

Rubber seat butterfly valves

橡胶密封蝶阀

Fig.223 : Wafer 对夹

Fig.224 : Lug 凸耳



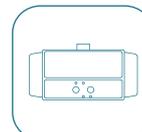
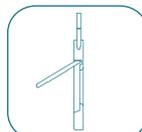
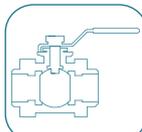
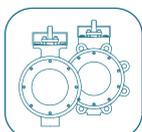
Introduction

In order to benefit from the excellent properties of the Coreline butterfly valves, it is necessary to follow the instructions of this user manual carefully. For errors resulting from improper installation, the manufacturer or Distributer can not be held responsible. Consult the applicable standards for allowable flange dimensions. Dimensions, materials and applicability of the valves should be derived from the technical datasheets and documentation, which can be found in our latest catalogue from our website - www.coreline.dk. 为了从Coreline蝶阀的出色性能中受益，有必要认真遵守本用户手册的说明。对于因安装不当而导致的错误，制造商或分销商概不负责。请参阅允许法兰尺寸的适用标准。阀门的尺寸、材料和适用性应来自技术数据和文件，这些数据可参阅我们网站www.coreline.dk上的最新样本。

Requirements for the maintenance staff 维修人员要求

The staff assigned to assembly, operating and maintenance tasks, should be qualified to carry out such jobs and in any circumstance, ensure personal safety. 负责装配、操作和维护工作的人员，应具备从事此类工作的资格，并在任何情况下确保人身安全。

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| | |
|--------------|---|
| page 3 | Transportation and storage 运输和储存 |
| | Precautions before installation 安装前的注意事项 |
| | Inspection of valve 阀门检查 |
| | Confirmation of valve working conditions 确认阀门工况 |
| | Operation of valve 阀门操作 |
| page 4 | Service and medium factor - Actuator Sizing 执行器配置系数 |
| | Installation direction of shaft 阀轴安装方向 |
| | Pipe cleaning 管道清洁 |
| | Valve installation 阀门安装 |
| page 6 | After installation 安装后 |
| page 7 | Additional information 附加信息 |
| | Use and maintenance 使用与维护 |
| page 8 | Material part list of valve 材质清单 |
| page 9 | Troubleshooting 故障排除 |
| | General warning 警示 |
| | Chart for medium resistance 适用介质 |

Transportation and storage 运输和储存

Valves must be well protected and gently transported to avoid scratches, damage and environmental damage. Stock the valves indoors in dark and cool places to reduce rubber aging. Rubber is organic and lifetime will be reduced if exposed to light and warm ambient temperatures. 阀门在运输时必须给予适当的保护，以避免划伤、损坏及环境破坏。将阀门存放在室内阴暗处，以减缓橡胶老化。有机橡胶如果暴露在光和温暖的环境温度下，会缩短其使用寿命。During the storage, the valve disc must be in the slightly open position with an angle between 5~10° (See Fig.1). 在储存过程中，阀板必须处于微开启状态，角度在5~10° 之间(见图1)。

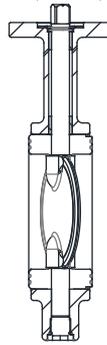


Fig.1

Precautions before installation 安装前的注意事项

Before installing the valve, please read the instruction manual carefully, pay attention to the safety matters and precautions in the instruction manual before and during installation. Follow the instructions in the installation manual to help ensure that the valve can be installed quickly and correctly. 在安装阀门之前，请仔细阅读安装手册。阀门安装前的准备和安装过程，应按照安装手册中的安全事项和注意事项。为了确保快速正确地安装阀门，请务必遵循安装手册。

Inspection of valve 阀门检查

Although valve manufacturers will take certain steps to prevent shipping damage, such damage can still occur and can be discovered and notified before installation. Do not install valves that are known to be damaged during transportation and storage. Before installation, check and remove all transport stops, protective plugs or protection covers, and check the inside of the valve body to ensure that there are no foreign objects. 尽管阀门制造商采取了某些措施来防止运输损坏，但是损坏仍然可能发生。如果安装前发现有任何损害，请立即通知厂家以采取措施处理。请勿安装已在运输和存储过程中损坏的阀门。在安装之前，检查并取下所有运输挡块，保护塞或保护盖，并检查阀体内部以确保没有异物。

Confirmation of valve working conditions 确认阀门工况

Before installing the valve, check that the specification on the identification plate meets the requirements regarding pressure, temperature and media. The valve shall not be installed, in environment that may cause corrosion or damage to the valve. 在安装阀门之前，请检查铭牌上的规格是否满足管道系统中有关压力、温度和介质的要求。不得将阀门安装在可能对阀门造成腐蚀或损坏的环境中。

Operation of valve 阀门操作

There is a small triangular shaped figure on the sealing surface of the seat from DN40 to DN300. This triangle indicates which way the disc has to enter the seat. The operation of the valves, therefore, either free stem, handle or gear operated, must follow the guidelines as shown below: DN40 ~ DN300 的阀座密封面有一个小三角形，这个三角形指示阀门的开启方向。因此，无论是光杆阀门、手动蝶阀，均须遵循如下操作指导：

Turn the disc clockwise, towards the arrow (See Fig.2) to close the disc. Turn the disc anti-clockwise, towards the arrow to open. This is to achieve the lowest possible torque - and thus the longest possible lifetime (See Fig.3). 顺时针转动阀板关闭阀门(见图2)，逆时针转动阀板打开阀门。这样正确操作阀门可获得最低的扭矩，并且延长阀门的使用寿命(见图3)。

The best angle for a closed valve is 2°. The patented design of the liner make the valve tight at this angle and reduce torque and wear. 阀门关闭的最佳角度当阀板平面和阀座平面呈2°的状态。阀座密封面带独特设计，使阀板关至此角度和阀座密封紧密，同时也获得最低的阀门扭矩和磨损。

Though the valves are constructed to work as described above, Clockwise rotation can be applied without problems, if you take in to consideration that the torque in this case will increase. 虽然Coreline推荐阀门按如上所述方式操作，但阀板也可以顺时针转动，只是这种情况下会造成阀门扭矩增加。



Fig.2

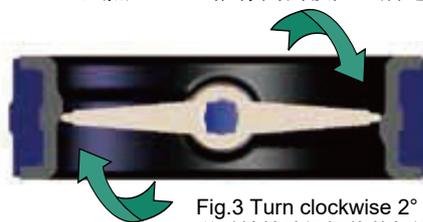


Fig.3 Turn clockwise 2° to close
逆时针转动阀板使其与阀座横切面呈2°

For butterfly valves \geq DN350, the valve can be operated with both clockwise and counterclockwise direction, and the recommended angle for a closed valve is 0° . 对于 \geq DN350的蝶阀，顺时针方向和逆时针方向均可转动阀板。当阀门密封紧密时，需将阀板关至 0° 。

Service and medium factor - Actuator Sizing 执行器配置系数

| Service factor [SF] 运行系数 | Multiply by 乘以 | Medium factor [MF] 介质系数 | Multiply by 乘以 | Medium factor [MF] 介质系数 | Multiply by 乘以 |
|-----------------------------|----------------|------------------------------------|----------------|---|----------------|
| ON/OFF operation 开/关 | 1.15 | Lubricating liquid/gas 润滑液体/气体等 | 0.9 | For dry service (Dry gas/air) 干燥操作 (干燥气体) | 1.25 |
| Modulating operation 调节型 | 1.25 | Viscous Liquids, Molasses 粘性液体/糖浆等 | 1.3 | Dirty air slurry, dirty slurry 脏污浆液 | 1.5-1.8 |
| *) 2 cycle/day "NC" 2次/天 | 1.15 | Degreasing liquid 脱脂剂 | 1.25 | Lime water, powder 柠檬水、粉末等 | 1.5-1.8 |
| ***) 1 cycle/week "NC" 1次/周 | 1.5 | Saturated steam 饱和蒸汽 | 1.2 | Hydrodynamic torque 水动力扭矩 | NA |

OBS: Butterfly valve torque is 100% by 0° to 6° angle and 33% from 7° to 90° angle. 蝶阀扭矩在阀板开度为 $0\sim 6^\circ$ 时扭矩达到100%的最大给定值，阀板开度为 $7^\circ\sim 90^\circ$ 时扭矩为最大给定扭矩的33%左右。

* Valve is completely closed and opened 2 times a day minimum. 蝶阀每天至少完全开关2次。

** Valve is completely closed and opened only one time per week or longer. 阀门在一周或更久时间内仅完全开关1次。

Having a long period without maneuvering the valve, will increase the breakaway torque. 当阀门长时间不操作时，会使得再次开启扭矩增加。

Installation direction of shaft 阀轴安装方向

Most butterfly valves can be installed in any position, but the most common method is to mount the shaft in vertical direction with the activating upwards. However, if there is lot of dirt floating in bottom of pipeline, we recommend to mount the valve with horizontal shaft. Then you avoid massive dirt at the turning points, which is sealing to ambient (See Fig.4). Let the lower disc plate open in flow direction to avoid wear. 蝶阀的安装方向可以是任意的，但大多是垂直安装。但在管道底部有较多固体杂质时，建议水平安装使下阀轴底部避开管道底部方向，以避免管道介质流动时底部的固体杂质对蝶阀下轴孔造成磨损（见图4）。

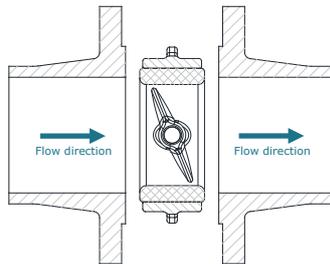


Fig.4

Pipe cleaning 管道清洁

Foreign matters in the pipeline may damage the sealing surface of the valve or prevent the movement of the butterfly disc, resulting in the valve not closing properly. In order to reduce the possibility of dangerous situations, all pipes need to be cleaned before installing the valve. Check that pipe dirt, metal chips, welding slag and other foreign objects have been removed. In addition, check the flange surface of the pipe to ensure that there is a smooth surface (If any cleaning process after the valve is installed in pipeline, the disc has to be in open position and must not be activated before rinsing completed, to avoid damage of seat). 管道中的异物可能会损坏阀门的密封面或造成阀板堵死，使阀门无法正常关闭。为了减少此类情况发生，所有管道都必须在安装阀门之前进行彻底清洗以清除管道上的污垢、金属焊渣及其他异物。另外，检查管道的法兰表面以确保表面光滑（如果在阀门安装在管道中之后进行任何清洗，则蝶阀必须处于完全开启状态，在清洗完成之前禁止对阀门进行任何操作，以免损坏阀座）。

Valve installation 阀门安装

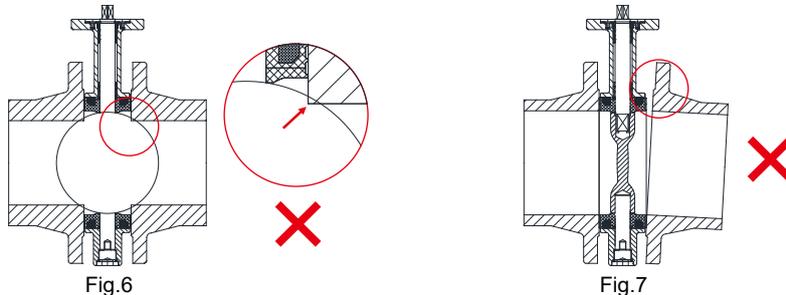
Welding operation must not be done nearby the butterfly valve, as welding drops can damage the seat. 为了防止焊接掉落物对阀座造成损坏，蝶阀附近禁止进行一切焊接操作。

Check if the flange inner diameter is too small, it may cause valve disc damaged or the valve cannot be operated (See Fig.6). 检查管道内径是否合适，过小的管径可能导致阀板损坏或阀门无法操作（见图6）。

When installing a butterfly valve with rubber seat, there shall be no additional gasket on the flange surface. It is recommended that the flange installed with the butterfly valve meet the relevant standards. Coreline Fig.223,224蝶阀可以在管道法兰间直接安装而不需使用法兰垫片。由于蝶阀密封面的O型圈设计，可使阀座通过和法兰的直接接触而达到密封。此外，蝶阀安装的法兰必须符合相关标准。

Check that the pipes are in a straight line and the flanges are clean and parallel. Do not install the valve between two non-parallel flange faces(See Fig.7). 检查管道和阀门是否在一条直线上，并确保管道法兰间相互平行且无错位。禁止将阀门安装在两个不平行的法兰面之间（见图7）。

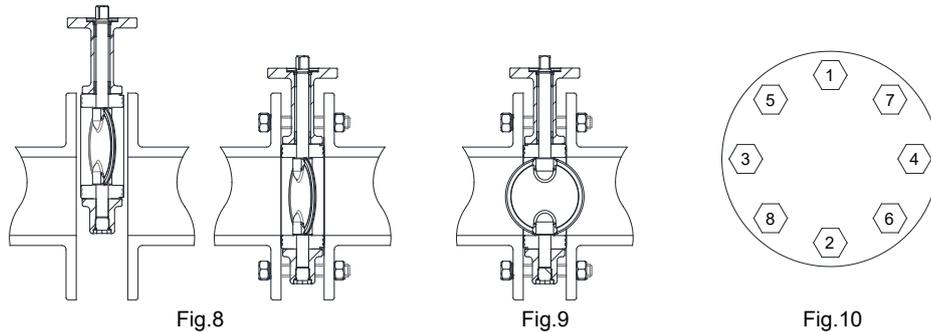
The distance between the flanges must correspond to the face to face dimension of the butterfly valve. If the flange gap is too small, there is risk of damaging the seat or body surface of the butterfly valve. If the opening is too large, it can cause leaking. 管道法兰中间预留距离要和蝶阀的结构长度一致。如果预留距离过小，则可能会损坏阀座和阀体表面。如果预留距离太大，则可能导致泄漏。



When the valve is carefully installed, the angle of the valve disc shall be within the face to face dimension (See Fig.8). Check that the flange covers the area of the seat and the valve is in line with the pipes. Then tighten the bolt on the flange by hand (Fig.8). Carefully open and close the valve to check that the disc centralizes and the disc does not touch the flange. With the disc in the open position, tighten crosswise with a wrench (See Fig.9 + Fig.10).

在阀门处于全关状态下，小心地将蝶板放置到两片法兰之间。检查确保法兰覆盖了整个阀座区域，再安装法兰螺栓和螺母（见图8）。小心开启和关闭阀门，检查阀板是否位于管道中心，确保阀板在启闭不会碰到法兰。将阀门置于开启状态，用扳手拧紧螺母（见图9 + 图10）。

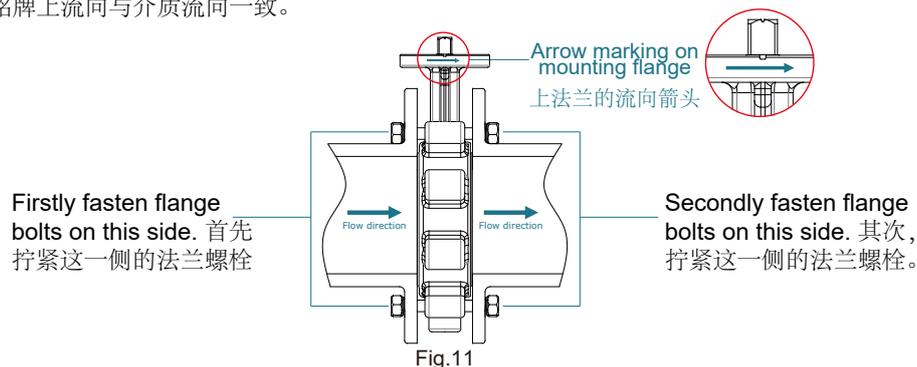
After the installation of the valve, enough space must be reserved around the valve, so that there is enough operation space during the inspection and maintenance. 阀门安装后，必须在阀门周围保留足够的空间，以便在检查和维护期间有足够的操作空间。



Important: Fig.224 Lug butterfly valve installation 关键：凸耳蝶阀的安装

The valve has vulcanized seat on back up-ring. This gives many advantages, but the seat is floating in the body. For Fig.223 Wafer version, the valve will be automatically centered, but Fig.224 Lug butterfly valve must be mounted according to below description. 橡胶阀座硫化在硬靠背上，这具有许多优点，但阀座和阀体内壁并不是通过粘连连接。Fig.223,224蝶阀一般安装在管道中间而非末端管路时，蝶阀的阀座在安装过程中将自动对中。而Fig.224凸耳型蝶阀用于末端管路时则必须按照以下说明安装。

Follow Fig.11 about procedures to fasten flange bolts for Fig.224 butterfly valve. The valve will be in right position and be tight in general afterwards(See Fig.12). Due to a Coreline patent, our Fig.224 Lug butterfly valve can be used as end of pipe valve. Ensure that the flow arrow direction on valve mounting flange is in accordance with the flow direction of medium. 参见Fig.224凸耳蝶阀的安装提示并紧固法兰螺栓，阀门将处于正确的位置且密封紧密(见Fig.11 + Fig.12)。确保阀门上法兰侧面铭牌上流向与介质流向一致。



It is important to follow procedures showing in Fig.11, otherwise there might be problem as showed in Fig.13. 务必遵循图11所示的步骤，否则可能会出现Fig.13所示的问题。

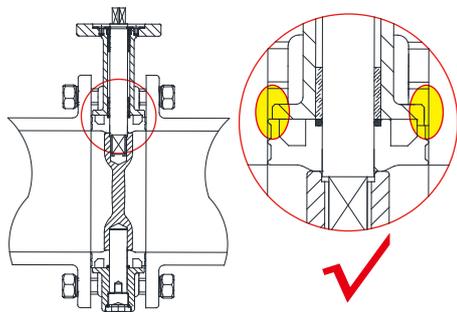


Fig.12

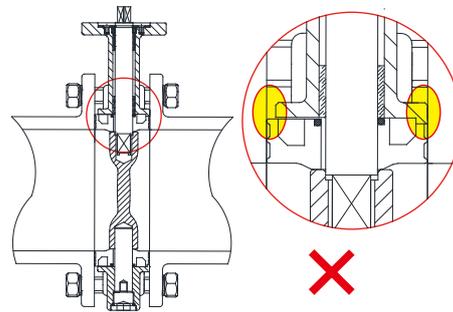


Fig.13

After the valve is aligned with the pipeline, then gently tighten the bolts, and finally tighten them in a staggered order as showed in Fig.10, taken 8 bolts as an example. Correct tightening can avoid uneven valve pressing force, prevent leakage, and also help to avoid flange damage. 待阀门与管道对齐后，轻轻拧紧螺栓，最后以如图10所示的相对交错的顺序依次拧紧所有螺栓（以8个螺栓为例）。正确拧紧紧固螺栓可以避免阀门因受力不均而造成阀门泄漏或造成管道法兰损坏。

Fasteners used during the installation should comply with the laws, regulations and standards of the relevant countries. Those which do not meet the requirements of the relevant regulations are strictly prohibited to use for the installation.

When tightening the flange bolts and nuts, a reasonable torque should be used according to the relevant regulations. 安装过程中使用的紧固件应符合相关国家的法律法规和标准。严禁在安装过程中使用任何不符合要求的零件及紧固件。拧紧法兰螺栓和螺母时，应根据相关规定使用合适的扭矩。

The following table lists the torque values for reference. 下表列出了扭矩值以供参考。

| Bolt strength grade 螺栓强度等级 | | 4.6 | 5.6 | 6.8 | 8.8 | 10.9 | 12.9 |
|--|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Yield Strength 屈服强度 (N/mm ²) | | 240 | 300 | 480 | 640 | 900 | 1080 |
| Nominal Diameter of bolt (mm) 螺栓公称直径 | 6 | 4-5 | 5-7 | 7-9 | 9-12 | 13-16 | 16-21 |
| | 8 | 10-12 | 12-15 | 17-23 | 22-30 | 30-36 | 38-51 |
| | 10 | 20-25 | 25-32 | 33-45 | 45-59 | 65-78 | 75-100 |
| | 12 | 36-45 | 45-55 | 58-78 | 78-104 | 110-130 | 131-175 |
| | 14 | 55-70 | 70-90 | 93-124 | 124-165 | 180-201 | 209-278 |
| | 16 | 90-110 | 110-140 | 145-193 | 193-257 | 280-330 | 326-434 |
| | 18 | 120-150 | 150-190 | 199-264 | 264-354 | 380-450 | 448-597 |
| | 20 | 170-210 | 210-270 | 282-376 | 376-502 | 540-650 | 635-847 |
| | 22 | 230-290 | 290-350 | 374-512 | 512-683 | 740-880 | 864-1152 |
| | 24 | 300-377 | 370-450 | 488-650 | 651-868 | 940-1120 | 1098-1464 |
| | 27 | 450-530 | 550-700 | 714-952 | 952-1269 | 1400-1650 | 1606-2142 |
| | 30 | 540-680 | 680-850 | 969-1293 | 1293-1723 | 1700-2000 | 2181-2908 |
| | 33 | 670-880 | 825-1100 | 1319-1759 | 1759-2345 | 2473-3298 | 2968-3958 |
| | 36 | 900-1100 | 1120-1400 | 1694-2259 | 2259-3012 | 2800-3350 | 3812-5082 |
| 39 | 928-1237 | 1160-1546 | 1559-2079 | 2923-3898 | 4111-5481 | 4933-6577 | |
| | Tightening torque 拧紧扭矩 (N·M) | | | | | | |

After installation 安装后

Ensure that the pipeline will not bent due to weight or other force. The pipeline shall not generate pipeline stress and transmit pipeline stress to the valve. 确保管道不会因重量或其他作用力而弯曲。管道不应产生管道应力并将管道应力传递给阀门。

The valve installation, including accessories (handle, gearbox, actuator etc.), cannot be used to withstand external forces, for instance as support point. 阀门包括操作装置在管道中安装完成后，不可用于承受外力，例如将其用作支撑点。

After the valve is installed, it should be able to open and close smoothly. There should be no jamming during the valve switching process. 阀门安装后，应该能够平稳地打开和关闭。阀门启闭过程中不应出现卡塞现象。

The valve opens when the valve shaft rotates counterclockwise, and closes when it rotates clockwise. 阀轴逆时针旋转开启阀门，顺时针旋转关闭阀门。

Before commissioning the system, the pipeline and the valve should be subjected to a hydrostatic test to check whether there is leakage. The system can be commissioned only after the test has passed. 调试前应对管道和阀门进行压力试验，检查是否有泄漏。测试通过后才能进行调试。

Additional information 附加信息

The valve has two holes underneath the mounting flange (See Fig.14). Here you can hang user's manual or project code. 阀门上法兰底部有两个孔(见图14), 可用于挂用户手册或项目代码。

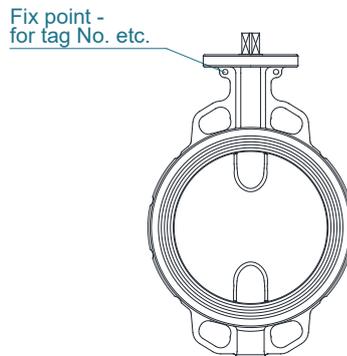


Fig.14

Use and maintenance 使用与维护

The use of the valve shall be carried out in accordance with the instruction manual, and shall not exceed the design parameters. The operator must go through on-the-job training to understand the basic operation principle of the valve. Prevent incorrect opening and closing of valves. The operator should clearly understand the role of each valve and its position in the process pipeline to prevent misuse. It should be ensured that the valve can be opened and closed at least twice within a week to prevent the valve from being stuck due to long-term inactivity. After the valve has been installed, welding and other operations on the pipeline are not allowed (Fig.15). 阀门的使用应按照使用说明书进行, 且不应超过设计参数。操作人员必须接受专业培训, 了解阀门的基本操作原理。从而防止错误地操作阀门。操作员应清楚地了解每个阀门在过程管线中的位置及作用以防止误操作。应确保在一周内至少可将阀门打开和关闭两次, 以防由于长期不活动而使阀门卡住。蝶阀附近禁止进行一切焊接操作 (Fig.15)。

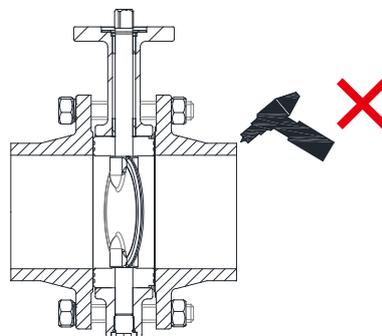
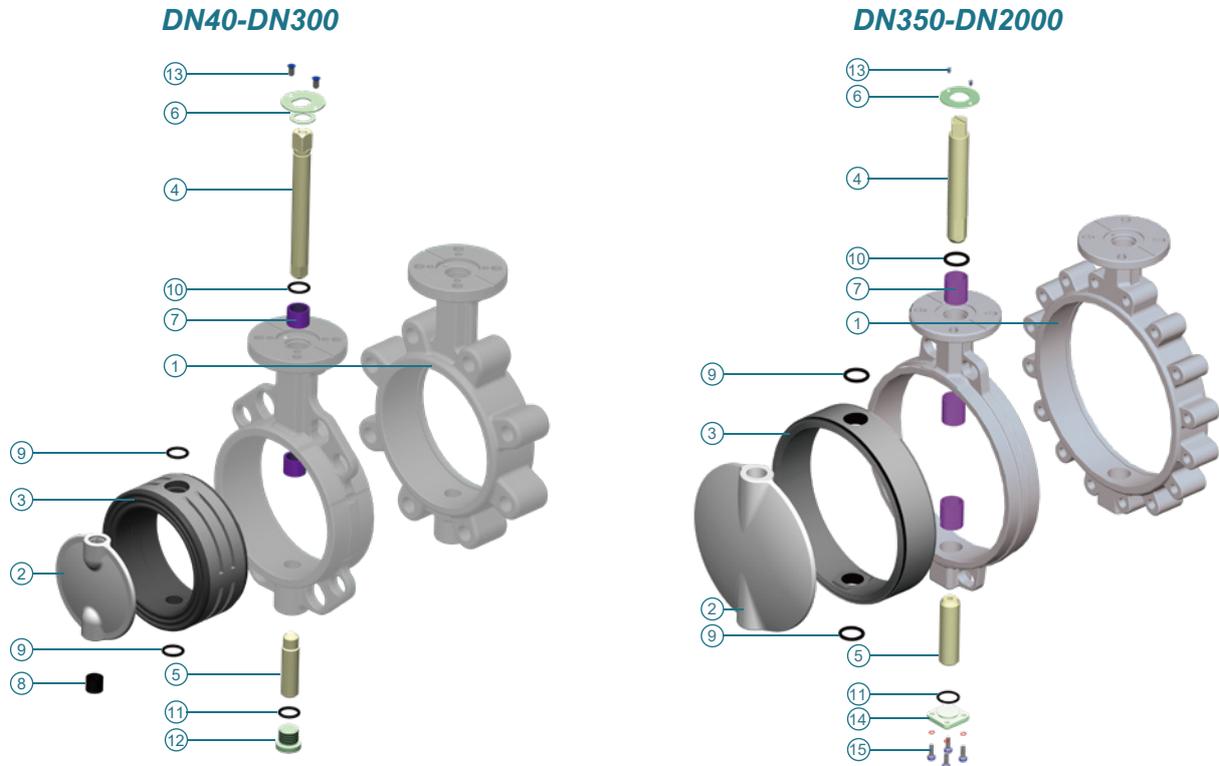


Fig.15

Valves should be inspected regularly, at least every three months, or in accordance with the corresponding laws and regulations, or on-site process conditions to set the frequency of maintenance. Regularly check the valve connections for looseness and tighten in time. Check whether the valve leaks or malfunctions. If leaks or malfunctions occur, the valves and pipelines should be repaired in time on the premise of ensuring safety. 应定期检查阀门, 且至少每三个月检查一次, 或按照相应的法律法规或现场过程条件进行检查并设定维护频率。检查阀门是否泄漏或故障, 如果发生泄漏或故障, 应在确保安全的前提下及时修理阀门和管道。

If there is an actuator, attention should be paid to the actuator and its connecting mechanism during valve maintenance. Maintenance should be carried out according to the instruction manual of the actuator. 如果阀门上装有执行机构, 维修阀门时应注意执行机构及其连接机构, 并按照执行机构使用说明书进行相关维护。

Material part list of the valve 零部件材质清单



| No. | Part name 零件名称 | Material 材质 | Specification 特性 | No. | Part name 零件名称 | Material 材质 | | |
|----------------------|----------------------|----------------------|------------------|-----------------------|-------------------|-------------------------------|---------------------|------------------|
| 1 | Body 阀体 | Ductile iron 球墨铸铁 | EN1563 JS1030 | 4/5 | Stem 阀轴 | SS420 | | |
| 2 | Disc 阀板 | Stainless steel 不锈钢 | ASTM A351 CF8 | | | 6 | Preventing plate 挡圈 | SS431 |
| | | | ASTM A351 CF8M | | | | | SS304 |
| | | | ASTM A351 CF3M | | | | | SS316 |
| | | Alloy steel 合金钢 | 2507 | 7 | Body bearing 阀体衬套 | RPTFE with graphite RPTFE内衬石墨 | | |
| | | | 1.4462 | 8 | Disc bearing 阀板衬套 | Reinforced nylon 增强型轴承 | | |
| | | | 1.4529 | 9 | O ring O型圈 | Same as seat 同阀座 | | |
| | | | 1.4539 | 10 | Weather seal 防尘圈 | NBR | | |
| Hastelloy | 11 | Anti-dust seal 防尘圈 | NBR | | | | | |
| Aluminium bronze 铝青铜 | C95800 | 12 | Plug 堵头 | Steel galvanized 碳钢镀锌 | | | | |
| Ductile iron 球墨铸铁 | Rilsan, Halar coated | 13 | Screw 螺钉 | SS304 | | | | |
| 3 | Seat 阀座 *) | | | NBR (Eq. Nitrile) | -15°C~+85°C | 14 | Bottom cover 底盖 | Same as body 同阀体 |
| | | X-NBR 1) | -15°C~+85°C | 15 | Bolt 螺栓 | | | SS304 |
| | | NBR-DVGW-2) | -15°C~+60°C | | | SS316 | | |
| | | EPDM-H | -20°C~+125°C | | | | | |
| | | EPDM-FDA (white 白色) | -20°C~+85°C | | | | | |
| | | EPDM-FDA (black 黑色) | -20°C~+125°C | | | | | |
| | | FPM (Eq. FKM, Viton) | -15°C~+150°C | | | | | |
| | | 3) FPM-B (Eq. FEPM) | -15°C~+150°C | | | | | |
| PTFE | -15°C~+150°C 4) | | | | | | | |

Notes: 注意:

*) Rubber seat with hard UPR backup. 阀座的硬靠背材质为UPR。1) Wear -resistant NBR. 耐磨NBR 2) Not applicable. 不适用 3) Steam resistant FPM. 耐蒸汽FPM 4) Depending on the backup rubber material, available with EPDM and FPM backup. 取决于硬靠背橡胶材质。

The above temperature range for the valve seats are provided as reference for general working conditions. Please note that the actual applications may vary due to the different media, pressure etc. in the pipeline. Contact Coreline in advance for technique supports. 上述阀座的温度范围仅供一般工作条件参考。请注意，实际应用可能因管道中的介质、压力等不同而有所差异。提前联系Coreline以获取技术支持。

Troubleshooting 故障排除

The relevant safety regulations must be observed when troubleshooting.

| Problem 问题 | Possible cause 可能原因 | Corrective measures 纠正措施 |
|--|--|---|
| No flow 无流量 | Flange dust caps were not removed 未拆下防尘盖 | Remove dust caps 取下防尘盖 |
| Little flow 流量小 | Valve not completely open 阀门未完全开启 | Open valve completely 完全开启阀门 |
| | Piping system clogged 管道系统堵塞 | Check piping system 检查管路系统 |
| Valve is impossible or difficult to open or close 阀门无法或难以打开或关闭 | Service conditions (e.g. medium, temperature) outside permissible limits. 工况(如介质、温度)超出允许范围 | Replace valve 更换阀门 Consult supplier 请咨询供应商 |
| | Power failure 电源故障 | Check power supply 检查电源 |
| | Wrong direction of rotation 旋转方向错误 | Turn in correct direction (anti-clockwise for opening) 朝正确的方向转动(逆时针打开) |
| | Fouling of the disc and/or seat 阀板和/或阀座有污垢 | Remove fouling on the disc and/or seat 清除阀板和/或阀座上的污垢 |
| Valve leaking 阀门泄漏 | Valve not properly closed 阀门未完全关闭 | Close valve properly or readjust limit switch/stop screw 正确关闭阀门或重新调整限位开关/防松螺丝 |
| | Seat damaged by foreign particles 阀座被异物损坏 | Replace valve 更换阀门或阀座 |
| | Medium contaminated 介质被污染 | Clean valve and install dirt screen 清洗阀门并安装防尘网 |
| Valve with locking device can not be opened 带锁紧装置的阀门无法开启 | Locking device tightened 锁紧装置已拧紧 | Slacken locking device 松开锁定装置 |

General warning 警示

The installation, use and maintenance of the valve must comply with relevant laws and regulations. The installation, use and maintenance of the valve must be carried out under the environment of safety regulations, and the pipeline engineer must meet the production process and use requirements on site when selecting the valve. Before purchasing the valve, the purchaser is obliged to clearly inform the valve manufacturer of the working conditions of the valve. If the user fails to install, maintain and use the valve according to the regulations and requirements, the user shall bear the consequences. 阀门的安装、使用和维护必须遵守相关法律法规，并在安全规定的环境下进行。管道工程师在选择阀门时必须满足生产过程和现场使用要求。在购买阀门之前，购买者有义务明确告知阀门制造商阀门的工况。如果用户未能按照规定和要求安装、维护和使用阀门，用户则需承担全部风险。

Chart for medium resistance 适用介质

| Seat material 阀座材质 | Suitable for 适用 | Unsuitable for 不适用 |
|--------------------|--|--|
| EPDM | Water, steam, alcohol, glycol, caustic soda, ozone, food products, glycerine, milk, oxygen, air, saturated salt, iron chloride, gelatine, dry hydrogen sulphide, potassium chloride, sodium, magnesium chloride 水、一定温度的蒸汽、酒精、乙二醇、苛性钠、臭氧、食品、甘油、牛奶、氧气、空气、饱和盐水、氯化铁、明胶、干燥硫化氢、氯化钾、钠、氯化镁 | Mineral oil, chlorine compounds, ketones, acetyl, chloride, asphalt, bromine, butane, butyl, petrol, diesel oil, acid, fish oil, freon, chlorine, natural gas, exhaust gas, nitric acid 矿物油、氯化物、酮类、乙酰基、氯化物、沥青、溴、丁烷、丁基、汽油、柴油、酸、鱼油、氟利昂、氯、天然气、废气、硝酸 |
| NBR | Mineral oil, grease, air, seawater, gas, boric acid, aluminium chloride, ammonia gas, citric acid, diesel oil, fish oil, petrol, gelatine, glycerine, magnesium chloride, lactic acid, linseed oil, natural gas 矿物油、油脂、空气、海水、天然气、硼酸、氯化铝、氨气、柠檬酸、柴油、鱼油、汽油、明胶、甘油、氯化镁、乳酸、亚麻子油、天然气 | Ozone, acetone, aniline, chlorine dioxide, chromic acid, phenol, ethyl acetate, freon 21+22+23, hot nitric acid, styrene, hydrogen sulphide, isopropyl acetate, oxygen, sulphuric acid 臭氧、丙酮、苯胺、二氧化氯、铬酸、酚类、苯胺、丙酮、苯乙烯、二硫化氢、铬酸、苯酚、乙酸乙酯、氟利昂21+22+23、热硝酸、苯乙烯、硫化氢、乙酸异丙酯、氧气、硫酸 |
| Natural rubber | Abrasive medium, aluminium chloride, sugar beet fluid, boric acid, potassium chloride, citric acid, magnesium chloride, ferric nitrate, formic acid, gelatine, sugar, glycerine, lactic acid, nitrogen 磨料、氯化铝、甜菜液、硼酸、氯化钾、柠檬酸、氯化镁、硝酸铁、甲酸、明胶、糖、甘油、乳酸、氨气 | Steam, aniline, asphalt, butadiene, diesel oil, ethane, ethyl acetate, hydraulic oil, hydrochloric acid, linseed oil, methane, mineral oil, oxygen, styrene, soybean oil, turpentine 蒸汽、苯胺、沥青、丁二烯、柴油、乙烷、乙酸乙酯、液压油、盐酸、亚麻子油、甲烷、矿物油、氧气、苯乙烯、大豆油、松节油 |
| Hypalon | Mineral, organic and inorganic chemicals, air, oxygen, fish oil, glycerine, citric acid, ozone, sodium sulphate 矿物、有机和无机化学品、空气、氧气、鱼油、甘油、柠檬酸、臭氧、硫酸钠 | Ammonia, diesel oil, grease, ketone, methyl, phenol, propyl, bromine, nitric acid, tar, urea, varnish, lectine 氨、柴油、油脂、酮、甲基、苯酚、丙基、溴、硝酸、焦油、尿素、清漆、凝集素 |
| Silicone | Food products, ammonia gas, barium, boric acid, potassium, bisulphite, citric acid, copper cyanide, glycerine, nitrogen, lactic acid 食品、氨气、钡、硼酸、钾、亚硫酸氢盐、柠檬酸、氰化铜、甘油、氮、乳酸 | Steam and hot water (max 100°C), asphalt, diesel oil, ethane, freon, ethyl chloride, methane, nitric acid, olive oil, propane, turpentine 蒸汽和热水(最高100°C)、沥青、柴油、乙烷、氟利昂、氯乙烷、甲烷、硝酸、橄榄油、丙烷、松节油 |
| FPM | Oil, mineral acid, grease, phosphorus, lactic acid, gelatine, glycol, oxygen, slaked lime, carbon acid, natural gas, pulp, salt, sugar, sulphur 油、矿物酸、油脂、磷、乳酸、明胶、乙二醇、氧气、熟石灰、碳酸、天然气、纸浆、盐、糖、硫磺 | Hot water, steam, ketone, ammonia gas, acetone, formaldehyde, cellulose acetate, freon, urea, ethanoic acid, methyl 热水、一定温度的蒸汽、酮、氨气、丙酮、甲醛、醋酸纤维素、氟利昂、尿素、乙酸、甲基 |
| FPM-B | Acid, alkali, amine hot water, steam 酸、碱、热氨水、蒸汽 | Gasoline, naphtha, hydrocarbon solvent, chlorine solvent 汽油、挥发油、烃类溶剂、氯溶剂 |
| PTFE | Almost available for all medium applications 几乎可以适用于所有介质 | None 无 |

The content or parameters are indicative and can be changed without any notice.