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## Operating instructions

**Replacing the solenoid actuator for solenoid valve for gas VAS 1 – 3, double solenoid valve VCS 1 – 3, pressure regulators with solenoid valve VAD, VAG, VAV, VAH, pressure regulators with double solenoid valve VCD, VCG, VCV, VCH, magnetic relief valve VAN**



## Contents

<b>Replacing the solenoid actuator for solenoid valve for gas VAS 1 – 3, double solenoid valve VCS 1 – 3, pressure regulators with solenoid valve VAD, VAG, VAV, VAH, pressure regulators with double solenoid valve VCD, VCG, VCV, VCH, magnetic relief valve VAN</b>	<b>1</b>
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## Safety

### Please read and keep in a safe place



Please read through these instructions carefully before installing or operating. Following the installation, pass the instructions on to the operator. This unit must be installed and commissioned in accordance with the regulations and standards in force. These instructions can also be found at [www.docuthek.com](http://www.docuthek.com).

### Explanation of symbols

■, **1**, **2**, **3**... = Action

▷ = Instruction

### Liability

We will not be held liable for damage resulting from non-observance of the instructions and non-compliant use.

### Safety instructions

Information that is relevant for safety is indicated in the instructions as follows:

#### **DANGER**

Indicates potentially fatal situations.

#### **WARNING**

Indicates possible danger to life and limb.

#### **! CAUTION**

Indicates possible material damage.

All interventions may only be carried out by qualified gas technicians. Electrical interventions may only be carried out by qualified electricians.

### Conversion, spare parts

All technical changes are prohibited. Only use OEM spare parts.

## Changes to edition 11.14

The following chapters have been changed:

- Removing the actuator
- Fitting the new actuator

## Checking the usage

### Intended use

These instructions are only to be used for replacing the solenoid actuators on the following devices:

Type	Designation
VAN	Magnetic relief valve
VAS	Gas solenoid valve
VCS	Double solenoid valve
VAD	Pressure regulator with solenoid valve
VAG	Air/gas ratio control with solenoid valve
VAV	Variable air/gas ratio control with solenoid valve
VAH	Flow rate regulator with solenoid valve
Type	Combination of gas solenoid valve + regulator with solenoid valve
VCD	VAS + VAD
VCG	VAS + VAG
VCV	VAS + VAV
VCH	VAS + VAH

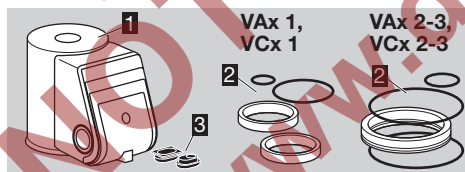
This function is only guaranteed when used within the specified limits – see Technical data in the operating instructions of the device to be converted. Any other use is considered as non-compliant.

All other specifications regarding commissioning, technical data, maintenance, etc. can be found in the corresponding operating instructions of the device to be converted.

[www.docuthek.com](http://www.docuthek.com) → Thermal Solutions → Products → 03 Valves and butterfly valves → ...

Solenoid valves for gas VAS 1 – 3, VCS 1 – 3, Pressure regulators with solenoid valve VAD, VAG ..., Magnetic relief valves VAN

### Part designations



For size 1:

- 1 Solenoid actuator VA1
- 2 Actuator adapter set VA1:
  - 1 x 11 x 1.5 O-ring
  - 1 x 34 x 2.5 O-ring
  - 2 x adapter rings
- 3 2 x seals (only for VAS...S/G, VCx...S/G with proof of closure switch)

For sizes 2 and 3:

- 1 Solenoid actuator VA2/3
- 2 Actuator adapter set VA2/3:
  - 1 x 11 x 1.5 O-ring
  - 1 x 56.87 x 1.78 O-ring
  - 1 x 57 x 2 O-ring
  - 1 x adapter ring
- 3 2 x seals (only for VAS...S/G, VCx...S/G with proof of closure switch)

## Removing the actuator

### ⚠ WARNING

Attention! Please observe the following to ensure that no damage occurs:

- Electric shocks can be fatal! Before working on possible live components, ensure the unit is disconnected from the power supply.
- The solenoid actuator heats up during operation. Surface temperature approx. 85°C (approx. 185°F).

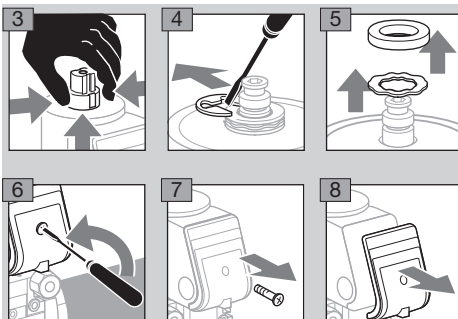


### ! CAUTION

Please observe the following to ensure that the gas solenoid valve is not damaged during installation and operation:

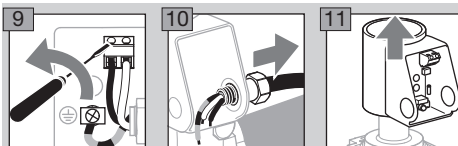
- Solenoid valves with overtravel switch and visual position indicator VAx...SR/SL: actuator cannot be rotated.
- In the case of double solenoid valves, the position of the connection box can only be changed by removing the actuator and reinstalling it offset by 90° or 180°.

- 1 Disconnect the system from the electrical power supply.
- 2 Shut off the gas supply.

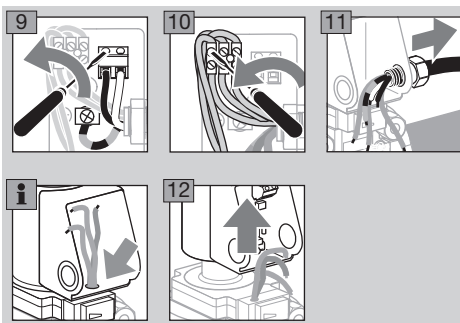


- ▷ Remove the M20 cable gland or other type of connection.

### VAX, VCX, VAN



## VAx...S/G, VCx...S/G with proof of closure switch



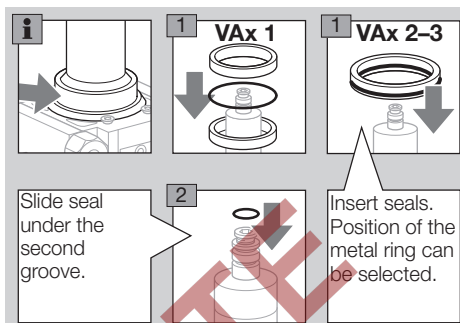
## VAx.../L, VCx...L with damping

- 1 Disconnect the system from the electrical power supply.
  - 2 Shut off the gas supply.
- ▷ Loosen the setscrews, but do not unscrew completely (M3 = 1.5 mm hexagon socket, M5 = 2.5 mm hexagon socket).

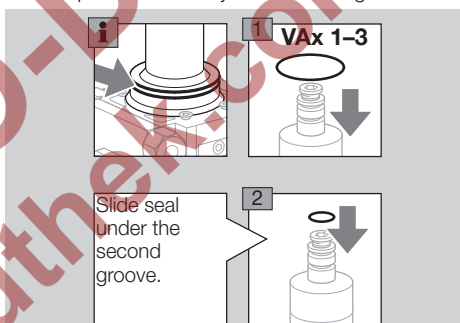


## Fitting the new actuator

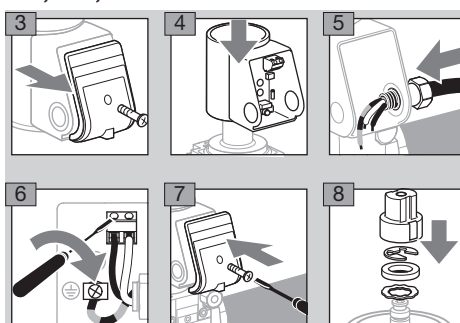
- ▷ The seals of the actuator adapter set are covered with a non-stick coating. No additional grease is required.
- ▷ Depending on the construction stage of the unit, there are two different methods for replacing the actuator:
- ▷ If the unit concerned has no O-ring in this place (arrow), replace the actuator as described here. Otherwise, go to the next note.



- ▷ If the unit concerned has an O-ring in this place (arrow), replace the actuator as described here:
- ▷ VAx 1: use all seals from the actuator adapter set.
- ▷ VAx 2/3: use the small seal from the actuator adapter set and only one of the large seals.



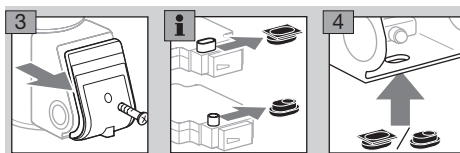
## VAx, VCx, VAN

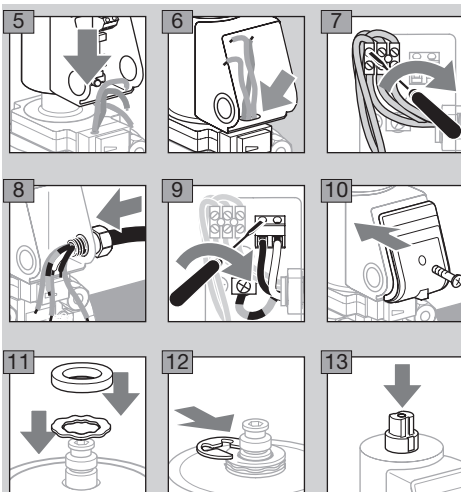


- 9 Open the gas solenoid valve and the gas supply.

## VAx...S/G, VCx...S/G with proof of closure switch

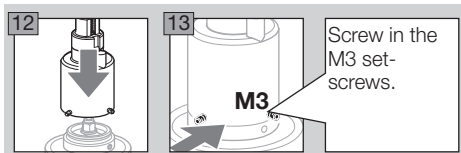
- ▷ Depending on the design of the proof of closure switch, one of the two enclosed seals must be inserted in the connection box housing.





**14** Open the gas solenoid valve and the gas supply.

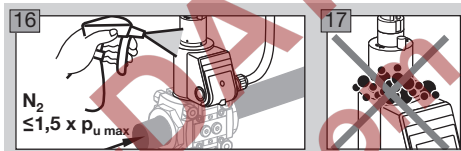
**VAX.../L, VCx...L with damping**



**14** Open the gas solenoid valve and the gas supply.

**15** Adjust the start gas rate and, if necessary, the damping speed. See Solenoid valves for gas VAS 1–3, VCS 1–3 operating instructions, section entitled "Commissioning".

▷ The connection between solenoid actuator and damping unit must then be checked for tightness.



## Logistics

### Transport

Protect the unit from external forces (blows, shocks, vibration). On receipt of the product, check that the delivery is complete, see page 2 (Part designations). Report any transport damage immediately.

### Storage

Store the product in a dry and clean place.

Storage temperature: see operating instructions of the respective device.

Storage time: 6 months in the original packaging before using for the first time. If stored for longer than this, the overall service life will be reduced by the corresponding amount of extra storage time.

### Packaging

The packaging material is to be disposed of in accordance with local regulations.

### Disposal

Components are to be disposed of separately in accordance with local regulations.

## Contact

If you have any technical questions, please contact your local branch office/agent. The addresses are available on the Internet or from Elster GmbH.

We reserve the right to make technical modifications in the interests of progress.

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