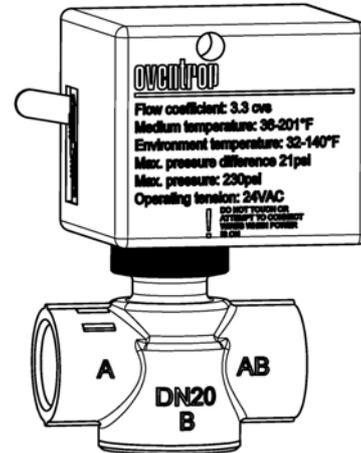


Before initial operation, please examine condition and function of system components, control, emergency tripping and safety devices and check them for damages! Operating instructions are to be read!

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### 1. General information

#### 1.1. Information regarding operating instructions

These operating instructions help the user to install, put into operation and service the two-way valve with actuator.

Before starting work, the operation instructions and especially the chapter „Safety“ are to be read in their entirety! The operating instructions and especially the safety notes as well as the regulations for prevention of accidents must be observed.

#### 1.2. Symbol explanation

Guidelines for the safety of persons and the installation itself are displayed by symbols. These guidelines must be observed in order to avoid accidents and damage property.



**DANGER!**  
Imminent danger to life and limb!



**Attention!**  
Possible danger to product and environment!



*Note!*

*Useful Information and notes.*

#### 1.3. Copyright

The operating instructions as well as the included texts, drawings, images and other illustrations are copyrighted. Duplication of any kind – even in extracts – as well as the exploit and/or passing-on of the content are not permitted without the written declaration of consent of the manufacturer. Damages will be claimed for in case of contraventions. Subject to further claims.

Subject to technical modifications without notice.



**5. Construction and function**

**5.1. Functional description**

The two-way valve with actuator is used temperature control in air-conditioning and heating systems.

The actuator is driven by an unilateral motor with spring return. The valve is closed with current "off". If the thermostat provides a current of 24 VAC the actuator will open the valve. Now the flow of cool/hot water will cool/heat the room. When the set-point of the room thermostat is reached the current will switch off and the valve will be closed by the return spring. By this the room temperature will be kept with the setting range.

The actuator has an lever for manual operation. If the actuator is in manual mode the valve will be opened.

**6. Installation and assembly**

**6.1. Installation of the two-way valve with actuator**

Switch off current supply. The two-way valve can be installed horizontally or vertically. In case of horizontal installations the actuator must be positioned in an angle less than 85° (see illustr. 6.1a) to protect the actuator from water drops. In vertical installations the actuator must be protected from water drops as well.

**6.1.1 Installation of the two-way valve (NPT-thread version)**

**!** The connection A is the water supply, connection B leads to the air-conditioning/ heating system. (see illustr. 6.1b).

Use correct tools to fasten the valve within the tube. Don't use a serrated pipe wrench to hold the valve.

**6.1.2 Installation of the two-way valve (soldering type)**

**!** Connect the valve according to the flow mark on the body from water supply to air-conditioning/ heating system. Avoid heating up the whole valve during the soldering process, just heat up the two soldering connections.



**DANGER! Hot solder**

**Protect yourself with protection clothes and security glasses.**



Use copper tubes of specification ASTM B88 : 99 Type K, L or M. Tube size: 3/4 inches (outside diameter 7/8 inches).

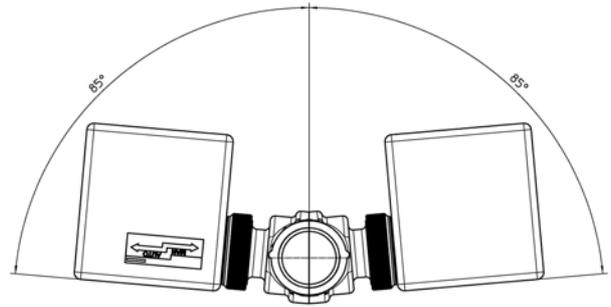
Use correct tools to fasten the valve within the tube. Don't use a serrated pipe wrench to hold the valve.

**6.1.3 Electrical installation**

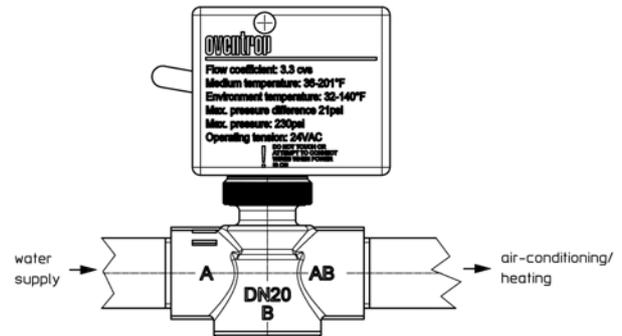
Finally carry out wiring. Use a biscuit connector to connect the installation cable. Ensure that the wire cannot touch any hot surface.

**!** Observe the valid local guidelines for electrical installations!

Only use UL-approved Class 2 power packs.



Illustr. 6.1a Installation in horizontal pipes



Illustr. 6.1b Connections for installation

**6.2. Removing the actuator for installation**

If needed the actuator can be screwed off the valve. For assembling the actuator again no tools should be used – just fingertight fastened.

**6.3. Leakage test**

After installation a leakage test must proof the correct connection between tube and valve.

**7. Operation**

**7.1. Automatic Mode**

In automatic mode the valve is closed with current "off". If 24VAC are supplied the valves will open.

**7.2. Manual Mode**

To switch from automatic to manual mode push the lever slowly and put it into the retaining notch.



**Watch your fingers! Don't squeeze them!**

Now the valve will remain be opened until the actuator gets a 24VAC current. Then the mode is switched automatically from manual to automatic.