

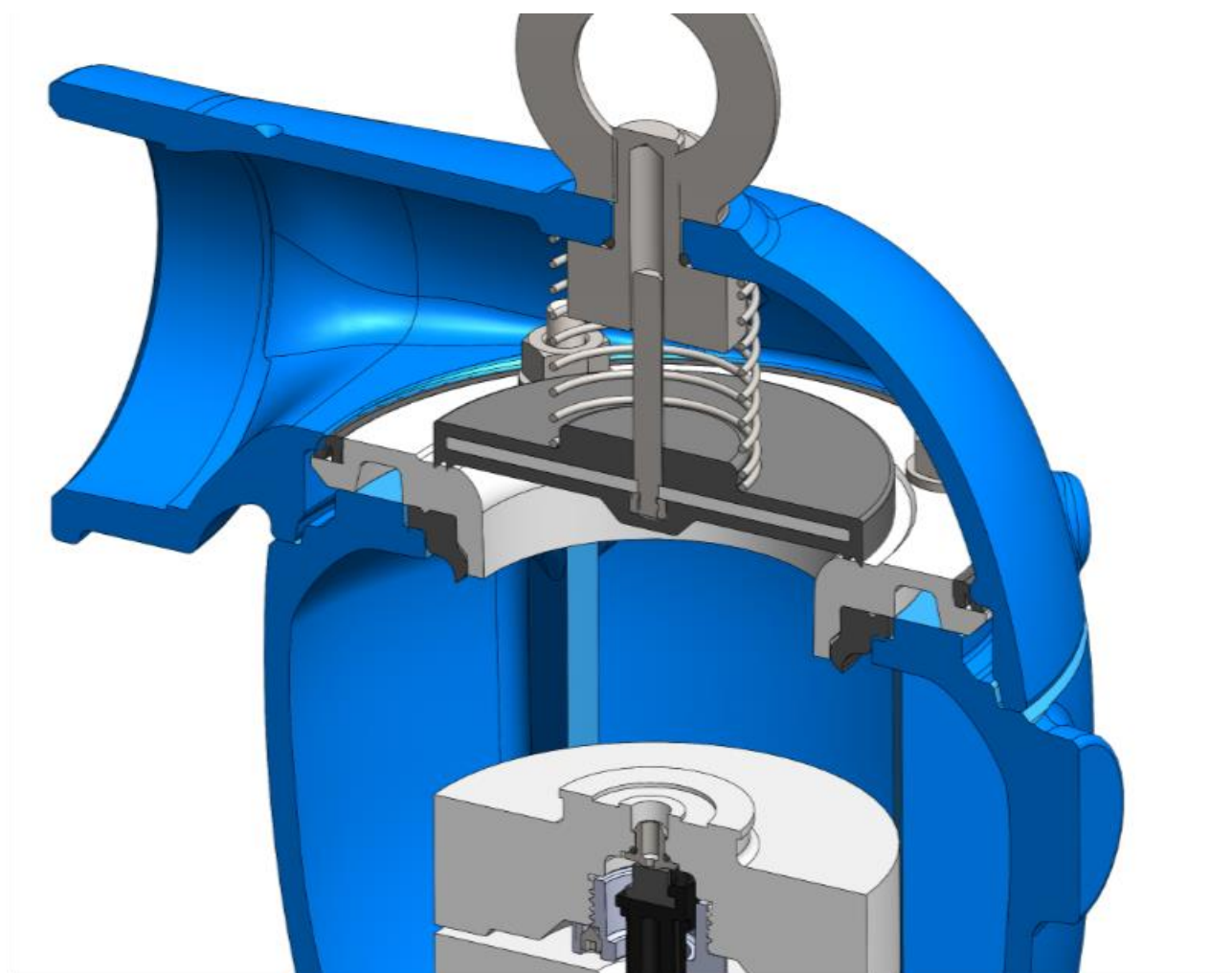


BERMAD

Water Control Solutions

C70 Combination Air Valve with Inflow Prevention (IP)

Installation, Operation and Maintenance (IOM)



General

The Inflow Prevention (IP) feature prevents intake of atmospheric air in cases where this could lead to damaged pumps, required re-priming, or disruption of siphons; it may also prevents intake of flood water or contaminated water into potable water networks (C70-IP).

The Inflow Prevention (IP) is a kit than can be assembled on C70 with inlet sizes of 2 – 6", DN50 – DN200.

Principle of Operation

The Inflow Prevention (IP) feature is based on a disc, which is forced by a spring to close the kinetic orifice. During pipeline filling condition, the pressure of the air will force the disc to go up, allowing the air relief from the air valve body via the outlet to the atmosphere.

During negative pressure condition, the disc stays at its original position and the kinetic orifice will remain close, preventing air intake.

Operational Data

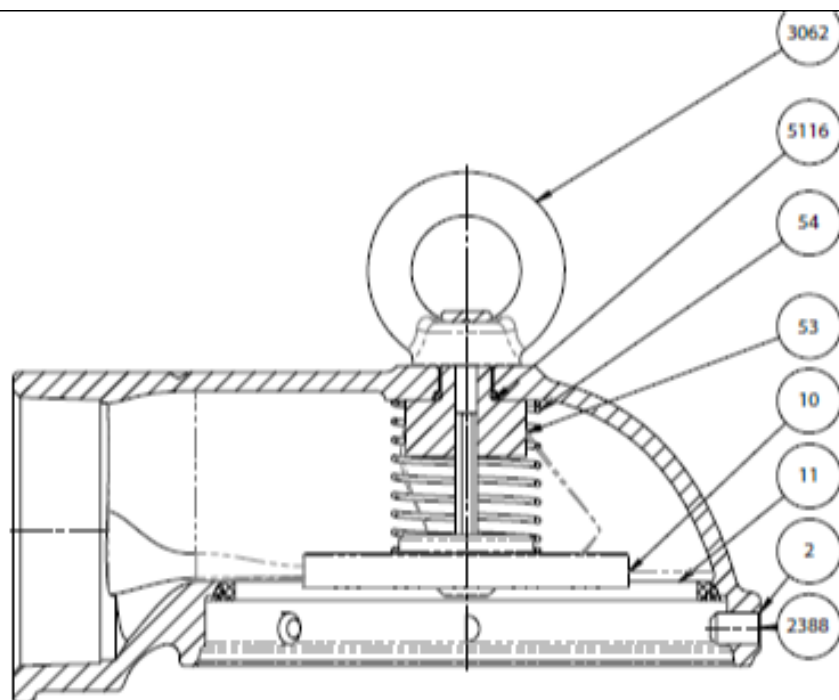
The Inflow Prevention (IP) feature is compatible with

- With all C70's Pressure rating - ISO PN16, PN25, PN35, PN40
- With operating pressure range: 0.1 – 16 bar, 0.1 - 25 bar, 0.1 – 35 bar, 0.1 – 40 bar or 1.5 – 230 psi, 1.5 – 360 psi, 1.5 – 580 psi
- With C70's operating temperature: Water up to 60°C / 140°F

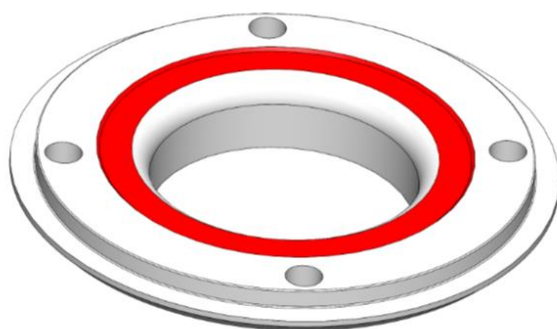
Inflow Prevention (IP) kit – Part lists

The Inflow Prevention kit is delivered from Bermad as an assembled kit (see picture #1), which include Side Cover (part #2) with lifting eye (part #3062), spring (part #54), sleeve (part #53) and O-ring (part #5116) and a disc which is coated with rubber (part #10). The kit includes also four screws (parts #2388) and a cover seal (part #11).

In addition to the kit, a specialized Stainless Steel top plate have to be used. This top plate is machined to include an addition of a notch, in compliance to the diameter of the disc (part #10). See picture #2, the notch is marked in Red.



Picture #1 – Inflow Prevention kit



Picture #2 – Top plate for Inflow Prevention feature.

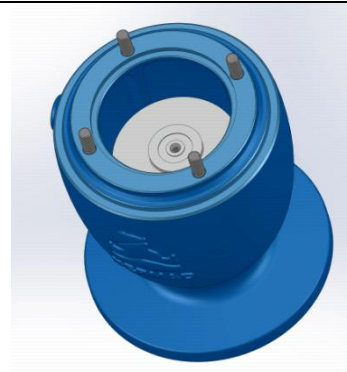
Assembly of the Inflow prevention kit

1. Take a C70, which need to be converted to C70 with Inflow prevention
2. Open the four screws, which secure the cover to the lower the body and take the cover off.
see picture #3 – C70 without a cover



Picture #3

3. Open the four bolts that secure the top plate and take the top plate out. See picture #4.
Leave the float assembly and the optional surge protection disc inside the body. Separate the kinetic seal from the top plate.



Picture #4 – C70 lower body with float assembly, without a top plate.

4. Replace the regular top plate with the specialized top plate (which has the notch), use the same kinetic seal (see picture #5)
5. Assemble the top plate to the lower body, by closing the four bolts.
6. Put the inflow prevention kit above the lower body (see picture #5)



BERMAD

Water Control Solutions



Picture #5 – assembling the specialized top plate and placing the Inflow Prevention kit above the top plate.

7.

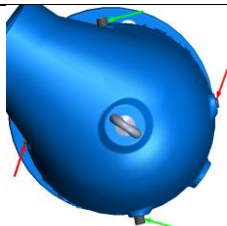


BERMAD

Water Control Solutions

8. Secure the side cover with inflow prevention kit to the body. Close the screws evenly, by closing one screw opposite another until the cover touches the body, See picture #6.

Attention - make sure that all screws are tightened, before lifting the air valve with the eye lift



picture #6 – securing the cover screws

9. After the valve is assembled, perform the following tests
 - a. Test the valve for 1.5 X operating pressure, for a period of 2 minutes. Make sure there is not any leakage.
 - b. Test the valve for 0.1 bar; 1.5 psi, for a period of 2 minutes. Make sure there is not any leakage