Fig. KBFV16L, W & DF Valves
Installation & Maintenance Instructions

PRODUCT LIFE CYCLE

The life of the valve is dependent on its application, frequency of use and freedom from misuse.

The properties of the fluid being transported such as pressure and temperature must be taken into account to avoid premature failure.

Other factors to be considered are the electrolytic interaction between dissimilar metal used in the system, dezincification and stress corrosion cracking occurring on chilled water service.

Before commissioning a system, it should be flushed to eliminate debris and chemically cleaned as appropriate to eliminate contamination, all of which will prolong the life of the valve.

OPERATING PRESSURES AND TEMPERATURES

Maximum non shock pressure and temperature range:

EPDM elastomeric body liner - 16 bar from -10˚C to 120˚C

Nitrile electromeric body liner - 16 bar from -10˚C to 90˚C

Water hammer and other shock conditions should be avoided.

Not suitable for fatigue loading, creep conditions, fire testing, fire hazard environment, corrosive service or transporting abrasive solids.

PRESSURE / TEMPERATURE RATING

These valves must be installed in a piping system where the normal pressure and temperature do not exceed the above ratings.

If system testing will subject the valve to pressures in excess of the working pressure rating, this should be within the test pressure for the body with the valve in the open position.

If the limits of use specified in these instructions are exceeded or if used on applications for which it was not designed, a potential hazard could result.

LAYOUT AND SITING

It should be considered at the design stage where valves will be located to give access for operation and inspection.

Butterfly valves are bi-directional and can be installed with the flow in any direction in both horizontal and vertical pipework.

When installed in a horizontal pipe the valve stem should preferably be horizontal. This enables the valve to be self cleaning and distributes the weight of the disk between 2 bearings.

END OF LINE SERVICE

The KBFV16W semi lugged valves are unsuitable for end of line service.

The KBFV16L fully lugged valves can be used on end of line service but at the reduced differential pressures.

Sizes DN50 to DN300: 10 bar Sizes DN350 to DN600: 6 bar

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Valves left unattended for prolonged periods or operated infrequently should be fitted with a blank flange on the downstream side of the valve.

INSTALLATION

The **KBFV16W** are semi lugged valves with combined location between the bolt circle diameter and the flange bolts.

The **KBFV16L** are fully lugged valves and are located between flanges utilizing the flange bolts.

The **KBFV16DF** are double flanged valves.

Valves are lever operated unless a '**G**' is included in the figure number which implies gear operated.

Prior to installation, inspect the identification plate and or body marking to ensure that the correct butterfly valve is being installed.

Valves are precision manufactured items and as such, should not be subjected to misuse such as careless handling, allowing dirt to enter the valve through the end ports and excessive force during operation.

Valves and adjoining pipework must be provided with adequate support to avoid inducing bending stresses into the valve body, which will impair its performance.

Valves should not be lifted using the lever or gearbox, use the correct slings.

INSTALLATION

Large sized valves, which are very heavy, may require additional lifting equipment during installation and additional support once installed.

Immediately prior to valve installation, the pipework to which the valve is to be fastened should be checked for cleanliness and freedom from debris. Valve end protectors should be removed immediately prior to installation.

Butterfly valves should be supplied in the 'closed' position to protect the edge of the disk from damage.

WHEN INSTALLING lever operated valves they should be open one notch and gear operated valves should be open sufficiently to relieve all force from the body liner.

Care should be taken to align the pipe flanges and centralize the butterfly valve, especially the semi lugged model, within the flange bolting.

These valves have integral rubber sealing faces therefore **GASKETS MUST NOT BE USED**.

Flanged joints depend on the compressive deformation of the integral rubber sealing faces between the flange surfaces until metal to metal contact is achieved.

During assembly bolts should initially be hand tightened sequentially to make the initial contact and ensure that the pipe flanges are parallel.

Finally tighten the bolts gradually and uniformly in an opposing sequence to prevent bending one flange relative to the other, this is a particularly problem with wafer type butterfly valves located within the flange bolting and flanged valves with raised face flanges.

Use only the correct length of studs and stud bolts especial important when installing fully lugged valves.

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After installation, the valve may be opened and closed fully to confirm satisfactory operation.

OPERATION – LEVER

Care must be taken when operating the valve by the lever as high rates of flow induce a dynamic torque on the disk which may cause it to move position rapidly, either more open or slamming shut, depending on its initial position.

The sudden movement on the lever can cause injury and if closing on liquid service may cause water hammer which can cause damage.

Valve closing is by clockwise motion of the lever. After disengaging the lever it can be rotated to the closed position notch. To open reverse the procedure.

No excessive force is required to effect tight shut off and under no circumstance should additional wrenches be used.

If the valve is difficult to open or close do not force by increasing the length of the lever since this may damage the valve.

OPERATION – GEAR

A worm gear operator is supplied as standard on valves DN250 and larger.

The full open and closed position travel stops are factory set and require no further adjustment.

Rotate the handwheel clockwise to close and anti-clockwise to open the valve until the travel stop is felt at each end of its travel.

No excessive force is required to effect tight shut off and under no circumstance should wheel keys be used

If the valve is difficult to open or close do not force by using wheel keys or similar devices on the handwheel of the gear operator.

REGULATING VALVE

Butterfly valves can be used for regulation especially when fitted with a gear operator.

When fitted with a double regulating device the valve can be used as a double regulating valve as part of a commissioning set.

Refer to the installation instructions for the metering station for the minimum length of straight pipe between the metering station and the butterfly valve.

MAINTENANCE

These butterfly are maintenance free.

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