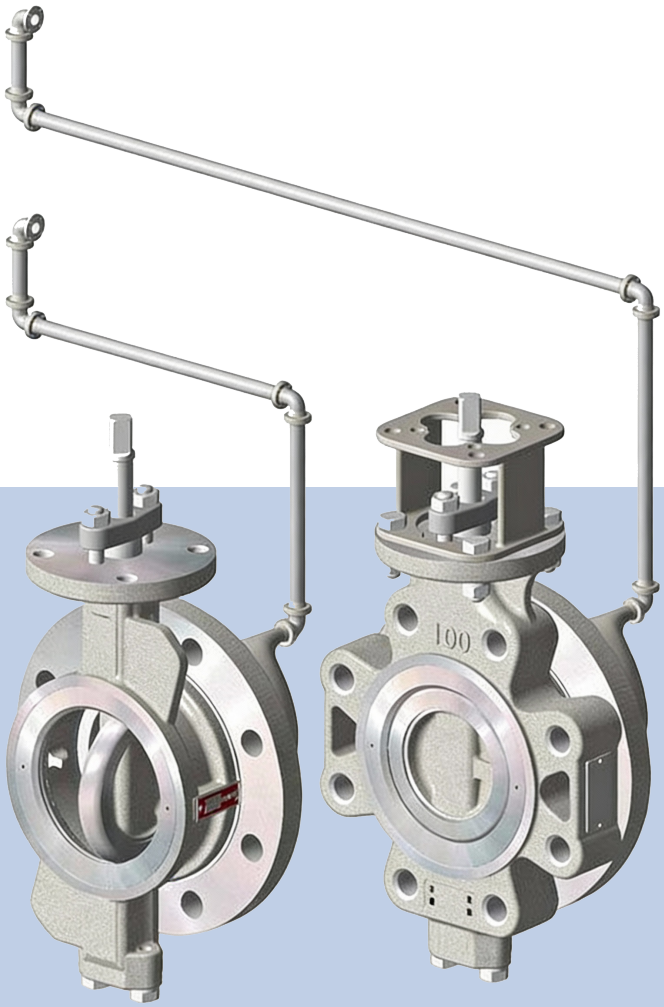
bürkert
FLUID CONTROL SYSTEMS

# Type 2671

High Performance



MAN 1000719143 EN Version: A Status: RL (released | freigegeben) printed: 16.02.2026

## Operating Instructions

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Technische Änderungen vorbehalten.

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Operating Instructions 2602/00_GBen_60046978 / Original EN

**Flange STD：**

**ASME CLASS 150 LB (Standard)**
**ASME CLASS 300 LB (on request)**

**Temp ：-29°C～210°C**

**Work pressure：**

**VF-91_A 2"-48" 150LB (Standard)**
**VF-92_A/93_A 2"-48" 150LB (on request)**
**VF-94_A/95_A/96_A 2"-48" 300LB (on request)**

**Pd. date 2017.1**

**Please read all of these instructions before installing the device**

**Bürkert Fluid Control Systems**
**Sales Center**
**Christian-Bürkert-Str. 13-17**
**D-74653 Ingelfingen**
**Tel. + 49 (0) 7940 - 10-91 111**
**Fax + 49 (0) 7940 - 10-91 448**
**E-mail: info@burkert.com**

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# 1. THEORY OF OPERATION

Type 2671 is a double eccentric design high performance butterfly valve. The valve design is based on a double eccentric geometry of the disc rotating center, utilizing a floating radius machined seal ring. This design makes the disc cam back and away from body seat. (Fig. 1-1). This design could decrease the seat friction and offer a lower torque, the seat could be replaced easily without removing the shaft. Since Teflon seat is equipped, the valve could be suitable for most of mediums below 200 C. The double eccentric disc design could offer seat a longer life and lower operating torque. When fluid pressure comes from either direction, the fluid pressure will affect disc and seal ring to a result of bi-directional shut off (Fig. 1-2). On the other hand, the advantage of our patented seat retainer ring is equipped, so that there is no more leakage from the setting screw and flange connections. We believe that it is the best and smartest choice to use Value products.

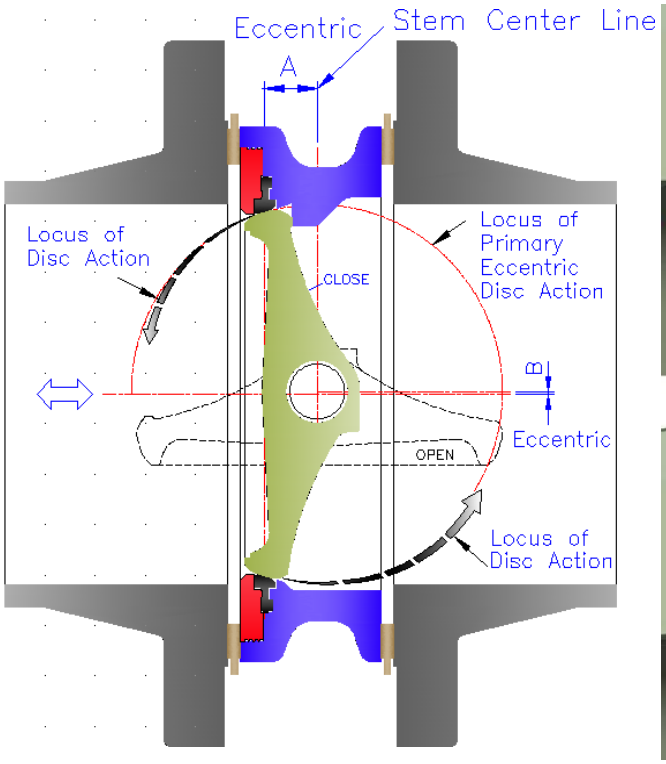


Fig.1-1

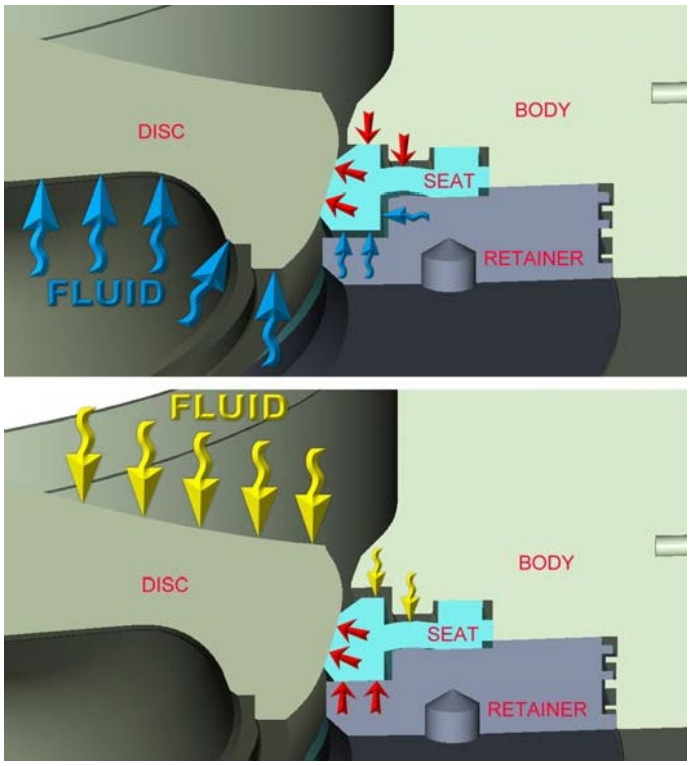


Fig.1-2

# 2. CAUTIONS

**FOR SAFETY, FOLLOW THESE CAUTIONS BEFORE INSTALLING, REMOVING OR DISASSEMBLING YOUR VALVE.**

1. **MUST KNOW WHAT MEDIA IS IN THE PIPELINE.**
2. **MAKE SURE THE LINE IS DEPRESSURED.**
3. **USE PROTECTIVE CLOTHING AND EQUIPMENT TO AVOID INJURY. KEEP HANDS AND OTHER BODY PARTS OUT OF THE VALVE.**
4. **ALWAYS ENSURE THE VALVE IS IN THE FULLY CLOSED POSITION BEFORE INSTALLATION, REMOVAL OR DISASSEMBLY.**
5. **KEEP CLEAN OF FLANGE FACES BEFORE INSTALLATION ON PIPELINE.**

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# 3. INSPECTION

3.1 Before installation of the valve into the piping system, visually inspect the valve to determine if any damage has occurred during shipping. Particularly, inspect the actuator, shaft, valve interior, valve body and flanges. For proper operation of the valves, the seat and disc seal must be undamaged and free of foreign material. If other than superficial damage is discovered, contact Bürkert Service immediately, indicating the location and extent of the damage found.

3.2 If it is necessary to clean the valve, use a soft cloth and mineral spirits, or an equivalent solvent. All rust preventive should be removed before installing your valve.

# 4. TOOL REQUIREMENT

There are no special tools required for installation and maintenance that are not commercially available. Any lifting devices used to move the valve into a desired position shall be of sufficient size to support the weight of the valve and actuator assembly. The nylon slings, secured around the valve bearing areas, is recommended to reduce the possibility of mechanical damage occurring to the valve body and actuator. The assembly should never be lifted by the actuator. These areas are for removal and installation of the actuator to the valve only. (Fig.2)

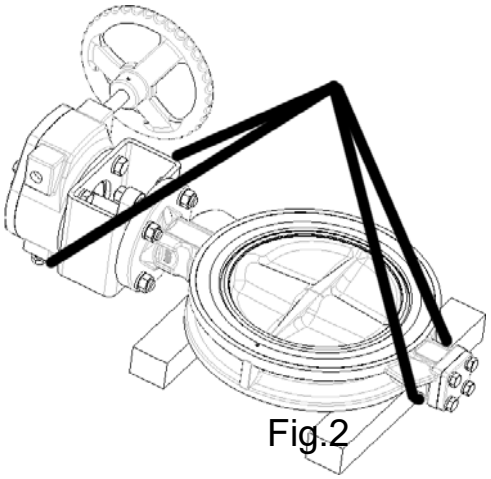

Fig.2

**WARNING**

**NEVER pass a lifting device thought the valve port or severe damage may occur.**

# 5. STORAGE

When the valve is not put into immediate service, it is required that the valve be stored in a heated building that is fire resistant, weather tight and well ventilated. Storage area shall be situated and constructed so that it will not be subject to flooding and any corrosive chemicals present. Bürkert recommends that all valve actuator be cycled approximately every 60 days or as required by the manufacturer of the actuation system. Any spare parts for the valve shall be stored in the original packaging and under the same conditions as the valve will be stored.

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For storage greater than 4 months, the storage container should be inspected every four (4) months to ensure it is in good condition, and any additional protective coverings or materials are in working order. Ensure all parts are plugged, and bare metal is covered with a suitable rust inhibitor.

## 6. INSTALLATION

**The valve must be installed so that pipeline stresses are not transmitted to the valve body.** Despite it's solid manufacture, such stress may affect valve operation. If pipeline stresses are severe, they should be cushioned by expansion joints or compensators. If supports are necessary for the valve, they should only support the dead weight of the valve and should not serve as base points for the pipeline.

## 7.STEPS OF INSTALLATION

7.1. All valve s must be in full closed position during installation or removal. It is not necessary to torque seat the valve, but the disc travel must be restricted to prevent damage.

7.2. Please be sure there is no foreign material and clean inside of the pipe and valve.

7.3. The shaft side of the disc is recommended installing at the low-pressure side of the valve, (as indicated on the drawings by a flow arrow) meaning the best closure performance is obtained on this side of the valve, and a determination as to the best installation should be made, to utilize this feature. This may not necessary be the normal flow direction of the system. (Fig.3).

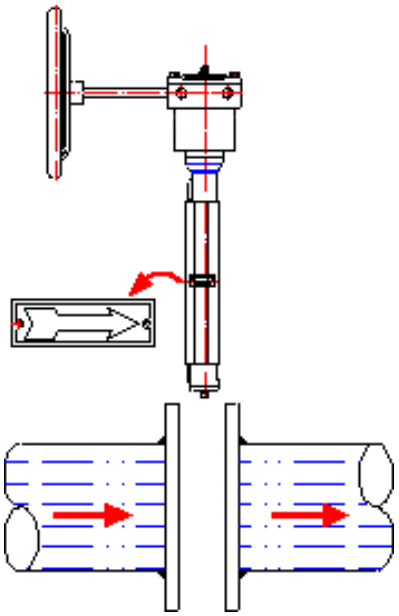

Fig.3

7.4. Please install the valve stem horizontally as (Fig.4), thus could prevent sand and some chips collect around bottom bushing and seat and damage the valve.

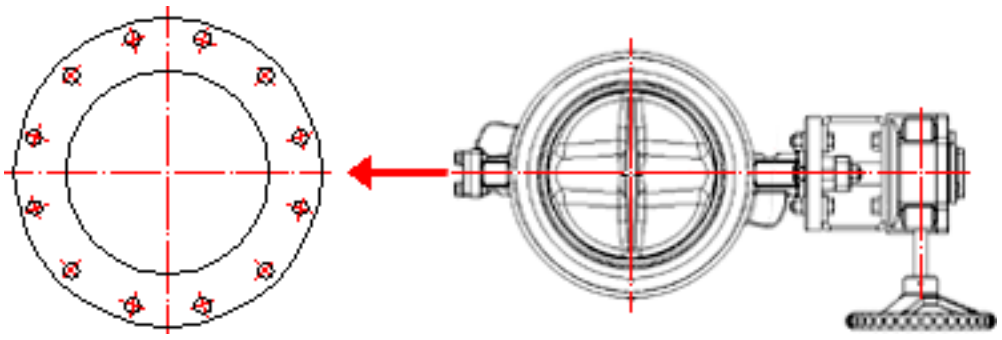

Fig.4



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7.5. Install valve and gaskets into pipeline as (Fig.5).

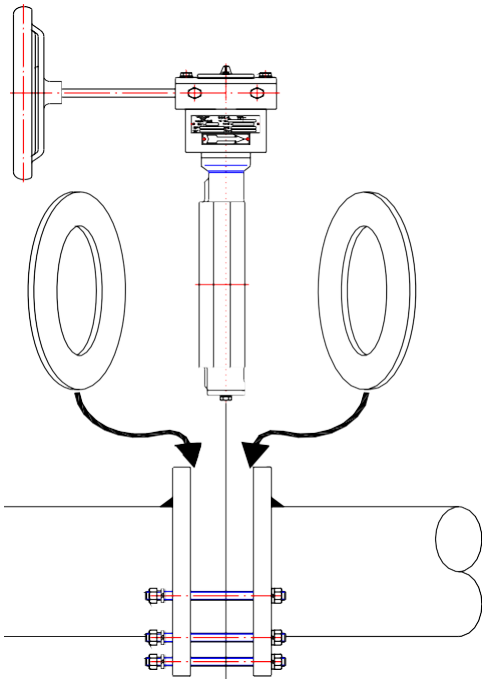

Fig.5

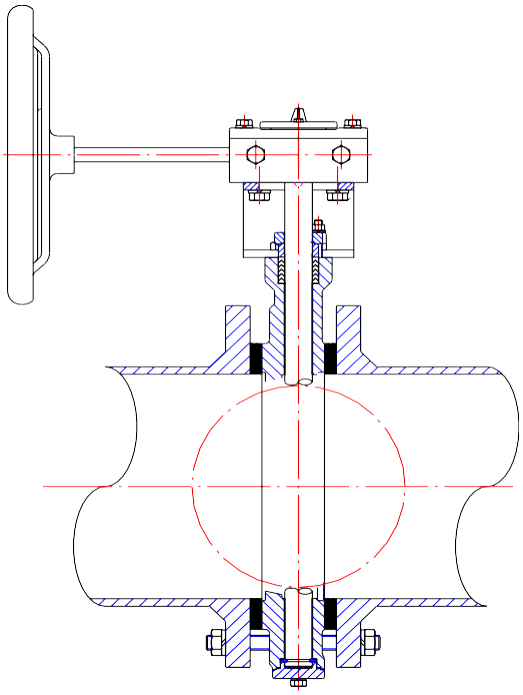

Fig.6

7.6. Make sure the valve to installed between flanges and concentrically with flanges, thus could prevent the disc damaged by the interfering with flange and pipeline (Fig.6)

7.7. The typical installation for the butterfly valve connected to an elbow would be to align the shaft axis to allow equal flow on each side of the shaft, minimizing dynamic torque requirements for the valve. (Fig.7)

Excellent Good No recommend

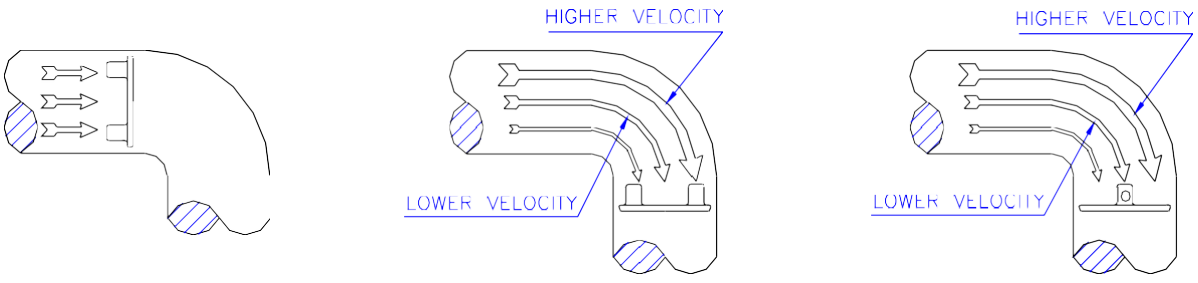


Fig.7

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7.8. Using an extension tube between wafer check valve and butterfly valve, never connect them directly. (Fig.8)

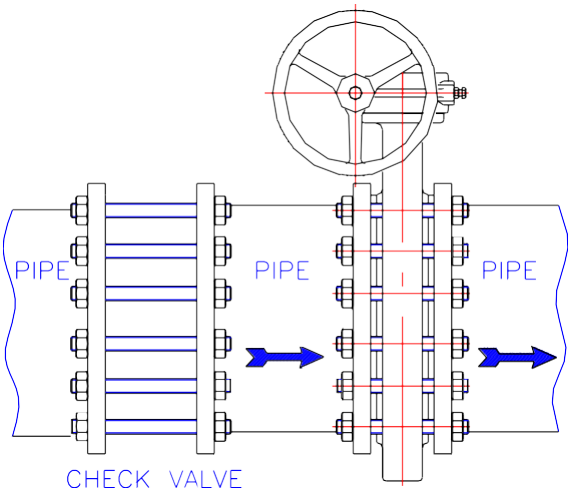


Fig.8

# 8. Flange Connecting & Bolting

8.1. Keep valve protection boards until installation.

8.2. Make sure the material and size of gaskets could be suitable for the service, check the faces of flange and valve are smooth and flat. Sandpaper the faces if there was any harm.

8.3. Check all the bolts and nuts shall be in good condition.

8.4. Apply lubricant such as Molybdenum to all the bolts and nuts before fix them.

8.5. The pipe support(s) may now be required to be partially disengaged. A determination as to pipe flange alignment and space between the pipe flange and the valve face must be made at this time. The optimum spacing would be such as to only allow the flange gasket to be installed, at the maximum, and the flange bolt holes would be concentric.

8.6. The opposite connecting pipe flange face may not be more than 1/4 inch away from the valve flange face. Alternate methods of alignment, other than using the flange bolts, must be utilized to conform with this requirement.

8.7. Install all studs, maintaining uniform clearance between the studs and the mating bolt holes. Additionally the studs spanning the valve assembly should not contact the valve body.

8.8. Seat the flange by alternate tightening of four equally-spaced flange bolts no more than 1/4 turn per bolt, until the flange faces seat. During this operation, it is advisable to continually check the relative distance between the flange faces. Torque the bolts to approximately 25% of the final torque value (see table 1).

8.9. Inspect the remaining bolts and assure correct alignment. Tighten to the same level as the first four bolts.

8.10. Complete the tightening of all flange bolting in a minimum of four increments to the final determined torque value.

8.11. Test cycle the valve to be sure that there is no interference or binding.

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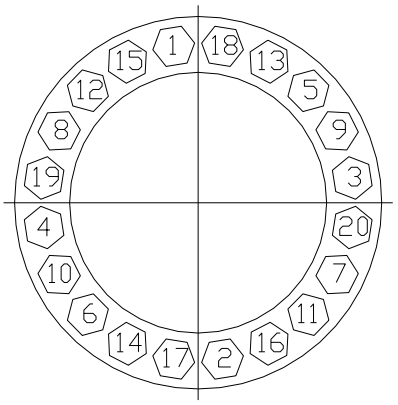
8.12. Maximum Torque of Flange Bolt

| Bolt size | Torque | |
|---|---|---|
| | (ft-lb) | (Nm) |
| 5/8” (M16) | 110 | 150 |
| 3/4” (M20) | 200 | 270 |
| 7/8” (M22) | 320 | 434 |
| 1” (M26) | 480 | 650 |
| 1-1/8”(M28) | 600 | 815 |
| 1-1/4”(M32) | 840 | 1140 |

Table 1.

※Actual torque shall depend on gasket type, consult gasket manufacturer.




**BOLT TIGHTENING SEQUENCE** (Fig.9)

## 9. Removal Procedure

To remove your valve from the pipeline, please follow these simple steps:

1. Ensure the valve is in the closed position.
2. Ensure the line is depressurized.
3. Use protective clothing and equipment to prevent injury.
4. If your valve is equipped with a fail-open actuator, manual to close the valve or disconnect the actuator then close the valve before removal.
5. Attach nylon slings to the body shoulders of the valve and around the body of the actuator.
6. Remove the bolts holding the valve to the pipeline flanges.

## 10. LUBRICATION SCHEDULE

Bürkert recommends your valve be inspected at least every three months to determine lubrication and other maintenance requirements under your specific service conditions.

## 11. STUFFING BOX MAINTENANCE PROCEDURE

Routine maintenance of the stuffing box consists of tightening the packing gland periodically. If leakage around the stuffing box is discovered, first tighten the hex-nuts on the gland follower (more than 2/3 compression) as this may reduce packing life. If the leakage still persists, replace the packing according to the following procedure. (For clarity, the actuator and bracket are not shown in the following diagrams. It is not necessary to remove the actuator or bracket before performing this procedure).

11.1 In order to gain access to the packing, remove the gland follower and slide it up to the actuator. See the diagram below:

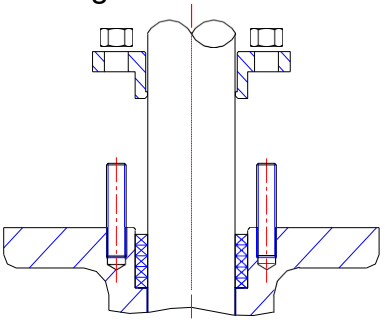


Fig.10

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11.2 Remove all of the packing in the stuffing box using a flexible screw hook. For stuffing boxes that contain a lantern ring, use a puller with 10-32 threads to remove the lantern ring. Save the lantern ring for reuse, but discard the other packing material. Please replace all the gland packing no matter the gland packing is made of PTFE. (Fig.11)

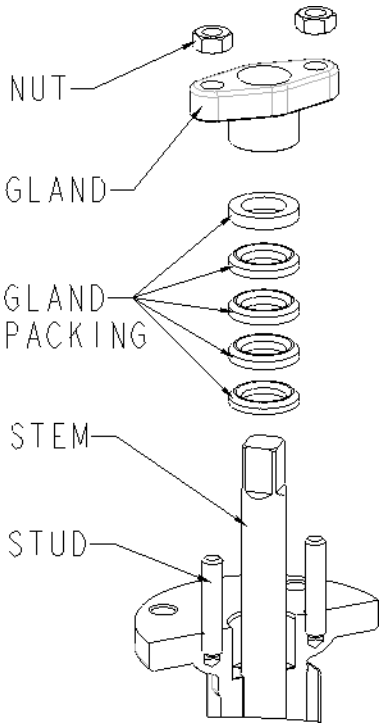



Fig.11

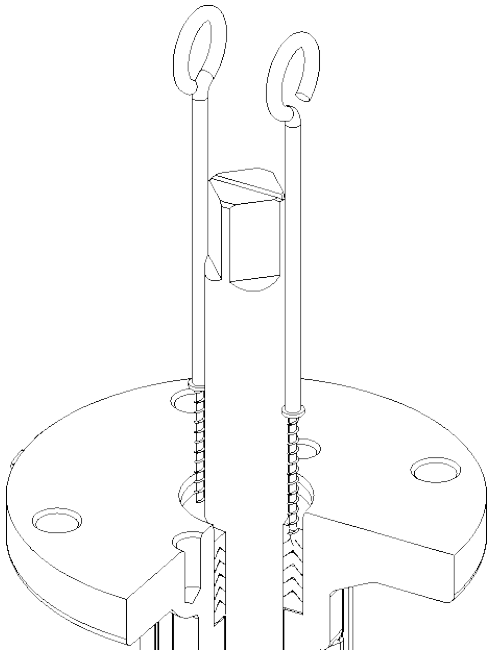
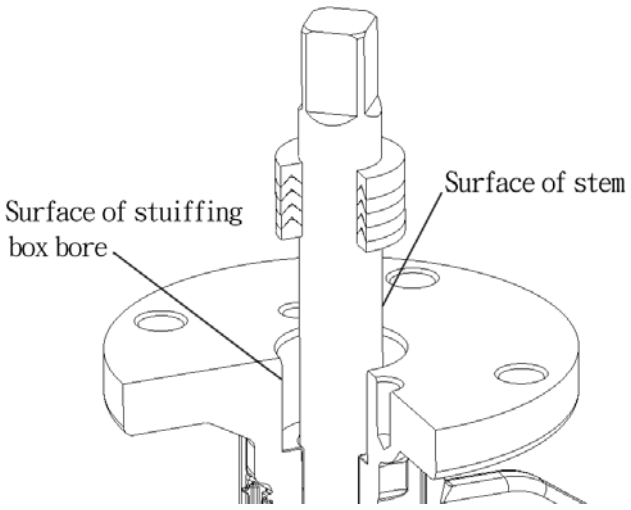


Fig.12

11.3 Inspect the drive shaft, bore of the stuffing box, and the gland follower. These surfaces should be relatively scratch free(Fig.13). If there is any damage, polish the surface to 32 rms finish. If any part has severe damage, contact Bürkert.




(Fig.13)

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11.4 Install each new ring of packing, use the gland follower to push each ring of packing evenly into position after starting it in the stuffing box bore. Stagger the splice-joints of each packing ring so they are as far as possible from each other (see example above). Usually, rotating each ring until the splice is at 90◦from the previous splice is sufficient. (Fig.13)

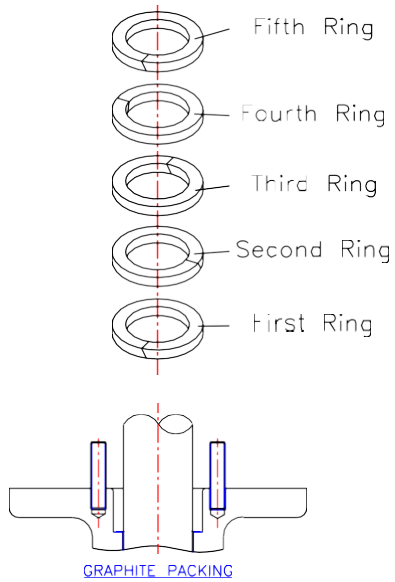
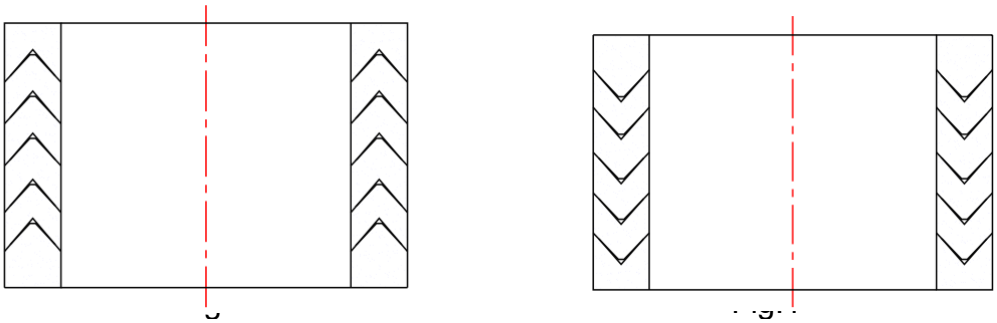



Fig.13

11.5 If new packing was V type PTFE packing, please follow following,

11.5.1 Inside of pipeline is positive pressure：Please follow (Fig.14)



11.5.2 Inside of pipeline is vacuum：Please follow (Fig.15)

11.6 Install the gland follower and tighten it to firmly seat the packing. DO NOT compress the gland follower too much. Over-tightening may dramatically reduce the life of the packing and may make it more difficult to operate the valve. The maximum torque of the gland screw as below,

| Graphite Packing | | | PTFE “V” Type Packing | | |
|---|---|---|---|---|---|
| Screw Size | Max. Torque | | Screw Size | Max. Torque | |
| M8 | 110 | Kg-cm | M8 | 110 | Kg-cm |
| M10 | 120 | Kg-cm | M10 | 120 | Kg-cm |
| M12 | 140 | Kg-cm | M12 | 140 | Kg-cm |
| M16 | 450 | Kg-cm | M16 | 220 | Kg-cm |
| M20 | 650 | Kg-cm | M20 | 270 | Kg-cm |

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# 12. Assembly and Disassembly

## 12.1 Assembly

12.1.1 Clean all valve components and free from oil, grease and dust.

12.1.2 Inspect all components for damage before starting to assemble. Look especially for damage to the disc edge and body seat surface.

12.1.3 Confirm that the valve disc of the valve is in the fully closed position. If not, operate the actuator so that the valve disc comes to the fully closed position.

12.1.4 Insert the seat to the seat-mounting groove. The seat is somewhat floating because there is an interference of the seat. (Fig.16)

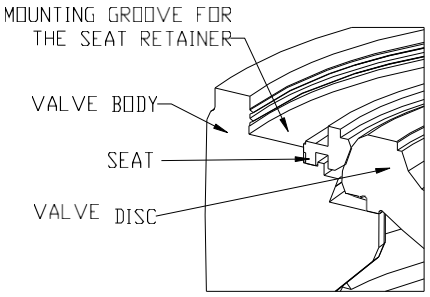


Fig.16

12.1.5 Insert the seat retainer to the mounting groove for the seat retainer. Due to the same reason as 12.1.4, the seat and the seat retainer is somewhat floating. (Fig.17)

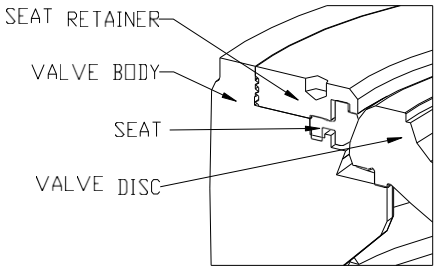


Fig.17

12.1.6 Turn and tighten the retainer clockwise. Using the hexagonal spanner or "+" screwdriver to hold the holes of retainer helps to tighten the retainer.

12.1.7 Since our new design of fixing the retainer, it's a normal condition when the retainer was tightened, and there is a gap less than 1mm between valve face and retainer face.( Fig.18)

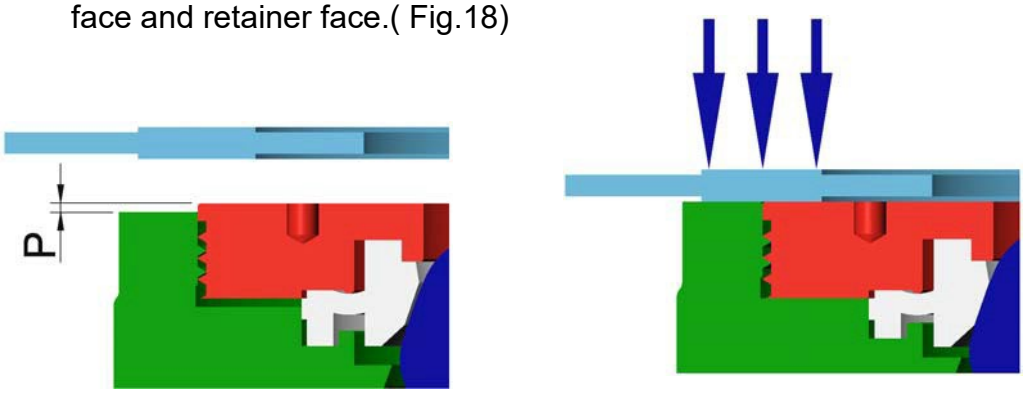


Fig.18

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12.1.8 Slightly open the valve to 10 degrees then tighten the retainer ring again.

12.1.9 Operate the actuator again to bring the disc to the fully closed position before mounting to the piping.

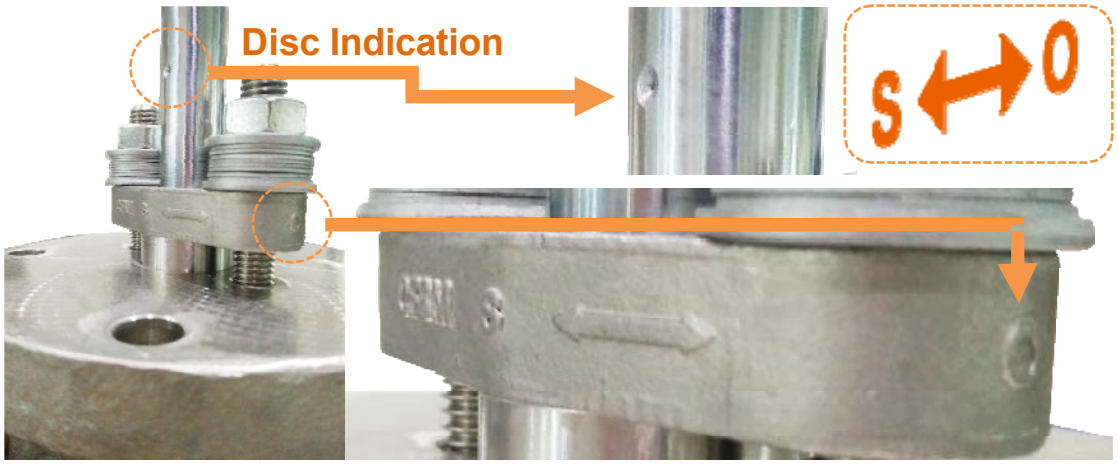
12.1.10. Insert the studs into the threaded holes in the drive side packing gland.

12.1.11. Install the packing follower and tighten it into position with the hex nuts. Do not tighten on hex nut further than the other.

12.1.12. Install the bottom cover with gasket and tighten it into position with the hex-socket cap screws.

12.1.13. The valve is now ready for actuator mounting. The disc is held quite securely in position, so the actuator may be pushed onto the shaft then moved to the desired fail position. Please consult the actuator's literature for further details.

12.1.14. When installing the stem, set the mounting surface up. The disc indication is set on the let hand side of the retainer side, and the indicator groove or KEY WAY has to be paralleled to the disc.(Fig.19)




(Fig.19)

**12.2. Disassembly**

12.2.1. Place the valve on a bench or other suitable working surface with the drive shaft side of the valve up. Remove the actuator and actuator bracket from the valve. (Fig.20)

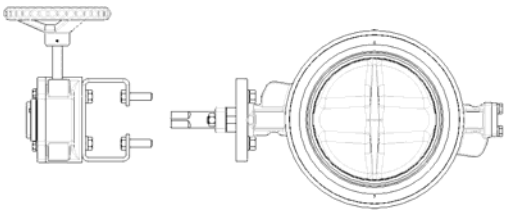


Fig.20

12.2.2. Separate the packing follower by removing the hex-nuts from the studs, then remove the studs.

12.2.3. Remove the packing using a flexible screw-hook.

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12.2.4. Remove the packing retainer, being careful not to damage the finish of the packing gland bore or the drive shaft.

12.2.5. Open the disc at 90°, loosen the seat retainer (Fig.21) in turning counterclockwise, remove the retainer and seat (Fig.22). If the retainer was stuck then using a hexagonal spanner or +" screwdriver to hold the holes of retainer and turn it up.

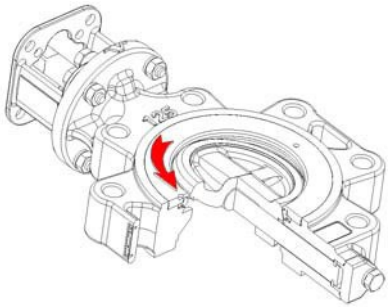

Fig.21

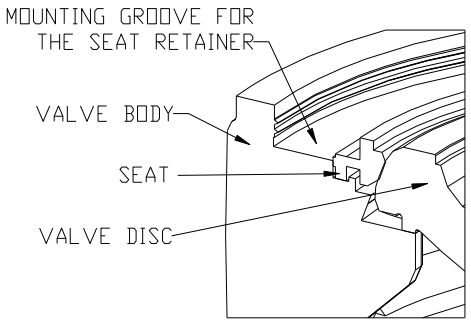


Fig.22

# 13. Parts and Service

| VF-91_A(6"~24") (Standard) / VF-94_A (5") (on request) below Spare parts | | | | |
|---|---|---|---|---|
| No. | Name | Materials | Spare parts | Qty |
| 4 | SEAT | PTFE | * | 1 |
| 6 | BUSHING | RTFE+SUS316 | * | 1 |
| 6-1 | BUSHING | PTFE | * | 1 |
| 6-2 | BUSHING | RTFE+SUS316 | * | 1 |
| 6-3 | BUSHING | RTFE+SUS316 | * | 2 |
| 8 | GLAND PACKING | PTFE | * | 1 |
| 9-1 | BOTTOM COVER GASKET | PTFE | * | 1 |
| 11 | STOP STUD | ASTM A193 Gr.B8M | * | 2 |
| 12 | LOCK PLATE | RTFE+SUS316 | * | 1 |
| 17 | SPRING(12" and below ) | ASTM A182 Gr.316 | * | 1 |

| VF-92_A (6"~24") (on request) / VF-95_A (5") (on request) Below Spare parts | | | | |
|---|---|---|---|---|
| No. | Name | Materials | Spare parts | Qty |
| 4 | SOFT SEAT | PTFE | * | 1 |
| 4-1 | METAL SEAT | INCONEL ALLOY | * | 1 |
| 4-2 | GASKTE. | Graphite | * | 1 |
| 6 | BUSHING | RTFE+SUS316 | * | 1 |
| 6-1 | BUSHING | RTFE+SUS316 | * | 1 |
| 6-2 | BUSHING | RTFE+SUS316 | * | 1 |
| 6-3 | BUSHING | RTFE+SUS316 | * | 2 |
| 8 | GLAND PACKING | GRAPHITE | * | 1 |
| 9-1 | BOTTOM COVER GASKET | Graphite | * | 1 |
| 11 | STOP STUD | ASTM A193 Gr.B8M | * | 2 |
| 12 | LOCK PLATE | RTFE+SUS316 | * | 1 |
| 17 | SPRING(12"and below) | ASTM A182 Gr.316 | * | 1 |

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| VF-93_A(6"~24") (on request) / VF-96_A( 5"Below) (on request) Spare parts | | | | |
|---|---|---|---|---|
| No. | Name | Materials | Spare parts | Qty |
| 4 | METAL SEAT | INCONEL ALLOY | * | 1 |
| 4-1 | GASKTE. | Graphite | * | 1 |
| 6 | BUSHING | RTFE+SUS316 | * | 1 |
| 6-1 | BUSHING | RTFE+SUS316 | * | 1 |
| 6-2 | BUSHING | RTFE+SUS316 | * | 1 |
| 6-3 | BUSHING | RTFE+SUS316 | * | 2 |
| 8 | GLAND PACKING | Graphite | * | 1 |
| 9-1 | BOTTOM COVER GASKET | Graphite | * | 1 |
| 11 | STOP STUD | ASTM A193 Gr.B8M | * | 2 |
| 12 | LOCK PLATE | RTFE+SUS316 | * | 1 |
| 17 | SPRING(12” and below ) | ASTM A182 Gr.316 | * | 1 |

13.1. Parts and service kits for most valve components are readily available. For parts or service information, contact Bürkert, stating the complete data from the valve identification plate and specify what is required.

# 14. Troubleshooting Guide

You may try the following procedures before contacting Bürkert. If your valve doesn’t operate properly before or after trying these trouble- shooting ideas, you may contact Bürkert for assistance.

### 14.1. LEAKAGE FROM STUFFING BOX

If leakage around the stuffing box is discovered, first tighten the nuts on the gland follower to stop the leakage. Do not over tighten the gland follower (more than 2/3 compression) as this may reduce packing life. If the leakage still persists, replace the packing according to the procedure in the “ Stuffing Box Maintenance Procedure” section.

### 14.2. LEAKAGE BETWEEN SEAL AND DISC

Inspect disc edge and seat for damage or excessive wear. If necessary, the disc edge may be lightly hand polished using wet 400 grit sandpaper. If leakage persists, or if not damage is evident, replacement of the seat. Re-check for leakage. If leakage still preexists, contact Bürkert for repair.

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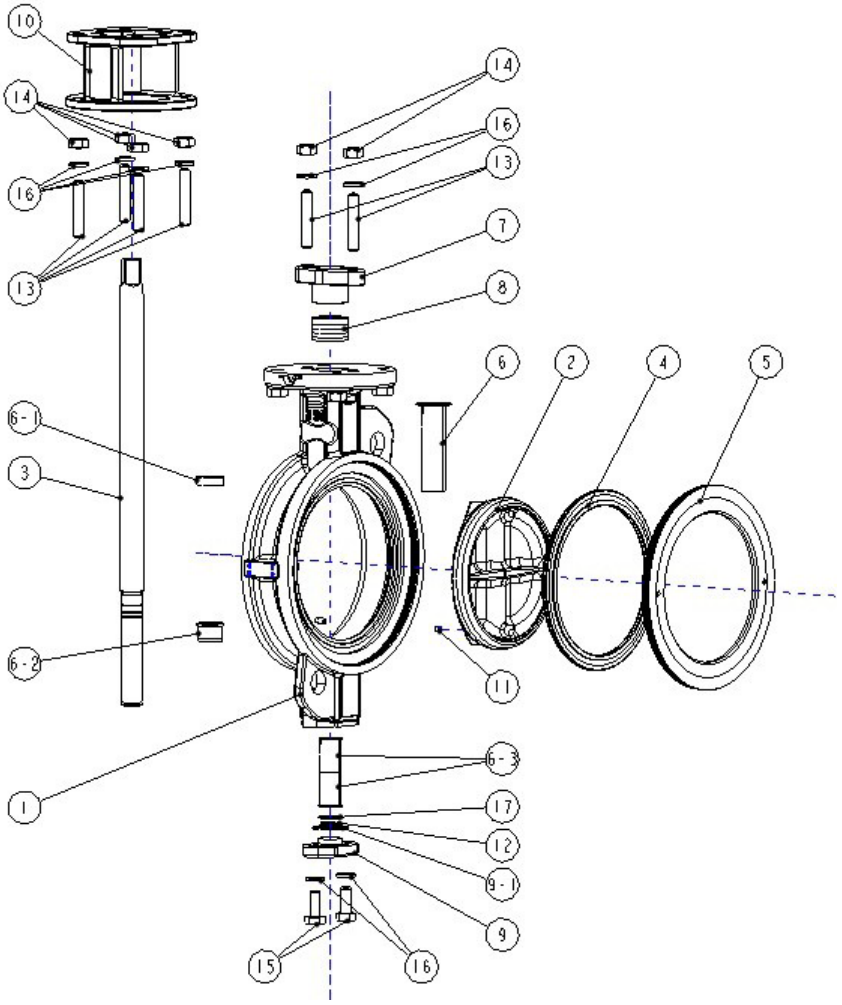
VF-91_A(6”~24”) (Standard) / VF-94_A (5") (on request) below Spare parts




| No. | Name | Materials | Spare parts | No. | Name | Materials | Spare parts |
|---|---|---|---|---|---|---|---|
| 1 | BODY | Carbon steel/Stainless steel | | 9 | BOTTOM COVER | Stainless steel | |
| 2 | DISC | Stainless steel | | 9-1 | BOTTOM COVER GASKET | PTFE | * |
| 3 | SHAFT | Stainless steel | | 10 | YOKE | ASTM A216 Gr.WCB | |
| 4 | SEAT | PTFE | * | 11 | STOP STUD | ASTM A193 Gr.B8M | * |
| 5 | RETAINER | Stainless steel | | 12 | LOCK PLATE | RTFE+SUS316 | * |
| 6 | BUSHING | RTFE+SUS316 | * | 13 | STUD | ASTM A194 Gr.B8 | |
| 6-1 | BUSHING | PTFE | * | 14 | NUT | ASTM A194 Gr.8 | |
| 6-2 | BUSHING | RTFE+SUS316 | * | 15 | BOLT | ASTM A194 Gr.B8 | |
| 6-3 | BUSHING | RTFE+SUS316 | * | 16 | SPRING WASHER | ASTM A182 Gr. F304 | |
| 7 | GLAND | Stainless steel | | 17 | SPRING | ASTM A182 Gr. F316 | * |
| 8 | GLAND PACKING | PTFE | * | | | | |

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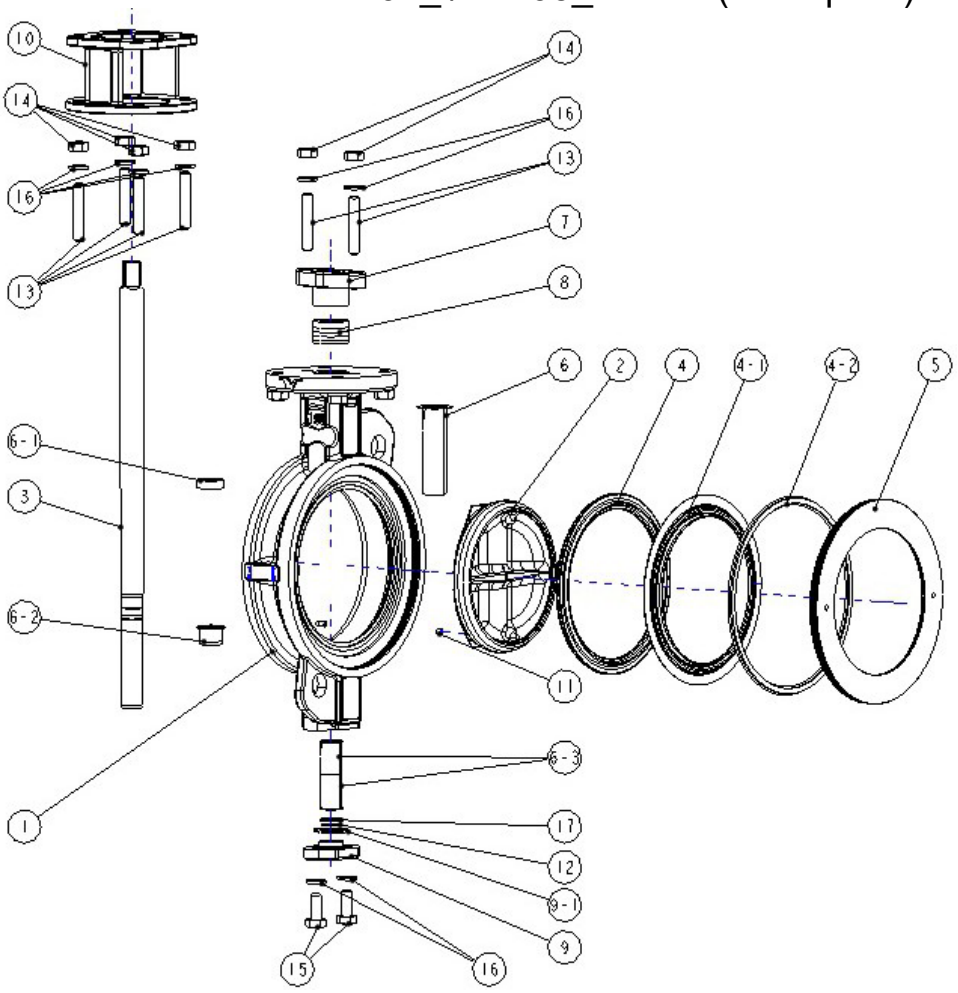
VF-92_ / VF-95_ Series (on request)




| No. | Name | Materials | Spare parts | No. | Name | Materials | Spare parts |
|---|---|---|---|---|---|---|---|
| 1 | BODY | Carbon steel/Stainless steel | | 8 | GLAND PACKING | Graphite | * |
| 2 | DISC | Stainless steel | | 9 | BOTTOM COVER | Stainless steel | |
| 3 | SHAFT | Stainless steel | | 9-1 | BOTTOM COVER GASKET | Graphite | * |
| 4 | SOFT SEAT | PTFE | * | 10 | YOKE | ASTM A216 Gr.WCB | |
| 4-1 | METAL SEAT | INCONEL ALLOY | * | 11 | STOP STUD | ASTM A193 Gr.B8M | * |
| 4-2 | GASKTE. | Graphite | * | 12 | LOCK PLATE | RTFE+SUS316 | * |
| 5 | RETAINER | Stainless steel | | 13 | STUD | ASTM A194 Gr.B8 | |
| 6 | BUSHING | RTFE+SUS316 | * | 14 | NUT | ASTM A194 Gr.8 | |
| 6-1 | BUSHING | RTFE+SUS316 | * | 15 | BOLT | ASTM A194 Gr.B8 | |
| 6-2 | BUSHING | RTFE+SUS316 | * | 16 | SPRING WASHER | ASTM A182 Gr. F304 | |
| 6-3 | BUSHING | RTFE+SUS316 | * | 17 | SPRING | ASTM A182 Gr. F316 | * |
| 7 | GLAND | Stainless steel | | | | | |

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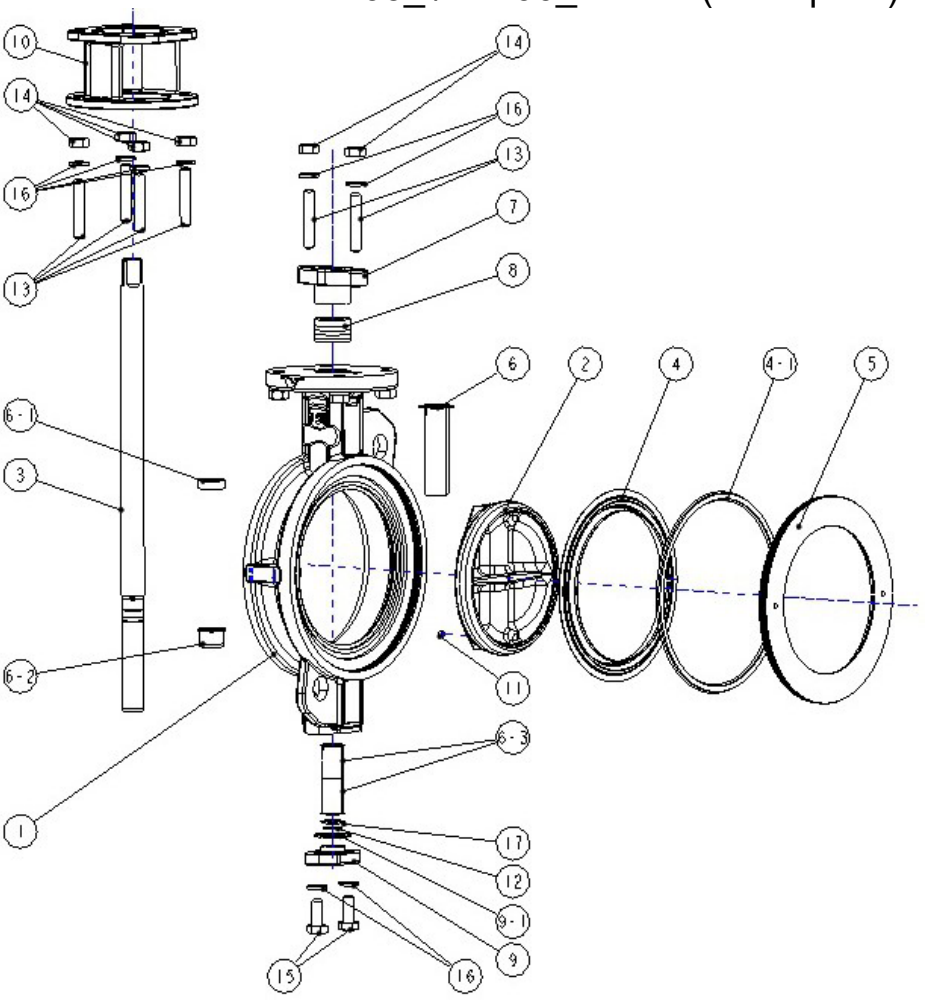
VF-93_ / VF-96_ Series (on request)




| No. | Name | Materials | Spare parts | No. | Name | Materials | Spare parts |
|---|---|---|---|---|---|---|---|
| 1 | BODY | Carbon steel/Stainless steel | | 8 | GLAND PACKING | Graphite | * |
| 2 | DISC | Stainless steel | | 9 | BOTTOM COVER | Stainless steel | |
| 3 | SHAFT | Stainless steel | | 9-1 | BOTTOM COVER GASKET | Graphite | * |
| 4 | METAL SEAT | INCONEL ALLOY | * | 10 | YOKE | ASTM A216 Gr.WCB | |
| 4-1 | GASKTE. | Graphite | * | 11 | STOP STUD | ASTM A193 Gr.B8M | * |
| 5 | RETAINER | Stainless steel | | 12 | LOCK PLATE | RTFE+SUS316 | * |
| 6 | BUSHING | RTFE+SUS316 | * | 13 | STUD | ASTM A194 Gr.B8 | |
| 6-1 | BUSHING | RTFE+SUS316 | * | 14 | NUT | ASTM A194 Gr.8 | |
| 6-2 | BUSHING | RTFE+SUS316 | * | 15 | BOLT | ASTM A194 Gr.B8 | |
| 6-3 | BUSHING | RTFE+SUS316 | * | 16 | SPRING WASHER | ASTM A182 Gr.304 | |
| 7 | GLAND | Stainless steel | | 17 | SPRING | ASTM A182 Gr.316 | * |

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# 15. Caution

## 15.1. Application：

15.1.1 The valve can't be suitable for a flow contains solid granules, which could hurt the valve seats.

15.1.2 Be sure the valve materials could suit the flow, if the flow medium is corrodent.

15.1.3 Be sure the valve could be suitable the flange connection, pressure and temperature.

15.1.4 The valve services temperature range：-29 ~ 210℃.

15.1.5 Maximum working pressure could not be higher than its design pressure.

15.1.6 VF-92&VF-95 (onrequest), Fire safe design with API 607.

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## 17.2. Installation：

17.2.1 Must know what media is in the pipeline.

17.2.2 Make sure the line is depressured.

17.2.3 Be sure the Arrow direction of the valve follows the flow direction.

17.2.4 Use protective clothing and equipment to avoid injury. Keep hands and other body parts out of the valve.

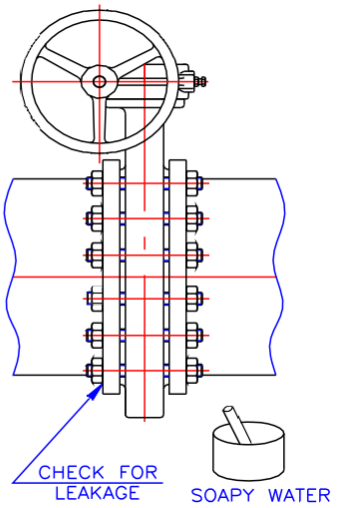
17.2.5. **ALWAYS ENSURE THE VALVE IS IN THE FULLY CLOSED POSITION BEFORE INSTALLATION, REMOVAL OR DISASSEMBLY.**

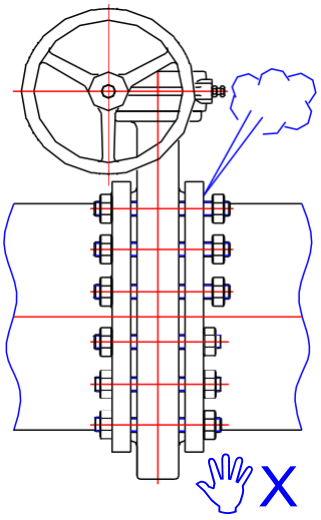
17.2.6. Before installation of the valve into the piping system visually inspect the valve to determine if any damage has occurred during shipping. Particularly, inspect the actuator, shaft, valve interior, valve body and flanges. For proper operation of the valves, the seat and disc seal must be undamaged. If other than superficial damage is discovered, contact Bürkert immediately, indicating the location and extent of the damage found.

17.2.7 The gaskets shall be free of injury， please change them to a new one if damaged.

17.2.8 After installing the valve in the pipeline, check leakage of flange connecting faces by using compressed air. (Fig.28)

17.2.9 Make sure the faces of valve, gaskets and flanges must be clean before installation.




## 17.3. On Service：

17.3.1 Do not touch the valve body when it is on service.

17.3.2 Do not loose flange bolts, valve bolts when valve is on service. (Fig.29)

17.3.3 The valve must be supported when pipeline vibration, so that pipeline stresses are not transmitted to the valve and actuator.

17.3.4 Do not use a “F” wrench to operate the hand wheel of gear box. (Fig.30)

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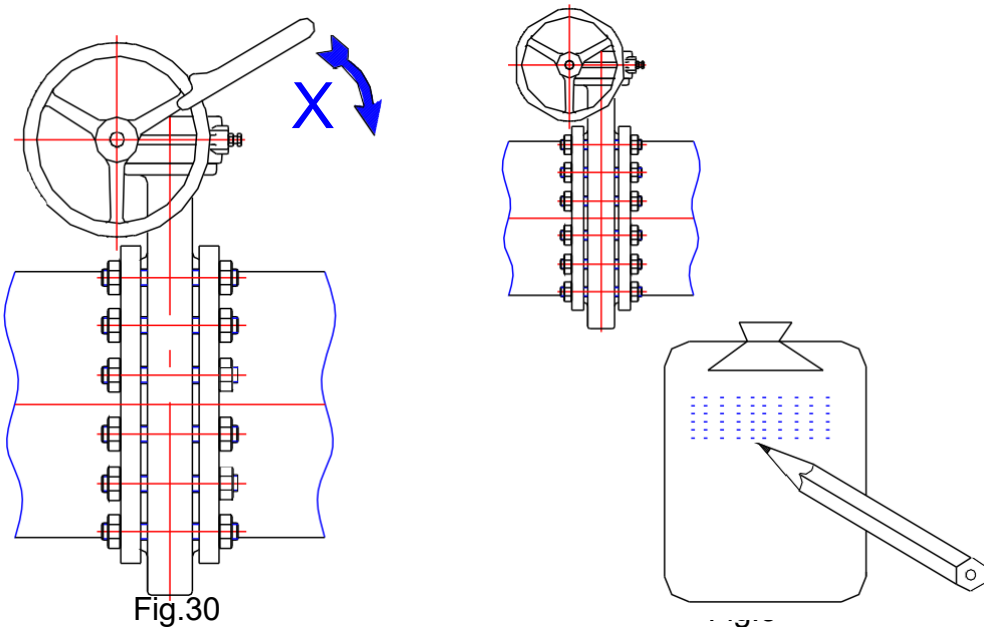


Fig.30

17.3.5 If any issues persist after servicing, please contact Bürkert with a description of the problem so we can assist you promptly. (Fig.31)

## 17.4. Maintenance

17.4.1 Maintenance man should be trained before doing the repair.

17.4.2. Do not replace the gaskets when the pipeline was working or pressured.

17.4.3. Repaint the valve if it shows signs of corrosion.

17.4.4. If finding the parts of valve has been corroded, please replace a new one.

17.4.5. Please measure the thickness of the body when maintaining to realize the body is still workable or not. Please see Annex Ⅰ.

17.4.6. Pay attention the abrasion of stem, disc and seats and realize they are still workable.

17.4.7. Do very clear mark and protection procedure when the flow medium is poison.

17.4.8 Please mark sure the piping no pressure and the temperature must be lower than 100°F before remove the valve.

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# Annex I

| Check list for minimum wall thickness (ASME B 16.34) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Minimum thickness (mm) for each pressure rating | | | | | | | |
| Size (in) | Items | Class 150 | Class 300 | Size (in) | Items | Class 150 | Class 300 |
| 2 | t min | 5.588 | 6.350 | 24 | t min | 14.732 | 24.638 |
| 2.5 | t min | 5.588 | 6.350 | 26 | t min | 15.494 | 26.416 |
| 3 | t min | 5.588 | 7.112 | 28 | t min | 16.256 | 27.940 |
| 4 | t min | 6.350 | 9.652 | 30 | t min | 17.018 | 29.718 |
| 5 | t min | 7.112 | 8.636 | 32 | t min | 18.034 | 31.242 |
| 6 | t min | 7.112 | 9.652 | 34 | t min | 18.796 | 33.020 |
| 8 | t min | 7.875 | 11.176 | 36 | t min | 19.558 | 34.798 |
| 10 | t min | 8.636 | 12.700 | 40 | t min | 21.336 | 38.100 |
| 12 | t min | 9.652 | 14.224 | 42 | t min | 22.098 | 39.624 |
| 14 | t min | 10.668 | 16.510 | 44 | t min | 22.860 | 41.402 |
| 16 | t min | 11.430 | 18.034 | 46 | t min | 23.622 | 43.180 |
| 18 | t min | 12.192 | 19.812 | 48 | t min | 24.638 | 44.704 |
| 20 | t min | 12.954 | 21.336 | 50 | t min | 25.400 | 46.482 |
| The minimum wall thickness was designed according to ASME B16.34-1988 | | | | | | | |

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