# MODEL CF-60
# Constant Flow Valve
# PRODUCT MANUAL

Thank you very much for choosing the Yoshitake's product. To ensure the correct and safe use of the product, please read this manual before use. This manual shall be kept with care for future references.
The symbols used in this manual have the following meanings.

| | |
|---|---|
| **Warning** | This symbol indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. |
| **Caution** | This symbol indicates a hazardous situation that, if not avoided, may result in minor or moderate injury or may result in only property damage. |

**Table of Contents**



YOSHITAKE

1. Specifications

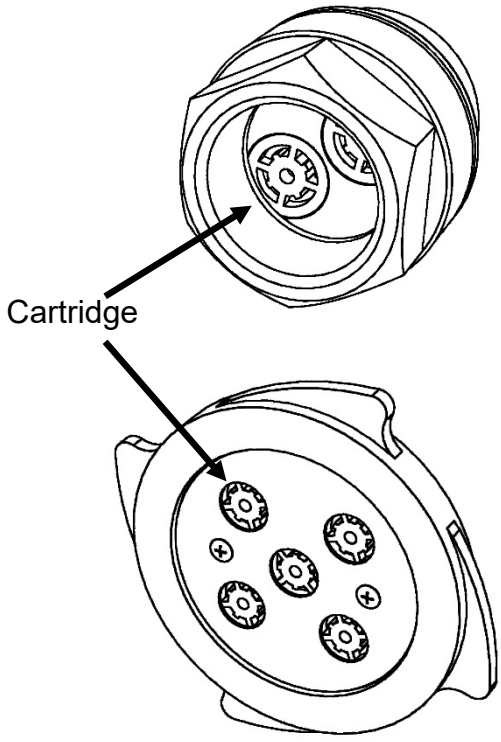
| Model | CF-60 | |
|---|---|---|
| Nominal size | 25～50A | 65～100A |
| Application | Cold and hot water | |
| Max. pressure | 1.0 MPa | |
| Working differential pressure range | 0.2～0.8MPa | |
| Application temperature | 5～60℃ | |
| Set flow rate | 20L/min～270L/min | 100L/min～1000L/min |
| Tolerance of set flow rate | Within ±20% of set flow rate | |
| Connection | JIS Rc screwed | Flangeless (wafer type) (See below table “Connectable flange standard table”) |
| Installation posture | Horizontal or vertical installation | |

●The product conforms to the standard of the Japanese Water Supply Act.
●NPb-treated

| Connectable flange standard table | | | |
|---|---|---|---|
| | 65A | 80A | 100A |
| JIS 5K FF | ● | ● | ● |
| JIS 10K FF | ● | ● | ● |
| ANSI 150lb | ● | ● | ● |
| BSEN PN10/16 | ● | ● | ● |

| | |
|---|---|
| Caution | Please confirm that the indications on the product correspond with the specifications of the ordered model before use.<br>* If they are different, do not use the product and contact us. |

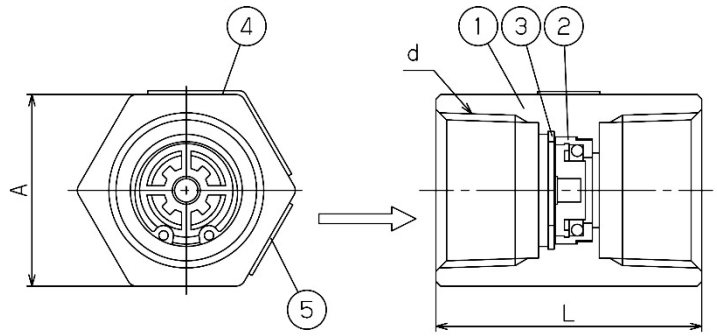
| Nominal size | | Set flow rate and Color of cartridge | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 25A | Screwed type | 20L/min Green | 30L/min Yellow | 38L/min Black | 50L/min Red | 70L/min Light Blue | | |
| 32A | | 20L/min Green | 30L/min Yellow | 38L/min Black | 50L/min Red | 70L/min Light Blue | 100L/min Black w/Hole | |
| 40A | | 40L/min Green | 50L/min White | 60L/min Yellow | 75L/min Black | 100L/min Red | 140L/min Light Blue | 180L/min Blue w/Hole |
| 50A | | 60L/min Green | 75L/min White | 90L/min Yellow | 115L/min Black | 150L/min Red | 210L/min Light Blue | 270L/min Blue w/Hole |
| 65A | Wafer type | 100L/min Green | 125L/min White | 150L/min Yellow | 190L/min Black | 250L/min Red | 350L/min Light Blue | 450L/min Blue w/Hole |
| 80A | | 140L/min Green | 210L/min Yellow | 260L/min Black | 350L/min Red | 490L/min Light Blue | 630L/min Blue w/Hole | 700L/min Black w/Hole |
| 100A | | 250L/min White | 300L/min Yellow | 350L/min Orange | 500L/min Red | 700L/min Light Blue | 900L/min Blue w/Hole | 1000L/min Black w/Hole |



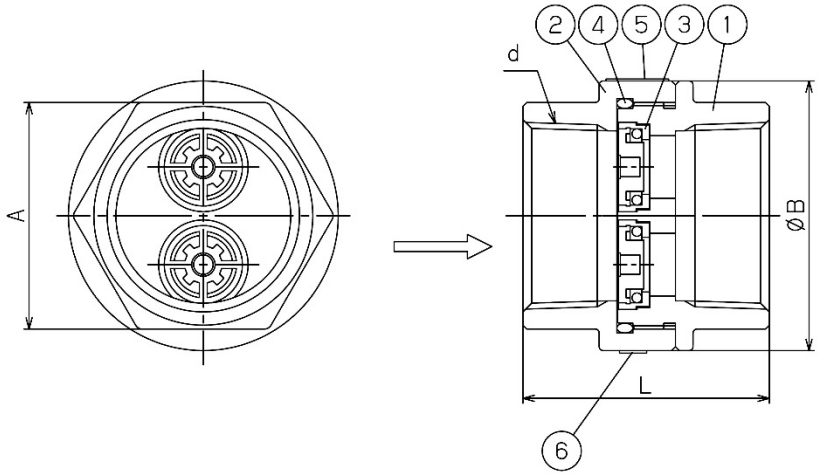

| There are two types of black cartridge. | |
|---|---|
| Black<br>(The central hollow does not penetrate) |  |
| Black w/Hole<br>(A hole penetrates in the center) |  |

2. Structure, Dimensions and Weight

・Screwed type




| No. | Parts name |
|---|---|
| 1 | Body |
| 2 | Cartridge |
| 3 | C type retaining rings (internal) |
| 4 | Label |
| 5 | JWWA label |



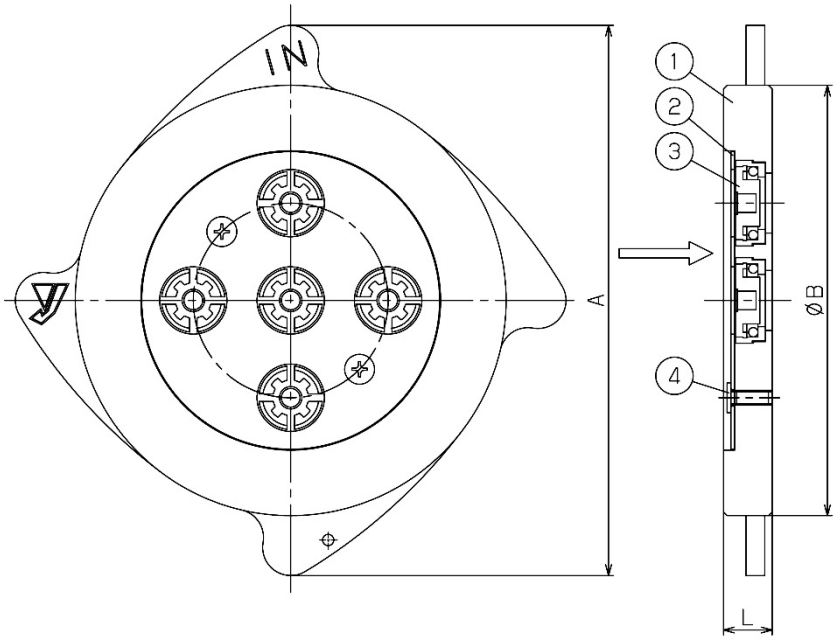

| No. | Parts name |
|---|---|
| 1 | Body A |
| 2 | Body B |
| 3 | Cartridge |
| 4 | O-ring |
| 5 | Label |
| 6 | JWWA label |

(mm)

| Nominal size | d | L | A | B | Weight (kg) |
|---|---|---|---|---|---|
| 25A | Rc 1 | 57 | 41 | - | 0.4 |
| 32A | Rc 1 1/4 | 61 | 50 | - | 0.6 |
| 40A | Rc 1 1/2 | 63 | 58 | 69 | 1.0 |
| 50A | Rc 2 | 77 | 70 | 74 | 1.4 |

Fig.1 Structure, Dimensions and Weight

・Wafer type




| No. | Parts name |
|---|---|
| 1 | Body |
| 2 | Cover |
| 3 | Cartridge |
| 4 | Low head screw |

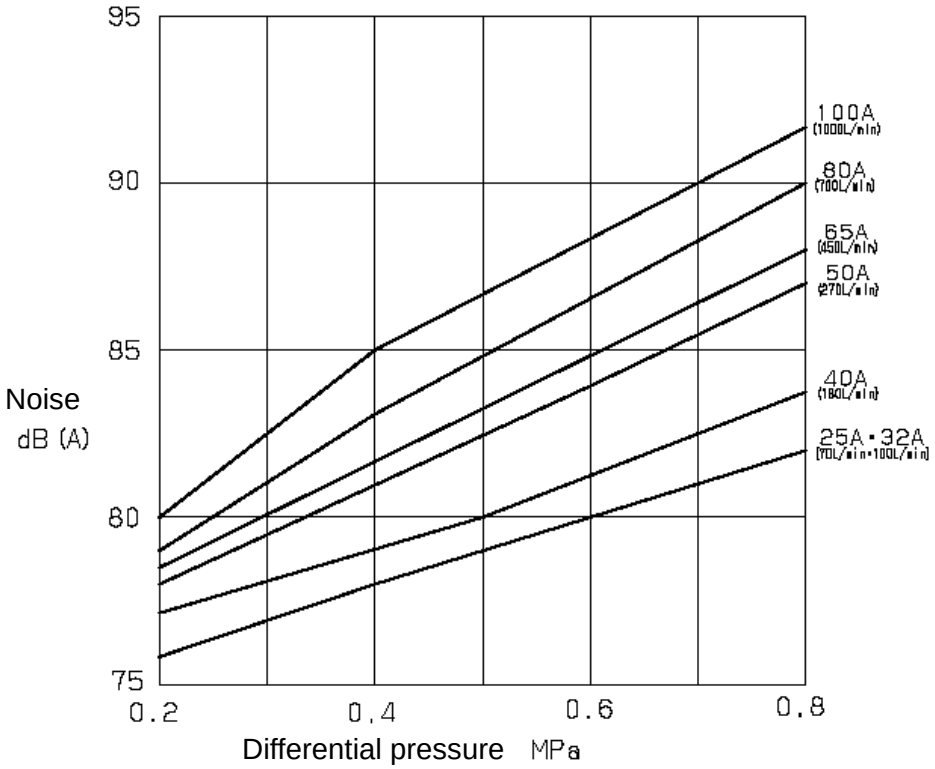
(mm)

| Nominal size | L | A | B | Weight (kg) |
|---|---|---|---|---|
| 65A | 13 | 147 | 115 | 1.0 |
| 80A | 13 | 158 | 126 | 1.2 |
| 100A | 13 | 178 | 146 | 1.5 |

Fig.2 Structure, Dimensions and Weight

3. Performance characteristic chart

3.1 Noise characteristic chart




(The chart shows the noise level at the max. flow rate of each nominal size.)

Fig.3.1 Noise characteristic chart

3.2 Flow rate characteristic chart

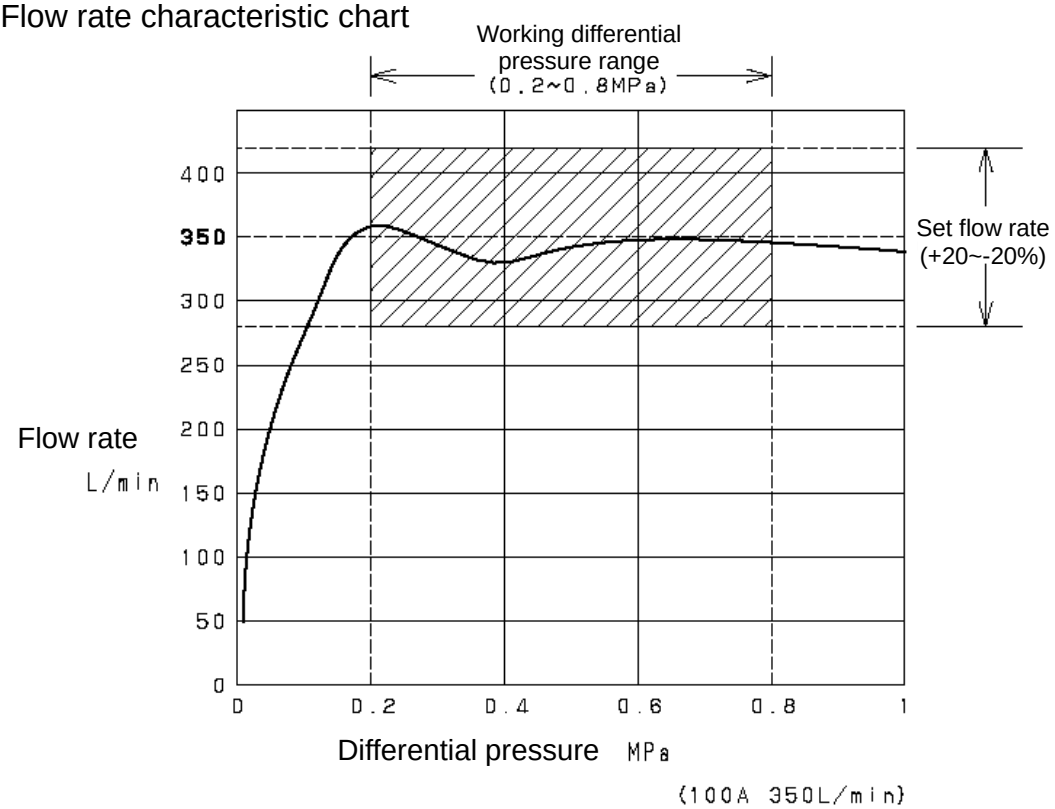


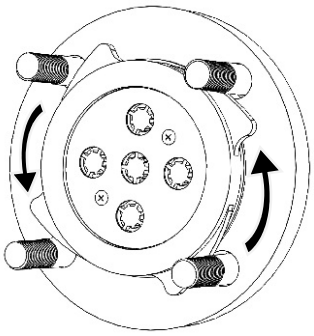

Fig.3.2 Flow rate characteristic chart

4. Precautions for installation

## ⚠ Caution

(1) Before installing the product, remove foreign substances and scale from the piping, and note that seal materials must not flow into the inside of the product or piping. Commingling of foreign substances such as scale or seal material leads to malfunction of the product.

(2) To install the product, check the direction of the product so that the fluid flowing and the mark on the product are in the same direction.
- ・For screwed connection, the arrow is shown on the label.
- ・For wafer connection, “IN/OUT” is shown on the fin.
- * Wrong direction leads to malfunction of the product.



(3) Install pipes so that excessive load, torque or vibration is not applied to the product.

(4) When using this product, running sounds occur. Please install it as far away as possible from places where low noise is required.

(5) On installation, align center part of the product with that of flange by making fin-shaped part contact with bolt as indicated in the right figure.
*The flange, bolt and nut are not included in the bundled parts.

(6) If component having negative effect on inner parts is included in fluid and environment, deterioration of rubber parts is accelerated and causes outside leakage and functional disorder.

(7) Impact by rapid pressure change, such as water hammer, breaks the product or parts.

(8) If fluid cannot flow due to closed piping situation of the product, fluid temperature rise expands volume of fluid in the piping and damages the product.

(9) Secure enough space needed for maintenance and inspection of the product.

(10) Do not make dissimilar metal piping which causes difference of electrical potential. If doing so, the product and parts are corroded.

(11) Consider usage condition (usage frequency or durability) when selection.

(12) Install a strainer (mesh size of 60 or 80) at the inlet side of the product.
* Commingling of foreign substances such as scale material leads to prevent the product from functioning properly.

(13) The majority of product failures are happened due to scales such as sands and dust in the pipeline. Please pay attention to the dust inside the pipeline.

(14) The products cannot be used with pipe end core.

(15) When installing a constant water level valve or other valve on the outlet side of this product, select a valve that will ensure the required flow rate and pressure. Or, adjust that valve correctly.

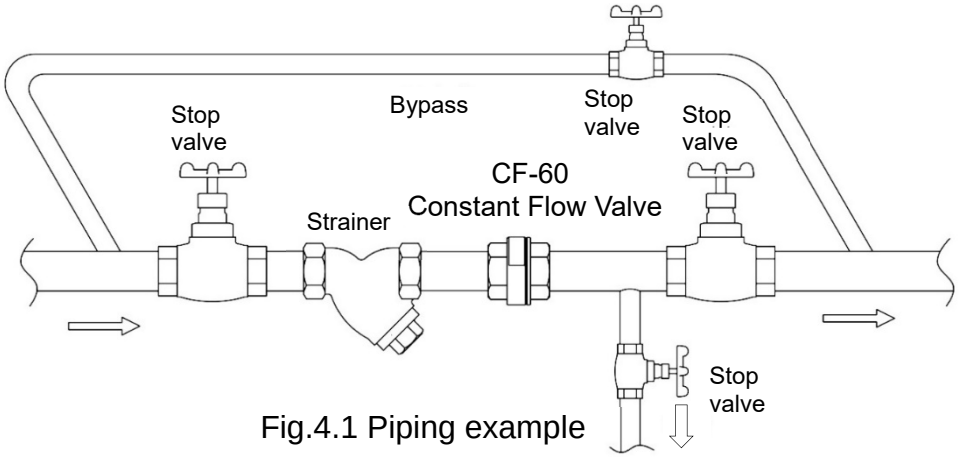



Fig.4.1 Piping example

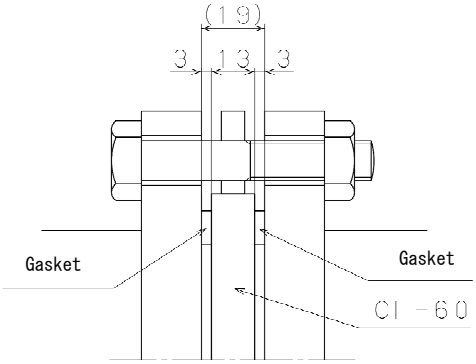
Flanges, bolts, nuts, and gaskets required for wafer type installation are not included.
Please prepare bolts as follows.

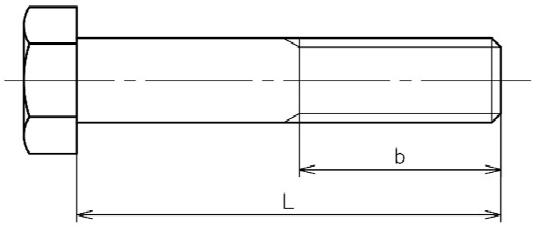
Example: JIS 10KFF, when the gasket thickness is 3 mm

(mm)

| Size | Bolt size | Qty. | L | | b |
|---|---|---|---|---|---|
| | | | Steel・Other than gray cast iron | Gray cast iron | |
| 65A | M16 | 4 | 80 | 90 | 38 |
| 80A | M16 | 8 | 80 | 90 | |
| 100A | M16 | 8 | 80 | 90 | |

When using other flanges, prepare bolts with appropriate dimensions, taking into account the combined thickness of the product and gasket (19 mm) as shown in the figure below.




5. Precautions for operation

## ⚠ Warning

(1) Before leading fluid, make sure that there is no danger when the fluid flows to the end of piping.
 * If tightening is not secured, hot fluid may spout out and result in burns.
 * Fluid outflow may cause property damage.
(2) Close the stop valves before and after the valve, and remove all foreign matter and scales via the by-pass line before operation.
 * Commingling of foreign substances such as scale material leads to prevent the product from functioning properly.
(3) If case of a possible frozen line, take proper measures to remove water inside the piping or equip the product with insulating materials.
(4) Do not touch the product with bare hands when the product is used for hot fluid.
 * Failure to follow this notice may result in burns.

## ⚠ Caution

(1) Completely discharge the fluid inside of the product and line before leaving the product not operated for a long time.
 * Failure to follow this notice may cause malfunction of the product due to rust inside of the product and lines.

6. Maintenance

6.1. Troubleshooting

| Trouble | Cause | Remedy |
|---|---|---|
| No flow or Poor flow | The cartridge is clogged. | Clean the cartridge. |
| | The cartridge is broken. | Replace the product. |
| | The set flow rate is wrong. | Confirm the flow rate with the indications on the product. |
| | It is frozen. | Check the piping. |
| | The differential pressure is out of the specified range. | Review usage conditions. |
| Flow rate more than specified | The cartridge is broken.<br>The O ring of the cartridge is hardened. | Replace the product. |
| | The set flow rate is wrong. | Confirm the flow rate with the indications on the product. |
| | The differential pressure is out of the specified range. | Review usage conditions. |
| Steam leakage | Parts or body is damaged or deformed. | Replace the product. |
| | Installation on piping is loose. | Please retighten. |

* Please contact us for the troubles other than above.

6.2. Precautions for maintenance and inspection

**⚠ Warning**

(1) Do not disassemble the product.
* It will cause product malfunction.
(2) Ask professional or experienced company to do the inspection.
(3) Completely discharge the pressure inside of the product, line and equipment before maintenance. In the case of high-temperature fluid, cool down the product till it can be touched with bare hands.
* Failure to follow this notice may result in injury or burns.