

This instructions are made for case of replacement of spoiled actuator with actuator on VAV-CS volume airflow controllers.

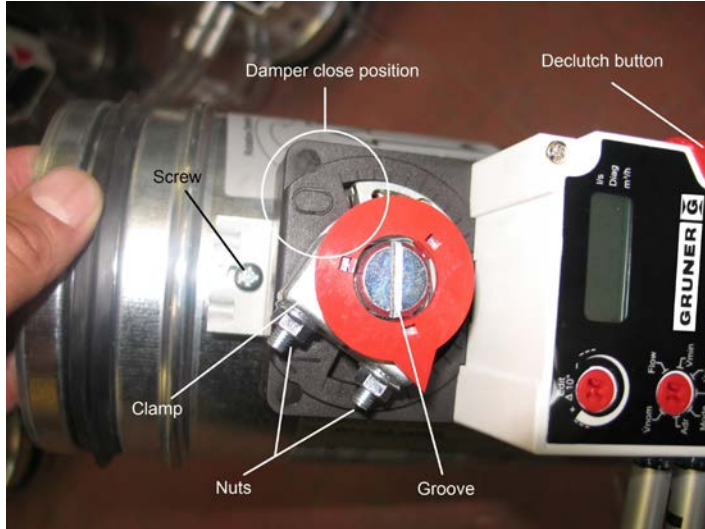


Figure 1.

First disconnect all wires of actuator from power supply and building management system (BMS) or any other controller. Unscrew two nuts that holds the ERP axis. Slowly and carefully pull the + and – tubes from actuator, than you unscrew two screws that holds actuator on housing. The actuator can be removed now.

Installation of new actuator is similar but in opposite order. Screw the actuator with screws on housing. Put on the + and – tubes on new actuator, positive on positive and negative on negative! On figure 3. you see the short tube that we put for better sealing of main tubes. You can also put something else for better sealing.

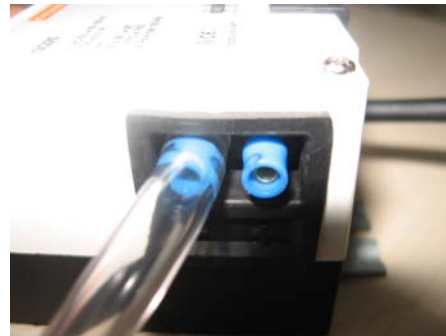
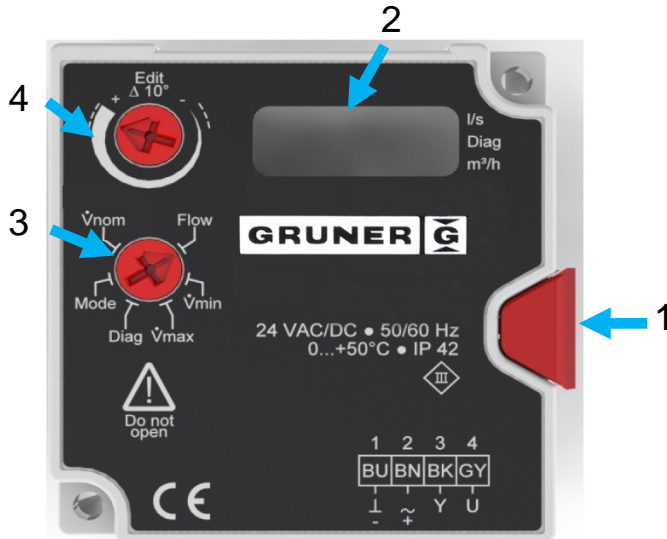


Figure 3.



Figure 2.

Take care that relative position of actuator clamp and damper axis is in equal position as presented in figure 1.. The damper (damper with his axis), must be in closed position, you can see on figure 1. the groove on axis shows that the damper is in closed position. If actuator clamp is not in the required position press red declutch button on right side of actuator and rotate clamp in ccw direction. When you have damper in closed position and actuator axis on zero point you tight the nuts on actuator axis and plug the wires back to controller and building management system (BMS) or any other controller.



Control panel:

1. Declutch button
2. 3-digit LCD display
3. Function selector
4. Value selector

DECLUTCH BUTTON

Allows declutching the gear and having the actuator manually set to certain angles or end positions.

LCD Display

3-digic display show current air flow rate in normal operating mode. The square dots are used with the externally printed text to visualize certain functions or units (m³/h or l/s). Display also shows different chosen functions at time of actuator parameters resetting.

FUNCTION SELECTOR

The function selector allows choosing the function depending on its position. If there is no function selected the display will show three dashes (- - -).

- Function **Flow**: Shows the actual flow in m³/h or in l/s. This display matches with the feedback signal U. Turning the value selector allows unit selection (m³/h or l/s).
- Function **V_{MIN}**: Allows setting the desired minimal flow for the external reference signal Y.

Function V_{MAX}:

Allows setting the desired maximal flow for the external reference signal Y.

- Function **Mode**: Allows setting the rotating direction and control signal Y

LCD: Settings

- 0 - n** 0-10 VDC, normal opening (CW) directs.
- 0 - l** 0-10 VDC, inverse opening (CCW) directs.
- 2 - n** 2-10 VDC, normal opening (CW) directs.
- 2 - l** 2-10 VDC, inverse opening (CCW) directs.

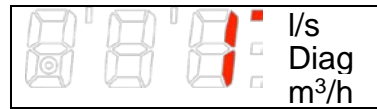
- Function **Diag**: Opens the diagnose menu. All outside input signals on Y are neglected and the controller only operates according to the selected override function chosen on control panel. All override functions are disabled after a time-out of 10 hours.

LCD: Settings

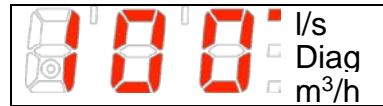
- oP** Opens the damper
- cl** Closes the damper
- Hi** Forces the actuator to **V_{MAX}**
- Lo** Forces the actuator to **V_{MIN}**
- on** Test mode is switched on
- oFF** Test mode is switched off

LCD Text Samples:

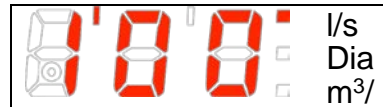
- Current flow: 1 l/s



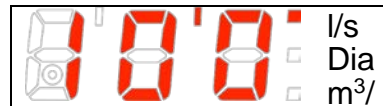
- Current flow: 100 l/s



- Current flow: 1.000 l/s



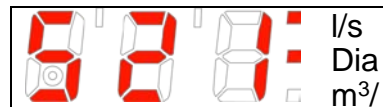
- Current flow: 10.000 l/s



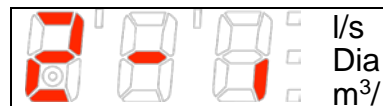
- Current flow: 99.900 l/s



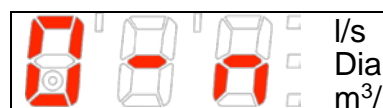
- Current flow: 521 l/s + function **Diag**



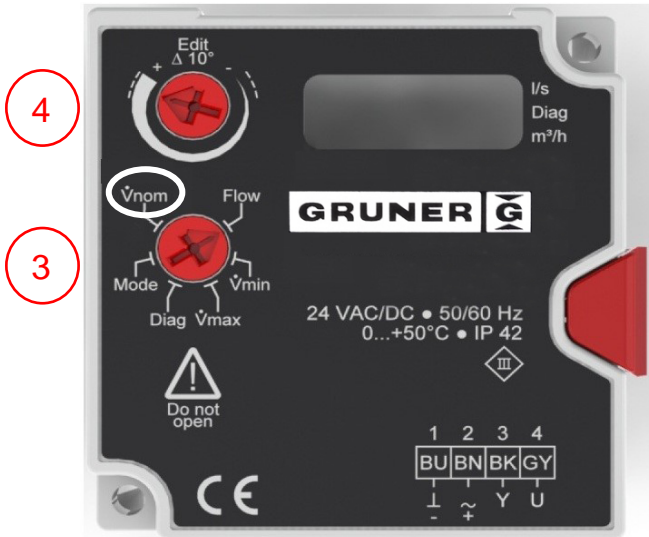
- Mode W: 2 - 10 VDC; CCW



- Mode W1: 0 - 10 VDC; CW



When you change the spoiled actuator on the VAV with a new one, than set button 3. to position Vnom and set the value on 4. button = 255 (or 166) to unlock Vnom settings. When you unlock the actuator just set the value of Vnom that is corresponding to selected diameter of VAV-CS. Values of Vnom for each diameter is shown in table below.



Ø [mm]	Vnom [m³/h] (12m/s)
100	343
125	540
160	900
200	1459
250	2215
315	3680
355	4275
400	6047
500	9484
630	12482

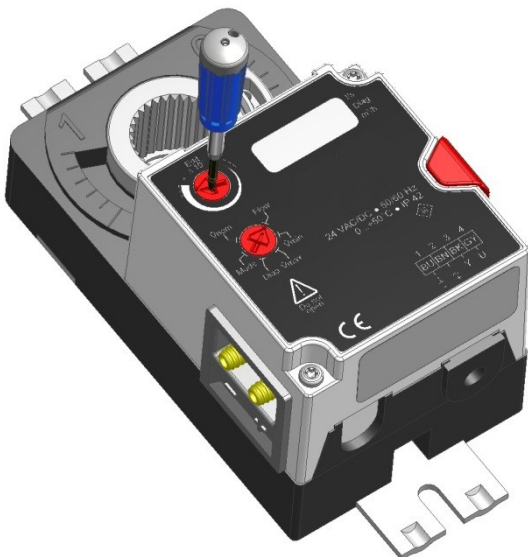


Figure 4. With button 3. you set the value.