

4.3 Actuator

4.3.1 Actuator 4.0



Similar illustration!

The advantages at one glance:

- Compact size, small dimensions
- All around function indicator
- First open function
- Maintenance-free
- Noiseless
- High functional safety and long expected service life
- High over-voltage protection
- Low power consumption
- Snap-on installation
- Valve-adaptor concept
- Adaptation check on valve

Characteristics

Typ 230 V

Code	50.903.011
Version	normally closed
Voltage	230 V AC, + 10%...-10%, 50/60 Hz
Max. inrush current	300 mA for max. 200 ms
Operating current	8 mA
Operating power	2 W
Closing and opening times	approx. 3 min.
Actuator travel	4 mm
Actuating force	100 N ± 5%
Fluid temperature	0 to 100 °C
Storage temperature	-25 to +60 °C
Ambient temperature	0 to +60 °C
Degree/class of protection	IP54 ¹⁾ / II
CE conformity according to	EN 60730
Housing / housing colour	PA / grey
Weight	100 g with 1 m connection cable
Connecting cable / length	2 x 0,75 mm ² PVC, grey / 1 m
Overvoltage protection according to EN 60730-1	2.5 kV

Typ 24 V

Code	50.903.111
Version	normally closed
Voltage	24 V AC/DC, 0-60 Hz, -10%...+20%
Max. inrush current	250 mA for max. 2min.
Operating current	75 mA
Operating power	2 W
Closing and opening times	approx. 3 min.
Actuator travel	4 mm
Actuating force	100 N ± 5%
Fluid temperature	0 to +100 °C
Storage temperature	-25 to +60 °C
Ambient temperature	0 to +60 °C
Degree/class of protection	IP54 ¹⁾ / III
CE conformity according to	EN 60730
Housing / housing colour	PA / grey
Weight	100g with 1 m connection cable
Connecting cable / length	2 x 0.75 mm ² PVC, grey / 1 m

¹⁾ in all installation positions

General Information

The Actuator is a thermoelectric valve drive for opening and closing valves on heating circuit distributors of concealed floor heating and cooling systems. Features, as a compact and modern casing, versions in normally closed and normally open, valve adapter concept and an enhanced life time have been of particular importance. This allows to fulfill the requirements within the bounds of technical reliability, improved installation and a nearby noiseless operation.

The valve drive mechanism of the Actuator uses a PTC resistor heated elastic element and a compression spring. The wax element is heated by applying the operating voltage and moves the integrated ram. The force generated by the movement is transferred on the valve lifter and thus opens and closes the valve.

Function Display

The function display of the Actuator (all-round display) allows identifying the operating condition at a glance.

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 elastic element cools down 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 closing force of the compression spring is matched to the closing force of commercially available valves and keeps the valve normally closed.

First-Open Function

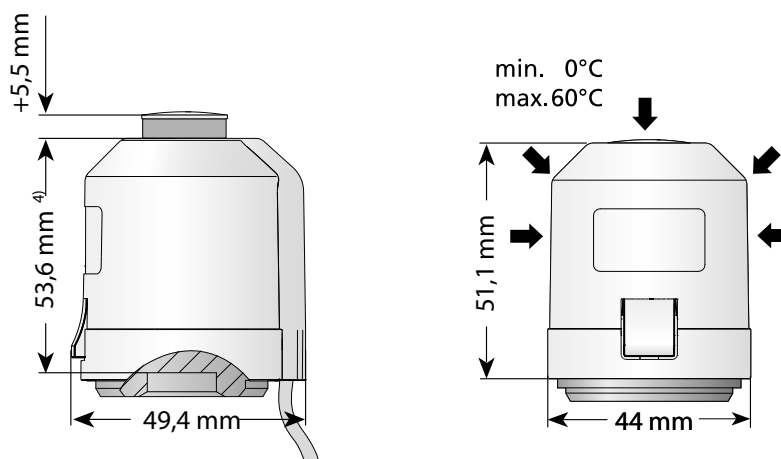
In its delivery condition, the Actuator is normally open due to the First-Open function. This enables heating operation during the carcass construction phase even when the electric wiring of the single room control is not yet complete. When commissioning the system at a later date, the First-Open function is automatically unlocked by applying the operating voltage (for more than 6 minutes) and the Actuator is fully operable.

Application

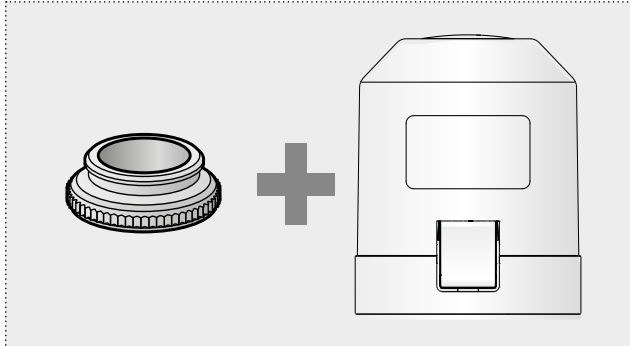
The Actuator serves for optimum control of valves on heating circuit distributors. Control is done by a room thermostat with two-point output or pulse-width modulation.

Scope of Supply

- 1 x Actuator
- 1 x Installation manual
- 1 x Valve Adapter for MAINCOR manifolds (separately available Code: 50.003.044)

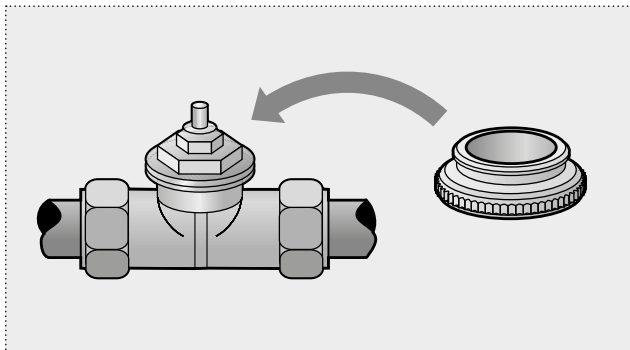


Instruction



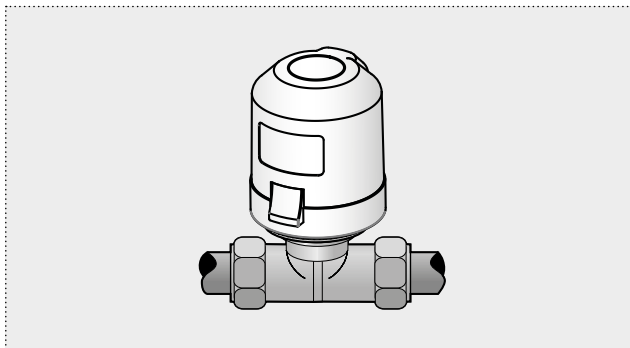
1.

The actuator will be delivered together with an adapter ring which fits to the MAINCOR manifolds.



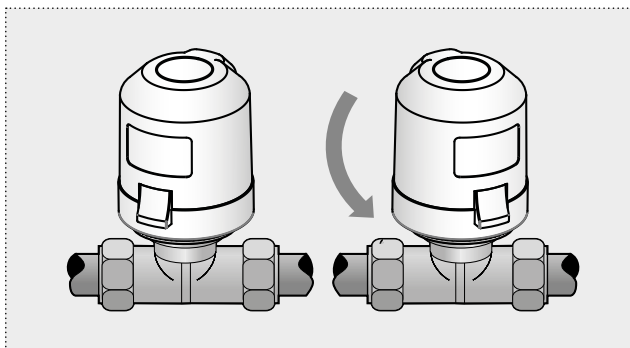
2.

The adapter ring needs to be screwed on the valve first.



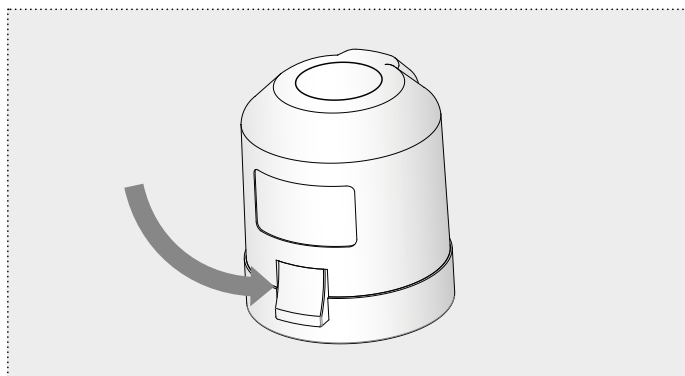
3.

The actuator is pushed onto the adapter ring. There is not particularly strong force needed. The click in mechanism indicates that the actuator sits firm.



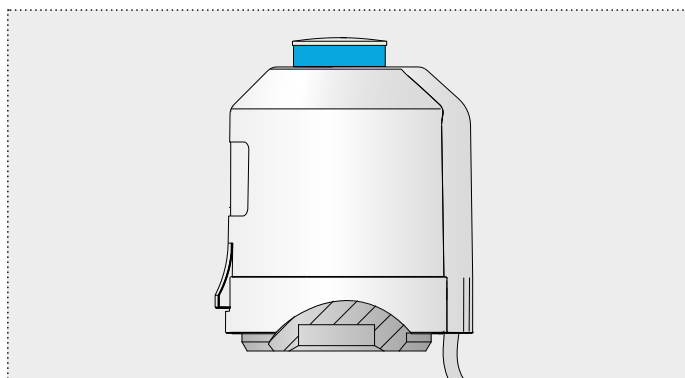
4.

When installed, the actuator can be freely rotated.



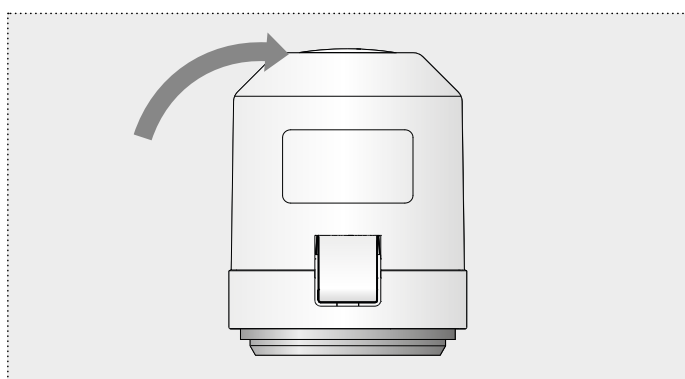
5.

Via a push on the side button the actuator will be dislocated and can be disconnected from the manifold.



6.

The mounting/dismounting can be done also when the valve is opened. A mechanical release is not necessary. The operating mode is indicated via the coloured top cap.



7.

The actuator is first open. That means it is delivered in open position. This allows the installer to install it without electricity while the dry heating of the screed is performed. When delivered the top cap does not show the open state, but still the actuator is open.