

## GEMÜ M75

Electrically operated solenoid valve

EN **Operating instructions**



All rights including copyrights or industrial property rights are expressly reserved.

Keep the document for future reference.

© GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
08.05.2024

## Contents

<b>1 General information</b> .....	<b>4</b>	<b>22 Manufacturer's declaration according to the Pressure Equipment Directive 2014/68/EU</b> .....	<b>29</b>
1.1 Information .....	4		
1.2 Symbols used .....	4	<b>23 EU Declaration of Conformity in accordance with 2014/35/EU (Low Voltage Directive)</b> .....	<b>30</b>
1.3 Definition of terms .....	4		
1.4 Warning notes .....	4		
<b>2 Safety information</b> .....	<b>5</b>		
<b>3 Product description</b> .....	<b>5</b>		
<b>4 GEMÜ CONEXO</b> .....	<b>6</b>		
<b>5 Correct use</b> .....	<b>7</b>		
<b>6 Order data</b> .....	<b>8</b>		
<b>7 Technical data</b> .....	<b>10</b>		
7.1 Medium .....	10		
7.2 Temperature .....	10		
7.3 Pressure .....	10		
7.4 Product conformity .....	11		
7.5 Mechanical data .....	11		
7.6 Electrical data .....	11		
<b>8 Dimensions</b> .....	<b>13</b>		
8.1 Overall dimensions .....	13		
8.2 Valve body .....	13		
8.3 Mounting dimensions .....	16		
<b>9 Manufacturer's information</b> .....	<b>17</b>		
9.1 Delivery .....	17		
9.2 Transport .....	17		
9.3 Storage .....	17		
9.4 Scope of delivery .....	17		
<b>10 Installation in piping</b> .....	<b>17</b>		
10.1 Preparing for installation .....	17		
10.2 Flow direction .....	18		
10.3 Installation position .....	18		
10.4 Installation with union ends .....	19		
10.5 Installation with butt weld spigots .....	19		
10.6 Installation with threaded sockets .....	19		
10.7 Installation with solvent cement sockets ....	19		
10.8 Orientation of the actuator .....	19		
<b>11 Electrical connection</b> .....	<b>20</b>		
<b>12 Commissioning</b> .....	<b>20</b>		
<b>13 Operation</b> .....	<b>21</b>		
13.1 Normal operation .....	21		
13.2 Manual override .....	21		
<b>14 Inspection and maintenance</b> .....	<b>21</b>		
14.1 Replacing the actuator .....	21		
14.2 Cleaning the product .....	22		
14.3 Spare parts .....	22		
<b>15 Troubleshooting</b> .....	<b>24</b>		
<b>16 Removal from piping</b> .....	<b>25</b>		
<b>17 Disposal</b> .....	<b>25</b>		
<b>18 Returns</b> .....	<b>25</b>		
<b>19 EU Declaration of Incorporation according to the EC Machinery Directive 2006/42/EC, Annex II B ...</b>	<b>26</b>		
<b>20 EU Declaration of Conformity in accordance with 2014/30/EU (EMC Directive)</b> .....	<b>27</b>		
<b>21 EU Declaration of Conformity In accordance with 2011/65/EU (RoHS Directive)</b> .....	<b>28</b>		

## 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 Definition of terms

#### Working medium

The medium that flows through the GEMÜ product.

### 1.4 Warning notes



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


SIGNAL WORD	
Possible symbol for the specific danger	<b>Type and source of the danger</b> ▶ Possible consequences of non-observance. ● Measures for avoiding danger.

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





The following signal words and danger levels are used:

 <b>DANGER</b>	
	<b>Imminent danger!</b> ▶ Non-observance can cause death or severe injury.
 <b>WARNING</b>	
	<b>Potentially dangerous situation!</b> ▶ Non-observance can cause death or severe injury.

 <b>CAUTION</b>	
	<b>Potentially dangerous situation!</b> ▶ Non-observance can cause moderate to light injury.

<b>NOTICE</b>	
	<b>Potentially dangerous situation!</b> ▶ 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!
	Corrosive chemicals!
	Hot plant components!
	Risk of electric shock

## 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 substances.

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:

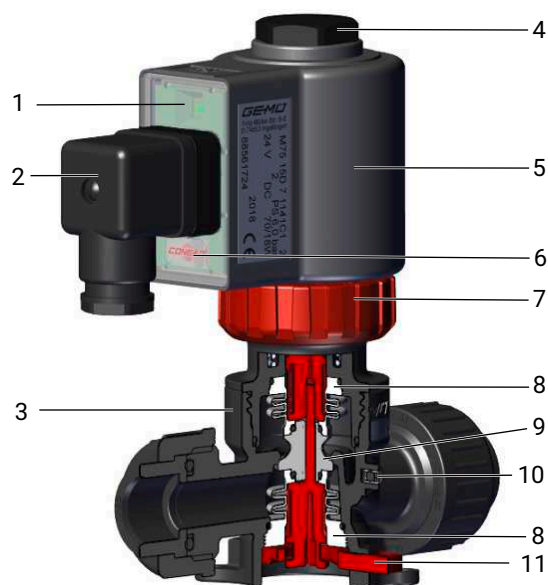
9. Keep this document available at the place of use.
10. Observe the safety information.
11. Operate the product in accordance with this document.
12. Operate the product in accordance with the specifications.
13. Maintain the product correctly.
14. Do not carry out any maintenance work and repairs not 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 Construction



Item	Name	Materials
1	Transparent cover with LED status indication	PC
2	Plug	PA
3	Valve body	PVC-U, PVDF, PP-H, grey
4	M16x1 thread for position indicator	
5	Electromagnetic actuator	PP-H, grey
6	CONEXO RFID chip on the actuator	
7	Union nut (service/solenoid replacement)	PP-H, grey
8	Bellows	PTFE
9	Throttle element	PTFE
10	CONEXO RFID chip on the valve body	
11	Emergency override (only with control function 1 (NC))	
	Seal materials	EPDM, FKM, FFKM

### 3.2 Description

The GEMÜ M75 directly controlled 2/2-way process solenoid valve has innovative double bellows as a seal, with which the pressure forces can be compensated. The plastic-encapsulated compact coil is available in several supply voltages. O-rings in various designs ensure hermetic separation between medium and actuator. The valve is suitable for liquid and gaseous media in Open/Close applications with short operat-

ing times. The GEMÜ M75 process solenoid valve has a manual override and an energy-saving reduction in holding current as standard.

**3.3 Function**

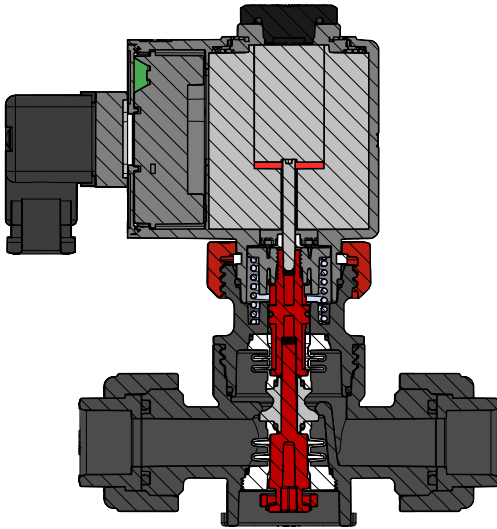
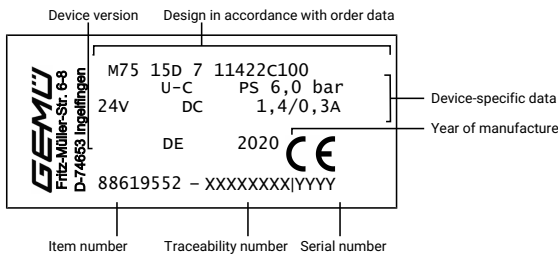


Fig. 1: Sectional view of control function 1 (NC)

The valve fulfils a simple, directly controlled Open/Close function. Medium pressure is used for pressure compensation. Applying medium pressure produces opposing tensile forces on the bellows and throttle element that ultimately cancel each other out. The installed compression spring serves to ensure safe sealing and opening at the seat. Activating the solenoid produces an imbalance of power in the valve centre axis that opens and closes the valve. Upon deactivating the magnet, the default settings are reset by the tensile force of the bellows and spring; the valve closes and opens.

**3.4 Product label**

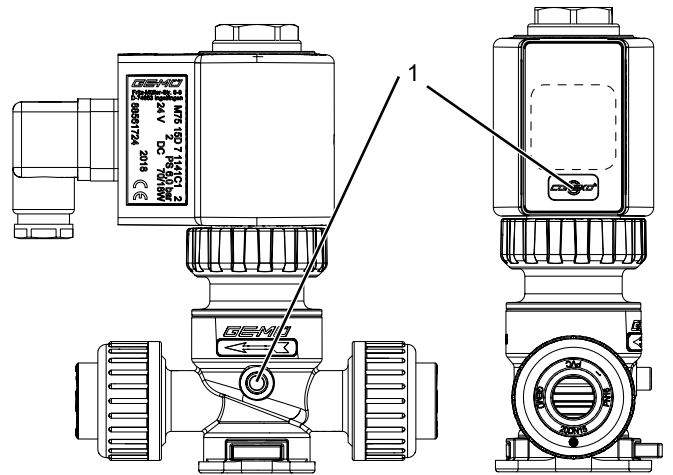


The month of manufacture is encoded in the traceability number and can be obtained from GEMÜ. The product was manufactured in Germany.

**4 GEMÜ CONEXO**

**Order variant**

In the corresponding design with CONEXO, this product has an RFID chip (1) for electronic identification purposes. The position of the RFID chip can be seen below. The CONEXO pen helps read out information stored in the RFID chips. The CONEXO app or CONEXO portal is required to display this information.



For further information please read the operating instructions for CONEXO products or the CONEXO datasheet.

Products such as the CONEXO app, the CONEXO portal and the CONEXO pen are not included in the scope of delivery and need to be ordered separately.

## 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

#### Safety notice for M75 with UL approval:

- ▶ Please note that only components bearing a UL test mark meet the relevant safety standards.

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

- Use the product in accordance with the technical data.

The product is designed for installation in piping.

## 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
Solenoid valve	M75

2 DN	Code
DN 8	8
DN 10	10
DN 15	15
DN 20	20

3 Body configuration	Code
2/2-way body	D

4 Connection type	Code
Spigot DIN	0
Threaded socket DIN ISO 228	1
Solvent cement socket DIN	2
Union end with insert (socket) – DIN	7

5 Valve body material	Code
PVC-U, grey	1
PVDF	20
PP-H, grey	5

6 Seal material	Code
EPDM	14
FKM	4
FFKM	F5

7 Control function	Code
Normally closed (NC)	1
Normally open (NO)	2

8 Actuator version	Code
Actuator size 2 NC = 80 N NO = 50 N	2F
Actuator size 2 NC = 130 N NO = 50 N	2G

9 Voltage/Frequency	Code
24 V DC	C1
20–48 V AC/DC	Q5
110–230 V AC/DC	X5

10 Electrical connection	Code
Plug design A, without cable socket	00
Plug design A, with cable socket, without cable	01

11 Special version	Code
Without	
UL approval	U

12 CONEXO	Code
Integrated RFID chip for electronic identification and traceability	C



**Order example**

Ordering option	Code	Description
1 Type	M75	Solenoid valve
2 DN	15	DN 15
3 Body configuration	D	2/2-way body
4 Connection type	7	Union end with insert (socket) – DIN
5 Valve body material	20	PVDF
6 Seal material	14	EPDM
7 Control function	1	Normally closed (NC)
8 Actuator version	2F	Actuator size 2 NC = 80 N NO = 50 N
9 Voltage/Frequency	C1	24 V DC
10 Electrical connection	00	Plug design A, without cable socket
11 Special version		Without
12 CONEXO	C	Integrated RFID chip for electronic identification and traceability

## 7 Technical data

### 7.1 Medium

#### Working medium:

##### Without UL approval

Inert gaseous and liquid media which have no negative impact on the physical and chemical properties of the body and seal material.

##### With UL approval

Air, water and noble gases

The following applies to both versions:

With control function 1 (normally closed (NC)), a distinction must be made between gaseous and liquid media.

### 7.2 Temperature

#### Media temperature:

UL approval	Valve body material		
	PVC-U (code 1)	PVDF (code 20)	PP-H, grey (code 5)
without	10 – 40 °C	-20 – 100 °C	5 – 80 °C
with			5 – 65 °C

#### Ambient temperature:

UL approval	Valve body material		
	PVC-U (code 1)	PVDF (code 20)	PP-H, grey (code 5)
without / with	10 – 40 °C	-20 – 60 °C	5 – 60 °C

#### Storage temperature:

0 – 40 °C

### 7.3 Pressure

#### Operating pressure:

UL approval	Valve body material		
	PVC-U (code 1)	PVDF (code 20)	PP-H, grey (code 5)
without	0 - 6 bar	0 - 6 bar	0 - 4 bar*
with	0 - 5 bar		0 - 4 bar

\* 0 - 6 bar on request

#### Vacuum:

UL approval	Valve body material		
	PVC-U (code 1)	PVDF (code 20)	PP-H, grey (code 5)*
without	Up to -950 mbar (relative)/63.25 mbar (absolute)		
with	-	-	-

\*only control function 1 (Normally Closed)

#### Pressure/temperature diagram:

Valve body material	Temperature														
	-20	-10	±0	5	10	20	25	30	40	50	60	70	80	90	100
Permissible operating pressure															
PVC-U	-	-	-	-	6.0	6.0	6.0	4.8	3.6	-	-	-	-	-	-
PVDF	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.4	4.8	4.3	3.8	3.2	2.8	2.2	1.0
PP-H	-	-	-	4.0	4.0	4.0	4.0	4.0	4.0	3.3	2.4	1.6	0.9	-	-

All pressures are gauge pressures.

The permissible operating pressure depends on the working medium temperature.

Data for extended temperature ranges on request. Please note that the ambient temperature and media temperature generate a combined temperature at the valve body which must not exceed the above values.

**Kv values:** DN 8: 1.1 m<sup>3</sup>/h  
 DN 10: 1.6 m<sup>3</sup>/h  
 DN 15: 2.5 m<sup>3</sup>/h  
 DN 20: 2.5 m<sup>3</sup>/h  
 Kv values determined acc. to DIN EN 60534, PP-H valve body with union end and DIN insert.

**Note:** The piping system must be equipped with fixtures for damping the water hammer. The valve is designed with twofold security at the max. operating pressure.

Pressure rating:	UL approval	Valve body material		
		PVC-U (code 1)	PVDF (code 20)	PP-H, grey (code 5)
	without	PN 6	PN 6	PN 4*
	with	PN 5		PN 4

\* PN 6 on request

**Leakage rate:** **External**  
 A (acc. to EN 12266-1)  
**At the seat**  
 C (acc. to EN 12266-1)

#### 7.4 Product conformity

**Machinery Directive:** 2006/42/EC  
**EMC Directive:** 2014/30/EU  
 EN 55011:1991 (150 kHz to 30 MHz)  
 EN 55014:1993 (148.5 kHz to 30 MHz)

**UL approval:** yes

#### 7.5 Mechanical data

**Protection class:** IP 65  
**Weight:** Approx. 1 kg  
**Cable gland:** M16 x 1.5  
**Cross section of wire:** 0.25 - 1.5 mm<sup>2</sup>  
**Cable diameter:** 4.5 - 10 mm  
**Flow direction:** Not optional, dependent on the control function, see arrow on the valve  
**Duty cycle:** Continuous duty

#### 7.6 Electrical data

Supply voltage:	Voltage/Frequency		
	Code C1	Code Q5	Code X5
	24 V DC ±10%	20 to 48 V AC/DC ±10%	110 to 230 V AC/DC ±10%

**Permissible voltage tolerance:** ±10 % to VDE 0580

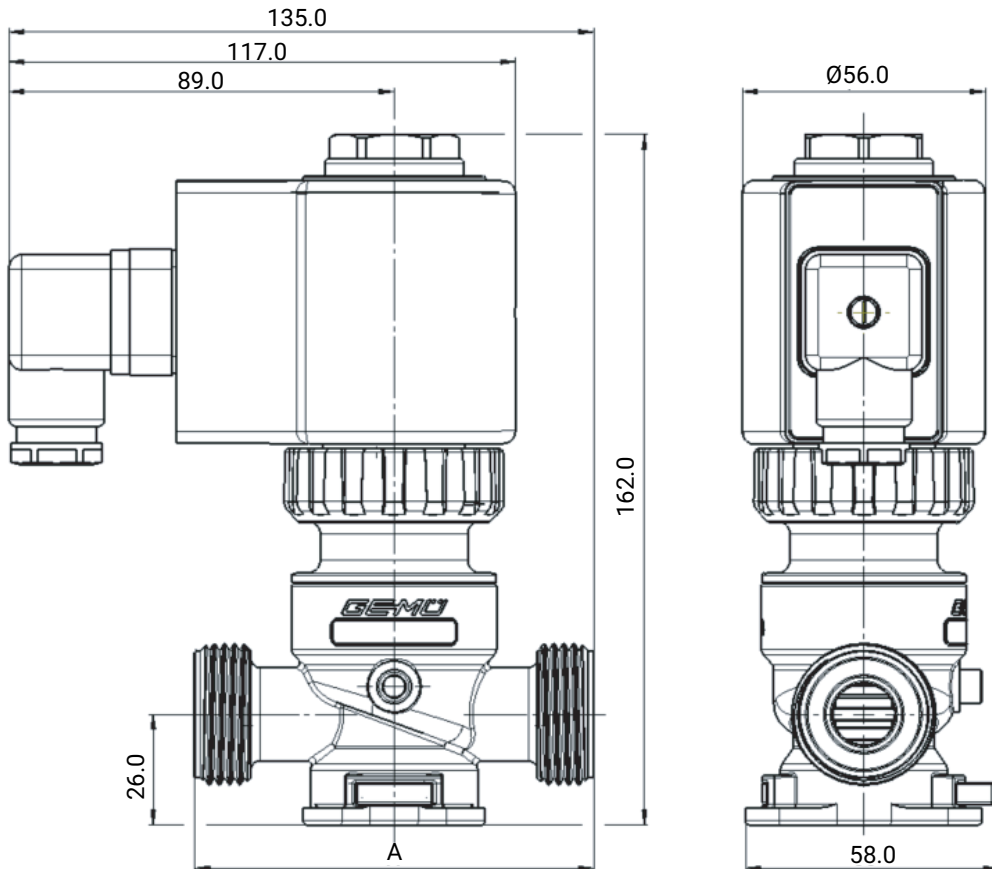
**Current consumption:**

Voltage/Frequency	Order code	Max. current	
		Pull in	Hold in
24 V DC	C1	1.40 A	0.32 A
20–48 V AC/DC	Q5	1.97 A	0.73 A
110–230 V AC/DC	X5	0.40 A	0.09 A

**Switching frequency:** 1 s/1 s (on/off)**Rated frequency:** 50/60 Hz  $\pm$ 2.5 Hz (at AC rated voltage)

**8 Dimensions**

**8.1 Overall dimensions**

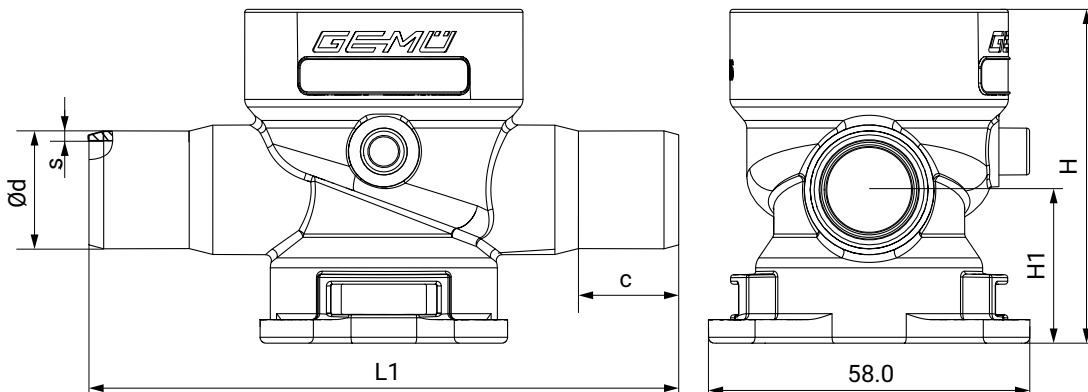


DN	Connection			
	Spigot (code 0)	Threaded socket (code 1)	Solvent cement socket (code 2)	Union end (code 7)
	A			
8	-	65.0	65.0	-
10	-	76.0	76.0	-
15	100.0	76.0	76.0	92.0

Dimensions in mm

**8.2 Valve body**

**8.2.1 Spigot (code 0)**



DN	L1	c	Ød	s			H	H1
				Valve body materials <sup>1)</sup>				
				1	5	20		
15	100.0	17.0	20.0	1.5	2.5	1.9	56.6	26.0

1) Valve body material

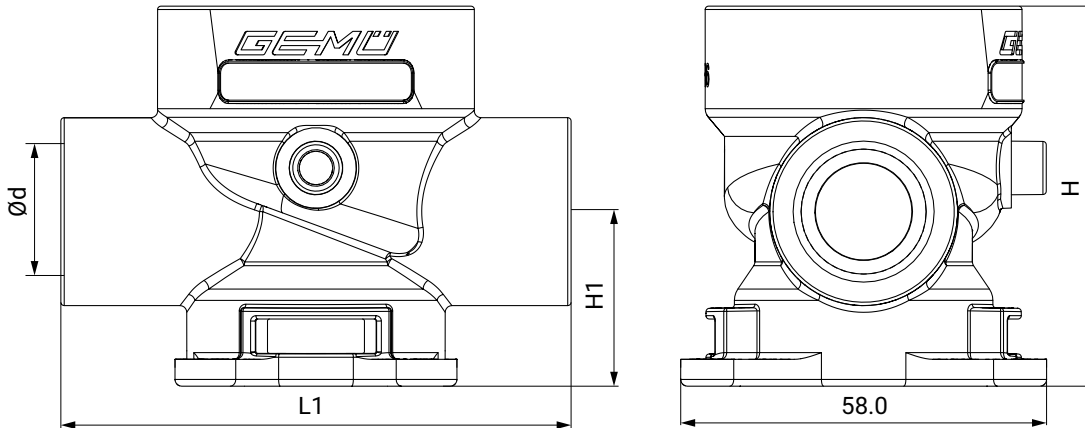
Code 1: PVC-U, grey

Code 5: PP-H, grey

Code 20: PVDF

Dimensions in mm

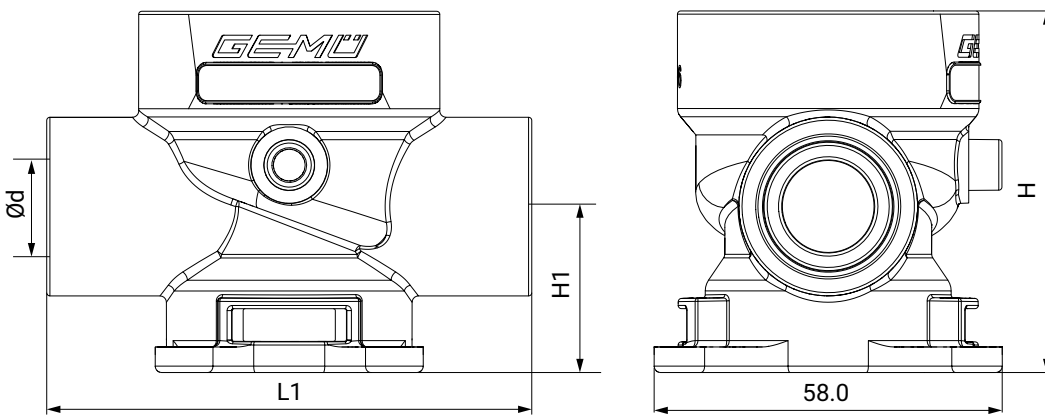
8.2.2 Threaded socket (code 1)



DN	L1	Ød	H	H1
8	65.0	G1/4	56.6	26.0
10	76.0	G3/8	56.6	26.0
15	76.0	G1/2	56.6	26.0

Dimensions in mm

8.2.3 Solvent cement socket (code 2)

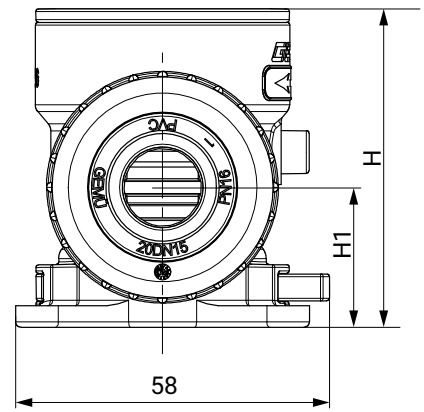
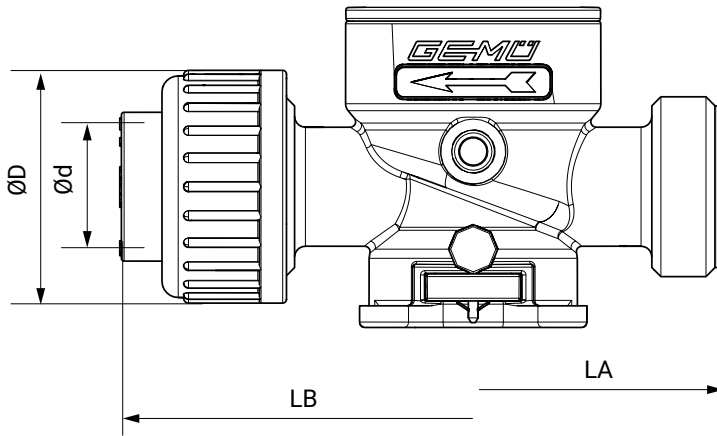


DN	L1	Ød	H	H1
8	65.0	12.2	56.6	26.0
10	76.0	16.2	56.6	26.0
15	76.0	20.2	56.6	26.0

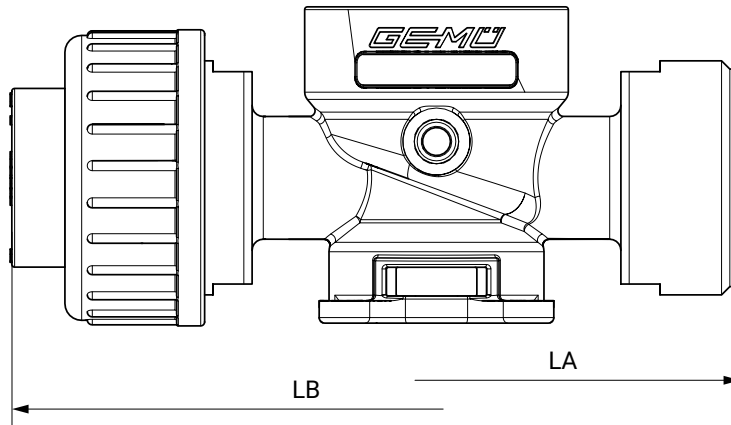
Dimensions in mm

8.2.4 Union end (code 7)

Without nominal size adapter



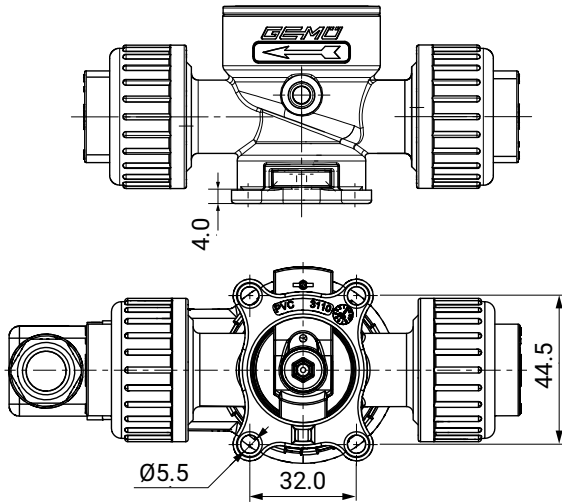
With nominal size adapter



DN	LA	LB			$\varnothing d$	$\varnothing D$	H	H1
		Insert material						
		PVC-U	PP-H	PVDF				
10	92.0	130.0	136.0	136.0	16.0	43.0	56.6	26.0
15	92.0	130.0	127.0	130.0	20.0	43.0	56.6	26.0
20*	108.0	152.0	146.0	150.0	20.0	G1 1/4	56.6	26.0

\* Nominal size adapter of DN 15 to DN 20 is enclosed  
Dimensions in mm

### 8.3 Mounting dimensions



Dimensions in mm



## 9 Manufacturer's information

### 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 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.

### 9.3 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.

### 9.4 Scope of delivery

The following is included in the scope of delivery:

- Solenoid valve with solenoid coil
- Plug
- Installation, operating and maintenance instructions

For spare parts with UL approval, only the following components may be included with the valve:

- Type A plug
- Insert (for union end)
- Union nut (for union end)

## 10 Installation in piping

### 10.1 Preparing for installation

#### WARNING

##### The equipment is subject to pressure!

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

#### WARNING



##### Corrosive chemicals!

- ▶ Risk of caustic burns
- Wear appropriate protective gear.
- Completely drain the plant.

#### CAUTION



##### Hot plant components!

- ▶ Risk of burns
- Only work on plant that has cooled down.

#### CAUTION

##### Exceeding the maximum permissible pressure.

- ▶ Damage to the product
- Provide precautionary measures against exceeding the maximum permitted pressures caused by pressure surges (water hammer).

#### 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 piping system operating conditions (medium, medium concentration, temperature and pressure) and the prevailing ambient conditions.

**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. Wear appropriate protective gear, as specified in the plant operator's guidelines.
  5. Observe appropriate regulations for connections.
  6. Have installation work carried out by trained personnel.
  7. Shut off plant or plant component.
  8. Secure plant or plant component against recommissioning.
  9. Depressurize the plant or plant component.
  10. Completely drain the plant (or plant component) and let it cool down until the temperature is below the media vaporization temperature and cannot cause scalding.
  11. Correctly decontaminate, rinse and ventilate the plant or plant component.
  12. Lay piping so that the product is protected against transverse and bending forces, and also from vibrations and tension.
  13. Only install the product between matching aligned pipes (see chapters below).
  14. Please note the flow direction (see chapter "Flow direction").
  15. Please note the installation position (see chapter "Installation position").

**10.2 Flow direction**

The flow direction is stated on the product by means of an arrow.

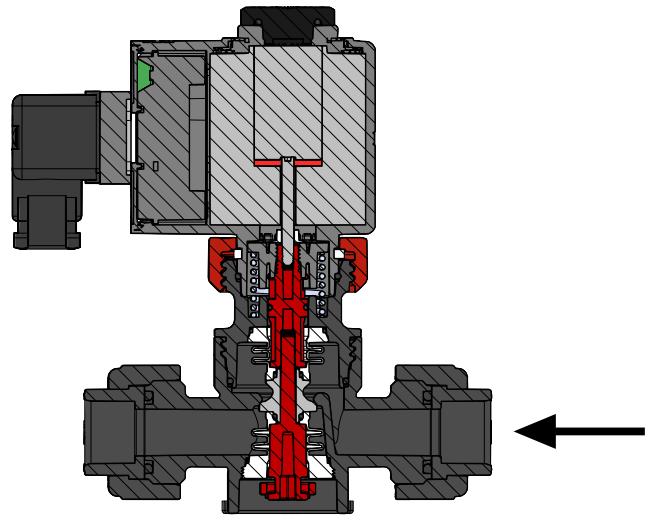


Fig. 2: Flow direction of control function 1 (NC)

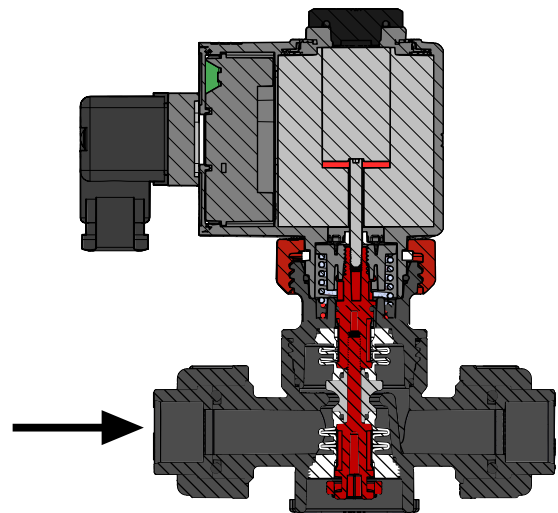


Fig. 3: Flow direction of control function 2 (NO)

**10.3 Installation position**

The installation position of the product is optional.

### 10.4 Installation with union ends

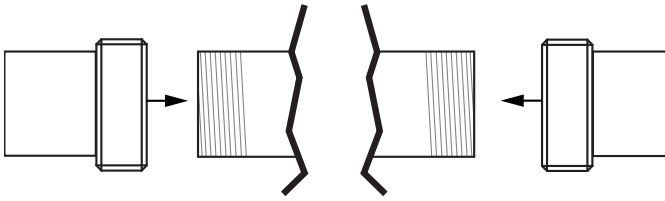


Fig. 4: Threaded spigot

#### NOTICE

- ▶ The solvent cement is not included in the scope of delivery.
- Only use suitable solvent cement!

1. Carry out preparations for installation (see chapter "Preparations for installation").
2. Depending on the application, comply with the welding standards and the specifications of the solvent cement manufacturer for adhesive bonds.
3. Screw the threaded connections into the piping in accordance with valid standards.
4. Unscrew the union nut from the body of the product.
5. Reinsert the O-ring if necessary.
6. Push the union nut over the piping.
7. Connect the insert with the piping by solvent cementing/welding.
8. Screw the union nut back onto the body of the product.
9. Connect the other side of the body of the product with the piping in the same way.
10. Reactivate all safety and protective devices.

### 10.5 Installation with butt weld spigots

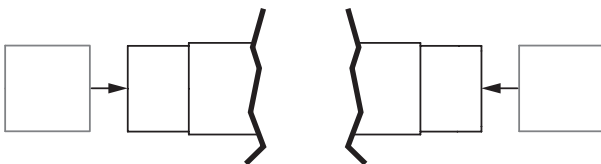


Fig. 5: Butt weld spigots

1. Carry out preparations for installation (see chapter "Preparations for installation").
2. Adhere to good welding practices!
3. Disassemble the actuator with the diaphragm before welding in the valve body (see "Removing the actuator" chapter).
4. Weld the body of the product in the piping.
5. Allow butt weld spigots to cool down.
6. Reassemble the valve body and the actuator with diaphragm (see "Mounting the actuator" chapter).
7. Re-attach or reactivate all safety and protective devices.
8. Flush the system.

### 10.6 Installation with threaded sockets

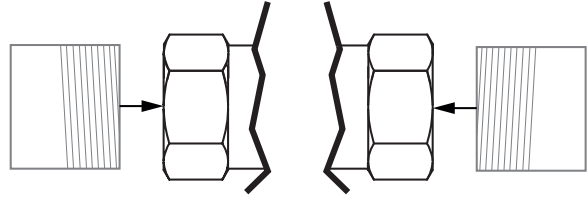


Fig. 6: Threaded socket

#### NOTICE

##### Sealing material

- ▶ The sealing material is not included in the scope of delivery.
- Only use appropriate sealing material.

1. Keep thread sealant ready.
2. Carry out preparations for installation (see chapter "Preparing for installation").
3. Screw the threaded connections into the pipe in accordance with valid standards.
4. Screw the body of the product onto the piping using appropriate thread sealant.
5. Re-attach or reactivate all safety and protective devices.

### 10.7 Installation with solvent cement sockets

#### NOTICE

- ▶ The solvent cement is not included in the scope of delivery.
- Only use suitable solvent cement!

1. Carry out preparations for installation (see chapter "Preparations for installation").
2. Apply solvent cement on the inside of the valve body and on the outside of the piping as specified by the solvent cement manufacturer.
3. Connect the body of the product with the piping.
4. Reactivate all safety and protective devices.

### 10.8 Orientation of the actuator

1. Hold actuator A in place.
2. Unscrew union nut 1.
3. Hold union nut in place and twist actuator clockwise.
4. Hold actuator in place.
5. Tighten union nut.

## 11 Electrical connection

**DANGER**

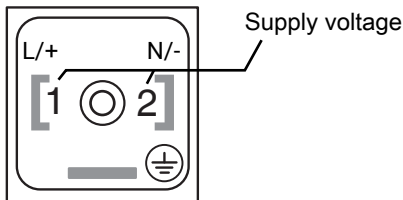
**Risk of electric shock**

- ▶ Risk of injury or death (if operating voltage is higher than safe extra low voltage).
- ▶ Electric shock can cause severe burns and fatal injury.
- Work on electrical connections only by qualified trained personnel.
- Disconnect the cable from the power supply before making the electrical connection.
- Connect the protective earth conductor.

**CAUTION**

**AC voltage**

- ▶ Solenoid valve will be destroyed by wrong plug.
- Solenoid valves used with AC voltage may only be operated with a plug with a built-in rectifier.



Item	Name
1	L/+, Supply voltage
2	N/-, Supply voltage
	Protective earth conductor (PE)

1. Connect the cable to the relevant terminals on the terminal block.
2. Push the terminal block into the housing of the plug (acc. to DIN EN 175301-803, previously DIN 43650) until it audibly clicks in position.
3. Ensure that the cable is not caught.
4. Tighten the locking screw on the plug.

## 12 Commissioning

**CAUTION**

**Medium flowing out**

- ▶ Danger from medium flowing out.
- Before commissioning make sure that there is no danger from medium flowing out.
- Before commissioning check the tightness of the media connections.

**NOTICE**

**Operating pressure too high**

- ▶ The valve cannot be opened electromagnetically if the operating pressure is too high.

**CAUTION**

**Foreign matter**

- ▶ Damage to the valves.
- If the plant is new and after repairs, rinse the piping system with the valves fully open.
- ⇒ The plant operator is responsible for selecting the cleaning material and performing the procedure.

**NOTICE**

**Safety notice for M75 with UL approval:**

- ▶ Please note that only components bearing a UL test mark meet the relevant safety standards.

1. Make sure that the operating voltage corresponds with the permissible valve voltage.
2. Make sure that the unit is installed properly.
3. Check the function of the solenoid valve.
4. Check the tightness of the media connections and the solenoid valve itself.

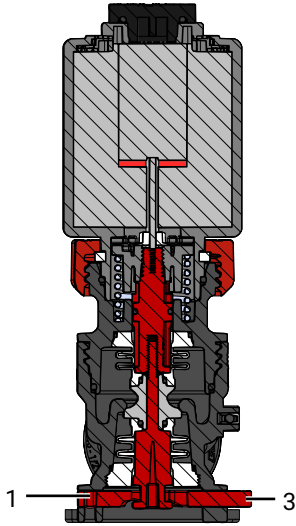
## 13 Operation

### 13.1 Normal operation

During normal operation there is no need for adjustments at the valve.

### 13.2 Manual override

Manual override is only functional with the NC type.



Upon turning on manual override **3**, the linkage in the valve centre axis is pulled downwards over the inclined plane of manual override **3**. This opens the valve permanently. Upon deactivation, the linkage goes back to the original position. Locking hook **1** thereby ensures an identical starting point.

## 14 Inspection and maintenance

### ⚠ WARNING

#### The equipment is subject to pressure!

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

### ⚠ CAUTION

#### Use of incorrect spare parts!

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

### ⚠ CAUTION



#### Hot plant components!

- ▶ Risk of burns
- Only work on plant that has cooled down.

## NOTICE

### Exceptional maintenance work!

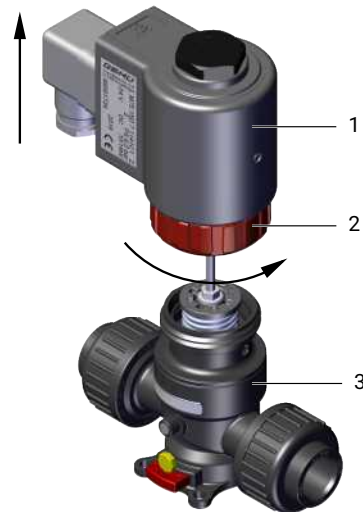
- ▶ Damage to the GEMÜ product
- Any maintenance work and repairs not described in these operating instructions must not be performed without consulting the manufacturer first.

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.

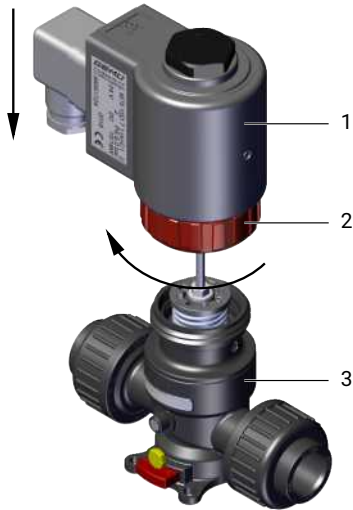
1. Have servicing and maintenance work performed by trained personnel.
2. Wear appropriate protective gear as specified in plant operator's guidelines.
3. Shut off plant or plant component.
4. Secure the plant or plant component against recommissioning.
5. Depressurize the plant or plant component.
6.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

### 14.1 Replacing the actuator



- ✓ The valve can remain in the piping when installed.

  1. Disconnect the valve from the mains supply, put in a depressurized condition and secure against recommissioning.
  2. Undo union nut **2** anticlockwise.
  3. Remove actuator **1** from valve body **3**.

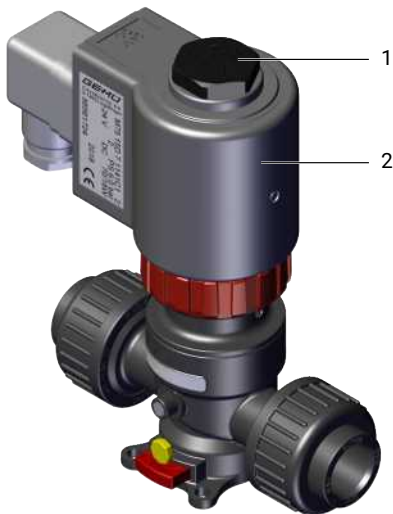


4. Put new actuator 1 on valve body 3.
5. Tighten union nut 2 clockwise to tightening torque A.

Valve body material	Tightening torque A
PVC-U	5
PVDF	5
PP-H	4

Torques in Nm

- ✓ Depending on the version, the sealing plug with O-ring is included with the product.



6. Screw sealing plug 1 with O-ring into actuator 2.
7. Tighten sealing plug 1 to tightening torque B.

Valve body material	Tightening torque B
PVC-U	3
PVDF	3
PP-H	3

Torques in Nm

### 14.2 Cleaning the product

**⚠ CAUTION**

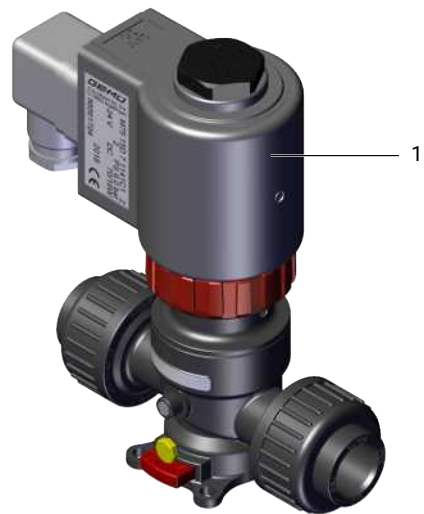
**Foreign matter**

- ▶ Damage to the valves.
- If the plant is new and after repairs, rinse the piping system with the valves fully open.
- ⇒ The plant operator is responsible for selecting the cleaning material and performing the procedure.

- Clean the product with a damp cloth.
- Do **not** clean the product with a high pressure cleaning device.

### 14.3 Spare parts

#### 14.3.1 Actuator



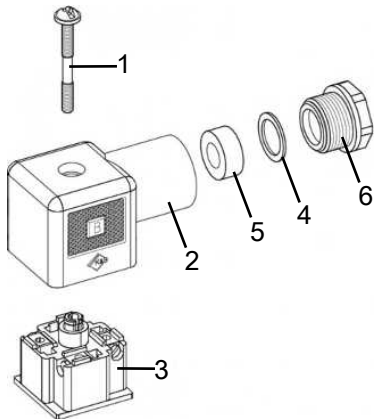
Item	Name	Order designation
1	Actuator	AM75 ...

Voltage variant	Cover	Seal material
24 V DC	Without	EPDM
20–48 V AC/DC	Sealing plug*	FPM
110–230 V AC/DC	Electrical position indicator	-

\* Protection class IP65 achieved

**14.3.2 Plug**

Type	Item number
<b>GEMÜ 2026</b>	88668465



Item	Name
1	Screw
2	Plug
3	Terminal block
4	Pressure ring
5	Sealing ring
6	Cable entry

**15 Troubleshooting**

Error	Error cause	Troubleshooting
No function	No power supply	Check power supply and connection with product label
	Solenoid coil faulty	Replace solenoid valve
	Plug wrongly connected	Check connection of plug and correct if necessary
	Operating pressure too high	Check operating pressure, reduce if necessary
	Armature blocked	Replace solenoid valve
Solenoid valve leaking	Valve seat leaking	Replace solenoid valve
	PTFE bellows leaking	Replace solenoid valve



## 16 Removal from piping

### 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.

### CAUTION



#### Hot plant components!

- ▶ Risk of burns
- Only work on plant that has cooled down.

1. Allow the plant to cool down.
2. Allow the plant to run empty.
3. Unscrew the electrical wiring.
4. Remove the product from the piping with appropriate measures

## 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 M75  
**Product name:** Electrically operated solenoid valve  
**The following essential health and safety requirements of the EC Machinery Directive 2006/42/EC, Annex I have been applied or adhered to:** 1.1.2.; 1.1.3.; 1.1.5.; 1.3.2.; 1.3.4.; 1.3.7.; 1.5.1.; 1.5.5.; 1.6.1.; 1.6.3.; 1.7.1.1.; 1.7.2.; 1.7.3.; 1.7.4.; 1.7.4.1.; 1.7.4.2.; 1.7.4.3.  
**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, 05/03/2024

**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 M75  
**Product name:** Electrically operated solenoid valve  
**The following harmonized standards (or parts thereof) have been applied:** EN IEC 61000-6-2:2019; EN 61800-3:2004/A1:2012

Other applied technical standards / Remarks:

- DIN VDE 0580:2011-11

M. Barghoorn  
Head of Global Technics  
Ingelfingen, 05/03/2024

**21 EU Declaration of Conformity In accordance with 2011/65/EU (RoHS Directive)**



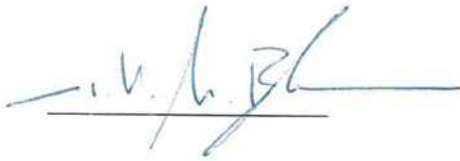
---

**EU Declaration of Conformity**  
**in accordance with 2011/65/EU (RoHS 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 M75  
**Product name:** Electrically operated solenoid valve  
**The following harmonized standards (or parts thereof) have been applied:** EN IEC 63000:2018



M. Barghoorn  
Head of Global Technics  
Ingelfingen, 05/03/2024

**22 Manufacturer's declaration according to the Pressure Equipment Directive 2014/68/EU**



**Manufacturer's declaration**  
**according to the Pressure Equipment Directive 2014/68/EU**

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

declare that the below-mentioned product is designed and manufactured in compliance with sound engineering practice according to Article 4, Paragraph 3 of the Pressure Equipment Directive 2014/68/EU.

**Product:** GEMÜ M75  
**Product name:** Electrically operated solenoid valve

The product has been developed and produced according to GEMÜ's in-house process instructions and standards of quality which comply with the requirements of ISO 9001 and ISO 14001. According to Article 4, Paragraph 3 of the Pressure Equipment Directive 2014/68/EU, this product must not be identified by a CE-marking.

**Other applied technical standards / Remarks:**

- EN ISO 5211; EN 558; AD 2000

M. Barghoorn  
Head of Global Technics  
Ingelfingen, 05/03/2024

**23 EU Declaration of Conformity in accordance with 2014/35/EU (Low Voltage Directive)**



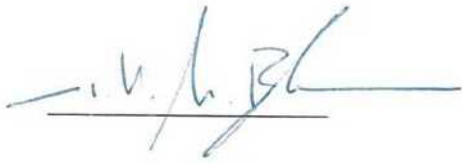
---

**EU Declaration of Conformity**  
**in accordance with 2014/35/EU (Low Voltage Directive)**

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 regulations of the above-mentioned Directive.

**Product:** GEMÜ M75  
**Product name:** Electrically operated solenoid valve  
**The following harmonized standards (or parts thereof) have been applied:** EN 61140:2002/A1:2006; EN 60529:1991/A2:2013/AC:2019; EN 60204-1:2018



M. Barghoorn  
Head of Global Technics  
Ingelfingen, 05/03/2024



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany  
Phone +49 (0) 7940 1230 · info@gemue.de  
www.gemu-group.com

Subject to alteration

05.2024 | 88735892