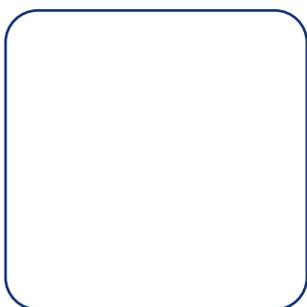


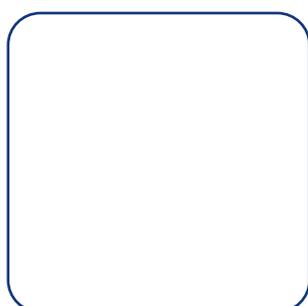


Actuators  
for Frese  
OPTIMA  
Compact



## Frese OPTIMA Compact actuators

Training, Commissioning  
& Trouble shooting



## Overview Frese Thermic actuators

<b>Size Range</b>	Actuator for OPTIMA Compact valves DN10 to DN32
<b>Actuator type</b>	On/Off 24V/230V or 0-10V modulating 24V thermic actuators

## Applications

Heating and cooling systems that require modulating control for fan coil units, active chilled beams, VAV units and over door heaters

### Actuator mounting on the valve

1. Pre-set the valve to the design flow. (See instruction for the valve)
2. Mount the adapter ring, delivered with the actuator, on the valve. (See fig. 1)
3. Click on the actuator to the adapter ring. Check that the actuator is sitting straight and cannot be pulled of. (See fig. 2)
4. Connect the wires in the controller terminal according to the instruction manuals.
5. Switch on the power and let the actuator run the “first open procedure” and calibration. This will take 10-20 minutes.
6. The actuator is now ready to operate.
 

**Please Note:** Do never turn on the power before the actuator is mounted onto the valve.



### Trouble shooting on site

#### **Problem: The actuator is not closing and opening according to control signal (0-10V version)**

1. Send a 0V control signal (See fig 3) to the actuator for minimum 15 minutes and then send a 10V control signal to the actuator for 15 minutes.
2. The actuator will do a new calibration, and should now modulate correct according to the control signal.
  - This problem will occur if the power has been switched on before the actuator has been connected to the valve.



#### **Problem: The actuator cannot close the valve when power is switched off. (On/Off & 0-10V version)**

1. Check the adapter ring/actuator is mounted correctly on the valve.
2. Check that the actuator is suitable for the relevant valve stroke.
3. Check that the adapter is the correct version. (See fig 4)
  - 48-5526, 48-5526, 48-5532 & 48-5533 (Grey adapter ring VA 50)
  - 48-5527, 48-5528 & 48-5529 (White adapter ring VA 80)



## Overview Frese Motoric actuators

<b>Size Range</b>	Actuator for OPTIMA Compact valves DN10 to DN32
<b>Actuator type</b>	3-pos 24V/230V or 0-10V modulating 24V motoric actuators

## Applications

Heating and cooling systems that require modulating control for fan coil units, active chilled beams, VAV units and over door heaters

### Actuator mounting on the valve

1. Pre-set the valve to the design flow. (See instruction for the valve)
2. Mount the actuator, on the valve. (See fig. 1)
  - Please don't use any tools when mounting the actuator.
3. Connect the wires in the controller terminal according to the instruction manuals.
4. Switch on the power and let the actuator run the calibration procedure and calibration. This will take 2-3 minutes.
  - During calibration the LED on the actuator will be flashing red.
  - When the calibration has finished, the LED will be green.
5. The actuator is now ready to operate.
6. The green LED is flashing when the actuator is moving.

**Please Note:** Do never turn on the power before the actuator is mounted onto the valve.



### Trouble shooting on site

#### **Problem: The actuator is not closing and opening according to control signal (0-10V version)**

1. Check that the jumper setting is according to the valve stroke. Please look inside the actuator lid for jumper setting.
2. Disconnect the power and connect the power again. The actuator will run the calibration procedure again.
3. Use a multimeter to check input signal and power supply. (See fig. 2)
4. Check the input signal (Black and Grey wire) with a multimeter on the terminal where the actuator wire is connected. Verify that the measured signal is according the signal from the BMS
5. Check the power supply (Black & Red wire) with a multimeter. Is the power supply within 24V +/- 15%. Even for AC it is important that the black wire is connected to AC-neutral.

#### **Problem: The actuator is stopped in an extended position and cannot be mounted fully on the valve.**

1. Fasten the union on the actuator very gently to the valve until resistance is detected on the union. Overtightening may damage the actuator.
2. Disconnect and connect the power again and apply 10 V input signal.
3. Wait for the actuator to finish the calibration routine and the LED is steady green.
4. Fasten the union on the actuator further.
5. Repeat step 2, 3 and 4 two times more, and the actuator is ready for use.



## Overview Frese Motoric actuators

**Size Range** Actuator for OPTIMA Compact valves DN40 to DN200

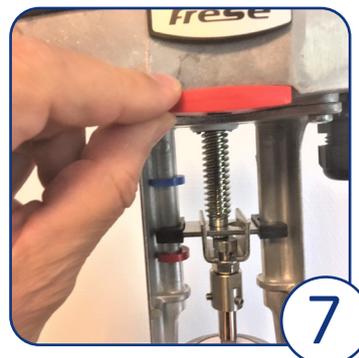
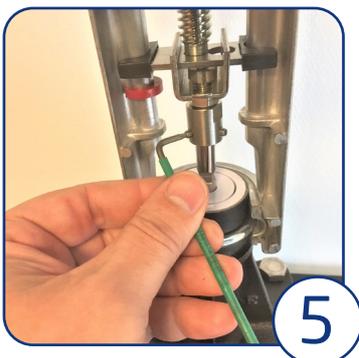
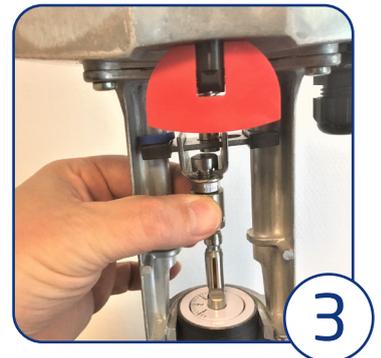
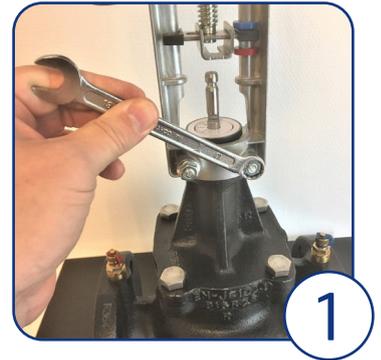
**Actuator type** 3-pos 24V/ & 0-10V modulating 24V motoric actuators

## Applications

Heating and cooling systems that require modulating control for fan coil units, active chilled beams, VAV units and over door heaters

## Actuator mounting on the valve

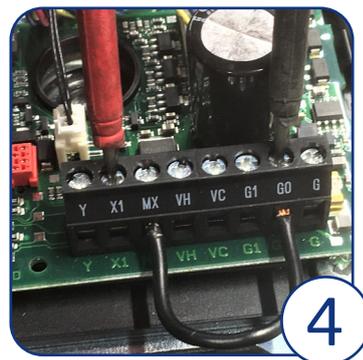
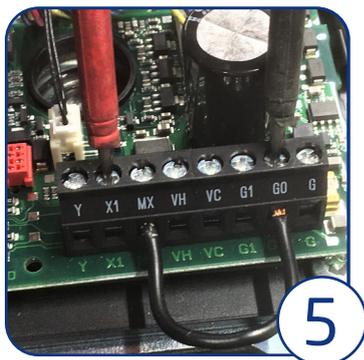
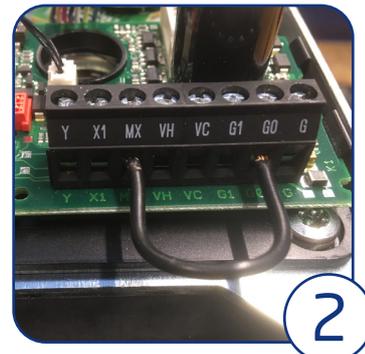
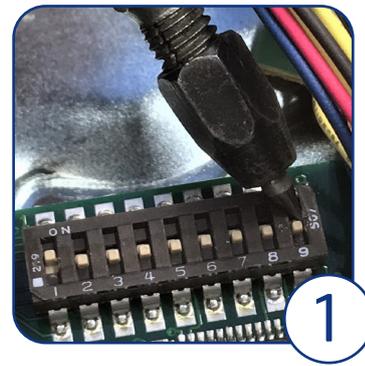
1. Pre-set the valve to the design flow. (See instruction for the valve)
2. Mount the actuator on the valve neck with the U-bolt (See fig. 1)
3. Mounting actuator spindle to valve:
  - OPTIMA Compact DN40-50 threaded:
    - Valve spindle is connected directly to the actuator without any adapter. (See fig. 2)
    - To align the valve and actuator spindle, use the red handle to manually adjust the actuator spindle. (See fig. 4)
  - OPTIMA Compact DN50-200 flanged:
    - Mount the adapter on the actuator. (See fig. 3)
    - Connect the adapter to the valve spindle.
    - To align the valve and actuator spindle, use the red handle to manually adjust the actuator spindle. (See fig. 4)
    - Tighten the screws with a 2mm hexagonal key. (See fig. 5)
    - Tighten the adapter lock nut with a 13mm wrench. (See fig. 6)
4. Flip back the red handle on the actuator, to operating position. (See fig. 7)
5. Open the top lid (See fig. 8) and connect the wires in the controller terminal according to the instruction manuals.
6. Switch on the power and set DIP-switch 9 to ON-position. The actuator will run the calibration procedure. This will take 2-3 minutes.
7. Switch the DIP-switch 9 back to OFF-position. (OP- Opreation)
8. The actuator is now ready to operate.



## Trouble shooting on site

### Problem: The actuator is not closing and opening according to control signal (0-10V version)

1. Check that wiring is according to the diagram. Please see the mounting instruction or inside the actuator lid wiring connection.
2. Switch DIP-switch 9 to ON-position (See fig. 1). The actuator will run the calibration procedure. Switch the DIP-switch 9 back to OFF-position. (OP-Operation)
3. Check if there is a internal wiring between terminal MX & G0 (See fig. 2)
4. Use a multimeter to check input signal and power supply. (See fig. 3)  
Check the input signal (X1 & G0) with a multimeter (See fig 4) on the terminal. Is the measured signal according the signal from the BMS
5. Check the AC-power supply (G0 & G) with a multimeter. (See fig. 5) Is the power supply within 24V +/- 25% Even for AC, it is important that the G0 wire is connected to AC-neutral.



### Problem: The actuator is not moving no matter what signal is given.

1. Please check that the red handle for manually operation is flipped back. Otherwise the power to the actuator is switched off by the micro switch. (See fig. 6)



### The problem cannot be detected following the instructions above.

1. The valve can be sent back to the Frese QA department for inspection in the laboratory. (See fig. 7)
2. If a fault on the actuator is detected in the laboratory, the Frese QA department will handle it as a claim, according to the General Conditions of Sale and Delivery.
3. If no fault can be detected on the actuator, it will be returned to the customer after agreement with the sales manager.



## Notes

## Notes



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