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Herz Swing Check Valve

for water, heating, air-conditioning,
ventilation and sanitation systems



SWING CHECK VALVE O&M MANUAL

Specification



Temperature range	: -10°C…+110°C
Pressure rate	:PN16
Flange Dimensions	:according to EN1092-2
Design standard	:EN 12334
Coating	:Painted Blue RAL5000

Installation

Preparation

- Verify that the valve is suitable for the operating specifications of the medium (installation); such as maximum operating pressure, maximum operating temperature, corrosiveness and abrasiveness, etc.
- The operating temperature of the check valve is -10/110 °C
- Keep the valve in a clean environment and do not remove the protective caps until installation.
- The valve can be used in the pipeline in the horizontal, vertical positions.
- The arrow, on the valve body, must be in the same direction as the liquid flow.
- Before installation, the pipe must be cleaned of all dirt such as sand, gravel, dirt, welding residues, etc.
- Use strainers, in suitable sections of the pipeline, for future protection of the valve from dirt and foreign substances.
- The pipeline should be free of tension before installation commences.
- Verify that the distance between the flanges, where the valve will be connected, is equal to the length of the valve body.
- Use suitable gaskets between the valve flanges and the counter flanges.
- First, mount one side of the valve and only lightly fit the bolts. Do not fully tighten the bolts yet. Similarly, mount the other side of the valve. Finish by uniformly tightening the bolts, to avoid twisting the valve body, on both sides of the valve.
- The related standard number of the valve is TS 10873

Valve Location

Valves should be located to ensure ease and safety of operation and access allowed for subsequent maintenance.

Layout and Sitting

These Check valves may be installed in horizontal pipework and vertical pipework if the flow is in an upwards direction. Swing check valves having 6 diameters of straight lengths of pipe upstream and 3 diameters downstream are suitable for velocities up to 3 metres/second. If the valve is situated such that turbulent flow enters the valve or is situated close to reciprocating pumps then the velocity should not exceed 2 metres/second.

Piping Supports

The system shall be designed to prevent excessive forces. The piping supports must be carefully aligned and at the correct distance between centres for the size and type of pipe.

Flanged Joints

Cast-iron flanges may be damaged by over tightening the bolts. The following procedures will reduce this risk:

- Make sure the pipe flanges are correctly aligned.
- Full-face gaskets reduce the stresses in flat face flanges and should be used with bronze flanges.
- Low strength carbon steel bolting has traditionally been used to restrict the load imposed on grey iron flanges, but should not be used for temperatures above 110° C.
- Always use the correct size and number of bolts.
- Find out the correct assembly torque for the specific gasket and conditions applicable, and use a torque wrench to achieve this. Use the correct tightening sequence.
- Do not match a flat-faced flange to a raised face flange.

Operation

All check valves permit flow in one direction only and close automatically if flow reverses. They are entirely automatic in action, depending upon pressure and velocity of flow within the line. The discs and associated moving parts may be in a constant state of movement if the velocity pressure is not sufficient to hold the disc in a wide open and stable position. Premature wear and noisy operation or vibration can be avoided by selecting the size of check valve on the basis of flow conditions**.**

General Consideration

- Maximum operating pressure reduces as service temperature increases. Pressure and temperature limitations are shown by the valve body marking or on the identification plate.

• Valves are not designed to operate under high shock loadings. Where pressure increases occur due to shock loading (water hammer), they should be added to the working pressure to obtain the total pressure acting on the valve. The total must not exceed the pressure rating of the valve. A pressure surge, or shock, is usually caused by the rapid closure of a check valve or quarter turn valve resulting in a sudden reduction in flow rate. The surfaces of valves in service may be subject to extreme temperatures; care should be taken when handling**.**

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HERZCON_ME-EN-1116-3