

NON-RETURN SWING CHECK VALVE (CLAPET)

INSTALLATION, OPERATION AND MAINTENANCE

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1 - SAFETY INFORMATION

The following general safety information should be taken into account in addition to the specific warnings and cautions specified in this manual. They are recommended precautions that must be understood and applied during operation and maintenance of the equipment covered in this I.O.M.



To avoid injury, never attempt disassembly while there are pressures either upstream or downstream. Even when replacing gaskets, caution is necessary to avoid possible injury. Disassemble with caution in the event all pressures are not relieved.



To prevent valve bending, damage, inefficient operation, or early maintenance problems, support piping on each side of the valve.



- A valve is a pressurized mechanism containing fluids under pressure and consequently should be handled with appropriate care.
- Valve surface temperature may be dangerously too hot or too cold for skin contact.
- Upon disassembly, attention should be paid to the possibility of releasing dangerous and or ignitable accumulated fluids.
- Ensure adequate ventilation is available for service.

This manual provides instructions for storing, general servicing, installation and removal of valves. Trust Valves refuses any liability for damage to people, property or plant as well as loss of production and loss of income under any circumstances but especially if caused by incorrect installation or utilization of the valve or if the valve installed is not fit for intended purpose. It is the sole responsibility of the user to ensure the valve type and materials are correctly specified.

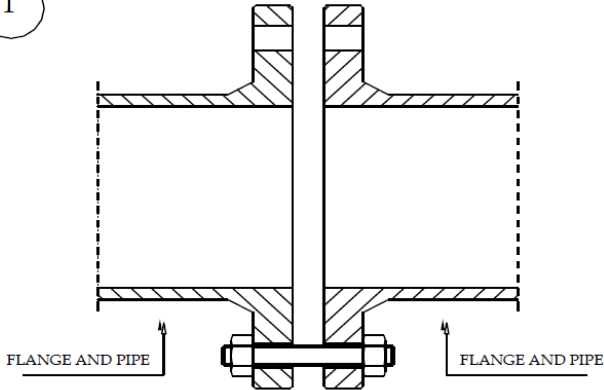
DURING OPERATION, TAKE INTO ACCOUNT THE FOLLOWING WARNINGS:

- Valve's parts shall be handled with care avoiding scratches or surface damage.
- All tools and equipment for handling the internal parts shall be soft coated, or else take care.
- Valves can be fitted with gaskets or seals in PTFE, Buna, Viton, etc., hence high temperatures and some cleaning fluids may damage sealing components.

2.0 - INSTALLATION

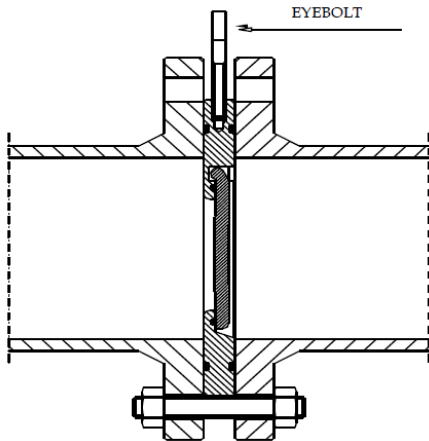
Installation steps:

1



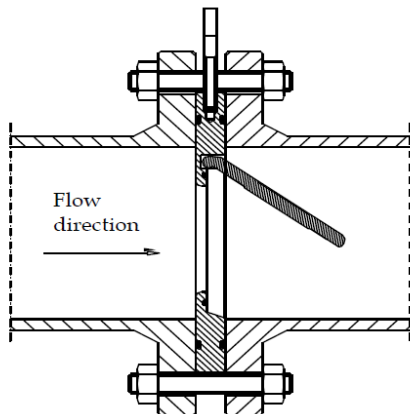
Insert one or two stud bolts and tighten them with nuts without forcing

2



Holding the valve by the eyebolt, lower and set it on the already inserted stud bolt

3



Insert the other stud bolts and tighten them with the nuts. Be sure that the valve's external diameter is equidistant from the screws and that the direction of the arrows on the external diameter is the same as the one of the flow



Piping should be properly aligned and supported to reduce mechanical loading on the end connections.

Install valve in system using proper size and type of mating flanges and appropriate gaskets (for FF or RF) or ring joint gaskets (for RTJ). Observe the following precautions:

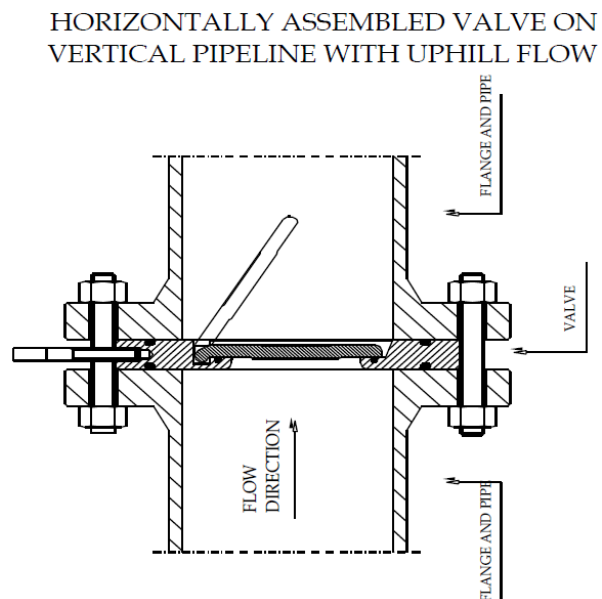
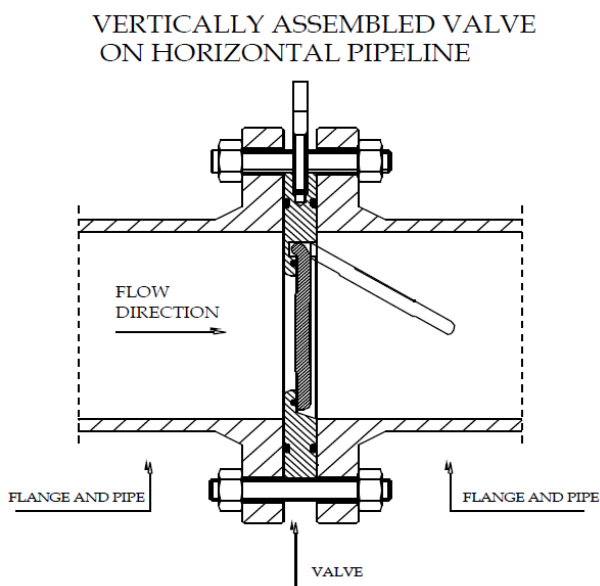
- Do not install wafer check valves directly against another valve whereby the check valve discharges downstream directly into another valve.
- Do not install the valve whereby it directly discharges downstream into a tee or elbow fitting.
- Wafer check valves are not suitable for vertical down flow installations.

2.1 - INSTALLATION POSITIONS

Check valves are unidirectional and have the direction of flow indicated on the valve's body.

Check valves are recommended for use only in horizontal lines and vertical line for upwards flow only.

Refer to following diagram for installation on horizontal or vertical pipelines:



2.3 - WORKING CONDITIONS

Working conditions as for max pressure, max and minimum temperature are those indicated on the following label.

The minimum and maximum working temperatures of the non-return swing check valves materials matches with the elastomers used:

Body - Disc - Elast.	Min TS °C	max TS °C
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C-C-Met : - 10° / + 250°	I-I-Met : - 50° / + 510°	B-B-Met : - 0° / + 400°
C-C-N : -10° / +120°	I-I-N : -25° / +120°	B-B-N : -0° / +120°
C-C-E : -10° / +130°	I-I-E : -40° / +130°	B-B-E : -0° / +130°
C-C-V : -10° / +250°	I-I-V : -50° / +260°	B-B-V : -0° / +260°
C-C-T : -10° / +250°	I-I-T : -50° / +260°	B-B-T : -0° / +260°

Body / Disc: (C) Carbon steel – (I) Stainless steel – (B) Alu-bronze

Elastomer: (N) NBR 70 – (E) EPDM – (V) FKM/FPM – (T) P.T.F.E.

In case there is no documented evidence of the working conditions and no information about fluid, temperature and pressure is given, Trust Valves Srl refers to the user the choice of the most suitable to the application valve's materials.

3 - MAINTENANCE

Routine maintenance for all types of non-return check valves consist of the following operations:

1. Replacement of the valve's O-rings. This operation must be done every 12 months.
2. Replacement of the discs, of the screws and the washers. This operation must be done every 36 months at least.



The above-mentioned terms are highly reduced in case of high aggressiveness of the fluid or in case of turbulences.

Trust Valves Srl declines every responsibility or warranty for products being repaired by a third party or in case the suggested maintenance operations schedule has not been followed.

For any technical request or assistance, feel free to contact Trust Valves Quality Department at:

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