Butterfly Valves

KITZ VALVE & ACTUATION (THAILAND) CO.,LTD.
https://www.kitz-kvt.com Call Center +66 2663 4700 e-mail: sales@kitz-kvt.com

Butterfly Valves

Product Coding

G - PN16 WJZ _ L M E

❶ ❷ ❸ ❹ ❺ ❻ ❼

❶ Valve operation
- None ····· Lever
- G ····· Gear

❷ Class
- PN16 ····· EN PN16
- 250 ····· ASME 250 psi

❸ Valve series
- WJZ ····· Ductile iron WJZ Series

❹ Design
- None ····· Long neck
- S ····· Short neck

❺ Connection
- L ····· Lugged
- V ····· U-Flange

❻ Disc material
- None ····· Ductile iron
- U ····· 304 stainless steel
- M ····· 316 stainless steel

❼ Seat material
- None ····· NBR (Buna-N)
- E ····· EPDM
- F ····· FKM

Specification

Maximum service pressure	
PN16 ASME 250	1.6 MPa 1.72 MPa
Service temperature range	
NBR (Buna-N) seat EPDM seat FKM	0℃ to +70℃ −10℃ to +100℃ 0℃ to +120℃
Applicable standards	
Valve design Face to face dimensions	API 609, MSS-SP 67, EN 593 API 609 Category A, MSS-SP 67 EN 558 basic series 20, ISO 5752 20 Series
Coupling flanges	
Lugged type (Bi-directional dead-end service*) U Flange type	EN 1092 PN16 ASME Class 150 EN 1092 PN16 ASME Class 150

*If dead-end service is required, please inform KITZ before order.

Standard Materials

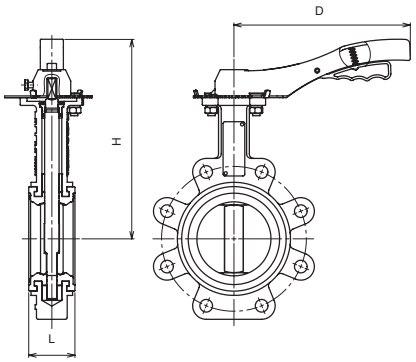
Parts	Material
Body	Ductile Iron
Stem Bottom stem	420SS
Disc	Ductile Iron / 304SS / 316SS (See Explanation of Product Code)
Seat O-ring	NBR (Buna-N) / EPDM / FKM (See Explanation of Product Code)

KITZ Group
KITZ VALVE & ACTUATION (THAILAND) CO.,LTD.
https://www.kitz-kvt.com Call Center +66 2663 4700 e-mail: sales@kitz-kvt.com

WJZ series Ductile Iron Butterfly Valves

Lever Operated

PN16WJZL□□
250WJZL□□

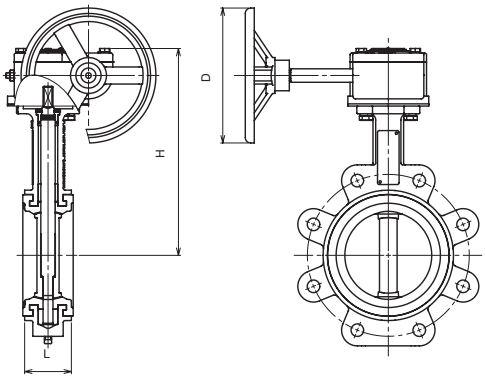


〔Dimensions〕 (mm)

DN	mm	50	65	80	100	125	150
	inch	2	2.1/2	3	4	5	6
H		201	211	221	231	256	266
L		43	46	46	52	56	56
D		170	170	195	195	220	220

Gear Operated

G-PN16WJZL□□
G-250WJZL□□



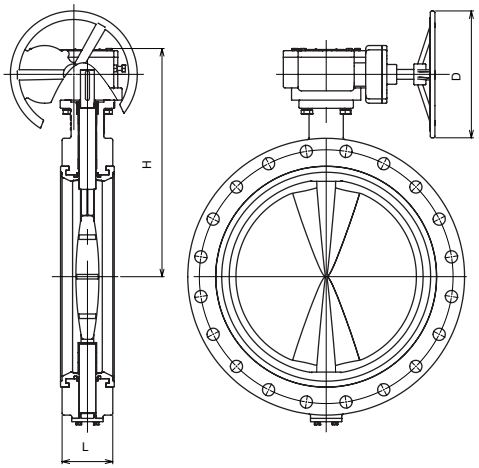
〔Dimensions〕 (mm)

DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
	inch	2	2.1/2	3	4	5	6	8	10	12	14	16	18	20	24
H		201	211	217	227	251	261	285	337	372	444	493	522	580	693
L		43	46	46	52	56	56	60	68	78	78	102	114	127	154
D		150	150	150	150	150	150	183	280	280	280	280	280	280	385

KITZ Group
KITZ VALVE & ACTUATION (THAILAND) CO.,LTD.
https://www.kitz-kvt.com Call Center +66 2663 4700 e-mail: sales@kitz-kvt.com

Gear Operated

G-PN16WJZV□□
G-250WJZV□□



〔Dimensions〕 (mm)

DN	mm	300	350	400	450	500	550	600	650	700	800	900	1000	1200
	inch	12	14	16	18	20	22	24	26	28	32	36	40	48
H		372	444	493	522	580	669	693	690	725	814	858	923	1087
L		78	78	102	114	127	154	154	165	165	190	203	216	254
D		280	280	280	280	280	385	385	389	389	600	600	600	700

Precautions for Trouble-free Operation of KITZ Butterfly Valves

Valve Selection

- Make sure to select a valve with design specifications that are appropriate for the fluid type and the pressure and temperature conditions expected.
- Lubricants are applied to discs and rubber seats to protect their surfaces.
  Oil-free treated types are also available. Contact the KITZ Corporation or one of its local distributors for the details.
- Contact the KITZ Corporation or one of its local distributors for service with fine particles.

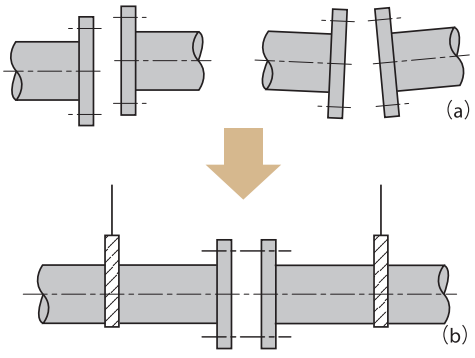
Storage and Handling

- Valves must be stored in a clean, dry, corrosion-free environment with no direct exposure to the sunlight. Valves should be left open 10° to prevent permanent distortion of the resilient seats. Refrain from overloading valves and their actuators by storing them in piles or placing other objects on them.

Mounting on Pipelines

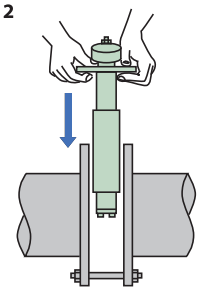
- Valves must be mounted on flanges only after flanges have been welded to pipes and cooled down to the ambient temperature. Otherwise, the welding heat may affect the quality of the resilient seats.
- Edges of welded flanges must be machined to achieve a smooth surface finish so that they will not damage the resilient seats during valve mounting. Flange faces must be free from damage or deformation and must be cleaned to remove rust and any foreign objects to prevent leakage through the valve and flange connections. Gaskets are not required for mounting KITZ XJ series butterfly valves.
- Flanges and pipe bores must be cleaned thoroughly to remove welding spatters, scales, and foreign objects that may have been left inside.
- Accurate centering of each pair of upstream and downstream pipes is essential for trouble-free operation of the valves mounted between them. Incorrect centering, shown in **Fig. 1,** must be avoided at all costs.

Fig. 1



- When mounting valves, set jack bolts under the pipes to provide support at a consistent height and adjust the flange-to-flange distance to allow 6 to 10 mm of space on each side of the valve body. Remember that valves must be left open 10° from the fully closed position (**Fig. 2**).
- Set two bolts into the lower mounting guides of a valve and mount it carefully so that the flange faces do not damage the resilient seats.
- Then set another two bolts into the upper mounting guides of the valve, ensuring the correct centering between the pipes and the valve.
- Try opening the valve to check that there is no obstructing contact between the valve disc and the flanges.
- Remove the jack bolts, set all bolts around the valve body, and tighten the bolts alternately and diagonally until the flanges come into contact with the valve body (**Fig. 3**).
  Refer to the table shown below for recommended torque values.

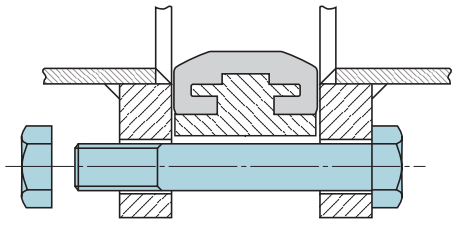
Fig. 2



Recommended torque values

DN	N·m (kgf·m)
40	49(5)
50	
65	
80	
100	
125	88(9)
150	
200	
250	118(12)
300	

Fig. 3

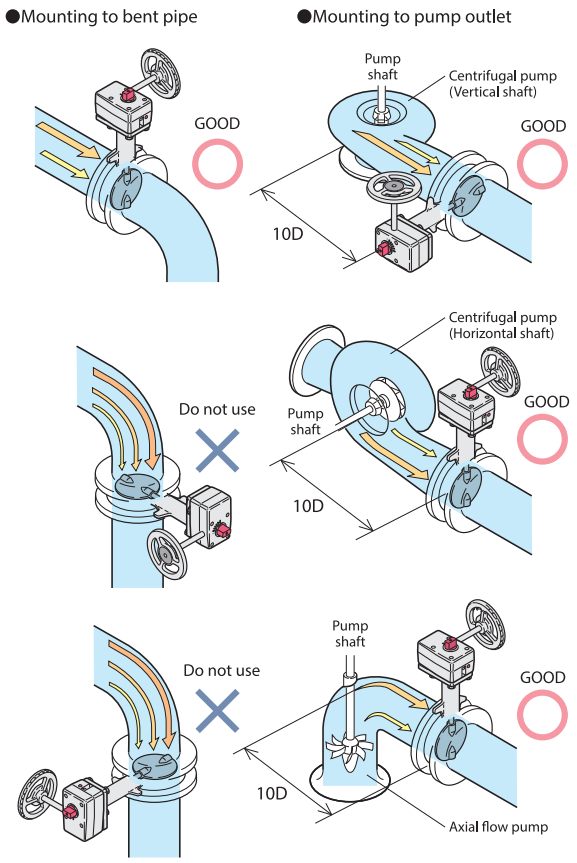


- For mounting actuated valves, provide valve supports to prevent bending of valve necks and reduce valve and pipe vibration.
- Do not step on valve necks or valve hand-wheels.
- Do not mount butterfly valves directly to check valves or pumps; this may result in damage caused by the disc contacts.
- Do not mount valves on the downstream sides of elbows, reducers, or regulating valves where the fluid velocity changes. It is recommended that valves be installed at distances of approximately 10 times the nominal valve sizes in such cases

KITZ Group
KITZ VALVE & ACTUATION (THAILAND) CO.,LTD.
https://www.kitz-kvt.com Call Center +66 2663 4700 e-mail: sales@kitz-kvt.com

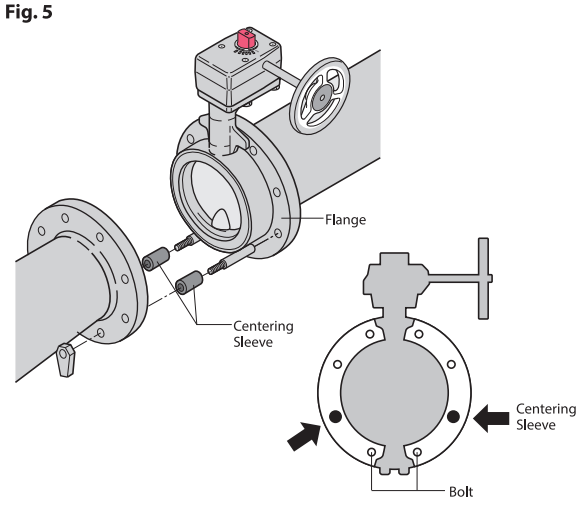
- Mount valves taking into consideration the effects on discs of fluid velocity or pressure changes in the piping. Refer to the illustrations. **(Fig. 4)**
  Contact the KITZ Corporation or one of its local distributors for the details.

Fig. 4



Note:
Centering with centering sleeves is required for valves equipped with such sleeves for accurate centering (Fig. 5)
Refer to page 3 for applicable sizes.

Fig. 5



Valve Operation

- Valves equipped with manual operators such as levers, handles and gears, must be MANUALLY OPERATED ONLY. Application of excessive external force to operate valves may result in malfunction of valves and their operators.
- Make sure to open valves fully before conducting a loop test of the piping system at a line pressure higher than the nominal pressure of the tested valves. Never use closed valves in place of blind flanges.
- When valves need to be removed from pipes for maintenance or any other reason, make sure to thoroughly relieve the line pressure beforehand. Loosening piping bolts under line pressure is dangerous. Any residual fluid left inside the pipeline must be completely drained.
- Users should contact the KITZ Corporation or one of its local distributors for technical advice when valves need to be continuously pressurized while left open 30° or less.
- Do not use position indicators to operate valves or overload position indicators. These actions may cause damage to the indicators.
- Make sure to use blind flanges when butterfly valves are mounted at the end of pipelines.
- Standard actuators are referenced in this catalog for actuated valve operation. Contact the KITZ Corporation or one of its local distributors for information on mounting optional actuators.
- Contact the KITZ Corporation for service at hopper or pump outlets.
- Avoid touching gear operators and actuator stopper bolts accidentally.
- Periodic inspection is recommended to
  - •Check the valve opening degree
  - •Check loosened bolts and leakage at each connection
  - •Check vibration and noise
- Refer to instruction manual for other precautions. Refer to actuator catalogs and instruction manuals for actuated valves.

⚠WARNING

To prevent stem blow-out, do not disassemble necks while a valve is pressurized. Do not dismantle valve operating devices because this may cause valve discs to rotate and may result in valve malfunction.

⚠ WARNING

- This product is not designed for explosion-proof. DO NOT use it in any inflammable or corrosive gaseous environment. Also DO NOT use it for handling inflammable fluid.
- DO NOT disassemble the actuator while the unit is being energized.
- DO NOT put your fingers or insert any foreign objects within the valve core before or during valve operation.

⚠ CAUTION

- Make sure to read and follow instructions of operation manual when handling the actuator introduced in this catalog.
- Handle the product carefully so that it may not fall or drop on the ground. Any extraordinary mechanical impact should be avoided.
- Indoor storage of the product in a dust-free, low humidity and well-ventilated place is recommended.
- DO NOT remove protective cover until installation on piping.
- DO NOT apply excessive load or step on the product, which may damage the product or cause personal injury.
- Allow sufficient room for manual operation or removal of the actuator cover, when the valve is installed in the pipeline.
- Where the actuator is exposed to sunlight or rainwater while in service, use appropriate protection for trouble-free operation. Also use insulation boards for the heat generated from the equipment around the actuator.
- Take some appropriate measures, if the possibilities of damage by briny atmosphere, snow or freezing are expected.
- Avoid installing the valve where the actuator may be hampered by vibration caused by other equipment such as pumps or engines.
- Before installation, the connecting pipes should be cleaned to remove any foreign objects such as sand, dust or welding spatters.
- When threaded valves are screwed into pipes, apply a spanner to the ends of valves on the side of the connecting pipe being inserted.
- For flanged valves, alternately tighten bolts of the end flanges in a star pattern to ensure to fasten the flanges properly.
- The actuator should not be mounted downward in any piping orientation.
- The pipeline should be flushed to remove foreign particles from pipes.
- If cast iron or cast carbon steel valves are used in the water line, be aware that rust may develop in the valves, which may damage the ball seats, leading to operation failure. Pay extra attention on valve selection and protection from rust.
- Connect cables correctly in accordance with the circuit diagram.
- Ensure to use a terminal base when connecting cables.
- After connecting cables, conduct an insulation resistance test to ensure its insulation.
- Ensure the housing is securely sealed with such sealing materials as O-rings to prevent dust or water from entering the housing.
- DO NOT try to operate two or more actuators at the same time with only one operation switch. Other electrical equipment should not also be operated at the same time with one operation switch.
- Ensure the space heater to be activated all the time to keep the inside of the actuator warm for the prevention of due condensation, which may result in operational malfunction.
- Ensure the actuator is powered off, when it is used for manual operation.
- Place at least one-second interval, when the direction of operation is reversed. Failure to follow this instruction may result in operation malfunction.
- DO NOT make any unauthorized modifications. Such modifications may result in causing a troubled operation or accidents. We shall not be responsible for any troubles or accidents caused by improper use of the products.
- Refer to our catalogs for more details on valve information.

⚠ CAUTION

Technical data published in this catalog have been developed from our design calculation, in-house testing , field reports provided by our customers and/or published official standards or specifications. They are good only to cover typical applications as a general guideline to users of KITZ products introduced in this catalog.

For any specific application, users are kindly requested to contact the KITZ Corporation for technical advice, or to carry out their own study and evaluation for providing suitability of these products to such an application. Failure to follow this request could result in property damage and/or personal injury, for which we shall not be liable.

While this catalog has been compiled with the utmost care, we assume no responsibility for errors, impropriety or inadequacy. Any information provided in this catalog is subject to from-time-to-time change without notice for error rectification, product discontinuation, design modification, new product introduction or any other cause that the KITZ Corporation considers necessary. This edition cancels all previous issues.

⚠ DISCLAIMER

- KITZ does not take any responsibilities for damages arising from a result of natural disasters, accidents or fire which KITZ is not liable for, conduct of a third party, intentional act, misuse or use under abnormal conditions by a customer.
- KITZ does not take any responsibilities for damages arising from negligence of the prohibitions and cautions given in the catalogs and operation manuals, or installation and usage beyond the specification range.
- KITZ does not take any responsibilities for damages arising from product modification not entrusted to KITZ or usage under the load applied from other devices.

KITZ Group
KITZ VALVE & ACTUATION (THAILAND) CO.,LTD.
https://www.kitz-kvt.com Call Center +66 2663 4700 e-mail: sales@kitz-kvt.com