



Motor actuator

M21D - M41D - M51-05D

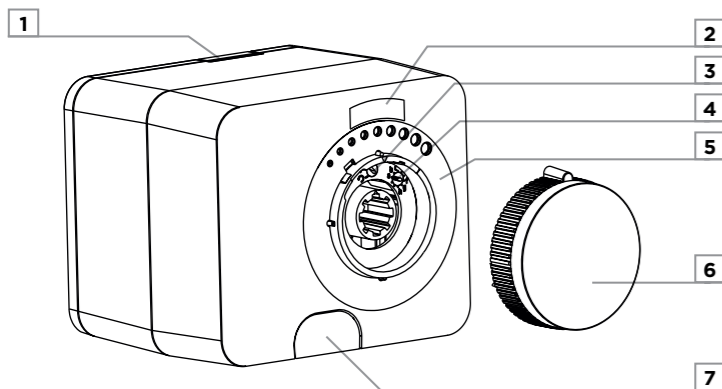
Warnings

Installation and electrical connection should only be carried out by a person with suitable qualification. When installing, it is necessary to follow the rules of the profession, valid legislation and regulations. When installing, make sure that the actuator is mounted away from open sources of fire or water. If there is a possibility of flooding, the actuator must be installed above the possible level of the flood water level. Any interference with the actuator not described in the manual is forbidden. Before installing the actuator, make sure that the parts in contact with the actuator and the installer are not under voltage.

The operator or the system user is responsible for the selection of a qualified person that will perform the installation of the actuator. The user is also responsible for the proper operation and maintenance of the system.

Failure to follow the instructions and unprofessional work may result in the following:
 - actuator malfunction
 - endangering the safe operation of the system
 - damage to the system
 - risk of electric or mechanical shock for persons in contact with the system

Introduction



1 Button for mounting and dismantling the actuator on the valve.

2 Actuator operation indicator.

Rotating the actuator counterclockwise. The light illuminates at half brightness when the motor actuator is in end position.

Rotating the actuator clockwise. The light illuminates at half brightness when the motor actuator is in end position.

The clutch is activated

Status of modulating actuator (only for modulating actuators). The LED has several states:

The green light is on. The actuator is operating normally.

The green light flashes. No signal / broken control line. (Only available when 2-10 V or 4-20 mA control signal is selected).

The red light flashes. The actuator cannot overcome the load of the valve.

The red light flashes every 5 seconds. A valve blockage was detected but is no longer present. The display is reset by pressing the button or by restarting the power supply of the motor actuator.

3 Button to set the actuator opening direction.¹

4 Button to set the actuator operating mode.¹

5 Scale to set the valve position display.

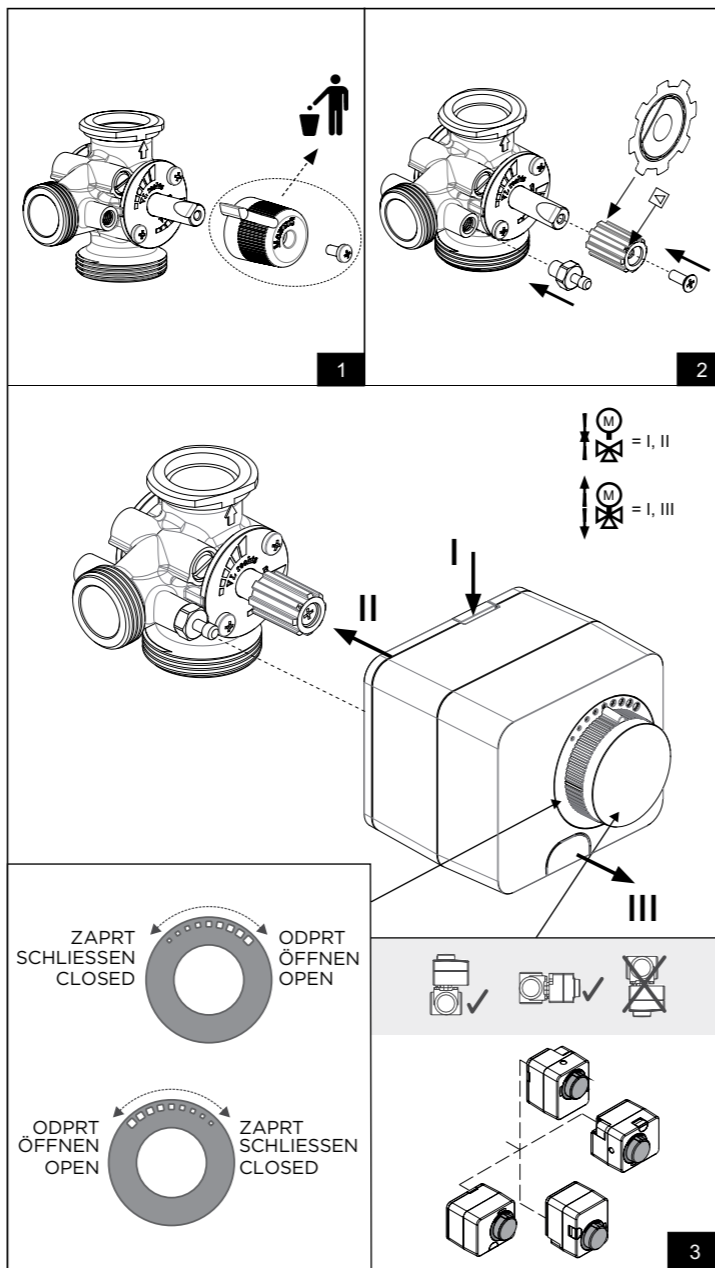
6 Mixing valve manual positioning button.

7 Button (clutch) for manual operation mode.

¹ Only for modulating actuators.

Product installation

- Turn the valve to the middle position or to the middle between open and closed positions. Remove the manual positioning button from the valve axis and screw on the actuator adapter.
- Tighten the locking screw to the intended location on the valve.
- On the actuator, press the actuator mount button and plant it on the valve axis. Remove the manual positioning button and the scale ring from the actuator. Use a flathead screwdriver to remove the ring. Set the ring for the scale or the direction of opening and closing the valve and return it to the actuator. Lastly, return the manual positioning button. Disassemble the actuator by holding down the button for mounting the actuator and pulling it from the valve.



Electrical connection and setting

M21D : 230 V ~, 3 POINT

Setting the valve opening direction

The direction of opening the valve is set with the button. The symbol means opening counterclockwise. The symbol means opening clockwise.



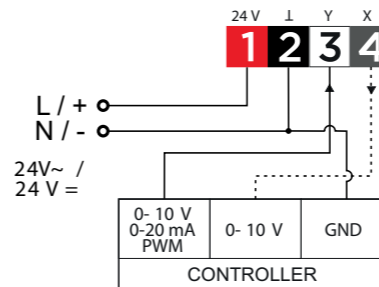
M41D : 24 V ~, 3 POINT

Setting the valve opening direction

The direction of opening the valve is set with the button. The symbol means opening counterclockwise. The symbol means opening clockwise.



M51D : 24 V ~ / 24 V =, MODULATING 0÷10 V / 0÷20 mA / PWM



The operation of the actuator is set by selecting the function or combination of control signal and actuator speed. The desired mode of operation is selected with the button. The combination of control signal and actuator speed is described in the table.

Signal (Y)	0÷10V	2÷10V	0÷20mA	4÷20mA	PWM
60	a	c	e	g	i
120	b	d	f	h	j

Manual operating mode (all models)

To activate the manual operating mode, press the button. The LEDs on the actuator and are on. Now you can turn the valve to any position by turning the manual positioning button. Switch off manual operation by pressing the button.

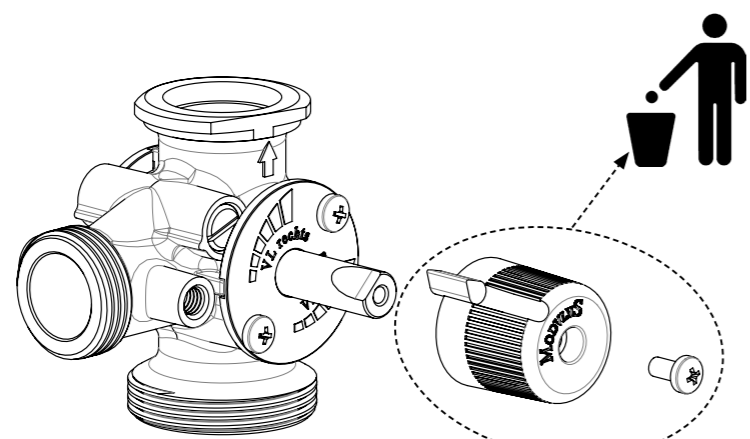
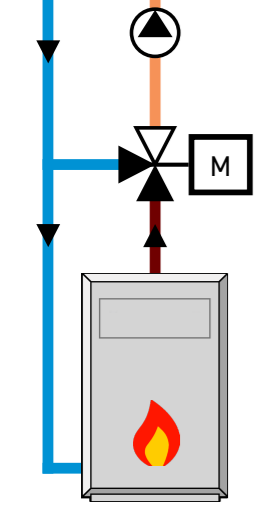
Technical data

Characteristic	Value
Torque	5 Nm (see data on the actuator)
Rotational speed	120 s (see data on the actuator)
Rotation angle	90°
Power supply	3 point: 24 V ~ / 230 V ~ (see data on the actuator) modulating: 24 V = / 24 V ~
Control signal	3-point, modulating (0 ÷ 10V / 0 ÷ 20mA / PWM)
Protection level	IP42
Protection class	II according to EN60730-1 (actuators with 230 V ~ supply) III according to EN60730-1 (actuators with 24 V = / 24 V ~ supply)
Dimensions [WxHxD]	95 x 80 x 92 mm
Housing	PC, thermoplastic
Ambient temp.	0 ÷ 50 °C
Weight	487 ÷ 965 g

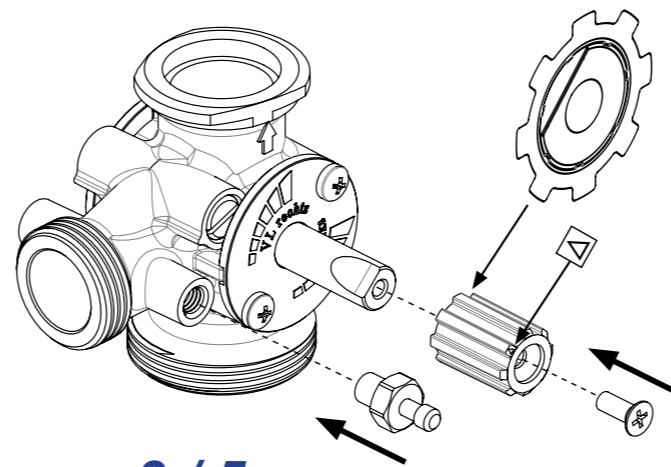
Removing old electrical and electronic equipment

Disposal of old electrical and electronic equipment (Applies to the Member States of the European Union and other European countries with a separate waste collection system).

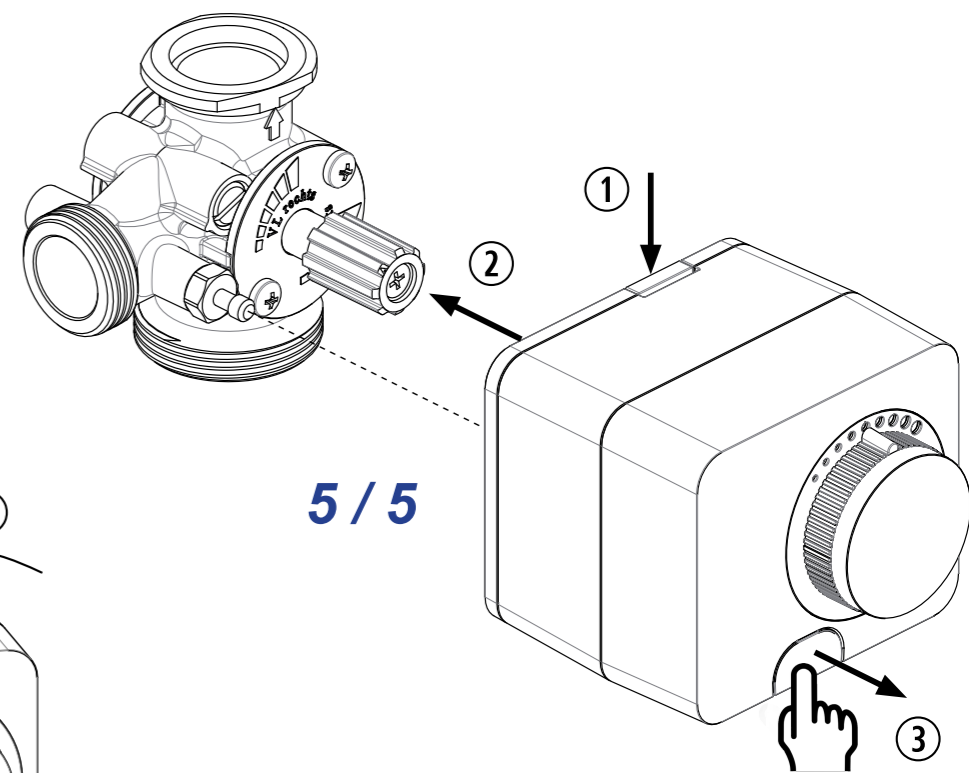
This symbol on the product or packaging marks that it should not be discarded as household waste. It needs to be taken to a collection point for waste electrical and electronic equipment (WEEE). Suitable disposal of this product prevents negative effect on the environment and health which could otherwise be caused by its unsuitable disposal. Recycling of material reduces usage of new raw materials. For more information on recycling of this product, contact the competent authorities, municipal service or the store where you purchased the product.



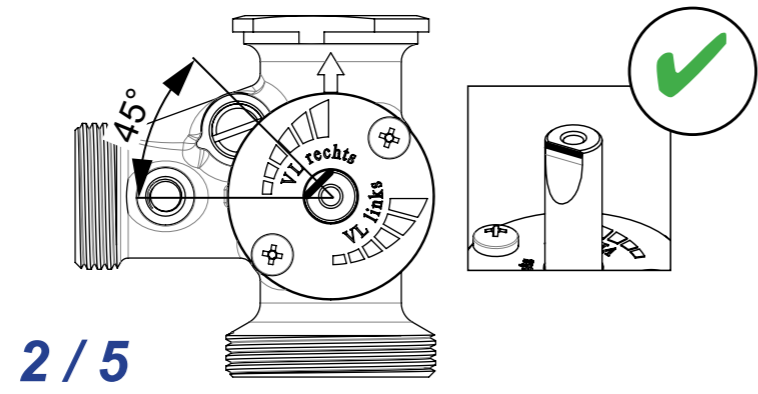
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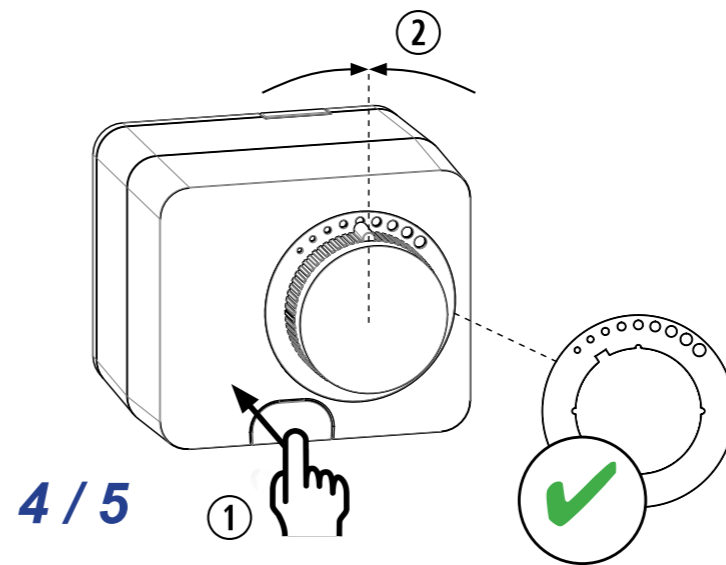
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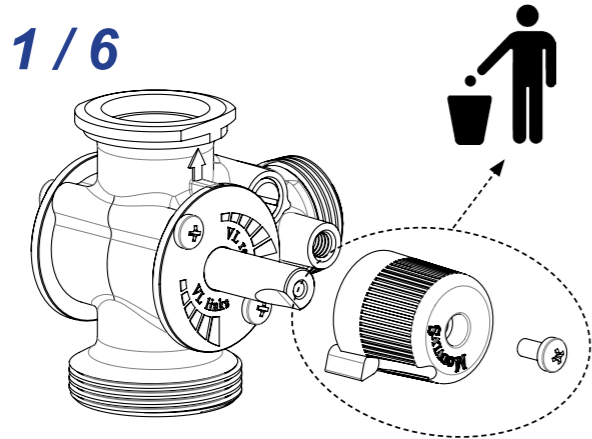
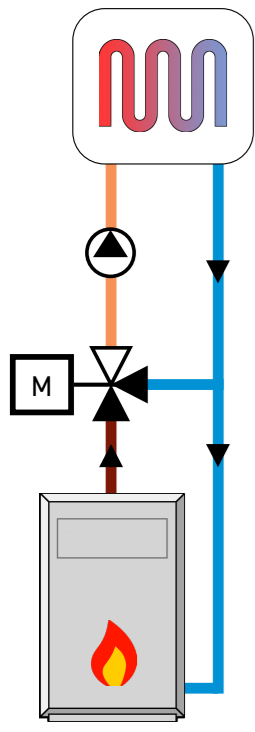
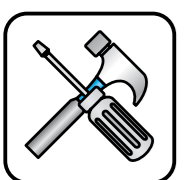
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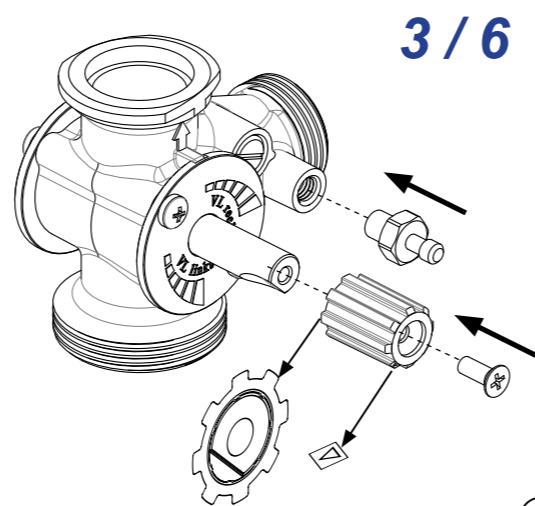
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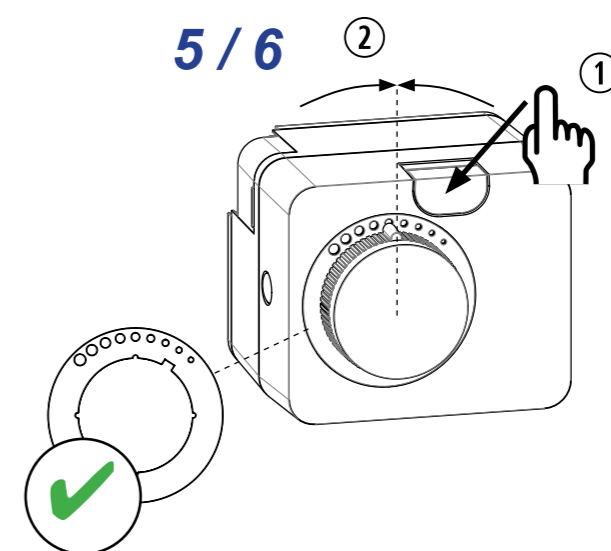
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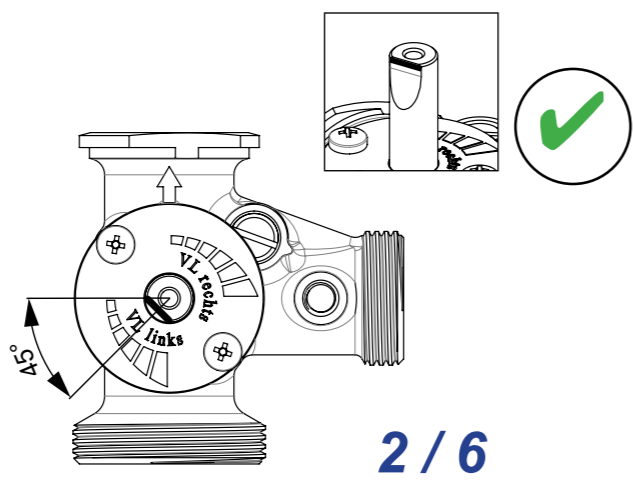
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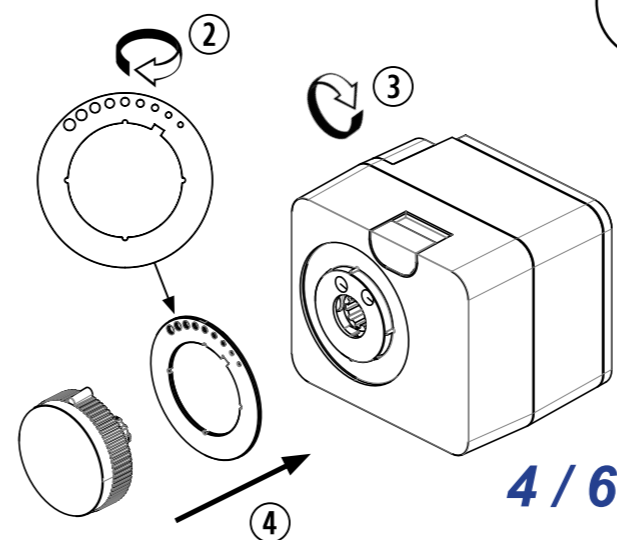
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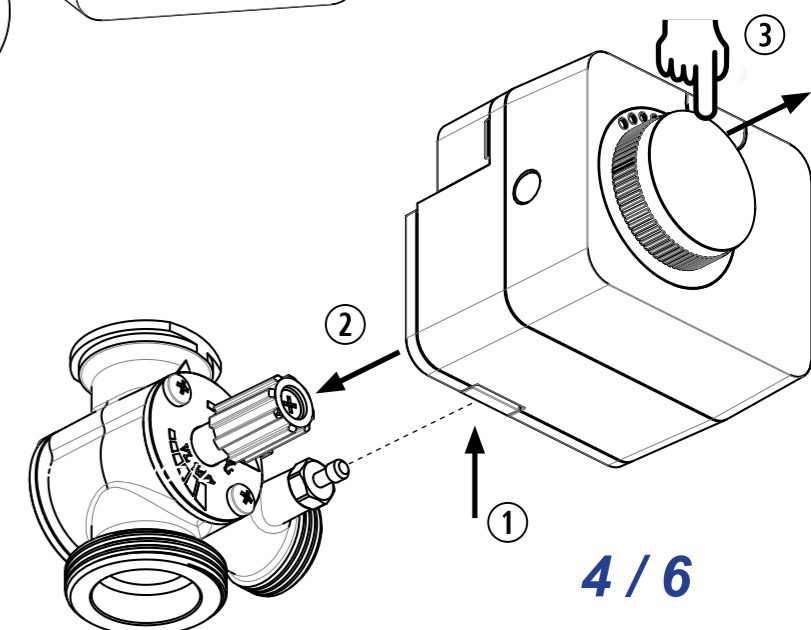
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