

INSTALLATION AND OPERATING INSTRUCTIONS

RAS3W-ZV 3-way valves with actuators

⚠ WARNING

The RAS3W-ZV zone valves operate on mains voltage (230 V AC).
This voltage can cause serious injury or death.

- Do not allow the zone valve actuator to come into contact with water.
- Before carrying out any maintenance work, disconnect the device from the mains (turn off the circuit breaker).
- Do not make any modifications to the zone valve.
- If you have any doubts about the safe operation of the device, contact your supplier.
- Please pay particular attention to any warning signs on the device and its packaging.

The RAS3W-ZV zone valves may only be installed, commissioned and dismantled by trained personnel.
Work on electrical circuits should only be performed by a qualified electrician.

Changes and modifications carried out by unauthorized persons may pose a hazard and are prohibited for safety reasons.

Application - Rotenso heat pumps

Designed for use as a diverter valve to switch water flow between domestic hot water (DHW) heating mode and space heating/cooling mode.

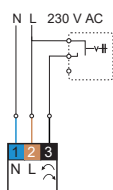


Fig. 2. RASAV-AV10 valve

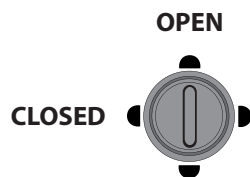
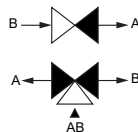


Fig. 2. Indicator on the actuator



The 3-way valve operates as a diverter valve, with inlet AB and outlets A and B, as marked on the valve body.

After connecting the actuator according to the diagram in Fig. 1, when voltage is applied only to the brown wire, the valve will remain in its initial position, i.e., water will flow from port AB to port B. After applying voltage to both the brown and black wires, the valve will switch to the AB-A position. After removing voltage from the black wire, the valve will return to the AB-B position.

The current valve position is indicated by the indicator on the actuator, where "A" indicates flow from AB to A, and "B" indicates flow from AB to B. Fig. 3 shows the indicator in position "B".

Thanks to the innovative design of the actuators, they can rotate the 3-way valve element by 360° in both directions. If another request to change the position occurs while the valve position is being changed, the actuator does not stop and does not change

the direction of rotation, but continues to rotate the valve element in the same direction until it reaches the set position.

This extends the actuator lifespan and improves reaction time to sudden change requests.

Wiring diagram for RAS3W-ZV 3-way zone valves with actuators to a Rotenso Aquami heat pump

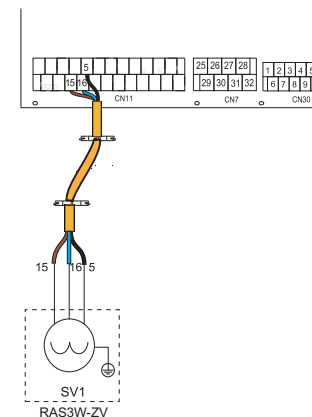


Fig. 3. Valve wiring diagram for the Rotenso Aquami heat pump

Wiring diagram for RAS3W-ZV 3-way zone valves with actuators to a Rotenso Windmi heat pump

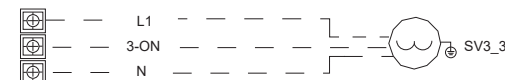


Fig. 4. Valve wiring diagram for the Rotenso Windmi heat pump

Wiring diagram for RAS3W-ZV 3-way zone valves with actuators to a Rotenso Heatmi heat pump

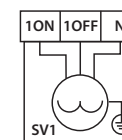


Fig. 5. Valve wiring diagram for the Rotenso Heatmi heat pump

Wiring diagram for RAS3W-ZV 3-way zone valves with actuators to a Rotenso Airmi heat pump

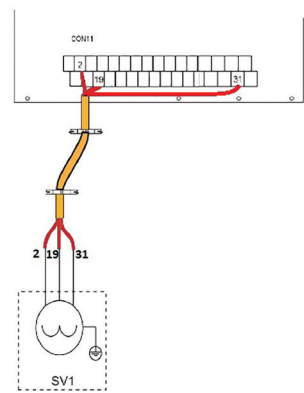


Fig. 6. Valve connection diagram for the Rotenso Airmi heat pump



Fig. 7. Indicator on the actuator

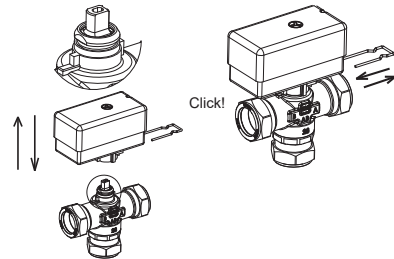


Fig. 8. Actuator installation

TECHNICAL DATA	
Parameter / part	Value / Description
RAS3W-ZV connections	1" male thread
3-way Kvs	8 m3/h
Maximum differential pressure	3 bar
Maximum operating pressure	10 bar
Switching time (3-way)	8 seconds (60° rotation)
Valve body	CW614N brass
Internal valve element	PPS composite
Internal leakage	max. 1% of Kvs
Fluid temperature	5 ÷ 80 °C (peak 90 °C)
Ambient temperature	1 ÷ 60°C
Maximum glycol concentration	50%
Actuator power supply	230 V AC
Power consumption	7 VA
Protection rating	IP40
Control signal	SPST
Power cable	3 x 0.75 mm2, insulated, 1 m length

Valve installation

Caution! The actuator can only be mounted on the valve in one position due to the shape of the valve stem and the actuator socket (Fig. 8).
 Before installing the valve, thoroughly flush the system, paying particular attention to removing any debris from soldering, pipe cutting, etc.

The RAS3W-ZV zone valves are supplied with an electric actuator installed. To avoid damaging the actuator housing, we recommend removing the actuator from the valve before installation. To do this, remove the metal retaining clip and then lift the actuator (Fig. 8). Install the valve in the required position in the pipework (Fig. 9). After completing all installation work near the valve, fit the actuator onto the valve and secure it with the metal retaining clip.
 It is recommended to install isolation valves on the connections to facilitate subsequent maintenance or possible replacement. Connect the wiring according to the diagram in Fig. 1 using the supplied actuator cable. Do not open the actuator housing.

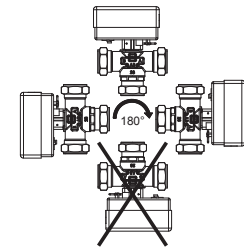


Fig. 9. Mounting positions

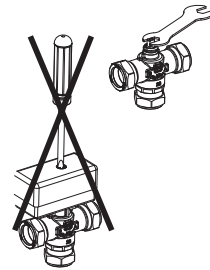


Fig. 10. Manual valve adjustment

Operation

The RAS3W-ZV zone valves consist of two main components: a valve and an electric actuator. Zone valves allow installing the valve body alone, without the electric actuator. Once the valve is installed, the actuator can be mounted at any time. During operation, the actuator can be replaced without draining the system or shutting down operation.
 In the event of a power failure, the valve core (rotor) will remain in its last position. To manually adjust the valve, remove the actuator (Fig. 8) and set the valve rotor to the desired position using a suitable tool (Fig. 10). Once power is restored, set the valve rotor back to its pre-failure position and reinstall the actuator.
 Thanks to the appropriate design of the valves' internal components, they withstand high differential pressures and reduce the risk of the valve becoming stuck in one position after a long period of downtime, ensuring maintenance-free operation.

Decommissioning and disposal



1. Dismantle the device.
2. To protect the natural environment, do not dispose of the decommissioned device together with unsorted household waste. The device must be delivered to an appropriate disposal point.

Compliance and certificates

The RAS3W-ZV zone valves comply with EU Electromagnetic Compatibility (EMC) Directive 89/336/EEC. Zone valves are covered by a CE Declaration of Conformity.

Manufacturer	Exclusive distributor
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