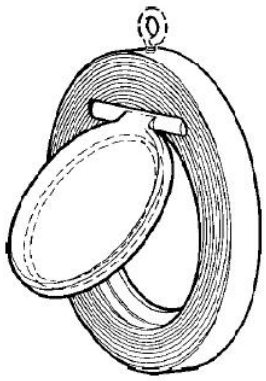
MICROFINISH WAFER CHECK VALVES

INSTALLATION OPERATION AND MAINTENANCE MANUAL



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1. SAFETY INFORMATION.

1.1 Safety Information

Safe operation of the unit can only be guaranteed if it is properly installed, commissioned and maintained by a qualified person (see Section 11 of the attached Supplementary Safety Information) in compliance with the operating instructions. General installation and safety instructions for pipeline and plant construction, as well as the proper use of tools and safety equipment must also be complied with.

Isolation

Consider whether closing isolating valves will put any other part of the system or personnel at risk. Dangers might include; isolation of vents and protective devices or alarms. Ensure isolation valves are turned off in a gradual way to avoid system shocks.

Pressure

Before attempting any maintenance consider what is or may have been in the pipeline. Ensure that any pressure is isolated and safely vented to atmospheric pressure before attempting to maintain the product, this is easily achieved by fitting Expert depressurization valves type DV (see separate literature for details). do not assume that the system is depressurized even when a pressure gauge indicates zero.

Temperature

Allow time for temperature to normalize after isolation to avoid the danger of burns and consider whether protective clothing (including safety glasses) is required. valves fitted with PTFE seals must not be subjected to temperatures above 260°C (500°F) and valves with Viton seals 315°C (599°F). Above these temperatures toxic fumes may be given off.

Disposal

These products are recyclable. No ecological hazard is anticipated with the disposal of these products providing due care is taken. However, if the valve is fitted with a Viton or PTFE seat, special care must be taken to avoid potential health hazards associated with decomposition / burning of these seals.

Viton

Can be land filled, when in compliance with National and Local regulations
Can be incinerated, but a scrubber must be used to remove Hydrogen Fluoride, which is evolved from the product and with compliance to National and Local regulations is insoluble in aquatic media.

PTFE

Can only be disposed of by approved methods, not incineration. Keep PTFE waste in a separate container, do not mix it with other rubbish, and consign it to a landfill site.

2. GENERAL PRODUCT INFORMATION.

2.1 General description.

The WCV wafer check valves are designed and manufactured in accordance with **API 6D** to be sandwiched between flanges. They are specifically designed for use on applications where there is a high proportion of particles in the liquid e.g. sewage, paper mills, sludge's etc. The standard seating ring is EPDM. Other soft seats are available on request:

Seating options

The valves are stamped to identify the type of seat material fitted:

Standard sealing ring: EPDM 'E', Viton 'V'.

Optional alternatives: PTFE 'T', NBR 'P'.

2.2 Sizes and pipe connections.

DN 25,40,50,65,80,100,125,150,200,250,300,350,400,450,500,600,700,750 and 800 Suitable for installation between PN6, 10, 16, 25, 40: ANSI 150 and ANSI 300 flanges.

2.3 Materials.

Part	Material
Body	CI/MS/SGI/WCB/CF8/CF8M
Disc	MS/WCB/CF8/CF8M
Sealing Seat	NITRILE/VITON/EPDM/PTFE
Button	SS316
Eye Bolt	STEEL

2.4 Limiting conditions.

Maximum design conditions: Design as per API 6D up to 500 & above all are manufacturing standard		
Wafer Check Valve	PN16 (DN 25 - 300)	PN10 (DN 350 - 800)
	# 150 (DN 25 - 300)	PN16 (DN 350 - 800)
Temperature Limits with sealing ring :		
Standard sealing ring : EPDM - Suffix 'E'	-50 Deg to +150 Deg	-58 Deg F to +302 Deg F
Viton - Suffix 'V'	-15 Deg to +250 Deg	-05 Deg F to +482 Deg F
Optional alternatives : PTFE - Suffix 'T'	-10 Deg to +200 Deg	-14 Deg F to +392Deg F
NBR - Suffix 'P'	-20 Deg to +80 Deg	-04 Deg F to +176 Deg F

3. INSTALLATION.

Note: Before auctioning any installation observes the 'Safety information' in Section 1.

Referring to the Installation and Maintenance Instructions, name-plate and Technical Information Sheet, check that the product is suitable for the intended installation:

3.1 Check materials, pressure and temperature and their maximum values. If the maximum operating limit of the product is lower than that of the system, in which it is being fitted, ensure that a safety device is included in the system to prevent over pressurization.

3.2 Determine the correct installation situation and the direction of fluid flow.

3.3 Remove protective covers from all connections.

3.4 Valves must only be installed where 'weld neck' flanges are used. Other flange types may restrict operation.

3.5 Disc check valves simply fit between two pipe flanges (see Fig 2) Standard gaskets are used either side of the valve together with longer bolts or studs. Note: flanges, bolts (or studs), nuts and joint gaskets to be provided by the installer. opposite sequence. Normal sensible flange bolting practice should be followed e.g. torque tightening the bolts in opposite sequence.

3.6 When installing on a pump delivery side the valve must not be installed directly onto the pump. A distance of between 5 to 10 pipe diameters should be left downstream of the pump before the valve.

4. COMMISSIONING.

   After installation or maintenance ensure that the system is fully functional. Carry out tests on any alarms or protective devices.

5. OPERATION.

   The WCV operates as a check valve which allows flow of fluid in one direction but when the flow reverses the valve will shut and prevent back flow.

6. MAINTENANCE.

   Note: Before auctioning any maintenance programmed observe the 'Safety information' in Section 1.

   This product is non-maintainable.

   When refitting a new valve, ensure that all joint faces are clean.

7. SPAREPART.

   There are no spare parts available for this product.