

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.

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YOSHITAKE

1. Specifications

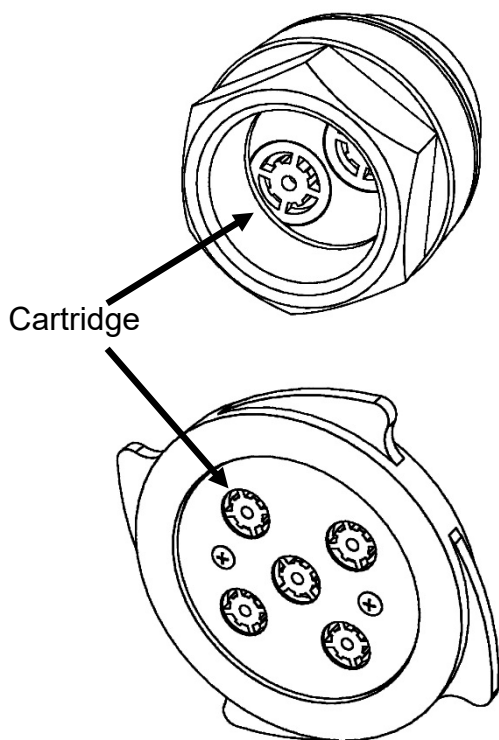
Model	CF-60	
Nominal size	25~50A	65~100A
Application	Cold and hot water	
Max. pressure	1.0 MPa	
Working differential pressure range	0.2~0.8MPa	
Application temperature	5~60°C	
Set flow rate	20L/min~270L/min	100L/min~1000L/min
Tolerance of set flow rate	Within $\pm 20\%$ of set flow rate	
Connection	JIS 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. * If they are different, do not use the product and contact us.
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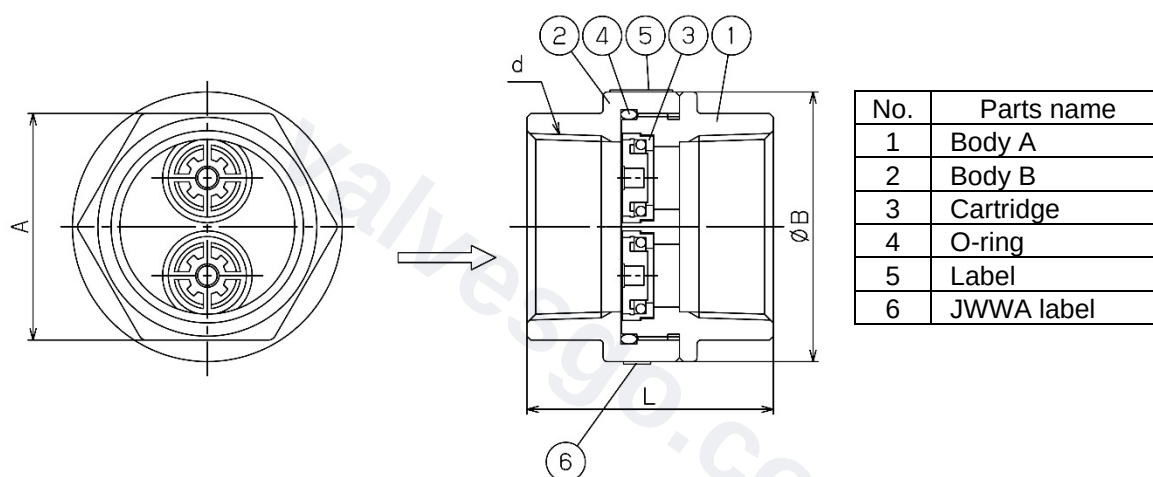
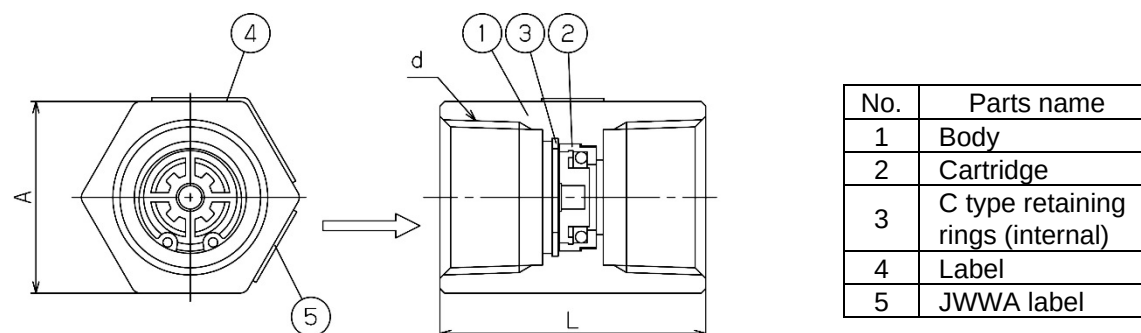
Nominal size		Set flow rate and Color of cartridge						
25A	Screwed type	20L/min Green	30L/min Yellow	38L/min Black	50L/min Red	70L/min Light Blue		
32A		20L/min Green	30L/min Yellow	38L/min Black	50L/min Red	70L/min Light Blue	100L/min Black w/Hole	
40A		40L/min Green	50L/min White	60L/min Yellow	75L/min 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 (The central hollow does not penetrate)	
Black w/Hole (A hole penetrates in the center)	

2. Structure, Dimensions and Weight

• Screwed type

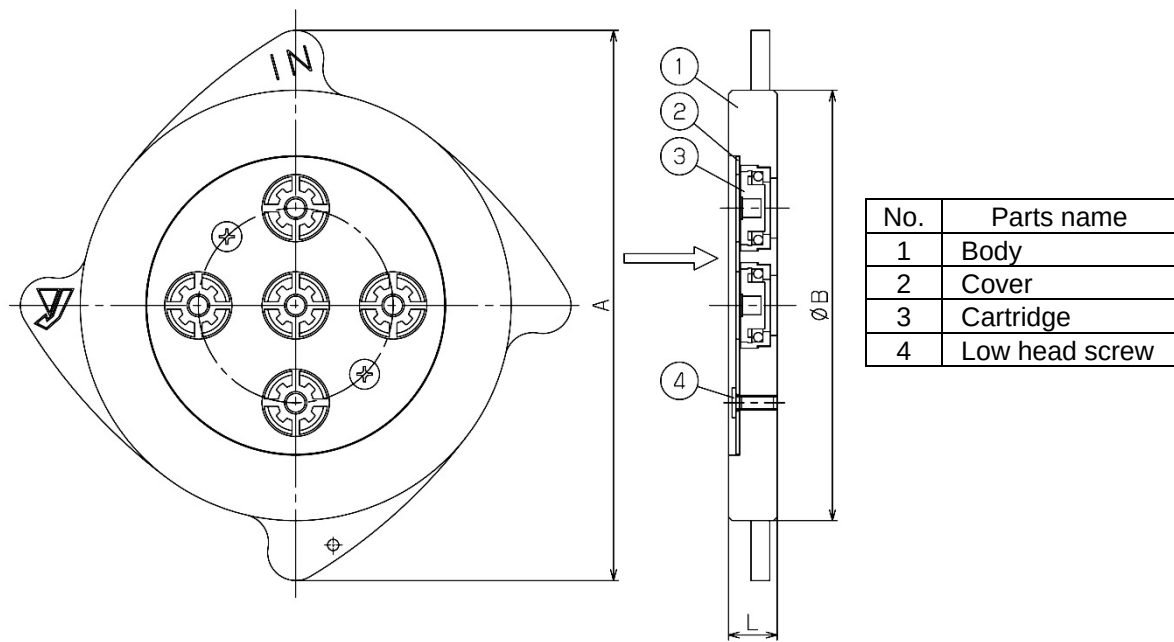


(mm)

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



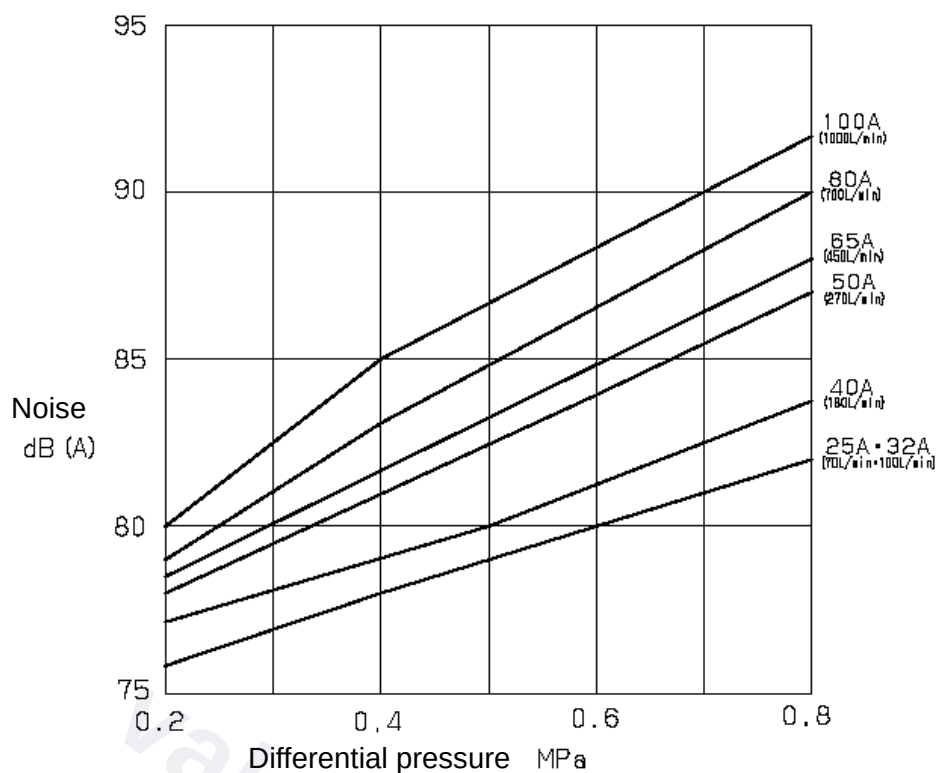
(mm)

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

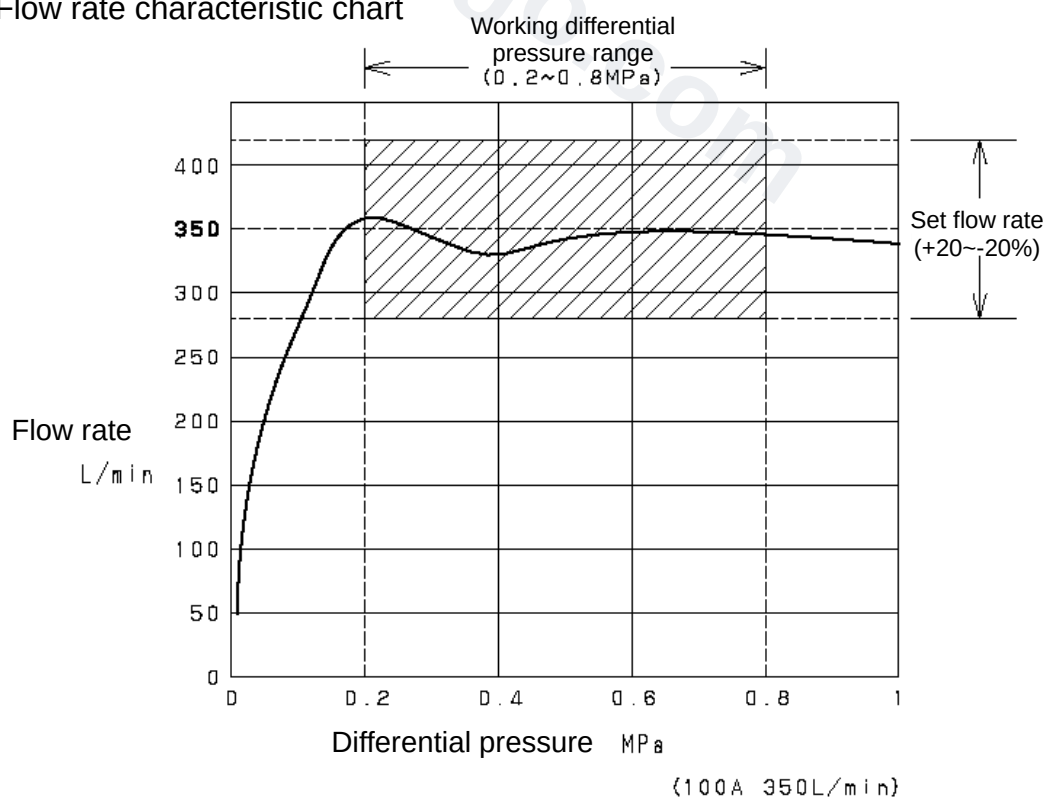


Fig.3.2 Flow rate characteristic chart

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.

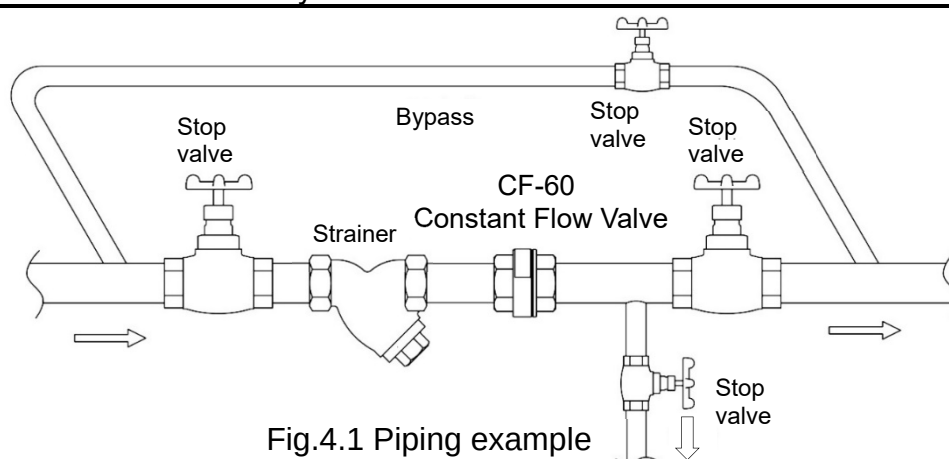
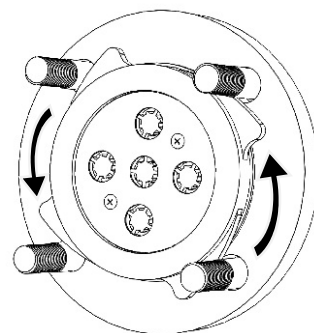


Fig.4.1 Piping example

Flanges, bolts, nuts, and gaskets required for wafer type installation are not included.

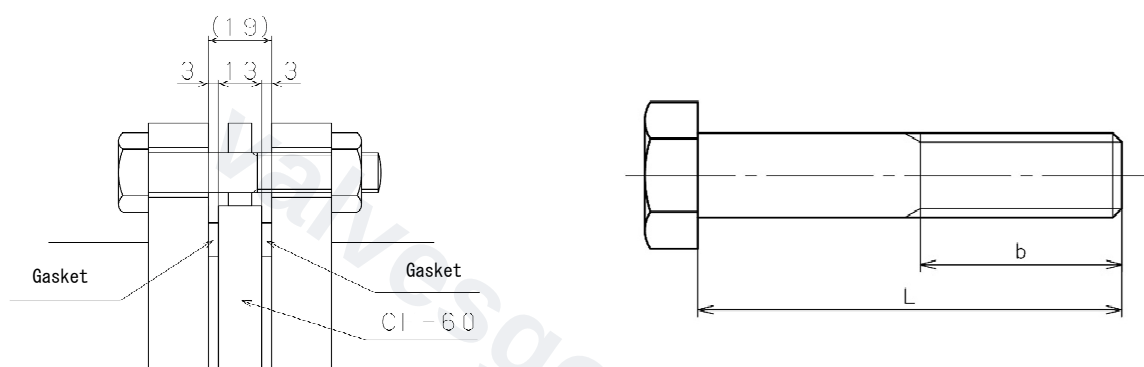
Please prepare bolts as follows.

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

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	

(mm)

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. 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.