

# GENERAL CATALOG



OKUMURA ENGINEERING corp.

**BUTTERFLY VALVES**  
**KNIFE GATE VALVES**  
**PINCH VALVES**

STANDARD SPECIFICATION LIST

| Model                                        |                                                |                                    | Use                                            | Purpose , Applications |                        |                     |                       |                       |                   |                                  |                 |  |
|----------------------------------------------|------------------------------------------------|------------------------------------|------------------------------------------------|------------------------|------------------------|---------------------|-----------------------|-----------------------|-------------------|----------------------------------|-----------------|--|
|                                              |                                                |                                    |                                                | General Fluid          | High-temperature Fluid | High-pressure Fluid | Fluid Shut-off Degree | Fluid Controllability | Low-pressure Loss | Remote Control During Automation | Maintainability |  |
| High Performance Butterfly Valves            | 5410 SERIES                                    | 541R<br>Synthetic Rubber Seat ring | Air Conditioning<br>For High-rise Buildings.   | ○                      | ×                      | ○                   | ◎                     | ◎                     | ○                 | ◎                                | ◎               |  |
|                                              |                                                | 541T<br>Teflon® Seat ring          | Steam Piping                                   | ◎                      | ○                      | ○                   | ◎                     | ◎                     | ○                 | ◎                                | ◎               |  |
|                                              |                                                | 541M<br>Metal Seat ring            | General Industries.                            | ○                      | ◎                      | ○                   | ○                     | ◎                     | ○                 | ◎                                | ◎               |  |
|                                              | 5400 SERIES                                    | 5421<br>Synthetic Rubber Seat ring | Air Conditioning<br>For High-rise Buildings.   | ○                      | ×                      | ○                   | ◎                     | ◎                     | ○                 | ◎                                | ◎               |  |
|                                              |                                                | 5422<br>Teflon® Seat ring          | Steam Piping                                   | ◎                      | ○                      | ○                   | ◎                     | ◎                     | ○                 | ◎                                | ◎               |  |
|                                              |                                                | 5423<br>Metal Seat ring            | General Industries.                            | ○                      | ◎                      | ○                   | ○                     | ◎                     | ○                 | ◎                                | ◎               |  |
|                                              |                                                | 5452<br>Teflon® Seat ring          |                                                | ◎                      | ○                      | ◎                   | ◎                     | ◎                     | ○                 | ○                                | ◎               |  |
| Rubber Seated Butterfly Valves               | 612X                                           |                                    | Construction Equipment.                        | ◎                      | ×                      | ×                   | ◎                     | ◎                     | ○                 | ◎                                | ○               |  |
|                                              | 615X                                           |                                    | Water Treatment.<br>General Industries.        |                        |                        |                     |                       |                       |                   |                                  |                 |  |
| Teflon® Butterfly Valves                     | 618H                                           |                                    | Construction Equipment.                        | ◎                      | ×                      | ○                   | ◎                     | ◎                     | ○                 | ◎                                | ○               |  |
|                                              | 622H                                           |                                    | High-rise Buildings.<br>General Industries.    | ◎                      | ×                      | ○                   | ◎                     | ◎                     | ○                 | ◎                                | ○               |  |
| Rubber Seated Butterfly Valves               | 637N/635N                                      |                                    | Chemical solutions.<br>General Industries.     | ○                      | ×                      | ×                   | ○                     | ○                     | ○                 | ◎                                | △               |  |
| Frangle Type Butterfly Valves                | 602A                                           |                                    | Construction Equipment.                        | ◎                      | ×                      | ×                   | ◎                     | ◎                     | ○                 | ◎                                | ○               |  |
|                                              | 603A                                           |                                    | Water Treatment.<br>General Industries.        |                        |                        |                     |                       |                       |                   |                                  |                 |  |
| Electronically Control Type Butterfly Valves | 606K<br>606F                                   |                                    | Water Treatment.<br>General Industries.        | ◎                      | ×                      | ×                   | ◎                     | ◎                     | ○                 | ◎                                | ○               |  |
| Knife Gate Valve                             | VAVTROL DN<br>VAVTROL DNP                      |                                    | Construction Equipment.<br>General Industries. | ◎                      | ○                      | ○                   | ◎                     | ◎                     | ○                 | ◎                                | ○               |  |
|                                              | 336J<br>336Y                                   |                                    | General Industries.                            | △                      | △                      | △                   | ◎                     | △                     | ◎                 | ○                                | ○               |  |
| Pinch valves                                 | 704<br>703<br>702                              |                                    | General Industries.                            | ◎                      | ×                      | ×                   | ◎                     | △                     | ◎                 | ○                                | ○               |  |
|                                              | Pneumatic-Cylinder Unit<br>Electric-Motor Unit |                                    |                                                |                        |                        |                     |                       |                       |                   |                                  |                 |  |

|  | Piping Packing | Nominal Size<br>(mm) | Max.Service<br>Pressure (MPa) | Max.Service<br>Temperature (℃)<br>Seat Ring Material | Applicable Flange |     |     |     |      |       |       |       |     |      |      |      | Reference<br>Pages |
|--|----------------|----------------------|-------------------------------|------------------------------------------------------|-------------------|-----|-----|-----|------|-------|-------|-------|-----|------|------|------|--------------------|
|  |                |                      |                               |                                                      | JIS               |     |     |     | ASME |       |       | ISO   |     |      |      |      |                    |
|  |                |                      |                               |                                                      | 5K                | 10K | 16K | 20K | 30K  | 125lb | 150lb | 300lb | PN6 | PN10 | PN16 | PN20 |                    |
|  | Required       | 50 to 300            | 1.0                           | F K M : -10 to 150<br>EPDM : -20 to 120              |                   |     |     |     |      |       |       |       |     |      |      |      | 3,4,5,6            |
|  |                | 50 to 600            |                               | -50 to 232                                           | ○                 | ○   |     |     |      |       | △     | △     |     |      |      |      |                    |
|  |                | 80 to 300            |                               | -50 to 300                                           |                   |     |     |     |      |       |       |       |     |      |      |      |                    |
|  | Required       | 80 to 600            | 2.0                           | F K M : -10 to 150<br>EPDM : -20 to 120              |                   |     |     |     |      |       |       |       |     |      |      |      |                    |
|  |                | 50 to 600            |                               | -50 to 232                                           |                   | ○   | ○   | ○   |      | ○     | ○     |       |     |      |      |      |                    |
|  |                | 80 to 600            |                               | -50 to 400                                           |                   |     |     |     |      |       |       |       |     |      |      |      |                    |
|  |                | 80 to 450            | 5.0                           | -50 to 230                                           |                   |     | ○   | ○   | ○    |       |       | △     |     |      |      |      |                    |
|  | Not required   | 40 to 300            | 1.0                           | N B R : -10 to 70<br>EPDM : -20 to 120               | ○                 | ○   |     |     |      | ○     | ○     |       | △   | ○    | △    |      | 7,8,9,10           |
|  |                | 350 to 1200          |                               |                                                      |                   |     |     |     |      |       |       |       |     |      |      |      |                    |
|  | Not required   | 50 to 600            | 1.6                           | N B R : -10 to 70<br>EPDM : -20 to 120               | △                 | △   | ○   |     |      | ○     | ○     |       | △   | △    | △    |      | 11,12,13           |
|  | Not required   | 50 to 600            | 2.0                           | N B R : -10 to 70<br>EPDM : -20 to 120               |                   | ○   | ○   | ○   |      | ○     | ○     |       |     |      | ○    | ○    |                    |
|  | Required       | 50 to 600            | 1.1 Fluid<br>0.2 Gases        | -20 to 150                                           |                   | ○   |     |     |      | ○     | ○     |       |     |      |      |      | 14                 |
|  | Not required   | 40 to 300            | 1.0                           | N B R : -10 to 70<br>EPDM : -20 to 120               | ○                 | ○   |     |     |      | △     | △     |       |     |      |      |      | 15,16              |
|  |                | 40 to 200            |                               |                                                      |                   |     |     |     |      |       |       |       |     |      |      |      |                    |
|  | Not required   | 50 to 850            | 1.0                           | N B R : -10 to 70<br>EPDM : -20 to 120               | ○                 | ○   |     |     |      | ○     | ○     |       |     |      |      |      | 17,18              |
|  | Not required   | 50 to 450            | 1.0 to 2.0                    | EPDM : -20 to 120                                    | ○                 | ○   |     |     |      | ○     | ○     |       |     |      |      |      | 19,20,21,22        |
|  | Required       | 50 to 600            | 1.0                           | CR 0 to 80                                           | ○                 | ○   |     |     |      | ○     | ○     |       |     |      |      |      | 23,24              |
|  |                |                      |                               | PTFE 0 to 230                                        |                   |     |     |     |      |       |       |       |     |      |      |      |                    |
|  |                |                      |                               | SUS316 0 to 230                                      |                   |     |     |     |      |       |       |       |     |      |      |      |                    |
|  |                |                      |                               | SUS304 0 to 230                                      |                   |     |     |     |      |       |       |       |     |      |      |      |                    |
|  | Not required   | 25 to 100            | 0.4                           | C R : -10 to 80<br>N R : -10 to 80                   |                   | ○   |     |     |      |       |       |       |     |      |      |      | 25,26              |
|  |                | 125 to 200           | 125,150mm 0.3<br>200mm 0.2    |                                                      |                   |     |     |     |      |       |       |       |     |      |      |      |                    |
|  |                | 25 to 300            | 0.5                           |                                                      |                   |     |     |     |      |       |       |       |     |      |      |      |                    |

27,28

◎ Optimum ○ Adaptation △ Usable Depending On Materials × Out Of Service

Teflon® is manufactured by Mitsui-Dupont Fluoro Chemical.

# 5410

1.0MPa(50 to 600mm) SERIES

# 5420

2.0MPa(50 to 600mm) SERIES

# 5452

5.0MPa(80 to 450mm) SERIES

## HIGH PERFORMANCE BUTTERFLY VALVES

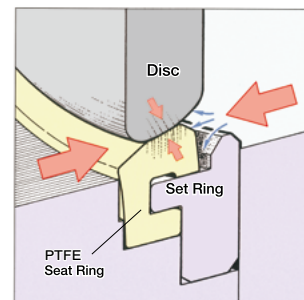
**A Leading-edge butterfly valve for high-performance flow control at:**

*Service temperature range of*

***-50°C to 400°C***

**Self-sealing mechanism ensures tight shutoff.**

As illustrated below, fluid pressure to the disc and seat ring ensures a secure seal; in other words, the higher the pressure, the better the sealing performance. The sealing performance remains unchanged even when the flow direction changes from one way to the other.



541T-G



5422-G

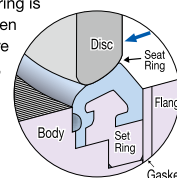
**Three types of seat rings to cover a wide variety of applications.**

Seat rings of synthetic rubber, PTFE and metal are available for effective control of any type of fluid, from slurry/sludge and chemical solutions to high-pressure steam.

### 541R 5421

#### The Synthetic Rubber Seat Ring

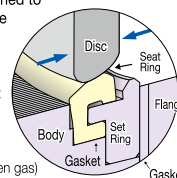
The synthetic rubber seat ring is ideal for abrasive solid-laden fluids and high-temperature fluids of up to 150°C (302°F), (eg. Water, compressed air, crude oil, food stuffs, slurry, sludge) which are difficult to control with conventional butterfly valves.



### 541T 5422 5452

#### PTFE Seat Ring

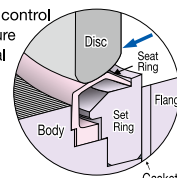
The PTFE seat ring is designed to withstand extremely corrosive chemical solutions and high-temperature fluids of up to 230°C (446°F), (eg. demineralized water, air-conditioning chilled/hot water, sea water, white liquor, formaldehyde solution, organic solvent, compressed air, oxygen, exhaust gas, town gas, coke-oven gas)



### 541M 5423

#### Metal Seat Ring

The metal seat ring allows control of extremely high-temperature fluids, and replaces conventional gate valves, globe valves, and ball valves. (eg. steam, compressed air)



PAT PENDING

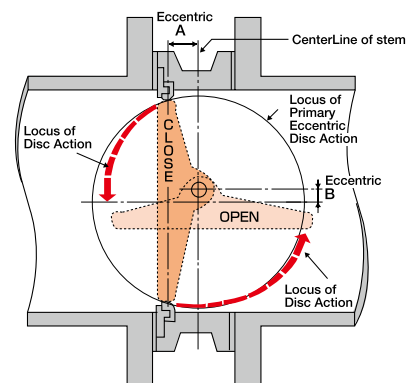


OKM 54 Series is a high-performance butterfly valve designed for extreme temperature, high pressure and vacuum conditions that are unsuitable for conventional universal butterfly valves. The 54 Series features a self-sealing seat ring, double eccentric disc, and a choice of three seat rings. It outperforms ball valves and gate valves and can perfectly seal fluids such as corrosive slurry and high-pressure steam.

### Double eccentric disc ensures longer service life, low seating torque and leak-tight shutoff.

Since the stem is eccentric from the seat ring (as indicated by A and B), the disc is in contact with the seat ring only when the valve is completely closed. The benefits from the double eccentric disc design include:

- Longer service life due to hard-to-wear seat ring.
- When in the closed position, the force of the disc on the seat ring ensures complete sealing.
- Easy operation with less seating torque.
- The offset stem design allows easy replacement of the seat ring without removing the stem.



## Standard Specifications

### ■5410 Series

| Model                     | 541R                                                              |              | 541T         | 541M                        |
|---------------------------|-------------------------------------------------------------------|--------------|--------------|-----------------------------|
| Seat Ring                 | FKM                                                               | EPDM         | PTFE         | SUS316                      |
| Size                      | 50 to 300                                                         | 50 to 300    | 50 to 600    | 80 to 300                   |
| Applicable Flange Std.    | JIS 5K / 10K <sup>*1</sup>                                        |              |              |                             |
| Max. Service Pressure     | 1.0MPa                                                            |              |              |                             |
| Service Temperature Range |                                                                   |              |              |                             |
| Without Insulation        | -10 to 150°C                                                      | -20 to 120°C | -29 to 232°C | -29 to 232°C                |
| With Insulation           | —                                                                 | —            | -50 to 232°C | -50 to 300°C                |
| Hydrostatic Shell Test    | 1.5MPa                                                            |              |              |                             |
| Hydrostatic Seat Test     | 1.1MPa                                                            |              |              |                             |
| Face To Face              | International Standard (ISO 5752) Dimension between Shorter Faces |              |              |                             |
| Seat Leakage              | Tight Shutoff                                                     |              |              | Tight Shutoff <sup>*2</sup> |
| Actuator                  | Lever-Operated, Worm-Gear, Pneumatic-Cylinder, Electric-Motor     |              |              |                             |
| Coating                   | Heat-resistant silver except on the stainless steel part.         |              |              |                             |

<sup>\*1</sup> : For ASME 125/150Lb. Contact us for assistance separately.

<sup>\*2</sup> : Applicable to the MSS SP-61 standard.

<sup>\*3</sup> : The long yolk mechanism is employed for temperatures between 301 and 400°C

### ■5400 Series

| Model                     | 5421                                                              | 5422                    | 5423                        | 5452                                                                 |
|---------------------------|-------------------------------------------------------------------|-------------------------|-----------------------------|----------------------------------------------------------------------|
| Seat Ring                 | The Synthetic Rubber                                              | Teflon <sup>®</sup>     | Metal                       | Teflon <sup>®</sup>                                                  |
| Size                      | 80 to 600 <sup>*2</sup>                                           | 50 to 600 <sup>*2</sup> | 80 to 600 <sup>*2</sup>     | 80 to 450                                                            |
| Applicable Flange Std.    | JIS 10K / 16K / 20K , ASME 125 / 150Lb etc.                       |                         |                             | JIS 16K / 20K / 30K / 40K , ASME 150Lb / 300Lb                       |
| Max. Service Pressure     | 2.0MPa                                                            |                         |                             | 5.0MPa                                                               |
| Service Temperature Range | FKM                                                               | EPDM                    | PTFE                        | SUS316                                                               |
| Without Insulation        | -10 to 150°C                                                      | -20 to 120°C            | -29 to 230°C                | Max. 230°C <sup>*3</sup>                                             |
| With Insulation           | —                                                                 | —                       | -50 to 230°C                | Max. 400°C                                                           |
| Hydrostatic Shell Test    | 3.0MPa                                                            |                         |                             | 7.5MPa                                                               |
| Hydrostatic Seat Test     | 2.2MPa                                                            |                         |                             | 5.5MPa                                                               |
| Face To Face              | International Standard (ISO 5752) Dimension between Shorter Faces |                         |                             | ISO Standard (short) 80 to 150mm<br>ISO Standard (long) 200 to 450mm |
| Seat Leakage              | Tight Shutoff                                                     | Tight Shutoff           | Tight Shutoff <sup>*1</sup> | Tight Shutoff                                                        |
| Actuator                  | Lever-Operated, Worm-Gear, Pneumatic-Cylinder, Electric-Motor     |                         |                             | Worm-Gear, Pneumatic-Cylinder, Electric-Motor                        |
| Coating                   | Heat-resistant silver except on the stainless steel part.         |                         |                             |                                                                      |

<sup>\*1</sup> : Applicable to the MSS SP-61 standard.

<sup>\*2</sup> : 550mm is not available.

<sup>\*3</sup> : More than 230°C, please consult with OKM overseas div.

NOTE: These models are not suitable for palm oil application.

Model No. 54mp is recommended for palm oil application.

Teflon<sup>®</sup> is manufactured by Mitsui-Dupont Fluoro Chemical.

## Standard Specifications

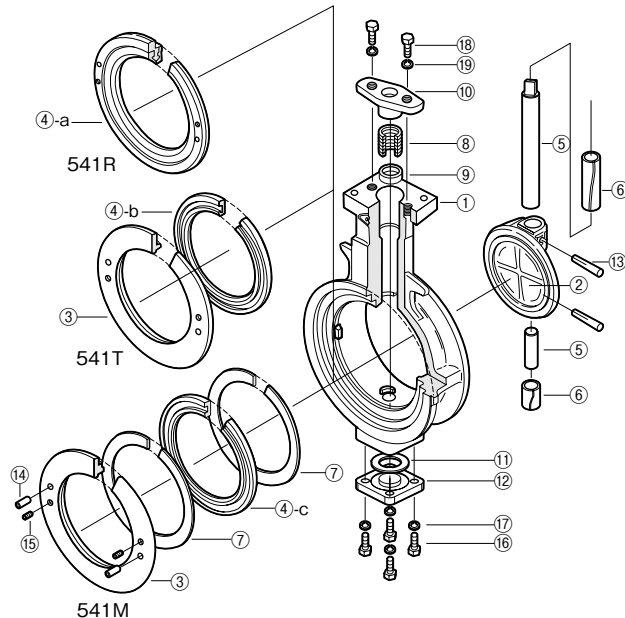
| Part Name |                           | Material               |                           |
|-----------|---------------------------|------------------------|---------------------------|
|           |                           | 50 to 300              | 350 to 600                |
| ①         | Body                      | SCS13A                 |                           |
| ②         | Disc                      | SCS13A                 |                           |
| ③         | Set Ring                  | SCS13A                 | SUS304                    |
| ④-a       | seat Ring                 | Rubber Seat Ring 541R  | FKM · EPDM                |
| ④-b       |                           | Teflon® Seat Ring 541T | PTFE(White),R-PTFE(Black) |
| ④-c       |                           | Metal Seat Ring 541M   | SUS316 + Metal Plating    |
| ⑤         | Stem                      | SUS304                 |                           |
| ⑥         | Bushing                   | SUS316 + PTFE          |                           |
| ⑦         | Gasket                    | asbestos-Free          |                           |
| ⑧         | Grand packing             | PTFE                   |                           |
| ⑨         | Packing washer            | SUS304                 | SUS316                    |
| ⑩         | Grand                     | SCS14                  | SUS304                    |
| ⑪         | Bottom gasket             | asbestos-Free          |                           |
| ⑫         | Bottom cover              | SCS13A                 | SUS304                    |
| ⑬         | Taper pin                 | SUS304                 | SUS630                    |
| ⑭         | Set pin                   | SUS420J2               | SUS304                    |
| ⑮         | Hexagon socket set screws | SUS304                 |                           |
| ⑯         | Hexagon bolt              | SCM435(PLATED)         |                           |
| ⑰         | Spring washer             | SUS304                 |                           |
| ⑱         | Grand bolt                | SUS304                 |                           |

\*The disc of Model 541T(metal seat ring)has a plating finish.

\*In case of flow media contains oil or oil material, EPDM seat cannot be applicable.

\*Be sure to inform us of fluid name,and temperature when you place an order.

## Internal structure



## Standard Specifications

| Part Name              | 5421                        | 5422 | 5423 ※5  |
|------------------------|-----------------------------|------|----------|
| Body                   | SCPH2 , SCS13 ※1            |      | SCS14 ※2 |
| Disc ※3                | SCS13 ※1                    |      | SCS14 ※2 |
| Set Ring               | SUS304                      |      | SUS316   |
| Rubber Seat Ring 5421  | FKM , EPDM                  |      |          |
| Teflon® Seat Ring 5422 | PTFE(White) , R-PTFE(Black) |      |          |
| Metal Seat Ring 5423   | SUS316 + Metal Plating      |      |          |
| Stem                   | SUS630                      |      |          |

※1: Size range: 80 to 600 mm

※2: In 50 mm and 60 mm sizes, Teflon®and SCS14 only.

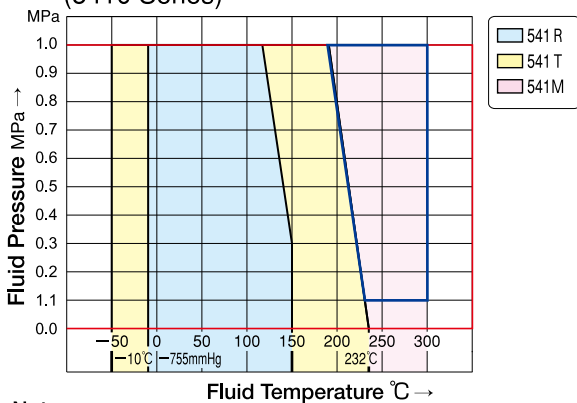
※3: Plating for 5423 only.

※4: Contact us for models with high polymer polyethylene seats.

※5: Contact us if using model 5423 at a high temperature exceeding 230°C (446°F)

| Part Name | 5452          |
|-----------|---------------|
| Body      | SCS13         |
| Disc      | SCS13         |
| Set Ring  | SUS304        |
| Seat Ring | R-PTFE(Black) |
| Stem      | SUS630        |

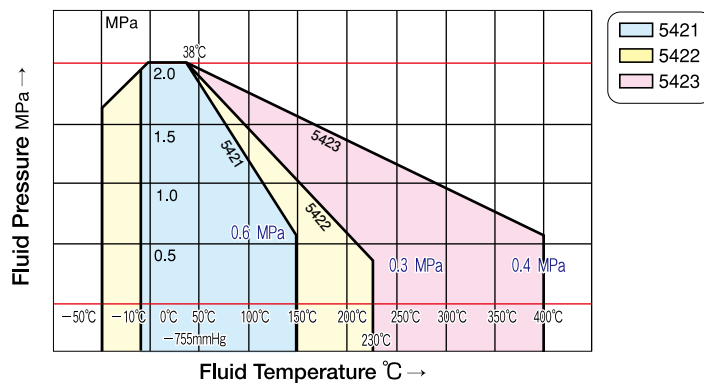
## Temperature and Pressure Ratings (5410 Series)



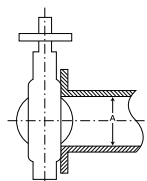
Note:

- Please contact to us, in case of using under condition such as extremely-low temperature, vacuume and in the vicinity of temperature and pressure rating. Seat ring(white) for 541T contains filler content equivalent to reinforced PTFE, however, in case of using under saturated vapor condition, please use black reinforced PTFE(RPTFE)
- Using butterfly valve with automatic actuator(pneumatic/electric) in the range of frame, model shall be 5423.

## (5400 Series)

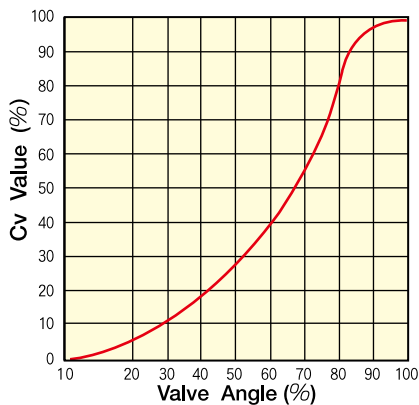


## Min. Internal Diameters Of Piping



| Nominal Size (mm) | Min. Internal Diameters Of Piping A | Nominal Size (mm) | Min. Internal Diameters Of Piping A |
|-------------------|-------------------------------------|-------------------|-------------------------------------|
| 50                | φ 27.3                              | 150               | φ 137.7                             |
| 65                | 47.8                                | 200               | 192.3                               |
| 80                | 64.9                                | 250               | 241.6                               |
| 100               | 81.5                                | 300               | 290.5                               |
| 125               | 110.6                               |                   |                                     |

## Flow Characteristics



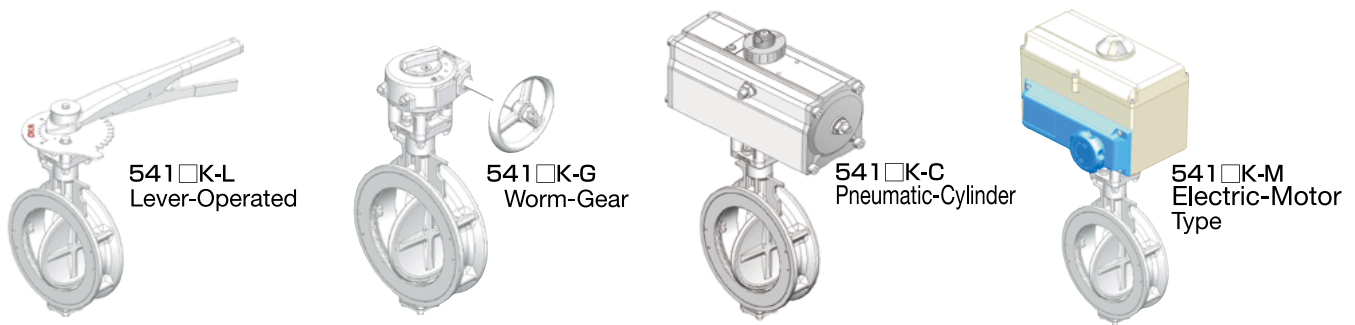
## Cv Values with Valve Fully Open

| Size(mm) | 10/20W.O.G |
|----------|------------|
| ※ 50     | 60         |
| ※ 65     | 100        |
| 80       | 190        |
| 100      | 380        |
| 125      | 730        |
| 150      | 1250       |
| 200      | 2400       |
| 250      | 4000       |
| 300      | 5800       |
| 350      | 7600       |
| 400      | 9200       |
| 450      | 11900      |
| 500      | 14200      |
| ※550     | 17000      |
| 600      | 21700      |

※Model 541T/5422 only

● **Dimensions** ※Shapes vary according to sizes. ※Contact your OKM representative for the dimensions the 5452 model.

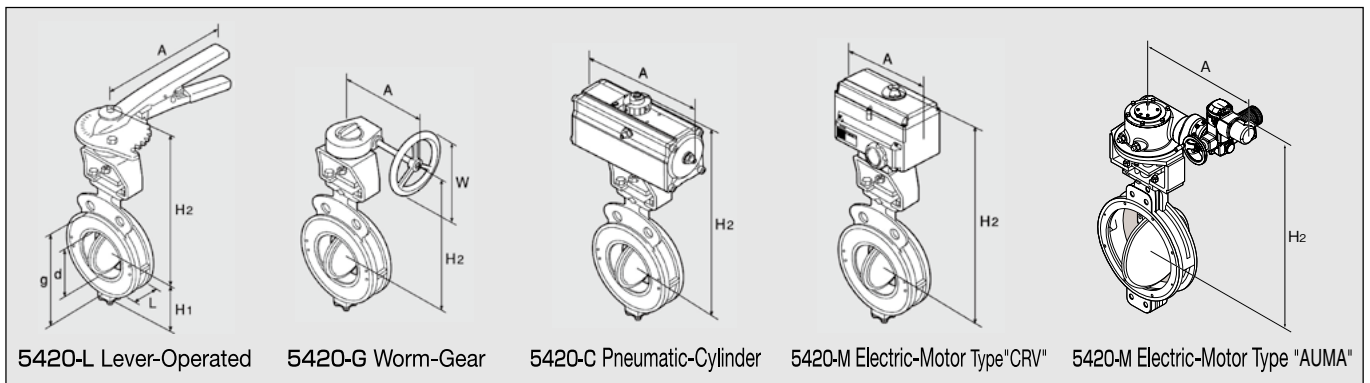
■ **5410 Series Specification Max.Service Pressure:1.0MPa ( Max.Service Temperature:232℃) Standard**



| Nominal Size |     | L  | d   | g   | H <sub>1</sub> | 541□-L Lever-Operated |     |        | 541□-G Worm-Gear |     |        | 541□-C Pneumatic-Cylinder |     |        | 541□-M Electric-Motor |     |        |
|--------------|-----|----|-----|-----|----------------|-----------------------|-----|--------|------------------|-----|--------|---------------------------|-----|--------|-----------------------|-----|--------|
| inch         | mm  |    |     |     |                | H <sub>2</sub>        | A   | Weight | H <sub>2</sub>   | A   | Weight | H <sub>2</sub>            | A   | Weight | H <sub>2</sub>        | A   | Weight |
| 2            | 50  | 43 | 40  | 92  | 64             | 178                   | 160 | 3.7    | 169              | 141 | 5.3    | 252                       | 179 | 4.9    | 362                   | 277 | 14.0   |
| 2½           | 65  | 46 | 55  | 108 | 74             | 188                   | 160 | 4.2    | 179              | 141 | 5.8    | 262                       | 179 | 5.4    | 372                   | 277 | 14.5   |
| 3            | 80  | 46 | 70  | 127 | 84             | 199                   | 200 | 4.9    | 189              | 141 | 6.4    | 272                       | 179 | 6.0    | 382                   | 277 | 15.1   |
| 4            | 100 | 52 | 94  | 147 | 94             | 209                   | 200 | 5.7    | 199              | 141 | 7.2    | 295                       | 223 | 7.7    | 392                   | 277 | 15.9   |
| 5            | 125 | 56 | 119 | 180 | 110            | 248                   | 360 | 10.5   | 220              | 182 | 11.3   | 360                       | 271 | 13.0   | 421                   | 277 | 19.2   |
| 6            | 150 | 56 | 144 | 209 | 124            | 263                   | 360 | 11.8   | 235              | 182 | 12.6   | 375                       | 271 | 14.3   | 436                   | 277 | 21.0   |
| 8            | 200 | 60 | 195 | 265 | 183            | —                     | —   | —      | 271              | 211 | 21.0   | 434                       | 355 | 25.0   | 483                   | 301 | 30.0   |
| 10           | 250 | 68 | 244 | 327 | 218            | —                     | —   | —      | 330              | 255 | 32.0   | 511                       | 445 | 34.0   | 532                   | 301 | 32.0   |
| 12           | 300 | 78 | 293 | 367 | 243            | —                     | —   | —      | 350              | 255 | 37.0   | 531                       | 445 | 39.0   | 561                   | 345 | 48.0   |

(Size : mm , Weight : kg) ※Please contact us for sizes of 350 mm or more.

■ **5400 Series Specification Max.Service Pressure:2.0MPa ( Max.Service Temperature:232℃)**



| Nominal Size |     | L   | d   | g   | H <sub>1</sub> | Lever-Operated |     |        | Worm-Gear      |     |     |        | Pneumatic-Cylinder |       |        | Electric-Motor "CRV" |     |        | Electric-Motor "AUMA" |     |        |
|--------------|-----|-----|-----|-----|----------------|----------------|-----|--------|----------------|-----|-----|--------|--------------------|-------|--------|----------------------|-----|--------|-----------------------|-----|--------|
| inch         | mm  |     |     |     |                | H <sub>2</sub> | A   | Weight | H <sub>2</sub> | A   | W   | Weight | H <sub>2</sub>     | A     | Weight | H <sub>2</sub>       | A   | Weight | H <sub>2</sub>        | A   | Weight |
| 2            | 50  | 43  | 40  | 94  | 67             | 249            | 260 | 4.0    | 228            | 141 | 100 | 5.8    | 319                | 223   | 8      | 425                  | 277 | 15     | —                     | —   | —      |
| 2½           | 65  | 46  | 55  | 108 | 74             | 264            | 260 | 5.0    | 243            | 141 | 100 | 6.8    | 334                | 223   | 11     | 440                  | 277 | 16     | —                     | —   | —      |
| 3            | 80  | 46  | 70  | 125 | 82             | 273            | 260 | 8.0    | 252            | 182 | 125 | 10     | 342                | 223   | 12     | 446                  | 277 | 17     | —                     | —   | —      |
| 4            | 100 | 52  | 94  | 155 | 92             | 283            | 260 | 9.0    | 262            | 182 | 125 | 12     | 381                | 271   | 14     | 458                  | 277 | 18     | —                     | —   | —      |
| 5            | 125 | 56  | 119 | 180 | 119            | 331            | 360 | 15.0   | 304            | 211 | 160 | 17     | 425                | 271   | 18     | 510                  | 277 | 21     | —                     | —   | —      |
| 6            | 150 | 56  | 144 | 209 | 132            | 344            | 360 | 18.0   | 317            | 211 | 160 | 19     | 466                | 355   | 24     | 544                  | 301 | 26     | —                     | —   | —      |
| 8            | 200 | 60  | 195 | 265 | 170            | —              | —   | —      | 349            | 255 | 200 | 35     | 526                | 445   | 40     | 563                  | 301 | 31     | —                     | —   | —      |
| 10           | 250 | 68  | 244 | 319 | 224            | —              | —   | —      | 407            | 335 | 315 | 58     | 654                | 506   | 64     | 631                  | 345 | 47     | —                     | —   | —      |
| 12           | 300 | 78  | 293 | 367 | 259            | —              | —   | —      | 477            | 320 | 315 | 79     | 762                | 664   | 134    | 675                  | 345 | 60     | —                     | —   | —      |
| 14           | 350 | 78  | 328 | 413 | 313            | —              | —   | —      | 530            | 331 | 355 | 118    | 844                | 755   | 160    | 727                  | 345 | 85     | 872                   | 621 | 170    |
| 16           | 400 | 102 | 366 | 470 | 343            | —              | —   | —      | 580            | 331 | 355 | 156    | 970                | 1,060 | 255    | —                    | —   | —      | 914                   | 621 | 210    |
| 18           | 450 | 114 | 415 | 534 | 375            | —              | —   | —      | 620            | 392 | 450 | 196    | 1,012              | 1,060 | 297    | —                    | —   | —      | 966                   | 623 | 250    |
| 20           | 500 | 127 | 463 | 584 | 409            | —              | —   | —      | 798            | 513 | 305 | 277    | 1,072              | 1,060 | 325    | —                    | —   | —      | 1,046                 | 623 | 285    |
| 22           | 550 | 154 | 518 | 643 | 429            | —              | —   | —      | 854            | 549 | 400 | 370    | 1,235              | 1,360 | 480    | —                    | —   | —      | 1,081                 | 659 | 380    |
| 24           | 600 | 154 | 570 | 692 | 479            | —              | —   | —      | 904            | 549 | 400 | 405    | 1,285              | 1,360 | 585    | —                    | —   | —      | 1,169                 | 685 | 430    |

(Size : mm , Weight : kg) ※The height dimension is subject to change if fluid temperature is 300℃ or above.

# 612X 615X

## CAST IRON 1.0MPa BUTTERFLY VALVES



612XC-C

JIS conformed product

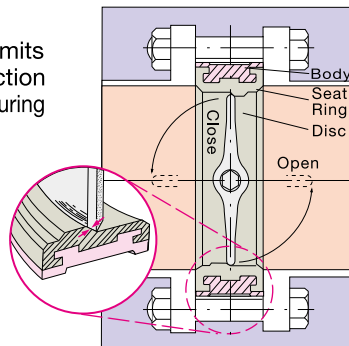
PATENTED

## Wide Selection Range (40 to 1200 mm), 100% Tight Shut-off, Low Torque, Long Service Life

For Construction and General Industries

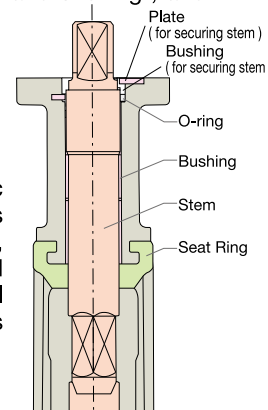
### "Touch" Seat Design for Reliability and Low Cost

The unique "Touch" seat design permits the disc to close with virtually no friction between the disc and the valve seat, assuring leak-tight shut-off. Extremely low torque is required to open and close the disc, allowing the actuator to be surprisingly compact and light, and improving cost-efficiency.



### Wear Resistance for Long Service Life

The "Touch" seat design minimizes wear on the seat ring. Each bushing mounted above and beneath the stem offers high wear and friction resistance, thus preventing galling and sticking, and assuring long life.



\*Sizes of valves shown:  
350 to 600 mm (14 to 24 inch)

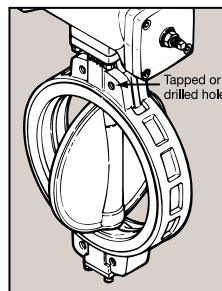
### Multiple Sealing Structure Eliminates External Leaks

Primary sealing is provided between the disc and the seat ring, and secondary sealing is provided between the stem and the seat ring, thus assuring tight shut-off. An O-ring is mounted between the stem and the bushings for additional sealing. In addition, the valve is covered at its bottom to eliminate external leaks.

### Pinless Structure for Trouble-Free Maintenance and Operation

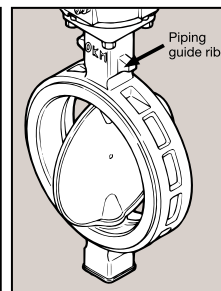
The hexagonal stem is fitted into the matching hexagonal disc [nominal size: 40 to 600 mm (1 1/2 to 24 inch)] without pins, thus providing a smooth disc surface with minimum resistance to fluid flow and assuring easy maintenance. A bushing and a plate are provided at the upper part of the stem to prevent the stem from pulling out of the disc.

### Piping Connection



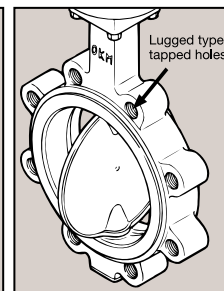
•A type <Semi-lugged wafer type with tapped holes>  
40 to 300 mm (semi-custom)  
350 to 1200 mm (standard)

•B type <Semi-lugged wafer type with drilled holes>  
40 to 350 mm (semi-custom)



•C type <Wafer type with piping guide rib>  
40 to 300 mm (standard)

\*A type (350 to 1200 mm) and C type (40 to 300 mm) are standard.  
Contact us if you need types other than the above.



•E type <Full-lugged type with tapped holes>  
40 to 600 mm  
(manufactured upon order)

## ● Standard Specifications

| Model                   | 612X                                                                                  | 615X                |
|-------------------------|---------------------------------------------------------------------------------------|---------------------|
| Size                    | 40mm to 300mm                                                                         | 350mm to 1200mm     |
| Applicable Flange Std.  | JIS5K, 10K, ASME 150Lb, ISO PN10                                                      |                     |
| Max.Service Pressure    | 1.0MPa                                                                                |                     |
| Max.Service Temperature | −10 to 70°C NBR                                                                       | −20 to 120°C EPDM※  |
| Hydrostatic Seat Test   | 1.5MPa                                                                                |                     |
| Hydrostatic Shell Test  | 1.1MPa                                                                                |                     |
| Face To Face            | JIS B 2002 46 Series                                                                  |                     |
| Actuators               | Lever-Operated , Worm-Gear , Center Handle-Gear , Pneumatic-Cylinder , Electric-Motor |                     |
| Coating                 | Epoxy Coating(Grey)                                                                   | Epoxy Coating(Grey) |

※In case of flow media contains oil or oil material, EPDM seat cannot be applicable.

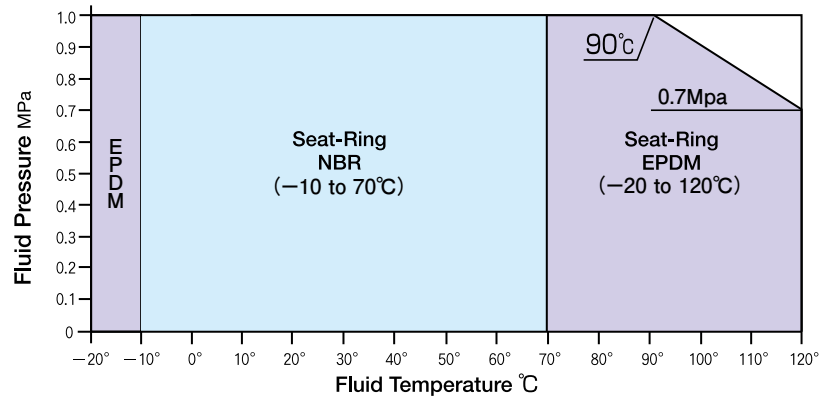
\*Please contact to us in case of using less than 0(Zero) temperature.

## ● Standard Materials

| Part Name | Material                          |                 |
|-----------|-----------------------------------|-----------------|
|           | 612X                              | 615X            |
| Body      | C TYPE FCD450<br>A·B·E TYPE FC250 | FC250           |
| Disc      | SCS14                             | SCS13<br>FCD450 |
| Seat Ring | NBR, EPDM                         |                 |
| Stem      | SUS420J2                          |                 |
| O-ring    | NBR                               |                 |
| Gasket    | NBR                               | Asbestos-Free   |

\*Material and shape vary depending on the valve size.

## ● Temperature and Pressure Ratings

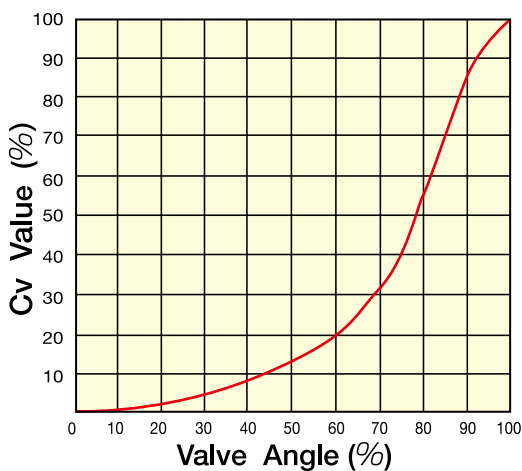


\*This table conforms to the JIS standard (JIS B 2032).

Contact us if you operate your valve outside the above pressure and temperature ranges.

\*EPDM:Maximum temperature 100°C in case of continuous using.

## ● Flow Characteristics

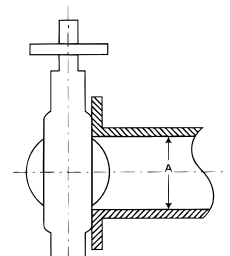


## ● Cv Values with Valve Fully Open

| Size (mm) | Full open Cv Value | Size (mm) | Full open Cv Value | Size (mm) | Full open Cv Value |
|-----------|--------------------|-----------|--------------------|-----------|--------------------|
| 40        | 102                | 300       | 6200               | 750       | 39500              |
| 50        | 165                | 350       | 7550               | 800       | 46000              |
| 65        | 250                | 400       | 10700              | 850       | 56000              |
| 80        | 380                | 450       | 13800              | 900       | 69400              |
| 100       | 650                | 500       | 17000              | 1000      | 80500              |
| 125       | 1100               | 550       | 21400              | 1100      | 99000              |
| 150       | 1790               | 600       | 25200              | 1200      | 118300             |
| 200       | 3300               | 650       | 28600              | —         | —                  |
| 250       | 4400               | 700       | 35000              | —         | —                  |

## ● Min. Internal Diameters Of Piping

| Nominal Size (mm) | Min. Internal Diameters Of Piping A |
|-------------------|-------------------------------------|
| 40                | 30                                  |
| 50                | 37                                  |
| 65                | 50                                  |
| 80                | 73                                  |
| 100               | 88                                  |
| 125               | 120                                 |
| 150               | 146                                 |
| 200               | 196                                 |
| 250               | 244                                 |
| 300               | 289                                 |

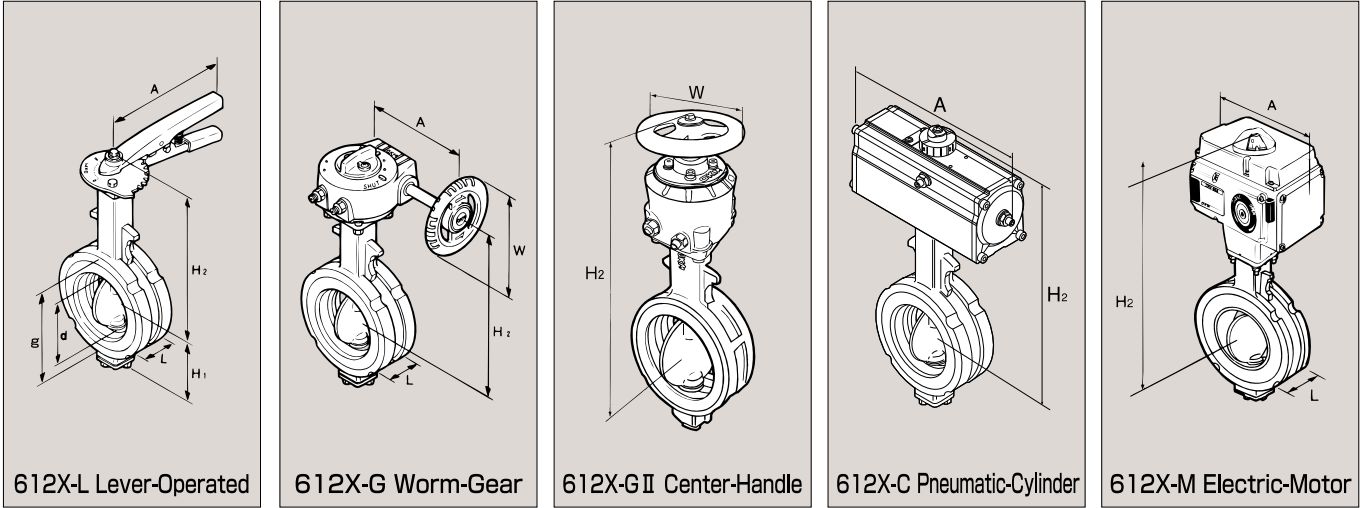




Reliability and Low Cost; these are the advantages that light-weight and compact butterfly valves offer.  
OKM’s unique “Touch” seat design and multiple sealing structure assure highly reliable and low cost operation.

# 612X

● Dimensions: 40 to 300 mm (1 1/2 to 12 inch) ※Shapes vary according to sizes.



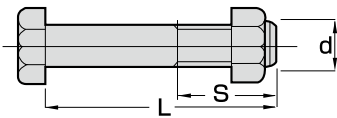
For Option Unit ( Positioner,Limit Switch,Solenoid valve,etc ) , contact us for assistance separealy. ※Also we have the model:  
612X-C II Single-Acting Type.

| Nominal Size |     |    |     |     |     |     | 612X-L Lever-Operated |        |     | 612X-G Worm-Gear |     |        | 612X-GII Center-Handle |     |        | 612X-C Pneumatic-Cylinder |     |        | 612X-M Electric-Motor |     |        |
|--------------|-----|----|-----|-----|-----|-----|-----------------------|--------|-----|------------------|-----|--------|------------------------|-----|--------|---------------------------|-----|--------|-----------------------|-----|--------|
| inch         | mm  | L  | d   | g   | H1  | H2  | A                     | Weight | H2  | A                | W   | Weight | H2                     | W   | Weight | H2                        | A   | Weight | H2                    | A   | Weight |
| 1 1/2        | 40  | 33 | 43  | 69  | 66  | 166 | 160                   | 2.4    | 159 | 132              | 100 | 4.0    | 270                    | 100 | 4.6    | 230                       | 179 | 3.2    | 352                   | 277 | 12.7   |
| 2            | 50  | 43 | 55  | 81  | 69  | 174 | 160                   | 2.9    | 167 | 132              | 100 | 4.5    | 278                    | 100 | 5.1    | 238                       | 179 | 3.7    | 360                   | 277 | 13.2   |
| 2 1/2        | 65  | 46 | 66  | 104 | 80  | 187 | 160                   | 3.8    | 177 | 132              | 100 | 5.4    | 288                    | 100 | 6.0    | 248                       | 179 | 4.6    | 370                   | 277 | 14.1   |
| 3            | 80  | 46 | 84  | 115 | 89  | 192 | 200                   | 4.0    | 182 | 132              | 100 | 5.5    | 293                    | 100 | 6.1    | 253                       | 179 | 4.7    | 375                   | 277 | 14.2   |
| 4            | 100 | 52 | 100 | 136 | 106 | 204 | 200                   | 4.9    | 194 | 132              | 100 | 6.4    | 305                    | 100 | 7.0    | 265                       | 179 | 5.6    | 387                   | 277 | 15.1   |
| 5            | 125 | 56 | 130 | 167 | 123 | 234 | 260                   | 8.0    | 215 | 170              | 125 | 10.2   | 329                    | 140 | 10.1   | 330                       | 271 | 11.1   | 407                   | 277 | 17.8   |
| 6            | 150 | 56 | 154 | 196 | 138 | 249 | 260                   | 9.8    | 230 | 170              | 125 | 12.0   | 344                    | 140 | 11.9   | 345                       | 271 | 12.9   | 422                   | 277 | 19.6   |
| 8            | 200 | 60 | 200 | 242 | 168 | 288 | 360                   | 15.0   | 259 | 197              | 160 | 17.8   | 408                    | 200 | 22.0   | 401                       | 355 | 21.0   | 471                   | 301 | 27.0   |
| 10           | 250 | 68 | 246 | 300 | 223 | -   | -                     | -      | 319 | 255              | 200 | 32.0   | 458                    | 200 | 31.0   | 483                       | 445 | 41.0   | 521                   | 301 | 35.0   |
| 12           | 300 | 78 | 295 | 346 | 260 | -   | -                     | -      | 349 | 255              | 200 | 46.0   | 488                    | 200 | 45.0   | 513                       | 445 | 51.0   | 551                   | 301 | 49.0   |

(Weight : kg) ※200mm lever type is suitable for fluid pressure less than 0.5MPa.  
※40 to 300mm motorized type will be CRV / RCEL / NOAH.

## ● Piping Bolt Sizes

For C type



For Type 612XA , 612XB , 612XE,  
contact us for assistance seperately.

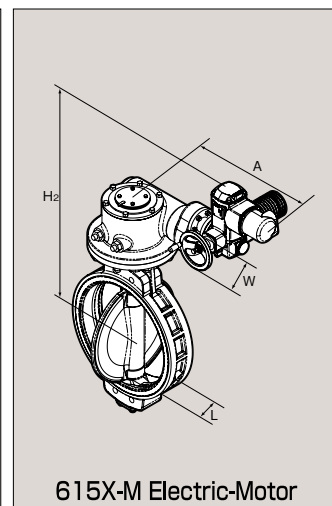
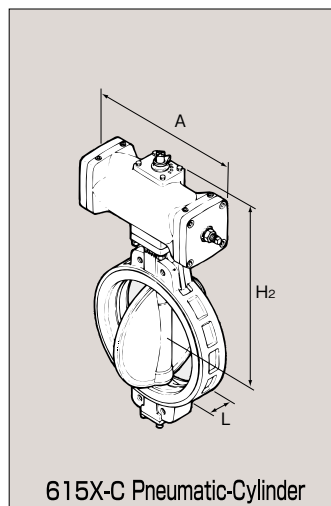
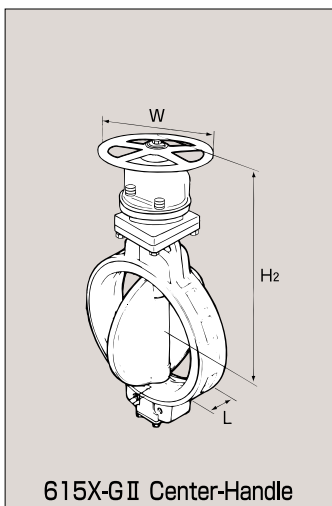
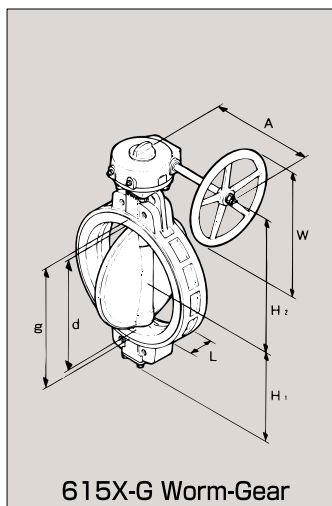
| Nominal Size |     | JIS 5K |                             | JIS 10K |                             |
|--------------|-----|--------|-----------------------------|---------|-----------------------------|
| inch         | mm  | Qty    | Hexagonal bolt&Nut<br>d×L×S | Qty     | Hexagonal bolt&Nut<br>d×L×S |
| 1 1/2        | 40  | 4      | M12x 75x30                  | 4       | M16x 85x38                  |
| 2            | 50  | 4      | M12x 90x30                  | 4       | M16x100x38                  |
| 2 1/2        | 65  | 4      | M12x 90x30                  | 4       | M16x110x38                  |
| 3            | 80  | 4      | M16x100x38                  | 8       | M16x110x38                  |
| 4            | 100 | 8      | M16x110x38                  | 8       | M16x110x38                  |
| 5            | 125 | 8      | M16x110x38                  | 8       | M20x120x46                  |
| 6            | 150 | 8      | M16x120x38                  | 8       | M20x130x52                  |
| 8            | 200 | 8      | M20x130x52                  | 12      | M20x130x52                  |
| 10           | 250 | 12     | M20x140x52                  | 12      | M22x150x56                  |
| 12           | 300 | 12     | M20x150x52                  | 16      | M22x160x56                  |

1. Bolt length applies to flange thicknesses that conform to JIS standard.  
2. The hexagonal bolt should use an 8UN splitnut.

# 615X

● Dimensions: 350 to 1200 mm (14 to 48 inch)

※Shapes vary according to sizes.



※Also we have the model:  
615X-CII Single-Acting Type

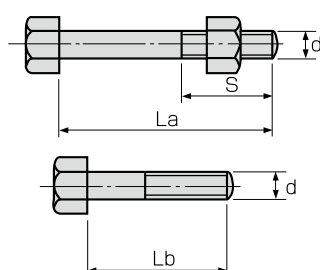
| Nominal Size |      | L   | d    | g    | H1  | 615X-G Worm-Gear |     |     |        | 615X-GII Center-Handle |     |        | 615X-C Pneumatic-Cylinder |      |        | 615X-M Electric-Motor |     |     |        |
|--------------|------|-----|------|------|-----|------------------|-----|-----|--------|------------------------|-----|--------|---------------------------|------|--------|-----------------------|-----|-----|--------|
| inch         | mm   |     |      |      |     | H2               | A   | W   | Weight | H2                     | A   | Weight | H2                        | A    | Weight | H2                    | A   | W   | Weight |
| 14           | 350  | 92  | 336  | 389  | 289 | 369              | 335 | 315 | 72     | 511                    | 315 | 62     | 603                       | 506  | 70     | 736                   | 621 | 200 | 140    |
| 16           | 400  | 102 | 390  | 448  | 322 | 415              | 320 | 315 | 94     | 650                    | 355 | 94     | 707                       | 664  | 148    | 779                   | 621 | 200 | 160    |
| 18           | 450  | 114 | 439  | 504  | 345 | 445              | 320 | 315 | 116    | 717                    | 355 | 129    | 737                       | 664  | 170    | 809                   | 621 | 200 | 180    |
| 20           | 500  | 127 | 490  | 554  | 379 | 493              | 331 | 355 | 167    | 767                    | 355 | 167    | 974                       | 1060 | 266    | 854                   | 621 | 200 | 215    |
| 22           | 550  | 154 | 540  | 608  | 410 | 523              | 392 | 450 | 199    | 860                    | 450 | 238    | 1004                      | 1060 | 299    | 894                   | 623 | 250 | 250    |
| 24           | 600  | 154 | 589  | 658  | 445 | 558              | 392 | 450 | 233    | 895                    | 450 | 272    | 1039                      | 1060 | 333    | 929                   | 623 | 250 | 280    |
| 26           | 650  | 170 | 634  | 708  | 468 | 647              | 421 | 390 | 350    | —                      | —   | —      | 1089                      | 1060 | 420    | 934                   | 623 | 250 | 335    |
| 28           | 700  | 165 | 684  | 756  | 496 | 722              | 454 | 390 | 410    | —                      | —   | —      | 1300                      | 1360 | 610    | 983                   | 659 | 250 | 490    |
| 30           | 750  | 190 | 731  | 810  | 540 | 762              | 454 | 390 | 495    | —                      | —   | —      | 1340                      | 1360 | 700    | 1061                  | 685 | 400 | 600    |
| 32           | 800  | 190 | 781  | 860  | 570 | 792              | 454 | 390 | 575    | —                      | —   | —      | 1370                      | 1360 | 775    | 1091                  | 685 | 400 | 690    |
| 34           | 850  | 203 | 835  | 911  | 682 | 933              | 538 | 450 | 720    | —                      | —   | —      | —                         | —    | —      | 1148                  | 685 | 400 | 735    |
| 36           | 900  | 203 | 884  | 960  | 704 | 956              | 538 | 450 | 755    | —                      | —   | —      | —                         | —    | —      | 1212                  | 765 | 400 | 815    |
| 40           | 1000 | 216 | 980  | 1050 | 778 | 1011             | 538 | 450 | 1015   | —                      | —   | —      | —                         | —    | —      | 1298                  | 789 | 500 | 1145   |
| 44           | 1100 | 254 | 1090 | 1162 | 873 | 1154             | 632 | 590 | 1560   | —                      | —   | —      | —                         | —    | —      | 1373                  | 789 | 500 | 1365   |
| 48           | 1200 | 254 | 1189 | 1261 | 923 | 1224             | 632 | 590 | 1810   | —                      | —   | —      | —                         | —    | —      | 1449                  | 811 | 500 | 1710   |

(Weight : kg)

※Motorized type of more than 350mm is selected according to the fluid pressure and power requirement. ( CRV / RCEL / NOAH / Rotork )

## ● Piping Bolt Sizes

For A type



| Nominal Size |      | JIS 5K |                           |     |                   |     |                           | JIS 10K |                   |     |                           |     |                   |
|--------------|------|--------|---------------------------|-----|-------------------|-----|---------------------------|---------|-------------------|-----|---------------------------|-----|-------------------|
| inch         | mm   | Qty    | Hex. bolt & nut<br>d×La×S | Qty | Hex. bolt<br>d×Lb | Qty | Hex. bolt & nut<br>d×La×S | Qty     | Hex. bolt<br>d×Lb | Qty | Hex. bolt & nut<br>d×La×S | Qty | Hex. bolt<br>d×Lb |
| 14           | 350  | 8      | M22x170x56                | 8   | M22x55            | 12  | M22x180x56                | 8       | M22x60            |     |                           |     |                   |
| 16           | 400  | 12     | M22x190x56                | 8   | M22x60            | 12  | M24x190x60                | 8       | M24x65            |     |                           |     |                   |
| 18           | 450  | 12     | M22x200x56                | 8   | M22x55            | 16  | M24x210x67                | 8       | M24x65            |     |                           |     |                   |
| 20           | 500  | 16     | M22x210x56                | 8   | M22x55            | 16  | M24x220x73                | 8       | M24x65            |     |                           |     |                   |
| 22           | 550  | 16     | M24x240x73                | 8   | M24x65            | 16  | M30x260x85                | 8       | M30x75            |     |                           |     |                   |
| 24           | 600  | 16     | M24x240x73                | 8   | M24x60            | 20  | M30x260x85                | 8       | M30x75            |     |                           |     |                   |
| 26           | 650  | 20     | M24x260x60                | 8   | M24x60            | 20  | M30x280x72                | 8       | M30x65            |     |                           |     |                   |
| 28           | 700  | 20     | M24x260x60                | 8   | M24x60            | 20  | M30x270x72                | 8       | M30x65            |     |                           |     |                   |
| 30           | 750  | 20     | M30x290x72                | 8   | M30x65            | 20  | M30x300x72                | 8       | M30x75            |     |                           |     |                   |
| 32           | 800  | 20     | M30x290x72                | 8   | M30x65            | 24  | M30x300x72                | 8       | M30x75            |     |                           |     |                   |
| 34           | 850  | 20     | M30x300x72                | 8   | M30x70            | 24  | M30x320x72                | 8       | M30x75            |     |                           |     |                   |
| 36           | 900  | 20     | M30x310x72                | 8   | M30x70            | 24  | M30x320x72                | 8       | M30x75            |     |                           |     |                   |
| 40           | 1000 | 24     | M30x320x72                | 8   | M30x70            | 24  | M36x350x84                | 8       | M36x75            |     |                           |     |                   |
| 44           | 1100 | 24     | M30x370x72                | 8   | M30x70            | 24  | M36x390x84                | 8       | M36x80            |     |                           |     |                   |
| 48           | 1200 | 28     | M30x370x72                | 8   | M30x70            | 28  | M36x390x84                | 8       | M36x80            |     |                           |     |                   |

1. Length of bolts are based on JIS standard and steel flange thickness.

3. Hexagonal bolts & nuts, hexagonal bolts should be in a set. ( 350mm to 1200mm )

2. Hexagonal bolts used 8 pitch nuts.

4. For Lug Type, 1 tap hole 2 bolts.

# 618H

**1.6 MPa  
HIGH PRESSURE  
BUTTERFLY VALVES**

# 622H

**2.0 MPa  
HIGH PERFORMANCE  
BUTTERFLY VALVES**



618H-G



JIS conformed product

PATENTED

622H-G

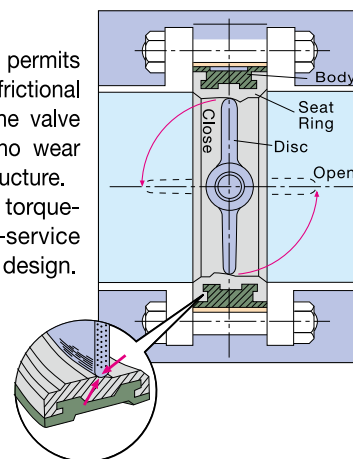
## 1.6MPa · 2.0MPa High-pressure Butterfly Valve created after our thorough pursuit of High-quality Seal Technology

Realized lower torque and excellent sealing performance through the "touch" seat and improving the sealing structure.

This valve brings out its stable performance for high-speed lines or high-flows-speed lines for general industries and air conditioning systems.

### Friction-Free Operation for Low Torque, Long Service.

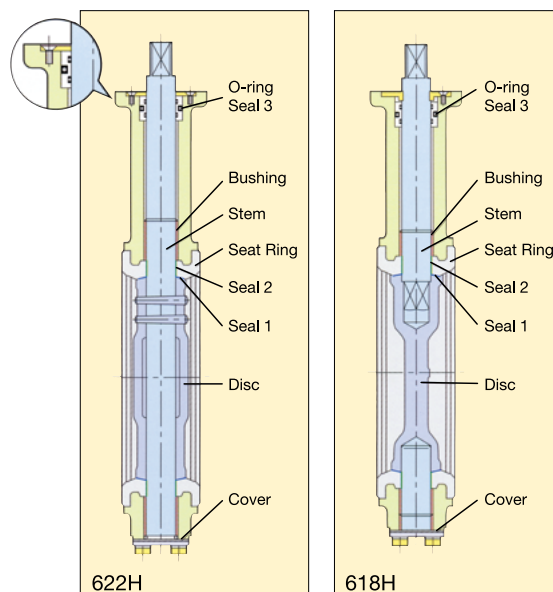
The patented "Touch" seat design permits the disc to close with virtually no frictional contact between the disc and the valve seat. And so, there is virtually no wear and tear on the valve's internal structure. The construction ensures a low torque-to-size ratio and improved in-service performance over a conventional design.



### Multiple Sealing Structure Eliminates External Leaks

Primary sealing is provided between the disc and the seat ring, and secondary sealing is provided between the stem and the seat ring, thus assuring tight shut-off.

An O-ring is mounted between the stem and the bushings for additional sealing. In addition, the valve is covered at its bottom to eliminate external leaks.



622H

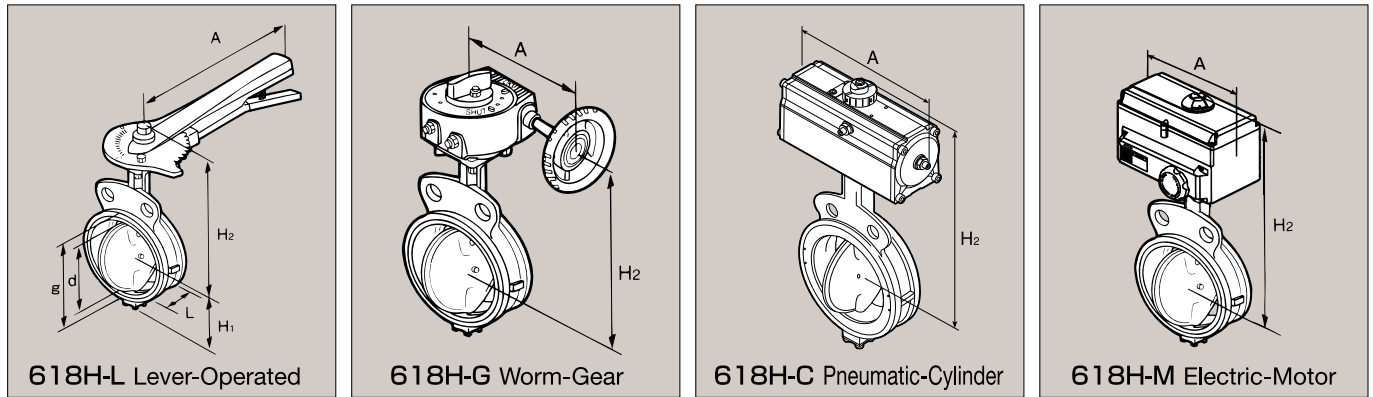
618H

- The body shape varies with the size.
- The 622H has a disc provided with a knock pin while the 618H has a disc with no knock pin.

# 618H

OKM's proprietary "touch" seat and S-line disk have added high-reliability, in addition to the light-weight and compact structure, to the butterfly valve's basic advantages. This valve can be widely used for air conditioning systems as well as in general industries.

## ● Dimensions



| Nominal Size |     | L   | d   | g   | H1  | 618H-L Lever-Operated |     |        | 618H-G Worm-Gear |     |        | 618H-C Pneumatic-Cylinder |      |        | 618H-M Electric-Motor |     |        |
|--------------|-----|-----|-----|-----|-----|-----------------------|-----|--------|------------------|-----|--------|---------------------------|------|--------|-----------------------|-----|--------|
| inch         | mm  |     |     |     |     | H2                    | A   | Weight | H2               | A   | Weight | H2                        | A    | Weight | H2                    | A   | Weight |
| 2            | 50  | 43  | 55  | 81  | 86  | 179                   | 160 | 3.2    | 172              | 132 | 4.8    | 243                       | 179  | 4      | 365                   | 277 | 13.5   |
| 2 1/2        | 65  | 46  | 66  | 99  | 85  | 192                   | 160 | 4.0    | 182              | 132 | 5.5    | 253                       | 179  | 4.7    | 375                   | 277 | 14.2   |
| 3            | 80  | 46  | 84  | 114 | 93  | 202                   | 200 | 4.4    | 192              | 132 | 5.9    | 263                       | 179  | 5.1    | 385                   | 277 | 14.6   |
| 4            | 100 | 52  | 100 | 136 | 99  | 225                   | 260 | 6.1    | 207              | 132 | 7.2    | 294                       | 223  | 7.4    | 400                   | 277 | 15.9   |
| 5            | 125 | 56  | 130 | 167 | 116 | 253                   | 360 | 9.3    | 228              | 170 | 10.1   | 343                       | 271  | 11     | 420                   | 277 | 17.7   |
| 6            | 150 | 56  | 154 | 192 | 131 | —                     | —   | —      | 244              | 197 | 13.4   | 358                       | 271  | 12.3   | 435                   | 277 | 19     |
| 8            | 200 | 60  | 200 | 242 | 169 | —                     | —   | —      | 284              | 255 | 28     | 416                       | 355  | 22     | 486                   | 301 | 28     |
| 10           | 250 | 68  | 246 | 299 | 204 | —                     | —   | —      | 322              | 255 | 38     | 486                       | 445  | 38     | 524                   | 301 | 38     |
| 12           | 300 | 78  | 295 | 348 | 254 | —                     | —   | —      | 352              | 255 | 49     | 516                       | 445  | 50     | 584                   | 344 | 60     |
| 14           | 350 | 78  | 333 | 389 | 286 | —                     | —   | —      | 385              | 320 | 72     | 745                       | 664  | 128    | ※                     | ※   | ※      |
| 16           | 400 | 102 | 384 | 447 | 321 | —                     | —   | —      | 420              | 320 | 95     | 812                       | 755  | 155    | ※                     | ※   | ※      |
| 18           | 450 | 114 | 434 | 507 | 353 | —                     | —   | —      | 463              | 331 | 139    | 924                       | 1060 | 245    | ※                     | ※   | ※      |
| 20           | 500 | 127 | 485 | 555 | 385 | —                     | —   | —      | 570              | 290 | 167    | 979                       | 1060 | 275    | ※                     | ※   | ※      |
| 24           | 600 | 154 | 586 | 659 | 445 | —                     | —   | —      | 626              | 325 | 265    | 1177                      | 1360 | 470    | ※                     | ※   | ※      |

※Please contact us for sizes of 350 mm or more.

(Size : mm , Weight : kg)

## ● Standard Materials

## ● Temperature and Pressure Ratings

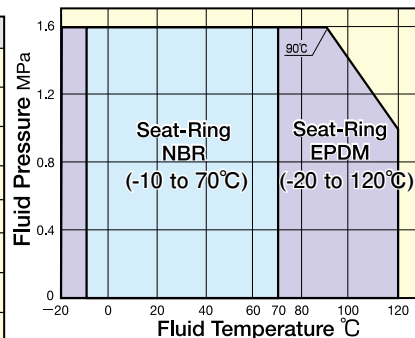
## ● Flow Characteristics

## ● Cv Values with Valve Fully Open

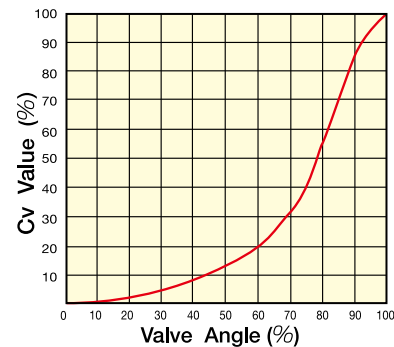
| Part Name  | Material                                     |
|------------|----------------------------------------------|
| Body       | FCD450                                       |
| Disc       | SCS13, SCS14                                 |
| Seat Ring* | NBR, EPDM                                    |
| Stem       | top SUS420J2※<br>bottom SUS420J2             |
| O-ring     | NBR, EPDM                                    |
| Gasket     | 50~300mm NBR, EPDM<br>350~600mm NON ASBESTOS |

\*The rubber seat is injected to the body.

※50-300mm with pneumatic actuator is SUS403.



\*This table conforms to the JIS standard (JIS B 2032).  
Contact us if you operate your valve outside the above pressure and temperature ranges.



| Size(mm) | Cv Value |
|----------|----------|
| 50       | 165      |
| 65       | 250      |
| 80       | 380      |
| 100      | 650      |
| 125      | 1100     |
| 150      | 1790     |
| 200      | 3300     |
| 250      | 4820     |
| 300      | 6200     |
| 350      | 8100     |
| 400      | 10800    |
| 450      | 13900    |
| 500      | 17300    |
| 600      | 25300    |

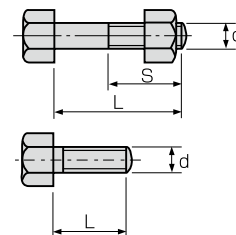
## ● Standard Specifications

|                          |                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Model                    | 618H                                                                                                                          |
| Applicable Flange Std.   | JIS10K/16K PN10 PN16<br>ASME 125Lb/150Lb                                                                                      |
| Max. Service Pressure    | 1.6MPa                                                                                                                        |
| Size                     | Lever-Operated : 50 to 125 mm<br>Worm-Gear : 50 to 600 mm<br>Pneumatic-Cylinder : 50 to 600mm<br>Electric-Motor : 50 to 600mm |
| Max. Service Temperature | -10 to 70°C (NBR) , -20 to 120°C (EPDM)※                                                                                      |
| Face To Face             | JIS B2002                                                                                                                     |
| Coating                  | Lacquer Primer ( Dark cyanide green)                                                                                          |
| Hydrostatic Shell Test   | 2.4MPa                                                                                                                        |
| Hydrostatic Seat Test    | 1.8MPa                                                                                                                        |

※In case of flow media contains oil or oil material, EPDM seat cannot be applicable.

\*Please contact to us in case of using less than 0(Zero) temperature.

## ● Piping Bolt Sizes



| Nominal Size |     | JIS 10K |                      | JIS 16K |                      |
|--------------|-----|---------|----------------------|---------|----------------------|
| inch         | mm  | Qty     | Hexagonal Bolt d×L×S | Qty     | Hexagonal Bolt d×L×S |
| 2            | 50  | 4       | M16×100×38           | 8       | M16×100×38           |
| 2 1/2        | 65  | 4       | M16×110×38           | 8       | M16×110×38           |
| 3            | 80  | 8       | M16×110×38           | 8       | M20×120×46           |
| 4            | 100 | 8       | M16×110×38           | 8       | M20×130×52           |
| 5            | 125 | 8       | M20×120×46           | 8       | M22×130×56           |
| 6            | 150 | 8       | M20×130×52           | 12      | M22×140×56           |
| 8            | 200 | 12      | M20×130×52           | 12      | M22×150×56           |
| 10           | 250 | 12      | M22×150×56           | 12      | M24×160×60           |
| 12           | 300 | 16      | M22×160×56           | 16      | M24×170×60           |
| 14           | 350 | 12      | M22×160×56           | 12      | M30×P3×190×60        |
|              |     | 8       | M22×55               | 8       | M30×P3×70            |
| 16           | 400 | 12      | M24×190×60           | 12      | M30×P3×220×60        |
|              |     | 8       | M24×60               | 8       | M30×P3×70            |
| 18           | 450 | 16      | M24×210×60           | 16      | M30×P3×230×60        |
|              |     | 8       | M24×65               | 8       | M30×P3×75            |
| 20           | 500 | 16      | M24×220×60           | 16      | M30×P3×250×72        |
|              |     | 8       | M24×65               | 8       | M30×P3×75            |
| 24           | 600 | 20      | M30×260×72           | 20      | M36×P3×290×78        |
|              |     | 8       | M30×70               | 8       | M36×P3×90            |

● The bolts for piping are optionally available.

● Above size is for the nut (h/d = 0.8).

● 350 to 600 mm: Long bolt for the upper level, set bolt for the lower level

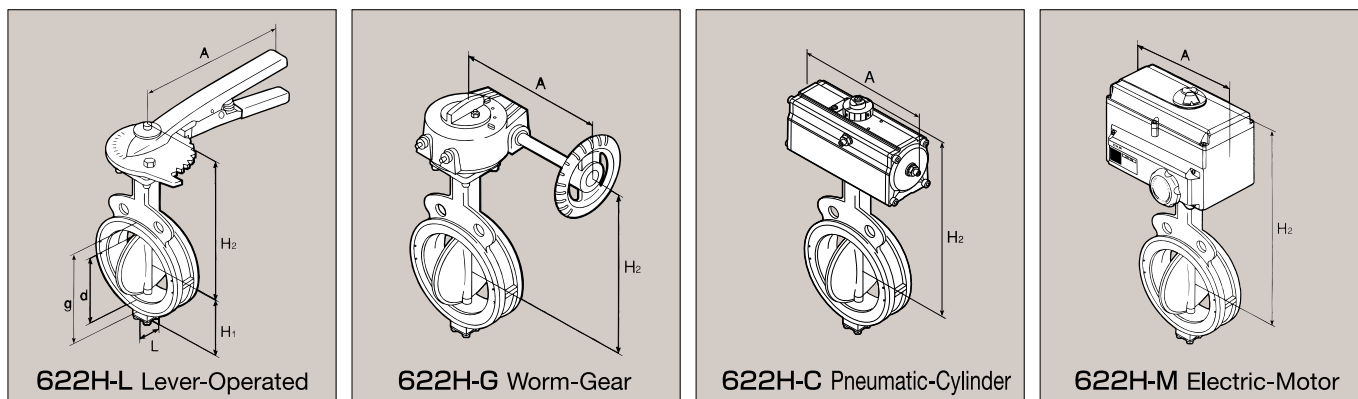
● Use head screw type of set bolt.



# 622H

The "touch" seat and the excellent multiple-sealing structure eliminate external leaks. This valve brings out its stable performance under conditions such as high-pressure, high-differential pressure, high-speed flow or vacuums in various fields of general industries and air conditioning.

## ● Dimensions



| Nominal Size |     | L   | d   | g   | H <sub>1</sub> | 622H-L Lever-Operated |     |        | 622H-G Worm-Gear |     |        | 622H-C Pneumatic-Cylinder |      |        | 622H-M Electric-Motor |     |        |
|--------------|-----|-----|-----|-----|----------------|-----------------------|-----|--------|------------------|-----|--------|---------------------------|------|--------|-----------------------|-----|--------|
| inch         | mm  |     |     |     |                | H <sub>2</sub>        | A   | Weight | H <sub>2</sub>   | A   | Weight | H <sub>2</sub>            | A    | Weight | H <sub>2</sub>        | A   | Weight |
| 2            | 50  | 43  | 55  | 81  | 86             | 179                   | 160 | 3.2    | 172              | 132 | 4.8    | 243                       | 179  | 4      | 365                   | 277 | 13.5   |
| 2 1/2        | 65  | 46  | 66  | 99  | 85             | 192                   | 160 | 4.0    | 182              | 132 | 5.5    | 253                       | 179  | 4.7    | 375                   | 277 | 14.2   |
| 3            | 80  | 46  | 84  | 114 | 93             | 202                   | 200 | 4.4    | 192              | 132 | 5.9    | 279                       | 223  | 6.1    | 385                   | 277 | 14.6   |
| 4            | 100 | 52  | 100 | 136 | 99             | 225                   | 260 | 6.1    | 207              | 132 | 7.2    | 294                       | 223  | 7.4    | 400                   | 277 | 15.9   |
| 5            | 125 | 56  | 130 | 167 | 116            | 253                   | 360 | 9.3    | 228              | 170 | 10.1   | 343                       | 271  | 11     | 420                   | 277 | 17.7   |
| 6            | 150 | 56  | 154 | 192 | 131            | —                     | —   | —      | 244              | 197 | 13.4   | 398                       | 355  | 18     | 435                   | 277 | 19     |
| 8            | 200 | 60  | 200 | 242 | 169            | —                     | —   | —      | 284              | 255 | 28     | 416                       | 355  | 22     | 486                   | 301 | 28     |
| 10           | 250 | 68  | 246 | 299 | 204            | —                     | —   | —      | 319              | 255 | 38     | 507                       | 445  | 41     | 521                   | 301 | 38     |
| 12           | 300 | 78  | 295 | 348 | 254            | —                     | —   | —      | 349              | 335 | 56     | 732                       | 664  | 114    | 581                   | 344 | 60     |
| 14           | 350 | 78  | 333 | 389 | 286            | —                     | —   | —      | 385              | 320 | 72     | 745                       | 664  | 128    | *                     | *   | *      |
| 16           | 400 | 102 | 384 | 447 | 321            | —                     | —   | —      | 428              | 331 | 110    | 929                       | 1060 | 215    | *                     | *   | *      |
| 18           | 450 | 114 | 434 | 507 | 353            | —                     | —   | —      | 463              | 392 | 144    | 924                       | 1060 | 245    | *                     | *   | *      |
| 20           | 500 | 127 | 485 | 555 | 385            | —                     | —   | —      | 570              | 386 | 167    | 979                       | 1060 | 275    | *                     | *   | *      |
| 24           | 600 | 154 | 586 | 659 | 445            | —                     | —   | —      | 626              | 421 | 265    | 1186                      | 1360 | 470    | *                     | *   | *      |

\*Please contact us for sizes of 350 mm or more.

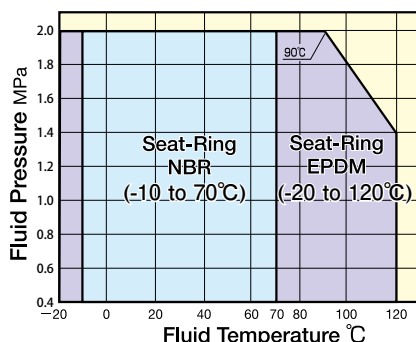
(Size : mm , Weight : kg)

## ● Standard Materials

| Part Name  | Material               |
|------------|------------------------|
| Body       | FCD450                 |
| Disc       | SCS13                  |
| Seat Ring* | NBR, EPDM              |
| Stem       | SUS403                 |
| O-ring     | NBR, EPDM              |
| Gasket     | 50~300mm NBR, EPDM     |
|            | 350~600mm NON ASBESTOS |

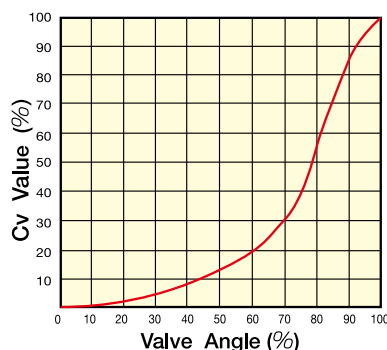
\*The rubber seat is injected to the body.

## ● Temperature and Pressure Ratings



Contact us if you operate your valve outside the above pressure and temperature ranges.

## ● Flow Characteristics



## ● Cv Values with Valve Fully Open

| Size (mm) | Cv Value |
|-----------|----------|
| 50        | 134      |
| 65        | 206      |
| 80        | 327      |
| 100       | 562      |
| 125       | 968      |
| 150       | 1547     |
| 200       | 2931     |
| 250       | 4258     |
| 300       | 5576     |
| 350       | 8100     |
| 400       | 10800    |
| 450       | 13900    |
| 500       | 17300    |
| 600       | 25300    |

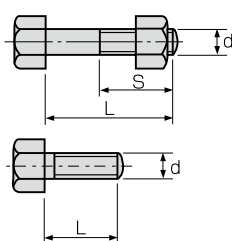
## ● Standard Specifications

|                          |                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Model                    | 622H                                                                                                                          |
| Applicable Flange Std.   | JIS10K/16K PN10 PN16 PN20<br>ASME 125Lb/150Lb                                                                                 |
| Max. Service Pressure    | 2.0MPa                                                                                                                        |
| Size                     | Lever-Operated : 50 to 125 mm<br>Worm-Gear : 50 to 600 mm<br>Pneumatic-Cylinder : 50 to 600mm<br>Electric-Motor : 50 to 600mm |
| Max. Service Temperature | -10 to 70°C (NBR) , -20 to 120°C (EPDM)※                                                                                      |
| Face To Face             | JIS B 2002                                                                                                                    |
| Coating                  | Lacquer Primer                                                                                                                |
| Hydrostatic Shell Test   | 3.0MPa                                                                                                                        |
| Hydrostatic Seat Test    | 2.2MPa                                                                                                                        |

※In case of flow media contains oil or oil material, EPDM seat cannot be applicable.

\*Please contact to us in case of using less than 0(Zero) temperature.

## ● Piping Bolt Sizes



| Nominal Size |     | JIS 16K |                      | JIS 20K |                      |
|--------------|-----|---------|----------------------|---------|----------------------|
| inch         | mm  | Qty     | Hexagonal Bolt d×L×S | Qty     | Hexagonal Bolt d×L×S |
| 2            | 50  | 8       | M16×100×38           | 8       | M16×100×38           |
| 2 1/2        | 65  | 8       | M16×110×38           | 8       | M16×110×38           |
| 3            | 80  | 8       | M20×120×46           | 8       | M20×120×46           |
| 4            | 100 | 8       | M20×130×52           | 8       | M20×130×52           |
| 5            | 125 | 8       | M22×130×56           | 8       | M22×140×56           |
| 6            | 150 | 12      | M22×140×56           | 12      | M22×140×56           |
| 8            | 200 | 12      | M22×150×56           | 12      | M22×150×56           |
| 10           | 250 | 12      | M24×160×60           | 12      | M24×170×60           |
| 12           | 300 | 16      | M24×170×60           | 16      | M24×180×60           |
| 14           | 350 | 12      | M30×P3×190×60        | 12      | M30×P3×200×72        |
|              |     | 8       | M30×P3×70            | 8       | M30×P3×75            |
| 16           | 400 | 12      | M30×P3×220×60        | 12      | M30×P3×230×85        |
|              |     | 8       | M30×P3×70            | 8       | M30×P3×80            |
| 18           | 450 | 16      | M30×P3×230×60        | 16      | M30×P3×250×85        |
|              |     | 8       | M30×P3×75            | 8       | M30×P3×80            |
| 20           | 500 | 16      | M30×P3×250×72        | 16      | M30×P3×270×85        |
|              |     | 8       | M30×P3×75            | 8       | M30×P3×85            |
| 24           | 600 | 20      | M36×P3×290×78        | 20      | M36×P3×310×97        |
|              |     | 8       | M36×P3×90            | 8       | M36×P3×95            |

● The bolts for piping are optionally available.

● Above size is for the nut (h/d = 0.8).

● 350 to 600 mm: Long bolt for the upper level, set bolt for the lower level

● Use head screw type of set bolt.



# 637N/635N

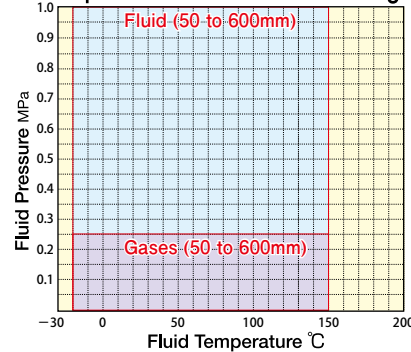
## PTFE-Lining BUTTERFLY VALVES

## High Corrosion Resistance and Durability

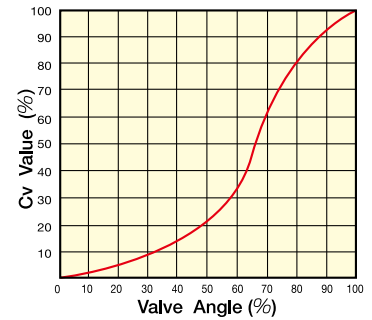
No other materials have better performance than PTFE resin in keeping high corrosion resistance and preventing the adhesion of fluid. This resin is ideal for acids, gases, and food in the form of fluid. Furthermore, the unique internal structure prevents residual fluid, thus maintaining its durability and cleanliness far better than conventional valves.

Valves connected to pipes used for pharmaceutical, food, and industrial applications that handle acid and alkali solvents are required to have more corrosion resistance, chemical resistance, and sealing performance than other valves. The entire surface of OKM's PTFE-Lining butterfly valve, which comes in contact with fluid, uses a tetrafluoroethylene perfluoroalkoxy (PTFE) resin. This valve demonstrates stable performance in a wide variety of fields, for pure water equipment as well as pharmaceutical, food, and chemical applications.

### Temperature and Pressure Ratings



### Flow Characteristics



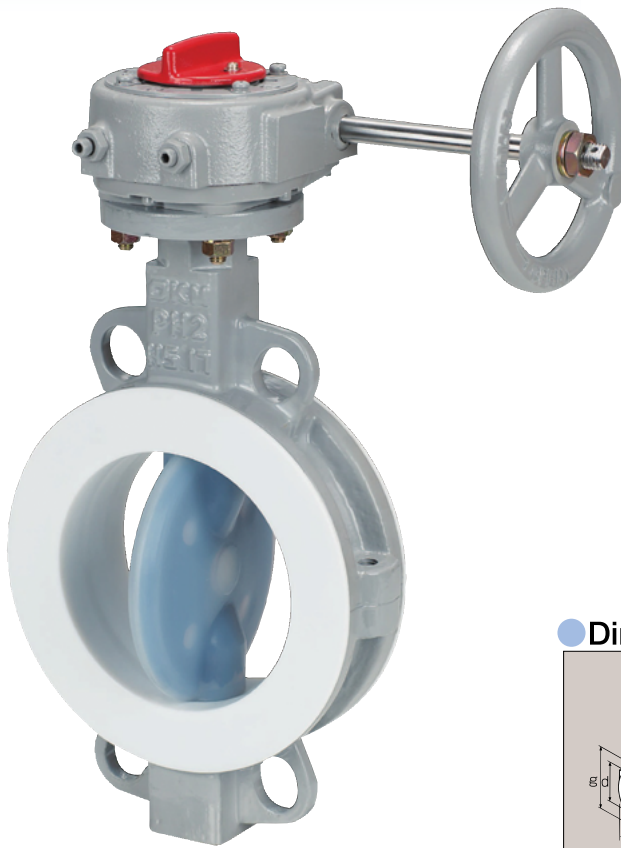
### Standard Materials and Specifications

|                          |                                                               |
|--------------------------|---------------------------------------------------------------|
| Model                    | 637N/635N                                                     |
| Applicable Flange Std.   | JIS10K ASME 125Lb/150Lb                                       |
| Max. Service Pressure    | Fluid 1.0MPa / Gases 0.25MPa                                  |
| Actuators                | Lever-Operated, Worm-Gear, Pneumatic-Cylinder, Electric-Motor |
| Max. Service Temperature | -20°C to 150°C                                                |
| Face To Face             | JIS B2002 46 · 47 Series                                      |
| Coating                  | Epoxy Coating                                                 |
| Hydrostatic Shell Test   | Fluid 1.1MPa / Gases 0.3MPa                                   |
| Hydrostatic Seat Test    | 1.5MPa                                                        |

| Part Name | Material            |
|-----------|---------------------|
| Body      | SCPH2               |
| Disc      | PFA+SCPH2<br>PFA+SS |
| Seat Ring | PTFE                |
| Stem      | S45C                |
| O-ring    | FKM                 |
| Seal ring | PTFE                |

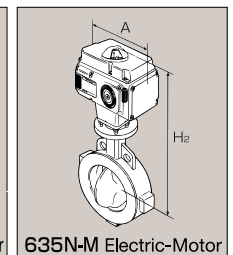
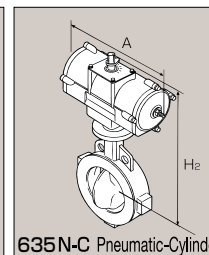
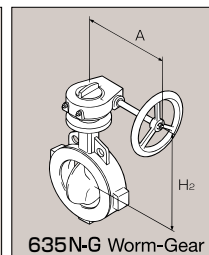
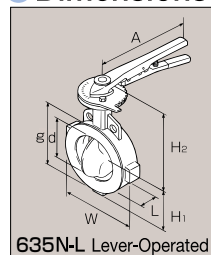
### Cv Values with Valve Fully Open

| Size(mm) | Cv Value |
|----------|----------|
| 50       | 120      |
| 65       | 120      |
| 80       | 280      |
| 100      | 450      |
| 125      | 750      |
| 150      | 1250     |
| 200      | 2250     |
| 250      | 3600     |
| 300      | 5000     |
| 350      | 9200     |
| 400      | 14500    |
| 450      | 20100    |
| 500      | 22000    |
| 600      | 31000    |



637N-G

### Dimensions



| Nominal Size |     | L   | d   | g   | H <sub>1</sub> | 637N-L Lever-Operated |     |        | 637N-G 635N-G Worm-Gear |     |        | 637N-C 635N-C Pneumatic-Cylinder |      |        | 637N-M 635N-M Electric-Motor |     |        |
|--------------|-----|-----|-----|-----|----------------|-----------------------|-----|--------|-------------------------|-----|--------|----------------------------------|------|--------|------------------------------|-----|--------|
| inch         | mm  |     |     |     |                | H <sub>2</sub>        | A   | Weight | H <sub>2</sub>          | A   | Weight | H <sub>2</sub>                   | A    | Weight | H <sub>2</sub>               | A   | Weight |
| 2            | 50  | 43  | 59  | 100 | 60             | 151                   | 160 | 3.6    | 142                     | 141 | 5.2    | 261                              | 179  | 4.9    | 335                          | 277 | 13.8   |
| 2 1/2        | 65  | 43  | 59  | 100 | 60             | 151                   | 160 | 3.6    | 142                     | 141 | 5.2    | 261                              | 179  | 4.9    | 335                          | 277 | 13.8   |
| 3            | 80  | 46  | 79  | 132 | 86             | 186                   | 200 | 5.3    | 177                     | 141 | 6.8    | 312                              | 223  | 7.9    | 370                          | 277 | 15.5   |
| 4            | 100 | 52  | 99  | 158 | 112            | 206                   | 260 | 7.9    | 188                     | 182 | 10.1   | 322                              | 223  | 10.2   | 380                          | 277 | 17.7   |
| 5            | 125 | 56  | 124 | 185 | 130            | 227                   | 360 | 10.1   | 203                     | 182 | 11     | 370                              | 271  | 14.1   | 395                          | 277 | 19.3   |
| 6            | 150 | 56  | 149 | 213 | 145            | 247                   | 360 | 12.5   | 225                     | 211 | 15.3   | 403                              | 271  | 17.5   | 412                          | 277 | 22     |
| 8            | 200 | 60  | 196 | 265 | 175            | —                     | —   | —      | 253                     | 211 | 23     | 459                              | 355  | 29     | 461                          | 301 | 32     |
| 10           | 250 | 68  | 249 | 322 | 215            | —                     | —   | —      | 314                     | 255 | 37     | 552                              | 445  | 44     | 516                          | 301 | 40     |
| 12           | 300 | 78  | 299 | 370 | 251            | —                     | —   | —      | 349                     | 255 | 47     | 587                              | 445  | 54     | 581                          | 345 | 61     |
| 14           | 350 | 78  | 349 | 415 | 292            | —                     | —   | —      | 502                     | 320 | 95     | 792                              | 664  | 142    | 858                          | 621 | 171    |
| 16           | 400 | 102 | 396 | 475 | 320            | —                     | —   | —      | 527                     | 320 | 145    | 817                              | 664  | 188    | 883                          | 621 | 222    |
| 18           | 450 | 114 | 447 | 530 | 361            | —                     | —   | —      | 587                     | 331 | 183    | 888                              | 755  | 220    | 922                          | 621 | 243    |
| 20           | 500 | 127 | 490 | 585 | 383            | —                     | —   | —      | 608                     | 331 | 243    | 994                              | 1060 | 338    | 943                          | 621 | 303    |
| 24           | 600 | 154 | 589 | 690 | 453            | —                     | —   | —      | 678                     | 392 | 339    | 1064                             | 1060 | 428    | *                            | *   | *      |

\*Please contact us for sizes of 350 mm or more.

(Size : mm , Weight : kg)

# 602A

**CONDENSATION RESISTANT  
ALMI DICAST BODY  
BUTTERFLY VALVES**

# 603A

**ALMI DICAST BODY  
BUTTERFLY VALVES**



602A-G

JIS conformed product

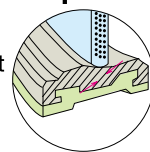
PATENTED

## JIS Compliant Light-weight Anti-condensation Valve suitable for Air Conditioning, Plant and so on.

The OKM butterfly valve 602A is a highly reliable multi-purpose valve with an extraordinarily efficient anti-condensation structure. We have designed and developed this valve fully utilizing our accumulated data and technologies such as our proprietary "touch" seal system. The valve sports by far the best controllability and sealing performance. The JIS compliant (JIS B 2032) almi dicast butterfly valve is a general purpose valve that is easy to install, has excellent durability and realizes cost-savings.

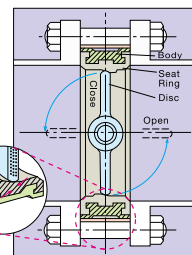
### More Economic with New OKM-specific Soft "Touch" Seat

We have developed a new soft "touch" seat that presses at an obtuse angle when the disk makes contact to close on the rubber seat surface, permitting the seat ring to have a long service life economically and without straining contact with the seat.



### Low Torque realized with Lightweight and Compact Actuator

OKM's unique proprietary seat system is patented. We realized the lightweight and compact actuator by further lowering the torque as well.

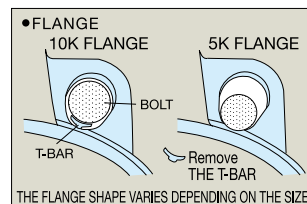


### One-piece Structure between Almi Main Body and Stainless Steel Neck JIS Compliant Valve with Anti-condensation Structure (602A)

We have designed a one-piece structure between the lightweight and solid almi dicast main body and the stainless steel neck. This is a JIS compliant almi dicast butterfly valve, which brings about excellent durability to prevent condensation with OKM's proprietary structure (patented).

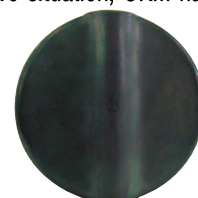
### Dual Purpose Hole for Bolt and JIS 5K and 10K Piping Guide, and Deviation-proof

OKM's proprietary "T Bar" (patented) has been adopted for the bolt guide hole, which makes it secure and easy to set the piping position without any anxiety as to deviation.



## 603A

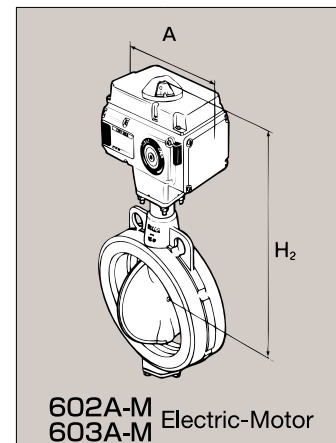
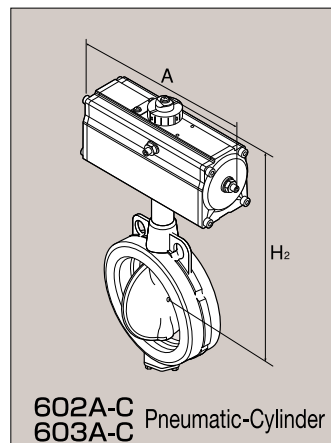
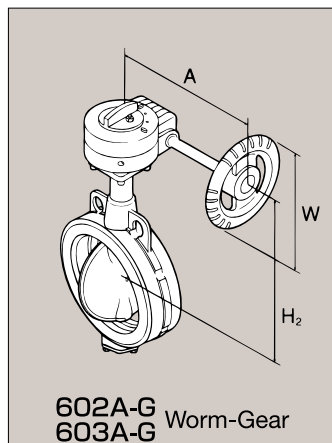
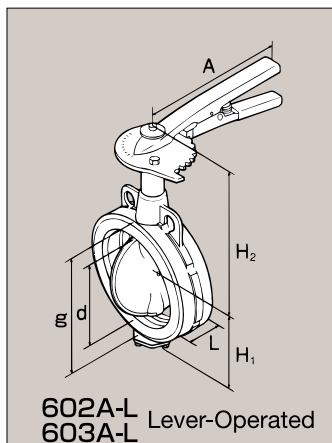
In the field of the drainage processing of water purification plants and factories, efforts have been made toward water treatment, such as the development of new processing systems. In the above situation, OKM has developed resin valve PPS (polyphenylene sulfide) that has excellent corrosion resistance. To meet the demands of the times, OKM will continue developing new valves in response to users' needs.



### Development of Resin Valve PPS

A lineup of discs made of stainless and resin valve PPS that has high corrosion resistance demonstrates preminent durability.

## Dimensions ※Shapes vary according to sizes.



※Please contact us for 603A

| Nominal Size |     | L  | d   | g   | H <sub>1</sub> | 602A-L Lever-Operated |     |        | 602A-G Worm-Gear |     |     |        | 602A-C Pneumatic-Cylinder |     |        | 602A-M Electric-Motor |     |        |
|--------------|-----|----|-----|-----|----------------|-----------------------|-----|--------|------------------|-----|-----|--------|---------------------------|-----|--------|-----------------------|-----|--------|
| inch         | mm  |    |     |     |                | H <sub>2</sub>        | A   | Weight | H <sub>2</sub>   | A   | ØW  | Weight | H <sub>2</sub>            | A   | Weight | H <sub>2</sub>        | A   | Weight |
| 1½           | 40  | 33 | 43  | 69  | 66             | 168                   | 160 | 1.4    | 154              | 80  | 70  | 1.5    | 230                       | 179 | 2.5    | 352                   | 277 | 12     |
| 2            | 50  | 43 | 55  | 81  | 69             | 176                   | 160 | 1.6    | 162              | 80  | 70  | 1.7    | 238                       | 179 | 2.7    | 360                   | 277 | 12.2   |
| 2½           | 65  | 46 | 66  | 104 | 80             | 189                   | 160 | 2.2    | 172              | 80  | 70  | 2.3    | 248                       | 179 | 3.3    | 370                   | 277 | 12.8   |
| 3            | 80  | 46 | 84  | 115 | 89             | 194                   | 200 | 2.5    | 179              | 133 | 100 | 3.1    | 253                       | 179 | 3.4    | 375                   | 277 | 12.9   |
| 4            | 100 | 52 | 100 | 136 | 106            | 206                   | 200 | 3.2    | 191              | 133 | 100 | 3.8    | 265                       | 179 | 4.1    | 387                   | 277 | 13.6   |
| 5            | 125 | 56 | 130 | 167 | 123            | 234                   | 260 | 4.8    | 215              | 172 | 125 | 5.8    | 330                       | 271 | 8.3    | 407                   | 277 | 15     |
| 6            | 150 | 56 | 154 | 196 | 138            | 249                   | 260 | 5.8    | 230              | 172 | 125 | 6.8    | 345                       | 271 | 9.3    | 422                   | 277 | 16     |
| 8            | 200 | 60 | 200 | 242 | 168            | —                     | —   | —      | 259              | 197 | 160 | 10.9   | 401                       | 355 | 16.2   | 471                   | 301 | 22     |
| 10           | 250 | 68 | 246 | 300 | 223            | —                     | —   | —      | 319              | 222 | 200 | 21     | 483                       | 445 | 30     | 521                   | 301 | 29     |
| 12           | 300 | 78 | 295 | 346 | 260            | —                     | —   | —      | 349              | 222 | 200 | 28     | 513                       | 445 | 37     | 551                   | 301 | 36     |

※Please contact us for sizes of 350 mm or more.

(Size : mm , Weight : kg)

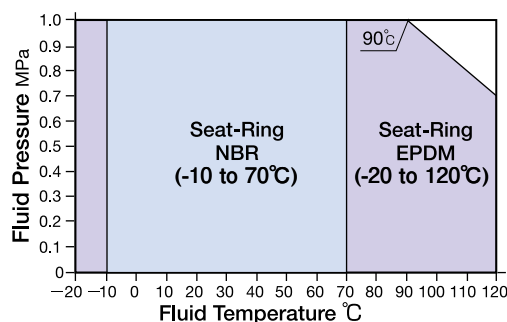
## Standard Specifications

|                         |                                                                  |               |                    |                                     |                                                                                |  |
|-------------------------|------------------------------------------------------------------|---------------|--------------------|-------------------------------------|--------------------------------------------------------------------------------|--|
| Model                   | 602A                                                             | 603A          | Face To Face       | JIS B 2002 46 Series                |                                                                                |  |
| Size                    | 40mm to 300mm                                                    | 40mm to 200mm | Applicable Flange  | ISO 5211                            |                                                                                |  |
| Applicable Flange Std.  | JIS: 5K, 10K ASME 125Lb/150Lb                                    |               | Standard Materials | Body : ADC12                        |                                                                                |  |
| Max.Service Pressure    | 1.0MPa                                                           |               |                    | Disc : SCS14<br>SCS13               | 603A Disc :<br>PPS (40 to 200mm)<br>SCS14 (40 to 200mm)<br>SCS13 (40 to 200mm) |  |
| Max.Service Temperature | -20 to 120℃ EPDM※、-10 to 70℃ NBR                                 |               |                    |                                     |                                                                                |  |
| Hydrostatic Seat Test   | 1.1MPa                                                           |               |                    | Stem: SUS420J2                      |                                                                                |  |
| Hydrostatic Shell Test  | 1.5MPa                                                           |               |                    | Seat Ring : EPDM(NBR)               |                                                                                |  |
| Actuators               | Lever-Operated , Worm-Gear , Pneumatic-Cylinder , Electric-Motor |               | Coating            | Polyester Powder Coating Light Blue |                                                                                |  |

※In case of flow media contains oil or oil material, EPDM seat cannot be applicable.

\*Please contact to us in case of using less than 0(Zero) temperature.

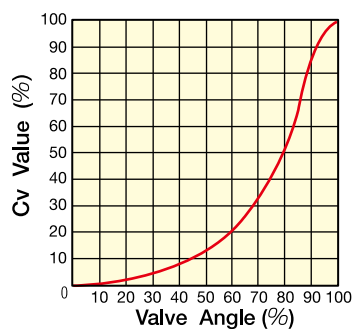
## Temperature and Pressure Ratings



\*This table conforms to the JIS standard (JIS B 2032).

Contact us if you operate your valve outside the above pressure and temperature ranges.

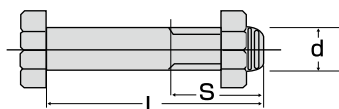
## Flow Characteristics



## Cv Values with Valve Fully Open

| Size(mm) | Cv Value |
|----------|----------|
| 40       | 102      |
| 50       | 165      |
| 65       | 250      |
| 80       | 380      |
| 100      | 650      |
| 125      | 1100     |
| 150      | 1790     |
| 200      | 3300     |
| 250      | 4400     |
| 300      | 6200     |

## Piping Bolt Sizes



Bolt length applies to flange thicknesses that conform to JIS standard.  
The hexagonal bolt should use an 8UN splitnut.

| Nominal Size |     | JIS 5K |                      | JIS 10K |                      |
|--------------|-----|--------|----------------------|---------|----------------------|
| inch         | mm  | Qty    | Hexagonal Bolt d×L×S | Qty     | Hexagonal Bolt d×L×S |
| 1 1/2        | 40  | 4      | M12× 75×30           | 4       | M16× 85×38           |
| 2            | 50  | 4      | M12× 90×30           | 4       | M16×100×38           |
| 2 1/2        | 65  | 4      | M12× 90×30           | 4       | M16×110×38           |
| 3            | 80  | 4      | M16× 100×38          | 8       | M16×110×38           |
| 4            | 100 | 8      | M16× 110×38          | 8       | M16×110×38           |
| 5            | 125 | 8      | M16× 110×38          | 8       | M20×120×46           |
| 6            | 150 | 8      | M16× 120×38          | 8       | M20×130×52           |
| 8            | 200 | 8      | M20× 130×52          | 12      | M20×130×52           |
| 10           | 250 | 12     | M20× 140×52          | 12      | M22×150×56           |
| 12           | 300 | 12     | M20× 150×52          | 16      | M22×160×56           |

\*As for the minimum internal diameter size for piping, refer to the table of minimum internal diameter size for piping, 615X on Page 10.



# 606K 606F

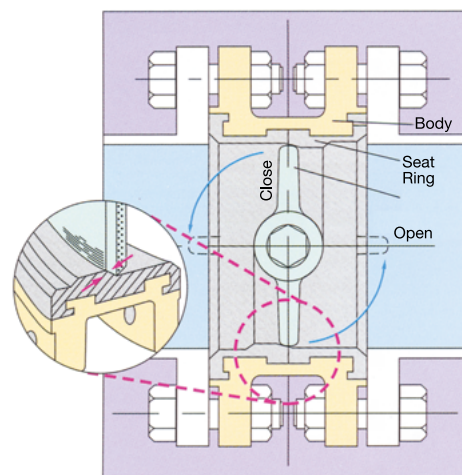
## DOUBLE-FLANGED BUTTERFLY VALVES

### Highly Reliable Double-Flanged Butterfly Valve for Ships and General Industries

OKM's unique "Touch Seat" Design, double-flanged structure, and multiple-sealing system combine to provide a highly reliable valve with a wide variety of uses, as shipside valves or for general industrial use,

#### "Touch Seat" Design Ensures High Reliability and Long Service Life

Our Unique "Touch Seat" Design enables the disc to close with virtually no friction between the disc and the valve seat. This minimizes wear on the seat ring ensuring leak-proof closure. The design also ensures highly reliable valve operation and a long service life.

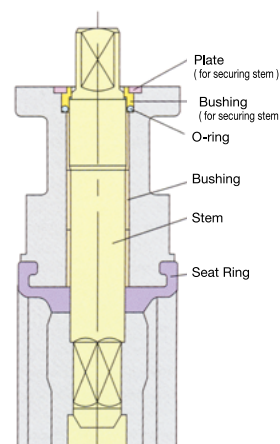


#### Double-flanged Structure

The 606 valve can be installed directly to the end of a pipe and to the side of a ship. A bushing and plate at the top of the stem prevent the stem from leaving the body ensuring safe flow control.

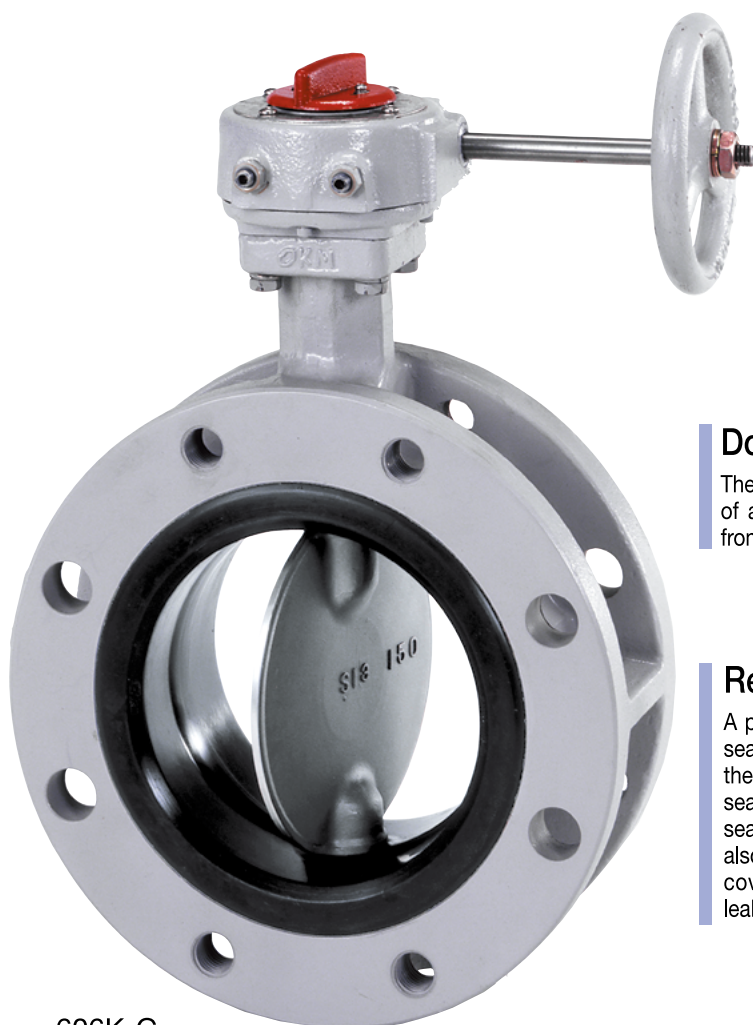
#### Reliable Multiple Seals

A primary seal between the disc and the seat ring and a secondary seal between the stem and the seat ring ensure a tight seal when the valve is closed. An O-ring seal between the stem and bushing is also included. The bottom of the valve is covered to eliminate any external leakage.



#### Easy-maintenance and Wear-resistant Design

The disc and stem are hexagonally jointed without pins. This provides a smooth disc surface which minimizes fluid resistance, making maintenance easier. Also, the upper and lower stem bushings provide excellent resistance against wear and friction, preventing galling and



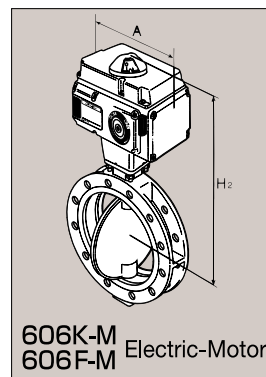
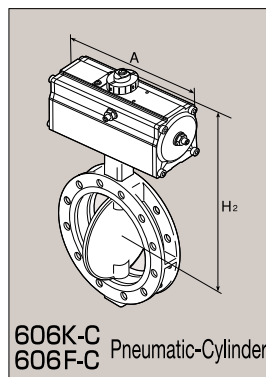
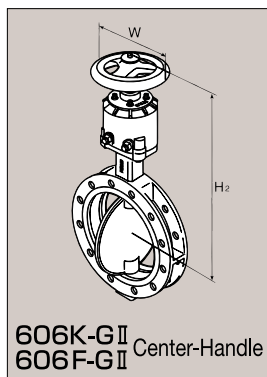
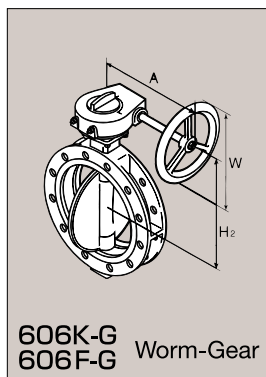
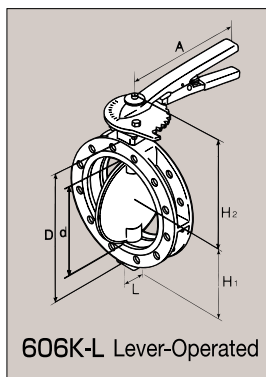
606K-G

JIS conformed product

PATENTED



## Dimensions ※Shapes vary according to sizes.



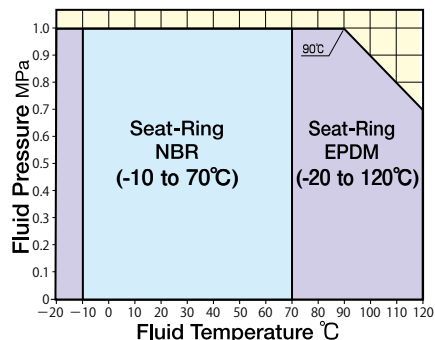
| Nominal Size |     | L   | d   | D    | H1  | 606K-L Lever-Operated |     |        | 606K-G · 606F-G Worm-Gear |     |     |        | 606K-GII · 606F-GII Center-Handle |     |        | 606K-C · 606F-C Pneumatic-Cylinder |      |        | 606K-M · 606F-M Electric-Motor |     |        |
|--------------|-----|-----|-----|------|-----|-----------------------|-----|--------|---------------------------|-----|-----|--------|-----------------------------------|-----|--------|------------------------------------|------|--------|--------------------------------|-----|--------|
| inch         | mm  |     |     |      |     | H2                    | A   | Weight | H2                        | A   | ØW  | Weight | H2                                | ØW  | Weight | H2                                 | A    | Weight | H2                             | A   | Weight |
| 2            | 50  | 43  | 55  | 155  | 70  | 174                   | 160 | 6.2    | 167                       | 141 | 100 | 7.8    | 278                               | 100 | 8.7    | 238                                | 179  | 7.3    | 360                            | 277 | 16.8   |
| 2½           | 65  | 46  | 66  | 175  | 80  | 187                   | 160 | 8      | 177                       | 141 | 100 | 9.6    | 288                               | 100 | 10.4   | 248                                | 179  | 9      | 370                            | 277 | 18.5   |
| 3            | 80  | 46  | 84  | 185  | 96  | 192                   | 200 | 9.3    | 182                       | 141 | 100 | 10.8   | 293                               | 100 | 11.2   | 253                                | 179  | 9.8    | 375                            | 277 | 19.3   |
| 4            | 100 | 52  | 100 | 210  | 116 | 204                   | 200 | 12     | 194                       | 141 | 100 | 13.6   | 305                               | 100 | 13.9   | 265                                | 179  | 12.5   | 387                            | 277 | 22     |
| 5            | 125 | 100 | 130 | 250  | 140 | 234                   | 260 | 19.2   | 215                       | 182 | 125 | 22     | 329                               | 140 | 21     | 330                                | 271  | 21     | 407                            | 277 | 28     |
| 6            | 150 | 100 | 154 | 280  | 155 | 249                   | 260 | 24     | 230                       | 182 | 125 | 26     | 344                               | 140 | 25     | 345                                | 271  | 25     | 422                            | 277 | 32     |
| 8            | 200 | 100 | 200 | 330  | 183 | 288                   | 360 | 33     | 259                       | 211 | 160 | 36     | 408                               | 200 | 40     | 401                                | 355  | 38     | 471                            | 301 | 42     |
| 10           | 250 | 110 | 246 | 400  | 223 | —                     | —   | —      | 319                       | 255 | 200 | 62     | 458                               | 200 | 58     | 483                                | 445  | 63     | 521                            | 301 | 62     |
| 12           | 300 | 110 | 295 | 445  | 260 | —                     | —   | —      | 349                       | 255 | 200 | 71     | 488                               | 200 | 67     | 513                                | 445  | 72     | 551                            | 301 | 72     |
| 14           | 350 | 120 | 336 | 490  | 289 | —                     | —   | —      | 369                       | 335 | 315 | 95     | 511                               | 315 | 85     | 603                                | 506  | 93     | 580                            | 345 | 99     |
| 16           | 400 | 130 | 390 | 560  | 322 | —                     | —   | —      | 415                       | 320 | 315 | 129    | 650                               | 355 | 129    | 707                                | 664  | 183    | 620                            | 345 | 131    |
| 18           | 450 | 150 | 439 | 620  | 345 | —                     | —   | —      | 445                       | 320 | 315 | 159    | 717                               | 355 | 172    | 737                                | 664  | 213    | 650                            | 345 | 161    |
| 20           | 500 | 160 | 490 | 675  | 379 | —                     | —   | —      | 493                       | 331 | 355 | 215    | 767                               | 355 | 215    | 974                                | 1060 | 320    | ※                              | ※   | ※      |
| 22           | 550 | 170 | 540 | 745  | 410 | —                     | —   | —      | 523                       | 392 | 450 | 258    | 860                               | 450 | 297    | 1004                               | 1060 | 358    | ※                              | ※   | ※      |
| 24           | 600 | 170 | 589 | 795  | 445 | —                     | —   | —      | 558                       | 392 | 450 | 290    | 895                               | 450 | 329    | 1039                               | 1060 | 390    | ※                              | ※   | ※      |
| 26           | 650 | 170 | 634 | 845  | 468 | —                     | —   | —      | 647                       | 421 | 390 | 465    | ※                                 | ※   | ※      | ※                                  | ※    | ※      | ※                              | ※   | ※      |
| 28           | 700 | 165 | 684 | 905  | 496 | —                     | —   | —      | 722                       | 454 | 390 | 550    | ※                                 | ※   | ※      | ※                                  | ※    | ※      | ※                              | ※   | ※      |
| 30           | 750 | 190 | 731 | 970  | 540 | —                     | —   | —      | 762                       | 454 | 390 | 630    | ※                                 | ※   | ※      | ※                                  | ※    | ※      | ※                              | ※   | ※      |
| 32           | 800 | 190 | 781 | 1020 | 570 | —                     | —   | —      | 792                       | 454 | 390 | 680    | ※                                 | ※   | ※      | ※                                  | ※    | ※      | ※                              | ※   | ※      |
| 34           | 850 | 203 | 835 | 1070 | 682 | —                     | —   | —      | 933                       | 538 | 450 | 845    | ※                                 | ※   | ※      | ※                                  | ※    | ※      | ※                              | ※   | ※      |

(Weight : kg)

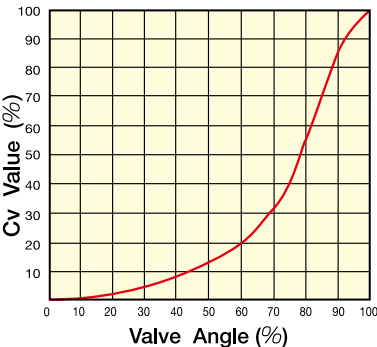
## Standard Materials

| Part Name | Material     |               |
|-----------|--------------|---------------|
|           | 606K         | 606F          |
| Body      | SCPH2,FCD450 |               |
| Disc      | SCS13        |               |
|           | SCS14        | —             |
| Seat Ring | NBR,EPDM     |               |
| Stem      | SUS420J2     |               |
| O-ring    | NBR          |               |
| Gasket    | NBR          | Asbestos-Free |

## Temperature and Pressure Ratings



## Flow Characteristics



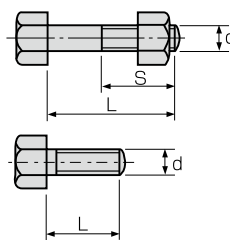
## Cv Values with Valve Fully Open

| Size (mm) | Cv Value |
|-----------|----------|
| 50        | 165      |
| 65        | 250      |
| 80        | 380      |
| 100       | 650      |
| 125       | 1100     |
| 150       | 1790     |
| 200       | 3300     |
| 250       | 4400     |
| 300       | 6200     |
| 350       | 7550     |
| 400       | 10700    |
| 450       | 13800    |
| 500       | 17000    |
| 550       | 21400    |
| 600       | 25200    |
| 650       | 28600    |
| 700       | 35000    |
| 750       | 39500    |
| 800       | 46000    |
| 850       | 56000    |

## Standard Specifications

| Model                    | 606K                                                                              | 606F         |
|--------------------------|-----------------------------------------------------------------------------------|--------------|
| Size                     | 50 to 300mm                                                                       | 350 to 850mm |
| Applicable Flange Std.   | JIS 5K/10K                                                                        |              |
| Max. Service Pressure    | 1.0MPa                                                                            |              |
| Actuators                | Lever-Operated, Worm-Gear, Center Handle-Gear, Pneumatic-Cylinder, Electric-Motor |              |
| Max. Service Temperature | -10 to 70°C (NBR), -20 to 120°C (EPDM)※                                           |              |
| Face To Face             | JIS F7480                                                                         |              |
| Coating                  | Epoxy Coating (Munsell N7)                                                        |              |
| Hydrostatic Shell Test   | 1.5MPa                                                                            |              |
| Hydrostatic Seat Test    | 1.1MPa                                                                            |              |

## Piping Bolt Sizes



\*As for the minimum internal diameter size for piping, refer to the table of minimum internal diameter size for piping, 615X on Page 10.

| Nominal Size |     | JIS 5K |                      |     |                      | JIS 10K |                      |     |                      |
|--------------|-----|--------|----------------------|-----|----------------------|---------|----------------------|-----|----------------------|
| inch         | mm  | Qty    | Hexagonal Bolt d × L | Qty | Hexagonal Bolt d × L | Qty     | Hexagonal Bolt d × L | Qty | Hexagonal Bolt d × L |
| 2            | 50  | —      | —                    | 8   | M12×30               | —       | —                    | 8   | M16×35               |
| 2½           | 65  | —      | —                    | 8   | M12×30               | —       | —                    | 8   | M16×35               |
| 3            | 80  | —      | —                    | 8   | M16×30               | —       | —                    | 16  | M16×35               |
| 4            | 100 | —      | —                    | 16  | M16×35               | —       | —                    | 16  | M16×35               |
| 5            | 125 | 8      | M16×55               | 8   | M16×40               | 8       | M20×60               | 8   | M20×40               |
| 6            | 150 | 8      | M16×60               | 8   | M16×40               | 8       | M20×65               | 8   | M20×45               |
| 8            | 200 | 8      | M20×65               | 8   | M20×45               | 16      | M20×65               | 8   | M20×45               |
| 10           | 250 | 16     | M20×70               | 8   | M20×45               | 16      | M22×75               | 8   | M22×50               |
| 12           | 300 | 16     | M20×70               | 8   | M20×45               | 24      | M22×75               | 8   | M22×50               |
| 14           | 350 | 16     | M22×80               | 8   | M22×55               | 24      | M22×80               | 8   | M22×50               |
| 16           | 400 | 24     | M22×85               | 8   | M22×55               | 24      | M24×90               | 8   | M24×60               |
| 18           | 450 | 24     | M22×85               | 8   | M22×55               | 32      | M24×95               | 8   | M24×60               |
| 20           | 500 | 32     | M22×85               | 8   | M22×55               | 32      | M24×95               | 8   | M24×60               |
| 22           | 550 | 32     | M24×90               | 8   | M24×60               | 32      | M30×110              | 8   | M30×70               |
| 24           | 600 | 32     | M24×90               | 8   | M24×60               | 40      | M30×110              | 8   | M30×70               |
| 26           | 650 | —      | —                    | —   | —                    | 40      | M30×110              | 8   | M30×65               |
| 28           | 700 | —      | —                    | —   | —                    | 40      | M30×110              | 8   | M30×65               |
| 30           | 750 | —      | —                    | —   | —                    | 40      | M30×120              | 8   | M30×75               |
| 32           | 800 | —      | —                    | —   | —                    | 48      | M30×120              | 8   | M30×75               |
| 34           | 850 | —      | —                    | —   | —                    | 48      | M30×130              | 8   | M30×80               |

Bolt length applies to flange thicknesses that conform to JIS standard. The hexagonal bolt should use an 8UN splitnut. All Valves sizes require the hexagonal bolt/nuts sets.

※In case of flow media contains oil or oil material, EPDM seat cannot be applicable.

\*Please contact to us in case of using less than 0(Zero) temperature.

# VAVTROL<sup>®</sup> DN

## *Electronically Control Type Butterfly Valves*



DN2P



The DN series made their debut. Microprocessors are equipped on the electronic control butterfly valves, VAVTROL of OKM. They are the most advanced valves in the 21st century with high reliability and controllability unique to digital control.

**The valves have got  
intelligence now.  
VAVTROL-DN Series**

PATENTED

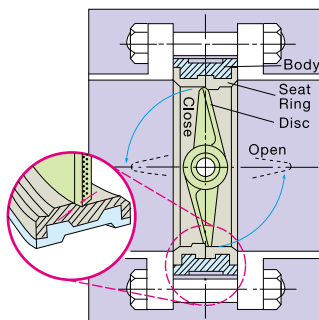
## "Stainless Disk" The Valve Body for Stable Control

The high range ability (more than 1:100) extends the control range. The high choking feature enables stable control. The disk is made of stainless steel, and the inside surface in contact with the fluid will not rust.



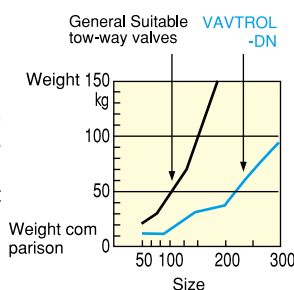
## "Touch Sheet" High Sealing Feature with a Tight Shutoff

The OKM pioneered touch sheet method allows smooth contact for the sheet, and achieves high durability and sealing capability. The VAVTROL-DN series with the close-off function can serve as a shutoff valve.



## "Compact Size" Cost-saving Compact-sized Contour

Terminal block boxes and control board boxes are not required for the VAVTROL-DN series. When compared with the equal-type ML series, the DN series is 15 to 20 cm shorter in height, and more than 4 kg lighter in weight. The compact design further simplifies the piping procedures.



## "Microcomputerized Digital Control" Realizing Accurate Operation and Easy Field Adjustments

The latest digital control increases the resolving power of the DN series from 100 : 1 to 200 : 1, making accurate control available. Field adjustments, including changing valve characteristics and functions, are also easier with the DN series. (Supporting Windows95/98)

## "Communications Function" Enabling Remote Monitoring and Centralized Management

This function enables communications with external personal computers and remote monitoring computers. The loading of valve control information, changing parameters, and maintenance can be performed easily. The DN provides a new system for remote monitoring.

## "Self-Controlled Operation Function" Quickly Responding to Startup and Abnormal Conditions

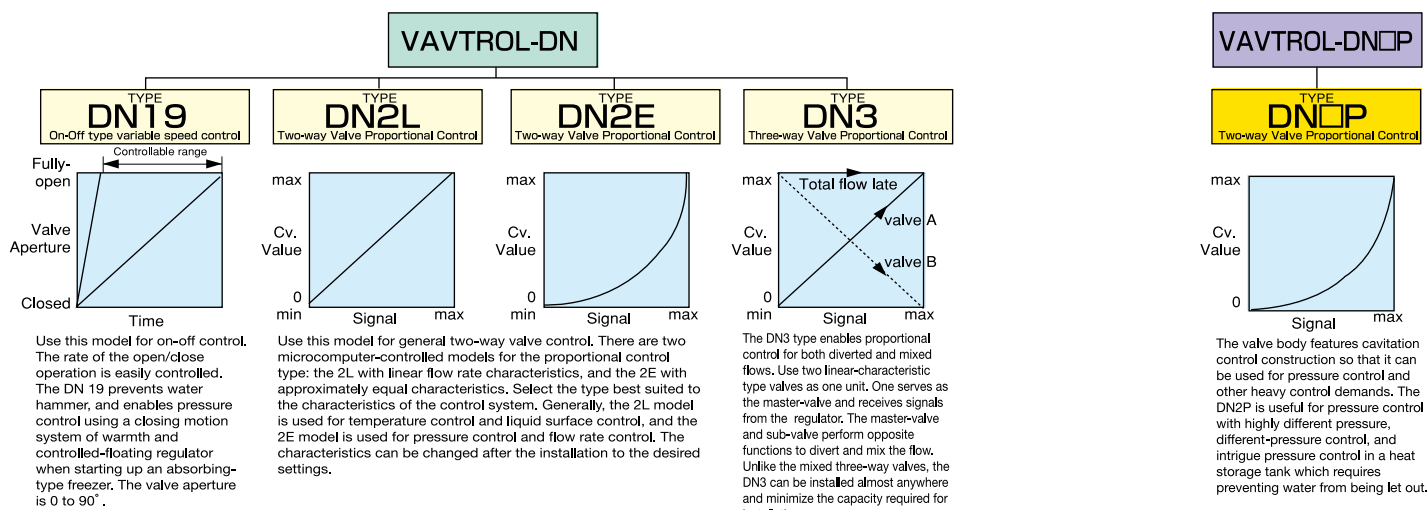
When the control system starts up or abnormal conditions are detected, the computer judges the conditions based on the internal condition of the driveline and communications status, and then performs predefined operations to protect the valve and system.

## "Status Recording Function" Useful for Data Analysis of Abnormal Conditions

When abnormal conditions are encountered in the internal temperature or aperture, the DN saves the details into memory and sounds an external warning. It is useful for tracking down the problem and examining the responses smoothly. This feature is useful for making judgments about necessary parts replacement and lifespan during maintenance jobs. This feature is very useful for preventive maintenance of the system and system analysis when performing maintenance.

## "Self-Contained Control ST Type" Operating based on the Assessment of Conditions

The ST type is an intelligent control-valve with a built-in regulator. This innovative self-contained control valve performs comparative computation of the signal from the sensor for PID control. Loading valve control information, changing parameters, and maintenance can be performed easily. The ST provides a new system for remote monitoring.



The Self-Contained Control type is added to the line up to meet a wider range of control demands.

| Function name                                             | DN19 | DN2L | DN2E | DN3 | DN□P | Description                                                                                                                                                      |
|-----------------------------------------------------------|------|------|------|-----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input signal                                              | —    | ○    | ○    | ○   | ○    | Select the input signal from a 0-135Ω resistance signal, DC4-20 mA signal, and DC1 V to DC5 V. Changeable after installation.                                    |
| Valve operation (forward/reverse operation)               | —    | ○    | ○    | ○   | ○    | Forward and reverse operation is available for the valve operation. Changes are made easily.                                                                     |
| Interlock function                                        | —    | ○    | ○    | ○   | ○    | Select from open valve/closed valve/forceful halt/forceful halt with arbitrary aperture. Operates between the contacts and can be locked during the cable break. |
| Linear characteristics function                           | —    | ○    | —    | ○   | ○    | Changes the flow rate characteristics to be linear.                                                                                                              |
| Arbitrary setting function for max/min of aperture.       | —    | ○    | ○    | —   | ○    | Maximum aperture ( 50 to 100°C ) and minimum aperture ( 0 to 50°C ) are standard. The setting can be changed according to the circumstances.                     |
| Time adjustment for closing motion                        | ○    | —    | —    | —   | —    | Time for the closing motion can be adjusted between rapid closing (approx. 30 sec) and 10-times closing time (approx. 5 min).                                    |
| Speed control function for closing motion                 | —    | ○    | ○    | ○   | ○    | The desired speed for the closing motion can be set and changed for three individual points between the open and closed states.                                  |
| Output function of valve aperture                         | —    | ○    | ○    | ○   | ○    | Outputs a valve aperture of 0 through 100% with DC4 mA through DC20 mA. The current valve aperture can be monitored.                                             |
| Medium and limit of non-voltage closing motion            | ○    | ○    | ○    | ○   | ○    | Medium and limit of the non-voltage closing motion are standard. The limit at overload was added.                                                                |
| Communication function (Valve communication)              | —    | ○    | ○    | ○   | ○    | Data communication can be input/output from/to a personal computer for remote monitoring and centralized management.                                             |
| Operational function for start up and abnormal conditions | —    | ○    | ○    | ○   | ○    | Autonomously performs the predefined operation at start up and during abnormal conditions.                                                                       |
| Status recording function                                 | —    | ○    | ○    | ○   | ○    | Saves the abnormal inner temperature and valve aperture into memory and transmits the data to external personal computers.                                       |
| Function Setting at Signal Interruption                   | —    | ○    | ○    | ○   | ○    | Available Setting ( Forced Close or Open, Forced Stop, Forced Stop at Nominated Position )                                                                       |
| Function Setting at Abnormal Control                      | —    | —    | —    | ○   | ○    | Available Setting ( Forced Close, Forced Open, or Inactivate Function )                                                                                          |
| Output Contact at Abnormal Control                        | —    | —    | —    | ○   | ○    | Transistor output of Abnormal Control ( Sink Mode Output )                                                                                                       |



## Standard Specifications

### Valve body

|                                                                    |                                        |
|--------------------------------------------------------------------|----------------------------------------|
| Type                                                               | DN                                     |
| Size                                                               | 50 to 450 A                            |
| Flange                                                             | JIS10K/JIS16K/JIS20K                   |
| Maximum working voltage                                            | 1.0MPa / 1.6MPa / 2.0MPa Closed-off *1 |
| Standard material<br>Main unit<br>Valve body<br>Sheet ring<br>Stem | FCD450<br>SCS13<br>EPDM<br>SUS403      |
| Ambient fluid temperature                                          | -20 to 120°C *2                        |

\*Do not use the piping gaskets.

### Electronically controlled unit

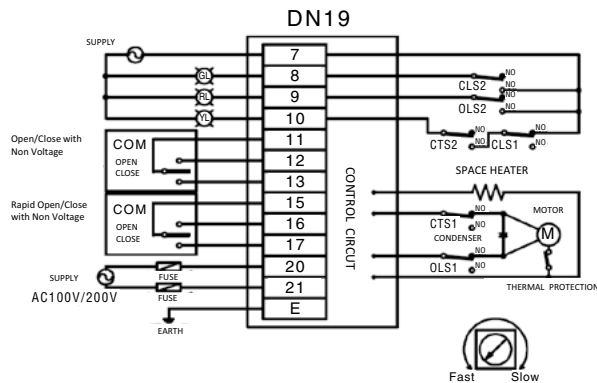
|                              |                                                     |
|------------------------------|-----------------------------------------------------|
| Power supply unit            | Transformer. Built-in constant voltage circuit.     |
| Control circuit              | Microcomputer-controlled. (Built-in to the driver.) |
| Motor control                | SSR (Non-contact relay)                             |
| Wire pipe connecting portion | Two G (PF) 1/2", one 3/4"                           |

|                                           |                                                                                                        |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Supply voltage                            | 100 VAC / 200 VAC / 220 VAC                                                                            |
| Motor type                                | Condenser motor                                                                                        |
| Operation time                            | DN19: approx. 30 sec to 10 min. (Varies with size)<br>Others: approx. 25 sec to 50 sec                 |
| Positioning limitation                    | One fully-open stopper at open-side (OLS1)                                                             |
| Overload limitation                       | One fully-closed stopper at closed-side (CTS1)                                                         |
| Thermal protection (combustion inhibitor) | Comes with all types. 120°C ± 10°C                                                                     |
| Sequence output (medium limitation)       | One for each side (open / closed).<br>One for abnormal torque                                          |
| Space heater                              | Comes with all types. (5W)                                                                             |
| Hand-operated handle                      | Comes with all types. (Circular or lever type, depending on the size)                                  |
| Environmental resistance                  | Water-proof structure for outside service<br>Operating temperature : 0 to 50°C<br>Vibration-proof : 1G |

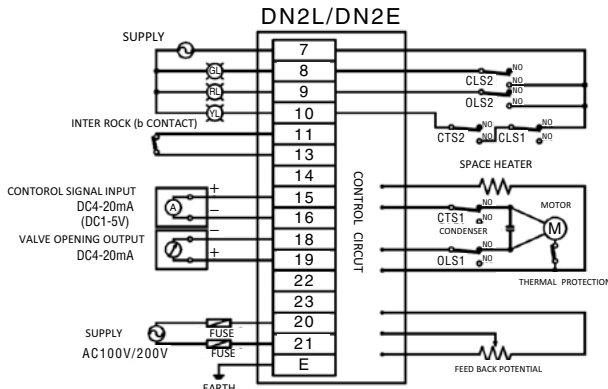
- \*1: A fully stainless-steel valve is also available for application in a vapor environment and refrigerant brine. Please contact us for more information. Maximum operational pressure: 1.96 MPa / 2.94 MPa
- \*2: Maximum operational temperature is 230 °C. Please contact us for details.

## Electric Diagram

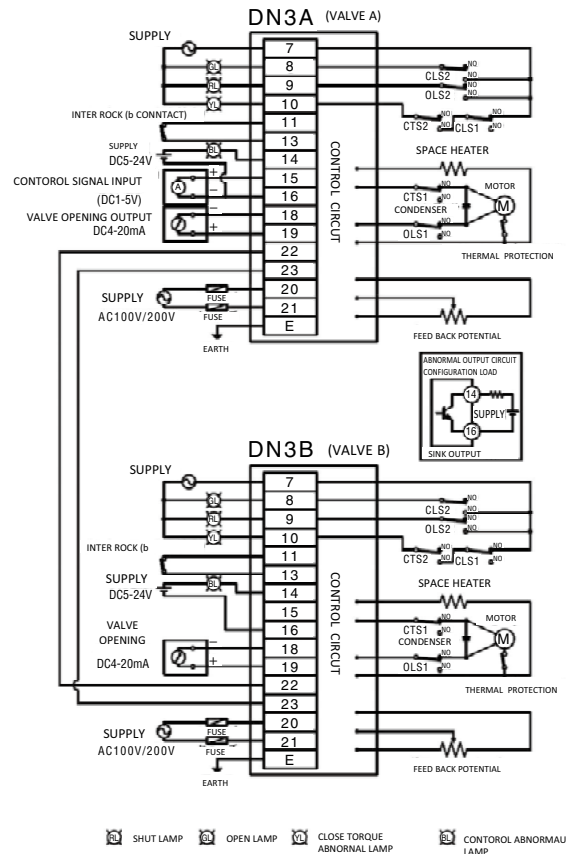
DN19 (ON-OFF Type variable speed control)



DN2L/DN2E Two-way valve proportional control



DN3 (Three-way valve proportional)



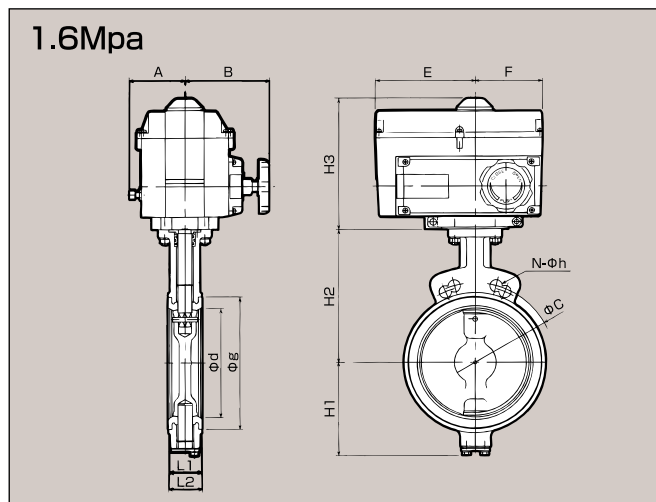
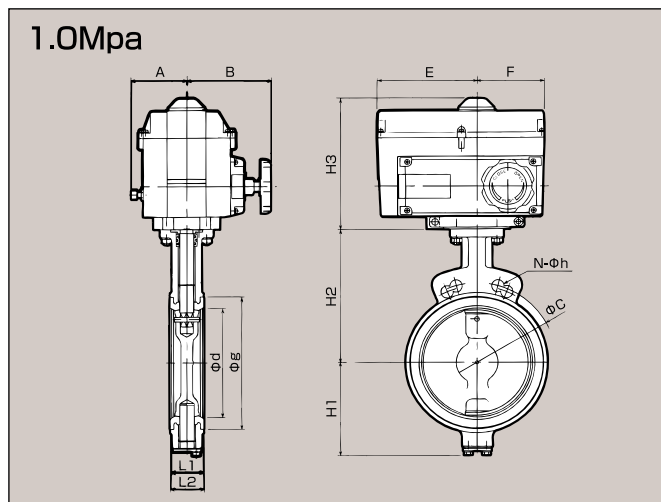
## DN Series Products Names

DN2L - 10 08 A B - 3 A R S - S

| DN2L TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10 Flange Standard                                                                                                                                                                                                                                                                                                                                                                                                                              | 3 Power Source/Actuator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | S FUNCTION                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DN19 : On-Off Type Variable speed control<br>DN2E : Two-Way valve control<br>(Approximately equal characteristics)<br>DN2L : Two-Way valve control<br>(Linear flow rate characteristics)<br>DN3A : Three-Way valve control<br>(Primary valve)<br>DN3B : Three-Way valve control<br>(Secondary valve)<br>DN2P : Two-Way valve control<br>(Approximately equal characteristics with P-plate)<br>DNLP : Two-Way valve control<br>(Linear flow rate characteristics with P-plate)<br>DNAP : Three-Way valve control<br>(Primary valve with P-plate)<br>DNBP : Three-Way valve control<br>(Secondary valve with P-plate) | 10 : JIS10K<br>16 : JIS16K<br>20 : JIS20K<br>08 Size<br>02 : 50A 12 : 300A<br>2H : 65A 14 : 350A<br>03 : 80A 16 : 400A<br>04 : 100A 18 : 450A<br>05 : 125A<br>06 : 150A<br>08 : 200A<br>10 : 250A<br>A Bare shaft Models<br>A : 616J (350A up 615X Type)<br>B : 622H F : 5423 Q : 618P<br>C : Special G : 618H R : 541R<br>D : 5421 M : 541M T : 541T<br>E : 5422 P : 616P (DN2P)<br>B Actuator Amount Direction<br>A : C :<br>B : Standard D : | 3 : CRV-A AC100V<br>4 : CRV-A AC200V<br>9 : Special<br>A Signal/Signal interruption control<br>A : DC4 to 20mA/Invalid<br>B : DC1 to 5V/Invalid<br>C : DC4 to 20mA/Force closed<br>D : DC1 to 5V/Force closed<br>E : DC4 to 20mA/Force open<br>F : DC1 to 5V/Force open<br>G : DC4 to 20mA/Force stop<br>H : DC1 to 5V/Force stop<br>I : DC4 to 20mA/Arbitrary opening stop<br>J : DC1 to 5V/Arbitrary opening stop<br>X : No(Only for DN19 type)<br>R Function<br>R : Reverse Action<br>(Signal increase to Valve Open)<br>D : Normal Action<br>(Signal increase to Valve Close)<br>X : No (Only for DN19 type)<br>S Interlock<br>S : Standard Non-Load Contact Open to Valve Close<br>O : Standard Non-Load Contact Open to Valve Open<br>T : Standard Non-Load Contact Open to Stop<br>Operation by force<br>N : Standard Non-Load Contact Open to Valve Stop<br>Operation at rated position by force<br>X : NO (Only for DN19 type) | : No(Standard)<br>S : Special<br>T : It's compatible with our previous models.<br>(Three-Way valve control)<br>U : It's compatible with our previous models and special.<br>(Three-Way valve control)<br>Main board<br>: No(Standard)<br>L : Microloads Limit<br>S : Special |



## ● Dimensions



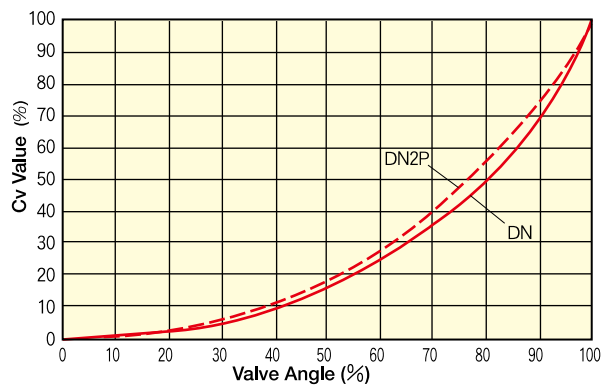
[Dimension Table of JIS10K Specifications.  
Please contact us for sizes larger than 400A for JIS 16K flange.]

| SIZE | d   | L1  | g   | H1    | H2  | H3  | A   | B   | E   | F   | ACTUATOR | WEIGHT | JIS10K |      |     |
|------|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|----------|--------|--------|------|-----|
|      |     |     |     |       |     |     |     |     |     |     |          |        | C      | N    | h   |
| 50A  | 55  | 43  | 81  | 85.5  | 145 | 220 | 91  | 145 | 160 | 117 | CRV-10A  | 13.5   | 120    | 2/04 | 18  |
| 65A  | 66  | 46  | 99  | 84.5  | 155 | 220 | 91  | 145 | 160 | 117 | CRV-10A  | 14.2   | 140    | 2/04 | 18  |
| 80A  | 84  | 46  | 114 | 92.5  | 165 | 220 | 91  | 145 | 160 | 117 | CRV-10A  | 14.6   | 150    | 2/08 | 18  |
| 100A | 100 | 52  | 136 | 98.5  | 180 | 220 | 91  | 145 | 160 | 117 | CRV-10A  | 15.9   | 175    | 2/08 | 18  |
| 125A | 130 | 56  | 167 | 115.5 | 200 | 220 | 91  | 145 | 160 | 117 | CRV-10A  | 17.7   | 210    | 2/08 | 22  |
| 150A | 154 | 56  | 192 | 130.5 | 215 | 220 | 91  | 145 | 160 | 117 | CRV-20A  | 19     | 240    | 2/08 | 22  |
| 200A | 200 | 60  | 242 | 168.5 | 245 | 241 | 100 | 105 | 177 | 124 | CRV-40A  | 27.5   | 290    | 2/12 | 22  |
| 250A | 246 | 68  | 299 | 203.5 | 283 | 241 | 100 | 105 | 177 | 124 | CRV-60A  | 37.5   | 355    | 2/12 | 24  |
| 300A | 295 | 78  | 348 | 253.5 | 316 | 241 | 100 | 105 | 177 | 124 | CRV-60A  | 49     | 400    | 2/16 | 24  |
| 350A | 336 | 92  | 389 | 289   | 330 | 271 | 157 | 168 | 198 | 146 | CRV-100A | 76     | 445    | 4/16 | M22 |
| 400A | 390 | 102 | 448 | 322   | 370 | 271 | 157 | 168 | 198 | 146 | CRV-150A | 96     | 510    | 4/16 | M24 |
| 450A | 439 | 114 | 504 | 345   | 400 | 271 | 157 | 168 | 198 | 146 | CRV-150A | 118    | 565    | 4/20 | M24 |

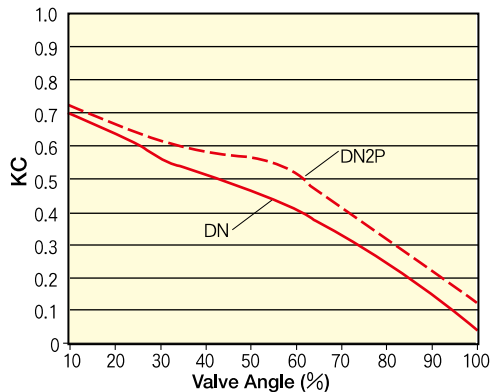
[Dimension Table of JIS20K Specifications.  
Please contact us for sizes larger than 400A for JIS 16K flange.]

| SIZE | d   | L1  | g   | H1    | H2  | H3  | A   | B   | E   | F   | ACTUATOR | WEIGHT | JIS10K |      |       |
|------|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|----------|--------|--------|------|-------|
|      |     |     |     |       |     |     |     |     |     |     |          |        | C      | N    | h     |
| 50A  | 55  | 43  | 81  | 85.5  | 145 | 220 | 91  | 145 | 160 | 117 | CRV-10A  | 13.5   | 120    | 2/08 | 18    |
| 65A  | 66  | 46  | 99  | 84.5  | 155 | 220 | 91  | 145 | 160 | 117 | CRV-10A  | 14.2   | 140    | 2/08 | 18    |
| 80A  | 84  | 46  | 114 | 92.5  | 165 | 220 | 91  | 145 | 160 | 117 | CRV-10A  | 14.6   | 160    | 2/08 | 22    |
| 100A | 100 | 52  | 136 | 98.5  | 180 | 220 | 91  | 145 | 160 | 117 | CRV-10A  | 15.9   | 185    | 2/08 | 22    |
| 125A | 130 | 56  | 167 | 115.5 | 200 | 220 | 91  | 145 | 160 | 117 | CRV-20A  | 17.7   | 225    | 2/08 | 24    |
| 150A | 154 | 56  | 192 | 130.5 | 215 | 220 | 91  | 145 | 160 | 117 | CRV-20A  | 19     | 260    | 2/12 | 24    |
| 200A | 200 | 60  | 242 | 168.5 | 245 | 241 | 100 | 105 | 177 | 124 | CRV-40A  | 27.5   | 305    | 2/12 | 24    |
| 250A | 246 | 68  | 299 | 203.5 | 283 | 241 | 100 | 105 | 177 | 124 | CRV-60A  | 39.3   | 380    | 2/12 | 26    |
| 300A | 295 | 78  | 348 | 253.5 | 313 | 271 | 157 | 168 | 198 | 146 | CRV-100A | 60     | 430    | 2/16 | 26    |
| 350A | 333 | 78  | 389 | 286   | 340 | 271 | 157 | 168 | 198 | 146 | CRV-150A | 76.1   | 480    | 4/16 | M30x3 |
| 400A | 384 | 102 | 447 | 321   | 375 | 271 | 157 | 168 | 198 | 146 | CRV-150A | 99.9   | 540    | 4/16 | M30x3 |

## ● Flow Characteristics



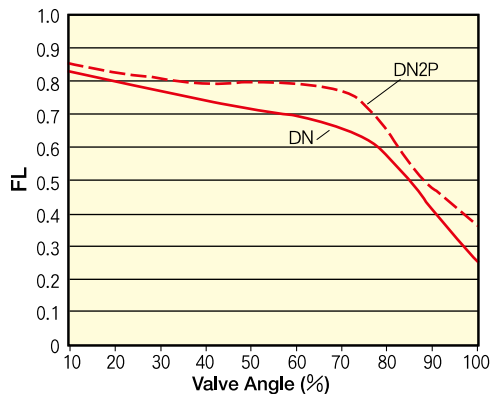
## ● Cavitation Factor (KC Value)



## ● Cv Values with Valve Fully Open (Values of 10K Specifications)

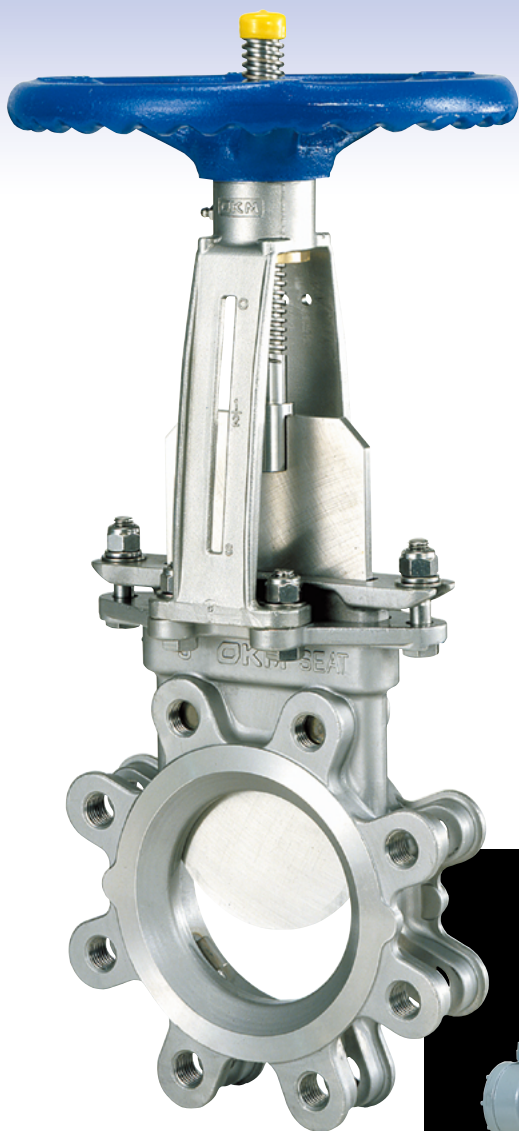
| Nominal Size | DN19  | DN2L, 2E | DN3  | DNP  |
|--------------|-------|----------|------|------|
| 50A          | 165   | 90       | 90   | 75   |
| 65A          | 250   | 155      | 155  | 130  |
| 80A          | 380   | 180      | 180  | 150  |
| 100A         | 650   | 300      | 300  | 250  |
| 125A         | 1100  | 570      | 570  | 475  |
| 150A         | 1790  | 890      | 890  | 745  |
| 200A         | 3300  | 1420     | 1420 | 1190 |
| 250A         | 4820  | 2070     | 2070 | 1730 |
| 300A         | 6200  | 2660     | 2660 | 2225 |
| 350A         | 7550  | 5290     | 5290 | 2910 |
| 400A         | 10700 | 7500     | 7500 | 3875 |
| 450A         | 13800 | 9670     | 9670 | —    |

## ● Pressure Recovery Factor (FL Value)



# 336J 336Y

## MULTI-SEATABLE KNIFE GATE VALVES



336J-H  
(50 to 300mm)



## Meeting All Severe Fluid Conditions with multi-Seatable Structure

The knife-gate technology of OKM with 30 years of experience and reliable record has been refined and developed all stainless-steel 336US in order to meet very severe conditions of liquid control. The model 336US has improved over the previous model of 336S and employed a multi-seatable type design so that only the seal ring could be changed which was impossible on 336US. It is ideal for flow control these difficult-to-control liquids such as slurry, pulp, very fine particles with high concentration and viscosity for the industries of pulp, chemical, food, mines, and wastewater treatment. It is a compact & light all stainless-steel knife-gate valve with excellent corrosion & wear resistance for high performance and long service life.

### 1. All Stainless-Steel Structure with Excellent corrosion and wear resistance.

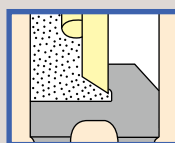
Not only the liquid contact areas but also the rest of the main body of valve are constructed with stainless-steel 316 with excellent corrosion and wear resistance in order to guarantee long service life under severe fluid condition.

### 2. Stainless-Steel Plate with High Precision Grinding Finish

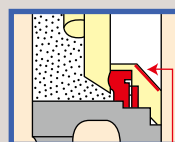
The plate is made out of strong stainless-steel with high precision grinding finish. It has a very high sealing contact with valve seat. Not only very fine particles (powder) but also high concentrate slurry and high viscosity fluids can be shut off sharply to close the valve.

### 3. Special Seat Structure Multi Seatable

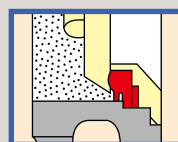
The standard metal seat of stainless-steel and rubber seats or PTFE seat may be used according to the control conditions of fluid.



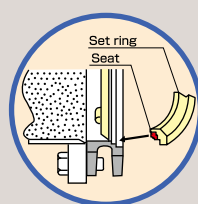
Metal seat  
Standard



Rubber seat  
Multi Seatable

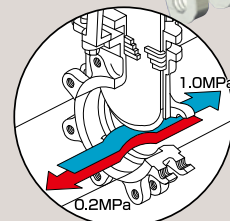
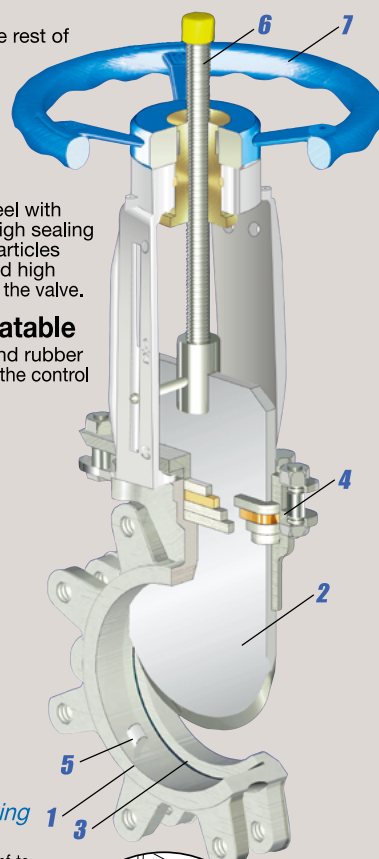


PTFE seat  
Multi Seatable



### Valve Seat of Preventing Choking Mechanism

The seat is provided with a relief to prevent choking so that slurry fluid can be prevented from choking. The flow direction is specified depending on the type of fluid. The taper angle of inlet bore for very fine particles is less than 45° for reliability.



### 4. Multi-Layer Gland Packing with Good sealing

The gland is held firmly by the gland box of main body. The gland has a multi-layer structure with Teflon impregnated silicon rubber for excellent chemical resistance in order to assure high sealing performance. Maintenance is also easy.

### 5. Original Jaws to Guarantee Close Contact Seal

Two jaws are used on the valve seat. The tip of knife-shaped plate makes contact with the jaws to push the plate against the seal to ensure close contact. Sealing efficiency is further improved by this.

### 6. Double Thread for Faster Operation

Fast handle operation due to compact & light structure is realized. Because of double-thread mechanism of stem, the speed of handle operation is increased.

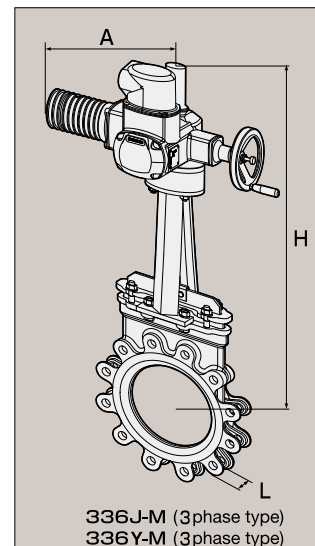
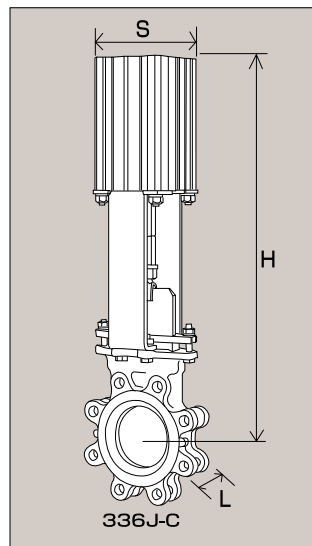
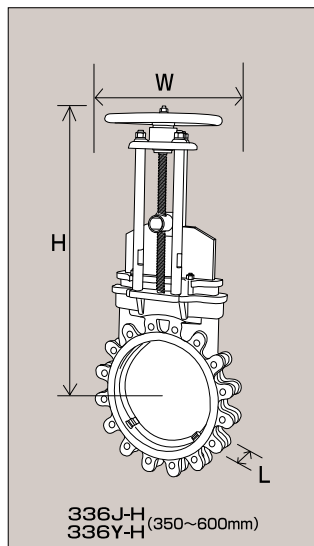
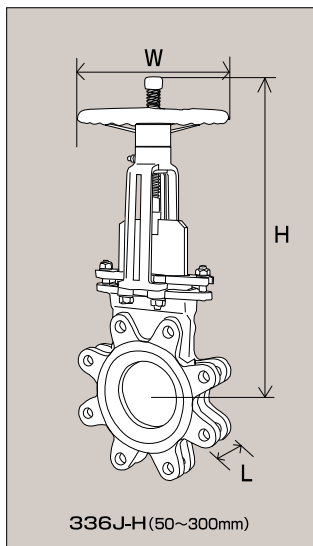
### 7. Low-Torque Circular Hand Wheel

Designed to reduce friction on sliding surfaces. It is shaped for easy gripping & handling with light torque. The outer circumference is wave-shaped to stop slipping of hand.

# Capabilities and materials to withstand wide variations of use

## Dimensions

※Shapes vary according to sizes.



|               |     | 336J-H |     |       |     | 336Y-H |     | 336J-C |     |       |     | 336Y-C |     | 336J-M |     | 336J-M |     |       |     | 336Y-M |     | L   |
|---------------|-----|--------|-----|-------|-----|--------|-----|--------|-----|-------|-----|--------|-----|--------|-----|--------|-----|-------|-----|--------|-----|-----|
| Pressure(MPa) |     | 0~0.5  |     | 0~1.0 |     | 0~1.0  |     | 0~0.5  |     | 0~1.0 |     | 0~1.0  |     | 0~0.5  |     | 0~0.5  |     | 0~1.0 |     | 0~1.0  |     |     |
| Nominal Size  |     | H      | W   | H     | W   | H      | W   | H      | S   | H     | S   | H      | S   | H      | A   | H      | A   | H     | A   | H      | A   |     |
| inch          | mm  |        |     |       |     |        |     |        |     |       |     |        |     |        |     |        |     |       |     |        |     |     |
| 2             | 50  | —      | —   | 349   | 200 | —      | —   | 425    | 98  | 425   | 98  | —      | —   | 618    | 267 | 578    | 514 | 578   | 514 | —      | —   | 48  |
| 2 1/2         | 65  | —      | —   | 391   | 200 | —      | —   | 456    | 98  | 469   | 117 | —      | —   | 645    | 267 | 607    | 514 | 607   | 514 | —      | —   | 48  |
| 3             | 80  | —      | —   | 416   | 200 | —      | —   | 492    | 98  | 506   | 117 | —      | —   | 661    | 267 | 621    | 514 | 621   | 514 | —      | —   | 51  |
| 4             | 100 | —      | —   | 463   | 200 | —      | —   | 574    | 117 | 588   | 142 | —      | —   | 692    | 267 | 652    | 514 | 652   | 514 | —      | —   | 51  |
| 5             | 125 | —      | —   | 564   | 280 | —      | —   | 657    | 117 | 671   | 142 | —      | —   | 754    | 267 | 715    | 514 | 715   | 514 | —      | —   | 57  |
| 6             | 150 | —      | —   | 637   | 280 | —      | —   | 745    | 142 | 758   | 178 | —      | —   | 994    | 298 | 763    | 514 | 763   | 514 | —      | —   | 57  |
| 8             | 200 | —      | —   | 790   | 280 | —      | —   | 877    | 178 | 899   | 204 | —      | —   | 1088   | 298 | 856    | 514 | 856   | 514 | —      | —   | 70  |
| 10            | 250 | —      | —   | 938   | 355 | —      | —   | 1096   | 204 | 1150  | 274 | —      | —   | 1418   | 370 | 1018   | 538 | 1018  | 538 | —      | —   | 70  |
| 12            | 300 | —      | —   | 1097  | 400 | —      | —   | 1201   | 226 | 1289  | 274 | —      | —   | 1516   | 370 | 1120   | 538 | 1164  | 732 | —      | —   | 76  |
| 14            | 350 | 950    | 400 | —     | —   | 960    | 400 | 1393   | 274 | —     | —   | 1477   | 404 | 1591   | 370 | 1298   | 538 | —     | —   | 1249   | 732 | 76  |
| 16            | 400 | 1071   | 500 | —     | —   | 1071   | 500 | 1541   | 274 | —     | —   | 1634   | 468 | —      | —   | 1442   | 732 | —     | —   | 1442   | 734 | 89  |
| 18            | 450 | 1161   | 560 | —     | —   | 1162   | 560 | 1732   | 404 | —     | —   | 1795   | 522 | —      | —   | 1526   | 732 | —     | —   | 1526   | 734 | 89  |
| 20            | 500 | 1312   | 630 | —     | —   | 1312   | 630 | 1906   | 404 | —     | —   | 1999   | 586 | —      | —   | 1743   | 734 | —     | —   | 1821   | 734 | 114 |
| 22            | 550 | 1411   | 630 | —     | —   | 1411   | 630 | 2073   | 468 | —     | —   | 2094   | 586 | —      | —   | 1919   | 734 | —     | —   | 1997   | 799 | 114 |
| 24            | 600 | 1514   | 710 | —     | —   | 1514   | 710 | 2203   | 468 | —     | —   | 2300   | 640 | —      | —   | 2009   | 734 | —     | —   | 2087   | 799 | 114 |

(Size : mm , Weight : kg)

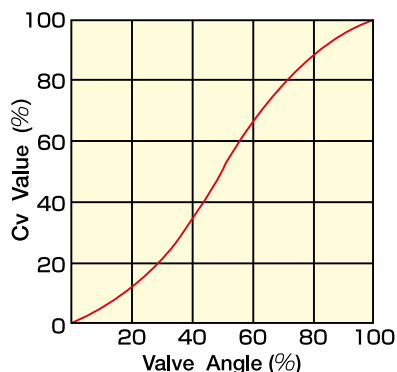
## Standard specifications

| Model                 | Range of nominal dia. of valve | Applicable flange                  | Test pressure   |                 | Max. pressure | Material                        |                                 |                | Max. temperature | Leak rate from seat<br>W.T.P<br>0.3MPa             |
|-----------------------|--------------------------------|------------------------------------|-----------------|-----------------|---------------|---------------------------------|---------------------------------|----------------|------------------|----------------------------------------------------|
|                       |                                |                                    | Body            | Seat            |               | Body                            | Plate                           | Seat ring      |                  |                                                    |
| 336J<br>Standard      | 50 to 300mm                    | JIS 5K<br>10K<br>ASME<br>125/150Lb | WTP<br>1.1 MPa  | WTP<br>0.28 MPa | 1.0 MPa       | 50 to 300<br>SCS 13A<br>SCS 14A | 50 to 300<br>SUS 304<br>SUS 316 | metal※         | 230℃             | 40cc/min/in.<br>For cylinder type<br>400cc/min/in. |
|                       | 350 to 600mm                   |                                    | WTP<br>0.55 MPa | WTP<br>0.28 MPa | 0.5 MPa       | 350 to 600<br>SCS 13            | 350 to 600<br>SUS 304           | (CR)<br>(EPDM) | (80℃)<br>(100℃)  | 0cc/min/in.                                        |
| 336Y<br>Semi-Standard | 350 to 600mm                   |                                    | WTP<br>1.1 MPa  | WTP<br>0.28 MPa | 1.0 MPa       |                                 |                                 | (PTFE)         | (230℃)           | 4cc/min/in.                                        |

Leak rate from seat is for flow from primary side.

\*Inside ( ) indicates standard specifications.  
3phase type is also available. Please contact us for the details.  
Please ask for the details.  
※The same material as the body.

## Flow Characteristics



## Cv Values with Valve Fully Open

| Size (mm) | Full open<br>Cv Value 90℃ | Size (mm) | Full open<br>Cv Value 90℃ |
|-----------|---------------------------|-----------|---------------------------|
| 50        | 156                       | 300       | 5395                      |
| 65        | 230                       | 350       | 6730                      |
| 80        | 340                       | 400       | 8735                      |
| 100       | 612                       | 450       | 10870                     |
| 125       | 970                       | 500       | 14095                     |
| 150       | 1430                      | 550       | 17335                     |
| 200       | 2620                      | 600       | 20655                     |
| 250       | 4230                      |           |                           |

Teflon® is manufactured by Mitsui-Dupont Fluoro Chemical.



702  
703  
704

## NEO-PINCH VALVES

### Fluid is perfectly controlled by the elasticity of a special rubber sleeve.

The valve is opened and closed easily when the powerful special rubber sleeve located inside it is pressed. This is a straight through-type slurry valve of the simplest compact structure.

This valve has an ultra-long life, ensures ease of maintenance with no pressure loss, and is suitable for handling fluids, such as sludge, ore slurry, cement, powder, pulp, and sewer sludge.

The valve perfectly seals off the flow of fluid and is not affected by the penetration of solid matters.

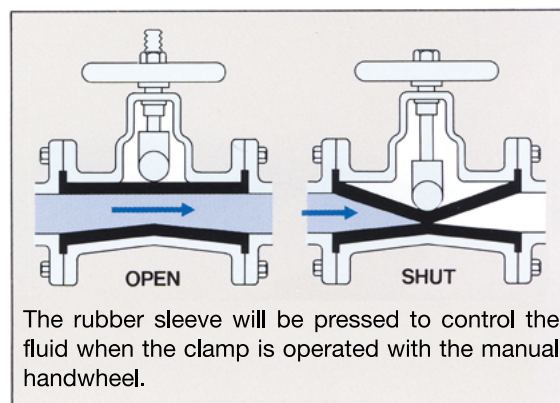
### Operation Principles

OKM's Neo Pinch Valves are classified into the 704 and 703 models, which are of air-pressurized operation type, and the 702 model, which is of manual operation type. The respective operation principles of these models are shown below.



702

#### Manual (702)

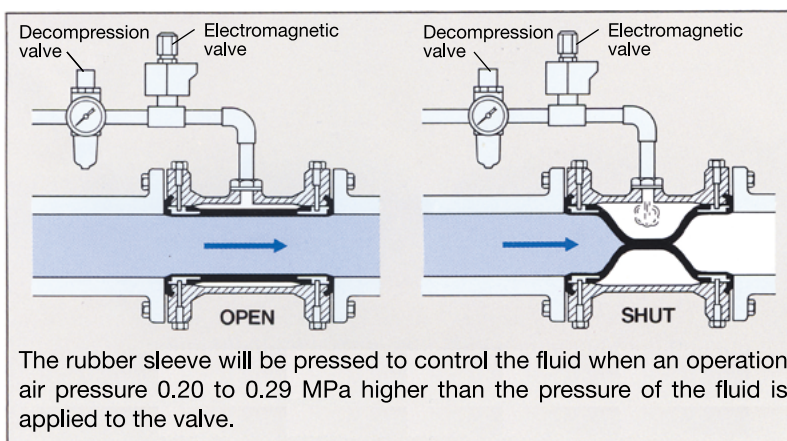


703



704

#### Air pressurization (704 / 703)



### Standard Specifications

| Model | Size(mm)  | Max.Service Pressure | Max.Service Temperature | Sleeve Material | Body Material | Face To Face | Action type        |
|-------|-----------|----------------------|-------------------------|-----------------|---------------|--------------|--------------------|
| 704   | 25 to 100 | 0.4MPa               | -10 to 80℃              | CR              | FC250         | JIS10K       | Air pressurization |
| 703   | 125,150   | 0.3MPa               | -10 to 80℃              | CR , NR         | FC250         | JIS10K       |                    |
|       | 200       | 0.2MPa               |                         |                 |               |              |                    |
| 702   | 25 to 300 | 0.5MPa               | -10 to 80℃              | CR , NR         | FC250         | JIS10K       | Manual※            |

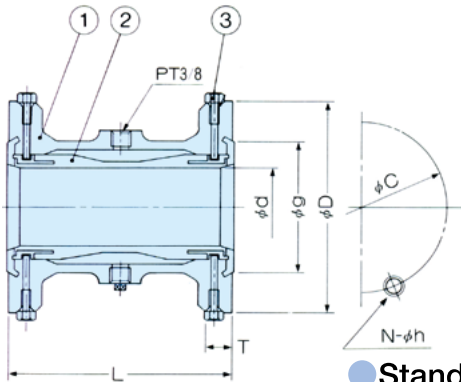
◆Operating conditions may vary with the fluid specifications. Contact your OKM representative.

\*cylinder or motor driving available as well



## Fluid under the perfect remote control of air pressurization.

- The 704 and 703 models are compact automatic valves that can be under remote control by mounting an electromagnetic valve and decompression valve to each model provided with air piping. An operation air pressure 0.20 to 0.29 MPa higher than the pressure of the fluid makes it possible to open and close the valve with ease.
- Each valve is operable semipermanently with the rubber sleeve replaced periodically.
- The elasticity of the rubber sleeve will perfectly shut off the fluid if a solid matter is caught by the valve.
- The rubber sleeve made of a special molding compound ensures high durability.



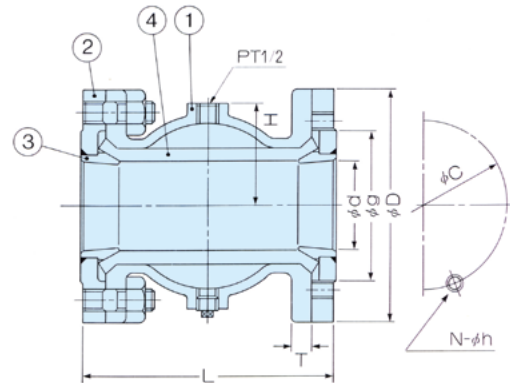
### Standard Materials

| No. | Part Name    | Material |
|-----|--------------|----------|
| 1   | Body         | FC250    |
| 2   | Sleeve       | CR       |
| 3   | Stopper Bolt | SUS304   |

### Dimensions

|     | Nominal Size |     | d  | g   | D   | L   | T  | C   | N | h   | Weight |
|-----|--------------|-----|----|-----|-----|-----|----|-----|---|-----|--------|
|     | inch         | mm  |    |     |     |     |    |     |   |     |        |
| 704 | 1            | 25  | 27 | 63  | 125 | 160 | 18 | 90  | 4 | M16 | 4.6    |
|     | 1½           | 40  | 40 | 75  | 140 | 160 | 20 | 105 | 4 | M16 | 5.9    |
|     | 2            | 50  | 50 | 90  | 155 | 170 | 20 | 120 | 4 | M16 | 7.1    |
|     | 2½           | 65  | 65 | 109 | 175 | 185 | 22 | 140 | 4 | M16 | 9.7    |
|     | 3            | 80  | 80 | 121 | 185 | 230 | 22 | 150 | 8 | M16 | 11.8   |
|     | 4            | 100 | 98 | 147 | 210 | 285 | 24 | 175 | 8 | M16 | 16.8   |

(Size : mm , Weight : kg)



### Standard Materials

| No. | Part Name | Material |
|-----|-----------|----------|
| 1   | Body      | FC250    |
| 2   | Flange    | SS400    |
| 3   | Bushing   | SUS304   |
| 4   | Sleeve    | NR · CR  |

### Dimensions

|     | Nominal Size |     | d   | g   | D   | L   | T  | C   | N  | h   | Weight |
|-----|--------------|-----|-----|-----|-----|-----|----|-----|----|-----|--------|
|     | inch         | mm  |     |     |     |     |    |     |    |     |        |
| 703 | 5            | 125 | 125 | 185 | 280 | 350 | 24 | 210 | 8  | M20 | 54.0   |
|     | 6            | 150 | 150 | 215 | 330 | 420 | 26 | 240 | 8  | M20 | 84.0   |
|     | 8            | 200 | 200 | 260 | 400 | 555 | 26 | 290 | 12 | M20 | 126.0  |

(Size : mm , Weight : kg)

- The 702 model has a rubber sleeve covered with rigid cast iron, thus ensuring high durability.
- The rubber sleeve can be replaced with ease by removing the tightening bolts of the valve body.
- The 702 Series provides two types of models, i.e., the 702-C model, which is driven by an air cylinder, and the 702-M model, which is driven by a motor. Contact your OKM representative for details.

### Standard Materials

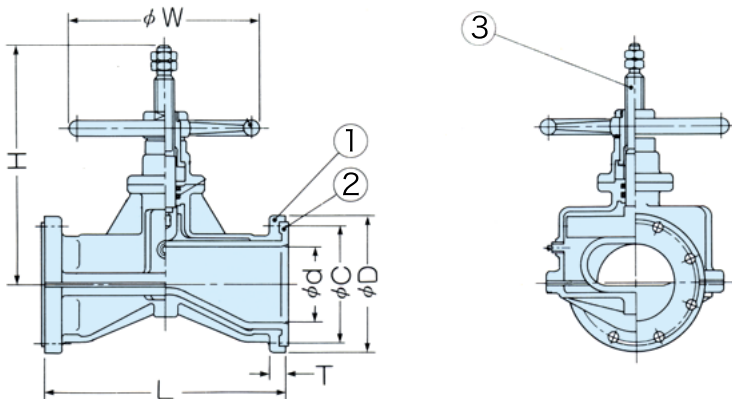
| No. | Part Name | Material |
|-----|-----------|----------|
| 1   | Body      | FC250    |
| 2   | Sleeve    | NR · C R |
| 3   | Stem      | SUS403   |

### Dimensions

| Nominal Size |     | 702 |     |     |     |    |     |        |
|--------------|-----|-----|-----|-----|-----|----|-----|--------|
| inch         | mm  | L   | H   | D   | C   | T  | W   | Weight |
| 1            | 25  | 149 | 202 | 125 | 90  | 16 | 160 | 10     |
| 1½           | 40  | 184 | 247 | 140 | 105 | 18 | 180 | 14     |
| 2            | 50  | 211 | 269 | 155 | 120 | 18 | 180 | 18     |
| 2½           | 65  | 260 | 324 | 175 | 140 | 18 | 200 | 23     |
| 3            | 80  | 289 | 363 | 185 | 150 | 18 | 224 | 31     |
| 4            | 100 | 338 | 421 | 210 | 175 | 20 | 280 | 41     |
| 5            | 125 | 407 | 465 | 250 | 210 | 22 | 315 | 55     |
| 6            | 150 | 480 | 496 | 280 | 240 | 32 | 400 | 78     |
| 8            | 200 | 655 | 650 | 330 | 290 | 34 | 400 | 140    |
| 10           | 250 | 785 | 846 | 400 | 355 | 34 | 355 | 228    |
| 12           | 300 | 935 | 914 | 445 | 400 | 40 | 355 | 355    |

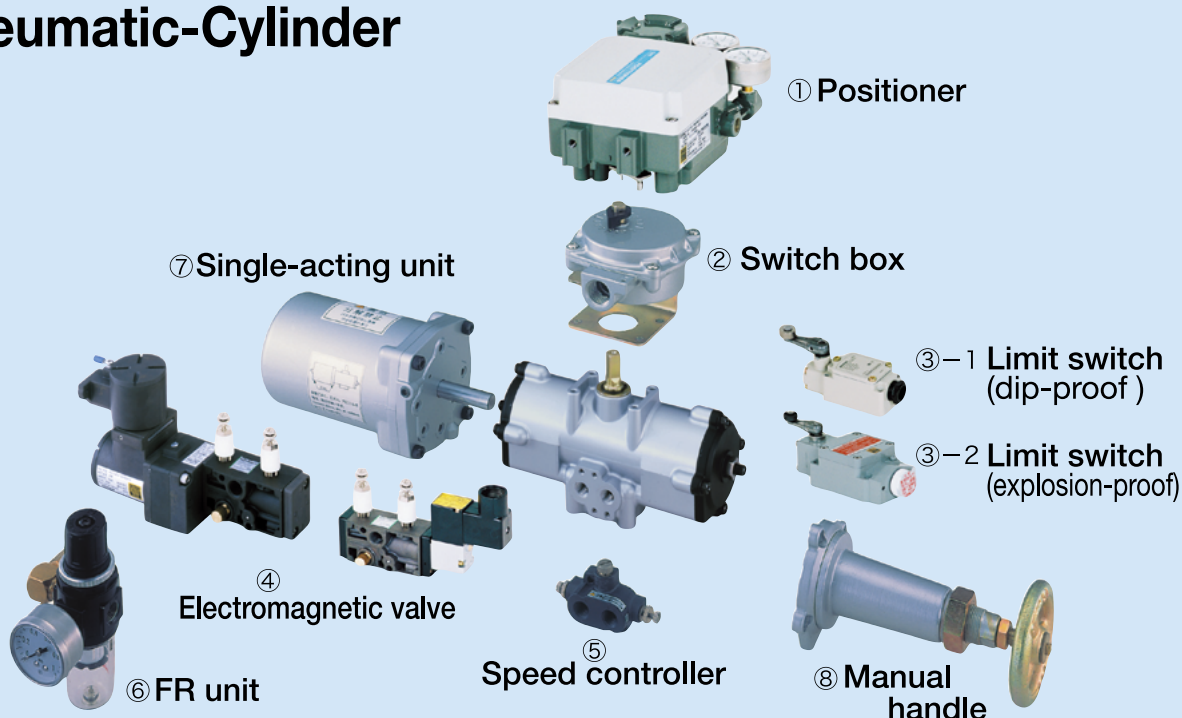
(Size : mm , Weight : kg)

※ Actuators of 250 to 350mm is Worm-Gear Type



# Pneumatic-Cylinder Option List

## Pneumatic-Cylinder



|   | Name of accessory                                                                                                                           | U s e                                                                                                                                          |
|---|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | <b>Positioner</b><br>(electropneumatic and pneumatic)                                                                                       | A positioning device for flexible control of the opening and closing of the valve.                                                             |
| ② | <b>Switch box</b>                                                                                                                           | A device to detect the opening and closing position of the valve. (A switch box cannot be installed if the valve is fitted with a positioner.) |
| ③ | <b>Limit switch</b><br>(dip-proof and explosion-proof)                                                                                      | A device to detect the opening and closing position of the valve.                                                                              |
| ④ | <b>Electromagnetic valve</b><br>Speed controller with silencer (dip-proof single)<br>(conforms to NAMUR standards) (explosion-proof single) | A device to change the flow of air using electric signals to open and close the valve.                                                         |
| ⑤ | <b>Speed controller equipped with bypass valve</b>                                                                                          | A device to set and adjust the opening and closing speed of the valve. (This differs in type from the single-acting speed controller.)         |
| ⑥ | <b>FR unit</b> (filter regulator)                                                                                                           | A device that constantly controls and purifies the air supply.                                                                                 |
| ⑦ | <b>Single-acting unit</b>                                                                                                                   | A device with a built-in spring to change the double-acting type to the single-acting type.                                                    |
| ⑧ | <b>Manual handle</b>                                                                                                                        | A device to manually open and close the valve of the single-acting cylinder.                                                                   |

\* Other devices, such as proximity switches, quick exhaust valves, electromagnetic (double solenoid) valves, lockup valves, booster relays, opening adjustment bolts, and manual gears, are also available.

# Electric-Motor Standard Specs

## Electric-Motor

### ■ Expansion of cable connection port

The number of cable connection jacks has been expanded to three, which are suitable to almost all cable modules.

### ■ Reliable self-lock function

The self-lock function withstands unbalanced torque that results from the flow of fluid and attempts to turn the valve shaft, thus always properly maintaining the valve shaft.

### ■ Mechanical stopper

A position adjustable mechanical stopper is provided at both the opening and closing ends, thus preventing the valve body from overrunning.

### ■ Adoption of PCB

A PCB is built in for control, which allows optional devices to be added easily.



## ● Electric-Motor Standard Specs

| Model                       |                               | CRV-10A                                                                                              | CRV-20A                                                                                                                                                                                  | CRV-40A                           | CRV-60A                                                      |      |
|-----------------------------|-------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------------------------------------|------|
| Set output torque (N・m)     |                               | <input type="checkbox"/> 50<br><input type="checkbox"/> 85                                           | <input type="checkbox"/> 160                                                                                                                                                             | <input type="checkbox"/> 320      | <input type="checkbox"/> 450<br><input type="checkbox"/> 530 |      |
| Switching time (sec) 90 °   |                               | 26                                                                                                   | 26                                                                                                                                                                                       | 29                                | 29                                                           |      |
| Output axial rotation angle |                               | <input type="checkbox"/> 70° / <input type="checkbox"/> 90°                                          |                                                                                                                                                                                          |                                   |                                                              |      |
| Manual operation            | Operation part                | Handle (with clutch)                                                                                 |                                                                                                                                                                                          | Detachable lever (without clutch) |                                                              |      |
|                             | Rotating speed (Rotation) 90° | 18                                                                                                   | 18                                                                                                                                                                                       | 11                                | 11                                                           |      |
| Opening indicator           |                               | 4-division scale / 70° or 90°                                                                        |                                                                                                                                                                                          |                                   |                                                              |      |
| Conduit tube connection     |                               | G1/2 2points , G3/4 1points                                                                          |                                                                                                                                                                                          |                                   |                                                              |      |
| Terminal block              |                               | M3.5 screw                                                                                           |                                                                                                                                                                                          |                                   |                                                              |      |
| Motor                       | Voltage                       | <input type="checkbox"/> AC100V±10% 60Hz 1φ / <input type="checkbox"/> AC200V±10% 60Hz 1φ            |                                                                                                                                                                                          |                                   |                                                              |      |
|                             | Output (W)                    | 25                                                                                                   | 25                                                                                                                                                                                       | 40                                | 60                                                           |      |
|                             | Rated current (A)             | 100V                                                                                                 | 0.8                                                                                                                                                                                      | 0.8                               | 1.3                                                          | 2.0  |
|                             |                               | 200V                                                                                                 | 0.5                                                                                                                                                                                      | 0.5                               | 0.8                                                          | 1.0  |
|                             | Locked rotor current (A)      | 100V                                                                                                 | 1.5                                                                                                                                                                                      | 1.5                               | 2.2                                                          | 3.1  |
|                             |                               | 200V                                                                                                 | 0.8                                                                                                                                                                                      | 0.8                               | 1.2                                                          | 1.8  |
|                             | Insulation                    | Type E                                                                                               |                                                                                                                                                                                          |                                   |                                                              |      |
|                             | Time rating                   | 30min                                                                                                |                                                                                                                                                                                          |                                   |                                                              |      |
| Protection                  |                               | With built-in thermal protector (120℃±10℃ )                                                          |                                                                                                                                                                                          |                                   |                                                              |      |
| Space heater                | Power capacity                | 20W                                                                                                  |                                                                                                                                                                                          |                                   |                                                              |      |
|                             | Power consumption             | 5W                                                                                                   |                                                                                                                                                                                          |                                   |                                                              |      |
| Limit switch                | Position                      | 1 piece each for opening and closing sides (Closing side - for outputting overload abnormal signals) |                                                                                                                                                                                          |                                   |                                                              |      |
|                             | Torque                        | 2 pieces for closing side (1 piece - for outputting overload abnormal signals)                       |                                                                                                                                                                                          |                                   |                                                              |      |
| Protective structure        |                               | IP66                                                                                                 |                                                                                                                                                                                          |                                   |                                                              |      |
| Ambient temperature         |                               | -10℃ to 60℃                                                                                          |                                                                                                                                                                                          |                                   |                                                              |      |
| Ambient humidity            |                               | 30 to 85% RH                                                                                         |                                                                                                                                                                                          |                                   |                                                              |      |
| Vibration resistance        |                               | JIS C 60068-2-6 2G (0.75G with continuous vibration)                                                 |                                                                                                                                                                                          |                                   |                                                              |      |
| Shock resistance            |                               | JIS C 60068-2-27 10G                                                                                 |                                                                                                                                                                                          |                                   |                                                              |      |
| Mounting position           |                               | From upright to horizontal                                                                           |                                                                                                                                                                                          |                                   |                                                              |      |
| Dielectric strength         |                               | AC1500V / 1min                                                                                       |                                                                                                                                                                                          |                                   |                                                              |      |
| Lubrication                 |                               | Grease                                                                                               |                                                                                                                                                                                          |                                   |                                                              |      |
| Coating                     |                               | Body : Munsell 6.0Y8.3/0.6 Front part : Munsell 6.5PB6.7/7.3                                         |                                                                                                                                                                                          |                                   |                                                              |      |
| Weight                      |                               | 4.5Kg                                                                                                | 11Kg                                                                                                                                                                                     | 11Kg                              | 14Kg                                                         | 14Kg |
| Option                      |                               | With limit switch (standerd), Non Option                                                             | <input type="checkbox"/> Potentiometer : <input type="checkbox"/> 0~300Ω , <input type="checkbox"/> 0~135Ω                                                                               |                                   |                                                              |      |
|                             |                               |                                                                                                      | <input type="checkbox"/> Intermediate limit switch : <input type="checkbox"/> For standard load <input type="checkbox"/> For small load<br>1 piece each for opening and closing sides ※1 |                                   |                                                              |      |

※ When an intermediate limit switch is used in a small load circuit, please designate the limit switch for small load (gold contact type).

## Precautions

### Storage

- Handle the valve carefully, not allowing it to be dropped, tipped over, or dragged.
- Do not store for extended periods where it may be subject to temperatures less than -10°C (14 °F) or greater than 40°C, high humidity, or shacking.  
An indoor location that is cool and dark is best.
- If stored after being unpacked, protect the valve from dust, foreign matter, and oil.
- The valve is shipped with the disc slightly open. Store it in this condition.

### Installation

- Install and remove the valve with its disc slightly open.
- Note that a distorted or damaged flange surface may cause flange leaks.  
Protect the flange surfaces that will contact the valve.  
Remove any rust or foreign matter.
- To suspend valves, pass a nylon-coated sling through the holes provided in the upper part of the body [for valve sizes 400 to 1200mm (16 to 48 inch)] or tie the sling around the neck of the valve (for smaller valve sizes).
- All 615X valves do not require any gasket for piping.
- When installing, do not force the valve into position. Doing so may cause piping problems.
- Center the valve and flanges accurately.
- Align the flanges properly.
- Do not weld the flanges after the valve is installed. Do not install the valve soon after welding.
- Before tightening the flange bolts, fully open the valve and make sure that the disc movement is not restricted inside the piping.
- Tighten the bolts evenly and diagonally. Stop tightening them when the seat ring is completely covered.

### Operation

- Do not use the fully closed valve as a blind flange.
- Do not operate the actuator with a wrench or lever.
- Note that operation of the valve beyond its service conditions can cause malfunctions.
- If the valve is not to be used for extended periods after installation, open and close it once every 2-3 weeks.
- Do not manually operate the valve while the operation switch or the power is turned on.

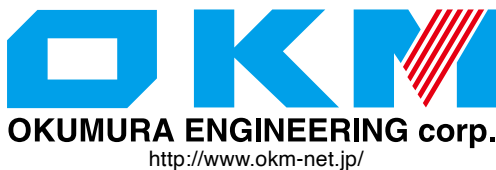
### 336J / 336Y Handling instructions

- Please ask the nearest local dealer for the dimensions of valve piping bolts.
- When leaking from the gland part, tighten the gland bolts evenly until the leak stops.
- The drive part of cylinder type and motor type shall be supported when installing in places with excess vibrations or in non-vertical positions.
- When operating valves before piping, do not touch inside the bore with hand or place any objects in bore.

#### Warranty Period

Our products are guaranteed for either a period of 18 months from shipment out of our factory or 12 months from trial operation, whichever is the shorter.

- Valve body design is different from valve sizes.
- Detail description is subject to change without prior notice.



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