

ARGUS: Valve with Actuator and Controls

Automated Valve

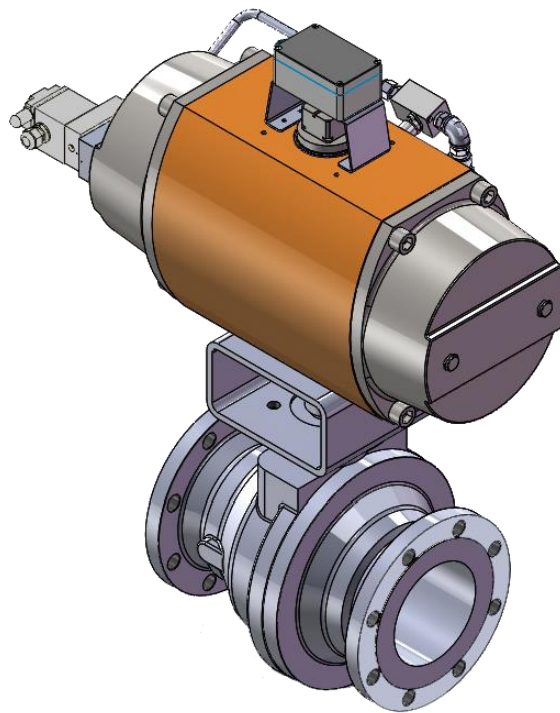
VAIOM001028

**Installation
Commissioning
Maintenance**

Translation of the superior original instructions



Read and observe these instructions before using an automated valve from ARGUS.





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1 General Information

These instructions for automated valves (also called units) consisting of a valve, actuator and control modules contains important information for the qualified personnel who carry out work on the automated valve. The manufacturer documentations (e.g. user instructions) and conformity documents of the automated valve components are an essential part of the overall documentation of the automated valve. The arrangement drawing usually illustrates the automated valve in detail and provides important information about connections, function, performance, dimensions and weights.

These instructions, manufacturer documentations and the relevant conformity documents are part of the scope of supply.

Report incomplete, missing, damaged or illegible documents immediately so that Flowserve Flow Control GmbH can replace them without delay.

2 Safety and Health Protection



Comply with all relevant health and safety regulations.
Ensure that personal protective equipment, devices, tools, lifting gear and slings are always suitable or designed for the respective application.
Observe information in the manufacturer's documentation (e.g. operating manual) of the components of the automated valve.

2.1 Grouped Safety Messages

⚠ WARNING

Risk of injury due to insufficient qualification of personnel!

Insufficient qualification of personnel can lead to severe injuries.

- ▶ Make sure that only qualified personnel with suitable personal protective equipment (PPE) and suitable tools are employed.
- ▶ Make sure that no unauthorised persons have access to the automated valve.

NOTICE

Risk of material damage due to insufficient qualification of personnel!

Insufficient qualification of personnel can lead to material damage to the automated valve.

- ▶ Make sure that only qualified personnel with suitable personal protective equipment (PPE) and suitable tools are employed.
- ▶ Make sure that no unauthorised persons have access to the automated valve.

2.2 Intended Use

The intended use of the automated valve is specified in the manufacturer's documentation of a component of the automated valve. Furthermore, the application limits with regard to fluids or solids, pressure, temperature, performance and operating environment of the automated valve are defined by manufacturer specifications and are indicated on the component nameplates.

2.3 Explosion-Endangered Area

The manufacturer documentation and the nameplates on the components of the automated valve provide information about the suitability for use in an explosive atmosphere.

2.4 Other Hazards

Other risks for man or the environment may occur during the product life phases depending on the device specification or application.

Observe the applicable regulations, for example for the protection against electrical hazards, noise protection, radiation protection, handling of hazardous substances or electromagnetic compatibility.

3 Receipt of Goods/Inspection of Delivery and Accompanying Documents

After receipt of goods, check whether the delivery matches the information on the delivery bill.

Notify the forwarding agent and Flowserve Flow Control GmbH immediately of any deviations.

Also note that the scope of delivery of the components is specified in the respective manufacturer's documentation.

4 Transport and Storage

4.1 Safety Messages

⚠ WARNING

Risk of injury due to improper transport!

Improper transport can lead to serious injuries.

- ▶ Protect instrumentation and apply edge protection.
- ▶ Attach automated fitting ≥ 15 kg according to the specifications in chapter 4.2.
- ▶ Pay attention to the centre of gravity and secure against tipping over sideways.
- ▶ Never stand under suspended loads.

NOTICE

Risk of material damage due to improper transport!

Improper transport can lead to material damage.

- ▶ Protect instrumentation and apply edge protection.
- ▶ Attach automated fitting ≥ 15 kg according to the specifications in chapter 4.2.
- ▶ Pay attention to the centre of gravity and secure against tipping over sideways.

NOTICE

Risk of material damage due to incorrect storage!

Incorrect storage of the automated valve can lead to material damage.

- ▶ Observe the following storage location conditions.

4.2 Transport of the Automated Valve

4.2.1 Transport Conditions

After proper loosening of the load securing device and unpacking, in case of a heavy (≥ 15 kg) or bulky automated valve it is necessary to use lifting equipment for reloading or further transport.

The following conditions must be checked for safe transport of the automated valve with lifting equipment:

- Place, fix and secure the automated valve so that no instruments or pipe elements of the automation unit can be damaged.
- Secure automated valve against tilting and slipping.
- If there are several attachment points (e.g. at valve and actuator), make sure that all round slings are tensioned.

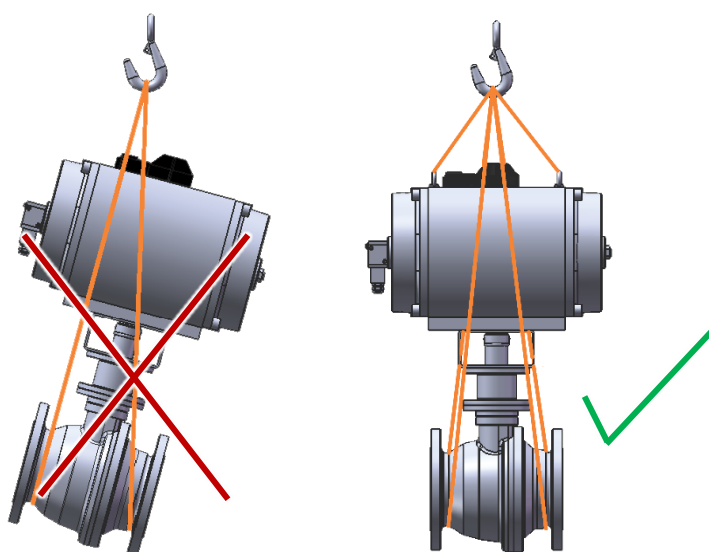
4.2.2 Transporting the Automated Valve

The automated valve is

- released from the load securing.
- separated from the packaging.

1. Protect the instrumentation of the automated valve.
2. Attach a suitable edge protection to the automated fitting.
3. Correctly attach the automated valve depending on the later installation position.

↪ See the following section 4.2.3.



4. Transport the automated valve to its destination.

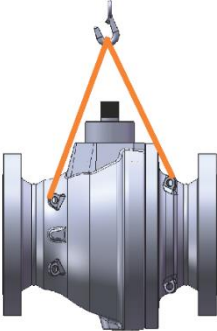
4.2.3 Permissible and Impermissible Attachment

The following tables show the permissible and non-permissible attachment of the valve, actuator and automated valve.

Horizontal Transportation

The automated valve must always be transported horizontally. Vertical transportation is only permitted for vertical installation (see vertical transportation).

Table 1: Permissible attachment

	Explanation
	Round slings placed around the valve body
	Round slings hooked into lifting lugs on valve

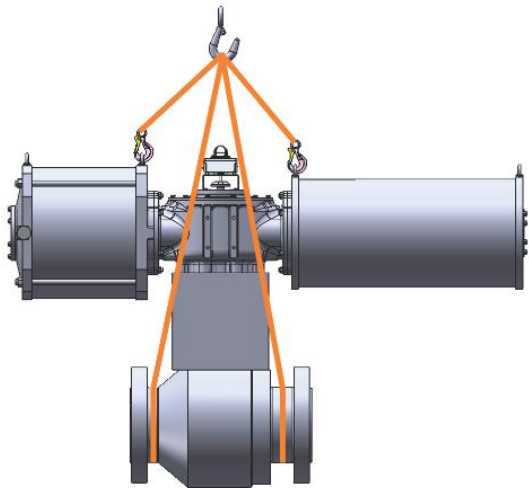
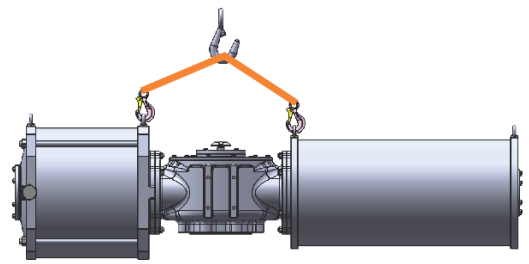
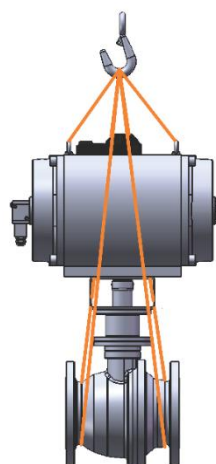
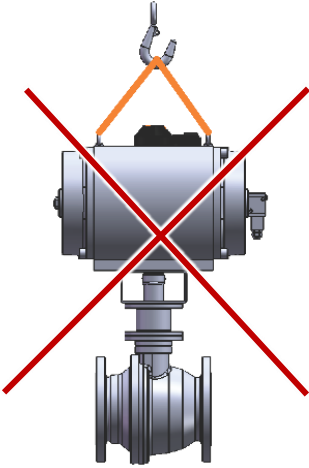
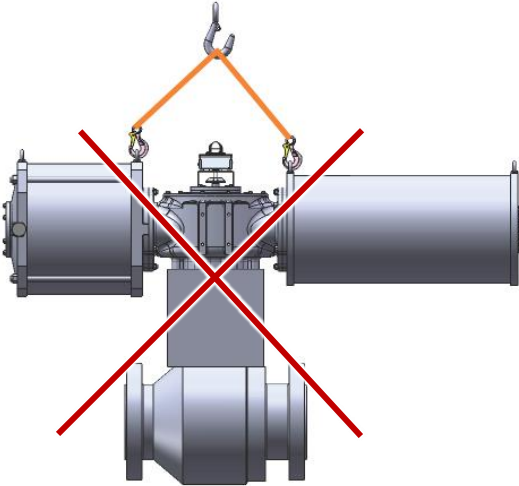
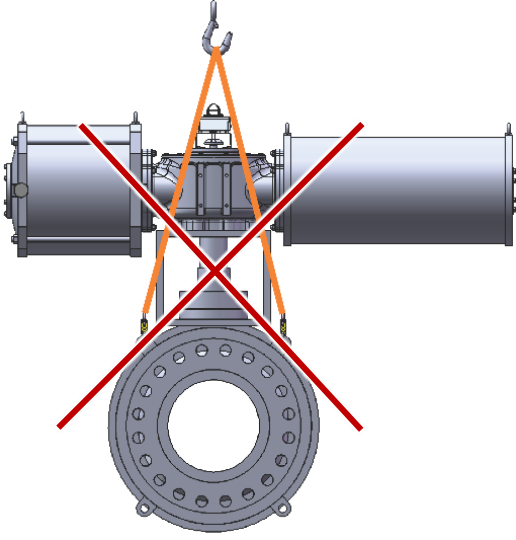
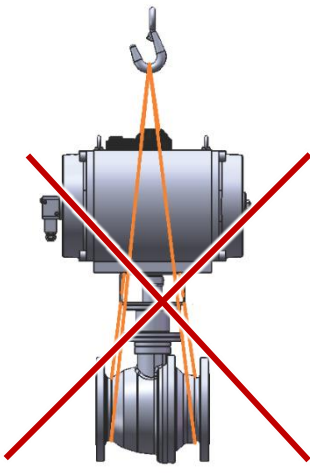
	Explanation
	Round slings hooked into lifting lugs on the actuator and round slings placed around the valve body
	Round slings hooked into lifting lugs on the actuator
	Round slings hooked into lifting lugs on the actuator and placed around the valve body

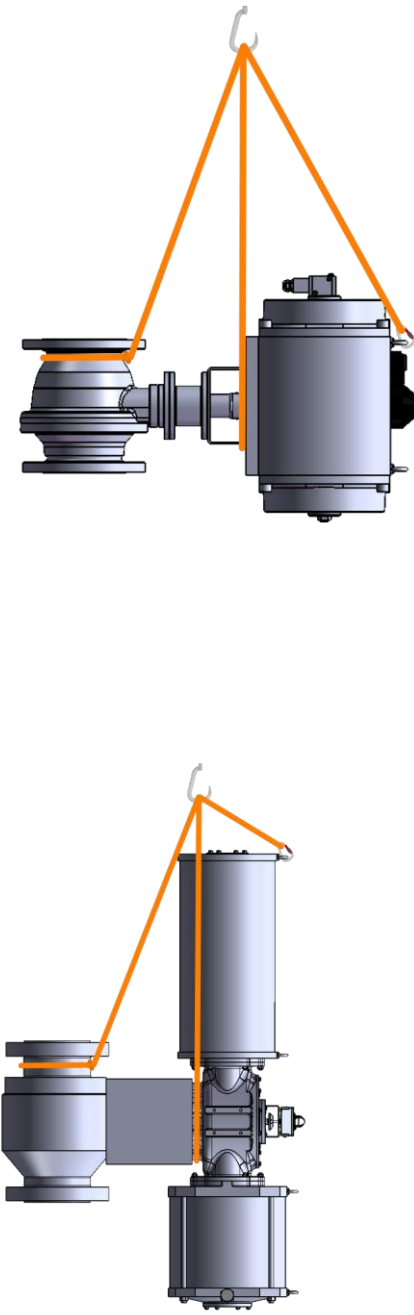
Table 2: Impermissible attachment

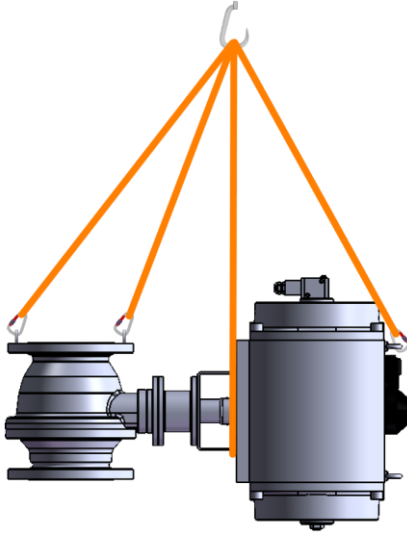
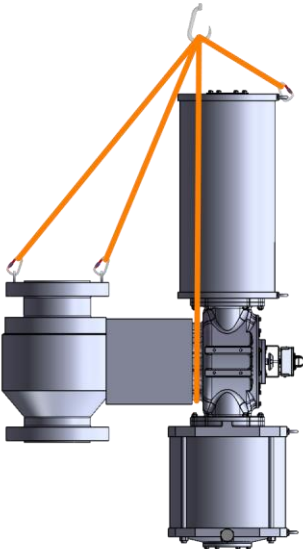
	Explanation
	Not sufficient: Round slings only hooked into the lifting lugs of the actuator Permissible attachment: Always attach both the valve and actuator
	Not sufficient: Round slings only hooked into lifting lugs on the actuator Permissible attachment: Always attach both the valve and actuator

	Explanation
	Not sufficient: Round slings hooked into lifting lugs on the valve Permissible attachment: Always attach both the valve and actuator
	Not sufficient: Round slings only placed around the valve body Permissible attachment: Always attach both the valve and actuator

Vertical Transportation

Table 3: Permissible attachment when transporting vertically.

	Explanation
	Round slings hooked into lifting lug on the actuator, round slings placed around the valve body with a sling and placed between bracket and actuator.

	Explanation
 	Round slings hooked into lifting lug on actuator, hooked into lifting lugs into flange and placed between bracket and actuator.

4.3 Storing the Automated Valve

An automated valve is stored in an environment that meets the following conditions:

Indoor (long-term storage):

- dry, free of dust and adequately ventilated
- storage temperature between +5 °C and +40 °C
- relative humidity of < 50 %

Outdoor/construction site area (short-term storage; ≤ 7 days):

- storage temperature between –10 °C and +50 °C

Also observe the storage instructions for the individual components of the automated valve. These can be found in the respective manufacturer's documentation in the chapter Storage.

5 Identification of the Automated Valve

5.1 European Economic Area

An automated valve, which is defined as a partly completed machinery in accordance with the Machinery Directive 2006/42/EC, can be clearly identified by means of the nameplate of the valve or the actuator.

For the clear identification of an automated valve, which is defined as a complete machinery according to the Machinery Directive 2006/42/EC, a plate with CE mark is attached to the bracket between the valve and the actuator. The Flowserve Flow Control GmbH can retrieve all relevant data regarding specification, design, quality assurance and documentation of the automated valve by the serial number that is indicated on the plate.

The suffix "(act)" of the type designation marks valves that have been automated by Flowserve Flow Control GmbH.

The suffix "(bare)" of the type designation marks valves that have not been automated by Flowserve Flow Control GmbH.

5.2 Non-European Economic Area

An automated valve can be clearly identified by the nameplate of the valve or the actuator.

5.3 Nameplates of the Automated Valve Components

Within the scope of valid laws, ordinances and directives, the individual components are labelled such that the components can be clearly identified. In addition, the nameplate carries information about the limitations of use to be observed.

Observe the information regarding intended use on the component nameplates!

6 Installation, Connection and Commissioning

6.1 Safety Messages



To avoid personal injury and/or damage to property, ensure that the installation, connection and commissioning of the automated valve is carried out exclusively by qualified personnel with suitable protective equipment (PPE) and suitable working tools.

⚠ WARNING

Risk of injury due to improper functional testing of the automated valve that is not installed!

An improper function test can lead to serious injuries.

- ▶ Close the interior of the valve so that no limbs can get into it.
- ▶ Keep a safe distance to all moving parts.

⚠ WARNING

Risk of injury due to an unsupported or insufficiently supported automated valve!

An unsupported or insufficiently supported automated valve can lead to serious injuries.

- ▶ Consult the support of the Flowserve Flow Control GmbH to select a suitable support.
- ▶ Support the automated valve according to Flowserve recommendations.
- ▶ Do not stay below an automated valve installed in the pipeline.

NOTICE

Risk of material damage due to an unsupported or insufficiently supported automated valve!

An unsupported or insufficiently supported automated valve can lead to material damage.

- ▶ Consult the support of the Flowserve Flow Control GmbH to select a suitable support.
- ▶ Support the automated valve according to Flowserve recommendations.
- ▶ Do not stay below an automated valve installed in the pipeline.

NOTICE

Risk of material damage due to insufficient qualification of personnel!

Insufficient qualification of personnel for installation, connection and commissioning can lead to material damage.

- ▶ Use only qualified personnel.
- ▶ Observe the manufacturer's documentation on automated valve components.

6.2 Qualified Personnel

Installation in the piping, connection to the energy supply and process control systems and operation of the automated valve are carried out by persons who, based on their

- training, experience and instruction
- and based on their knowledge of pertinent legal regulations, standards, accident prevention regulations and operating conditions

have been authorised to perform the respective necessary activities.

These persons must be able to recognise hazardous situations and eliminate risks.

The manufacturer's documentation of the components of the automated valve must be observed.

6.3 Supporting the Automated Valve

Regardless of the size and installation position of the automated valve, check whether a support for the valve and/or actuator is required.

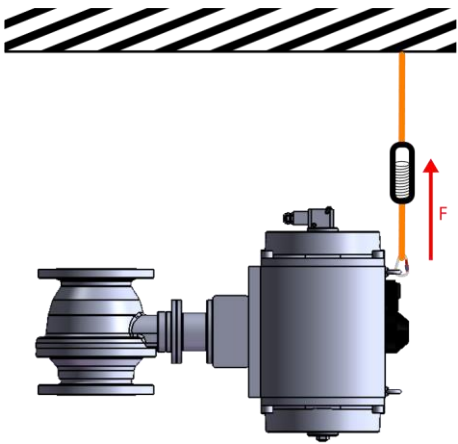
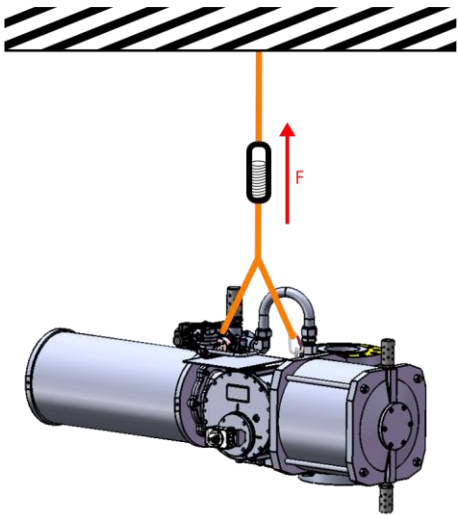
Vibrations or impacts during operation may also require damping or support.

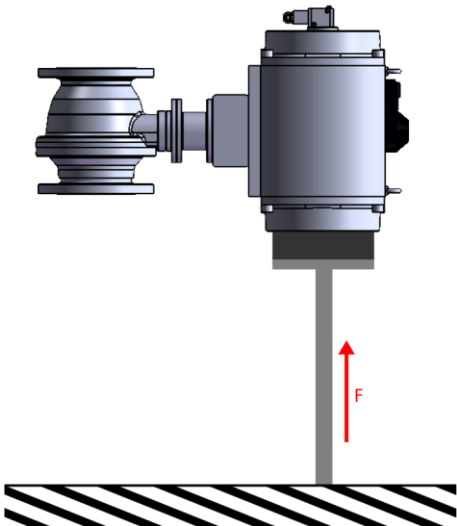
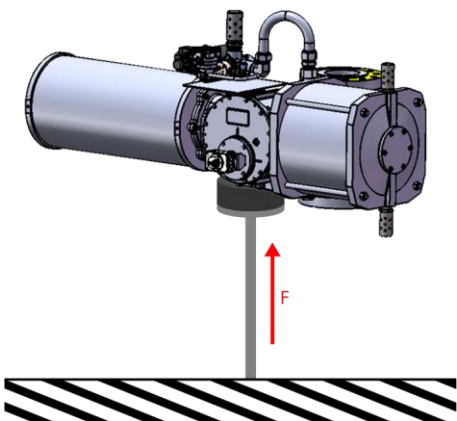
Vertically installed automated valves must always be supported. The following examples show support from the ceiling with a spring hanger and from the floor with a rubber cushion. The tensile or support force must never exceed the weight of the actuator components. The support methods described below are only examples and are not exhaustive. There are many other ways of supporting an automated valve that may be more suitable depending on the installation situation.

On request, Flowserve Flow Control GmbH can advise you on the selection of a suitable support.

6.3.1 Examples for supporting vertically installed valves

When supporting from above, lifting lugs must always be used to ensure safe support.

	Explanation
	Same orientation of valve and actuator: Actuator supported from above with spring hanger. Tensile force (F) must not exceed the weight of the actuator.
	Opposite orientation of valve and actuator: Actuator supported from above with spring hanger. Tensile force (F) must not exceed the weight of the actuator.

	Explanation
	Same orientation of valve and actuator: Actuator supported from below with rubber cushion. Support force (F) must not exceed the weight of the actuator.
	Opposite orientation of valve and actuator: Actuator supported from below with rubber cushion. Support force (F) must not exceed the weight of the actuator.

7 Maintenance

An automated valve consists of different components. Every component comes with a manufacturer documentation which contains information and hints on maintenance in the maintenance chapter.

Create a master maintenance schedule based on the respective maintenance chapter which takes the maintenance cycles of all components into consideration.

8 Shutdown, Disassembly and Disposal

8.1 Safety Messages

DANGER

Risk of injury from fluid residues and trapped pressure!

Fluid residue and trapped pressure can cause serious injury or death.

- ▶ Turn the valve several times so that fluid residues and trapped pressure can escape.
- ▶ Collect all fluid residues with a collection container and dispose of them properly and appropriately.

WARNING

Risk of injury from supply energy (e.g. electrical or pneumatic energy)!

Supply energy can lead to serious injuries.

- ▶ Ensure that the automated valve is isolated from all energy sources.

NOTICE

Risk of environmental pollution due to fluid residues and trapped pressure!

Fluid residues and trapped pressure can damage the environment.

- ▶ Turn the valve several times so that fluid residues and trapped pressure can escape.
- ▶ Collect all fluid residues with a collection container and dispose of them properly and properly.

8.2 Shutting Down, Dismantling and Disposing of the Automated Valve

The following conditions must be met for decommissioning, dismantling and disposal:

- The actuator is powerless.
- The return springs of the actuator are relaxed.
- Pneumatic, electric or hydraulic supply lines are clearly separated.
- The pipeline is pressureless and free of fluid residues.

Observe the manufacturer's documentation of the components for proper and proper decommissioning and disassembly.

Ensure that disposal is only carried out by approved specialist companies that are experienced in handling environmentally hazardous substances (e.g. toxic or aggressive fluid residues).

For all components, also observe the disposal instructions in the manufacturer's documentation of the components.

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