneumatic devices to rotate the valve stem by 90 ° or less, achieving reliable on/off and flow control for highly corrosive and other harsh media fluids.



D341F46 铸钢法兰衬氟蝶阀产品图

D341F46 cast steel flange lined fluorine butterfly valve product diagram

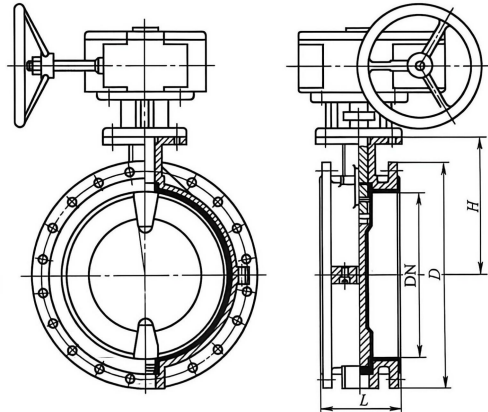
特点

- 1、结构坚固耐用：采用铸钢阀体与标准法兰连接，结构强度高，刚性好，适用于对机械强度有要求的管道系统。
- 2、启闭灵活可控：蝶板旋转 90° 即可完成全开或全关，配合蜗轮等驱动装置操作平稳，可实现流量调节与快速切断。
- 3、流体阻力较小：当蝶板处于全开位置时，介质流道顺畅，蝶板对流体产生的阻挡较小，因此压力损失较低。
- 4、密封性能优异，防腐突出：采用偏心结构结合整体衬氟设计，F46（聚全氟乙丙烯）衬层覆盖所有过流表面，提供卓越的耐腐蚀性，能有效密封酸碱盐等强腐蚀性介质。
- 5、维护简便，适用寿命长：衬氟层一体成型，有效防止介质腐蚀阀体，降低了维护需求。法兰连接方式便于安装与拆卸。
- 6、用途专业特定：专为强腐蚀性、高纯净度或工况严苛的介质设计，广泛应用于化工、制药、冶炼、环保、电子等行业的酸、碱、盐、有机溶剂及高纯介质输送管路。

feature

1. Durable and sturdy structure: The valve body is made of cast steel and connected to standard flanges, with high structural strength and good rigidity, suitable for pipeline systems that require mechanical strength.
2. Flexible and controllable opening and closing: The butterfly plate can be fully opened or closed by rotating 90 ° , and with the help of worm gear and other driving devices, it can operate smoothly and achieve flow regulation and rapid cutting.
3. Low fluid resistance: When the butterfly plate is in the fully open position, the medium flow channel is smooth, and the butterfly plate has less obstruction to the fluid, resulting in lower pressure loss.
4. Excellent sealing performance and outstanding anti-corrosion: Adopting eccentric structure combined with integral fluorine lining design, F46 (perfluoroalkoxy) lining layer covers all overcurrent surfaces, providing excellent corrosion resistance and effectively sealing strong corrosive media such as acid, alkali and salt.
5. Easy maintenance and long service life: The fluorine lining layer is integrally formed, effectively preventing the medium from corroding the valve body and reducing maintenance requirements. The flange connection method is easy to install and disassemble.
6. Specific Application: Designed specifically for media with strong corrosiveness, high purity,

or harsh working conditions, it is widely used in acid, alkali, salt, organic solvent, and high-purity medium transportation pipelines in industries such as chemical, pharmaceutical, smelting, environmental protection, and electronics.



D341F46 铸钢法兰衬氟蝶阀结构图

D341F46 cast steel flange lined fluorine butterfly valve structure diagram

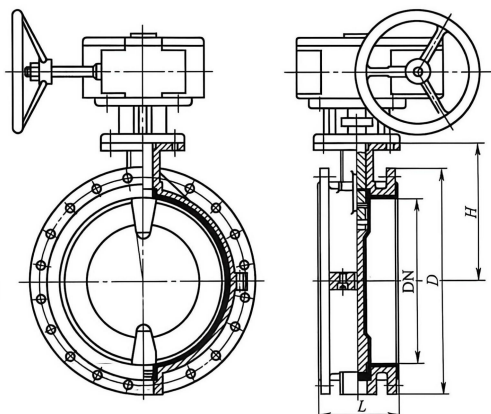
零部件名称材料表 Parts Name and Material List

零件名称 Part Name	材料 Material
上下阀体 Upper and Lower Valve Body	铸铁、铸钢、不锈钢、衬 F46、F3 Cast Iron, Cast Steel, Stainless Steel, Lined F46, F3
阀座 Valve Seat	铸钢 Cast Steel
带杆蝶板 Disc with Stem	铸钢、不锈钢、衬 F46、F3 Cast Steel, Stainless Steel, Lined F46, F3
填料 Packing	F4 F4 (PTFE)
衬垫 Gasket	硅橡胶 Silicone Rubber
蜗轮手柄 Worm Gear Handle	QT400-15 球墨铸铁 QT400-15 Ductile Iron

性能规范表 Performance Specification Sheet

性能规范表 Performance Specification Sheet		
公称压力 Nominal Pressure	1.0/1.6/2.5	MPa
强度试验压力 Strength test pressure	1.5/2.4/3.75	
密封试验压力 Sealing test pressure	1.1/1.76/2.75	

适用温度 Applicable Temperature	-50~150	℃
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D341F46 铸钢法兰衬氟蝶阀外形尺寸图

D341F46 cast steel flange lined fluorine butterfly valve external dimension drawing

D341F46 铸钢法兰衬氟蝶阀外形尺寸表

D341F46 cast steel flange lined fluorine butterfly valve overall dimension table

尺寸 size	公称尺寸 nominal size DN											
	250	300	350	400	450	500	600	700	800	900	1000	1200
L	165	178	190	216	222	229	267	292	318	330	410	470
D	395	445	505	565	615	670	780	895	1015	1115	1230	1455
H	246	274	320	340	365	410	470	500	580	670	796	868

安装与维护须知

1. 日常维护:

定期巡检阀门及连接法兰处有无外部泄漏迹象。

保持阀杆驱动部位（如蜗轮箱）清洁。定期（每季度或每半年）通过注油嘴加注指定的耐高温、抗腐蚀润滑脂（如全氟聚醚类）。

检查配套执行机构的运行状态、信号反馈是否正常。

2. 定期检查（建议每 6-12 个月或根据工况缩短周期）:

检漏测试： 在系统停车或隔离时，对阀门进行密封性能测试。

功能检查： 检查阀杆转动是否依然灵活，有无异响或卡顿。

紧固件检查： 检查并重新对角紧固法兰连接螺栓。

外部检查： 观察阀体有无异常腐蚀、膨胀或变形，检查执行机构连接件是否松动。

3. 存放要求:

阀门长期库存时, 应处于微开状态 (约 5%-10%开度), 使衬氟密封副互不接触, 防止“冷流”粘连或塑性变形。

法兰端面必须加装塑料或金属保护盖, 防止密封面及衬里边缘受损。

存放置于干燥、通风、阴凉的室内, 远离热源、臭氧、紫外线直射及腐蚀性化学气氛。

4. 故障诊断与处理:

故障现象	可能原因	建议处理措施
阀门泄漏	1. 蝶板未关到位。 2. 密封面有异物卡住。 3. 衬氟密封面磨损或划伤。 4. 法兰螺栓未均匀紧固或垫片失效。	1. 检查并操作至全关位。 2. 微开阀门再缓慢关闭, 尝试冲走异物。若无效, 需拆解清洗。 3. 联系专业人员或制造商, 评估更换阀座/蝶板衬里。 4. 按对角顺序重新均匀紧固。
操作扭矩过大	1. 阀杆或蝶板被内部沉积物卡阻。 2. 阀杆缺乏润滑或填料过紧。 3. 执行机构扭矩设置不足或故障。 4. 衬氟层发生局部翘起或脱落 (严重)。	1. 尝试反复开关冲洗。无效则需拆检。 2. 对阀杆进行清洁和润滑。 3. 检查并重新调整执行机构。 4. 立即停用并联系制造商。
阀杆处泄漏	阀杆填料 (通常是 O 形圈或 V 形填料) 磨损或老化。	联系专业人员更换阀杆密封组件。切勿在带压状态下强行紧固。

5. 重要提示:

衬里修复限制: D341F46 阀门的核心部件——阀体衬里和蝶板衬里——属于一次性热压成型或模压工艺, 现场无法修复。一旦出现裂纹、鼓包或大面积剥离, 必须整体更换阀门或返回原厂处理。

专业维护: 除简单的外部清洁和润滑外, 任何涉及拆卸阀体、更换内部衬氟部件的维护工作, 都必须由经过培训的专业人员或直接联系阀门制造商进行, 以确保衬氟层的完整性和阀门的安全性。

本须知为通用指导, 最终解释权归阀门制造商所有。对于特定关键应用, 请严格遵守项目技术协议。

Installation and Maintenance Instructions

1. Daily maintenance:

Regularly inspect valves and connecting flanges for any signs of external leakage.

Keep the valve stem drive part (such as the worm gear box) clean. Regularly (quarterly or semi annually) add designated high-temperature and corrosion-resistant lubricating grease (such as perfluoropolyether) through the oil nozzle.

Check the operating status and signal feedback of the supporting actuator to ensure normal operation.

2. Regular inspection (recommended every 6-12 months or shortened according to working conditions):

Leak testing: Conduct a sealing performance test on valves during system shutdown or isolation.

Functional inspection: Check if the valve stem still rotates flexibly, without any abnormal noise or jamming.

Fastener inspection: Check and re tighten the flange connection bolts diagonally.

External inspection: Observe the valve body for any abnormal corrosion, expansion, or deformation, and check if the connecting parts of the actuator are loose.

3. Storage requirements:

When the valve is in long-term inventory, it should be in a slightly open state (about 5% -10% opening), so that the fluorine lined sealing pairs do not come into contact with each other, to prevent "cold flow" adhesion or plastic deformation.

The flange end face must be equipped with a plastic or metal protective cover to prevent damage to the sealing surface and lining edge.

Store in a dry, ventilated, and cool room, away from heat sources, ozone, direct ultraviolet radiation, and corrosive chemical atmospheres.

4. Fault diagnosis and handling:

Fault Phenomenon	Possible Causes	Recommended Handling Measures
Valve Leakage	1. The butterfly plate is not fully closed. 2. Foreign objects are stuck on the sealing surface. 3. The PTFE-lined sealing surface is worn or scratched. 4. Flange bolts are not evenly	1. Inspect and operate the valve to the fully closed position. 2. Slightly open the valve and then close it slowly to flush out foreign objects. If ineffective, disassemble and clean the valve.

	tightened or the gasket is faulty.	3. Contact professionals or the manufacturer to evaluate replacing the valve seat/butterfly plate lining. 4. Re-tighten evenly in a diagonal sequence.
Excessive Operating Torque	1. The valve stem or butterfly plate is jammed by internal deposits. 2. The valve stem is insufficiently lubricated or the packing is too tight. 3. The actuator torque setting is insufficient or faulty. 4. Local bulging or detachment of the PTFE lining (severe case).	1. Attempt repeated opening and closing to flush. If ineffective, disassemble for inspection. 2. Clean and lubricate the valve stem. 3. Inspect and readjust the actuator. 4. Immediately shut down the valve and contact the manufacturer.
Valve Stem Leakage	The valve stem packing (usually O-rings or V-packing) is worn or aged.	Contact professionals to replace the valve stem sealing assembly. Do not force-tighten under pressure.

5. Important reminder:

Lining repair limitations: The core components of D341F46 valve – valve body lining and butterfly plate lining – belong to one-time hot pressing or molding processes and cannot be repaired on site. Once cracks, bulges, or large-scale peeling occur, the valve must be replaced as a whole or returned to the original factory for processing.

Professional maintenance: In addition to simple external cleaning and lubrication, any maintenance work involving disassembling the valve body or replacing internal fluorine lined components must be carried out by trained professionals or directly contacting the valve manufacturer to ensure the integrity of the fluorine lining and the safety of the valve.

This notice is a general guidance, and the final interpretation belongs to the valve manufacturer. For specific critical applications, please strictly adhere to the project technical agreement.

非常感谢您的阅读！

Thank you very much for reading!

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