

GEMÜ M75

Electrically operated solenoid valve



Features

- Compact design thanks to the small solenoid
- Resistant against corrosive media
- Low maintenance
- Suitable for vacuum
- GEMÜ electrical position indicator can be fitted

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 operating times. The GEMÜ M75 has a emergency override and an energy-saving reduction in holding current as standard.

Technical specifications

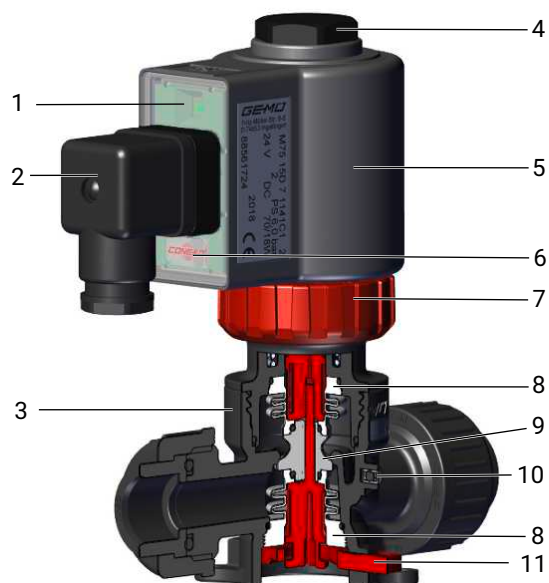
- **Media temperature:** 14 to 194 °F
- **Ambient temperature:** 14 to 140 °F
- **Operating pressure :** 0 to 90 psi
- **Nominal sizes:** 1/4" (DN 8) to 3/4" (DN 20)
- **Connection standards:** DIN
- **Body materials:** PP-H, grey | PVC-U, grey | PVDF
- **Supply voltages:** 110–230 V AC/DC | 20 - 48 V AC/DC | 24 V DC
- **Protection class:** IP 65
- **Conformities:** EAC | UL Recognized US

Technical data depends on the respective configuration



Product description

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

Function

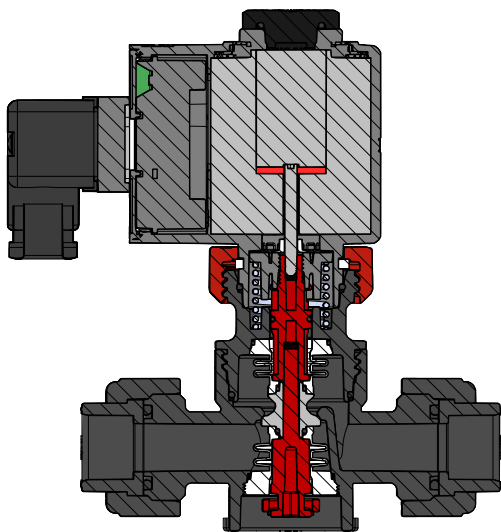


Fig. 1: Sectional view of control function 1 (NC)

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.

GEMÜ CONEXO

The interaction of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.



Thanks to serialization, every valve and every relevant valve component such as the body, actuator or diaphragm, and even automation components, can be clearly traced and read using the CONEXO pen RFID reader. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the maintenance process much more transparent and easier to document. The app actively guides the maintenance technician through the maintenance schedule and directly provides him with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The CONEXO portal acts as a central element, helping to collect, manage and process all data.

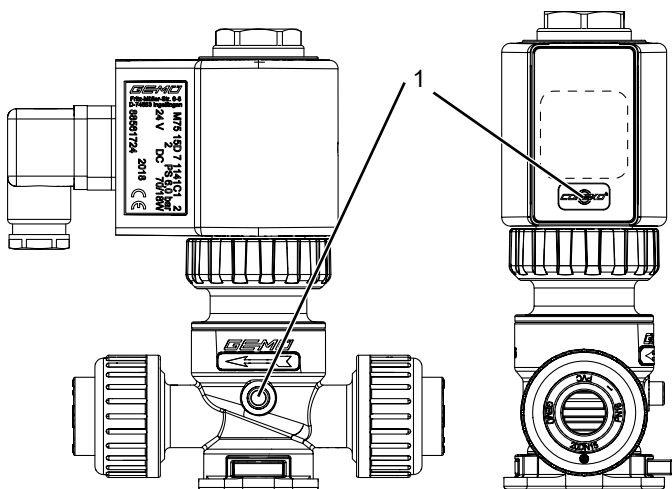
For further information on GEMÜ CONEXO please visit:

www.gemu-group.com/conexo

Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO".

Installing the RFID chip (1)



Availabilities

Availability of valve bodies

Spigot

DN	Material code ¹⁾		
	1	5	20
8	-	-	-
10	-	-	-
15	X	X	X

1) **Valve body material**

Code 1: PVC-U, grey

Code 5: PP-H, grey

Code 20: PVDF

Threaded socket

DN	Material code ¹⁾		
	1	5	20
8	X	X	X
10	X	X	X
15	X	X	X

1) **Valve body material**

Code 1: PVC-U, grey

Code 5: PP-H, grey

Code 20: PVDF

Solvent cement socket

DN	Material code ¹⁾		
	1	5	20
8	X	-	-
10	X	-	-
15	X	-	-

1) **Valve body material**

Code 1: PVC-U, grey

Code 5: PP-H, grey

Code 20: PVDF

Union end

DN	Material code ¹⁾		
	1	5	20
8	-	-	-
10	X	X	X
15	X	X	X
20	X	X	X

For nominal size DN 20, a nominal size adapter (see accessories) is required.

1) **Valve body material**

Code 1: PVC-U, grey

Code 5: PP-H, grey

Code 20: PVDF

Seal materials

DN	FKM (code 4)	FKM, FEP encapsulated (code 55)	EPDM (code 14)
8 - 20	X	X*	X

* on request

Availability of actuator

Actuator version (code) 1)	Media	Spring	Control function	
			Normally closed (NC) (code 1)	Normally open (NO) (code 2)
2F	Liquid	50 N	-	X
		80 N	X	-
2G	Gaseous	50 N	-	X
		130 N	X	-

1) Actuator version

Code 2F: Actuator size 2 NC = 80 N NO = 50 N

Code 2G: Actuator size 2 NC = 130 N NO = 50 N

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

Order 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

Technical data

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.
------------------------	--

Temperature

Media temperature:	PVC: 50 – 104 °F PVDF: -4 – 212 °F PP: 41 – 176 °F
Ambient temperature:	PVC: 50 – 104 °F PVDF: -4 – 140 °F PP: 41 – 140 °F
Storage temperature:	32 – 104 °F

Pressure

Operating pressure:	PVC-U (code 1), PVDF (code 20): 0 – 90 psi PP-H, grey (code 5): 0 – 60 psi
Vacuum:	2.81 inHg (relative) / 58 inHg (absolute)

Pressure/temperature diagram:

Valve body material	Temperature [°F]														
	-4	14	32	41	50	68	77	86	104	122	140	158	176	194	212
	Permissible operating pressure														
PVC-U	-	-	-	-	90.0	90.0	90.0	69.62	52.21	-	-	-	-	-	-
PVDF	90.0	90.0	90.0	90.0	90.0	90.0	90.0	78.32	69.62	62.37	55.12	46.41	40.61	31.91	15.0
PP-H	-	-	-	60.0	60.0	60.0	60.0	60.0	60.0	47.86	34.81	23.21	13.05	-	-

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.

DN 8: 1.29 gpm

DN 10: 1.87 gpm

DN 15: 2.92 gpm

DN 20: 2.92 gpm

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)

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

Mechanical data

Protection class: IP 65

Weight: Approx. 2.2 lbs

Cable gland: M16 x 0,06

Cross section of wire: 0.01 – 0.06 inch²

Cable diameter: 0.18 – 0.39 inch

Flow direction: Not optional, dependent on the control function, see arrow on the valve

Duty cycle: Continuous duty

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:

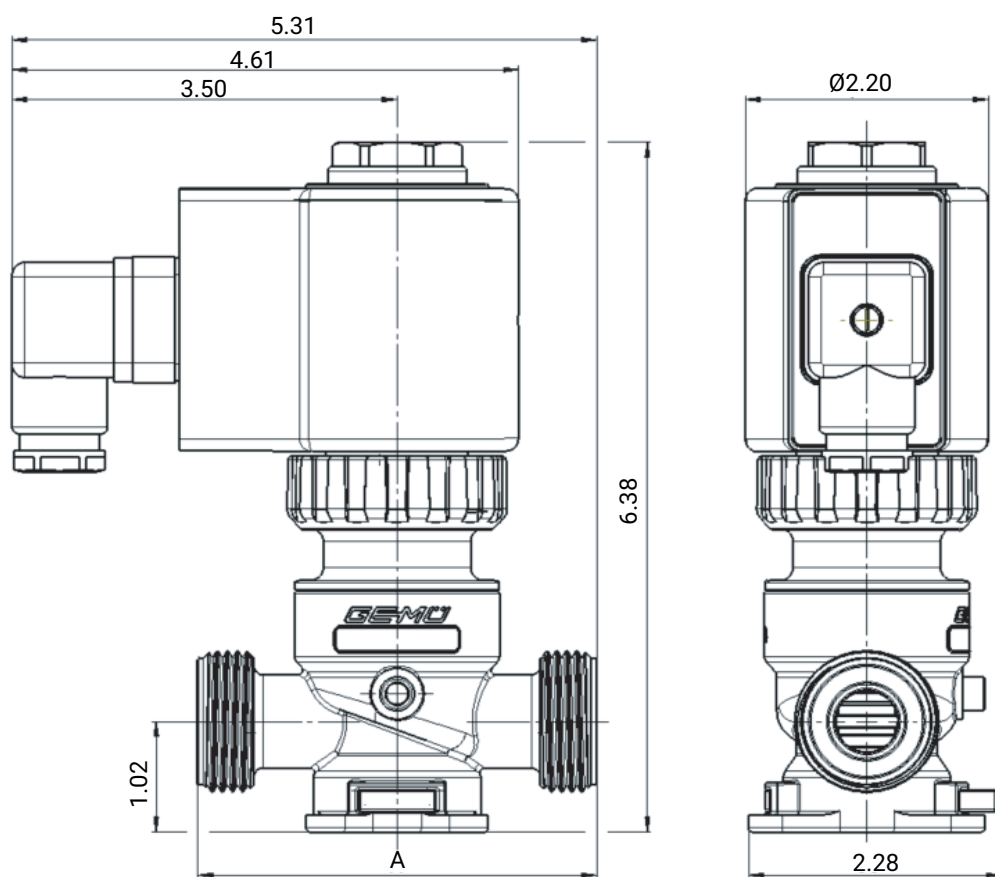
Voltage/Frequency	Order code	Max. current	
		Pull in	Hold in
24 V DC	C1	1.40 A	0.32 A
20–48 V AC/DC	Q5	1.97 A	0.73 A
110–230 V AC/DC	X5	0.40 A	0.09 A

Switching frequency: 1 s/1 s (on/off)

Rated frequency: 50/60 Hz ±2.5 Hz (at AC rated voltage)

Dimensions

Overall dimensions

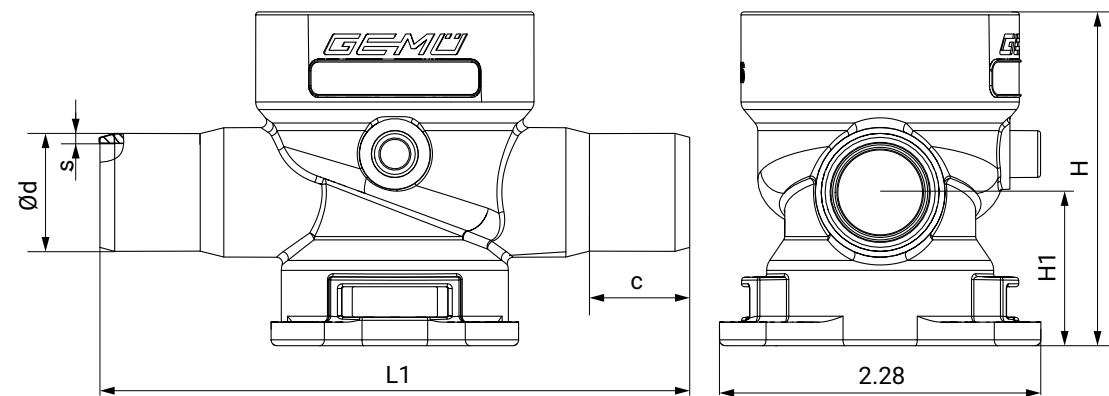


DN	Connection			
	Spigot (code 0)	Threaded socket (code 1)	Solvent cement socket (code 2)	Union end (code 7)
	A			
8	-	2.56	2.56	-
10	-	2.99	2.99	-
15	3.94	2.99	2.99	3.62

Dimensions in inch

Valve body

Spigot (code 0)

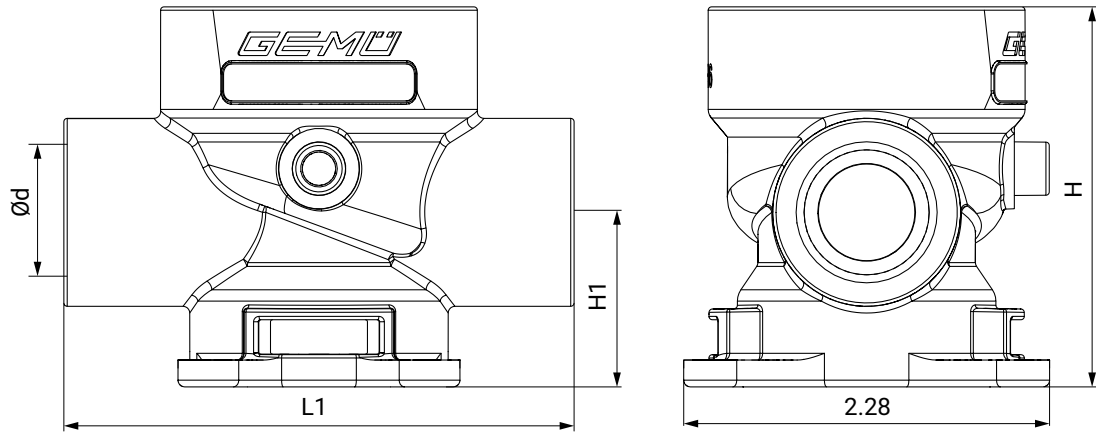


DN	L1	c	Ød	s			H	H1
				Valve body materials ¹⁾				
				1	5	20		
15	3.94	0.67	0.79	0.06	0.10	0.07	2.23	1.02

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

Dimensions in inch

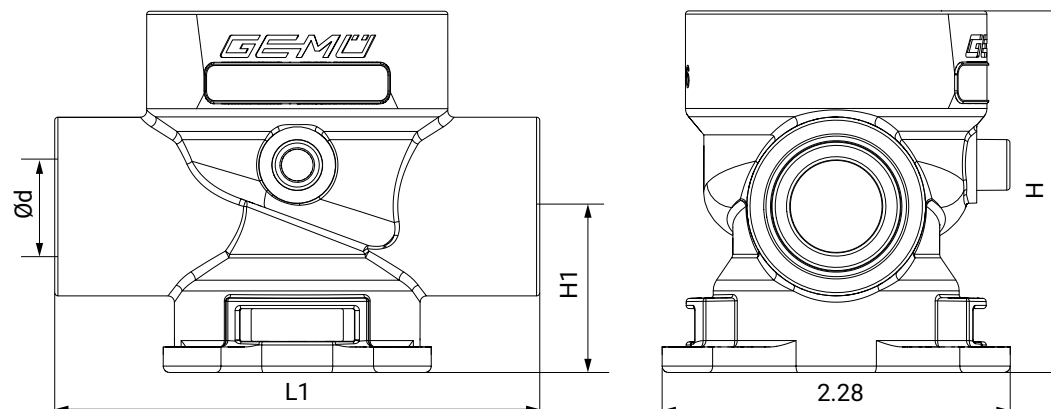
Threaded socket (code 1)



DN	L1	Ød	H	H1
8	2.56	G1/4	2.23	1.02
10	2.99	G3/8	2.23	1.02
15	2.99	G1/2	2.23	1.02

Dimensions in inch

Solvent cement socket (code 2)

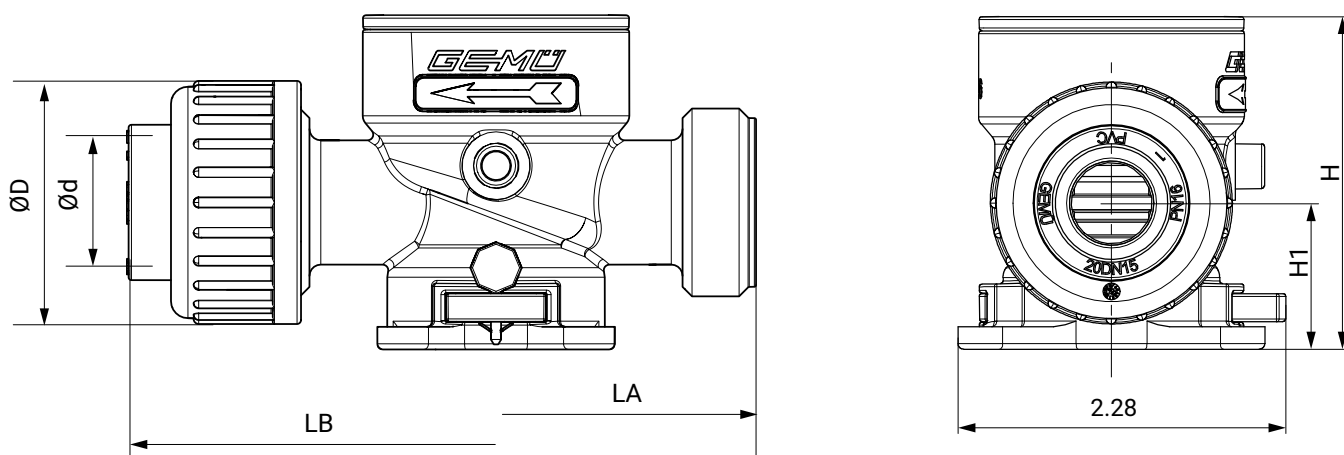


DN	L1	Ød	H	H1
8	2.56	0.48	2.23	1.02
10	2.99	0.64	2.23	1.02
15	2.99	0.80	2.23	1.02

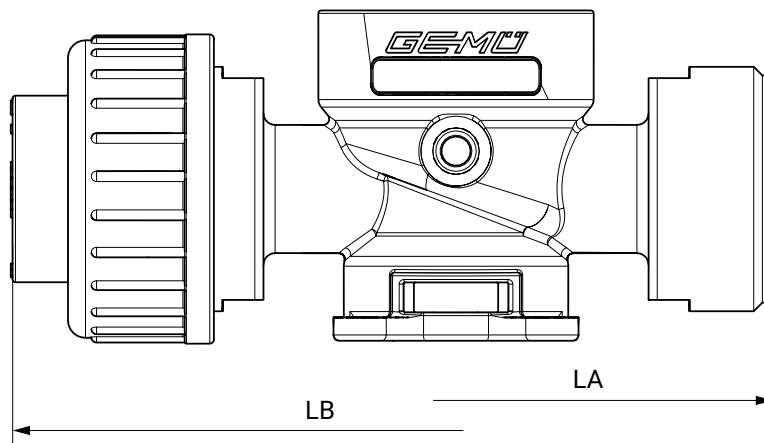
Dimensions in inch

Union end (code 7)

Without nominal size adapter



With nominal size adapter

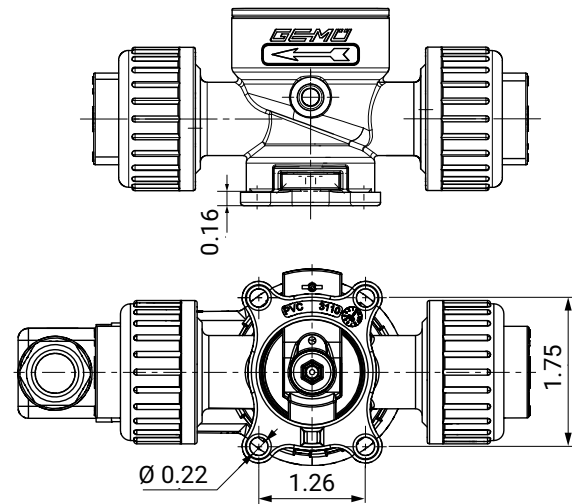


Dimensions

DN	LA	LB			Ød	ØD	H	H1
		Insert material						
		PVC-U	PP-H	PVDF				
10	3.62	5.12	5.35	5.35	0.63	1.69	2.23	1.02
15	3.62	5.12	5.00	5.12	0.79	1.69	2.23	1.02
20*	4.25	5.98	5.75	5.91	0.79	G1 1/4	2.23	1.02

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

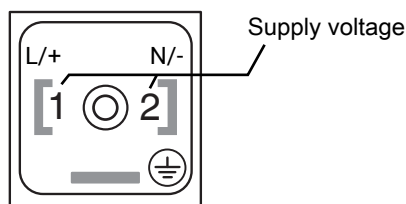
Mounting dimensions



Dimensions in inch

Electrical connection

Connection diagram for plug



Accessories



GEMÜ 2026 (item number 88668465)

Plug

GEMÜ 2026 are plugs with lights, with or without interference suppression. Various versions available. The DC voltage version with a bridge rectifier has a plug with reverse battery protection. An NBR gasket and a M3x35 central screw are included in the scope of delivery.



GEMÜ 1235

Electrical position indicator

The GEMÜ 1235 electrical position indicator is suitable for mounting to pneumatically operated linear actuators. Secure connection to valve spindle means reliable feedback signal. Intelligent microprocessor controlled functions make commissioning and support during operation easier. The current position of the valve is displayed via high visibility LEDs and fed back via electrical signals.

For control function - Normally open (NO) (code 2)

Design	LED	Item number
24 V	Standard	99119633
24 V	Inversed	99119634
IO-Link	Standard	99119632
IO-Link	Inversed	99082115

For control function - Normally closed (NC) (code 1)

Design	LED	Item number
24 V	Standard	99142451
24 V	Inversed	99142452
IO-Link	Inversed	99142449
IO-Link	Standard	99142450

A mounting kit (item number 88686770) is required for the mounting of the GEMÜ 1235 electrical position indicator.

GEMÜ M75A

Adapter set for GEMÜ M75 solenoid valve



The GEMÜ M75A adapter set is available in three designs and enables the GEMÜ 205 and 225 solenoid valves to be replaced with the GEMÜ M75 solenoid valve. Using the nominal size adapter, the GEMÜ M75 can be installed in piping with nominal size DN 20. The DN 10 and 15 length adapters extend the installation length of the GEMÜ M75 so that the GEMÜ 205 and 225 solenoid valves can be replaced.



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany
Tel. +49 (0)7940 123-0 · info@gemue.de
www.gemu-group.com