开维喜阀门集团
Kaiweixi valve group
https://www.kaiweixi.com
E-mail：sales@kaiweixi.com

D941W 百叶式电动通风蝶阀系列

D941W Louver Type Electric Ventilation Butterfly Valve Series

使用说明书

Instruction Manual

开维喜阀门集团有限公司

Kaiweixi Valve Group Co.,LTD.

地址：中国 浙江省温州市瓯北街道三桥工业区林下路 1 号　电话：0577-67038872　传真：0577-67198981　邮编：325100

开维喜阀门集团
Kaiweixi valve group
https://www.kaiweixi.com
E-mail：sales@kaiweixi.com

D941W 百叶式电动通风蝶阀

D941W Louver Type Electric Ventilation Butterfly Valve

型号：D941W　　规格：DN500-DN3000
公称压力：PN6　　适用介质：粉尘、含尘气体
适用温度：-30℃～350℃　　阀体材质：碳钢、不锈钢
连接方式：法兰　　驱动方式：电动

Model: D941W
Specifications: DN500－DN3000
Nominal Pressure: PN6
Applicable Media: Dust, dust-laden gas
Applicable Temperature: -30° C to 350° C
Valve Body Materials: Carbon steel, stainless steel
Connection Type: Flanged
Actuation Mode: Electric

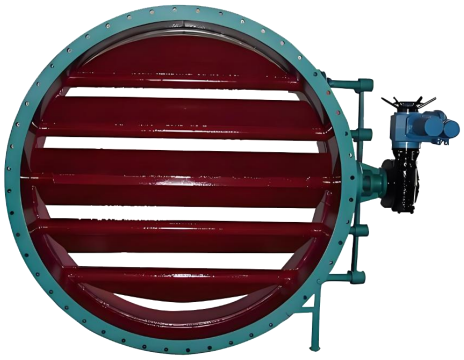
概述

D941W 电动圆形百叶式调节蝶阀是一种通过多片百叶式蝶板同步旋转来控制气体或含尘气体介质流量与通断的阀门。其阀杆轴线位于每片百叶板的中心位置，采用百叶式结构设计，多片蝶板通过连杆机构联动，实现同步开启与关闭。阀门采用法兰式连接，即阀体两端带有与管道法兰标准相匹配的连接法兰，通过螺栓螺母与管道法兰直接紧固连接。蝶板密封副通常采用金属对金属的硬密封结构，具备耐高温、耐磨损、抗腐蚀等特点。该阀门通过电动装置驱动阀杆旋转 90°，可实现对风道流体的快速切断与连续调节，并可选配定位器等附件，实现远程自动化控制。

Overview

The D941W Electric Circular Louver Type Control Butterfly Valve is a valve designed to control the flow and on/off switching of air or dust-laden gas media through the synchronized rotation of multiple louver-type discs. The stem axis is located at the center of each individual disc. Utilizing a louver-type structural design, the multiple discs are linked via a connecting rod mechanism to achieve synchronized opening and closing. The valve features a flanged connection, meaning both ends of the valve body are equipped with connecting flanges that match the pipeline flange standards, allowing direct fastening to the pipeline flanges using bolts and nuts. The disc sealing pair typically employs a metal-to-metal hard seal structure, offering characteristics such as high-temperature resistance, wear resistance, and corrosion resistance. This valve is operated by an electric actuator that rotates the shaft 90°, enabling rapid shut-off and continuous regulation of the duct fluid. Accessories such as positioners can be optionally configured for remote automated control.

开维喜阀门集团
Kaiweixi valve group
https://www.kaiweixi.com
E-mail：sales@kaiweixi.com



D941W 百叶式电动通风蝶阀产品图

D941W Louver Type Electric Ventilation Butterfly Valve Product Drawing

特点

1、结构紧凑，承载能力强：采用法兰式连接结构，阀体刚性强，能够承受较大的管道应力。百叶式多蝶板设计使阀门整体结构紧凑，在相同流通面积下体积更小。

2、启闭迅速，同步性能好：采用 90° 回转启闭方式，多片百叶板通过连杆机构联动，开关迅速流畅，各蝶板同步动作，调节精度高。

3、流通能力大，压力损失小：当阀门全开时，多片百叶板与介质流向平行，对流体的阻挡极小。百叶式设计增大了流通面积，特别适用于大口径低压差的气体介质管路。

4、密封性能可靠，耐高温磨损：采用金属对金属的硬密封结构，密封副由不锈钢或耐热合金材料组成，能够承受高温气体的热膨胀和热冲击，耐磨损、抗冲刷，使用寿命长。

5、维护方便，检修成本低：百叶板和阀杆采用可拆卸结构，便于现场检查和更换。连杆机构设计合理，调试简单，有效降低检修成本。

6、适用工况广泛：阀体可选用碳钢、不锈钢、耐热钢等材质，能够适用于高温烟气、含尘气体、腐蚀性气体等苛刻工况，广泛应用于电力、冶金、建材、化工等行业的通风除尘和烟气治理系统。

Features

1、Compact Structure, Strong Load-Bearing Capacity: Featuring a flanged connection structure, the valve body possesses high rigidity, enabling it to withstand significant pipeline stress. The multi-disc louver design results in a compact overall structure, offering a smaller footprint for the same flow area.

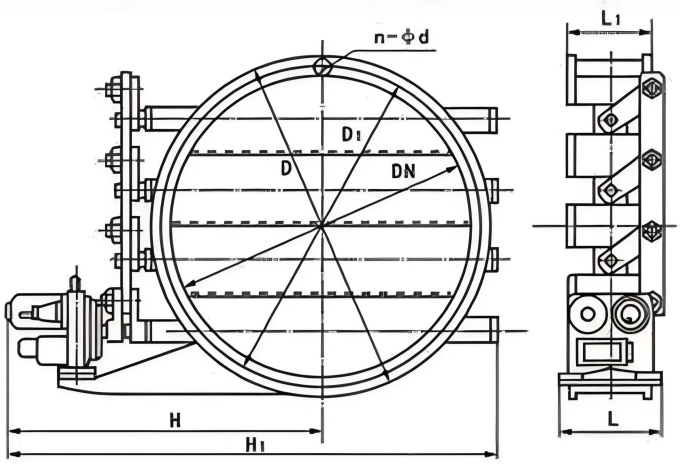
2、Quick Opening/Closing, Excellent Synchronization: Employing a 90° rotary operation, the multiple louver blades are linked via a connecting rod mechanism, allowing for rapid and smooth opening and closing. The synchronized action of all blades ensures high regulation accuracy.

3、High Flow Capacity, Low Pressure Loss: When the valve is fully open, the multiple louver blades align parallel to the flow direction of the medium, creating minimal obstruction. The louver design increases the flow area, making it particularly suitable for large-diameter, low-pressure differential gas media pipelines.

4、Reliable Sealing Performance, High Temperature and Wear Resistance: Utilizing a metal-to-metal hard seal structure, the sealing pair consists of stainless steel or heat-resistant alloy materials. This design withstands thermal expansion and thermal shock from high-temperature gases, offering resistance to wear and erosion, ensuring a long service life.

5、Easy Maintenance, Low Inspection and Repair Costs: The louver blades and shaft feature a detachable structure, facilitating on-site inspection and replacement. The connecting rod mechanism is designed for rational adjustment, simplifying commissioning and effectively reducing maintenance costs.

6、Wide Applicability: The valve body can be made from materials such as carbon steel, stainless steel, or heat-resistant steel. This allows it to be suitable for demanding conditions involving high-temperature flue gas, dust-laden gas, and corrosive gases. It is widely used in ventilation, dust removal, and flue gas treatment systems across industries such as power, metallurgy, building materials, and chemical engineering.



D941W 百叶式电动通风蝶阀结构图

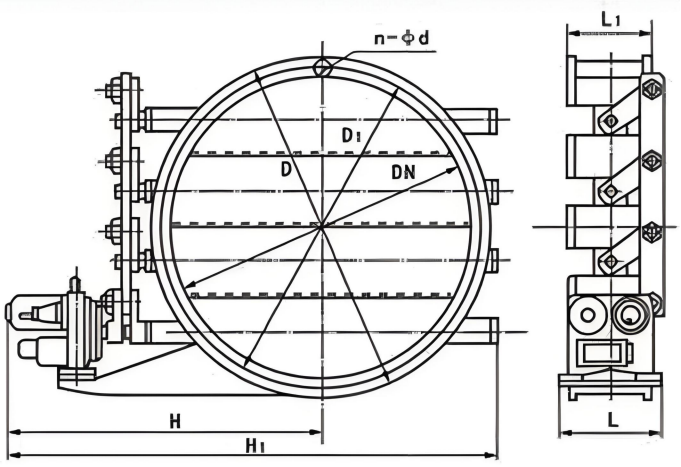
Structural Diagram of D941W Electric Louver Ventilation Butterfly Valve

零部件名称材料表 Material List

阀体 body	碳钢、不锈钢 Carbon steel, stainless steel
阀板 disc	铸钢、碳钢、锰钢、不锈钢、合金钢 Cast Steel / Carbon Steel / Manganese Steel / Stainless Steel / Alloy Steel
阀杆 stem	碳钢、2Cr13、铬不锈钢、不锈钢 Carbon Steel, 2Cr13, Chromium Stainless Steel, Stainless Steel

性能规范表 Performance Specification Table

性能规范表 Performance Specification Table		
公称压力 Nominal pressure	0.6	MPa
强度试验压力 Strength Test Pressure	0.9	
密封试验压力 Seal Test Pressure	0.66	
适用温度 Applicable Temperature	-30℃～350℃	℃



D941W 百叶式电动通风蝶阀外形尺寸图

D941W Louver Type Electric Ventilation Butterfly Valve

D941W 百叶式电动通风蝶阀外形尺寸表

D941W Louver Type Electric Ventilation Butterfly Valve Overall Dimension Table

DN	D1	D	L	L1	H1	H	b	Z-Φ
500	555	600	220	300	900	1270	8	20-18
600	655	700	220	300	950	1370	10	20-18
700	755	800	240	300	1000	1470	10	20-18
800	870	930	240	365	1120	1670	10	24-23
900	970	1030	260	365	1170	1740	12	24-23
1000	1070	1130	260	365	1220	1840	12	28-23
1120	1190	1250	280	420	1430	2110	12	28-23
1250	1320	1380	280	420	1495	2240	14	32-23
1400	1470	1530	300	420	1570	2390	14	36-23
1600	1670	1730	320	450	1745	3660	14	40-23
1800	1870	1930	340	450	1845	2860	16	44-23
2000	2070	2130	360	450	1945	3060	16	48-23
2240	2310	2370	380	480	2095	3330	18	48-23
2500	2570	2630	420	480	2225	3590	18	52-23
2800	2870	2930	4440	480	2375	3890	186	60-23
3000	3070	3130	460	480	2475	4090	186	60-23

D941W 百叶式电动通风蝶阀安装与维护须知

一、 安装说明

安装前检查：

核对阀门型号、通径、压力等级及电源电压是否与系统设计要求一致。

检查阀门外观，确认运输过程中阀体、法兰密封面及百叶式蝶板无磕碰损伤。清除阀腔内及蝶板表面的杂物、灰尘和防锈油。

接通电源（或手动操作执行机构），检查百叶式蝶板各叶片动作是否同步、启闭灵活、无卡阻。安装前建议将蝶板调整至全闭状态，便于插入管道法兰间隙。

安装位置与方向：

阀门可安装于水平或垂直管道上，安装位置应便于观察电动执行器、操作按钮及接线盒的维护。

注意观察阀体上的介质流向箭头，百叶式蝶阀通常设计为单向密封，确保箭头指向与介质流动方向一致。若用于双向工况，需确认订货时是否指定。

管道对接要求：

本阀门采用对夹式或法兰式连接（具体以实物为准），需使用标准管道法兰夹持安装。严禁通过强行紧固法兰螺栓来消除管道法兰间的错位、张口或过大间隙，此举会导致阀体变形、卡死蝶板。

安装时，将阀门置于两片法兰之间，插入对穿螺栓。采用对角、分步、均匀的方式拧紧螺母，确保阀体法兰受力均匀，避免因单边过紧导致泄漏或阀体变形。

电动执行机构安装与接线：

执行器已在出厂前安装调试，现场不得随意拆解。

电气接线应由专业电工按照执行器接线图进行。接通电源前，必须确认电源电压与执行器铭牌参数一致。

接线完成后，需根据现场控制要求（如开关型或调节型）重新设定执行器的开度限位和力矩保护，确保蝶板在“全开”和“全关”位置准确停止。

二、 使用与操作说明

启动与调试：

首次使用或维修后重新启用，建议在无负载或低压气流状态下，使用电动执行器进行数次全开全关操作，

开维喜阀门集团
Kaiweixi valve group
https://www.kaiweixi.com
E-mail：sales@kaiweixi.com

观察阀门运行是否平稳，有无异响，各叶片开关是否到位。

开启与关闭：

正常操作时，通过控制室或现场按钮控制阀门启闭。操作过程中应关注执行器运行声音，如有异常卡阻应立即停止操作并检查。

对于配备手轮/手柄的电动执行器，在需要手动操作时，必须先将切换手柄拨至手动位置（或按照执行器说明书切换至手动模式）。操作结束后，应恢复至电动位置。

运行监控：

阀门在运行过程中，特别是调节工况时，应监控执行器电流是否在额定范围内，避免因长时间过载而烧毁电机。

对于通风系统，应注意气流中的含尘量。若含尘量过高，蝶板密封面及阀体内腔可能发生磨损或积灰，需增加检查频次。

三、 维护与保养须知

日常维护：

定期清理阀门外部的积灰，保持执行器、阀杆及传动部件清洁。

检查电动执行器接线盒防水、防尘密封性是否良好，避免受潮进水导致短路。

观察阀杆处的填料函有无泄漏（对于通风蝶阀多为微量泄漏，若冒烟/漏灰严重则需处理）。

定期润滑：

对于阀杆轴承及传动部位，每半年或根据运行工况加注适量润滑脂（如高温锂基脂）。

电动执行器的减速机构需按其说明书要求定期检查或更换润滑油。

定期检查：

建议每 6 个月或一个大修周期进行一次全面检查。

检查内容：打开阀门，观察百叶式蝶板各叶片密封面磨损情况，检查叶片与阀体轴端的连接是否牢固，清除叶片背面及阀体内部的积灰与结垢。

检查法兰连接螺栓是否有松动，阀杆转动是否灵活，有无卡滞。

开维喜阀门集团
Kaiweixi valve group
https://www.kaiweixi.com
E-mail：sales@kaiweixi.com

存放要求：

若阀门长期停用或库存存放，应将蝶板关闭（或微开）并加以固定，防止风吹导致叶片摆动磨损。存放在干燥、通风的室内，避免与腐蚀性物质接触。

故障与处理：

电动执行器不动作： 检查电源是否接通、控制线路有无断线、电机热保护是否动作、手动/自动切换手柄是否在正确位置。

阀门关不严/泄漏量大： 检查蝶板各叶片是否完全到位，密封面是否有异物卡阻，调节执行器关闭限位，检查叶片是否变形或主轴是否断裂。

启闭卡阻/扭矩过大： 检查阀体内腔是否有积灰或杂物堵塞，检查阀杆轴承是否损坏或润滑不良。对于高温工况，检查是否因热膨胀导致间隙过小。

填料处泄漏： 适当拧紧填料压盖螺栓；若仍泄漏，需更换填料（如柔性石墨）。

重要提示：

本须知为通用性技术指导，适用于常规通风、空气及无腐蚀性烟气工况。若用于高温（>400℃）、含腐蚀性气体、高磨损粉尘或防爆场合，必须遵循制造商提供的专项技术协议和维护手册进行操作与维护。非专业人员请勿擅自拆解阀门及电动执行机构。

D941W Louver Type Electric Ventilation Butterfly Valve Installation and Maintenance Instructions

I. Installation Instructions

Pre-Installation Inspection:

Verify that the valve model, nominal diameter, pressure rating, and power supply voltage match the system design requirements.

Inspect the valve exterior to ensure no damage occurred to the body, flange sealing surfaces, or louver-type discs during transport. Remove any debris, dust, and anti-rust oil from the valve interior and disc surfaces.

Connect power (or manually operate the actuator) to check if all louver blades operate synchronously, open and close smoothly, and are free from binding. It is recommended to set the discs to the fully closed position before installation to facilitate insertion into the pipeline flange gap.

Installation Position and Orientation:

The valve can be installed in horizontal or vertical pipelines. The installation location should facilitate access for inspecting the electric actuator, operation buttons, and junction box maintenance.

Observe the medium flow direction arrow on the valve body. Louver-type butterfly valves are typically designed for unidirectional sealing; ensure the arrow points in the same direction as the medium flow. For bidirectional service, confirm this was specified at the time of ordering.

Pipeline Connection Requirements:

This valve uses a wafer-type or flanged connection (refer to the actual product). It must be installed using standard pipeline flanges for clamping. Do not use excessive force when tightening flange bolts to correct misalignment, gaps, or excessive spacing between pipeline flanges, as this can cause valve body deformation and disc binding.

During installation, position the valve between the two flanges and insert the through bolts. Tighten the nuts evenly in a diagonal, step-by-step pattern to ensure uniform stress on the valve body flanges, preventing leaks or body deformation due to uneven tightening.

Electric Actuator Installation and Wiring:

The actuator is factory-assembled and tested. Do not disassemble it arbitrarily in the field.

Electrical wiring should be performed by a qualified electrician following the actuator wiring diagram. Before connecting power, verify that the power supply voltage matches the parameters on the actuator nameplate.

After wiring is complete, readjust the actuator's travel limits and torque protection settings according to on-site control requirements (e.g., on-off or modulating type). Ensure the discs stop accurately at the "fully open" and "fully closed" positions.

II. Operation Instructions

Startup and Commissioning:

For initial use or after maintenance, it is recommended to perform several full-stroke operations using the electric actuator under no-load or low-pressure airflow conditions. Observe the valve for smooth operation, unusual noises, and ensure all blades reach the correct open/closed positions.

Opening and Closing:

During normal operation, control valve opening and closing via the control room or on-site push buttons. Monitor the actuator's operating sounds; stop immediately and investigate if abnormal binding occurs.

For electric actuators equipped with a handwheel, when manual operation is required, ensure the selector lever is shifted to the manual position (or switch to manual mode following the actuator

manual) first. After manual operation, return it to the electric position.

Operational Monitoring:

During valve operation, especially under modulating conditions, monitor the actuator current to ensure it remains within the rated range, preventing motor burnout due to prolonged overload.

For ventilation systems, pay attention to the dust content in the airflow. If the dust concentration is high, the disc sealing surfaces and valve body cavity may experience wear or dust accumulation, requiring increased inspection frequency.

III. Maintenance Instructions

Routine Maintenance:

Regularly clean accumulated dust from the valve exterior. Keep the actuator, valve stem, and transmission components clean.

Check the waterproof and dustproof sealing of the electric actuator junction box to prevent moisture ingress and short circuits.

Observe the packing gland area for leaks (for ventilation butterfly valves, this is often minimal; address if smoke/dust leakage becomes significant).

Regular Lubrication:

Apply appropriate lubricant (e.g., high-temperature lithium grease) to valve stem bearings and transmission parts every six months or based on operating conditions.

The reduction mechanism of the electric actuator requires regular inspection and oil changes as specified in its manual.

Periodic Inspection:

A comprehensive inspection is recommended every 6 months or during a major maintenance cycle.

Inspection items: Open the valve and observe the wear condition of the sealing surfaces on all louver blades; Check the secure connection between the blades and the shaft ends inside the body; Clean accumulated dust and scale from the back of the blades and the valve body interior.

Check flange connection bolts for looseness; Verify the stem rotates smoothly without sticking.

Storage Requirements:

If the valve is out of service for extended periods or in storage, close the discs (or leave slightly

open) and secure them to prevent blade movement and wear from wind. Store in a dry, well-ventilated indoor area, away from corrosive substances.

Troubleshooting:

Electric Actuator Does Not Operate: Check power supply; Check control circuit for breaks; Check if motor thermal overload protection has tripped; Verify manual/auto selector switch is in the correct position.

Valve Fails to Close / Excessive Leakage: Check if all louver blades reach the fully closed position; Check for foreign objects obstructing the sealing surface; Adjust the actuator closing limit; Inspect blades for deformation or the main shaft for fracture.

Binding During Opening/Closing / Excessive Torque: Check the valve body cavity for accumulated dust or debris blocking movement; Check stem bearings for damage or poor lubrication. For high-temperature service, check if thermal expansion has reduced clearances excessively.

Leakage at Packing Gland: Tighten the packing gland bolts appropriately; If leakage persists, replace the packing (e.g., flexible graphite).

Important Note:

These instructions provide general technical guidance applicable to standard ventilation, air, and non-corrosive flue gas conditions. For high-temperature (>400° C), corrosive gas, high-wear dust, or explosion-proof applications, operation and maintenance must strictly follow the manufacturer's specific technical agreements and maintenance manuals. Do not disassemble the valve or electric actuator without proper authorization.

非常感谢您的阅读！
Thank you very much for reading!

开维喜阀门集团有限公司
地址：浙江省温州市永嘉县瓯北街道三桥工业区林下路 1 号
电话：+86 18967796392
网址：https://www.kaiweixi.com
mail：karrie@kaiweixi.com

Kaiweixi Valve Group Co., Ltd
Address: No.1 Linxia Road, Sanqiao Industrial Zone, Oubei Street, Yongjia County, Wenzhou City, Zhejiang Province
Phone:+86 18967796392
URL: https://www.kaiweixi.com
E-mail：karrie@kaiweixi.com