



Fig. KIDDCK16 Iron Wafer Type Check Valve Installation & Maintenance Instructions

PRODUCT LIFE CYCLE

The life of the valve is dependent on its application 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 seat - 16 bar from -10°C to 120°C

Nitrile electrometric seat - 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.

The valve can be installed in horizontal pipework and with the flow in the upwards direction in vertical pipework.

Wafer check valves having 6 diameters of straight pipe upstream and 3 diameters downstream are suitable for flow velocities up to 3 m/s.

If the valve is situated such that turbulent flow enters the valve or is situated close to a reciprocating pump then the velocity should not exceed 2 m/s.

INSTALLATION

Prior to installation, a check of the identification plate and body marking must be made to ensure that the correct valve is being installed.



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

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

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.

The direction arrow cast on the body must be coincident with the direction of flow in the pipeline.

For horizontal pipework the valves must be installed with the disc pin vertical indicated by the retaining plug being uppermost to the pipework. For vertical pipework the disc pin can be in any position.

Larger valves should be lifted using a lifting eye bolt or the correct slings.

The surface finish and condition of the gasket contact face on both the valve and pipework should be checked. Incorrect surface finish or damage can cause leakage and no attempt to assemble should be made until it has been rectified.

Gaskets should be suitable for the operating conditions including the maximum temperature and pressure.

Care should be taken to align the pipe flanges and centralise the valve and gaskets within the flange bolting.

INSTALLATION

During assembly bolts should initially be hand tightened sequentially to make the initial contact and 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 check valves located within the flange bolting.

Parallel alignment of flanges is especially important when assembling between exist flanges.

Flanged joints depend on compressive deformation of the gasket material to achieve a seal.

OPERATION

Wafer check valves are self-acting and therefore require no manual operation.

MAINTENANCE

These wafer check valves are maintenance free.