

PRODUCT INFORMATION

ISSUE 2 - MARCH 2021

The PB00402 Valve Actuator is designed to open and close a heating circuit on the Polypipe underfloor heating smart plus manifold based on whether the circuit is calling for heat

The valve actuator helps improve the energy-efficiency of the system by allowing individual room temperature control.



Features & Benefits

- Modern design
- Stroke 4.0mm
- Normally closed (NC)
- Power consumption: 1 watt
- Complete compatibility to valve-adapter-system
- Simple snap-on installation
- 360° Installation position
- Patented 100% protection against leaky valves
- First-open function (NC type only)
- Adaptation check on valve
- Alignment aid on the valve
- Compact design
- All around function indicator
- Minimal operational noise & maintenance free
- High functional safety
- Surge protection
- Certified by TUV

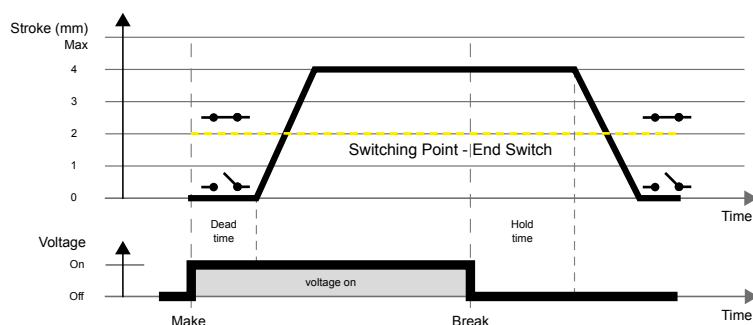
Versions

Version	Stroke	Actuating Force	De-energised state	Closing and opening time	First-open function	Scope of supply
PB00402	4.0mm	100 N	NC	~3.5 min	yes	• Actuator • 1 meter connecting cable, grey PVC H03VV 2 x 0.75mm² • Installation manual

Functions

The UFCH Valve Actuator mechanism uses a PTC resistor-heated wax element and compression spring. The wax element is heated by apply the operating voltage which in turn, moves the integrated ram. The force generated by the movement is transferred to the valve motor which opens and closes the valve.

Normally Closed (valve closed)



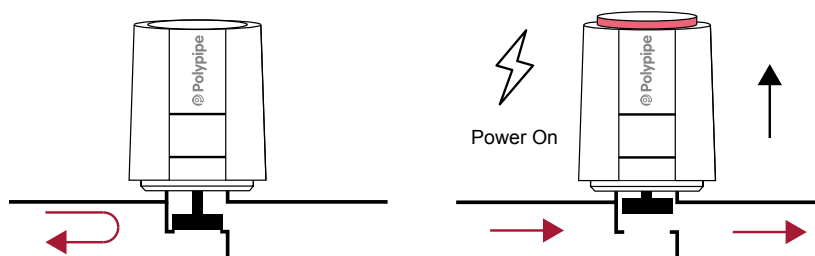
The valve is opened steadily by the ram motion upon switching on the operating voltage and after expiry of the dead time. The integrated micro switch is switched with a travel path of approx. 2mm.

After the operating voltage is cut and after expiry of the hold time the valve is closed evenly by the closing force of the compression spring. The integrated switch is closed after an actuator travel of approx. 2mm.

The closing force of the compression spring is matched to the closing force of commercially available valves and keeps the valve closed when de-energised.

Function Display

The PB00401 has a built in indicator which identify whether or not the unit is powered on or off and whether the valve is opened or closed.



- An extended function display shows the valve is open. (red indicator)

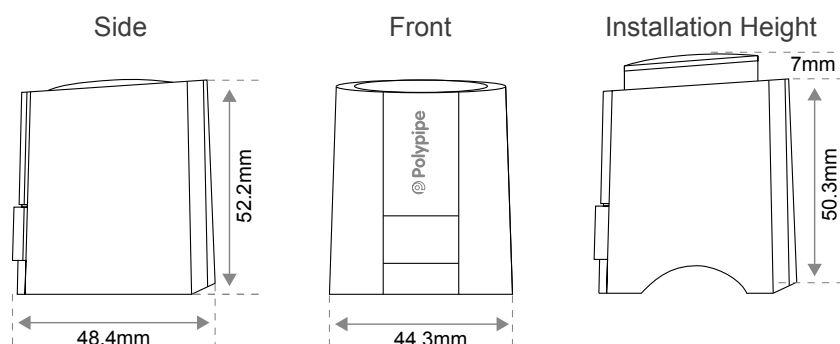
First-Open Function

Upon delivery, the PB00402 valve will be open (de-energised) due to the first-open function. This allows for heating operation during the construction phase even when there is no live electricity feed available. The first-open function will be unlocked once the unit receives a live electricity feed for more than 6 minutes. The unit will now be fully operable.

Technical Information

Operating voltage	230 V AC +/-10% 50/60 Hz	1. Measured with precision reference instrument LMG95 2. Independent of the adapter 3. In all installation positions
Maximum inrush current	< 550 mA during 100 ms max	
Operating power	1 W ¹⁾	
Stroke (actuator travel)	4.0mm	
Actuating force	100 N +10%	
Closing & Opening Time (Stroke 4mm)	Approx. 3.5 minutes	
Switching current for micro switch	230 V AC: 5 A resistive load, 1 A inductive Load	
Switching point of micro switch	Approx. 2mm	
Fluid Temperature	0°C to +100°C ²⁾	
Storage temperature	-25°C to +60°C	
Ambient temperature	0°C to +60°C	
Degree of protection	II	
Type of protection	IP 54 ³⁾	
CE conformity according to	EN 60730	
Housing material/housing colour	Polyamide Light grey (RAL 7035)	
Connecting cable/colour	2 x 0.75mm ² PVC Light grey (RAL 7035)	
Cable length	1 Meter	
Weight with connecting cable (1 meter)	100 g	
Surge protection according to EN 60730-1	2.5 kV	

Dimensions



Certificates

The actuator is certified by TÜV Süd.



Installation with Valve Adapter

The valve adaptor allows the actuator to connect to Polypipe Underfloor Heatings Smart plus manifold. The actuator is simply 'snapped' onto the adaptor which is screwed onto the manifold.



First, the valve adaptor is screwed onto the manifold valve



The actuator is placed vertically on the valve adaptor



The actuator snaps onto the valve adaptor. You will hear a "click" when the adaptor is pressed down

Electrical Installation

We recommend usage of the following cables during installation of our PB00401 Valve Actuator.

Light Plastic-Sheathed Cable
Flat Webbed Building Wire

NYM 1.5mm²
NYIF 1.5mm²

