

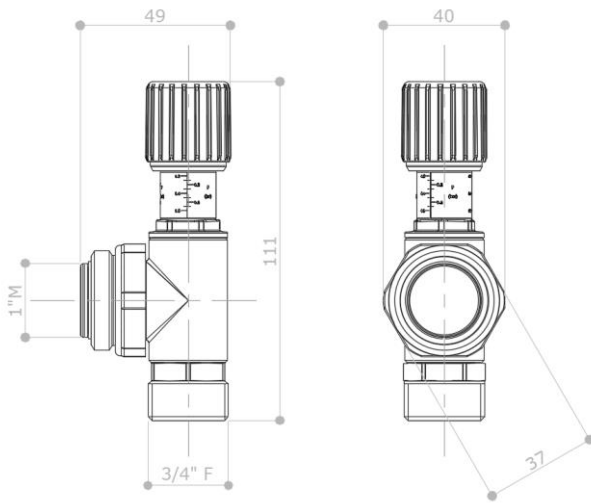
DESCRIPTION



PEC309VE

The PEC309VE by-pass valve is an overpressure control valve which prevents the differential pressure between two points in a circuit exceeding a certain limit. The valve features a plug and spring mechanism that remains closed under normal operating conditions and only opens when the pressure limit is exceeded.

DIMENSIONS



Dimensions in mm - All threads are conform to ISO 228

MATERIALS AND FEATURES

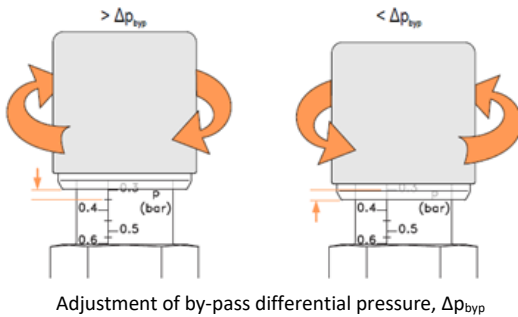
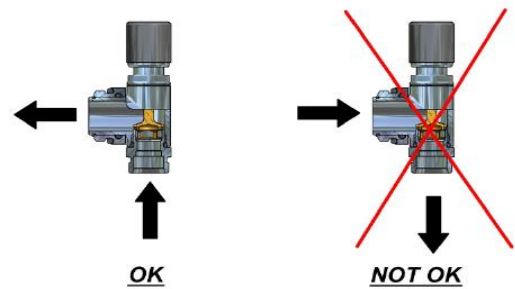
Body/Nut/Fitting	Brass CB753S - UNI EN 1982
Seal Parts an O-ring	EPDM-X
Spring	Steel AISI 302
Handwheel	PP-H
Elastic Ring	Steel AISI 316L
Fluids	Water
Working Temperature range	3° - 120°C
Max working pressure	10 bar
Presetting Range	0,2-0,6 bar

APPLICATIONS

The PEC309VE by-pass valve is an overpressure control valve which prevents the differential pressure between two points in a circuit exceeding a certain limit. The valve features a plug and spring mechanism that remains closed under normal operating conditions and only opens when the pressure limit is exceeded. When a pressure increase generated on the on the plug surface a greater than the spring's equilibrium force, the plug will open to relieve the overpressure by allowing water to flow through the by-pass circuit. By-pass valves are required in all hydronic systems with local 2- way valves, or heating elements equipped with adjustment valves that, under certain conditions, cut-off the circuit completely. The valve provides enough recirculation to avoid pump operation over design conditions: this helps with preventing balance losses in parallel circuit branches, or annoying noise problems induced by increasing fluid velocities through the regulating devices.

OPERATING PRINCIPLE/INSTRUCTIONS

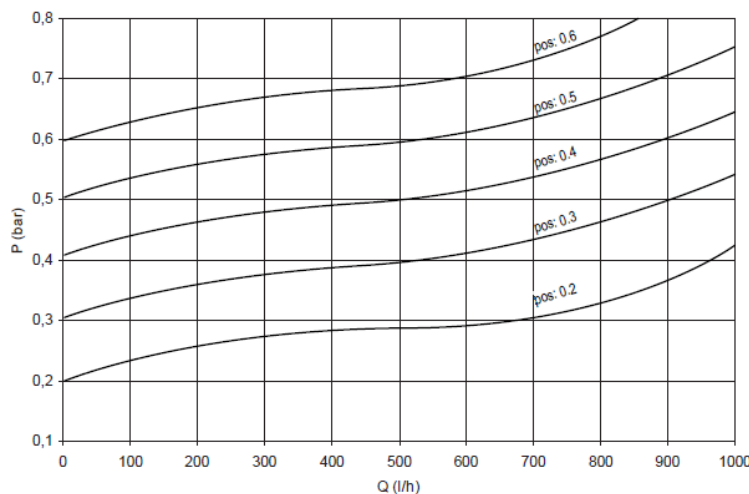
For by-pass valves to work properly, it is essential that their connections to distribution is performed according to the flow direction specified in the image on the side



Adjustment of by-pass differential pressure, Δp_{byp}

The valve can be adjusted/presetted between 0.2 and 0.6 bar. Turn the knob until its edge matches the value reported on the graduated scale: clockwise for a higher opening differential pressure Δp_{byp} , or anticlockwise for a lower value (Fig. (b)). The opening differential pressure is referred to the two points between which the by-pass valve is installed. Therefore, it is suggested that the opening differential pressure value imposed is 10% higher than the pressure head provided by the circulator pump.

HYDRAULIC FEATURES



Hydraulic features of by-pass valve in different adjusting positions (0.2 ÷ 0.6 bar).

FLUID CHARACTERISTICS

In order to grant product warranty, the quality of the water the system has to conform with the rules in force in the country of relevance, or at least to present standard no less than those prescribed by italian norm uni 8065:2019.

As general minimum indications, at least the following parameters have to be respected:

Aspect	LIMPID
pH	> 7 & < 8,5
Iron (Fe):	< 0,5 mg/kg
Copper (Cu):	< 0,1 mg/kg
Antifreeze (*):	passivated propylene glycol
Conditioning (*):	in the respect of the concentrations indicated by the producer

(*) In the use case of additives or conditioning substances, you should to preventively verify the compatibility of the substances you intend to use with respect of the component materials stated in this technical document for all our products.