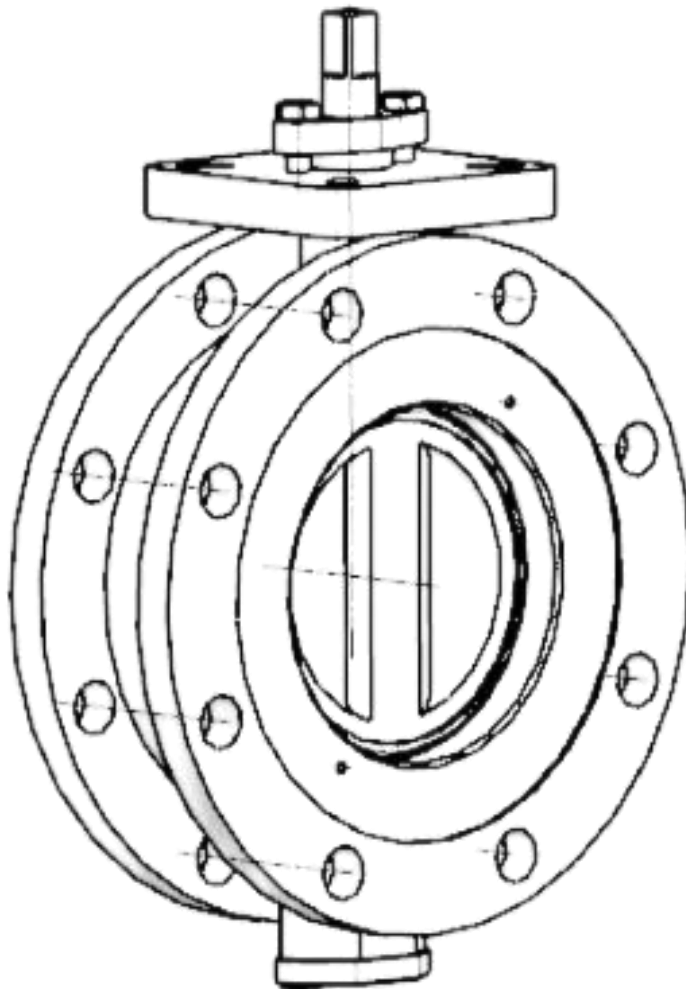


GEKO GKV81X / 82X / 83X series

High performance butterfly valve

Installation, operation, and maintenance manuals



GEKO
CONTROL-VALVES

catalogue

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**Please read them carefully
and follow these instructions.
Please keep this manual for
later use.**

1.0 Term Definition

caution

!warn

Indicate a potentially dangerous situation that, if not avoided,

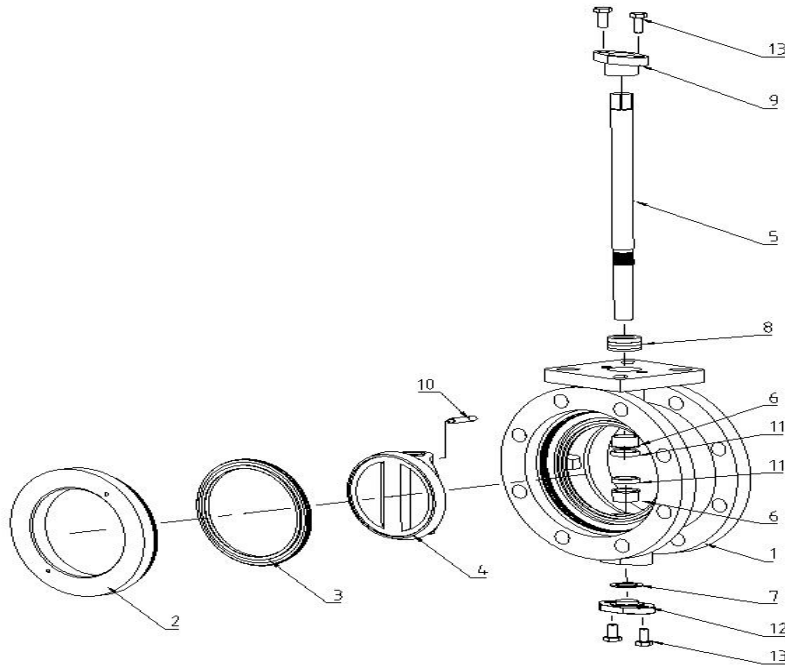
pay attention to

No safety warning signs, indicating potential conditions, if not avoided, may lead to adverse results or status, including property damage.

2.0 Introduction

- 2.1 GEKO high-performance butterfly valves provide industry-leading sealing technology and performance while following the most High quality standard of production. The valve is dedicated to treating the most difficult media — water, oil and gas and other liquids in today's industrial environment.
- 2.2 Functions include:
 - 2.2.1 Maintain the seal under various working conditions.
 - 2.2.2 GEKO High performance butterfly valves are suitable for adjustment and on / off operations and are easily automated with your selected manual, electric and pneumatic actuators, localers, and controls.
- 2.3 For more information about GEKO High Performance Butterfly Valve — including application data, engineering parameters, and actuator selection, please visit www.geko-union.com or contact your Bolley dealer or sales representative.

3.0, part drawing- -GEKO high performance



13	hexagon headed bolt
12	end cap
11	retainer
10	pin roll
9	stuffing box gland
8	filling
7	gasket ring
6	axle sleeve
5	valve stem
4	valve clack
3	valve seat
2	embedded part
1	valve body
order Number	name

4.0 Handling requirements

4.1 Packed valves

- 4.1.1 Crate: For packed valves, lift and handle with forklifts and adopt appropriate pallets
Fork hanging way.
- 4.1.2 Transport box: When the packed valve is packed and transported, the correct lifting point should be used according to the marked center of gravity position.
Transportation of all packed materials must be operated safely and in compliance with local safety regulations.

4.2 Unpackaged valves

- 4.2.1 Lifting and handling of valves shall use appropriate methods and follow load limits. Handling must be carried out on the tray, this
The ples can protect all machining surfaces from damage.
- 4.2.2 For large-diameter valves, they must be lifted with appropriate tools to prevent the valves from being during the lifting and handling process
Drop or move.

△ warn

For valve handling and / or lifting, the size and selection of the lifting equipment (fasteners, hooks, etc.) must be determined while considering the valve weights indicated in our, packing list and / or delivery list. Can only be lifted and transported by qualified personnel.

The pointed corners of the fasteners must be protected with a plastic cover.

Care must be taken during handling to avoid equipment falling from above staff or anywhere else. In any case, the local safety regulations must be followed.

5.0 Long-term storage

- 5.1 GEKO high performance butterfly valve through cleaning and double bagging, with desiccant bag to form a vapor barrier to prevent Water accumulates on the valve. If the valves need to be stored for a period of time before installation, they must be stored using the following controls:
- 5.1.1 Valves must be stored in a closed, clean and dry environment.
 - 5.1.2 The valve plate is in the closed position, and the valve body end plane must be covered with the appropriate flange protection device. Flange protection devices can only be removed upon installation.
 - 5.1.3 If the valve should be used for automatic control, carefully protect the valve to ensure that the sealing surface is missing There is damage.
 - 5.1.4 Valves shall be stored indoors with an optimum temperature range of 40°F (4°C) to 85°F (29°C).
 - 5.1.5 Valves shall be checked every three months to ensure that the above conditions are always met.
 - 5.1.6 If the valve steam barrier bag is damaged or damaged in any way, the valve shall be evaluated to determine cleaning. Any dirt or debris can cause the valve to fail properly.

caution 

If the valve is used for oxygen devices and the steam barrier bag is damaged, the valve must be removed and re-cleaned according to an approved oxygen cleaning procedure before installation.

- 5.2 These are a general guide for valve storage.
To know the specific requirements,
please consult the factory.

6.0 Installation

- 6.1 GEKO high performance butterfly valves can be installed between flanges of the ANSI standard or other specified standard. When the valve is open, the plate will extend into the pipe on either side of the valve (the plate extends further on the body side than the seat housing side). There must be sufficient space for the piping to open and close in the pipe.
- 6.2 In general, Class 150 pound grade valves are suitable for Sch 40 pipes, and 300 pound grade valves are suitable for choosing the table number Sch 80 pipeline.

△ warn

If the handle or actuator has been removed, do not rotate the valve plate out of the fully open or closed position — This may damage the sealing surface.

- 6.3 Note: The GEKO valve is equipped with a travel limiter to prevent excessive closure. Rotate the valve counterclockwise to open, rotate the valve clockwise to close. The double "D" plane or keyway at the top of the stem is parallel to the edge of the valve plate.

warn !

Verify and check the flow of preferred directions before installation.

- 6.4 The installation direction of the GEKO high-performance butterfly valve is that the seat retaining ring is downstream. This will achieve an active and effective sealing and a longer service life.
- 6.5 Make sure that the valve plate (2) is in the closed position and carefully center the valve between the flanges. The valve shall be aligned with the docking flange using a flhole (clip valve) or threaded hole (support valve).
- 6.6 When attaching the valve to the line, use the torque recommended by the flange gasket manufacturer.
- 6.7 The gasket shall meet the requirements of API Standard 601 Edition 3 for ASME / ANSI B16.5 grade flanges. Can accept spiral spacers conforming to ASME / ANSI B16.20, such as the GEKO GKV series

7.0 Maintenance

- 7.1 Reasonable precautions shall be taken before starting the maintenance of the valve. Protective clothing meeting specific pipeline fluid requirements shall be worn. If the valve was previously used in cryogenic units, allow enough time to heat it up to a safe temperature linear measure.

caution 

Close the valve and reduce the line before removing the handle or actuator from the valve or from the valve in the device.

- 7.2 If the handle / actuator is not placed in place when the valve is under pressure, the eccentric GEKO valve may open due to line pressure.

caution 

Do not pressure the line without a handle or actuator on the valve.

- 7.3 The GEKO valve must be in a closed position to remove from the line.

- 7.4 After the valve is removed from the device, the valve must first be cleaned to remove all gravel or scale before it can be developed A job.

warn 

When handling valves, be careful not to scratch the edge of the valve plate or the valve seat.

- 7.5 Replacement seats, stem fillings and other parts are available from an authorized distributor. For more information on pricing and delivery, please contact your dealer or sales representative.

caution 

Confirm whether the valve needs to be cleaned for the oxygen unit. Depending on the application, the valves may need to be cleaned and assembled in a qualified oxygen cleaning facility.

pay attention to

Note the assembly position of the actuator before disassembly.

8.1 For the handle-operated valves, remove the handle assembly. Remove the inner hexagon screw (13). For valves with control, loosen from the stem (5),(13) bolts and lift the actuator assembly from the stem (5).

8.2 Remove the packing press nut (9))

△ warn

When removing the valve stem fill, be careful not to scratch the valve stem (5) or packing function holes.

8.3 Remove the stem fill (8).

8.4 Check the body packing holes and valve stem (5), clean as needed before installing new stem packing to remove any corrosion or foreign materials.

8.5 Install a new stem fill () in the packing letter at one time. Stagger the packing ring joint opening for 180°. Compaction each ring to the bottom before installing the next ring. Table 3 shows the correct number of stem fillers installed in each valve.

pay attention to

On larger valves, each stem fill needs to be pressed before adding the next stem fill.

8.6 Reinstall the handle assembly, if required. Ensure that the handle or actuator is installed in the original direction.

8.7 Open and close the valve multiple times, check for thermal attachment, and then place the stem fill. Loosen the lid nut (13)

9.0 Seat replacement

- 9.1 Refer to the GEKO High Performance Butterfly Valve Part Drawing for part numbers. The valve can be removed from the device when the valve plate (4) is in the closed position.
- 9.2 Place the valve flat, with plate (4) in the closed position and remove seat insert (2) side up.
- 9.3 Remove the valve seat (3)
- 9.4 Carefully clean the valve body (1), the valve seat (3) to remove foreign matter, dirt, oil, etc. Check the valve plate base area for nicks or scratches.
- 9.5 Place the panel (4) in the closed position, place the new seat (3) on the panel (4), and carefully place it in the center of the panel (4).
- 9.6 Install the new seat (3) in the center of the body (1).
- 9.7 Align the seat (3) with the assembly hole on the body (1) and carefully place it on the seat (3). Ensure that the seat (3) is maintained in the center of the plate (2) and the seat (3) is secured

Hold in the center of the valve body (1).

- 9.8 Apply the GPL225 Krytox PTFE thread lubricant to the thread of the hexagonal screw.

9.9.1 Thread (2) through the housing and tighten on body (1).

9.9.2 Repeat Step 2 to increase the torque value to about 60% of the final torque value.

9.9.3 Repeat Step 3 to increase the torque value to the final desired torque value.

9.9.4 Open the valve plate (4). Re-tighten (2) according to the final required torque value.

9.9.5 Final tightening shall be checked before installation. Operate the valve several times before reinstalling the valve in use

And check the seat for any damage.

10.0 Valve plate and stem replacement

10.1 Close the main medium source of the pipeline where the valve is located to ensure the safety of the operation, release the internal pressure of the valve and replace the valve plate.

10.2 Use the tool to unscrew the hexagon head bolt (13) and remove the plug (12).

10.3 Remove the packing lid (9) and packing (8) and remove the sleeve (6).

10.4 Pull out the pin shaft (10) and remove the old valve plate (4) from the valve body (1).

10.5 Clean the surface of the valve and the seat (3) and check for damage.

10.6 Install the new valve panel (4) into the valve body (1) and insert the pin shaft (10) for fixation.

10.7 Return the shaft sleeve (6), packing (8) and packing lid (9) successively.

10.8 Install the plug (12) and tighten the hexagon head bolt (13).

10.9 Stem (5) replacement step

10.11 Unscrew hexagonal bolt (13) and remove plug (12).

10.12 Remove the packing lid (9) and remove the packing (8).

10.13 Remove the sleeve (6) and remove the old stem (5) upward.

10.14 Check whether the partition ring (11), sealing ring (7) and other parts are in good condition, and replace them if damaged.

10.15 Insert a new valve stem (5) into the valve body (1) from above and return the shaft sleeve (6), fill (8) and fill cover (9) in turn.

10.16 Install the plug (12) and tighten the hexagon head bolt (13).

11.0, with a field adjustment

11.1 The valve rod filler leaks

- 11.1.1 In case of a leak at the stem fill, the packing cover nut can be tightened back to the values specified in Table 4
Termination of leakage.

pay attention to

Do not screw the lid nut too tightly as this may result in increased working torque and improper valve operation or closure.

- 11.1.2 If this operation does not prevent the leak, the stem packing needs to be replaced.

11.2 Adjust the valve closing position

11.2.1 Remove some parts: Unscrew the hexagon head bolt (13) with a tool, remove the plug (12), remove the packing lid (9), remove the packing (8), and then remove the shaft sleeve (6).

11.2.2 Adjust the disc position: turn the stem (5) to drive the disc (4). To close closer, turn the stem (5) clockwise to bring the disc (4) near the seat (3); if closed too tightly relaxed, turn the stem (5) counterclockwise.

11.2.3 Check the sealing condition: slowly restore the circulation of some medium, and check no leakage between the valve disc (4) and the valve seat (3). For leakage, repeat the above adjustment steps.

11.2.4 Reduction installation: after adjusting properly, install the sleeve (6), packing (8), packing and pressure cover (9), install the plug (12), and tighten the hexagon bolt (13).

12.0 Appendix A-Form

Table 1: Pipe nominal inner diameter (inch)		
valve size	Tube table number	
NPS	40	80
3	3.07	2.90
4	4.03	3.83
6	6.07	5.76
8	7.98	7.63
10	10.02	9.56
12	11.94	11.38

Table 1: Inner diameter of pipe pipe (mm)		
valve size	Tube table number	
DN	40	80
100	102	97
200	203	194
300	303	289

Table 2: Minimum pipe diameter (in) with recommended clearance		
valve size	pressure rating	
NPS	150	300
3	2.86	2.86
4	3.72	3.72
6	5.88	5.75
8	7.80	7.56
10	9.78	9.44
12	11.74	11.31

Table 2: Minimum inner diameter (mm) of pipe with recommended clearance		
valve size	pressure rating	
DN	150	300
100	94	94
200	198	192
300	298	287

pour:

1. The minimum inner diameter of the pipe containing the recommended gap (according to API 609) is calculated by adding the minimum inner diameter of the zero clearance to the minimum recommended diameter gap of each pipe size.
2. These tables assume that the pipe is located on the side of the valve body and that the pipe is completely centered. The seat housing side always has a larger gap than the body side.
3. Use at least 1 / 16 " thick gasket between the pipe flange and the valve body surface.
4. When the inner diameter of the pipe used is less than the recommended minimum pipe inner diameter and there is sufficient clearance, a 45° chamfer shall be provided at the end of the pipe to keep a distance from the valve plate.

Table 3: Total number of valve stem fills		
valve size		pressure rating
NPS	DN	150/300
3	80	4
4	100	4
6	150	4
8	200	5
10	250	5
12	300	5

Table 4: Filler cover nut and seat retaining screw torque (Pound-inch)

valve size	gland nut		Screw retaining coil screw	
	150	300	150	300
3	60	60	100	100
4	60	60	175	175
6	80	120	100	175
8	80	140	175	175
10	110	190	175	300
12	130	220	300	300

Table 4: Filler cover nut and seat retaining screw torque (Nm)

valve size	gland nut		Screw retaining coil screw	
	150	300	150	300
DN	150	300	150	300
80	7	7	11	11
100	7	7	20	20
150	9	14	11	20
200	9	16	20	20
250	12	21	20	34
300	15	25	34	34

Table 5: Remove the bit size for positioning welding

valve size	pressure rating			
	150		300	
3	.234	15/64	.234	15/64
4	.234	15/64	.234	15/64
6	.234	15/64	.234	15/64
8	.234	15/64	.234	15/64
10	.234	15/64	.234	15/64
12	.234	15/64	.234	15/64

Table 5: Remove the bit size for positioning welding (millimetre)

valve size	150		300	
	DN	150	300	150
80	6	6	6	6
100	6	6	6	6
150	6	6	6	6
200	6	6	6	6
250	6	6	6	6
300	6	6	6	6

Table 6: Position the stopcock and install the bracket socket hexagonal screw torque (Pound-inch)

valve size	Locate the spin plug 150 and 300	Install the six-socket screws in the bracket	
		150	300
3	2520	175	175
4	2520	175	175
6	2700	300	300
8	3000	300	756
10	4200	756	756
12	4200	756	756

Table 6: Position the stopcock and install the bracket socket hexagonal screw torque (Nm)

valve size	Locate the spin plug 150 and 300	Install the six-socket screws in the bracket	
		150	300
DN	150 and 300	150	300
80	285	20	20
100	285	20	20
150	305	34	34
200	339	34	85
250	475	85	85
300	475	85	85

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