

GEMÜ Q51

Motorized pinch valve

EN

Operating instructions



webcode: GW-Q51



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1 General information

1.1 Information

- The descriptions and instructions apply to the standard versions. For special versions not described in this document the basic information contained herein applies in combination with any additional special documentation.
- Correct installation, operation, maintenance and repair work ensure faultless operation of the product.
- Should there be any doubts or misunderstandings, the German version is the authoritative document.
- Contact us at the address on the last page for staff training information.

1.2 Symbols used

The following symbols are used in this document:

Symbol	Meaning
●	Tasks to be performed
►	Response(s) to tasks
–	Lists

1.3 LED symbols

The following LED symbols are used in the documentation:

Symbol	LED conditions
○	Off
●	Lit (on)
⦿	Flashing

1.4 Definition of terms

Working medium

The medium that flows through the tube.

Error position

The position of the valve that is approached in the event of an error. Reaching the error position depends on the presence of the power supply.

1.5 Warning notes

Wherever possible, warning notes are organized according to the following scheme:

SIGNAL WORD	
Possible symbol for the specific danger	Type and source of the danger ►Possible consequences in case of non-compliance ●Measures for avoiding danger

Warning notes are always labelled with a signal word and sometimes also with a symbol for the specific danger.

The following signal words and danger levels are used:

 DANGER	
	Imminent danger! ► Non-observance can cause death or severe injury

 WARNING	
	Potentially dangerous situation! ► Non-observance can cause death or severe injury

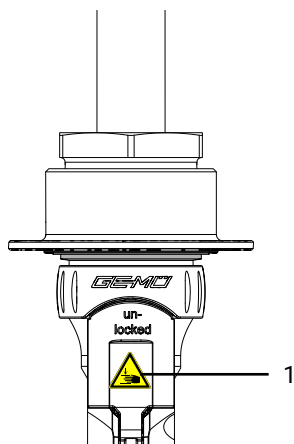
 CAUTION	
	Potentially dangerous situation! ► Non-observance can cause moderate to light injury

NOTICE	
	Potentially dangerous situation! ► Non-observance can cause damage to property

The following symbols for the specific dangers can be used within a warning note:

Symbol	Meaning
	Danger of explosion!
	The equipment is subject to pressure!
	Corrosive chemicals!
	Hot plant components!
	Risk of crushing!
	Risk of crushing due to the compressor shutting down!

1.6 Safety information on the product (example)



Item	Symbol	Meaning
1		Risk of crushing! - Do not reach into the tube crushing area.

Missing or illegible adhesive labels on the product must be attached or replaced.

2 Safety information

The safety information in this document refers only to an individual product. Potentially dangerous conditions can arise in combination with other plant components, which need to be considered on the basis of a risk analysis. The operator is responsible for the production of the risk analysis and for compliance with the resulting precautionary measures and regional safety regulations.

The document contains fundamental safety information that must be observed during commissioning, operation and maintenance. Non-compliance with these instructions may cause:

- Personal hazard due to electrical, mechanical and chemical effects
- Hazard to nearby equipment
- Failure of important functions
- Hazard to the environment due to the leakage of dangerous materials

The safety information does not take into account:

- Unexpected incidents and events, which may occur during installation, operation and maintenance
- Local safety regulations which must be adhered to by the operator and by any additional installation personnel

Prior to commissioning:

1. Transport and store the product correctly.
2. Do not paint the bolts and plastic parts of the product.
3. Carry out installation and commissioning using trained personnel.
4. Provide adequate training for installation and operating personnel.
5. Ensure that the contents of the document have been fully understood by the responsible personnel.
6. Define the areas of responsibility.
7. Observe the safety data sheets.
8. Observe the safety regulations for the media used.

During operation:

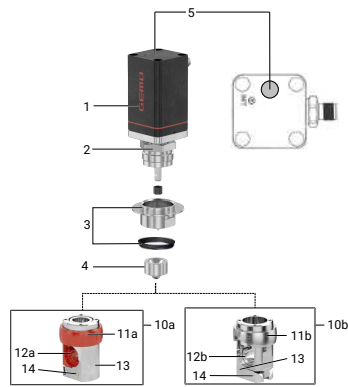
9. Keep this document available at the place of use.
10. Observe the safety information.
11. Operate the product in accordance with this document.
12. Operate the product in accordance with the specifications.
13. Maintain the product correctly.
14. Do not carry out any maintenance work and repairs not described in this document without consulting the manufacturer first.

In cases of uncertainty:

15. Consult the nearest GEMÜ sales office.

3 Product description

3.1 Design



Item	Name	Materials
1	Actuator	PP
2	Union nut	Stainless steel
3	Distance piece with mounting flange including EPDM seal	Stainless steel
4	Compressor	Stainless steel
5	Display of status LED*	
10a	Valve body	Stainless steel/PA6
10b	Valve body	Stainless steel
11a	Locking ring	PA6
11b	Locking ring	Stainless steel
12a	Tube holder	PA6
12b	Tube holder	Stainless steel
13	Tube carrier	Stainless steel
14	CONEXO RFID chip	

*Status LED only available for control modules S0, S1, S2.

3.2 Description

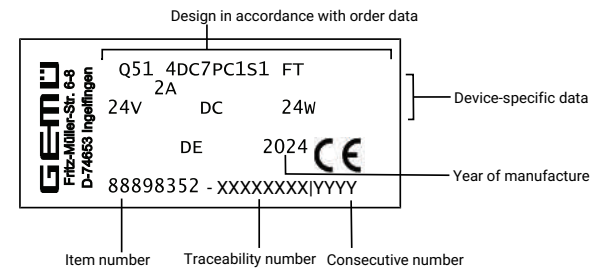
The GEMÜ Q51 2/2-way pinch valve is electrically operated as a positioner. The valve guides a tube which is compressed from above by a compressor to control and regulate media. The compressor's specially developed contour and the tube holder's contour minimize the strain on the tube and thus increase the tubes' service life. Tubes can be safely inserted and removed in simple steps and without tools.

3.3 Function

The product controls or regulates (depending on version) a flowing medium by being closed or opened by a motorized actuator.

3.4 Product label

The product label is located on the actuator. Product label data (example):



The month of manufacture is encoded in the traceability number and can be obtained from GEMÜ. The product was manufactured in Germany.

4 Functional description

Control module code ¹⁾	Fail-safe position	Function
S0	Hold	Actuator stays in the approached position
S1	Close	Actuator moves to CLOSED position
S2	Open	Actuator moves to OPEN position

1) **Control module**

Code S0: Positioner 4–20 mA Hold safety position

Code S1: Positioner 4–20 mA Close error position

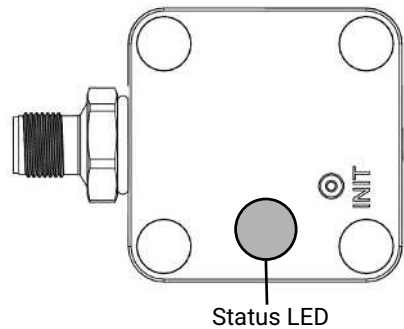
Code S2: Positioner 4–20 mA Open safety position

Display of status LED

NOTICE

Status LED

► Status LED only available for control modules S0, S1, S2.



No.	Function	LED 1 (green)	LED 2 (red)
1	Valve power ON	●	○
2	Initialization error timeout	○	●
3	Pre-INIT mode active	● flash alternately 2 Hz	● flash alternately 2 Hz
4	Initialization ready	●	○
5	Initialization active	● flash alternately 1 Hz	● flash alternately 1 Hz
6	Error	○	●

LED conditions

●	lit (on)	●	flashes	○	off
---	----------	---	---------	---	-----

5 Correct use

 DANGER	
	Danger of explosion! ▶ Risk of death or severe injury ● Do not use the product in potentially explosive zones.

 WARNING	
Improper use of the product! ▶ Risk of severe injury or death ▶ Manufacturer liability and guarantee will be void. ● Only use the product in accordance with the operating conditions specified in the contract documentation and in this document.	

NOTICE	
Suitability of the product! ▶ The product must be appropriate for the tube's operating conditions (medium, medium concentration, temperature and pressure) and the respective ambient conditions.	

The product is designed to control a working medium guided in a tube.

The product is not intended for use in potentially explosive areas.

- Use the product in accordance with the technical data.

6 Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Pinch valve, electrically operated	Q51
2 Tube inside diameter	Code
3.180 mm (1/8") inside diameter	2
4.760 mm (3/16") inside diameter	3
6.350 mm (1/4") inside diameter	4
7.95 mm (5/16") inside diameter	5
3 Tube outside diameter	Code
6.350 mm (1/4") outside diameter	DA
9.530 mm (3/8") outside diameter	DC
11.110 mm (7/16") outside diameter	DD
12.700 mm (1/2") outside diameter	DE
4 Tube carrier version	Code
Plastic design, stainless steel tube carrier and PA tube holder	7P
Stainless steel design, stainless steel tube carrier and stainless steel tube holder, stainless steel locking ring	77
5 Voltage/Frequency	Code
24 V DC	C1

6 Control module	Code
Positioner	S0
Positioner 4–20 mA Close error position	S1
Positioner 4–20 mA Open error position	S2
7 Mounting option	Code
Without mounting flange, with 4 x threaded holes in the body	0
With mounting flange above	FT
8 Actuator version	Code
Actuator size 0	0A
9 CONEXO	Code
Without	
Integrated RFID chip for electronic identification and traceability	C

Order example

Ordering option	Code	Description
1 Type	Q51	Pinch valve, electrically operated
2 Tube inside diameter	2	3.180 mm (1/8") inside diameter
3 Tube outside diameter	DA	6.350 mm (1/4") outside diameter
4 Tube carrier version	7P	Plastic design, stainless steel tube carrier and PA tube holder
5 Voltage/Frequency	C1	24 V DC
6 Control module	S0	Positioner
7 Mounting option	FT	With mounting flange above
8 Actuator version	0A	Actuator size 0
9 CONEXO		Without

7 Technical data

The media-conveying tubes are not part of the scope of delivery. All technical data applies solely to the valve itself. The suitability and selection of the media-conveying tubes for the intended process is the user's responsibility. For tested tube combinations that are compatible with the valve, please refer to the chapter "Tested tube combinations" (see "Tested tube combinations", page 12).

7.1 Medium

Working medium: Please observe the tube manufacturer's specifications

7.2 Temperature

Media temperature: Please observe the tube manufacturer's specifications

Ambient temperature: Actuator: 0 – 40 °C, Tube: Please observe the tube manufacturer's specifications

Storage temperature: -10 – 40 °C

7.3 Pressure

Operating pressure: max. 4.5 bar
Please observe the tube manufacturer's specifications

7.4 Product compliance

Machinery Directive: 2006/42/EC

EMC Directive: 2014/30/EU

RoHS Directive: 2011/65/EU

7.5 Mechanical data

Protection class: IP 65 acc. to EN 60529

Actuating speed: Max. 2 mm/s

Weight: Approx. 1.2 kg

Mechanical environmental conditions: Class 4M8 acc. to EN 60721-3-4:1998

Vibration: 5g acc. to IEC 60068-2-6 Test Fc

Shock: 25g acc. to 60068-2-27 Test Ea

7.6 Duty cycle and service life

Service life: **Control operation** – Class C acc. to EN 15714-2 ($\pm 1,800,000$ start-ups).

Duty cycle: 60% duty

7.7 Electrical data

7.7.1 Supply voltage

Voltage: 24 V DC $\pm 10\%$

Rating: ≤ 24 W (24 V DC)

Reverse polarity protection: Yes

7.7.2 Analogue input signals

7.7.2.1 Set value as current signal, control module code S0 / S1 / S2

Input signal: 4–20 mA

Input type: passive

Input resistance: 50 Ω

Control accuracy: $\pm 1\%$

7.7.3 Digital input signals

Function: Tube replacement function

Voltage: 24 V DC

Logic level "1": > 15 V DC

Logic level "0": ≤ 5 V DC

7.7.4 Analogue output signals

7.7.4.1 Actual value as current signal, control module code S0 / S1 / S2

Output signal: 4–20 mA

Output type: Active

Load resistor: 650 Ω

Short-circuit proof: Yes

7.7.5 Behaviour in the event of an error

Function: In the event of an error the valve moves to the error position.

Notes: Moving to the error position is only possible with full power supply. This behaviour is not a safety position. The valve must be operated with a GEMÜ 1571 emergency power supply module (see accessories) to ensure the function in case of voltage loss.

Error position: Hold – Actuator stays in the approached position (control module S0)
 Close – Actuator moves to the closed position (control module S1)
 Close – Actuator moves to the open position (control module S2)

7.8 Tested tube combinations

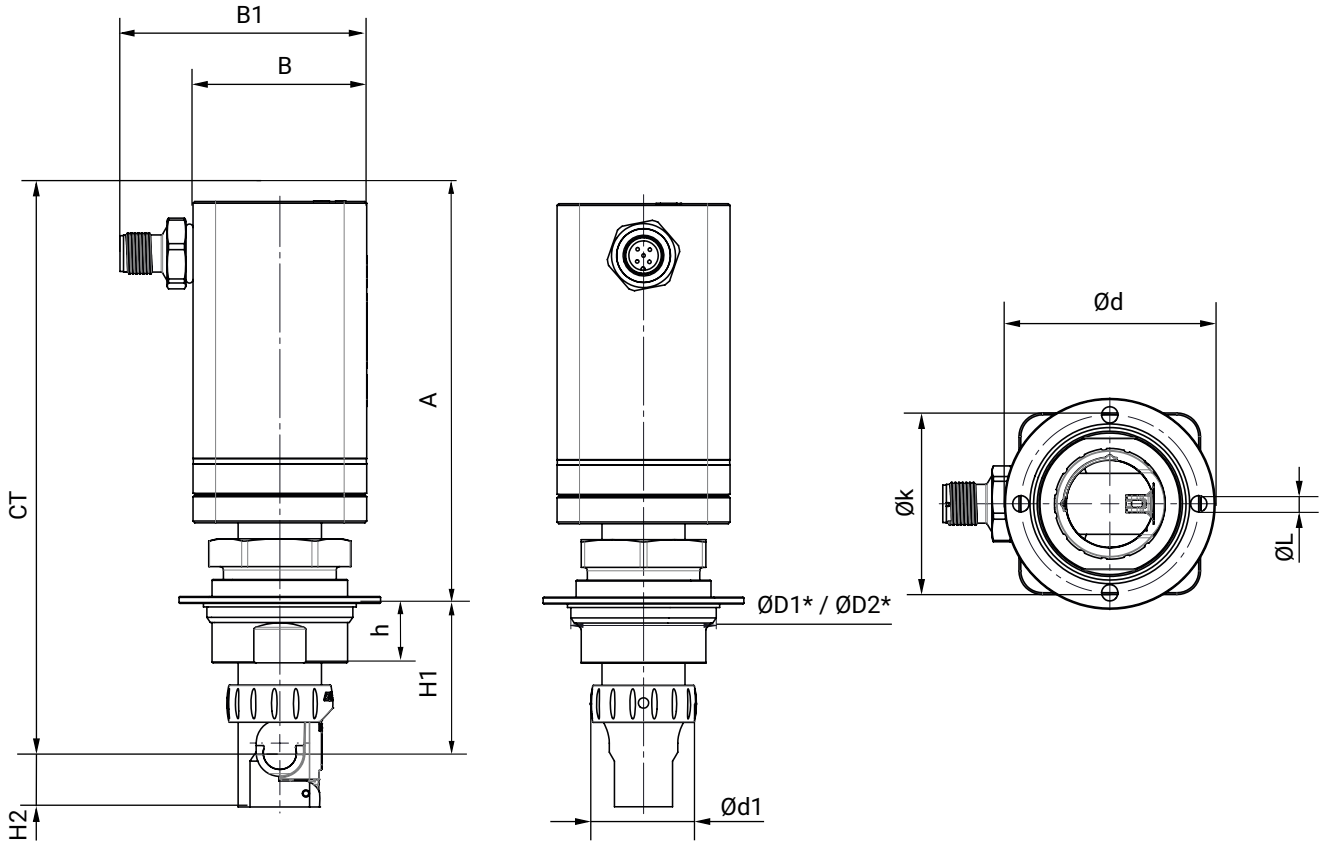
The following tube combinations have been tested taking into account the specifications of the respective tube manufacturer and have been found to be suitable for use in our pinch valves.*

However, the versions below are not a substitute for the user testing the tube for its suitability for the intended process.

Inside diameter (order code)	Inside diameter [inches]	Inside diameter [mm]	Outside diameter (order code)	Outside diameter [inches]	Outside diameter [mm]	Tube type	Clocking	Pressure [bar]	Service life until breakage
2	1/8"	3.18	DA	1/4"	6.35	Silicone	2/2 s	1.6	10,000 cycle duties
2	1/8"	3.18	DC	3/8"	9.53	reinforced	2/2 s	6	7250 cycle duties
3	3/16"	4.76	DC	3/8"	9.53	TPE	2/2 s	2.0	25,000 cycle duties
3	3/16"	4.76	DC	3/8"	9.53	Silicone	2/2 s	1.4	25,000 cycle duties
3	3/16"	4.76	DC	3/8"	9.53	reinforced	2/2 s	4.0	7000 cycle duties
3	3/16"	4.76	DD	7/16"	11.11	Silicone	2/2 s	1.7	25,000 cycle duties
4	1/4"	6.35	DD	7/16"	11.11	Silicone	2/2 s	1.2	10,000 cycle duties
4	1/4"	6.35	DE	1/2"	12.70	reinforced	2/2 s	6	1 x 3200 cycle duties 1 x 7700 cycle duties
4	1/4"	6.35	DE	1/2"	12.70	reinforced	2/2 s	3.8	8000 cycle duties
5	5/16"	7.94	DD	7/16"	11.11	N/A	2/2 s	1.0	23,000 cycle duties
5	5/16"	7.94	DE	1/2"	12.70	Silicone	2/2 s	1.2	20,000 cycle duties
5	5/16"	7.94	DE	1/2"	12.70	TPE	2/2 s	1.6	15,000 cycle duties

* Test medium: Water. The results in use may vary from those of the test environment due to the influence of deviating media.

8 Dimensions



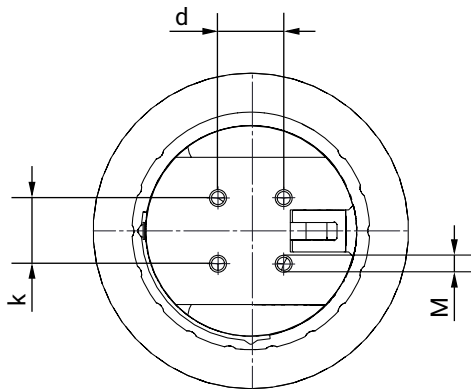
A	B	B1	CT	ØD1*	ØD2*	Ød	Ød1	H1	H2	Øk	ØL	h
115.7	50.0	71.0	158.7	39.0	42.0	58.0	30.5	43.0	15.6	49.0	4.5	17.1

Dimensions in mm

* D1 = diameter without seal, D2 = diameter with seal

8.1 Valve bodies, without mounting flange

Dimensions in mm



d	k	M
7.0	7.0	M2

9 Manufacturer's information

The controller required for valve operation is not included in the scope of delivery.

9.1 Delivery

- Check that all parts are present and check for any damage immediately upon receipt.

The product's performance is tested at the factory. The scope of delivery is apparent from the dispatch documents and the design from the order number.

9.2 Packaging

The product is packaged in a cardboard box which can be recycled as paper.

9.3 Transport

1. Only transport the product by suitable means. Do not drop. Handle carefully.
2. After the installation dispose of transport packaging material according to relevant local or national disposal regulations / environmental protection laws.

9.4 Storage

1. Store the product free from dust and moisture in its original packaging.
2. Avoid UV rays and direct sunlight.
3. Do not exceed the maximum storage temperature (see chapter "Technical data").
4. Do not store solvents, chemicals, acids, fuels or similar fluids in the same room as GEMÜ products and their spare parts.
5. Close the compressed air connections with protection caps or sealing plugs.

10 Installation

10.1 Preparing for installation

 WARNING	
	The equipment is subject to pressure! ► Risk of severe injury or death ● Depressurize the plant or plant component. ● Completely drain the plant or plant component.
 WARNING	
	Corrosive chemicals! ► Risk of caustic burns ● Wear appropriate protective gear. ● Completely drain the plant.

 CAUTION	
	Hot plant components! ► Burns ● Only work on plant that has cooled down. ● Wear protective gear.

 CAUTION	
Use as step! ► Damage to the product ► Risk of slipping-off ● Choose the installation location so that the product cannot be used as a foothold. ● Do not use the product as a step or a foothold.	

NOTICE	
Suitability of the product! ► The product must be appropriate for the tube's operating conditions (medium, medium concentration, temperature and pressure) and the respective ambient conditions.	

NOTICE	
Requirements for tube lines used! ► Use tube lines suitable for the application, see manufacturer's information. ● Only use undamaged tube lines.	

NOTICE	
Lay tube lines professionally! ► Lay tube lines professionally and do not bend them below the minimum bending radius, see manufacturer's information. ● Do not kink or twist the tube lines.	

NOTICE

Tools!

- The tools required for installation and assembly are not included in the scope of delivery.
 - Use appropriate, functional and safe tools.
1. Ensure the product is suitable for the relevant application.
 2. Check the technical data of the product and the materials.
 3. Keep appropriate tools ready.
 4. Use appropriate protective gear as specified in plant operator's guidelines.
 5. Observe appropriate regulations for connections.
 6. Installation work must be performed by trained personnel.
 7. Shut off plant or plant component.
 8. Secure the plant or plant component against recommissioning.
 9. Depressurize the plant or plant component.
 10. Completely drain the plant or plant component and allow it to cool down until the temperature is below the media vaporization temperature and cannot cause scalding.
 11. Pay attention to the installation position (see chapter "Installation position").

10.2 Installation position

The installation position of the product is optional.

10.3 Mounting without mounting flange

1. Before mounting the valve body, machine the housing in accordance with the borehole pattern in the chapter "Dimensions" so that the valve body can be secured to the housing.
2. Secure the valve body to the housing using four screws.
3. Re-attach or reactivate all safety and protective devices.

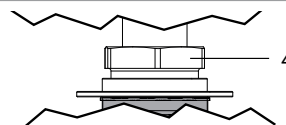
10.4 Mounting with mounting flange

1. Before mounting the actuator, machine the housing in accordance with the borehole pattern in the chapter "Dimensions" so that the valve body can be guided through the recess.
2. Guide the valve body through the recess in the housing. The actuator's mounting flange must be flush with the housing.
3. Connect the mounting flange and housing using appropriate screws and washers (not included in the scope of delivery).

10.5 Turning the actuator

NOTICE

- Actuators can be turned for positioning of the connections.

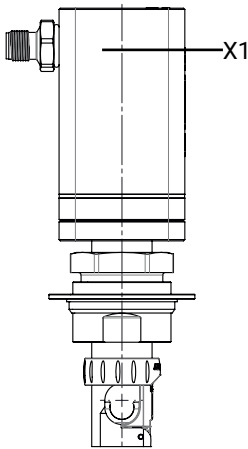


1. Undo union nut **4**.
2. Turn the actuator to the required position.
3. Tighten union nut **4** (see table for torques).

Size	Torque
BG0	Max. 20 Nm
BG1	Max. 30 Nm
BG2	Max. 50 Nm

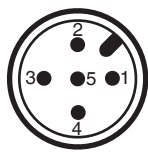
11 Electrical connection

11.1 Position of the connectors



11.2 Electrical connection

Connection X1



Five-pin M12 built-in socket, A-coded

Pin	Signal name
1	24 V supply voltage
2	I+/U+, set value input
3	GND
4	I+/U+, actual value output
5	Digital input 1 / tube replacement function

12 Commissioning

12.1 Initialization

Initialization should be carried out in the following situations:

- Installation of a new tube/tube type
- Malfunction of the valve (not tightly sealed)
- Tube holder replacement
- Compressor replacement

Initialization can be carried out using the following procedures:

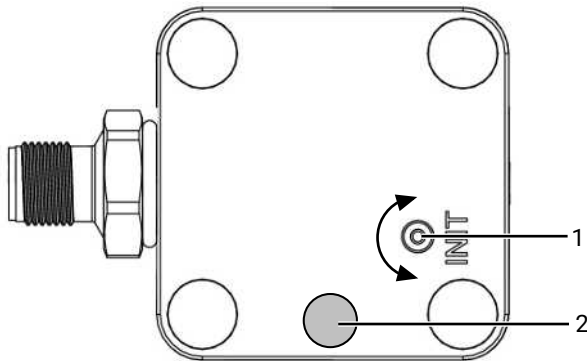
- On-site initialization

12.1.1 On-site initialization of the end positions

NOTICE

Omission of the supply voltage during the initialization!

- In the case of omission of the supply voltage during the initialization, all values that have already been determined are lost. Initialization must be carried out again after restoration of the supply voltage.



1. Connect supply voltage.

S0, S1 and S2 control module

Note: The associated flash codes can be found in the "Functional description" chapter.

2. Connect the magnet at the point on the housing cover labelled with INIT until **flash code 3** starts on LED 2.
 3. Hold the magnet until **flash code 4** is activated on LED 2.
 4. Remove the magnet within five seconds → indicated by **flash code 5** on LED 2.
 - ⇒ Valve automatically moves into the CLOSED position.
 - ⇒ Initialization mode is automatically ended.
 - ⇒ Valve moves towards the specified set value.
- ⇒ The end positions are set.

13 Inspection and maintenance

⚠ WARNING



The equipment is subject to pressure!

- ▶ Risk of severe injury or death
- Depressurize the plant or plant component.
- Completely drain the plant or plant component.

NOTICE

Use of incorrect spare parts!

- ▶ Damage to the GEMÜ product
- ▶ The manufacturer liability and guarantee will be void.
- Use only genuine parts from GEMÜ.

⚠ CAUTION



Hot plant components!

- ▶ Burns
- Only work on plant that has cooled down.
- Wear protective gear.

⚠ CAUTION



Risk of crushing!

- ▶ Risk of severe injury
- Before performing any work on the GEMÜ product, depressurize the plant.

NOTICE

Requirements for tube lines used!

- ▶ Use tube lines suitable for the application, see manufacturer's information.
- Only use undamaged tube lines.

NOTICE

Lay tube lines professionally!

- ▶ Lay tube lines professionally and do not bend them below the minimum bending radius, see manufacturer's information.
- Do not kink or twist the tube lines.

NOTICE

Exceptional maintenance work!

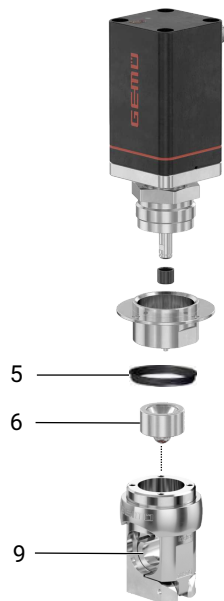
- ▶ Damage to the GEMÜ product
- Any maintenance work and repairs not described in these operating instructions must not be performed without consulting the manufacturer first.

The operator must carry out regular visual examination of the GEMÜ products dependent on the operating conditions and the potential danger in order to prevent leakage and damage.

The product also must be disassembled and checked for wear in the corresponding intervals.

1. Have servicing and maintenance work performed by trained personnel.
2. Wear appropriate protective gear as specified in plant operator's guidelines.
3. Shut off plant or plant component.
4. Secure the plant or plant component against recommissioning.
5. Depressurize the plant or plant component.
6. Actuate GEMÜ products which are always in the same position four times a year.

13.1 Spare parts



Item	Name	Item number	Designation
5	Gasket	88855875	Q00 BG0 DR
6	Compressor	88949093	Q00 2DA BG0 DS
		88949096	Q00 2DC BG0 DS
		88982244	Q00 3DC BG0 DS
		88982247	Q00 3DD BG0 DS
		88949097	Q00 4DC BG0 DS
		88949098	Q00 4DD BG0 DS
		88949099	Q00 4DE BG0 DS
		88941603	Q00 5DD BG0 DS
		88982248	Q00 5DE BG0 DS

Item	Name	Item number	Designation
6, 9	Compressor, tube holder	89011608	Q00 2DA77 BG0 SD
		89011609	Q00 2DC77 BG0 SD
		89011635	Q00 3DC77 BG0 SD
		89011638	Q00 3DD77 BG0 SD
		89011610	Q00 4DC77 BG0 SD
		89011612	Q00 4DD77 BG0 SD
		89003439	Q00 4DE77 BG0 SD
		89011638	Q00 5DD77 BG0 SD
		89011639	Q00 5DE77 BG0 SD
		88855849	Q00 2DA7P BG0 SD
		88855851	Q00 2DC7P BG0 SD
		88982185	Q00 3DC7P BG0 SD
		88982187	Q00 3DD7P BG0 SD
		88855852	Q00 4DC7P BG0 SD
		88855853	Q00 4DD7P BG0 SD
		88855854	Q00 4DE7P BG0 SD
		88982188	Q00 5DD7P BG0 SD
		88982189	Q00 5DE7P BG0 SD
9	Tube holder	89011618	Q00 2DA77 BG0 SA
		89011619	Q00 2DC77 BG0 SA
		89011641	Q00 3DC77 BG0 SA
		89011642	Q00 3DD77 BG0 SA
		89011620	Q00 4DC77 BG0 SA
		89011623	Q00 4DD77 BG0 SA
		89009659	Q00 4DE77 BG0 SA

Item	Name	Item number	Designation
		89011643	Q00 5DD77 BG0 SA
		89011644	Q00 5DE77 BG0 SA
		88909868	Q00 2DA7P BG0 SA
		88909869	Q00 2DC7P BG0 SA
		88982259	Q00 3DC7P BG0 SA
		88982261	Q00 3DD7P BG0 SA
		88909870	Q00 4DC7P BG0 SA
		88909871	Q00 4DD7P BG0 SA
		88909872	Q00 4DE7P BG0 SA
		88982268	Q00 5DD7P BG0 SA
		88982269	Q00 5DE7P BG0 SA

13.2 Removing the tube

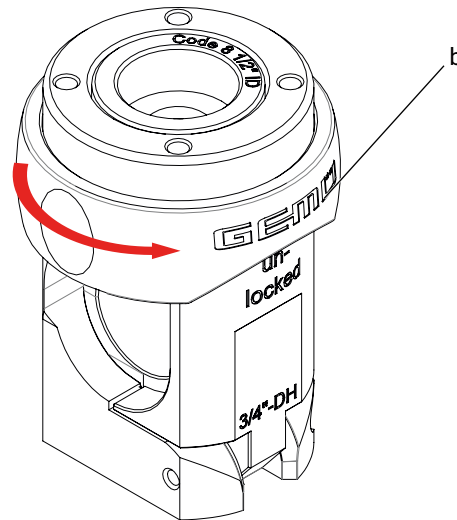
⚠ CAUTION



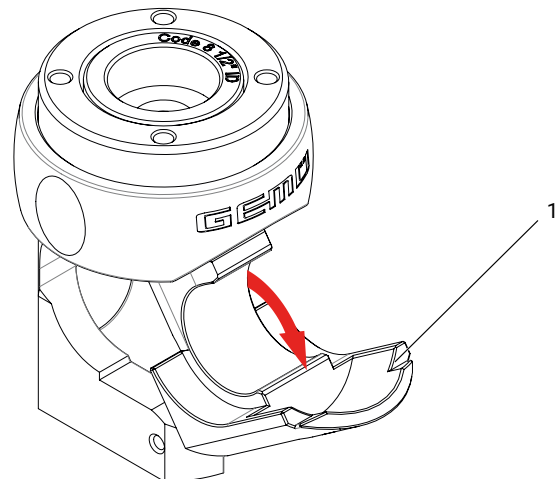
Risk of crushing!

- ▶ While the tube holder is open, the actuator can move. Severe injury due to crushing or shearing of the fingers.
- Ensure that the actuator remains in the open position during tube replacement.
- Do not reach into the tube crushing area.

1. Move actuator A to the tube replacement function (activate digital input 1) (see "Electrical connection", page 16).



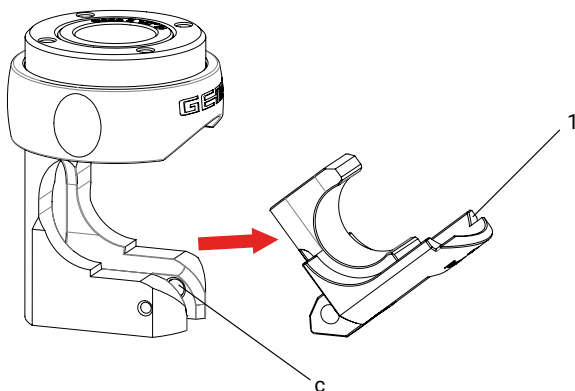
2. Turn the locking ring **b** by 90° in the direction of the arrow.
⇒ The word "unlocked" can be read on the tube holder.



3. Open the tube holder **1**.
4. Remove the tube.

13.3 Disassembling the tube holder

1. Remove the tube.



2. Loosen the fixing screw **c** using an Allen key.
3. Remove the tube holder **1**.

13.4 Disassemble the compressor

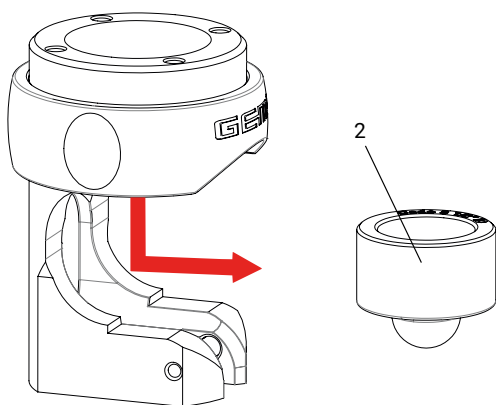
⚠ CAUTION



Risk of crushing due to the compressor shutting down!

- Severe injury due to crushing or shearing of the fingers.
- Ensure that the actuator remains in the open position while replacing the compressor.
- Do not reach into the tube crushing area.

1. Remove the tube (see "Removing the tube", page 19).
2. Disassemble the tube holder (see "Disassembling the tube holder", page 20).
3. End the tube replacement function and move actuator **A** to the closed position.



4. Pull the compressor **2** out downwards.

13.5 Installing the compressor

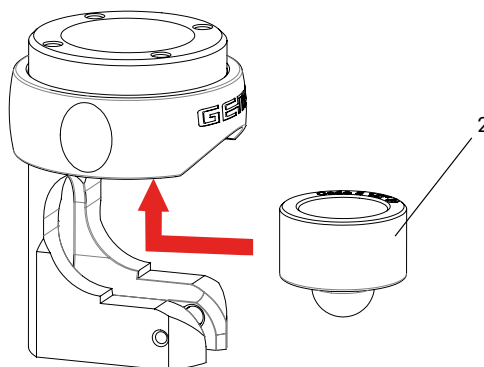
⚠ CAUTION



Risk of crushing due to the compressor shutting down!

- Severe injury due to crushing or shearing of the fingers.
- Ensure that the actuator remains in the open position while replacing the compressor.
- Do not reach into the tube crushing area.

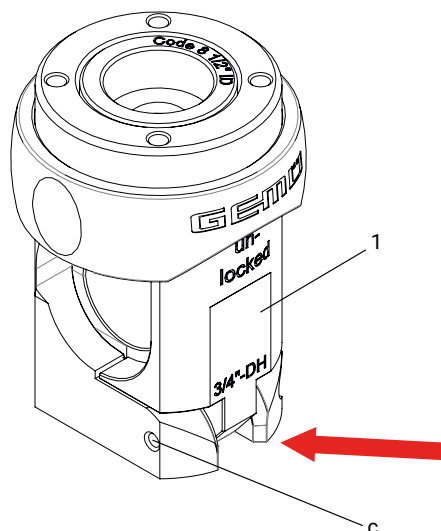
1. Remove the tube (see "Removing the tube", page 19).
2. Disassemble the tube holder (see "Disassembling the tube holder", page 20).
3. Disassemble the compressor.



4. Insert the compressor **2** and press upwards until the compressor engages.
5. Move actuator **A** to the tube replacement function (activate digital input 1) (see "Electrical connection", page 16).

13.6 Assembling the tube holder

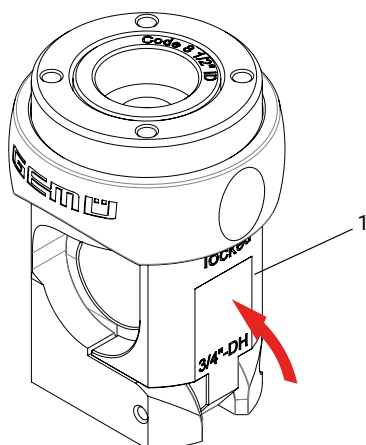
1. Disassemble the tube holder (see "Disassembling the tube holder", page 20).



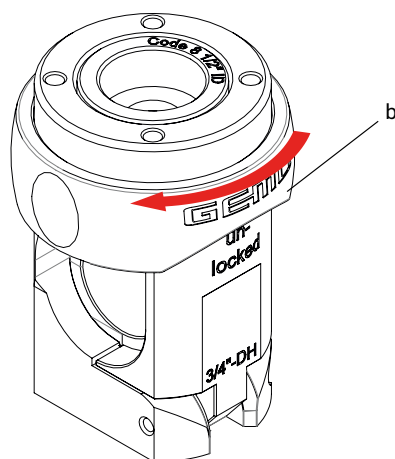
2. Insert the tube holder **1**.
3. Tighten the fixing screw **c** using an Allen key.

13.7 Insert the tube

1. Remove the tube (see "Removing the tube", page 19).
2. Insert the tube.



3. Close the tube holder 1.



4. Turn the locking ring **b** by 90° in the direction of the arrow.
⇒ The word "locked" can be read on the tube holder.
5. End the digital input 1 / tube replacement function.
6. With the valve fully assembled, check the function and tightness.

14 Behaviour in the event of an error

In the event of an error the valve moves to the error position (see Technical data).

The behaviour cannot be changed.

Moving to the error position is only possible with full power supply. This behaviour is not a safety position. The valve must be operated with a GEMÜ 1571 emergency power supply module (see accessories) to ensure the function in case of voltage loss.

15 Troubleshooting

Error	Possible cause	Troubleshooting
The product is leaking downstream (does not close or does not close fully)	Operating pressure too high	Operate the product with operating pressure specified in datasheet
	Tube leaking or damaged	Check tube for potential damage, replace tube if necessary
The product does not open or does not open fully	Actuator defective	Replace valve
Valve does not open/close or does not open/close fully	Voltage is not connected	Connect voltage
	Cable ends incorrectly wired	Wire cable ends correctly
	Initialization has not been carried out fully	Carry out initialization again
Valve moves to error position	Set value signal < 3.5 mA	Check set value
The tube is damaged	The tube is slipping out of the tube holder	Route the tube such that it is centred and fully in the tube holder; if necessary, use external tube holders to position the tube upstream or downstream of the valve

16 Removal

1. Remove in reverse order to installation.
2. Unscrew the electrical wiring.
3. Disassemble the product. Observe warning notes and safety information.

17 Disposal

1. Pay attention to adhered residual material and gas diffusion from penetrated media.
2. Dispose of all parts in accordance with the disposal regulations/environmental protection laws.

18 Returns

Legal regulations for the protection of the environment and personnel require that the completed and signed return delivery note is included with the dispatch documents. Returned goods can be processed only when this note is completed. If

no return delivery note is included with the product, GEMÜ cannot process credits or repair work but will dispose of the goods at the operator's expense.

1. Clean the product.
2. Request a return delivery note from GEMÜ.
3. Complete the return delivery note.
4. Send the product with a completed return delivery note to GEMÜ.

19 EU Declaration of Incorporation according to the EC Machinery Directive 2006/42/EC, Annex II B



EU Declaration of Incorporation

according to the EC Machinery Directive 2006/42/EC, Annex II B

We, the company

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Strasse 6-8
74653 Ingelfingen
Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the relevant essential health and safety requirements in accordance with Annex I of the above-mentioned Directive.

Product: GEMÜ Q51
Product name: Motorized pinch valve
The following essential health and safety requirements of the EC Machinery Directive 2006/42/EC, Annex I have been applied or adhered to: 1.1.5.; 1.2.1.; 1.2.2.; 1.2.3.; 1.2.5.; 1.3.; 1.3.2.; 1.3.4.; 1.3.7.; 1.3.8.; 1.3.9.; 1.5.14.; 1.5.3.; 1.5.5.; 1.6.1.; 1.6.3.
The following harmonized standards (or parts thereof) have been applied: EN ISO 12100:2010

We also declare that the specific technical documents have been created in accordance with part B of Annex VII.

The manufacturer undertakes to transmit relevant technical documents on the partly completed machinery to the national authorities in response to a reasoned request. This communication takes place electronically.

This does not affect the industrial property rights.

The partly completed machinery may be commissioned only if it has been determined, if necessary, that the machinery into which the partly completed machinery is to be installed meets the provisions of the Machinery Directive 2006/42/EC.

M. Barghoorn
Head of Global Technics
Ingelfingen, 12/07/2024

20 EU Declaration of Conformity in accordance with 2014/30/EU (EMC Directive)



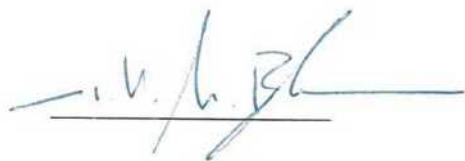
EU Declaration of Conformity

in accordance with 2014/30/EU (EMC Directive)

We, the company GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Strasse 6-8
74653 Ingelfingen-Criesbach, Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the regulations of the above-mentioned Directive.

Product: GEMÜ Q51
Product name: Motorized pinch valve
The following harmonized standards (or parts thereof) have been applied: EN IEC 61000-6-2:2019; EN 61000-6-4:2007/A1:2011



M. Barghoorn
Head of Global Technics

Ingelfingen, 18/07/2024

