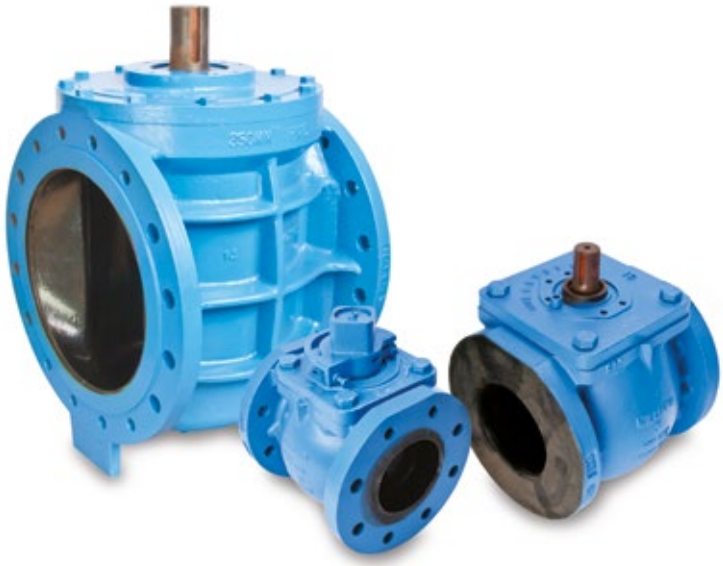
SYSTEM DESIGN

Eccentric Plug Valve
Installation Instructions

➤ **Please read these instructions before installation**



GB – INSTALLATION INSTRUCTIONS

VIKING JOHNSON®

PIONEERS IN PIPE SOLUTIONS

CRANE BUILDING SERVICES & UTILITIES

Eccentric Plug Valve

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

The properties of the fluid passing through the valve such as pressure, temperature, chemical constituents and solids must be taken into consideration to minimise or avoid premature failure.

Also, the velocity must not be excessive and on clean water service should not exceed 5m/sec (16ft/sec) and on sludge type fluids, velocity should not exceed 3m/sec.

When used for regulation duty, the minimum open position should not be less than 20°. A well designed system will take into consideration additional factors such as the electrolytic interaction between dissimilar metals in the valve and pipework.

Before commissioning a system, it should be flushed to eliminate debris and chemically cleaned as appropriate which will help prolong the life of the valve. Care should be taken in the selection of chemicals, the dilution and the duration of the cleaning operation so as not to adversely affect the elastomers in the valve.

The valve is not suitable for corrosive fluid service and fire hazardous environments. Valves used on erosive service or transporting fluids with abrasive solids should be rubber lined.

Limits of Use within Europe

The valves to which these instructions apply have been categorised in accordance with the Pressure Equipment Directive (PED).

The fluid to be transported is limited to certain Group 2 liquids i.e. non-hazardous. Valves for the supply, distribution and discharge of water (and sewage) are excluded from the Directive. Valves on air (Group 2 gas) service operating at pressure up to 0.5bar are excluded from the Directive.

The valves are not suitable for Group 1 liquids and gases and certain Group 2 gases (such as steam)

Group 2 Liquids (other than water)		
Size	Rating	Category
DN50 to DN300	PN16	SEP
DN350	PN16	1*

*Category I requires CE mark

Pressure/Temperature Rating

he valve must be installed in a piping system whose normal pressure and temperature do not exceed the ratings shown in the table. The maximum temperatures for the elastomers in the table apply to static components such as o-ring seals and also for short duration on other parts. The elastomeric components with relative movement against metal surfaces, typically the plug and stem seals have maximum continuous operating temperatures shown in the table.

Operating Pressure and Temperature (PN16 rated values)			
Elastomer	Max. Continuous Operating Temperature (Note 1)	Non-shock pressure at temperature range	Non-shock pressure at max. temperature
Nitrile	70°C	16 bar from -10°C to 90°C	16 bar at 90°C
EPDM	90°C	16 bar from -10°C to 120°C	16 bar at 120°C

Note 1: These maximum temperatures should also be considered for transient conditions where the elastomers are under dynamic loading (e.g. plug encapsulation on the eccentric plug valve and stem seals). In these circumstances please refer to manufacturer for more information.

Transportation / Valve Position

All valves are supplied in a partially open position. When valves are being actuated the installer should note this and adjust the plug into the closed position during set up.

When closing the valve, it is not necessary to force the plug into a visually central position. Providing shut-off is achieved, a slightly off-centre position is acceptable. This allows for subsequent wear allowing the plug to move further into the seat.

Torque values for valves are established practically by torque testing on water service. When setting actuators on new valves it should be noted that torque values on dry valves are higher than for service on wet (lubricated) service.
Torque tables with values are available for sizing and setting actuators.

Location

The eccentric plug valve may be installed in horizontal or vertical pipework. One end of the valve is marked SEAT END and it is usual to install the valve with the seat end downstream unless reverse flow is necessary – refer to manufacturer for more information on valve orientation.

Valves must be provided with adequate support. Adjoining pipework must be supported to avoid the imposition of pipeline strains on the valve body. Heavy valves may need independent support or anchorage.

Actuator Mounting

Actuators must be properly mounted to ensure that only rotational load is applied to the valve stem. Any vertical or horizontal load on to the stem (dependent on the orientation of the installed valve) can cause operational problems.

Notes:

Every effort has been made to ensure that the information contained in this publication is accurate at the time of publishing. Crane Ltd assumes no responsibility or liability for typographical errors or omissions or for any misinterpretation of the information within the publication and reserves the right to change without notice.

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