

Butterfly Valves



For any situation, condition, application, you can find the best with KITZ valves.

The butterfly valve, in comparison to other ordinary valves, has structural advantages such as simple construction, compact and light weight, and being piping work friendly, as well as various functional advantages, such as suitability for automated operation by open/close with 90-degree action and excellent fluid controllability, so that it is adopted in vast fields.

KITZ established a rich product lineup by preparing systematic series in accordance with application of butterfly valves in order to meet a wide variety of user needs. The KITZ butterfly valve series that realized a rich line-up = high quality = immediate delivery system meets inquiries from any type of piping line with excellent function and performance.

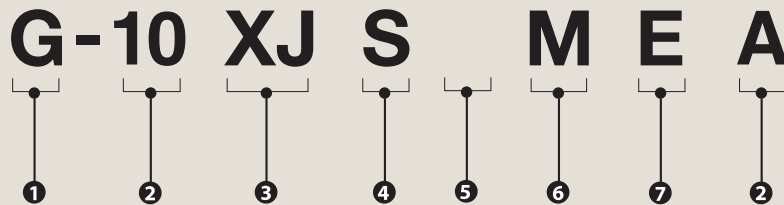
* Please contact us for the delivery schedule of different products.

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* The figures and images in this catalogue are the typical sizes of the products. The shape or structure of each products are different depending on its size. Please request the drawings for detail.

Product Coding



1 Valve operation

- None Lever
- G Gear
- GL Long gear
- VG Vartical gear
- FA Pneumatic actuator (Double action)
- FAS Pneumatic actuator (Spring return action)
- EXS100/200 Type EXS KELMO® electric actuator (Reversible type)
- EXD100/200 Type EXD KELMO® electric actuator (Proportional control type)
- EXCN100/200 Type EXCN KELMO® electric actuator (Proportional control type)

2 Class

- 150 ASME 150 psi
- 200 ASME 200 psi
- 250 ASME 250 psi
- PN10 EN PN10
- PN16 EN PN16
- PN25 EN PN25
- 10 JIS 10K
- 10_A JIS 10K/ASME Class 150
- 16 JIS 16K
- 20 JIS 20K

3 Valve series

- XJ Aluminum die-cast XJ Series
- DJ Ductile iron DJ Series
- EJ Ductile iron EJ Series
- LJF PFA lined LJ Series
- UB Stainless steel UB Series
- HB Double Eccentric HB Series

4 Design

- None Long neck
- S Short neck

5 Connection

- None Wafer
- L Lugged

6 Disc material

- None Ductile iron (Ni-plated)
- U 304 stainless steel
- M 316 stainless steel

7 Seat material

- None NBR (Buna-N)
- E EPDM
- W W-NBR
- Q VMQ
- F FKM

Product Range

| Series | Class | Operator | Product code | DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | |
|-----------------|-------------------------|--------------------|-----------------------|-------------------|-----|-----|----|-------|-------|----|-------|---|
| | | | | NPS | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | 2 1/2 | |
| XJ | 10K | Lever | 10XJME | | | | | | ● | ● | ● | |
| | | Gear | G-10XJME | | | | | | ● | ● | ● | |
| | | Pneumatic actuator | FA-10XJME | | | | | | | ● | ● | ● |
| | | | FAS-10XJME | | | | | | | ● | ● | ● |
| | | Electric actuator | EXS ■ -10XJME | | | | | | | ● | ● | ● |
| | | Lever | 10XJSME | | | | | | | ● | ● | ● |
| | | Gear | G-10XJSME | | | | | | | ● | ● | ● |
| | | Pneumatic actuator | FA-10XJSME | | | | | | | | ● | ● |
| | FAS-10XJSME | | | | | | | | | ● | ● | ● |
| | Electric actuator | EXS ■ -10XJSME | | | | | | | ● | ● | ● | |
| | EN PN16 | Lever | PN16XJME | | | | | | | | ● | ● |
| | | Gear | G-PN16XJME | | | | | | | | ● | ● |
| JIS10K/ASME 150 | Lever | 10XJMEA | | | | | | | ● | ● | ● | |
| | Gear | G-10XJMEA | | | | | | | ● | ● | ● | |
| DJ | ASME150/200/250 | Lever | 200/250DJ □□ | | | | | | | ● | ● | |
| | | Gear | G-150/200/250DJ □□ *1 | | | | | | | ● | ● | |
| | EN PN16 | Lever | PN16DJ □□ | | | | | | | | ● | ● |
| | | Gear | G-PN16DJ □□ | | | | | | | | ● | ● |
| | EN PN25 | Lever | PN25DJ □ E | | | | | | | | ● | ● |
| | | Gear | G-PN25DJ □ E | | | | | | | | ● | ● |
| | 10K | Lever | 10DJ □□ | | | | | | | | ● | ● |
| | | Gear | G-10DJ □□ | | | | | | | | ● | ● |
| | | | VG-10DJ □□ | | | | | | | | | ● |
| | 16K | Lever | 16DJ □□ | | | | | | | | ● | ● |
| | | Gear | G-16DJ □□ | | | | | | | | ● | ● |
| | 20K | Lever | 20DJ □ E | | | | | | | | ● | ● |
| | | Gear | G-20DJUE | | | | | | | | ● | ● |
| | DJL | ASME150/200/250 | Lever | 150/200/250DJL □□ | | | | | | | ● | ● |
| Gear | | | G-150/200/250DJL □□ | | | | | | | ● | ● | |
| EN PN16 | | Lever | PN16DJL □□ | | | | | | | | ● | ● |
| | | Gear | G-PN16DJL □□ | | | | | | | | ● | ● |
| EN PN25 | | Lever | PN25DJL □ E | | | | | | | | ● | ● |
| | | Gear | G-PN25DJL □ E | | | | | | | | ● | ● |
| EJ | EN PN10 | Lever | PN10EJM □□ | | | | | | | ● | ● | |
| LJ | 10K | Lever | 10LJF | | | | | | | ● | ● | |
| UB | 10K | Lever | 10UB | | | | | | ● | ● | ● | |
| | | Long gear | GL-10UB | | | | | | ● | ● | ● | |
| | ASME150 | Long gear | GL-16UB | | | | | | | ● | ● | |
| | | Lever | 150UB | | | | | | | ● | ● | |
| | | Long gear | GL-150UB | | | | | | | ● | ● | |
| SHB | 10K | Lever | 10SHB | | | | | | | ● | ● | |
| | | Gear | G-10SHB | | | | | | | ● | ● | |
| | | | 16SHB | | | | | | | ● | ● | |
| | 16K | Lever | 16SHB | | | | | | | ● | ● | |
| | | Gear | G-16SHB | | | | | | | ● | ● | |
| | Class 150 | Lever | 150SHB | | | | | | | ● | ● | |
| Gear | | G-150SHB | | | | | | | ● | ● | | |
| UHB | 10K | Lever | 10UHB | | | | | | ● | ● | ● | |
| | | Gear | G-10UHB | | | | | | ● | ● | ● | |
| | | | FA-10UHB | | | | | | ● | ● | ● | |
| | | Pneumatic actuator | FAS-10UHB | | | | | | ● | ● | ● | |
| | | | B-10UHB | | | | | | ● | ● | ● | |
| | | | BS-10UHB | | | | | | ● | ● | ● | |
| | | Electric actuator | EXS ■ -10UHB | | | | | | ● | ● | ● | |
| | 20K | Lever | 20UHB | | | | | | ● | ● | ● | |
| | | Gear | G-20UHB | | | | | | ● | ● | ● | |
| | | | 150UHB | | | | | | | ● | ● | |
| Class 150 | Lever | 150UHB | | | | | | | ● | ● | | |
| | Gear | G-150UHB | | | | | | | ● | ● | | |
| CP | Contact us for details. | | | | | | | | | | | |
| HRDJ | 10K | Gear | G-10HRDJUE | | | | | | | ● | ● | |
| | | Electric actuator | EXCN ■ -10HRDJUE | | | | | | | ● | ● | |
| | | | EXD ■ -10HRDJUE | | | | | | | ● | ● | |
| | 20K | Gear | G-20HRDJUE | | | | | | | ● | ● | |
| | | Electric actuator | EXCN ■ -20HRDJUE | | | | | | | ● | ● | |
| Damper | 10K | Lever | 10D | | | | | | | ● | ● | |
| | | Long gear | GL-10D | | | | | | | ● | ● | |
| | | Lever | 10A | | | | | | | ● | ● | |
| | | Long gear | GL-10A | | | | | | | ● | ● | |
| | | KITZ BUTTER | 7.5K | Lever | FV | ● | ● | ● | ● | ● | ● | ● |
| | | | UV | ● | ● | ● | ● | ● | ● | ● | | |

■ Power sources of actuator coding. Please refer to page 1.

□ Disc and seat material coding. Please refer to page 1.

Product Range

| 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 650 | 700 | 750 | 800 | Page | |
|-----------------|-----------------|-----------------|-----|-----------------|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|--|
| 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 26 | 28 | 30 | 32 | | |
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| • ^{*2} | • | • ^{*2} | • | • ^{*2} | | | | | | | | | | | | | |
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| • | • | • | • | • | • | • | | | | | | | | | | 43 | |

*1: 200 psi and 250 psi for size 2 to 12. 150 psi for size 14 to 24.
 *2: Centering sleeves are supplied for accurate centering with EN1092 PN16 flanges.
 *3: Centering sleeves are optionally available for accurate centering with ASME class 150 flanges.

Corrosion resistance level of materials of disc and seat against fluid

This table shows applicability of representative fluids against each disc/rubber seat material. Please refer to the Cautions for Product Selection of the Cautions for Handling at the end of this material for other cautions. Also, contact us for any questions because temperature and operational condition may cause some differences.

| Fluid | Material | Materials of wetted part (disc or body material for UB/HB/FV/UV) | | | | Seat material | | | |
|----------------------------------|----------|--|--------------------|------------------|----------|-----------------|-------------------|----------------|-----|
| | | FCD450 | SCS13A | SCS14A | C37771BE | NBR W-NBR | EPDM* | PTFE | PFA |
| Sulfurous acid | | × | ○ | ○ | × | △ | △ | ◎ | ◎ |
| Ammonia (anhydrous liquid) | | ○ | ◎ | ◎ | × | △ | ○ | ◎ | ◎ |
| Ammonia (solution) | | ○ | ◎ | ◎ | × | ○ | ○ | ◎ | ◎ |
| Ethane | | ○ | ○ | ○ | — | ◎ | × | ◎ | ◎ |
| Ethyl alcohol | | ○ | ◎ | ◎ | ○ | ○ | ◎ | ◎ | ◎ |
| Hydrochloric acid | | × | × | × | × | △ | ○ | ◎ | ◎ |
| Sea water | | × | ○ | ○ | △ | ◎ | ◎ | ◎ | ◎ |
| Gasoline (refined/unieaded) | | ○ | ◎ | ◎ | ◎ | △ | × | ◎ | ◎ |
| Air | | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Mineral oil | | ○ | ◎ | ◎ | ○ | ◎ | × | ◎ | ◎ |
| Heavy oil (A,B,C) | | △ | ◎ | ◎ | — | × | × | ◎ | ◎ |
| Acetic acid (10%) | | △ | ◎ | ◎ | × | × | ○ | ◎ | ◎ |
| Oxygen (cold) | | ○ | ◎ | ◎ | ◎ | ○ | ○ | ◎ | ◎ |
| Lubricating oil (petroleum base) | | ◎ | ◎ | ◎ | ○ | ◎ | × | ◎ | ◎ |
| Vegitable oil | | △ | ◎ | ◎ | — | ◎ | △ | ◎ | ◎ |
| Steam (100°C) | | ◎ | ◎ | ◎ | ◎ | × | ○ | ◎ | ◎ |
| Hydrogen gas (cold) | | ○ | ◎ | ◎ | — | ○ | ○ | ◎ | ◎ |
| Petroleum oil (refined) | | — | ◎ | ◎ | — | ○ | × | ◎ | ◎ |
| Soybean oil | | △ | ◎ | ◎ | ○ | ◎ | △ | ◎ | ◎ |
| Carbonic acid | | × | ○ | ○ | — | ○ | ○ | ◎ | ◎ |
| Calcium carbonate | | × | ○ | ○ | △ | ◎ | ◎ | ◎ | ◎ |
| Natural gas | | ◎ | ◎ | ◎ | — | ○ | × | ◎ | ◎ |
| Animal fat | | ◎ | ◎ | ◎ | — | ◎ | × | ◎ | ◎ |
| Propane gas | | ○ | ○ | ◎ | — | ◎ | × | ◎ | ◎ |
| Water (fresh ≤ 40°C) | | △ | ◎ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ |
| Water (hot ≤ 40-100°C) | | △ | ◎ | ◎ | ◎ | × | ○ | ◎ | ◎ |
| Methyl alcohol | | ○ | ◎ | ◎ | ○ | ○ | ◎ | ◎ | ◎ |
| Sulfuric acid (7%) | | × | △ | ○ | — | ○ | ○ | ◎ | ◎ |
| Sulfuric acid (20%) | | × | × | × | △ | × | ○ | ◎ | ◎ |
| Sulfuric acid (≥50%) | | × | × | × | × | × | ○ | ◎ | ◎ |
| Ammonium sulfate | | △ | ○ | ○ | — | ◎ | ◎ | ◎ | ◎ |
| Products | | DJ·DJL | DJ·DJL· UB·HRDJ | XJ·DJ· DJL·UV | FV | DJ·DJL FV·UV | XJ·DJ·DJL HRDJ | UB·SHB· UHB | LJ |

◎ = Excellent

○ = Good

△ = Less recommended

×

— = Contact us for details

* EPDM is not applicable for oil.

Allowance of differential pressure control and ratio of differential pressure control

| Structure | Nominal diameter | Allowance of differential pressure control (kPa) | | Ratio of different pressure |
|----------------------------|----------------------|--|-----|-----------------------------|
| | | Fluid | Gas | |
| Rubber sheet | 50~200 ^A | 200 | 100 | 0.30 |
| | 250·300 ^A | 150 | 100 | 0.25 |
| | 350~600 ^A | 100 | 50 | 0.20 |
| PTFE sheet (for UB series) | 50~600 ^A | 300 | 200 | 0.30 |
| Damper | 50~300 ^A | — | 30 | 0.10 |

[Notice]

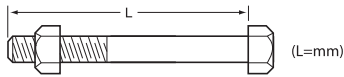
- Contact us in the event of using at condition exceeding the values in this table.

- Control pressure difference is a pressure difference between valve primary side pressure and secondary side pressure. ($\Delta p = p_1 - p_2$)

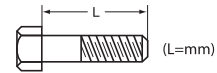
- The pressure difference is presented by the value that the difference of pressure divided by the pressure at the primary side (absolute pressure).

Bolt/Nut

Hexagon head bolt + Hexagon nut



*Size 24~32" requires additional hexagon head bolts.

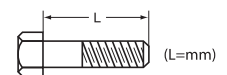


| Hexagon head bolt + Hexagon nut for XJ series/DJ series/HRDJ series (mm) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----|------------------------|-------------|--------|------|-----|--------|------|---------|--------|------|---------|--------|------|---------|--------|------|---------------|--------|------|---------|--------|------|-------------|--------|--------|----|
| Flange | | ASME Class 150/200/250 | | | | PN6 | | | EN PN10 | | | EN PN16 | | | EN PN25 | | | BS 10 Table E | | | JIS 10K | | | JIS 16K/20K | | | |
| NPS | DN | Size | L (inch/mm) | Number | Size | L | Number | Size | L | Number | Size | L | Number | Size | L | Number | Size | L | Number | Size | L | Number | Size | L(16K) | L(20K) | Number | |
| 1 1/2 | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M16 | 85 | 4 | — | — | — | — | |
| 2 | 50 | 5/8 | 4.25 | 108 | 4 | M12 | 90 | 4 | M16 | 105 | 4 | M16 | 105 | 4 | M16 | 110 | 4 | 5/8 | 95 | 4 | M16 | 95 | 4 | M16 | 95 | 100 | 8 |
| 2 1/2 | 65 | 5/8 | 4.75 | 121 | 4 | M12 | 90 | 4 | M16 | 105 | 4 | M16 | 105 | 4 | M16 | 115 | 8 | 5/8 | 100 | 4 | M16 | 105 | 4 | M16 | 105 | 105 | 8 |
| 3 | 80 | 5/8 | 4.75 | 121 | 4 | M16 | 100 | 4 | M16 | 105 | 8 | M16 | 105 | 8 | M16 | 120 | 8 | 5/8 | 100 | 4 | M16 | 105 | 8 | M20 | 110 | 115 | 8 |
| 4 | 100 | 5/8 | 5.00 | 127 | 8 | M16 | 110 | 4 | M16 | 115 | 8 | M16 | 115 | 8 | M20 | 130 | 8 | 5/8 | 110 | 8 | M16 | 110 | 8 | M20 | 120 | 125 | 8 |
| 5 | 125 | 3/4 | 5.25 | 133 | 8 | M16 | 115 | 8 | M16 | 115 | 8 | M16 | 115 | 8 | M24 | 140 | 8 | 5/8 | 115 | 8 | M20 | 120 | 8 | M22 | 125 | 140 | 8 |
| 6 | 150 | 3/4 | 5.50 | 140 | 8 | M16 | 115 | 8 | M20 | 120 | 8 | M20 | 120 | 8 | M24 | 145 | 8 | 3/4 | 115 | 8 | M20 | 125 | 8 | M22 | 130 | 140 | 12 |
| 8 | 200 | 3/4 | 5.75 | 146 | 8 | M16 | 125 | 8 | M20 | 130 | 8 | M20 | 130 | 12 | M24 | 150 | 12 | 3/4 | 125 | 8 | M20 | 130 | 12 | M22 | 140 | 150 | 12 |
| 10 | 250 | 7/8 | 6.50 | 165 | 12 | M16 | 135 | 12 | M20 | 140 | 12 | M24 | 150 | 12 | M27 | 170 | 12 | 3/4 | 140 | 12 | M22 | 150 | 12 | M24 | 150 | 170 | 12 |
| 12 | 300 | 7/8 | 7.00 | 178 | 12 | M20 | 150 | 12 | M20 | 155 | 12 | M24 | 160 | 12 | M27 | 180 | 16 | 7/8 | 160 | 12 | M22 | 160 | 16 | M24 | 170 | 180 | 16 |
| 14 | 350 | 1 | 7.50 | 191 | 12 | — | — | — | M20 | 155 | 16 | M24 | 170 | 16 | — | — | — | — | — | — | M22 | 160 | 16 | M30X3 | 180 | 190 | 16 |
| 16 | 400 | 1 | 8.50 | 216 | 16 | — | — | — | — | — | — | M27 | 200 | 16 | — | — | — | — | — | — | M24 | 190 | 16 | M30X3 | 210 | 230 | 16 |
| 18 | 450 | 1 1/8 | 9.25 | 235 | 16 | — | — | — | — | — | — | M27 | 210 | 20 | — | — | — | — | — | — | M24 | 210 | 20 | M30X3 | 230 | 245 | 20 |
| 20 | 500 | 1 1/8 | 10.25 | 260 | 20 | — | — | — | — | — | — | M30 | 230 | 20 | — | — | — | — | — | — | M24 | 220 | 20 | M30X3 | 250 | 260 | 20 |
| 22 | 550 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M30 | 260 | 20 | M36X3 | 290 | 300 | 20 |
| 24 | 600 | 1 1/4 | 11.75 | 298 | 20 | — | — | — | — | — | — | M33 | 270 | 20 | — | — | — | — | — | — | M30 | 260 | 20 | M36X3 | 290 | 300 | 20 |
| | | | | | | | | | | | | | | | | | | | | | | 70* | 8* | 90* | 100* | 8* | |
| 26 | 650 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M30 | 270 | 16 | — | — | — | — |
| | | | | | | | | | | | | | | | | | | | | | | 65* | 16* | — | — | — | — |
| 28 | 700 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M30 | 270 | 16 | — | — | — | — |
| | | | | | | | | | | | | | | | | | | | | | | 70* | 16* | — | — | — | — |
| 30 | 750 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M30 | 300 | 16 | — | — | — | — |
| | | | | | | | | | | | | | | | | | | | | | | 70* | 16* | — | — | — | — |
| 32 | 800 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | M30 | 300 | 20 | — | — | — | — |
| | | | | | | | | | | | | | | | | | | | | | | 70* | 16* | — | — | — | — |

Lugged type

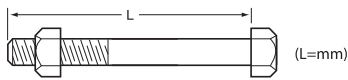
| Hexagon head bolt for DJL (mm) | | | | | | | | | | | | | | | |
|--------------------------------|-----|------------------------|-------------|--------|------|---------|--------|------|---------|--------|------|---------|--------|-------|---------|
| Flange | | ASME Class 150/200/250 | | | | EN PN10 | | | EN PN16 | | | EN PN25 | | | |
| NPS | DN | Size | L (inch/mm) | Number | Size | L | Number | Size | L | Number | Size | L | Number | Steel | Ductile |
| 2 | 50 | 5/8 | 1.375 | 35 | 8 | M16 | 38 | 8 | M16 | 38 | 8 | M16 | 40 | 8 | 8 |
| 2 1/2 | 65 | 5/8 | 1.500 | 38 | 8 | M16 | 40 | 8 | M16 | 40 | 8 | M16 | 40 | 16 | 16 |
| 3 | 80 | 5/8 | 1.625 | 41 | 8 | M16 | 40 | 16 | M16 | 40 | 16 | M16 | 45 | 40 | 16 |
| 4 | 100 | 5/8 | 1.875 | 48 | 16 | M16 | 40 | 16 | M16 | 40 | 16 | M20 | 45 | 40 | 16 |
| 5 | 125 | 3/4 | 1.875 | 48 | 16 | M16 | 40 | 16 | M16 | 40 | 16 | M24 | 50 | 45 | 16 |
| 6 | 150 | 3/4 | 2.000 | 51 | 16 | M20 | 45 | 16 | M20 | 45 | 16 | M24 | 50 | 45 | 16 |
| 8 | 200 | 3/4 | 2.125 | 54 | 16 | — | — | — | M20 | 45 | 24 | M24 | 55 | 50 | 24 |
| 10 | 250 | 7/8 | 2.375 | 60 | 24 | — | — | — | M24 | 53 | 24 | M27 | 60 | 55 | 24 |
| 12 | 300 | 7/8 | 2.625 | 67 | 24 | — | — | — | M24 | 60 | 24 | M27 | 65 | 60 | 32 |
| 14 | 350 | 1 | 2.750 | 70 | 24 | — | — | — | M24 | 60 | 32 | — | — | — | — |
| 16 | 400 | 1 | 3.000 | 76 | 32 | — | — | — | M27 | 70 | 32 | — | — | — | — |
| 18 | 450 | 1 1/8 | 3.375 | 86 | 32 | — | — | — | M27 | 75 | 40 | — | — | — | — |
| 20 | 500 | 1 1/8 | 3.500 | 89 | 40 | — | — | — | M30 | 80 | 40 | — | — | — | — |
| 24 | 600 | 1 1/4 | 4.000 | 102 | 40 | — | — | — | M33 | 90 | 40 | — | — | — | — |

Hexagon head bolts.



Bolt/Nut

Hexagon head bolt + Hexagon nut



Hexagon head bolt + Hexagon nut for LJ series (mm)

| Flange | | JIS 10K | | | |
|--------|-------|---------|-----|----|--------|
| DN | NPS | Size | L | B | Number |
| 50 | 2 | M16 | 90 | 38 | 4 |
| 65 | 2 1/2 | M16 | 105 | 38 | 4 |
| 80 | 3 | M16 | 105 | 38 | 4 |
| 100 | 4 | M16 | 105 | 38 | 8 |
| 125 | 5 | M20 | 120 | 46 | 8 |
| 150 | 6 | M20 | 130 | 52 | 8 |
| 200 | 8 | M20 | 150 | 52 | 8 |
| 250 | 10 | M22 | 160 | 56 | 12 |
| 300 | 12 | M22 | 170 | 56 | 12 |

Hexagon head bolt + Hexagon nut for UB series (mm)

| Flange | | JIS 10K | | | | JIS 16K | | | | AS ME Class 150 | | | |
|--------|-------|---------|-----|----|--------|---------|-----|----|--------|-----------------|-----|----|--------|
| DN | NPS | Size | L | B | Number | Size | L | B | Number | Size | L | B | Number |
| 40 | 1 1/2 | M16 | 90 | 38 | 4 | M16 | 90 | 38 | 4 | 1/2 | 90 | 38 | 4 |
| 50 | 2 | M16 | 100 | 38 | 4 | M16 | 100 | 38 | 4 | 5/8 | 105 | 38 | 4 |
| 65 | 2 1/2 | M16 | 110 | 38 | 4 | M16 | 110 | 38 | 4 | 5/8 | 110 | 38 | 4 |
| 80 | 3 | M16 | 110 | 38 | 8 | M20 | 120 | 46 | 8 | 5/8 | 115 | 38 | 4 |
| 100 | 4 | M16 | 115 | 38 | 8 | M20 | 130 | 52 | 8 | 5/8 | 130 | 44 | 8 |
| 125 | 5 | M20 | 130 | 52 | 8 | M22 | 130 | 56 | 8 | 3/4 | 140 | 52 | 8 |
| 150 | 6 | M20 | 130 | 52 | 8 | M22 | 140 | 56 | 8 | 3/4 | 140 | 52 | 8 |
| 200 | 8 | M20 | 150 | 52 | 12 | M22 | 160 | 56 | 12 | 3/4 | 160 | 52 | 8 |
| 250 | 10 | M22 | 160 | 56 | 12 | M24 | 170 | 60 | 12 | 7/8 | 180 | 56 | 12 |
| 300 | 12 | M22 | 170 | 56 | 16 | M24 | 180 | 60 | 16 | 7/8 | 190 | 56 | 12 |

* The sizes are applied to both the hexagon bolt with nut and the hexagon head bolt (set bolt).

Hexagon head bolt + Hexagon nut for HB Series (mm)

| Flange | | JIS 10K | | | | JIS 16K / 20K | | | | AS ME Class 150 | | | |
|--------|-------|---------|-----|----|--------|---------------|-----|----|--------|-----------------|-----|----|--------|
| DN | NPS | Size | L | B | Number | Size | L | B | Number | Size | L | B | Number |
| 40 | 1 1/2 | M16 | 90 | 38 | 4 | M16 | 90 | 38 | 4 | 1/2 | 90 | 38 | 4 |
| 50 | 2 | M16 | 110 | 40 | 4 | M16 | 110 | 40 | 8 | 5/8 | 110 | 35 | 4 |
| 65 | 2 1/2 | M16 | 115 | 35 | 4 | M16 | 115 | 35 | 8 | 5/8 | 120 | 35 | 4 |
| 80 | 3 | M16 | 115 | 35 | 8 | M20 | 125 | 40 | 8 | 5/8 | 125 | 35 | 4 |
| 100 | 4 | M16 | 120 | 35 | 8 | M20 | 135 | 40 | 8 | 5/8 | 130 | 35 | 8 |
| 125 | 5 | M20 | 135 | 40 | 8 | M22 | 140 | 45 | 8 | 3/4 | 140 | 40 | 8 |
| 150 | 6 | M20 | 140 | 45 | 8 | M22 | 145 | 45 | 12 | 3/4 | 140 | 40 | 8 |
| 200 | 8 | M20 | 145 | 45 | 12 | M22 | 155 | 45 | 12 | 3/4 | 150 | 40 | 8 |
| 250 | 10 | M22 | 155 | 40 | 12 | M24 | 170 | 50 | 12 | 7/8 | 165 | 40 | 12 |
| 300 | 12 | M22 | 165 | 40 | 16 | M24 | 180 | 45 | 16 | 7/8 | 180 | 45 | 12 |

* The sizes are applied to both the hexagon bolt with nut and the hexagon head bolt (set bolt).

Hexagon head bolt + Hexagon nut for D/A type damper (mm)

| Flange | | JIS 5K | | | | JIS 10K | | | |
|--------|-------|--------|-----|----|--------|---------|-----|----|--------|
| DN | NPS | Size | L | B | Number | Size | L | B | Number |
| 50 | 2 | M12 | 90 | 30 | 4 | M16 | 100 | 38 | 4 |
| 65 | 2 1/2 | M12 | 100 | 30 | 4 | M16 | 110 | 38 | 4 |
| 80 | 3 | M16 | 110 | 38 | 8 | M16 | 120 | 38 | 8 |
| 100 | 4 | M16 | 120 | 38 | 8 | M16 | 130 | 38 | 8 |
| 125 | 5 | M16 | 130 | 38 | 8 | M20 | 140 | 52 | 8 |
| 150 | 6 | M16 | 140 | 38 | 8 | M20 | 150 | 52 | 8 |
| 200 | 8 | M20 | 150 | 52 | 12 | M20 | 160 | 52 | 12 |
| 250 | 10 | M20 | 170 | 52 | 12 | M22 | 180 | 56 | 12 |
| 300 | 12 | M20 | 180 | 52 | 16 | M22 | 190 | 56 | 16 |

These sizes for UB series and D/A type damper are the size of bolt with a gasket of 3 mm.

KITZ XJ series aluminum butterfly valves:
Featuring a unique style for the neck designs (U.S.P. No. 6676109) to accommodate various piping designs, piping positions, and installation environments.

Specification

| Class | JIS 10K | Class 150 | PN16 |
|--|---|---|------------------|
| Maximum service pressure | 1 MPa | 1 MPa | 1.6 MPa (16 bar) |
| Service temperature range*1 | -20°C to +120°C | | |
| Continuous service temperature range*2 | -20°C to +100°C | | |
| Face-to-face dimension | API609, BS EN 558 Basic Series 20 ISO 5752-20, JIS B 2002 46 series | | |
| Coupling flanges | JIS B 2220 / 2239 10K | ASME Class 150 JIS B 2220 / 2239 10K | EN1092 PN16*3 |

*1 Condition : Fluid is not frozen.

*2 Refer to P-T rating chart.

*3 With centering sleeves.

Refer to the product range chart in page 2 and precaution in page 39 for details.

Cv value

| Size | | Cv | Size | | Cv |
|------|-------|-----|------|-----|------|
| DN | NPS | | DN | NPS | |
| 40 | 1 1/2 | 77 | 125 | 5 | 1100 |
| 50 | 2 | 99 | 150 | 6 | 1820 |
| 65 | 2 1/2 | 205 | 200 | 8 | 2780 |
| 80 | 3 | 372 | 250 | 10 | 4350 |
| 100 | 4 | 723 | 300 | 12 | 6860 |

Feature

Your choice of two neck designs

A long neck type and a short neck type are available for use in a variety of applications.

Easy valve-to-flange centering

The light weight of the die-cast aluminum valve body (which is only one third of the weight of KITZ's conventional cast-iron butterfly valves) eases valve-to-flange centering work on mounting valves on pipelines.

Wide range of service applications

Austenitic stainless steel discs and EPDM* rubber seats can handle many different types of line fluid without risk of corrosion.

Stabilized operating torque

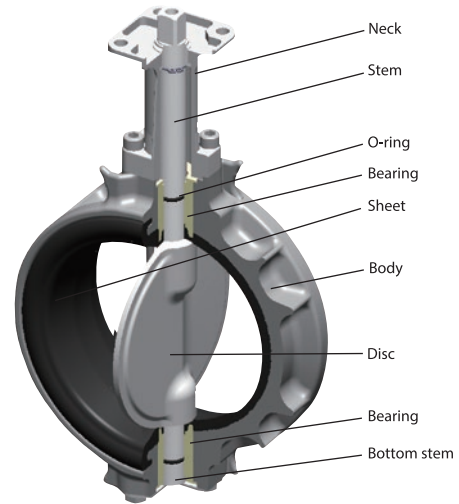
A pair of stem bearings assembled around the top and bottom stems prevents stem galling and stabilizes the valve operating torque for smooth and trouble-free disc rotation.

On-the-spot actuator assembly

The actuator mounting pads of all necks are designed in conformity with ISO 5211 requirements for direct on-site mounting of actuators that are provided with ISO 5211 valve mounting flanges.

Prevention of dew condensation (Long neck type)

A long stainless steel neck blocks transfer of fluid heat to the valve operating device, so no insulation is needed on the operating device. Dew condensation is also minimized for gear-operated valves used in cold water service.



Standard Materials

*Please refer to the drawing of deliverables for detail.

| Parts | Materials |
|-------------|--|
| Body | Aluminum die-cast/equivalent ASTM B85-84-383.0 |
| Neck | 304 SS |
| Stem | (Equivalent ASTM A276 type 410) |
| Disk | A351 Gr. CF8M |
| O-ring | EPDM |
| Rubber seat | EPDM |
| Bottom stem | (Equivalent ASTM A276 type 410) |
| Bearing | Metal backed PTFE (size 10" and 12") Polyphenylenesulfide (10XJMEA: size 1 1/2" to 8") Bronze: CAC401C (PN16XJME: size 2" to 8") |

Rust prevention

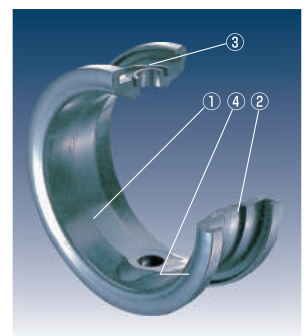
The main parts such as the stems, discs, necks, neck connectors, and endplates and small parts such as stopper plates, washers, and boltings are all made of stainless steel for high-grade rust prevention.

S-shaped spherical disc for high sealing performance (patented)

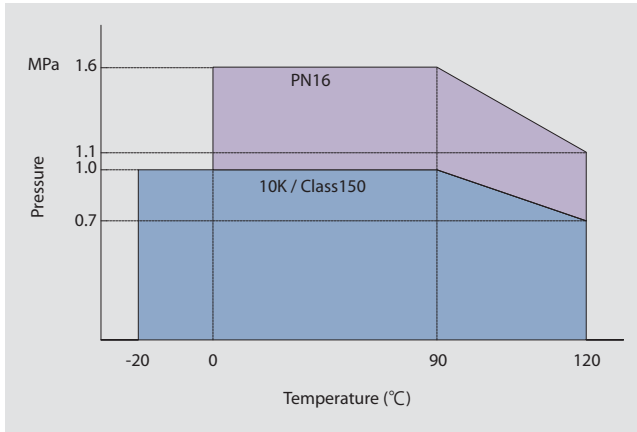
KITZ's original cross-sectionally S-shaped valve discs with spherical surfaces make evenly tight contact with rubber liners for excellent sealing performance with reduced operating torque. Complete 360° shut-off mechanisms help to extend the service life of rubber liners. (Size: ≥2 inches)

Carefully designed KITZ EPDM seats have the following unique features that ensure their functional stability, high sealing performance, and long life:

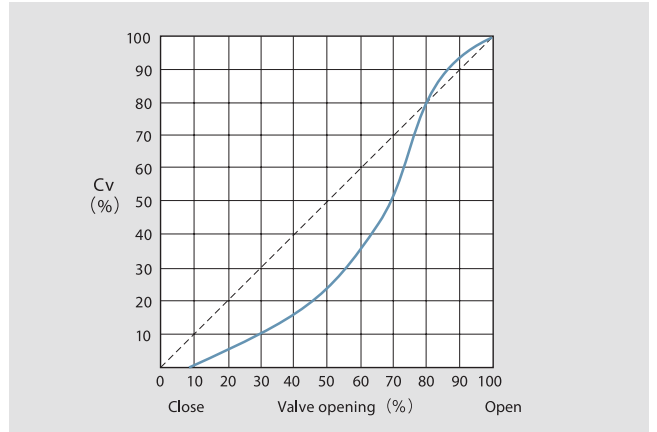
- Self-reinforced ribbing
 - Wide disc seating contact
 - Dual stem seal bearings
- ① Wide disc seating contact for high sealing performance.
 - ② Reinforced ribbing minimizes valve operating problems such as distortion, skidding, and exfoliation of rubber liners caused by line pressure load and friction with metal discs.
 - ③ Stem seal bearings are assembled on the top and bottom stems for stable sealing.
 - ④ Gasketless flange sealing contact for easy valve mounting.



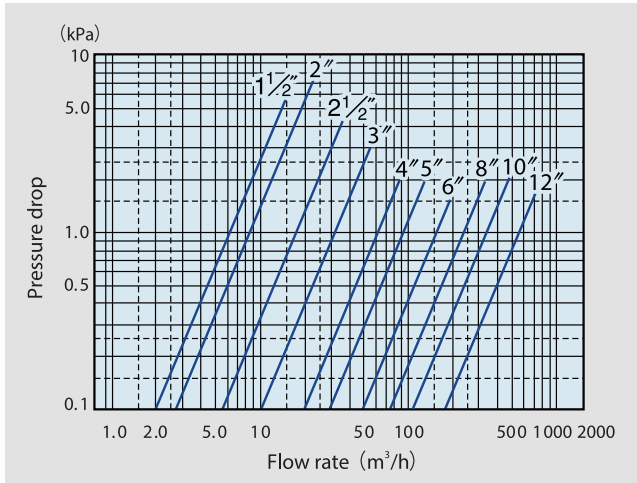
P-T Rating



Flow Characteristics



Pressure Loss



Long Neck Type

Prevented dew condensation



Feature

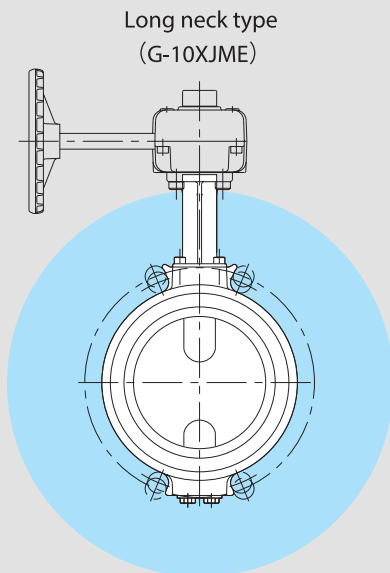
- A long stainless steel neck reduces the conductivity of fluid heat and prevents dew condensation.
- Variety of valve body and neck insulation designs available.
- Choice of actuators for automated valve operation.

Application

- Building utilities
- Piping networks for cold water, hot water, and other water supply

Valve Insulation

Insulation is recommended for areas in blue.



Note: It is not available in short neck type.

Short Neck Type

Compact design



Feature

- Suitable for piping in a limited space.
- Choice of actuators for automated valve operation.

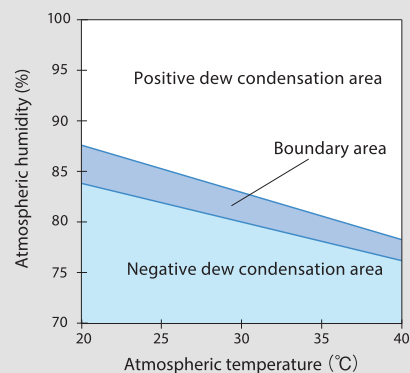
Application

- Building utilities
- Plant facilities
- Water treatment facilities
- Industrial machinery operation

Dew Condensation Test

Samples of KITZ XJ series butterfly valves equipped with long necks (KITZ Product Code: G-10XJMEA) were tested at the KITZ Laboratory under the conditions listed below. The lower surface temperatures of gear boxes, ambient temperatures, and ambient humidities were measured as the variable functions. The dew condensation boundary was estimated as illustrated below.

G-10XJME Estimated Dew Condensation Boundary



Test condition

- Line fluid: +5°C cold water
- Atmospheric temperature range: +20°C to +40°C
- Valve insulation: 50-mm glass wool (JIS A 9501) around the test valve, with gear boxes exposed to open air.

Note:

The estimation shown here is the result of a summary of tests carried out within a test basin at a constant temperature and humidity and does not necessarily represent the absolute values. Note that the dew condensation prevention properties of these valves may be affected by changes in the test conditions, such as the variation in the degree of air transfer, line fluid temperature, atmospheric humidity, or condition of insulation. Acceptance of an allowance of $\pm 5\%$ beyond the boundary area is recommended.

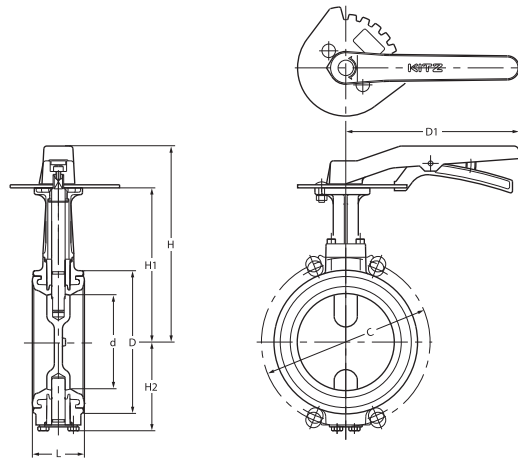
Aluminum Butterfly Valves

XJ series

Long Neck Type Lever Operated

10XJME*
10XJMEA
PN16XJME*

* Available up to size 150^A



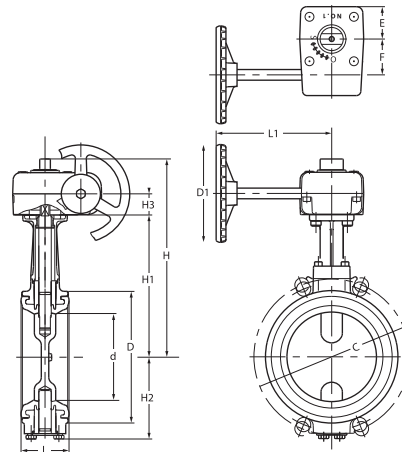
Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | | D1 |
|------|----|-----|-----|-----|-----|----|-----|-----|------|-----|
| A | B | | | | | | | 10K | PN16 | |
| 40 | 1½ | 40 | 172 | 128 | 40 | 33 | 80 | 105 | — | 180 |
| 50 | 2 | 50 | 176 | 132 | 66 | 43 | 93 | 120 | 125 | 180 |
| 65 | 2½ | 65 | 185 | 141 | 74 | 46 | 118 | 140 | 145 | 180 |
| 80 | 3 | 80 | 193 | 149 | 83 | 46 | 129 | 150 | 160 | 180 |
| 100 | 4 | 100 | 204 | 160 | 94 | 52 | 149 | 175 | 180 | 180 |
| 125 | 5 | 125 | 249 | 195 | 122 | 56 | 184 | 210 | 210 | 230 |
| 150 | 6 | 150 | 261 | 207 | 135 | 56 | 214 | 240 | 240 | 230 |
| 200 | 8 | 196 | 281 | 234 | 161 | 60 | 258 | 290 | — | 350 |

Long Neck Type Gear Operated

G-10XJME
G-10XJMEA
G-PN16XJME



Dimensions

unit: mm

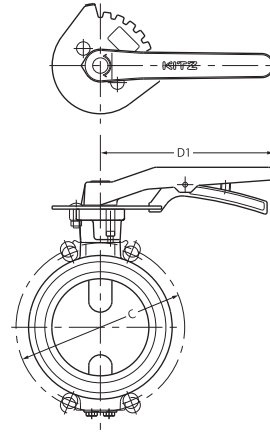
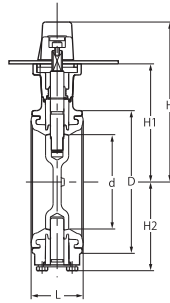
| Size | | d | H | H1 | H2 | H3 | L | D | C | | D1 | L1 | E | F | Gear type |
|------|----|-----|-------|-----|-------|----|----|-----|-----|------|-----|-----|----|----|-----------|
| A | B | | | | | | | | 10K | PN16 | | | | | |
| 40 | 1½ | 40 | 175 | 128 | 40 | 19 | 33 | 80 | 105 | — | 80 | 122 | 29 | 28 | No. 0 |
| 50 | 2 | 50 | 179 | 132 | 66 | 19 | 43 | 93 | 120 | 125 | 80 | 122 | 29 | 28 | |
| 65 | 2½ | 65 | 188 | 141 | 74 | 19 | 46 | 118 | 140 | 145 | 80 | 122 | 29 | 28 | |
| 80 | 3 | 80 | 196*2 | 149 | 83 | 19 | 46 | 129 | 150 | 160 | 80 | 122 | 29 | 28 | |
| 100 | 4 | 100 | 223 | 160 | 94 | 24 | 52 | 149 | 175 | 180 | 110 | 135 | 36 | 40 | No. 1 |
| 125 | 5 | 125 | 258 | 195 | 122 | 24 | 56 | 184 | 210 | 210 | 110 | 150 | 36 | 40 | |
| 150 | 6 | 150 | 270 | 207 | 135 | 24 | 56 | 214 | 240 | 240 | 110 | 150 | 36 | 40 | |
| 200 | 8 | 196 | 311 | 234 | 161*1 | 32 | 60 | 258 | 290 | 295 | 170 | 180 | 51 | 63 | No. 2 |
| 250 | 10 | 245 | 405 | 328 | 238 | 32 | 68 | 316 | 355 | — | 170 | 180 | 51 | 63 | |
| 300 | 12 | 295 | 430 | 353 | 263 | 32 | 78 | 367 | 400 | — | 170 | 180 | 51 | 63 | |

* 1 G-PN16XJME H2=183

* 2 G-PN16XJME H=212

Short Neck Type Lever Operated

10XJSME



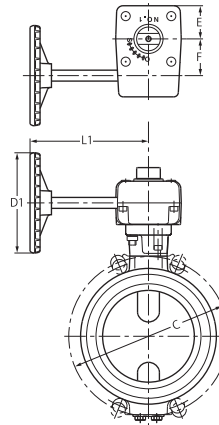
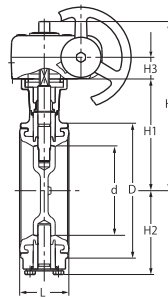
■ Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | D1 |
|------|----|-----|-----|-----|-----|----|-----|-----|-----|
| A | B | | | | | | | | |
| 40 | 1½ | 40 | 137 | 93 | 40 | 33 | 80 | 105 | 180 |
| 50 | 2 | 50 | 139 | 95 | 66 | 43 | 93 | 120 | 180 |
| 65 | 2½ | 65 | 147 | 103 | 74 | 46 | 118 | 140 | 180 |
| 80 | 3 | 80 | 156 | 112 | 83 | 46 | 129 | 150 | 180 |
| 100 | 4 | 100 | 167 | 123 | 94 | 52 | 149 | 175 | 180 |
| 125 | 5 | 125 | 205 | 151 | 122 | 56 | 184 | 210 | 230 |
| 150 | 6 | 150 | 217 | 163 | 135 | 56 | 214 | 240 | 230 |

Short Neck Type Gear Operated

G-10XJSME



■ Dimensions

unit: mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | D1 | L1 | E | F | Gear type |
|------|----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|----|-----------|
| A | B | | | | | | | | | | | | | |
| 40 | 1½ | 40 | 140 | 93 | 40 | 19 | 33 | 80 | 105 | 80 | 122 | 29 | 28 | No. 0 |
| 50 | 2 | 50 | 142 | 95 | 66 | 19 | 43 | 93 | 120 | 80 | 122 | 29 | 28 | |
| 65 | 2½ | 65 | 150 | 103 | 74 | 19 | 46 | 118 | 140 | 80 | 122 | 29 | 28 | |
| 80 | 3 | 80 | 159 | 112 | 83 | 19 | 46 | 129 | 150 | 80 | 122 | 29 | 28 | |
| 100 | 4 | 100 | 186 | 123 | 94 | 24 | 52 | 149 | 175 | 110 | 135 | 36 | 40 | No. 1 |
| 125 | 5 | 125 | 214 | 151 | 122 | 24 | 56 | 184 | 210 | 110 | 150 | 36 | 40 | |
| 150 | 6 | 150 | 226 | 163 | 135 | 24 | 56 | 214 | 240 | 110 | 150 | 36 | 40 | No. 2 |
| 200 | 8 | 196 | 267 | 190 | 161 | 32 | 60 | 258 | 290 | 170 | 180 | 51 | 63 | |
| 250 | 10 | 245 | 317 | 239 | 238 | 32 | 68 | 316 | 355 | 170 | 180 | 51 | 63 | |
| 300 | 12 | 295 | 342 | 264 | 263 | 32 | 78 | 367 | 400 | 170 | 180 | 51 | 63 | |

Aluminum Butterfly Valves

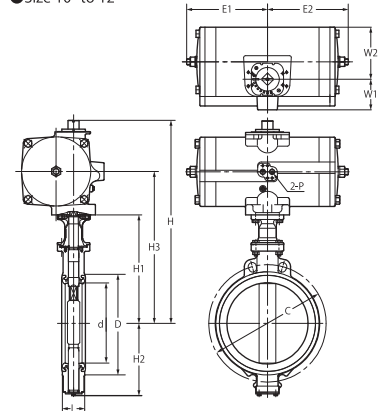
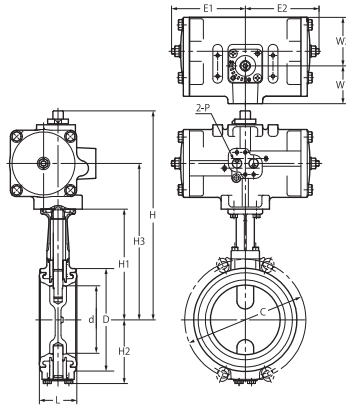
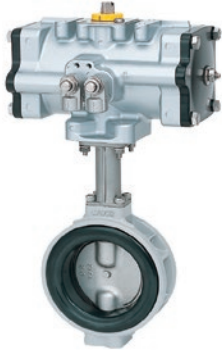
XJ series

Long Neck Type Pneumatically Operated—Double Action Actuator

FA-10XJME

● Size 1 1/2" to 8"

● Size 10" to 12"



Please contact the KITZ Corporation for actuator specifications.

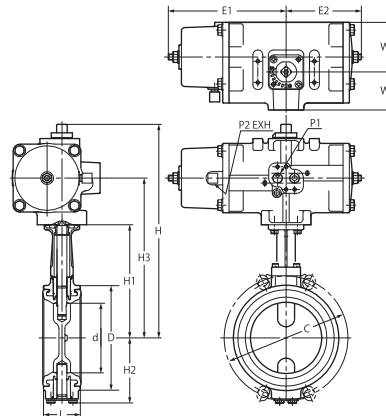
Dimensions

unit: mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | Actuator | | | | | |
|------|-------|-----|-----|-----|-----|-----|----|-----|-----|----------|-----|-----|-----|--------|----------|
| A | B | | | | | | | | | E1 | E2 | W1 | W2 | P | Type |
| 40 | 1 1/2 | 40 | 251 | 128 | 40 | 181 | 33 | 80 | 105 | 87 | 87 | 50 | 54 | Rc 1/4 | No. FA-1 |
| 50 | 2 | 50 | 255 | 132 | 66 | 185 | 43 | 93 | 120 | | | | | | |
| 65 | 2 1/2 | 65 | 287 | 141 | 74 | 207 | 46 | 118 | 140 | | | | | | |
| 80 | 3 | 80 | 295 | 149 | 83 | 215 | 46 | 129 | 150 | 107 | 107 | 54 | 70 | Rc 1/4 | No. FA-2 |
| 100 | 4 | 100 | 306 | 160 | 94 | 226 | 52 | 149 | 175 | | | | | | |
| 125 | 5 | 125 | 357 | 195 | 122 | 271 | 56 | 184 | 210 | 128 | 128 | 57 | 87 | Rc 1/4 | No. FA-3 |
| 150 | 6 | 150 | 369 | 207 | 135 | 283 | 56 | 214 | 240 | | | | | | |
| 200 | 8 | 196 | 435 | 234 | 161 | 327 | 60 | 258 | 290 | 160 | 160 | 68 | 111 | Rc 1/4 | No. FA-4 |
| 250 | 10 | 245 | 573 | 328 | 238 | 441 | 68 | 316 | 355 | | | | | | |
| 300 | 12 | 295 | 627 | 353 | 263 | 475 | 78 | 367 | 400 | 208 | 208 | 78 | 135 | Rc 1/4 | No. FA-5 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | 268 | 268 | 101 | 178 | Rc 1/4 | No. FA-6 |
| | | | | | | | | | | | | | | | |

Long Neck Type Pneumatically Operated—Spring Return Action Actuator

FAS-10XJME



Please contact the KITZ Corporation for actuator specifications.

Dimensions

unit: mm

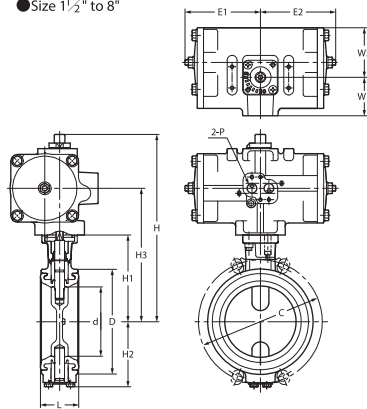
| Size | | d | H | H1 | H2 | H3 | L | D | C | Actuator | | | | | | |
|------|-------|-----|-----|-----|-----|-----|----|-----|-----|----------|-----|-----|-----|--------|--------|-----------|
| A | B | | | | | | | | | E1 | E2 | W1 | W2 | P1 | P2 | Type |
| 40 | 1 1/2 | 40 | 274 | 128 | 40 | 194 | 33 | 80 | 105 | 166 | 107 | 54 | 70 | Rc 1/4 | Rc 1/8 | No. FAS-2 |
| 50 | 2 | 50 | 278 | 132 | 66 | 198 | 43 | 93 | 120 | | | | | | | |
| 65 | 2 1/2 | 65 | 303 | 141 | 74 | 217 | 46 | 118 | 140 | | | | | | | |
| 80 | 3 | 80 | 311 | 149 | 83 | 225 | 46 | 129 | 150 | 203 | 128 | 57 | 87 | Rc 1/4 | Rc 1/8 | No. FAS-3 |
| 100 | 4 | 100 | 364 | 160 | 94 | 256 | 52 | 149 | 175 | | | | | | | |
| 125 | 5 | 125 | 396 | 195 | 122 | 288 | 56 | 184 | 210 | 290 | 160 | 68 | 111 | Rc 1/4 | Rc 1/8 | No. FAS-4 |
| 150 | 6 | 150 | 452 | 207 | 135 | 320 | 56 | 214 | 240 | | | | | | | |
| 200 | 8 | 196 | 508 | 234 | 161 | 356 | 60 | 258 | 290 | 363 | 208 | 78 | 135 | Rc 1/4 | Rc 1/8 | No. FAS-5 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 483 | 268 | 101 | 178 | Rc 1/4 | Rc 1/8 | No. FAS-6 |
| | | | | | | | | | | | | | | | | |

Short Neck Type Pneumatically Operated - Double Action Actuator

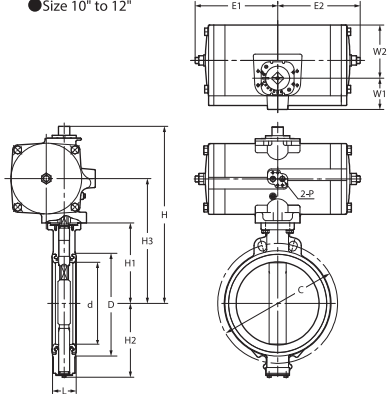
FA-10XJSME



● Size 1½" to 8"



● Size 10" to 12"



Please contact the KITZ Corporation for actuator specifications.

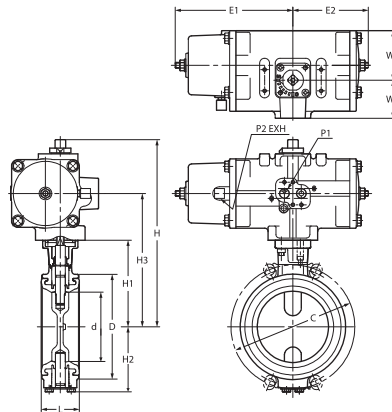
Dimensions

unit: mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | Actuator | | | | | |
|------|----|-----|-----|-----|-----|-----|----|-----|-----|----------|-----|----|-----|-----|----------|
| A | B | | | | | | | | | E1 | E2 | W1 | W2 | P | Type |
| 40 | 1½ | 40 | 216 | 93 | 40 | 146 | 33 | 80 | 105 | 87 | 87 | 50 | 54 | Rc¼ | No. FA-1 |
| 50 | 2 | 50 | 218 | 95 | 66 | 148 | 43 | 93 | 120 | | | | | | |
| 65 | 2½ | 65 | 249 | 103 | 74 | 169 | 46 | 118 | 140 | | | | | | |
| 80 | 3 | 80 | 258 | 112 | 83 | 178 | 46 | 129 | 150 | 107 | 107 | 54 | 70 | Rc¼ | No. FA-2 |
| 100 | 4 | 100 | 269 | 123 | 94 | 189 | 52 | 149 | 175 | | | | | | |
| 125 | 5 | 125 | 313 | 151 | 122 | 227 | 56 | 184 | 210 | 128 | 128 | 57 | 87 | Rc¼ | No. FA-3 |
| 150 | 6 | 150 | 325 | 163 | 135 | 239 | 56 | 214 | 240 | | | | | | |
| 200 | 8 | 196 | 391 | 190 | 161 | 283 | 60 | 258 | 290 | | | | | | |
| 250 | 10 | 245 | 483 | 238 | 238 | 351 | 68 | 316 | 355 | 208 | 208 | 78 | 135 | Rc¼ | No. FA-5 |
| 300 | 12 | 295 | 537 | 263 | 263 | 385 | 78 | 367 | 400 | | | | | | |

Short Neck Type Pneumatically Operated - Spring Return Action Actuator

FAS-10XJSME



Please contact the KITZ Corporation for actuator specifications.

Dimensions

unit: mm

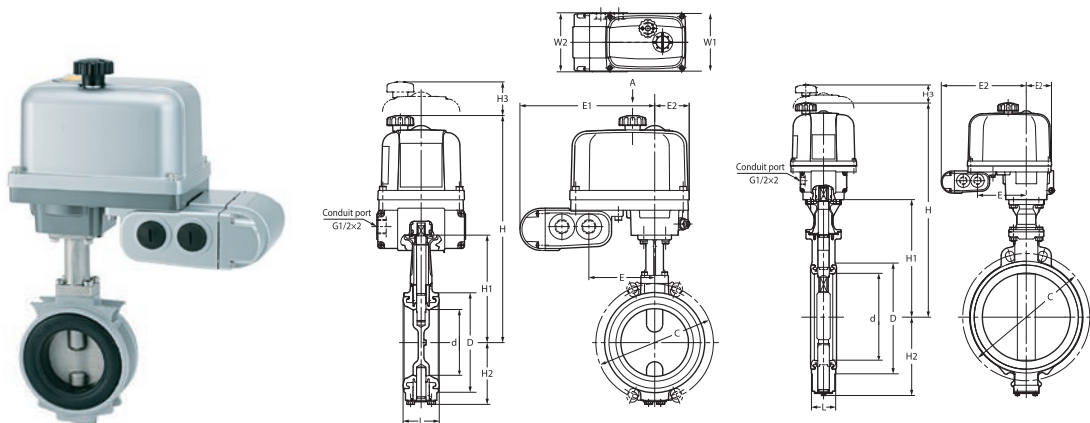
| Size | | d | H | H1 | H2 | H3 | L | D | C | Actuator | | | | | | |
|------|----|-----|-----|-----|-----|-----|----|-----|-----|----------|-----|-----|-----|-----|-----|-----------|
| A | B | | | | | | | | | E1 | E2 | W1 | W2 | P1 | P2 | Type |
| 40 | 1½ | 40 | 239 | 93 | 40 | 159 | 33 | 80 | 105 | 166 | 107 | 54 | 70 | Rc¼ | Rc⅛ | No. FAS-2 |
| 50 | 2 | 50 | 241 | 95 | 66 | 161 | 43 | 93 | 120 | | | | | | | |
| 65 | 2½ | 65 | 265 | 103 | 74 | 179 | 46 | 118 | 140 | | | | | | | |
| 80 | 3 | 80 | 274 | 112 | 83 | 188 | 46 | 129 | 150 | 203 | 128 | 57 | 87 | Rc¼ | Rc⅛ | No. FAS-3 |
| 100 | 4 | 100 | 327 | 123 | 94 | 219 | 52 | 149 | 175 | | | | | | | |
| 125 | 5 | 125 | 352 | 151 | 122 | 244 | 56 | 184 | 210 | 290 | 160 | 68 | 111 | Rc¼ | Rc⅛ | No. FAS-4 |
| 150 | 6 | 150 | 408 | 163 | 135 | 276 | 56 | 214 | 240 | | | | | | | |
| 200 | 8 | 196 | 467 | 190 | 161 | 315 | 60 | 258 | 290 | | | | | | | |
| | | | | | | | | | | 363 | 208 | 78 | 135 | Rc¼ | Rc⅛ | No. FAS-5 |
| | | | | | | | | | | 483 | 268 | 101 | 178 | Rc¼ | Rc⅛ | No. FAS-6 |

Aluminum Butterfly Valves

XJ series

Long Neck Type Electrically Operated

EXS-10XJME



Please contact the KITZ Corporation for actuator specifications.

Dimensions

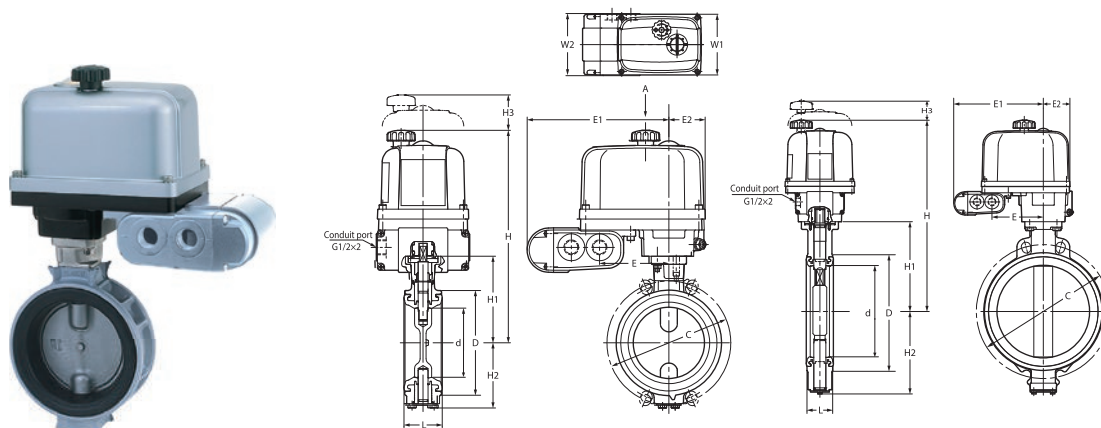
unit: mm

| Size | | d | H | H1 | H2 | L | D | C | Actuator | | | | | | |
|------|----|-----|-------|-------|-----|----|-----|-----|----------|-------|----|-----|-----|-------|-----------|
| A | B | | | | | | | | E | E1 | E2 | W1 | W2 | H3 | Type |
| 40 | 1½ | 40 | 309 | 128 | 40 | 33 | 80 | 105 | 98 | 206.5 | 54 | 131 | 132 | 107.5 | No. EXS-2 |
| 50 | 2 | 50 | 313 | 132 | 66 | 43 | 93 | 120 | | | | | | | |
| 65 | 2½ | 65 | 322 | 141 | 74 | 46 | 118 | 140 | | | | | | | |
| 80 | 3 | 80 | 330 | 149 | 83 | 46 | 129 | 150 | | | | | | | |
| 100 | 4 | 100 | 341 | 160 | 94 | 52 | 149 | 175 | 121.5 | 230 | 69 | 158 | 132 | 117.5 | No. EXS-3 |
| 125 | 5 | 125 | 401 | 194.5 | 122 | 56 | 184 | 210 | | | | | | | |
| 150 | 6 | 150 | 413.5 | 207 | 135 | 56 | 214 | 240 | | | | | | | |
| 200 | 8 | 196 | 440 | 233.5 | 161 | 60 | 258 | 290 | | | | | | | |
| 250 | 10 | 245 | 604 | 328 | 238 | 68 | 316 | 355 | 137 | 245.5 | 73 | 188 | 132 | 153 | No. EXS-4 |
| 300 | 12 | 295 | 629 | 353 | 263 | 78 | 367 | 400 | | | | | | | |

Power sources of actuator coding. Please refer to page 1.

Short Neck Type Electrically Operated

EXS-10XJSME



Please contact the KITZ Corporation for actuator specifications.

Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | Actuator | | | | | | |
|------|----|-----|-------|-----|-----|----|-----|-----|----------|-------|----|-----|-----|-------|-----------|
| A | B | | | | | | | | E | E1 | E2 | W1 | W2 | H3 | Type |
| 40 | 1½ | 40 | 274 | 93 | 40 | 33 | 80 | 105 | 98 | 206.5 | 54 | 131 | 132 | 107.5 | No. EXS-2 |
| 50 | 2 | 50 | 276 | 95 | 66 | 43 | 93 | 120 | | | | | | | |
| 65 | 2½ | 65 | 284 | 103 | 74 | 46 | 118 | 140 | | | | | | | |
| 80 | 3 | 80 | 293 | 112 | 83 | 46 | 129 | 150 | | | | | | | |
| 100 | 4 | 100 | 304 | 123 | 94 | 52 | 149 | 175 | 121.5 | 230 | 69 | 158 | 132 | 117.5 | No. EXS-3 |
| 125 | 5 | 125 | 357.5 | 151 | 122 | 56 | 184 | 210 | | | | | | | |
| 150 | 6 | 150 | 369.5 | 163 | 135 | 56 | 214 | 240 | | | | | | | |
| 200 | 8 | 196 | 396.5 | 190 | 161 | 60 | 258 | 290 | | | | | | | |
| 250 | 10 | 245 | 514 | 238 | 238 | 68 | 316 | 355 | 137 | 245.5 | 73 | 188 | 132 | 153 | No. EXS-4 |
| 300 | 12 | 295 | 539 | 263 | 263 | 78 | 367 | 400 | | | | | | | |

Power sources of actuator coding. Please refer to page 1.

Through pursuit of functions required for butterfly valves. Variety of product range to comply with user's requirements.

Specification

| Maximum service pressure | | | |
|--------------------------------------|---|-----|---------|
| ASME 150 | 1.03 MPa | 10K | 1.0 MPa |
| ASME 200 | 1.38 MPa | 16K | 1.6 MPa |
| ASME 250 | 1.72 MPa | 20K | 2.0 MPa |
| PN16 | 1.6 MPa | | |
| PM25 | 2.5 MPa | | |
| Service temperature range | | | |
| NBR (Buna-N) seat | 0°C to +70°C | | |
| EPDM seat | -20°C to +120°C | | |
| Continuous service temperature range | 0°C to +100°C | | |
| Applicable standards | | | |
| Valve design | API 609, MSS-SP 67, EN 593, JIS B 2032 | | |
| Face to face dimensions | API 609 Category A, MSS-SP 67 W-1: Size 2 to 14 | | |
| | W-2: Size 16 to 24 | | |
| | EN 558 basic series 20, ISO 5752 20 Series, JIS B 2002 46 Series | | |
| Coupling flanges | | | |
| Wafer type | ASME Class 150/200/250 EN 1092 PN10: DN 50 to DN 350, PN16: All sizes PN25: DN 50 to DN 300 | | |
| | BS 10 Table D/Table E JIS 10K/16K/20K | | |
| Lugged type | ASME Class 150/200/250 EN 1092 PN10: DN 50 to DN 150, PN16: All sizes PN25: DN 50 to DN 300 | | |

Feature

Non-peeling Seat-to-body Construction

Molded-in (bonded) seat structure is employed for size 2 to 12. Larger sized valves are provided with replaceable seat. This non-peeling seat-to-body construction assures maintenance-free application for high fluid velocity service*1, vacuum service*2 and handling surging fluid velocity. It also guarantees peel-free valve mounting on pipelines.

*1 Maximum 4 meters/second for on-off service for valves up to size 12, and 3 meters/second for size 14 and larger.

*2 Up to 30 Torr. Vacuum service is option for size 14 and larger.

Spherical Design for Discs and Seats

Rubber seats are spherically designed where they contact top and bottom stems. This protects widely designed rubber seats from peeling or deformation for prolonged service life of valves. Thinly streamlined metal discs are the results of elaborate laboratory study to ultimately minimize the pressure loss.

Choice of Materials and Operating Devices

Choice among 4 disc and 2 seat materials and manual, pneumatic or electric valve operating devices makes service applications highly versatile.

Integral ISO 5211 Actuator Mounting Flange

Any pneumatic or electric valve actuators provided with ISO 5211 valve mounting flanges can be easily mounted for actuation of valves in the field.

Low Valve Operating Torque

Low operating torques are designed low for extension of valve service life and economic consideration in selection of valve operating devices.

Light-designed for Operation Efficiency

Designed much lighter than our conventional series for operation efficiency in piping

Emission-free Stem Sealing Mechanism

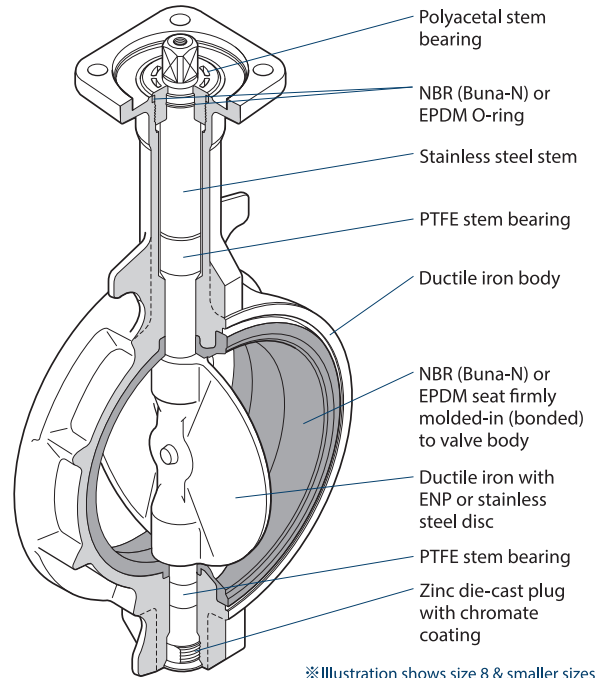
Prevention of external fluid leakage is maximized with a rubber O-ring assembled around the top stem and tight contact between spherically designed rubber seat and spherically designed top and bottom end of the disc.

Dew Condensation Prevention

Dew condensation prevention type is optionally available with heat insulating plate (size 2 to 6) or stainless steel stand (size 8 to 24).

Molded-in (bonded) seat structure

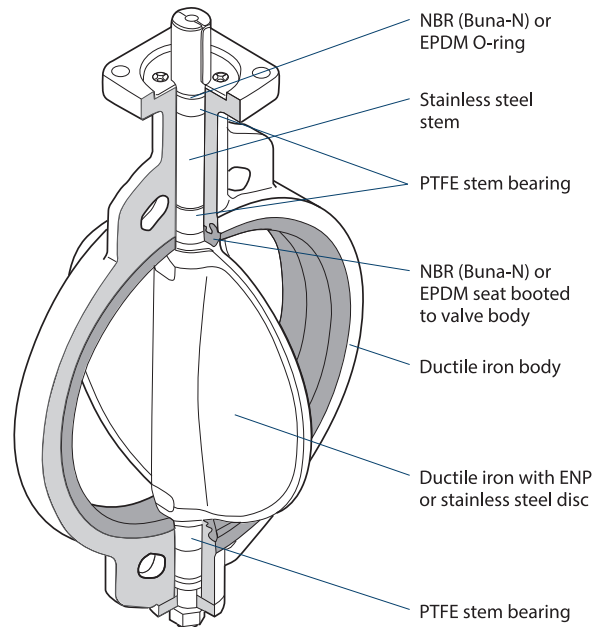
(Size 2 to 12)*1



※ Illustration shows size 8 & smaller sizes

Replaceable seat structure

(Size 14 to 24)*2

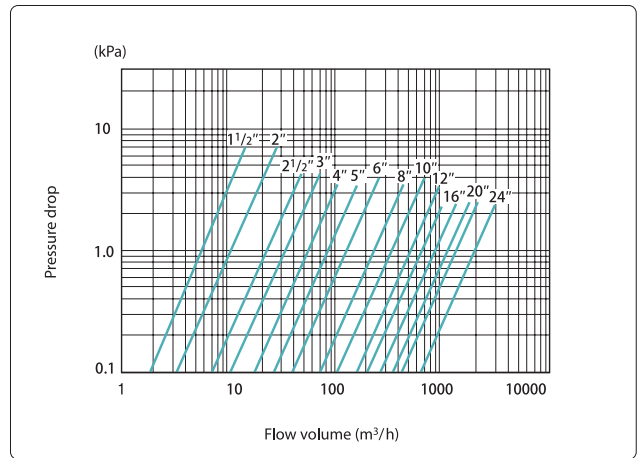


Flow Coefficient (Cv)

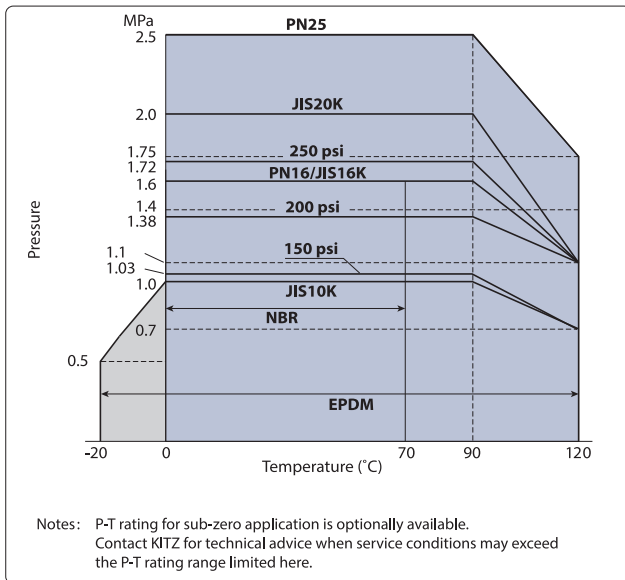
| Size | | Cv value | Size | | Cv value |
|-------|-----|----------|------|-----|----------|
| NPS | DN | | NPS | DN | |
| 1 1/2 | 40 | 77 | 10 | 250 | 4025 |
| 2 | 50 | 124 | 12 | 300 | 6010 |
| 2 1/2 | 65 | 270 | 14 | 350 | 7525 |
| 3 | 80 | 397 | 16 | 400 | 10080 |
| 4 | 100 | 671 | 18 | 450 | 13120 |
| 5 | 125 | 1013 | 20 | 500 | 15990 |
| 6 | 150 | 1532 | 24 | 600 | 23690 |
| 8 | 200 | 2792 | | | |

Pressure Loss

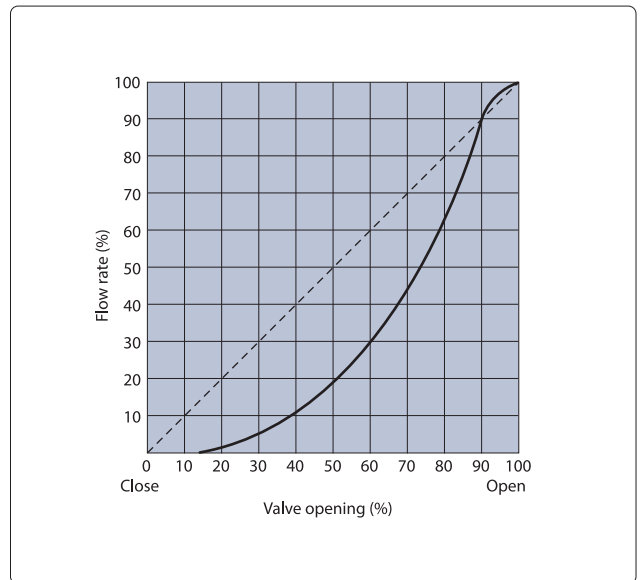
(for handling static clean water with valve fully open)



P-T Rating



Flow Characteristics



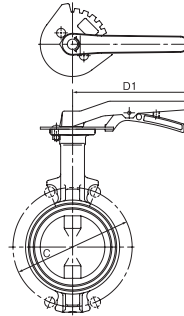
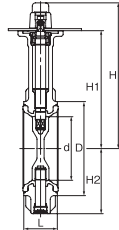
Standard Materials

| Parts | Material | |
|----------------------|---|---|
| Body | Ductile Iron | |
| | Cast Iron (JIS 10K design Size 14" to 24") | |
| Stem Bottom stem | 410 SS / 420 SS | |
| Disc | Ductile Iron (Ni-plated) / 304SS / 316SS / Aluminum Bronze (See Explanation of Product Code) | |
| Seat O-ring | NBR (Buna-N) / EPDM (See Explanation of Product Code) | |
| Bearing | Polyacetal / Glass Filled PTFE / Metal Backed PTFE | |
| Plug (Size 2" to 8") | Zinc die-cast (Chromate Coating) | |
| Operator | Lever | |
| | Gear | Aluminum Die-cast (Size 2" to 12") Cast-Iron (Size 14" to 24") |
| | Vertical gear | Cast-Iron |

Wafer Type

ASME 200/250 psi Design - Lever Operated

200DJ
 250DJ



Dimensions

unit: mm

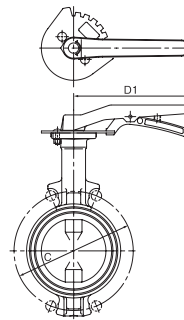
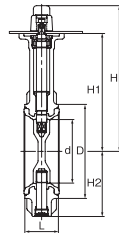
| Size | | d | H | H1 | H2 | L | D | C | D1 |
|------|-----|-----|-----|-----|-----|------|-----|-------|-----|
| DN | NPS | | | | | | | | |
| 50 | 2 | 50 | 191 | 147 | 67 | 42.9 | 90 | 120.5 | 180 |
| 65 | 2½ | 65 | 199 | 155 | 75 | 46 | 104 | 139.5 | 180 |
| 80 | 3 | 80 | 217 | 173 | 91 | 46 | 124 | 152.5 | 180 |
| 100 | 4 | 100 | 227 | 183 | 101 | 52.3 | 146 | 190.5 | 180 |
| 125 | 5 | 125 | 265 | 211 | 127 | 55.6 | 176 | 216 | 230 |
| 150 | 6 | 150 | 277 | 223 | 139 | 55.6 | 206 | 241.5 | 230 |
| 200 | 8 | 197 | 295 | 248 | 169 | 60.5 | 257 | 298.5 | 350 |

Disc and seat material coding. Please refer to page 1.

Wafer Type

EN PN16/25 Design - Lever Operated

PN16DJ
 PN25DJ E



Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | | D1 |
|------|-----|-----|-----|-----|-----|----|-----|------|------|-----|
| DN | NPS | | | | | | | PN16 | PN25 | |
| 50 | 2 | 50 | 191 | 147 | 67 | 43 | 90 | 125 | 125 | 180 |
| 65 | 2½ | 65 | 199 | 155 | 75 | 46 | 104 | 145 | 145 | 180 |
| 80 | 3 | 80 | 217 | 173 | 91 | 46 | 124 | 160 | 160 | 180 |
| 100 | 4 | 100 | 227 | 183 | 101 | 52 | 146 | 180 | 190 | 180 |
| 125 | 5 | 125 | 265 | 211 | 127 | 56 | 176 | 210 | 220 | 230 |
| 150 | 6 | 150 | 277 | 223 | 139 | 56 | 206 | 240 | 250 | 230 |
| 200 | 8 | 197 | 295 | 248 | 169 | 60 | 257 | 295 | — | 350 |

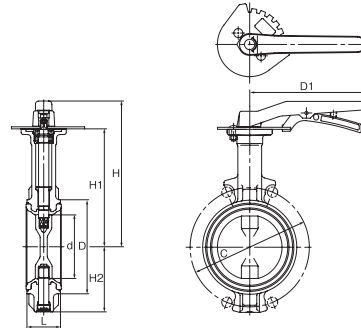
Disc and seat material coding. Please refer to page 1.

Ductile Iron Butterfly Valves

DJ series

Wafer Type JIS 10K/16K/20K Design - Lever Operated

- 10DJ
- 16DJ
- 20DJ E



Dimensions unit: mm

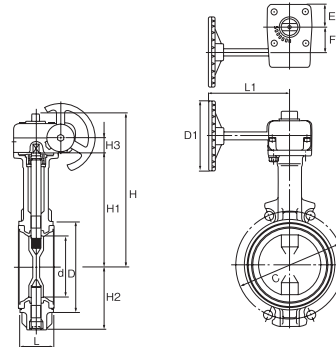
| Size | | d | H | H1 | H2 | L | D | C | | D1 |
|------|-------|-----|-----|-----|-----|----|-----|------|---------|-----|
| A | B | | | | | | | 10DJ | 16/20DJ | |
| 40 | 1 1/2 | 40 | 172 | 128 | 37 | 33 | 74 | 105 | — | 180 |
| 50 | 2 | 50 | 191 | 147 | 67 | 43 | 90 | 120 | 120 | 180 |
| 65 | 2 1/2 | 65 | 199 | 155 | 75 | 46 | 104 | 140 | 140 | 180 |
| 80 | 3 | 80 | 217 | 173 | 91 | 46 | 124 | 150 | 160 | 180 |
| 100 | 4 | 100 | 227 | 183 | 101 | 52 | 146 | 175 | 185 | 180 |
| 125 | 5 | 125 | 265 | 211 | 127 | 56 | 176 | 210 | 225 | 230 |
| 150 | 6 | 150 | 277 | 223 | 139 | 56 | 206 | 240 | 260 | 230 |

Disc and seat material coding. Please refer to page 1.

Wafer Type ASME 150/200/250 psi Design - Gear Operated

- G-150DJ
- G-200DJ *
- G-250DJ *

* Available up to size 300^A



Dimensions unit: mm

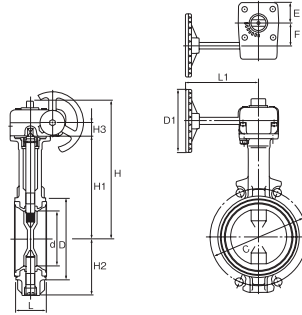
| Size | | d | H | H1 | H2 | L | D | C | H3 | D1 | | | L1 | | | E | F | Gear type |
|------|-------|-----|-----|-----|-----|-------|-----|-------|------|-----|-----|-----|-----|-----|-----|------|------|-----------|
| DN | NPS | | | | | | | | | 150 | 200 | 250 | 150 | 200 | 250 | | | |
| 50 | 2 | 50 | 194 | 147 | 67 | 42.9 | 90 | 120.5 | 18.5 | 80 | 80 | 80 | 122 | 122 | 122 | 29 | 28 | No. 0 |
| 65 | 2 1/2 | 65 | 202 | 155 | 75 | 46 | 104 | 139.5 | 18.5 | 80 | 80 | 80 | 122 | 122 | 122 | | | |
| 80 | 3 | 80 | 236 | 173 | 91 | 46 | 124 | 152.5 | 24 | 110 | 110 | 110 | 135 | 135 | 135 | | | |
| 100 | 4 | 100 | 246 | 183 | 101 | 52.3 | 146 | 190.5 | 24 | 110 | 110 | 110 | 135 | 135 | 135 | 36.5 | 40.5 | No. 1 |
| 125 | 5 | 125 | 274 | 211 | 127 | 55.6 | 176 | 216 | 24 | 110 | 110 | 110 | 150 | 150 | 150 | | | |
| 150 | 6 | 150 | 286 | 223 | 139 | 55.6 | 206 | 241.5 | 24 | 110 | 110 | 110 | 150 | 150 | 150 | | | |
| 200 | 8 | 197 | 325 | 248 | 169 | 60.5 | 257 | 298.5 | 32 | 170 | 170 | 170 | 180 | 180 | 180 | 51 | 63 | No. 2 |
| 250 | 10 | 246 | 381 | 304 | 219 | 68.3 | 312 | 362 | 32 | 170 | 170 | 250 | 180 | 180 | 250 | | | |
| 300 | 12 | 295 | 406 | 329 | 244 | 77.7 | 364 | 432 | 32 | 170 | 170 | 250 | 180 | 180 | 250 | | | |
| 350 | 14 | 334 | 447 | 360 | 309 | 77.7 | 407 | 476.5 | 47 | 310 | — | — | 220 | — | — | 54 | 66.5 | No. FC-3 |
| 400 | 16 | 385 | 502 | 415 | 348 | 101.6 | 466 | 539.5 | 47 | 310 | — | — | 220 | — | — | | | |
| 450 | 18 | 434 | 526 | 439 | 365 | 114.3 | 522 | 578 | 47 | 310 | — | — | 220 | — | — | | | |
| 500 | 20 | 482 | 587 | 468 | 414 | 127 | 575 | 635 | 60 | 500 | — | — | 360 | — | — | 68 | 88.5 | No. FC-4 |
| 600 | 24 | 579 | 635 | 536 | 463 | 153.9 | 680 | 749.5 | 60 | 500 | — | — | 360 | — | — | | | |

Disc and seat material coding. Please refer to page 1.

Wafer Type

EN 16/25 JIS 10K/16K/20K Design - Gear Operated

- G-PN16DJ
- G-PN25DJ E
- G-10DJ
- G-16DJ
- G-20DJUE



Dimensions (PN16/PN25)

unit : mm

| DN | Size | | d | H | H1 | H2 | H3 | L | D | C | | D1 | | L1 | | E | F | Gear type |
|-----|------|--|-----|-----|-----|-----|----|-----|-----|------|------|------|------|------|------|----|-----|-----------|
| | NPS | | | | | | | | | PN16 | PN25 | PN16 | PN25 | PN16 | PN25 | | | |
| 50 | 2 | | 50 | 194 | 147 | 67 | 19 | 43 | 90 | 125 | 125 | 80 | 80 | 122 | 122 | 29 | 28 | No. 0 |
| 65 | 2½ | | 65 | 202 | 155 | 75 | 19 | 46 | 104 | 145 | 145 | 80 | 80 | 122 | 122 | 29 | 28 | |
| 80 | 3 | | 80 | 236 | 173 | 91 | 24 | 46 | 124 | 160 | 160 | 110 | 110 | 135 | 135 | 36 | 40 | |
| 100 | 4 | | 100 | 246 | 183 | 101 | 24 | 52 | 146 | 180 | 190 | 110 | 110 | 135 | 135 | 36 | 40 | No. 1 |
| 125 | 5 | | 125 | 274 | 211 | 127 | 24 | 56 | 176 | 210 | 220 | 110 | 110 | 150 | 150 | 36 | 40 | |
| 150 | 6 | | 150 | 286 | 223 | 139 | 24 | 56 | 206 | 240 | 250 | 110 | 110 | 150 | 150 | 36 | 40 | |
| 200 | 8 | | 197 | 325 | 248 | 169 | 32 | 60 | 257 | 295 | 310 | 170 | 250 | 180 | 250 | 51 | 63 | No. 2 |
| 250 | 10 | | 246 | 381 | 304 | 219 | 32 | 68 | 312 | 355 | 370 | 250 | 250 | 250 | 250 | 51 | 63 | |
| 300 | 12 | | 295 | 406 | 329 | 244 | 32 | 78 | 364 | 410 | 430 | 250 | 250 | 250 | 250 | 51 | 63 | |
| 350 | 14 | | 333 | 461 | 360 | 309 | 60 | 78 | 407 | 470 | — | 360 | — | 350 | — | 68 | 89 | No. FC-4 |
| 400 | 16 | | 385 | 516 | 415 | 348 | 60 | 102 | 466 | 525 | — | 360 | — | 350 | — | 68 | 89 | |
| 450 | 18 | | 434 | 540 | 439 | 372 | 60 | 114 | 522 | 585 | — | 360 | — | 350 | — | 68 | 89 | |
| 500 | 20 | | 482 | 623 | 488 | 423 | 65 | 127 | 575 | 650 | — | 500 | — | 400 | — | 90 | 134 | No. FC-6 |
| 600 | 24 | | 579 | 671 | 536 | 472 | 65 | 154 | 680 | 770 | — | 500 | — | 400 | — | 90 | 134 | |

Dimensions (10DJ)

unit : mm

| A | Size | | d | H | H1 | H2 | H3 | L | D | C | D1 | L1 | E | F | Gear type |
|-----|------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------|
| | B | | | | | | | | | | | | | | |
| 40 | 1½ | | 40 | 175 | 128 | 37 | 19 | 33 | 74 | 105 | 80 | 122 | 29 | 28 | No. 0 |
| 50 | 2 | | 50 | 194 | 147 | 67 | 19 | 43 | 90 | 120 | 80 | 122 | 29 | 28 | |
| 65 | 2½ | | 65 | 202 | 155 | 75 | 19 | 46 | 104 | 140 | 80 | 122 | 29 | 28 | |
| 80 | 3 | | 80 | 236 | 173 | 91 | 24 | 46 | 124 | 150 | 110 | 135 | 36 | 40 | No. 1 |
| 100 | 4 | | 100 | 246 | 183 | 101 | 24 | 52 | 146 | 175 | 110 | 135 | 36 | 40 | |
| 125 | 5 | | 125 | 274 | 211 | 127 | 24 | 56 | 176 | 210 | 110 | 150 | 36 | 40 | |
| 150 | 6 | | 150 | 286 | 223 | 139 | 24 | 56 | 206 | 240 | 110 | 150 | 36 | 40 | No. 2 |
| 200 | 8 | | 197 | 325 | 248 | 169 | 32 | 60 | 257 | 290 | 170 | 180 | 51 | 63 | |
| 250 | 10 | | 247 | 381 | 304 | 219 | 32 | 68 | 312 | 355 | 250 | 250 | 60 | 63 | |
| 300 | 12 | | 296 | 406 | 329 | 244 | 32 | 78 | 364 | 400 | 250 | 250 | 60 | 63 | No. FC-3 |
| 350 | 14 | | 333 | 445 | 360 | 309 | 47 | 78 | 407 | 445 | 310 | 220 | 54 | 66 | |
| 400 | 16 | | 385 | 500 | 415 | 341 | 47 | 102 | 466 | 510 | 310 | 220 | 54 | 66 | |
| 450 | 18 | | 434 | 524 | 439 | 365 | 47 | 114 | 522 | 565 | 310 | 220 | 54 | 66 | No. FC-4 |
| 500 | 20 | | 482 | 589 | 488 | 414 | 60 | 127 | 575 | 620 | 360 | 350 | 68 | 89 | |
| 600 | 24 | | 579 | 637 | 536 | 463 | 60 | 154 | 680 | 730 | 360 | 350 | 68 | 89 | |
| 650 | 26 | | 632 | 710 | 575 | 488 | 65 | 165 | 743 | 780 | 600 | 413 | 130 | 134 | No. FC-6 |
| 700 | 28 | | 682 | 735 | 600 | 513 | 65 | 165 | 793 | 840 | 600 | 413 | 130 | 134 | |
| 750 | 30 | | 732 | 836 | 669 | 542 | 137 | 190 | 847 | 900 | 500 | 365 | 165 | 213 | No. FC-7 |
| 800 | 32 | | 782 | 862 | 695 | 568 | 137 | 190 | 897 | 950 | 500 | 365 | 165 | 213 | |

□ 650 to 800A: Gear operation/EPDM seat only.

Dimensions (16DJ/20DJ)

unit : mm

| A | Size | | d | H | | H1 | H2 | | H3 | | L | D | | C | | D1 | | L1 | | E | F | Gear type | | |
|-----|------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----------|-----|----------|
| | B | | | 16K | 20K | | 16K | 20K | 16K | 20K | | 16K | 20K | 16K | 20K | 16K | 20K | 16K | 20K | | | | 16K | 20K |
| 50 | 2 | | 50 | 194 | 194 | 147 | 67 | 67 | 19 | 19 | 43 | 90 | 90 | 120 | 80 | 80 | 80 | 122 | 122 | 29 | 29 | 28 | 28 | No. 0 |
| 65 | 2½ | | 65 | 202 | 202 | 155 | 75 | 75 | 19 | 19 | 46 | 104 | 104 | 140 | 80 | 80 | 80 | 122 | 122 | 29 | 29 | 28 | 28 | |
| 80 | 3 | | 80 | 236 | 236 | 173 | 91 | 91 | 24 | 24 | 46 | 124 | 124 | 160 | 110 | 110 | 110 | 135 | 135 | 36 | 36 | 40 | 40 | |
| 100 | 4 | | 100 | 246 | 246 | 183 | 101 | 101 | 24 | 24 | 52 | 146 | 146 | 185 | 110 | 110 | 110 | 135 | 135 | 36 | 36 | 40 | 40 | No. 1 |
| 125 | 5 | | 125 | 274 | 274 | 211 | 127 | 127 | 24 | 24 | 56 | 176 | 176 | 225 | 110 | 110 | 110 | 150 | 150 | 36 | 36 | 40 | 40 | |
| 150 | 6 | | 150 | 286 | 286 | 223 | 139 | 139 | 24 | 24 | 56 | 206 | 206 | 260 | 110 | 110 | 110 | 150 | 150 | 36 | 36 | 40 | 40 | |
| 200 | 8 | | 197 | 325 | 325 | 248 | 169 | 169 | 32 | 32 | 60 | 257 | 257 | 305 | 170 | 170 | 170 | 180 | 180 | 51 | 51 | 63 | 63 | No. 2 |
| 250 | 10 | | 247 | 381 | 381 | 304 | 219 | 219 | 32 | 32 | 68 | 312 | 312 | 380 | 250 | 250 | 250 | 250 | 250 | 60 | 60 | 63 | 63 | |
| 300 | 12 | | 296 | 406 | 406 | 329 | 244 | 244 | 32 | 32 | 78 | 364 | 364 | 430 | 250 | 250 | 250 | 250 | 250 | 60 | 60 | 63 | 63 | |
| 350 | 14 | | 333 | 461 | — | 360 | 309 | — | 60 | — | 78 | 407 | — | 480 | 360 | — | 350 | — | 68 | — | 89 | — | — | No. FC-4 |
| 400 | 16 | | 385 | 516 | — | 415 | 348 | — | 60 | — | 102 | 466 | — | 540 | 360 | — | 350 | — | 68 | — | 89 | — | — | |
| 450 | 18 | | 434 | 540 | — | 439 | 372 | — | 60 | — | 114 | 522 | — | 605 | 360 | — | 350 | — | 68 | — | 89 | — | — | |
| 500 | 20 | | 482 | 623 | — | 488 | 423 | — | 65 | — | 127 | 575 | — | 660 | 500 | — | 400 | — | 90 | — | 134 | — | — | No. FC-6 |
| 600 | 24 | | 579 | 671 | — | 536 | 472 | — | 65 | — | 154 | 680 | — | 770 | 500 | — | 400 | — | 90 | — | 134 | — | — | |

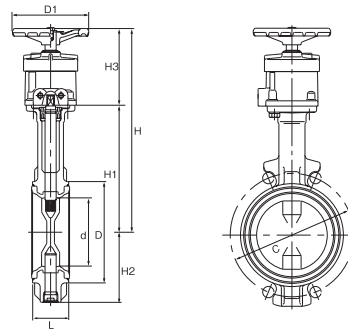
□ Disc and seat material coding. Please refer to page 1.

Ductile Iron Butterfly Valves

DJ series

Wafer Type JIS 10K/16K - Vertical Gear Operated

VG-10DJ



Dimensions

unit: mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | D1 | Gear type |
|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| A | B | | | | | | | | | | |
| 40 | 1½ | 40 | 251 | 128 | 37 | 123 | 33 | 74 | 105 | 110 | No. VG-1 |
| 50 | 2 | 50 | 270 | 147 | 67 | 123 | 43 | 90 | 120 | 110 | |
| 65 | 2½ | 65 | 278 | 155 | 75 | 123 | 46 | 104 | 140 | 110 | |
| 80 | 3 | 80 | 285 | 173 | 91 | 112 | 46 | 124 | 150 | 110 | |
| 100 | 4 | 100 | 295 | 183 | 101 | 112 | 52 | 146 | 175 | 110 | |
| 125 | 5 | 125 | 325 | 211 | 127 | 114 | 56 | 176 | 210 | 170 | |
| 150 | 6 | 150 | 337 | 223 | 139 | 114 | 56 | 206 | 240 | 170 | No. VG-2 |
| 200 | 8 | 197 | 404 | 248 | 169 | 156 | 60 | 257 | 290 | 200 | |
| 250 | 10 | 247 | 461 | 304 | 219 | 157 | 68 | 312 | 355 | 310 | |
| 300 | 12 | 296 | 486 | 329 | 244 | 157 | 78 | 364 | 400 | 310 | No. RVA-03 |
| 350 | 14 | 333 | 569 | 360 | 309 | 209 | 78 | 407 | 445 | 360 | |
| 400 | 16 | 385 | 624 | 415 | 341 | 209 | 102 | 466 | 510 | 360 | No. RVA-04 |
| 450 | 18 | 434 | 648 | 439 | 365 | 209 | 114 | 522 | 565 | 360 | |
| 500 | 20 | 482 | 741 | 488 | 414 | 253 | 127 | 575 | 620 | 500 | |
| 600 | 24 | 579 | 789 | 536 | 463 | 253 | 154 | 680 | 730 | 500 | |

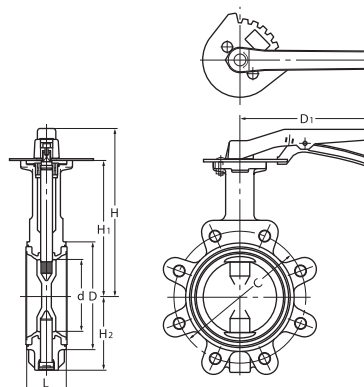
Disc and seat material coding. Please refer to page 1.

Lugged Type ASME 150/200/250 psi Design - Lever Operated

150DJL

200DJL

250DJL



Dimensions

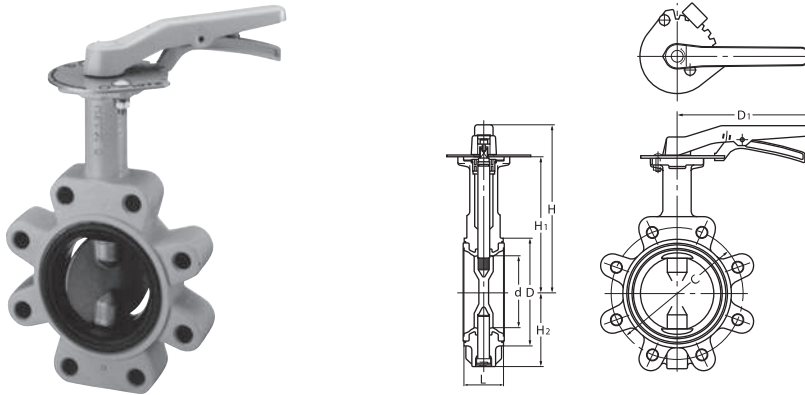
unit: mm

| Size | | d | H | H1 | H2 | L | D | C | D1 |
|------|-----|-----|-----|-----|-----|------|-----|-------|-----|
| DN | NPS | | | | | | | | |
| 50 | 2 | 50 | 191 | 147 | 67 | 42.9 | 90 | 120.5 | 180 |
| 65 | 2½ | 65 | 199 | 155 | 75 | 46 | 104 | 139.5 | 180 |
| 80 | 3 | 80 | 217 | 173 | 91 | 46 | 124 | 152.5 | 180 |
| 100 | 4 | 100 | 227 | 183 | 104 | 52.3 | 146 | 190.5 | 180 |
| 125 | 5 | 125 | 265 | 211 | 127 | 55.6 | 176 | 216 | 230 |
| 150 | 6 | 150 | 277 | 223 | 139 | 55.6 | 206 | 241.5 | 230 |
| 200 | 8 | 197 | 295 | 248 | 169 | 60.5 | 257 | 298.5 | 350 |

Disc and seat material coding. Please refer to page 1.

Lugged Type EN PN16/PN25 Design - Lever Operated

PN16DJL
 PN25DJL E



Dimensions unit: mm

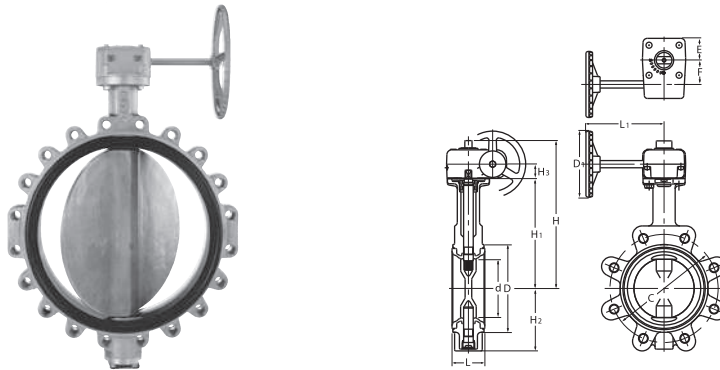
| Size | | d | H | H1 | H2 | L | D | C | | D1 |
|------|-----|-----|-----|-----|-----|----|-----|------|------|-----|
| DN | NPS | | | | | | | PN16 | PN25 | |
| 50 | 2 | 50 | 191 | 147 | 67 | 43 | 90 | 125 | 125 | 180 |
| 65 | 2½ | 65 | 199 | 155 | 75 | 46 | 104 | 145 | 145 | 180 |
| 80 | 3 | 80 | 217 | 173 | 91 | 46 | 124 | 160 | 160 | 180 |
| 100 | 4 | 100 | 227 | 183 | 104 | 52 | 146 | 180 | 190 | 180 |
| 125 | 5 | 125 | 265 | 211 | 127 | 56 | 176 | 210 | 220 | 230 |
| 150 | 6 | 150 | 277 | 223 | 139 | 56 | 206 | 240 | 250 | 230 |
| 200 | 8 | 197 | 295 | 248 | 169 | 60 | 257 | 295 | — | 350 |

Disc and seat material coding. Please refer to page 1.

Lugged Type ASME 150/200/250 psi Design - Gear Operated

G-150DJL
 G-200DJL *
 G-250DJL *

* Available up to size 300^A



Dimensions unit: mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | D1 | | L1 | | E | F | Gear type |
|------|-----|-----|-----|-----|-----|------|-------|-----|-------|---------|-----|---------|-----|------|------|-----------|
| DN | NPS | | | | | | | | | 150/200 | 250 | 150/200 | 250 | | | |
| 50 | 2 | 50 | 194 | 147 | 67 | 18.5 | 42.9 | 90 | 120.5 | 80 | 80 | 122 | 122 | 29 | 28 | No. 0 |
| 65 | 2½ | 65 | 202 | 155 | 75 | 18.5 | 46 | 104 | 139.5 | 80 | 80 | 122 | 122 | 29 | 28 | |
| 80 | 3 | 80 | 236 | 173 | 91 | 24 | 46 | 124 | 152.5 | 110 | 110 | 135 | 135 | 36.5 | 40.5 | |
| 100 | 4 | 100 | 246 | 183 | 103 | 24 | 52.3 | 146 | 190.5 | 110 | 110 | 135 | 135 | 36.5 | 40.5 | No. 1 |
| 125 | 5 | 125 | 274 | 211 | 127 | 24 | 55.6 | 176 | 216 | 110 | 110 | 150 | 150 | 36.5 | 40.5 | |
| 150 | 6 | 150 | 286 | 223 | 139 | 24 | 55.6 | 206 | 241.5 | 110 | 110 | 150 | 150 | 36.5 | 40.5 | |
| 200 | 8 | 197 | 325 | 248 | 169 | 32 | 60.5 | 257 | 298.5 | 170 | 170 | 180 | 180 | 51 | 63 | No. 2 |
| 250 | 10 | 247 | 381 | 304 | 219 | 32 | 68.3 | 312 | 362 | 170 | 250 | 180 | 250 | 51 | 63 | |
| 300 | 12 | 296 | 406 | 329 | 244 | 32 | 77.7 | 364 | 432 | 170 | 250 | 180 | 250 | 51 | 63 | |
| 350 | 14 | 334 | 447 | 360 | 309 | 47 | 77.7 | 407 | 476.5 | 310 | — | 220 | — | 54 | 66.5 | No. FC-3 |
| 400 | 16 | 385 | 502 | 415 | 341 | 47 | 101.6 | 466 | 539.5 | 310 | — | 220 | — | 54 | 66.5 | |
| 450 | 18 | 434 | 526 | 439 | 365 | 47 | 114.3 | 522 | 578 | 310 | — | 220 | — | 54 | 66.5 | |
| 500 | 20 | 482 | 587 | 488 | 414 | 60 | 127 | 575 | 635 | 500 | — | 360 | — | 68 | 88.5 | No. FC-4 |
| 600 | 24 | 579 | 635 | 536 | 463 | 60 | 153.9 | 680 | 749.5 | 500 | — | 360 | — | 68 | 88.5 | |

Disc and seat material coding. Please refer to page 1.

Ductile Iron Butterfly Valves

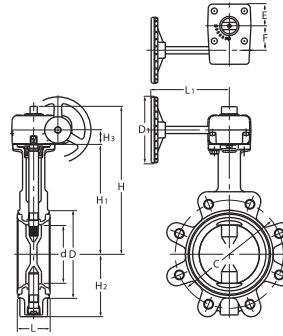
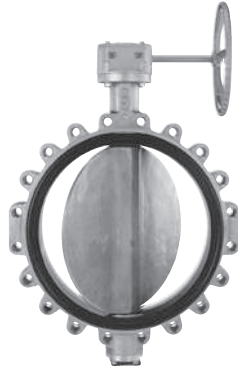
DJ series

Lugged Type

EN PN16/PN25 Design - Gear Operated

G-PN16DJL

G-PN25DJL E



Dimensions

unit : mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | | D1 | | L1 | | E | | F | Gear type |
|------|-----|------------|-----|-----|-----|----|-----|-----|------|------|------|------|------|------|------|------|-----|-----------|
| DN | NPS | | | | | | | | PN16 | PN25 | PN16 | PN25 | PN16 | PN25 | PN16 | PN25 | | |
| 50 | 2 | 50 | 194 | 147 | 67 | 19 | 43 | 90 | 125 | 125 | 80 | 80 | 122 | 122 | 29 | 29 | 28 | No. 0 |
| 65 | 2½ | 65 | 202 | 155 | 75 | 19 | 46 | 104 | 145 | 145 | 80 | 80 | 122 | 122 | 29 | 29 | 28 | |
| 80 | 3 | 80 | 236 | 173 | 91 | 24 | 46 | 124 | 160 | 160 | 110 | 110 | 135 | 135 | 36 | 36 | 40 | |
| 100 | 4 | 100 | 246 | 183 | 101 | 24 | 52 | 146 | 180 | 190 | 110 | 110 | 135 | 135 | 36 | 36 | 40 | No. 1 |
| 125 | 5 | 125 | 274 | 211 | 127 | 24 | 56 | 176 | 210 | 220 | 110 | 110 | 150 | 150 | 36 | 36 | 40 | |
| 150 | 6 | 150 | 286 | 223 | 139 | 24 | 56 | 206 | 240 | 250 | 110 | 110 | 150 | 150 | 36 | 36 | 40 | |
| 200 | 8 | 197 | 325 | 248 | 169 | 32 | 60 | 257 | 295 | 310 | 170 | 250 | 180 | 250 | 51 | 51 | 63 | No. 2 |
| 250 | 10 | 246 | 381 | 304 | 219 | 32 | 68 | 312 | 355 | 370 | 250 | 250 | 250 | 250 | 51 | 60 | 63 | |
| 300 | 12 | 295 | 406 | 329 | 244 | 32 | 78 | 364 | 410 | 430 | 250 | 250 | 250 | 250 | 51 | 60 | 63 | |
| 350 | 14 | 333 | 461 | 360 | 309 | 60 | 78 | 407 | 470 | — | 360 | — | 350 | — | 68 | — | 89 | No. FC-4 |
| 400 | 16 | 385 | 516 | 415 | 348 | 60 | 102 | 466 | 525 | — | 360 | — | 350 | — | 68 | — | 89 | |
| 450 | 18 | 434 | 540 | 439 | 372 | 60 | 114 | 522 | 585 | — | 360 | — | 350 | — | 68 | — | 89 | |
| 500 | 20 | 482 | 623 | 488 | 423 | 65 | 127 | 575 | 650 | — | 500 | — | 400 | — | 90 | — | 134 | No. FC-6 |
| 600 | 24 | 579 | 671 | 536 | 472 | 65 | 154 | 680 | 770 | — | 500 | — | 400 | — | 90 | — | 134 | |

Disc and seat material coding. Please refer to page 1.

Lineup of 3-type special seat material.
Available for variety of fluids.

Specifications

| | |
|----------------------------------|--|
| Maximum service pressure | |
| PN10 | 10bar (1.0MPa) |
| Body material | |
| Ductile iron | EN-GJS-450-10, Equivalent to ASTM A536 Gr. 65-45-12, BS 2789 Gr. 40/10 ^{*1} |
| ^{*1} Obsolete Standard. | |
| Applicable standards | |
| Valve design | EN 593:2004 |
| Coupling flanges | |
| Wafer type | EN1092 PN6, PN10, PN16 BS10 Table E ASME Class125, Class150 |

Cv value

| Size | | Open degree | | | | | | | |
|------|-----|-------------|-----|-----|------|------|------|------|------|
| DN | NPS | 20° | 30° | 40° | 50° | 60° | 70° | 80° | 90° |
| 50 | 2 | 8 | 17 | 29 | 42 | 56 | 75 | 86 | 88 |
| 65 | 2½ | 16 | 36 | 60 | 88 | 122 | 172 | 219 | 246 |
| 80 | 3 | 21 | 45 | 75 | 113 | 165 | 248 | 345 | 415 |
| 100 | 4 | 3 | 65 | 109 | 172 | 274 | 446 | 689 | 886 |
| 125 | 5 | 47 | 95 | 160 | 255 | 406 | 655 | 997 | 1250 |
| 150 | 6 | 68 | 138 | 234 | 375 | 598 | 958 | 1430 | 1760 |
| 200 | 8 | 116 | 241 | 419 | 681 | 1080 | 1700 | 2470 | 2900 |
| 250 | 10 | 160 | 325 | 575 | 950 | 1510 | 2420 | 3460 | 4020 |
| 300 | 12 | 258 | 493 | 859 | 1410 | 2260 | 3610 | 5160 | 6010 |

Feature

Three types of seat material

The three types of seat material are as follows; VMQ (Silicone rubber), which can be used for a wide range of temperature applications; W-NBR (White NBR), which is suitable for use in the food processing industry; and FKM (Fluoro rubber), which has properties such as strength and durability for use in a variety of fluid applications. W-NBR and VMQ meet the requirement of the FDA.*

*All the above-listed materials used are approved by FDA, and the seats are manufactured within the maximum allowable limitations and restrictions.

Suitable for various flanges

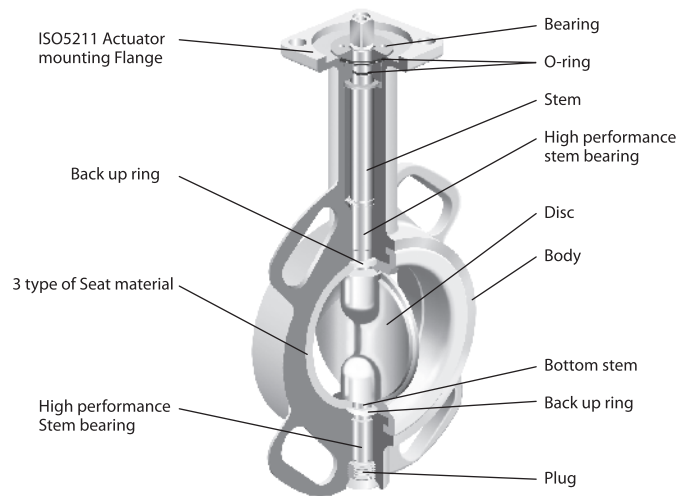
All the sizes are suitable for the flanges of EN1092 PN6, PN10, PN16/BS10 Table E / ASME Class 125 and Class 150.

Integral ISO 5211 actuator mounting flange

Any pneumatic or electric valve actuator provided with the ISO 5211 valve mounting flange can be easily mounted for the actuation of valves in the field.

High-performance stem bearing having additional strength to withstand high temperature and high pressure

The stem bearing of the EJ series is a multilayered backmetal to provide a high-performance bearing surface capable of withstanding high pressure and temperature.



Standard Materials

* Tetrafluoroethylene resin filled overlay, a sintered bronze interlayer and a steel backing.

| Parts | Materials |
|--------------|---|
| Body | Ductile iron [EN-GJS-450-10] |
| Stem | Stainless Steel [AISI 410] |
| Disc | Stainless Steel [A351 Gr.CF8M] |
| Seat | W-NBR (White NBR) VMQ (Silicone rubber) FKM (Fluoro rubber) |
| O-ring | FKM |
| Bearing | Multi-layered bearing* |
| Stem bearing | Multi-layered bearing* |
| Plug | Zinc die-cast |
| Bottom stem | Stainless Steel [AISI 410] |

Backup ring to maintain the stem sealing

The backup ring around the stem maintains the performance of the stem sealing by the movement of the stem / disc in the sealing / seat of the valve.

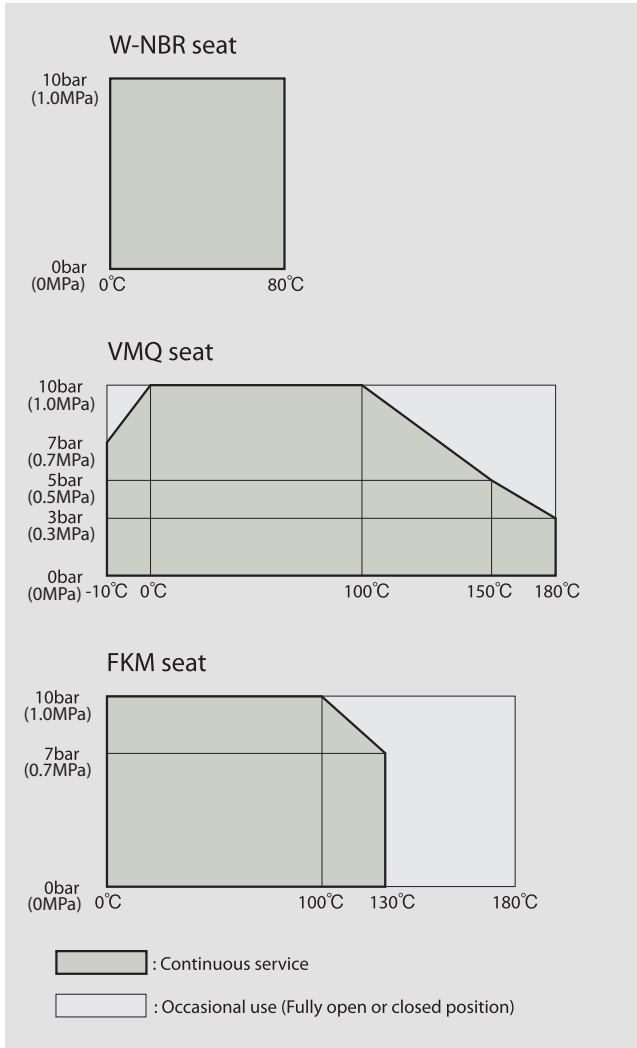
Stainless steel bearing features

Embedded within the stainless upper body bearing is a multi-layered bearing for providing smooth stem operation. Also housed within the stem bearing is a snap ring to provide protection and prevent blow out of the stem due to internal pressure.

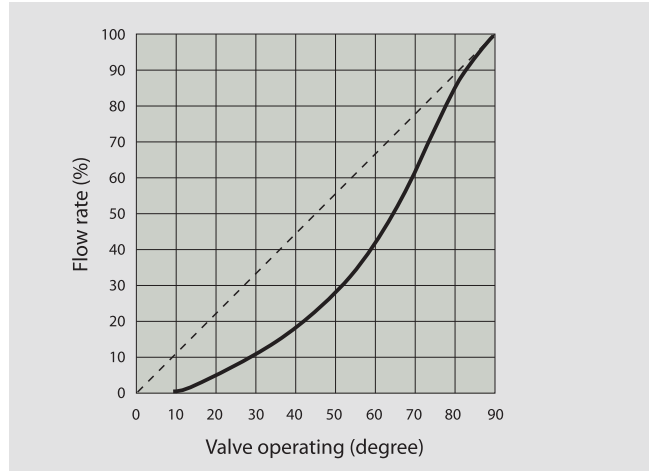
Polished disc

The polished disc is standard for VMQ and optional for W-NBR seats for use within the food and pharmaceutical industry.

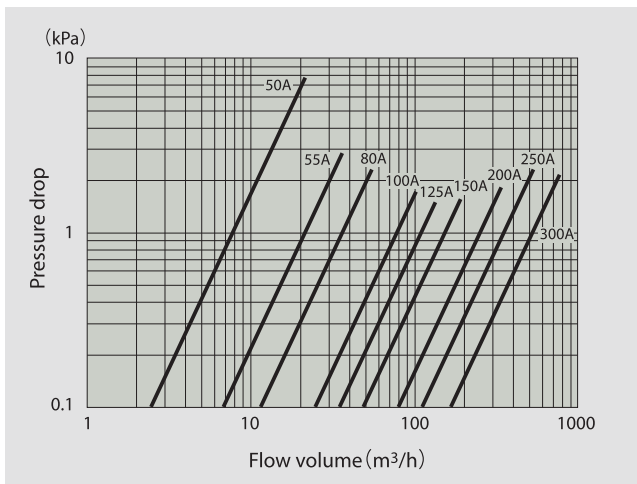
P-T Rating



Flow Characteristics



Pressure Loss



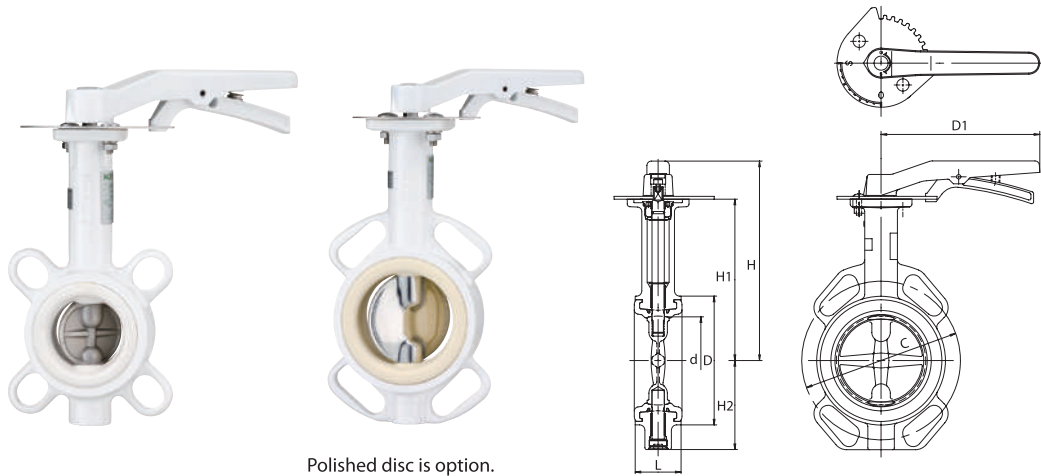
Wafer Type

Lever Operated

PN10EJM□□

□□ of product coding are trim material coding

For trim material coding, please refer to page 1.



Polished disc is option.

Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | D1 |
|------|-----|-----|-----|-----|-----|----|-----|-----|-----|
| DN | NPS | | | | | | | | |
| 50 | 2 | 49 | 191 | 147 | 67 | 43 | 90 | 125 | 180 |
| 65 | 2½ | 65 | 199 | 155 | 75 | 46 | 104 | 145 | 180 |
| 80 | 3 | 79 | 217 | 173 | 91 | 46 | 124 | 160 | 180 |
| 100 | 4 | 100 | 227 | 183 | 101 | 52 | 146 | 180 | 180 |
| 125 | 5 | 125 | 265 | 211 | 127 | 56 | 176 | 210 | 230 |
| 150 | 6 | 147 | 277 | 223 | 139 | 56 | 206 | 240 | 230 |
| 200 | 8 | 197 | 287 | 248 | 169 | 60 | 257 | 295 | 350 |

Ductile Iron PFA Lined Butterfly Valves

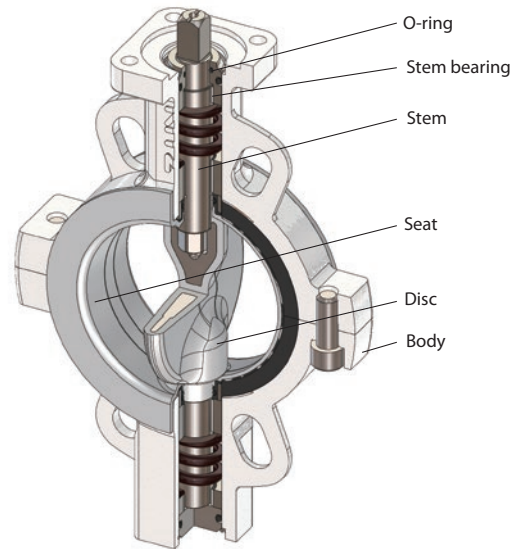
PFA lined Butterfly valves applicable to high corrosive fluids.

Specification

- Size 50 to 300mm (2" to 12")
- Product code 10LJF
- Maximum service pressure 1.0MPa
- Service temperature range -10 to +150°C
Note: Refer to Pressure-Temperature Ratings.
- Coupling flanges JIS2220 / 2239 10K
Note: JIS5K and ASME Class 150 are optional.
- Automatic operation Please contact us

Standard Materials

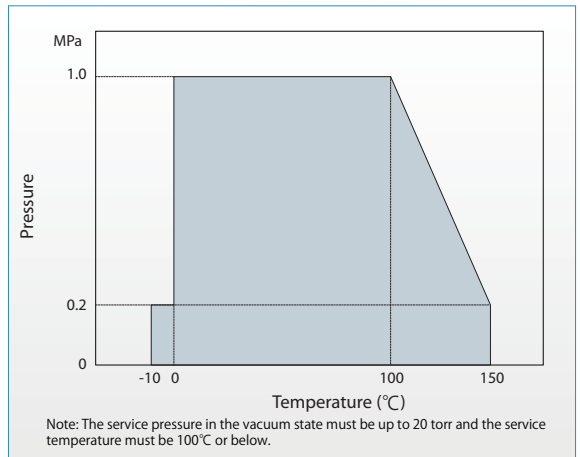
| Parts | Materials |
|----------------|------------|
| Body | FCD450-10 |
| Disc | SCS13A+PFA |
| Seat Liner | PFA |
| Back Up Rubber | FKM |



Feature

- Various fluids can be applicable for PFA-lined internal wetted parts.
- High-grade PFA prevents troubles from corrosive fluids permeation.
- Sealing mechanism with coil springs realizes high sealing performance.
- Original stem sealing design prevents external fluid leakage.
- Easy maintenance with easily disassembled stem and disk.
- Top flange according to ISO 5211.
- Blowout-proof stem.

P-T Rating



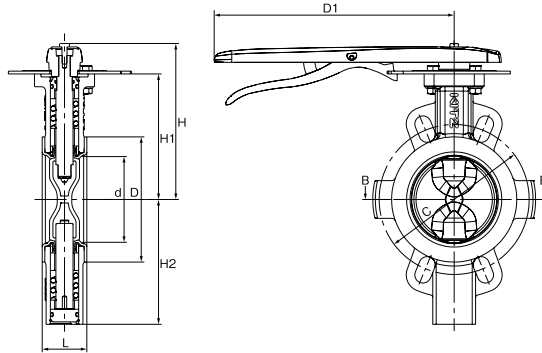
This product is designated as Strategic Materials in the Foreign Exchange and Foreign Trade Law. If you export, you need an export license based on the law. Please contact us for details.

CAUTION

- Note1: Do not damage the PFA seat when handling this product.
- Note2: Do not store the valve in the place exposed to direct sunlight.
- Note3: Installation of gaskets between the valve and flange is not required with accurate centering of each pair of upstream and downstream pipes, and with clean flanges and pipe bores that must be cleaned thoroughly to remove welding spatters, and foreign objects that may have been left inside.
- Note4: In case of necessity, use PFA solid gaskets which have a minimum of 3 mm in thickness. (Rubber materials are not allowed.)

Lever Operated

10LJF



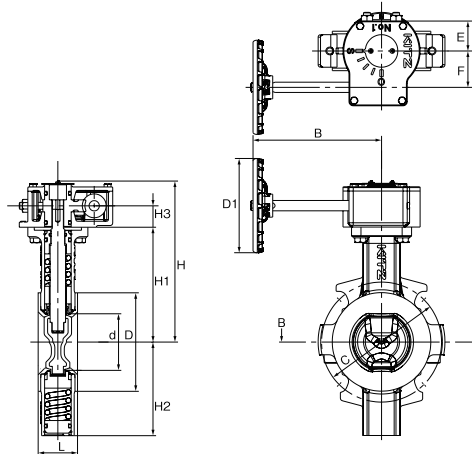
■ Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | D1 |
|------|----|-----|-----|-----|-----|----|-----|-----|-----|
| A | B | | | | | | | | |
| 50 | 2 | 54 | 155 | 122 | 102 | 43 | 90 | 120 | 230 |
| 65 | 2½ | 66 | 171 | 134 | 110 | 46 | 115 | 140 | 280 |
| 80 | 3 | 80 | 178 | 142 | 139 | 46 | 126 | 150 | |
| 100 | 4 | 100 | 182 | 147 | 146 | 52 | 146 | 175 | 350 |
| 125 | 5 | 125 | 217 | 181 | 178 | 56 | 181 | 210 | |
| 150 | 6 | 150 | 230 | 194 | 191 | 56 | 211 | 240 | |

Gear Operated

G-10LJF



■ Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | Gear Unit | | | | | |
|------|----|-----|-----|-----|-----|----|-----|-----|-----------|-----|-----|----|----|----------|
| A | B | | | | | | | | H3 | D1 | B | E | F | Size |
| 50 | 2 | 54 | 175 | 122 | 102 | 43 | 90 | 120 | 25 | 110 | 150 | 35 | 42 | No. FC-1 |
| 65 | 2½ | 66 | 188 | 134 | 110 | 46 | 115 | 140 | | | | | | |
| 80 | 3 | 80 | 195 | 142 | 139 | 46 | 126 | 150 | | | | | | |
| 100 | 4 | 100 | 200 | 147 | 146 | 52 | 146 | 175 | 28 | 170 | 180 | 42 | 60 | No. FC-2 |
| 125 | 5 | 125 | 238 | 181 | 178 | 56 | 181 | 210 | | | | | | |
| 150 | 6 | 150 | 253 | 194 | 191 | 56 | 211 | 240 | | | | | | |
| 200 | 8 | 197 | 287 | 228 | 223 | 60 | 257 | 290 | 47 | 310 | 280 | 54 | 66 | No. FC-3 |
| 250 | 10 | 246 | 357 | 272 | 272 | 68 | 316 | 355 | | | | | | |
| 300 | 12 | 296 | 382 | 297 | 297 | 78 | 363 | 400 | | | | | | |

Double-eccentric kinematics, and all stainless steel bodies and trims guarantee high performance corrosion resistant service for application of KITZ Type UB butterfly valves to chemical industries.

Specification

| Maximum service pressure | | | |
|---------------------------|-----------------|------------------------|---------|
| 10UB | 1.4 MPa | 16UB (size 14" to 24") | 1.4 MPa |
| 16UB (size 1½" to 12") | 2.0 MPa | 150UB | 1.9 MPa |
| Service temperature range | | | |
| PTFE seat | -29°C to +160°C | | |
| Carbon filled PTFE seat | -29°C to +200°C | | |
| Wall thickness | | | |
| ASME B 16.34 Class 150 | | | |
| Face to face dimensions | | | |
| 6" and smaller | ISO 5752 Short | | |
| 8" and larger | ISO 5752 Medium | | |
| Coupling flanges | | | |
| 10UB | JIS 10K | | |
| 16UB | JIS 16K | | |
| 150UB | ASME Class 150 | | |

Standard Materials

| Parts | ASTM Materials | JIS Materials |
|---------------|---------------------------|----------------------|
| Body | A351 Gr.CF8* ¹ | SCS13A* ¹ |
| Stem | 304SS | |
| Disc | A351 Gr.CF8* ¹ | SCS13A* ¹ |
| Gland | A351 Gr.CF8* ¹ | SCS13A* ¹ |
| Seat ring | PTFE* ² | |
| Seat retainer | 304SS | |
| Gland packing | PTFE | |
| Gasket | PTFE | |

Feature

Double-eccentric Kinematics

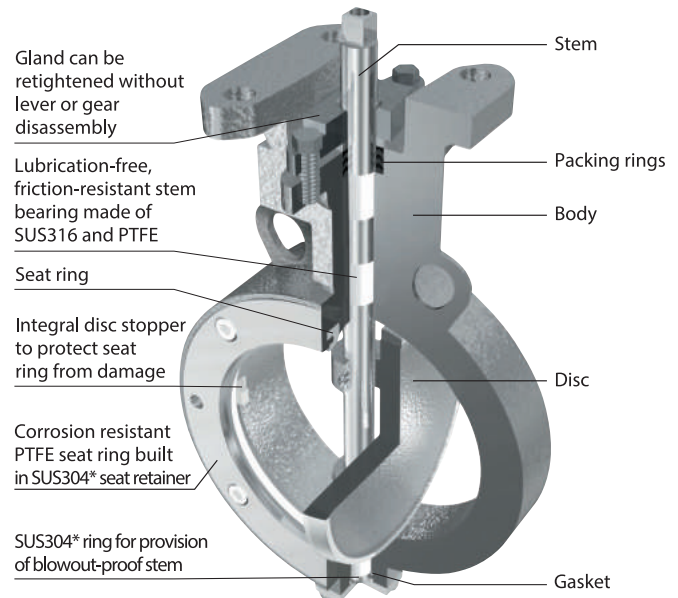
The valve's stem is designed eccentric to both the center of the seat ring (by X) and the center of the valve body (by Y), which makes the clearance C between the seat ring and the disc seat surface on its fully open position (Fig. 1). Disc seating surface is spherically machined and contacts PTFE seat tightly through 360°C for leak-free service. All these help minimize frictional wear of seat rings and reduce the valve operating torque considerably.

Durable Seat Rings

Seat rings are made of PTFE with stainless steel supporter. Furthermore, double-eccentric kinematics relieve seat ring from damage or wear which is a rather usual problem of conventional butterfly valves. This makes the service life twice as long as rubber seated butterfly valves.

Retightening of Gland Packing

There is a room between the gland and the lever or gear to allow retightening of gland boltings without trouble of disassembly of the lever or gear during plant operation (Fig. 2).



| Parts | ASTM Materials | JIS Materials |
|-----------------|-------------------|---------------|
| Set bolt | Stainless Steel | |
| Taper pin | 316SS | |
| Stem bearing | METAL BACKED PTFE | |
| Gland bolts | Stainless Steel | |
| Thrust washer | PTFE | |
| End plate | A351 Gr.CF8 | SCS13A |
| End plate bolts | 304SS | |

*1. CF8M(316)/SCS14A(SUS316) is available as an option.
*2. Carbon filled PTFE seat rings are optionally available.

Fig. 1

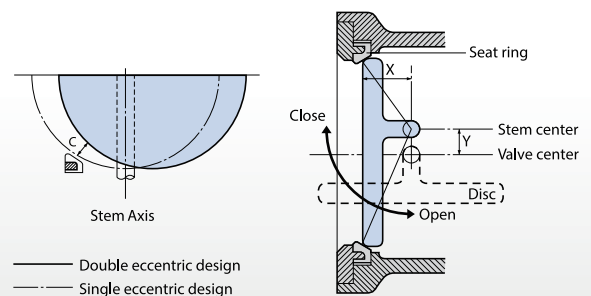
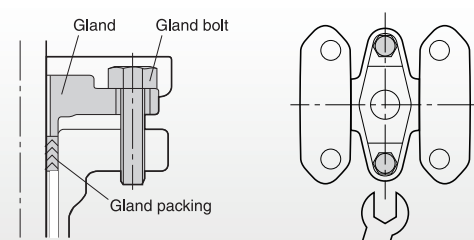


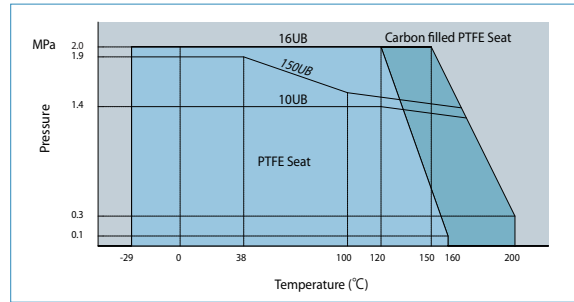
Fig. 2



Flow Coefficient (Cv)

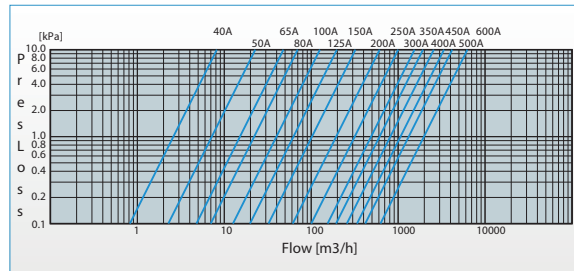
| Size | | Cv value | Size | | Cv value |
|------|-------|----------|------|-----|----------|
| DN | NPS | | DN | NPS | |
| 40 | 1 1/2 | 30 | 250 | 10 | 3660 |
| 50 | 2 | 83 | 300 | 12 | 5640 |
| 65 | 2 1/2 | 175 | 350 | 14 | 7060 |
| 80 | 3 | 255 | 400 | 16 | 9390 |
| 100 | 4 | 460 | 450 | 18 | 12300 |
| 125 | 5 | 722 | 500 | 20 | 15300 |
| 150 | 6 | 1180 | 600 | 24 | 22900 |
| 200 | 8 | 2240 | | | — |

P-T Rating

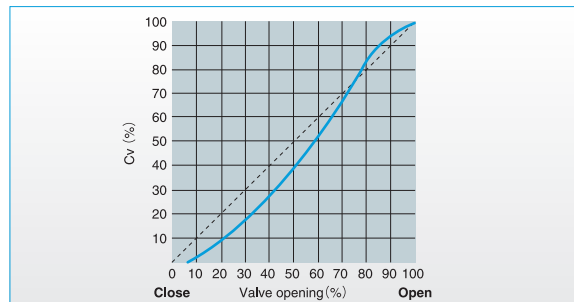


Contact KITZ for technical advice when service conditions may exceed the P-T rating range limited here.

Pressure Loss (for handling static clean water)



Flow Characteristics



CAUTION

For mounting valves onto pipes, be sure to use gaskets* specified below:

*Non-asbestos joint sheet or PTFE sheet

unit: mm

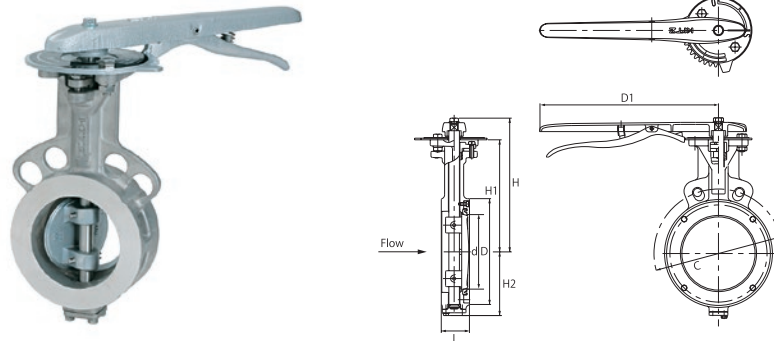
| Size | | I / D | | O / D | Thickness |
|------|-------|-------|------|-------|-----------|
| DN | NPS | Min. | Max. | Min. | Min. |
| 40 | 1 1/2 | 48 | 57 | 73 | 3 |
| 50 | 2 | 60 | 61 | 90 | 3 |
| 65 | 2 1/2 | 73 | 77 | 115 | 3 |
| 80 | 3 | 88 | 90 | 126 | 3 |
| 100 | 4 | 108 | 116 | 146 | 3 |
| 125 | 5 | 136 | 143 | 181 | 3 |
| 150 | 6 | 162 | 170 | 211 | 3 |
| 200 | 8 | 213 | 220 | 257 | 3 |
| 250 | 10 | 266 | 275 | 322 | 3 |
| 300 | 12 | 312 | 326 | 367 | 3 |
| 350 | 14 | 342 | 359 | 410 | 3 |
| 400 | 16 | 389 | 410 | 470 | 3 |
| 450 | 18 | 444 | 460 | 530 | 3 |
| 500 | 20 | 493 | 513 | 580 | 3 |
| 600 | 24 | 594 | 615 | 688 | 3 |

CAUTION

- The following gaskets should be used for installation of the UB series butterfly valves to pipelines.
 - [Type of Gasket]
 - Non-asbestos joint sheet gasket
 - Reinforced PTFE gasket (Jacketed gasket, Spiral Wound gasket, or Metal gasket cannot be installed.)
 - [Shape of Gasket]
 - Full-face gasket
 - Ring gasket (for full-face flanges and flat-face flanges)
 - [Dimension of Gasket]
 - The dimension of the gasket should comply with JIS B 2404 and ASME B 16.21 (minimum gasket thickness is 3 mm).
- UB series butterfly valves cannot be used with lapped loose flanges (lap joints + stub ends, stainless steel pipe joints with flanged pipe end).
- UB series butterfly valves may not be used with some large flat face flanges.
 - JIS 5K RF Flange: Not applicable
 - JIS 10K RF Flange: Applicable, but be sure to align the centers of the flange and the valve.
 - JIS 16K RF Flange: Applicable
 - Class 150 RF Flange: Applicable, but be sure to align the centers of the flange and the valve.
- UB series butterfly valves cannot be used with rubber lining pipes
- UB is a unidirectional valve. The valve must be installed according to an arrow, provided on the side of the operator mounting flange. The arrow must point from the higher pressure side to the lower pressure side in the valve closed position.
- To retighten the packing, do not cover the gland with insulation material.
- Retighten the gland bolts before operation of the valve. Check a handle torque while retightening the bolts so that the operation won't become too difficult due to over-tightening. The gland bolts should be alternately tightened with an even force. Even if leakage is observed from the gland section due to stress relaxation, make sure to retighten the gland bolts.

Lever Operated

10UB
150UB



Dimensions

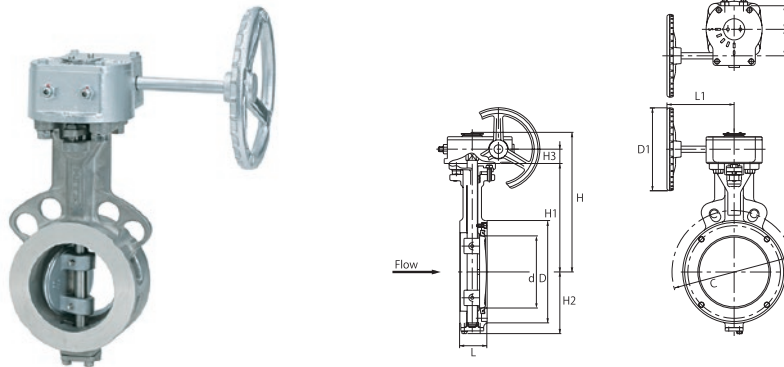
unit: mm

| Size | | d | H | H1 | H2 | L | D | C | | D1 |
|------|--------|-----|-----|-----|-----|----|-----|------|-------|-----|
| A | B | | | | | | | 10UB | 150UB | |
| 40* | 1 1/2* | 36 | 183 | 149 | 58 | 33 | 81 | 105 | — | 230 |
| 50 | 2 | 50 | 176 | 138 | 64 | 43 | 92 | 120 | 120.5 | 230 |
| 65 | 2 1/2 | 65 | 186 | 148 | 74 | 46 | 117 | 140 | 139.5 | 230 |
| 80 | 3 | 78 | 207 | 167 | 82 | 46 | 128 | 150 | 152.5 | 280 |
| 100 | 4 | 98 | 221 | 181 | 92 | 52 | 148 | 175 | 190.5 | 280 |
| 125 | 5 | 123 | 241 | 202 | 115 | 56 | 183 | 210 | 216 | 350 |
| 150 | 6 | 148 | 263 | 225 | 126 | 56 | 213 | 240 | 241.5 | 350 |

* 10UB only.

Gear Operated

GL-10UB
GL-16UB
GL-150UB



Dimensions

unit: mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | | | D1 | L1 | E | F | Gear type |
|------|---------|-----|-----|-------|-----|-----|-----|-----|------|------|-------|-----|-----|-----|-----|-----------|
| A | B | | | | | | | | 10UB | 16UB | 150UB | | | | | |
| 40*1 | 1 1/2*1 | 36 | 202 | 149 | 58 | 25 | 33 | 81 | 105 | — | — | 110 | 150 | 35 | 42 | No. FC-1 |
| 50 | 2 | 50 | 192 | 138 | 64 | 25 | 43 | 92 | 120 | 120 | 120.5 | 140 | 150 | 35 | 42 | |
| 65 | 2 1/2 | 65 | 202 | 148*2 | 74 | 25 | 46 | 117 | 140 | 140 | 139.5 | 140 | 150 | 35 | 42 | |
| 80 | 3 | 78 | 226 | 167 | 82 | 28 | 46 | 128 | 150 | 160 | 152.5 | 170 | 195 | 42 | 60 | No. FC-2 |
| 100 | 4 | 98 | 240 | 181 | 92 | 28 | 52 | 148 | 175 | 185 | 190.5 | 170 | 195 | 42 | 60 | |
| 125 | 5 | 123 | 261 | 202 | 115 | 28 | 56 | 183 | 210 | 225 | 216 | 200 | 204 | 42 | 60 | |
| 150 | 6 | 148 | 283 | 225 | 126 | 28 | 56 | 213 | 240 | 260 | 241.5 | 200 | 204 | 42 | 60 | No. FC-3 |
| 200 | 8 | 197 | 348 | 263 | 163 | 47 | 71 | 259 | 290 | 305 | 298.5 | 310 | 280 | 54 | 66 | |
| 250 | 10 | 243 | 416 | 315 | 234 | 60 | 76 | 322 | 355 | 380 | 362 | 360 | 310 | 68 | 89 | |
| 300 | 12 | 295 | 443 | 342 | 257 | 60 | 83 | 367 | 400 | 430 | 432 | 360 | 310 | 68 | 89 | No. FC-4 |
| 350 | 14 | 325 | 475 | 375 | 293 | 57 | 92 | 410 | 445 | 480 | — | 500 | 358 | 70 | 94 | No. FC-5 |
| 400 | 16 | 371 | 572 | 409 | 314 | 94 | 102 | 470 | 510 | 540 | — | 500 | 360 | 90 | 134 | No. FC-6 |
| 450 | 18 | 421 | 607 | 443 | 369 | 94 | 114 | 530 | 565 | 605 | — | 500 | 360 | 90 | 134 | |
| 500 | 20 | 470 | 623 | 459 | 394 | 94 | 127 | 580 | 620 | 660 | — | 500 | 360 | 90 | 134 | |
| 600 | 24 | 569 | 757 | 558 | 475 | 117 | 154 | 688 | 730 | 770 | — | 500 | 371 | 105 | 213 | No. FC-7 |

*1 GL-10UB only.
*2 GL-10UB:149

Original seat configuration and material for stable sealing performance Double eccentric structure and RPTFE seat.

Specification

| | |
|--|--|
| ● Valve nominal size | SHB 50 ^A ~ 300 ^A UHB 40 ^A ~ 300 ^A |
| ● Applicable flange | 5UHB JIS 5K 10SHB • 10UHB JIS 10K 16SHB • 20UHB JIS 16K (JIS 20K) 150SHB • 150UHB ASME Class150 |
| ● Maximum allowable pressure | 5UHB 0.7MPa 10SHB • 10UHB 1.4MPa 20SHB • 20UHB 2.0MPa 150SHB • 150UHB 1.72MPa |
| ● Service temperature range | SHB -10 ~ +200°C UHB -29 ~ +200°C |
| ● Face-to-face dimensions | JIS B 2002 46 series |
| ● Flow direction | Bidirectional flow ※ Recommended flow direction: Flow pressure from the retainer side |
| ● Applicable gaskets (commercially available gaskets) | Joint seats (Minimum thickness 1.5 mm) Spiral wound gaskets / Envelope gaskets |
| ● Automatic valves | Contact KITZ Corporation for details. |

Feature

RPTFE seat rings for various types of fluids

- Chemical-resistant RPTFE is adopted as seat material, so that it can be used for fluids that cannot be handled with rubber seats. (See the table for "Corrosion resistance level of materials of disc and seat against fluid" on page 4.)

Double eccentric structure for stable sealing performance

- The double eccentric structure minimizes the contact between the disc and the seat during operation and provides stable sealing performance with less wear of the seats over a long period of time. (Fig.1)

Easy retightening of packing

- Retightening of packing is possible without removing the operating device. (Fig.2)

Original seat configuration for high durability (patented)

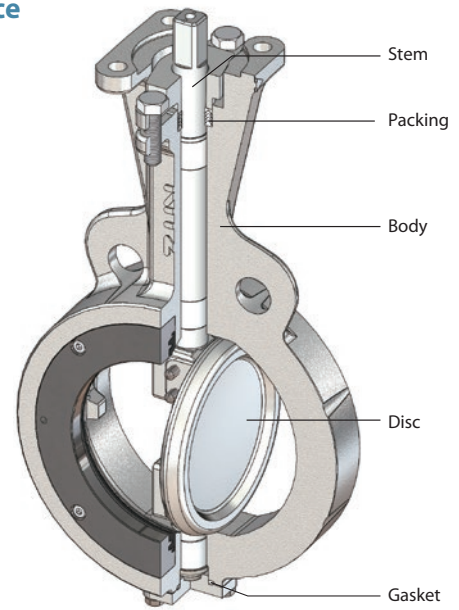
Bidirectional flow

- Applicable to both of the direct and reverse flow control, however, flow pressure from the retainer side is recommended.

Applicable to commercially-available pipe gaskets

- Joint seats (minimum thickness 1.5 mm), spiral wound gaskets and PTFE envelope gaskets conforming to the applicable standards can be used.

Top flange dimensions according to ISO 5211

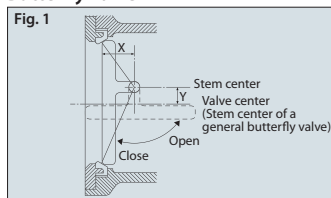


※ This illustration shows the structure of size 100^A.

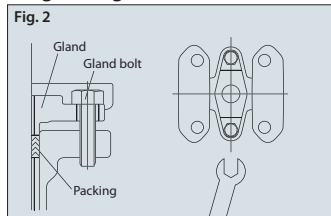
Standard Materials

| Parts | Material | |
|---------------|----------------------------------|--------------------|
| | SHB | UHB |
| Body | FCD450-10 | SUS13A/A351 Gr.CF8 |
| Stem | SUS420J2 | SUS304N2 |
| Disc | SCS13A+Cr plated | |
| Gland | SCS13A | |
| Seat ring | RPTFE (Carbon fiber-filled PTFE) | |
| Seat retainer | S45C | SUS304 |
| Stem bearing | PTFE (Metal backed) | |
| Gland packing | PTFE | |
| Gasket | PTFE | |

Structural Drawing of Double Eccentric Butterfly Valve



Retightening of Gland Bolts

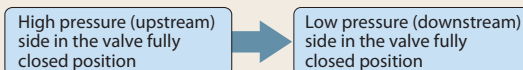


Cv

| Nominal size | Rated CV value | |
|--------------|----------------|------|
| | A | B |
| 50 | 2 | 64 |
| 65 | 2 1/2 | 112 |
| 80 | 3 | 199 |
| 100 | 4 | 372 |
| 125 | 5 | 569 |
| 150 | 6 | 838 |
| 200 | 8 | 1669 |
| 250 | 10 | 3088 |
| 300 | 12 | 4502 |

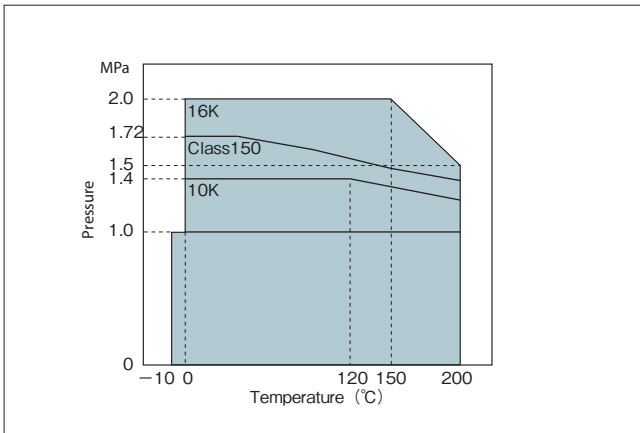
CAUTION

- HB series butterfly valves must be installed according to the arrow direction indicated on the body.
- When HB series butterfly valves are used for bidirectional service, align the flow direction with the arrow which indicates the flow direction from the higher pressure side to the lower pressure side.
- HB series butterfly valves can be used with joint seats (minimum thickness 1.5 mm), spiral wound gaskets and PTFE envelope gaskets conforming to the applicable standards.
- HB series butterfly valves cannot be used with stub ends (lap joints, stainless steel pipe joints with flanged pipe end).
- HB series butterfly valves adopt gland structure. Retighten the gland bolts before operation of the valve. Check the handle torque while retightening the bolts so that the operation will not become too difficult due to over-tightening. Tighten the gland bolts alternately with even force. Retighten the gland bolts if leakage from the gland section due to stress relaxation is observed.
- Do not cover the gland with insulation material. Keep the gland uncovered to retighten the gland.

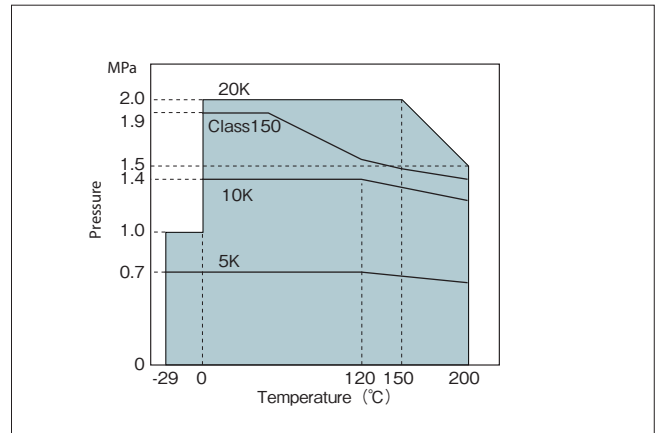


Double Eccentric Butterfly Valves

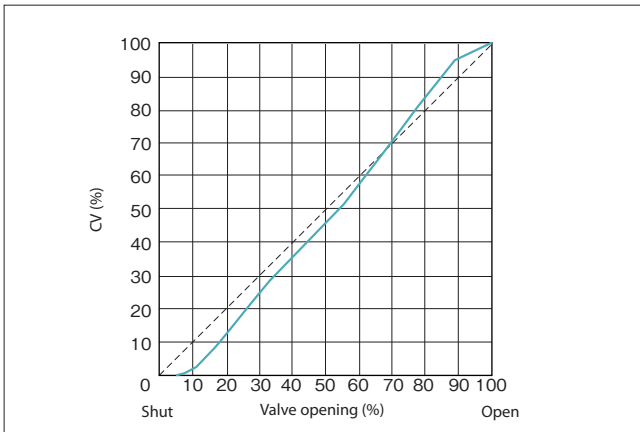
P-T Rating (SHB series)



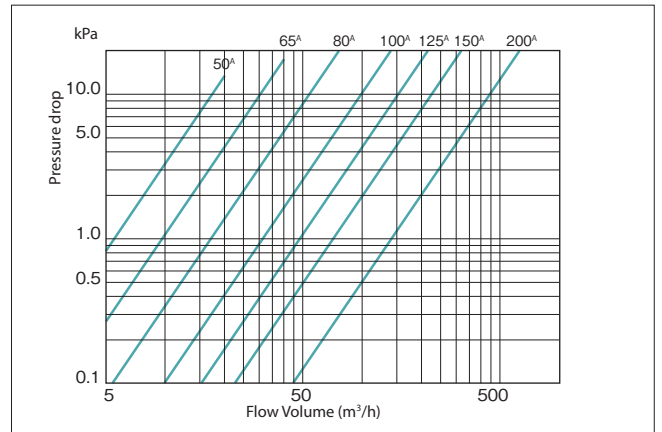
P-T Rating (UHB series)



Flow Characteristics



Pressure Loss



Double Eccentric Butterfly Valves

10K · 16K · Class150 Lever Operated / Gear Operated

HB

Valve operator

None: Lever

G: Gear

Class

10: JIS10K

10: JIS16K (SHB only)

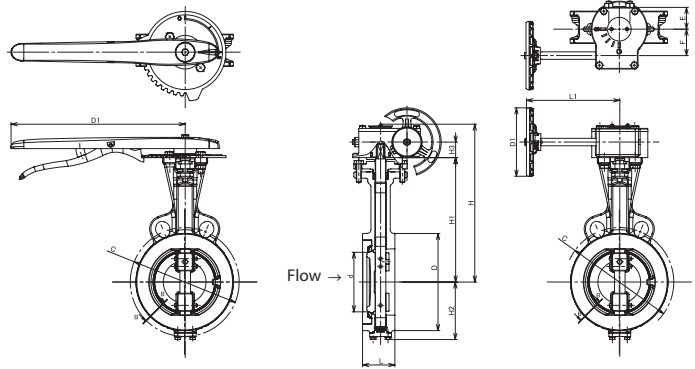
20: JIS20K (UHB only)

150: Class150

Body material

S: FCD450-10

U: SUS13A



Dimensions

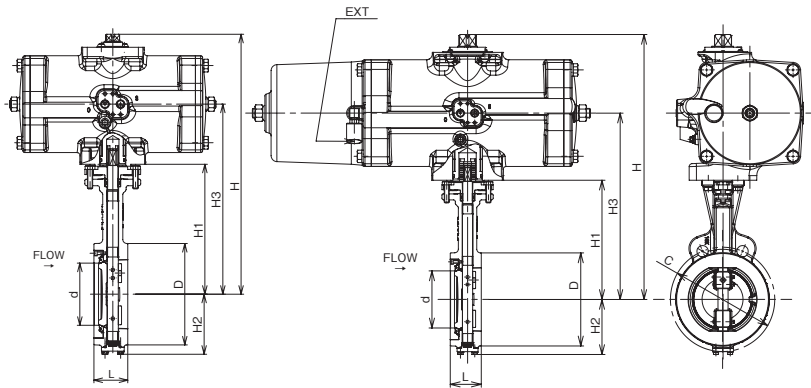
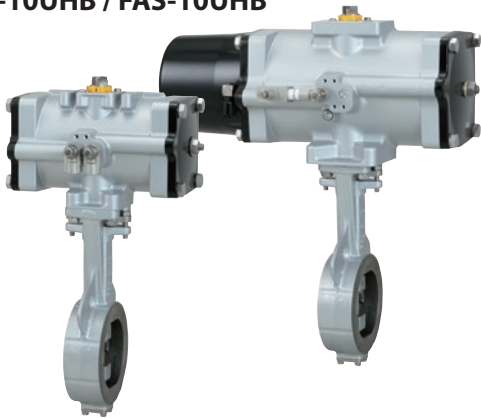
unit: mm

| Size | | d | H | | H1 | H2 | H3 | L | D | C | | | h | | | D1 | | Gear type |
|------|----|-----|-------|------|-----|-------------------|----|----|-----|-----|---------|-------|-----|---------|-----|-------|------|-----------|
| A | B | | Lever | Gear | | | | | | 10K | 16K/20K | 150 | 10K | 16K/20K | 150 | Lever | Gear | |
| 40 | 1 | 36 | 183 | 202 | 149 | 58 | 25 | 33 | 81 | 105 | | | | | | 230 | 110 | No. FC-1 |
| 50 | 2 | 48 | 190 | 209 | 155 | 64 | 25 | 43 | 101 | 120 | 120 | 120.5 | 19 | 19 | 19 | 230 | | No. FC-1 |
| 65 | 2 | 59 | 203 | 222 | 168 | 74 | 25 | 46 | 121 | 140 | 140 | 139.5 | 19 | 19 | 19 | 230 | | |
| 80 | 3 | 75 | 223 | 240 | 186 | 82 | 25 | 46 | 131 | 150 | 160 | 152.5 | 19 | 23 | 19 | 280 | | |
| 100 | 4 | 96 | 237 | 254 | 200 | 92 | 25 | 52 | 156 | 175 | 185 | 190.5 | 19 | 23 | 19 | 280 | | No. FC-2 |
| 125 | 5 | 119 | 258 | 280 | 221 | 111 | 28 | 56 | 187 | 210 | 225 | 216 | 23 | 25 | 22 | 350 | | |
| 150 | 6 | 142 | 275 | 297 | 238 | 142 | 28 | 56 | 215 | 240 | 260 | 241.5 | 23 | 25 | 22 | 350 | | No. FC-2 |
| 200 | 8 | 188 | — | 324 | 265 | 177 ^{*1} | 28 | 60 | 267 | 290 | 305 | 298.5 | 23 | 25 | 22 | 350 | | |
| 250 | 10 | 234 | — | 401 | 317 | 228 | 47 | 68 | 330 | 355 | 380 | 362 | — | — | — | — | — | No. FC-3 |
| 300 | 12 | 283 | — | 429 | 344 | 266 | 47 | 78 | 374 | 400 | 430 | 432 | — | — | — | — | — | |

*1 : 189 in case of UHB

FA Type Pneumatically Operated

FA-10UHB / FAS-10UHB



Dimensions

unit: mm

| Size | | d | H | | H1 | H2 | H3 | | L | D | C | Actuator | |
|------|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|----------|-----------|
| A | B | | FA | FAS | | | FA | FAS | | | | FA | Fas |
| 50 | 2 | 48 | 301 | 317 | 155 | 64 | 221 | 231 | 43 | 101 | 120 | No. FA-2 | No. FAS-3 |
| 65 | 2½ | 59 | 314 | 368 | 168 | 74 | 234 | 261 | 46 | 121 | 140 | | No. FA-3 |
| 80 | 3 | 75 | 348 | 386 | 186 | 82 | 262 | 279 | 46 | 131 | 150 | No. FA-4 | |
| 100 | 4 | 96 | 400 | 445 | 200 | 92 | 293 | 313 | 52 | 156 | 175 | | No. FA-5 |
| 125 | 5 | 119 | 421 | 495 | 221 | 111 | 314 | 343 | 56 | 187 | 210 | No. FA-5 | |
| 150 | 6 | 142 | 483 | 512 | 238 | 142 | 351 | 360 | 56 | 215 | 240 | | |
| 200 | 8 | 188 | 580 | — | 265 | 177 | 448 | — | 60 | 267 | 290 | | |

Double Eccentric Butterfly Valves

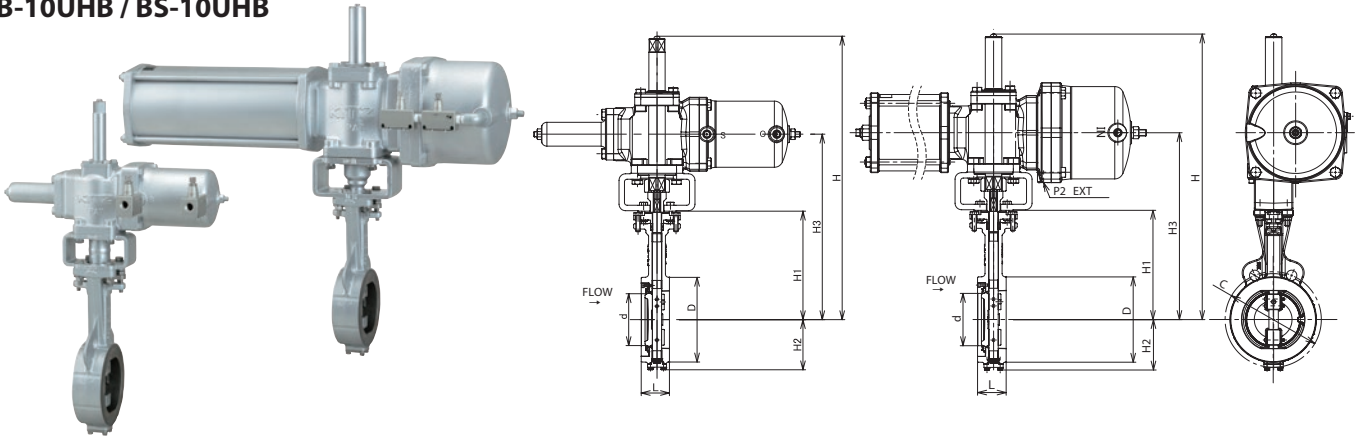
HBseries

B Type

Pneumatically Operated

See page 00 for pressure-temperature range.

B-10UHB / BS-10UHB



Dimensions

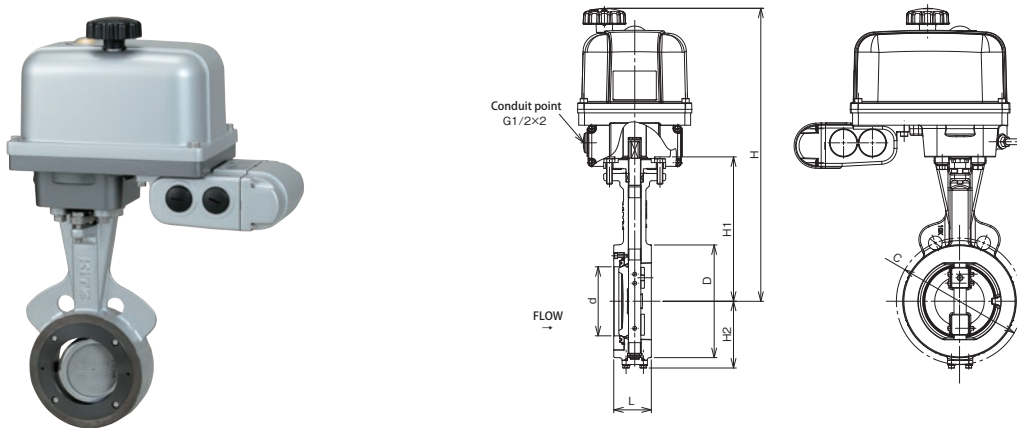
unit: mm

| Size | | d | H | | H1 | H2 | H3 | | L | D | C | Actuator | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|----------|-------------|
| A | B | | B | BS | | | B | BS | | | | B | BS |
| 50 | 2 | 48 | 403 | 403 | 155 | 64 | 262 | 262 | 43 | 101 | 120 | No. B-1 | No. BS(W)-1 |
| 65 | 2 ½ | 59 | 431 | 431 | 168 | 74 | 277 | 277 | 46 | 121 | 140 | No. B-2 | No. BS(W)-2 |
| 80 | 3 | 75 | 449 | 509 | 186 | 82 | 295 | 328 | 46 | 131 | 150 | No. B-3 | No. BS(W)-3 |
| 100 | 4 | 96 | 523 | 523 | 200 | 92 | 342 | 342 | 52 | 156 | 175 | | No. BS(W)-4 |
| 125 | 5 | 119 | 544 | 544 | 221 | 111 | 363 | 363 | 56 | 187 | 210 | No. B-4 | No. BS(W)-4 |
| 150 | 6 | 142 | 561 | 644 | 238 | 142 | 380 | 413 | 56 | 215 | 240 | | No. BS(W)-4 |
| 200 | 8 | 188 | 685 | 685 | 265 | 177 | 454 | 454 | 60 | 267 | 290 | No. B-4 | No. BS(W)-4 |

EX Type

Electrically Operated

EXS-10UHB



Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | Actuator |
|------|-----|-----|-----|-----|-----|----|-----|-----|-----------|
| A | B | | | | | | | | |
| 50 | 2 | 48 | 336 | 155 | 64 | 43 | 101 | 120 | No. EXS-2 |
| 65 | 2 ½ | 59 | 349 | 168 | 74 | 46 | 121 | 140 | |
| 80 | 3 | 75 | 393 | 186 | 82 | 46 | 131 | 150 | No. EXS-3 |
| 100 | 4 | 96 | 407 | 200 | 92 | 52 | 156 | 175 | |
| 125 | 5 | 119 | 428 | 221 | 111 | 56 | 187 | 210 | No. EXS-4 |
| 150 | 6 | 142 | 515 | 238 | 142 | 56 | 215 | 240 | |
| 200 | 8 | 188 | 612 | 265 | 177 | 60 | 267 | 290 | No. EXS-4 |

THROTTROL is designed to handle extremely low fluid volume, while it completely shuts off the line flow.

Specification

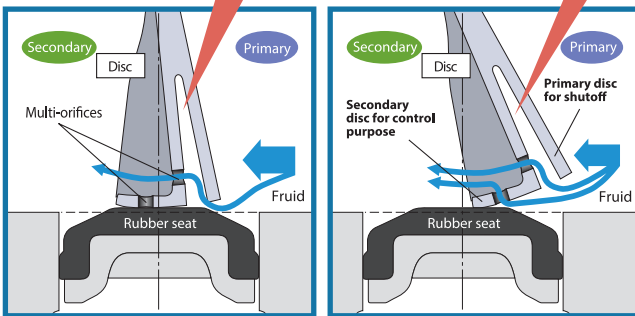
- Maximum service pressure 1.0 MPa
- Service temperature range EPDM -20°C to +120°C
- Continuous service temperature range 0 ~ +100°C
Note: Refer to Pressure-Temperature Ratings in next page.
- Rangeability 160: 1
- Flow characteristics Equal percentage flow characteristics
- Sealing feature Tight shutoff
- Face to face dimensions JIS B 2032 series number 46
- Coupling flange JIS 5K/10K/16K/20K

Feature

Excellent flow volume control performance with 160:1 of rangeability

- Tight shut/high rangeability is realized by combining disc section for full-shutoff and disc section for low-opening control for the disc. Also, cavitation is suppressed by installing a pressure chamber to improve anti-noise multi-orifice.
- Installing a multi hall at the disc section for low-opening control and the fin section realizes flow volume characteristics close to ideal equal percent characteristics for flow volume control.

The pressure reducer slit and multi-orifices reduce flow velocity, and minimize cavitation and noise.

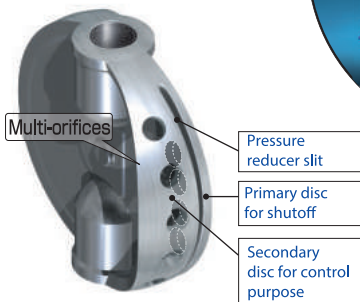
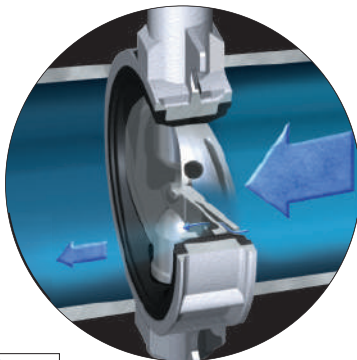


At low degree of opening: 1

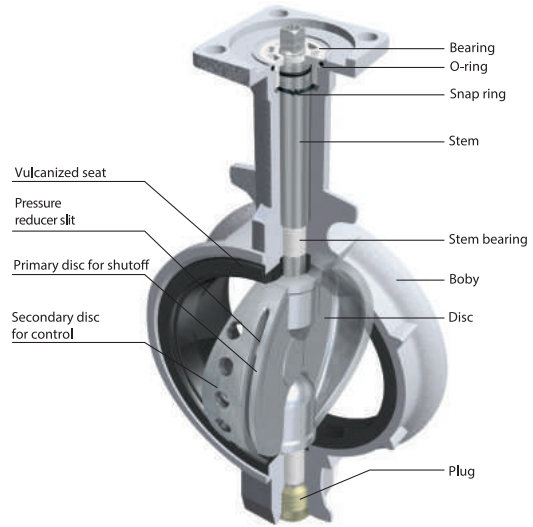
At low degree of opening: 2

Prevention of erosion by jet flow

- The vulcanized bond seat is suitable for controlling high flow velocity fluid to reduce erosion due to jet flow.



Fluids only flow through the orifices at low degree of opening.

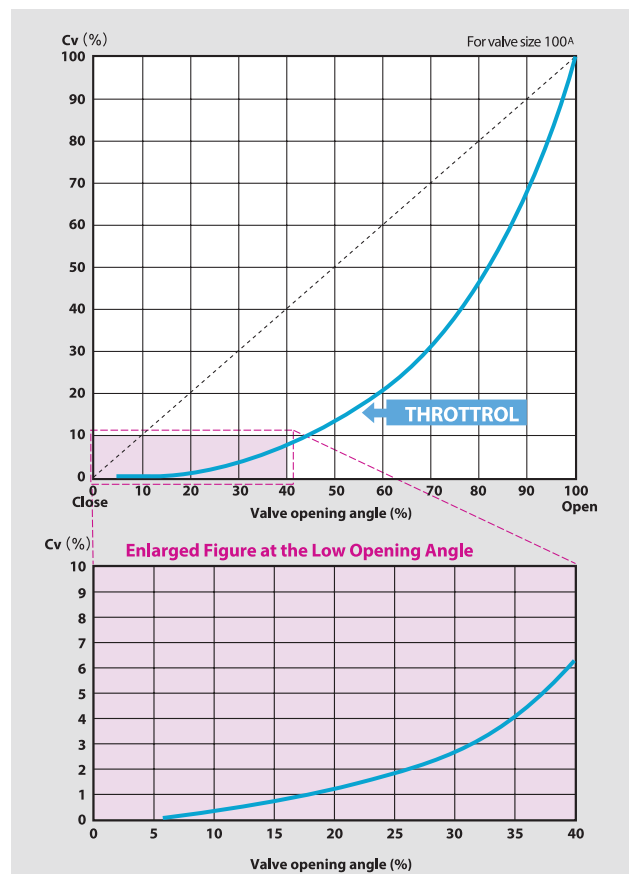


Standard Materials

*Please refer to the drawing of deliverables for detail.

| Parts | Material |
|-------------|---|
| Body | FCD450-10 |
| Stem | SUS630 |
| Disc | A351 Gr. CF8 / SCS13A |
| Seat | EPDM |
| O-ring | EPDM |
| Bearing | POM (50 ^A to 200 ^A) |
| Plug | Chromated ZDC2 |
| Bottom stem | SUS403 (50 ^A to 100 ^A) SUS420J2 (250 ^A to 300 ^A) |

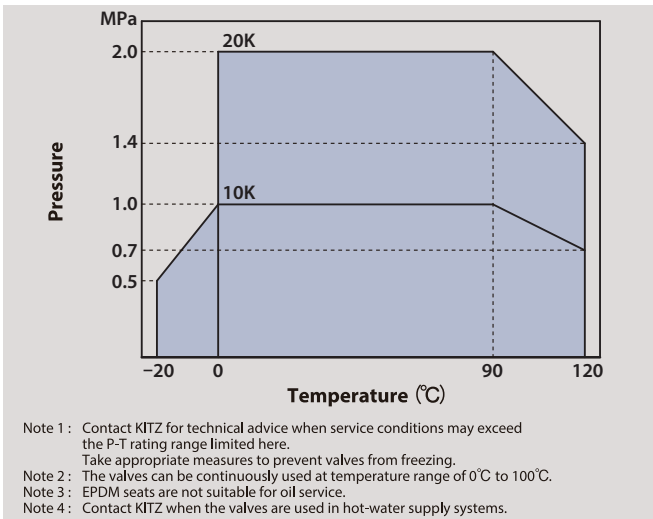
Flow Characteristic Curve



Cv

| Nominal size | | Valve opening angle (%) | | | | | | | | | | |
|--------------|----|-------------------------|------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| A | B | 5 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 50 | 2 | 0.2 | 0.7 | 1.8 | 4.0 | 7.5 | 14.3 | 23.9 | 35.9 | 49.3 | 62.6 | 74.2 |
| 65 | 2½ | 0.3 | 1.0 | 2.0 | 4.6 | 10.0 | 24.6 | 44.0 | 68.9 | 99.2 | 132.8 | 167.0 |
| 80 | 3 | 0.3 | 1.6 | 4.5 | 10.0 | 25.3 | 47.0 | 71.9 | 106.4 | 149.5 | 201.9 | 258.5 |
| 100 | 4 | 0.4 | 1.9 | 6.0 | 13.3 | 29.4 | 55.3 | 94.2 | 149.6 | 225.4 | 325.6 | 454.2 |
| 125 | 5 | 0.5 | 4.3 | 9.8 | 29.0 | 75.0 | 128.2 | 208.2 | 308.9 | 429.2 | 566.4 | 713.9 |
| 150 | 6 | 2.5 | 12.0 | 29.0 | 77.0 | 141.2 | 209.8 | 289.5 | 390.2 | 528.3 | 726.8 | 1015.7 |
| 200 | 8 | 5.3 | 18.8 | 45.9 | 138.2 | 244.5 | 382.5 | 553.7 | 827.7 | 1175.3 | 1618.6 | 1986.6 |
| 250 | 10 | 7.8 | 32.1 | 131.4 | 306.5 | 496.2 | 744.3 | 1080.0 | 1488.7 | 1955.7 | 2452.0 | 2919.0 |
| 300 | 12 | 12.4 | 51.1 | 208.4 | 487.4 | 789.1 | 1183.7 | 1717.5 | 2367.4 | 3110.1 | 3899.3 | 4642.0 |

P-T Rating of Seats

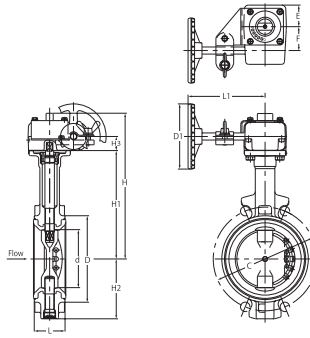


⚠ CAUTION

- THROTTROL is a unidirectional valve. THROTTROL must be installed with the direction of flow according to the arrow marked on the body at the time of piping.
- THROTTROL cannot be used with rubber lining pipes. THROTTROL is constructed to seal the flange by pressing a rubber sheet with the compressive force exerted by the flange, where the compressive force becomes too large or too small if the rubber lining is applied to the flange joint surface, thereby causing an increase in the operating torque of the valve, deterioration of the sealing member, or external leakage.

Locking Mechanism Gear Operated with Locking Mechanism

G-10HRDJUE
G-20HRDJUE



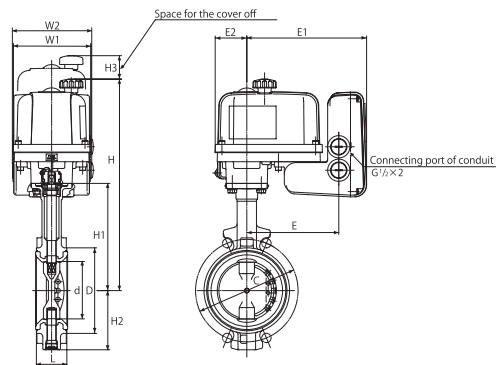
Dimensions

unit: mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | | Gear unit | | | | Size |
|------|----|-----|-----|-----|-----|----|----|-----|-----|-----|-----------|-----|----|----|----------|
| A | B | | | | | | | | 10K | 20K | D1 | L1 | E | F | |
| 50 | 2 | 50 | 210 | 147 | 67 | 24 | 43 | 90 | 120 | 120 | 110 | 135 | 36 | 40 | No. 1 |
| 65 | 2½ | 65 | 218 | 155 | 75 | 24 | 46 | 104 | 140 | 140 | 110 | 135 | 36 | 40 | |
| 80 | 3 | 80 | 236 | 173 | 91 | 24 | 46 | 124 | 150 | 160 | 110 | 135 | 36 | 40 | |
| 100 | 4 | 100 | 246 | 183 | 101 | 24 | 52 | 146 | 175 | 185 | 110 | 135 | 36 | 40 | |
| 125 | 5 | 125 | 274 | 211 | 127 | 24 | 56 | 176 | 210 | 225 | 110 | 150 | 36 | 40 | |
| 150 | 6 | 150 | 286 | 223 | 139 | 24 | 56 | 206 | 240 | 260 | 110 | 150 | 36 | 40 | No. 2 |
| 200 | 8 | 197 | 325 | 248 | 169 | 32 | 60 | 257 | 290 | 305 | 170 | 180 | 51 | 63 | |
| 250 | 10 | 247 | 393 | 304 | 220 | 47 | 68 | 312 | 355 | — | 310 | 280 | 54 | 66 | No. FC-3 |
| 300 | 12 | 295 | 418 | 329 | 244 | 47 | 78 | 364 | 400 | — | 310 | 280 | 54 | 66 | |

Proportional Control Electrically Operated

EXCN-10HRDJUE
EXCN-20HRDJUE
EXD-10HRDJUE
EXD-20HRDJUE



Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | | Actuator | | | | | Actuator size | |
|------|----|-----|-------|-----|-----|----|-----|-----|-----|----------|-----|-------|-------|----|---------------|--------|
| A | B | | | | | | | 10K | 20K | W1 | W2 | E | E1 | E2 | | H3 |
| 50 | 2 | 50 | 328 | 147 | 67 | 43 | 90 | 120 | 120 | 131 | 132 | 157 | 206.5 | 54 | 107.5 | Size 2 |
| 65 | 2½ | 65 | 336 | 155 | 75 | 46 | 104 | 140 | 140 | 131 | 132 | 157 | 206.5 | 54 | 107.5 | |
| 80 | 3 | 80 | 354 | 173 | 91 | 46 | 124 | 150 | 160 | 131 | 132 | 157 | 206.5 | 54 | 107.5 | |
| 100 | 4 | 100 | 389.5 | 183 | 101 | 52 | 146 | 175 | 185 | 158 | 132 | 180.5 | 230 | 69 | 117.5 | Size 3 |
| 125 | 5 | 125 | 417.5 | 211 | 127 | 56 | 176 | 210 | 225 | 158 | 132 | 180.5 | 230 | 69 | 117.5 | |
| 150 | 6 | 150 | 429.5 | 223 | 139 | 56 | 206 | 240 | 260 | 158 | 132 | 180.5 | 230 | 69 | 117.5 | Size 4 |
| 200 | 8 | 197 | 524 | 248 | 169 | 60 | 257 | 290 | 305 | 188 | 132 | 196 | 245.5 | 73 | 153 | |
| 250 | 10 | 247 | 580 | 304 | 219 | 68 | 312 | 355 | 380 | 188 | 132 | 196 | 245.5 | 73 | 153 | |
| 300 | 12 | 295 | 686 | 329 | 244 | 78 | 364 | 400 | 430 | 188 | 132 | 196 | 245.5 | 73 | 153 | Size 5 |

Power sources of actuator coding. Please refer to page 1.

Suitable for high temperature service

Specification

- Maximum service pressure ······ 0.5 MPa
- Service temperature range ······ 0°C to +230°C
- Maximum allowable leakage ······ 3% of normal Cv values (D type)
2% of normal Cv values (A type)
- Coupling flange ··········· JIS 5K/10K



Feature

Type D

For high temperature

The Type D damper enables flow volume control of high temperature fluid up to 230°C by a metal disc and metal seat (hard chrome coating).

Type A

For high temperature fluid

Angle bar of the type A damper is shaped in oval to have the disc contact with inner surface of the body with some angle when it is closed. Therefore, it can be used for the same application of the type D damper with even less leakage volume than the type D.

Flow Coefficient (Cv)

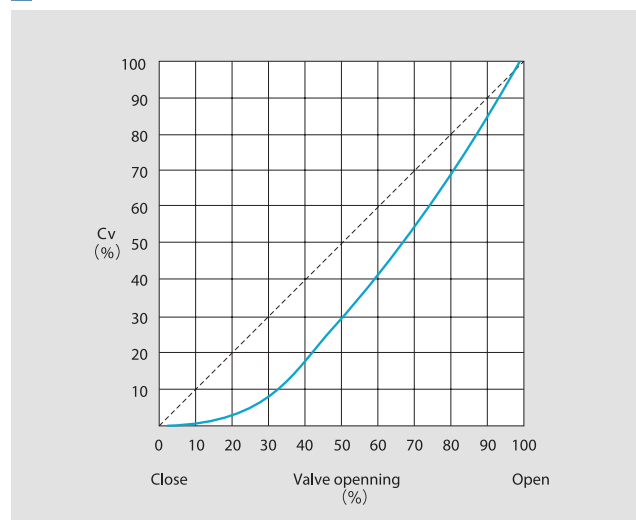
| Size | | Cv |
|------|-------|------|
| A | B | |
| 50 | 2 | 104 |
| 65 | 2 1/2 | 174 |
| 80 | 3 | 348 |
| 100 | 4 | 557 |
| 125 | 5 | 905 |
| 150 | 6 | 1183 |
| 200 | 8 | 2575 |
| 250 | 10 | 4037 |
| 300 | 12 | 6264 |

Standard Materials

| Parts | Material |
|---------------|-------------------|
| Body | FC250+HCr |
| Stem | 403SS |
| Disc | SUS430 |
| Gland | C3604 |
| Gland packing | Flexible Graphite |
| Disc nut | 304SS |
| Disc bolt | 304SS |
| Index plate | Carbon Steel |
| Set bolt | Carbon Steel |
| Bottom stem | 403SS |

*Please refer to the drawing of deliverables for detail.
A gasket is required for piping this product.

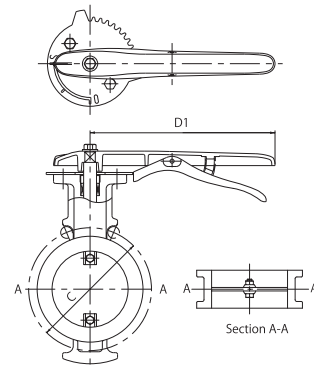
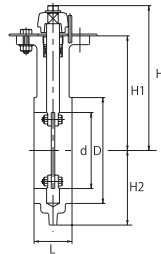
Flow Characteristics



Type D

Lever Operated

10D



Dimensions

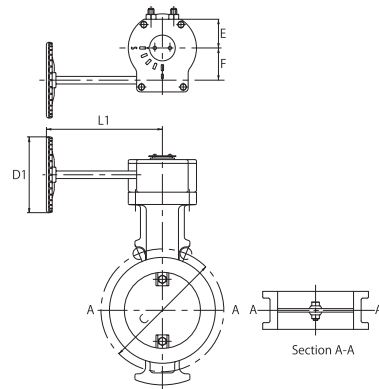
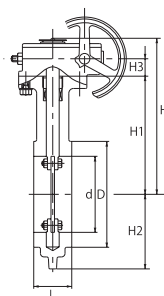
unit: mm

| Size | | d | H | H1 | H2 | L | D | C | D1 |
|------|----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | B | | | | | | | | |
| 50 | 2 | 50 | 183 | 145 | 57 | 40 | 90 | 120 | 200 |
| 65 | 2½ | 65 | 191 | 153 | 75 | 45 | 115 | 140 | 200 |
| 80 | 3 | 80 | 198 | 160 | 82 | 50 | 126 | 150 | 200 |
| 100 | 4 | 100 | 208 | 170 | 98 | 60 | 146 | 175 | 200 |
| 125 | 5 | 130 | 237 | 196 | 117 | 65 | 181 | 210 | 280 |
| 150 | 6 | 150 | 247 | 206 | 145 | 70 | 211 | 240 | 280 |
| 200 | 8 | 200 | 272 | 231 | 170 | 80 | 257 | 290 | 280 |
| 250 | 10 | 250 | 340 | 297 | 205 | 90 | 322 | 355 | 350 |
| 300 | 12 | 300 | 365 | 322 | 230 | 100 | 367 | 400 | 350 |

Type D

Gear Operated

GL-10D



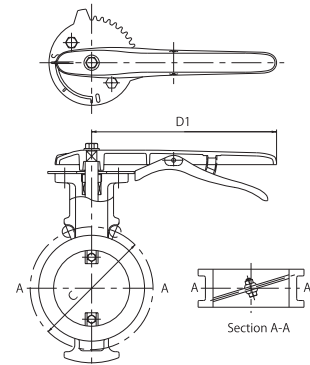
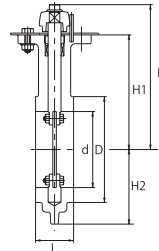
Dimensions

unit: mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | D1 | L1 | E | F | Gear type |
|------|----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|----|-----------|
| A | B | | | | | | | | | | | | | |
| 50 | 2 | 50 | 198 | 145 | 57 | 25 | 40 | 90 | 120 | 110 | 150 | 35 | 42 | No. FC-1 |
| 65 | 2½ | 65 | 206 | 153 | 75 | 25 | 45 | 115 | 140 | 110 | 150 | 35 | 42 | |
| 80 | 3 | 80 | 213 | 160 | 82 | 25 | 50 | 126 | 150 | 110 | 150 | 35 | 42 | |
| 100 | 4 | 100 | 223 | 170 | 98 | 25 | 60 | 146 | 175 | 110 | 150 | 35 | 42 | |
| 125 | 5 | 130 | 249 | 196 | 117 | 25 | 65 | 181 | 210 | 170 | 190 | 35 | 42 | |
| 150 | 6 | 150 | 259 | 206 | 145 | 25 | 70 | 211 | 240 | 170 | 190 | 35 | 42 | |
| 200 | 8 | 200 | 284 | 231 | 170 | 25 | 80 | 257 | 290 | 170 | 190 | 35 | 42 | No. FC-2 |
| 250 | 10 | 250 | 355 | 297 | 205 | 28 | 90 | 322 | 355 | 170 | 195 | 42 | 60 | |
| 300 | 12 | 300 | 380 | 322 | 230 | 28 | 100 | 367 | 400 | 170 | 195 | 42 | 60 | |

Type A Lever Operated

10A



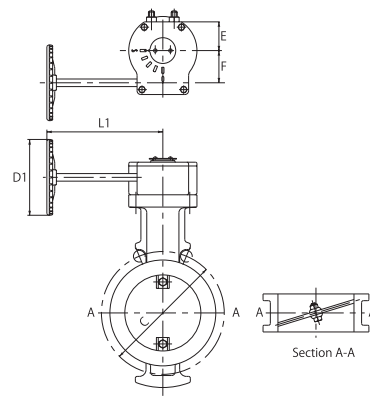
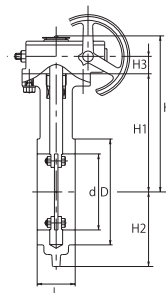
Dimensions

unit: mm

| Size | | d | H | H1 | H2 | L | D | C | D1 |
|------|----|-----|-----|-----|-----|-----|-----|-----|-----|
| A | B | | | | | | | | |
| 50 | 2 | 50 | 183 | 145 | 57 | 40 | 90 | 120 | 200 |
| 65 | 2½ | 65 | 191 | 153 | 75 | 45 | 115 | 140 | 200 |
| 80 | 3 | 80 | 198 | 160 | 82 | 50 | 126 | 150 | 200 |
| 100 | 4 | 100 | 208 | 170 | 98 | 60 | 146 | 175 | 200 |
| 125 | 5 | 130 | 237 | 196 | 117 | 65 | 181 | 210 | 280 |
| 150 | 6 | 150 | 247 | 206 | 145 | 70 | 211 | 240 | 280 |
| 200 | 8 | 200 | 272 | 231 | 170 | 80 | 257 | 290 | 280 |
| 250 | 10 | 250 | 340 | 297 | 205 | 90 | 322 | 355 | 350 |
| 300 | 12 | 300 | 365 | 322 | 230 | 100 | 367 | 400 | 350 |

Type A Gear Operated

GL-10A



Dimensions

unit: mm

| Size | | d | H | H1 | H2 | H3 | L | D | C | D1 | L1 | E | F | Gear type |
|------|----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|----|-----------|
| A | B | | | | | | | | | | | | | |
| 50 | 2 | 50 | 198 | 145 | 57 | 25 | 40 | 90 | 120 | 110 | 150 | 35 | 42 | No. FC-1 |
| 65 | 2½ | 65 | 206 | 153 | 75 | 25 | 45 | 115 | 140 | 110 | 150 | 35 | 42 | |
| 80 | 3 | 80 | 213 | 160 | 82 | 25 | 50 | 126 | 150 | 110 | 150 | 35 | 42 | |
| 100 | 4 | 100 | 223 | 170 | 98 | 25 | 60 | 146 | 175 | 110 | 150 | 35 | 42 | |
| 125 | 5 | 130 | 249 | 196 | 117 | 25 | 65 | 181 | 210 | 170 | 190 | 35 | 42 | |
| 150 | 6 | 150 | 259 | 206 | 145 | 25 | 70 | 211 | 240 | 170 | 190 | 35 | 42 | |
| 200 | 8 | 200 | 284 | 231 | 170 | 25 | 80 | 257 | 290 | 170 | 190 | 35 | 42 | No. FC-2 |
| 250 | 10 | 250 | 355 | 297 | 205 | 28 | 90 | 322 | 355 | 170 | 195 | 42 | 60 | |
| 300 | 12 | 300 | 380 | 322 | 230 | 28 | 100 | 367 | 400 | 170 | 195 | 42 | 60 | |

Compact butterfly valves for threaded piping connection



Specification

- Size 1/2^B~2^B
- Product code FV·UV
- Connection type Threaded type (JIS B 0203)
- Maximum pressure 1.21 MPa
- Service temperature range 0°C to +70°C
- Face to face dimensions Standard of KITZ

Feature

Clean design with pocket-less to prevent standing fluid

- Full-port structure prevents standing fluid in pocket used in a ball valve, and rubber seat is adopted to clear the Food Sanitation Act.

Threaded type which is the first in butterfly valve

- Screw-in type for simple pipe connection enables adoption to various small sizes of piping line used in vast range of application.

Compact/light weight design

- Compact design with weight of approximately 1/4, dimension between faces of approx. 2/3 and height of valve of approx. 3/4 compared to the same size ball valves. (Compared to our products)

W-NBR seat with high sealing characteristics

- Adopting W-NBR with high elasticity for a seat to improve sealing characteristics to be ideal for fluid line such as air/gas for which high sealing is required.

Self cleaning feature for sealing section

- Self cleaning feature to remove dirt at sealing section during open/close with elastic effect of the disc is equipped.

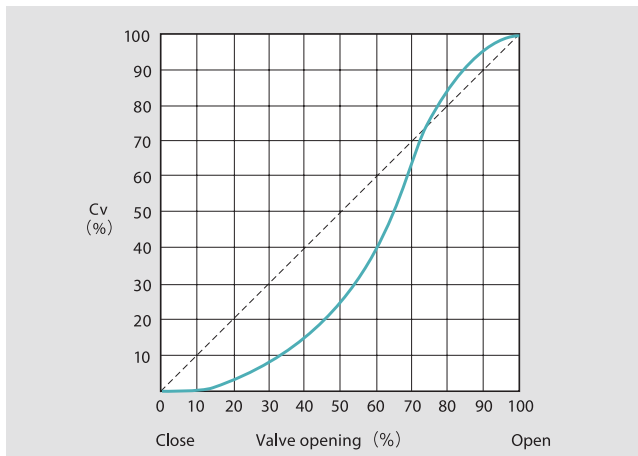
Capable of flow volume control

- It is equipped with the balancing stop mechanism to fix at intermediate opening degree, and is capable of stable flow volume control thanks to opening scale.

Accurate lost-wax casting

- Body of the stainless steel product employs accurate lost-wax casting to configure clean and dust-free piping line with smooth surface.

Flow Rate



Standard Materials

| Parts | Material | |
|------------------|--------------|--------|
| | FV | UV |
| Body | C3771BE | SCS13A |
| Stem | SUS304 | |
| Disc | SUS304+W-NBR | |
| Brace of Packing | C3771BD | SUS304 |
| O-ring | NBR | |

*Please refer to the drawing of deliverables for detail.

W-NBR (No.NF81W) Test Result

| Test item | | Test result | Criteria |
|----------------------|------------------------------------|---|---|
| Material test | Lead | Applicable (7.00 ppm) | 100 ppm or less |
| | Cadmium | Applicable (not detected [0.2 ppm or less]) | 100 ppm or less |
| Dissolution test | Potassium permanganate consumption | Applicable (2.4 ppm) | 10 ppm or less |
| | Heavy metal | Applicable | Must be thinner than the color presented by standard fluid for comparison |
| Vaporization residue | Water | Applicable (0 ppm) | 30 ppm or less |
| | 4% acetic acid | Applicable (1.5 ppm) | 30 ppm or less |
| | n-heptane | Applicable (16.5 ppm) | 30 ppm or less |
| | 20% ethanol | Applicable (1.5 ppm) | 30 ppm or less |

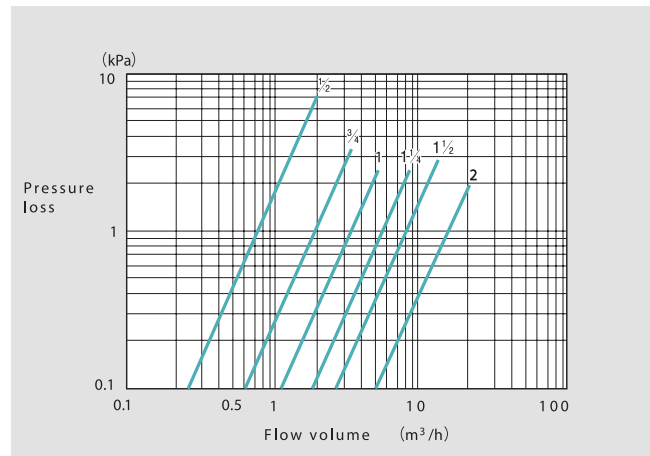
Cv

| Size | | Cv |
|------|-------|-----|
| A | B | |
| 15 | 1/2 | 8.7 |
| 20 | 3/4 | 21 |
| 25 | 1 | 39 |
| 32 | 1 1/4 | 66 |
| 40 | 1 1/2 | 94 |
| 50 | 2 | 176 |

CAUTION

This product is not applicable for combustible gas or toxic gas.

Pressure Loss

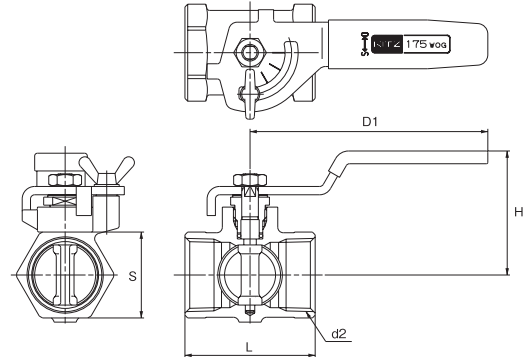


KITZ Threaded Compact Butterfly Valves

KITZ
BUTTERseries

Brass Type **Lever Operated**

FV



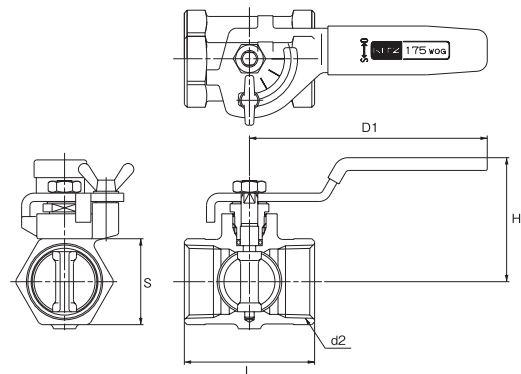
■ Dimensions unit: mm

| Size | | d2 | H | D1 | L | S |
|------|-------|----------|----|-----|----|----|
| A | B | | | | | |
| 15 | 1/2 | Rc 1/2 | 44 | 85 | 47 | 28 |
| 20 | 3/4 | Rc 3/4 | 47 | 85 | 51 | 34 |
| 25 | 1 | Rc 1 | 50 | 85 | 58 | 41 |
| 32 | 1 1/4 | Rc 1 1/4 | 60 | 110 | 67 | 50 |
| 40 | 1 1/2 | Rc 1 1/2 | 63 | 110 | 73 | 56 |
| 50 | 2 | Rc 2 | 70 | 110 | 82 | 68 |

※ Loosen the set bolt before turning the handle. After setting the opening degree, tighten the set bolt and fix the handle.

Stainless Type **Lever Operated**

UV



■ Dimensions unit: mm

| Size | | d2 | H | D1 | L | S |
|------|-------|----------|----|-----|----|----|
| A | B | | | | | |
| 15 | 1/2 | Rc 1/2 | 44 | 85 | 43 | 25 |
| 20 | 3/4 | Rc 3/4 | 47 | 85 | 47 | 31 |
| 25 | 1 | Rc 1 | 50 | 85 | 56 | 38 |
| 32 | 1 1/4 | Rc 1 1/4 | 60 | 110 | 63 | 47 |
| 40 | 1 1/2 | Rc 1 1/2 | 63 | 110 | 69 | 54 |
| 50 | 2 | Rc 2 | 70 | 110 | 77 | 67 |

※ Loosen the set bolt before turning the handle. After setting the opening degree, tighten the set bolt and fix the handle.

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.

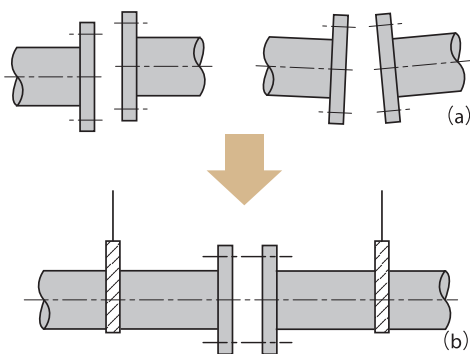
Storage and Handling

- 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

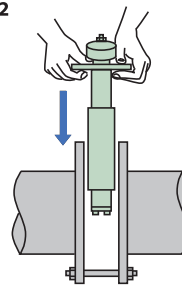
- Valves must be mounted on flanges only after flanges have been welded to pipes and cooled down to the ambient temperature. Otherwise, the welding heat may affect the quality of the resilient seats.
- Edges of welded flanges must be machined to achieve a smooth surface finish so that they will not damage 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.

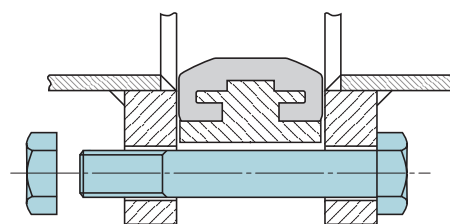
Fig. 2



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

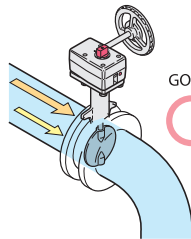


- For mounting actuated valves, provide valve supports to prevent bending of valve necks and reduce valve and pipe vibration.
- Do not step on valve necks or valve hand-wheels.
- Do not mount butterfly valves directly to check valves or pumps; this may result in damage caused by the disc contacts.
- 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.

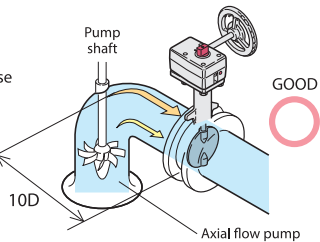
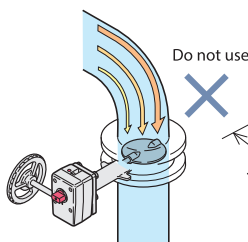
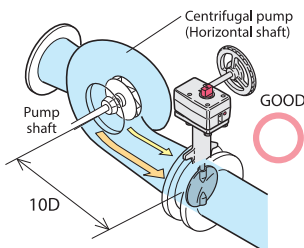
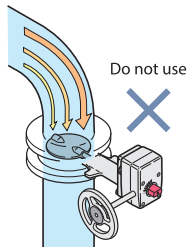
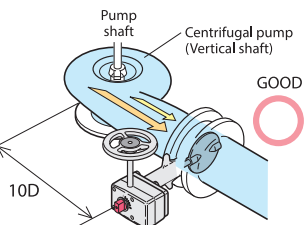
- Mount valves taking into consideration the effects on discs of fluid velocity or pressure changes in the piping. Refer to the illustrations. (Fig. 4)
Contact the KITZ Corporation or one of its local distributors for the details.

Fig. 4

● Mounting to bent pipe

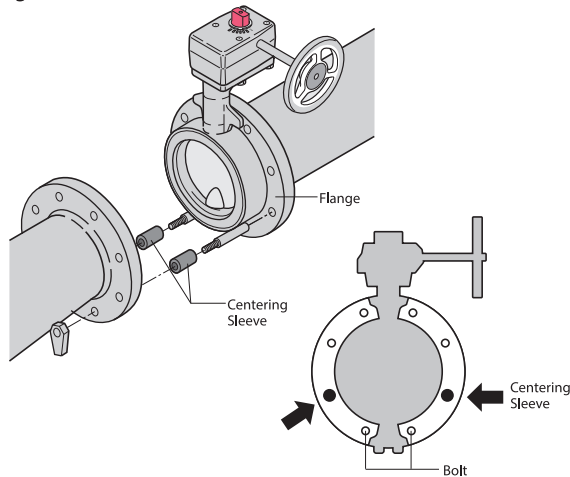


● Mounting to pump outlet



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.

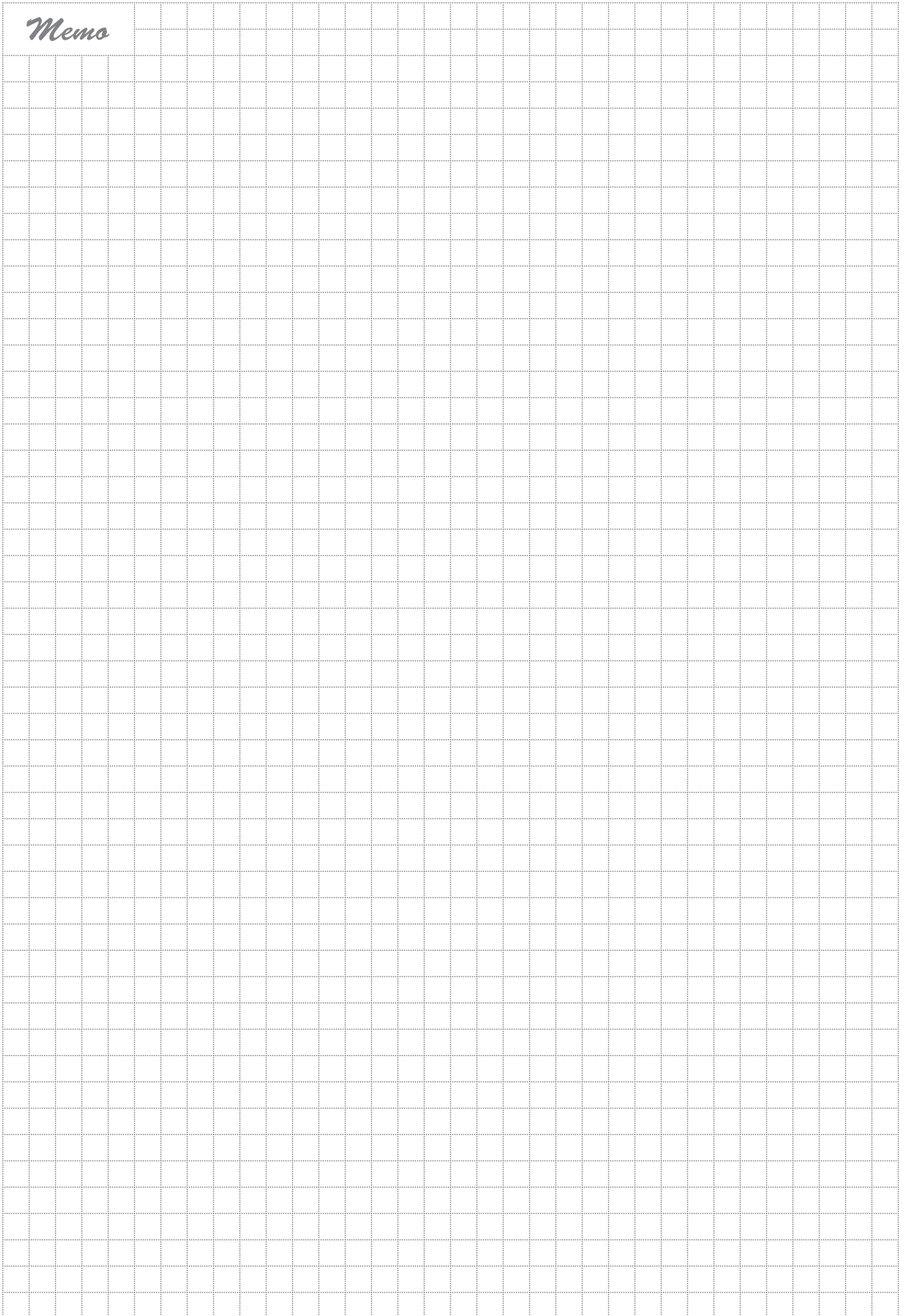
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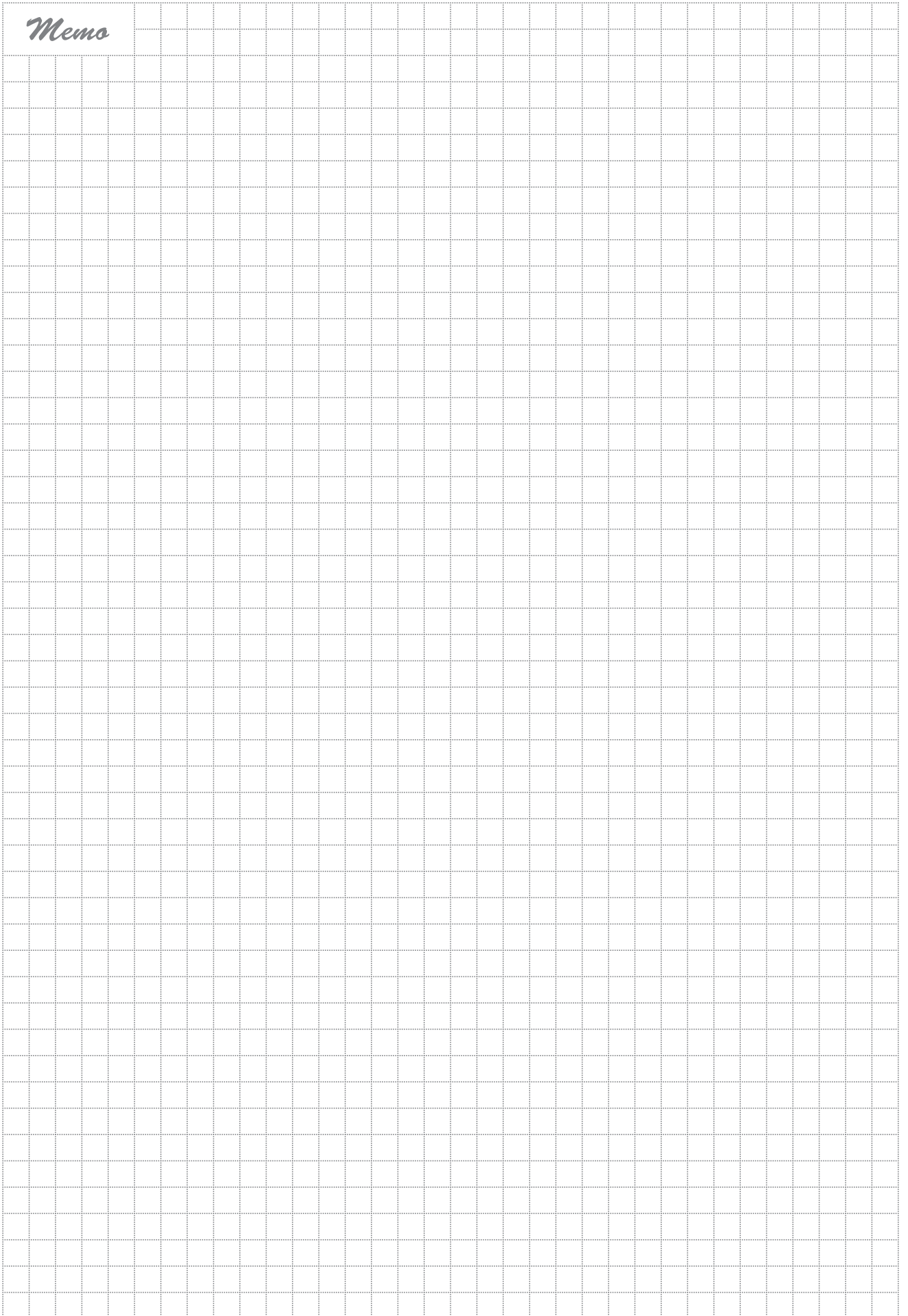
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Memo

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Memo



CAUTION

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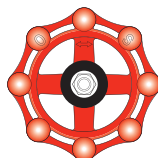
Read instruction manual carefully before using KITZ products.

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Furthermore, there may be cases in which an export license issued by the Government of the United States or the government of another country will be required under the applicable export-related laws and ordinances of that country.

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*A chrysanthemum-handle is a symbol of KITZ,
the brand of valve reliability*

ISO 9001 certified since 1989

KITZ
KITZ CORPORATION

1-10-1, Nakase, Mihama-ku, Chiba 261-8577, Japan

International Sales Dept.

Phone : 81-43-299-1730

Fax : 81-43-299-0121

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