

## Solenoid Valve Plastic

### Construction

The GEMÜ 105 directly controlled 2/2-way plastic solenoid valve has a high performance AC coil which is hermetically separated from the medium by means of a flexible PTFE bush. The valve seal is carried in a pendulum bearing. The electrical connection is made via a plug complying with DIN EN 175301-803 Form A. The valve has a manual override and an optical position indicator as standard.

### Features

- Suitable for inert and corrosive\* liquid and gaseous media
- Corrosion-resistant, therefore suitable for water treatment plants, washing and cleaning installations, the food and foodstuffs industries, the chemical industry, electroplating, titration equipment, for the photographic industry and for laboratory, analytical and medical apparatus.

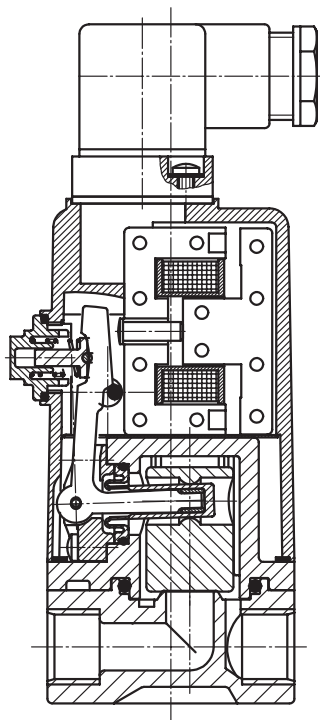
### Advantages

- Hermetic separation of medium and actuator
- Manual override allows the valve to be opened and closed during a power failure
- Optical position indicator
- UL approval available

\* See information on working medium on page 2



### Sectional drawing - GEMÜ 105



## Technical data

### Working medium

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

Max. perm. temperature of working medium:  
 PVC-U version (code 1) 60° C  
 PVDF version (code 20) 100° C

### Rating

100% continuous

### Approvals

UL approval

### Ambient conditions

Max. permissible ambient temperature 40° C

### Protection class to EN 60529

IP 65

### Max. switching frequency

1200 times per hour

### Electrical data

#### Power supply\*

#### Supply voltage

24 V AC (-15%/+10%)

120 V AC (-10%/+6%)

230 V AC (-10%/+6%)

#### Mains frequency ±1%

50 Hz

50/60 Hz

50/60 Hz

#### Electrical power consumption

Pull in/Hold in power

14 VA

\*permissible voltage tolerance to VDE 0580

### Pressure / temperature correlation for plastic

| Temperature in °C<br>(plastic body) | -20                                   | -10 | ±0  | 5   | 10  | 20  | 25  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 |
|-------------------------------------|---------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Valve body material                 | permissible operating pressure in bar |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| PVC-U Code 1                        | -                                     | -   | -   | 6.0 | 6.0 | 6.0 | 6.0 | 4.8 | 3.6 | 2.1 | 0.9 | -   | -   | -   | -   |
| PVDF Code 20                        | 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 |

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

| Nominal size* | Operating pressure | K <sub>V</sub> -value | Weight |
|---------------|--------------------|-----------------------|--------|
| [mm]          | [bar]              | [m <sup>3</sup> /h]   | [kg]   |
| 6             | 0 - 6              | 0.9                   | 0.35   |
| 10            | 0 - 1.5            | 1.5                   | 0.35   |

\*Nominal size corresponds to valve seat diameter.

All pressures are given as gauge values.

### Wiring note:

Special wiring on request. When using electronic switches and additional wiring avoid inadmissible residual currents by proper design.

## Order data

| Body configuration | Code |
|--------------------|------|
| 2/2-way body       | D    |

| Control function | Code |
|------------------|------|
| Normally closed  | 1    |

| Connection                           | Code |
|--------------------------------------|------|
| Threaded sockets DIN ISO 228         | 1    |
| Solvent cement sockets, DIN          | 2    |
| Union ends with DIN insert (socket)  | 7    |
| Threaded sockets NPT                 | 31   |
| Union ends with inch insert (socket) | 33   |

| Supply voltage | Code |
|----------------|------|
| 24 V AC        | 24   |
| 120 V AC       | 120  |
| 230 V AC       | 230  |

| Valve body material | Code |
|---------------------|------|
| PVC-U, grey         | 1    |
| PVDF                | 20   |

| Mains frequency | Code  |
|-----------------|-------|
| 50 Hz           | 50    |
| 50/60 Hz        | 50/60 |

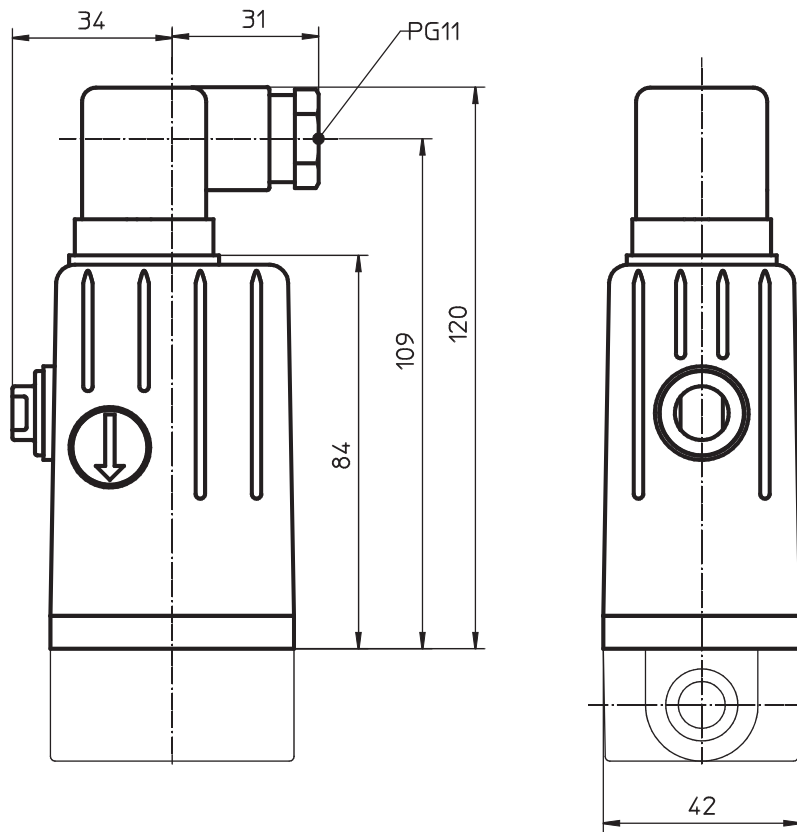
| Seal material | Code |
|---------------|------|
| FPM           | 4    |
| PTFE          | 5    |
| EPDM          | 14   |

| Voltage / Frequency availability |          |
|----------------------------------|----------|
| <b>AC</b> 24 V AC                | 50 Hz    |
| 120 V AC, 230 V AC               | 50/60 Hz |
| Other voltages on request        |          |

| Order example              | 105 | 6 | D | 2 | 1 | 5 | 1 | 230 | 50/60 |
|----------------------------|-----|---|---|---|---|---|---|-----|-------|
| Type                       | 105 |   |   |   |   |   |   |     |       |
| Nominal size               |     | 6 |   |   |   |   |   |     |       |
| Body configuration (code)  |     |   | D |   |   |   |   |     |       |
| Connection (code)          |     |   |   | 2 |   |   |   |     |       |
| Valve body material (code) |     |   |   |   | 1 |   |   |     |       |
| Seal material (code)       |     |   |   |   |   | 5 |   |     |       |
| Control function (code)    |     |   |   |   |   |   | 1 |     |       |
| Supply voltage (code)      |     |   |   |   |   |   |   | 230 |       |
| Mains frequency (code)     |     |   |   |   |   |   |   |     | 50/60 |

**Order information:** Suitable plug acc. to DIN EN 175301-803 form A, loose plug: type GEMÜ 1220/1221

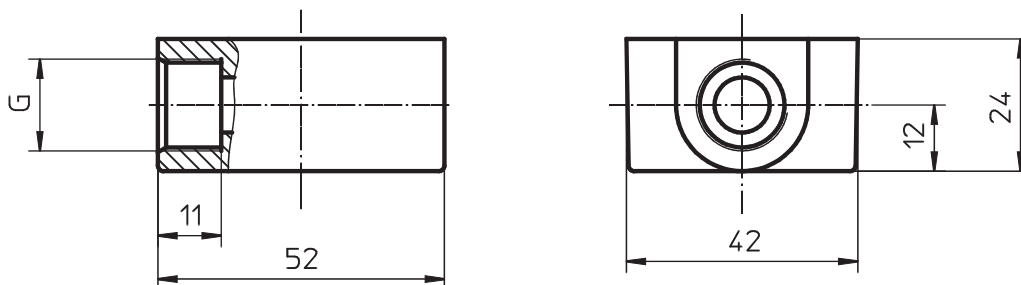
Actuator dimensions - GEMÜ 105 [mm]



Body dimensions [mm]

Threaded sockets, connection code 1, 31  
Valve body material: PVC-U (code 1), PVDF (code 20)

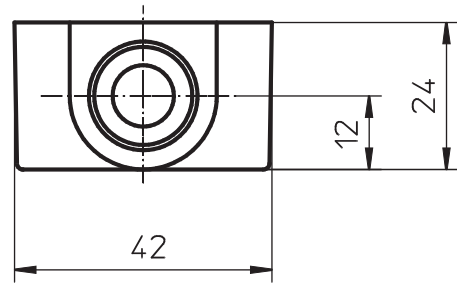
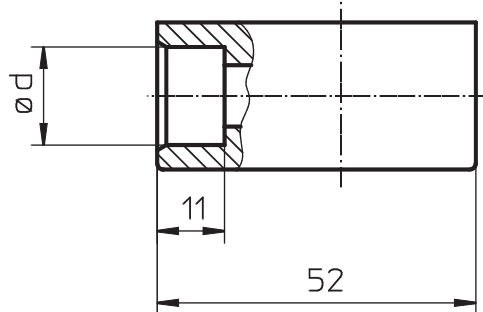
| Connection code | Code 1 | Code 31 |
|-----------------|--------|---------|
| DN              | G      |         |
| 6               | G 1/4  | 1/4 NPT |
| 10              | G 3/8  | 3/8 NPT |



**Body dimensions [mm]**

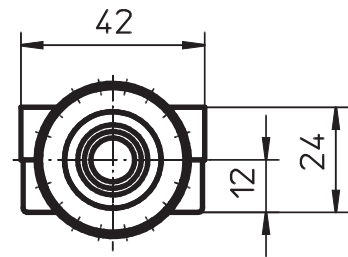
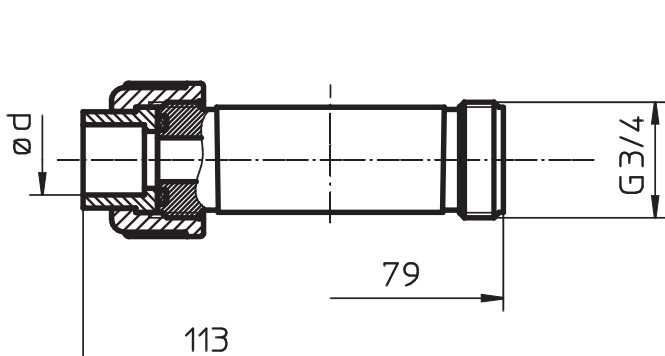
**Solvent cement sockets, connection code 2**  
**Valve body material: PVC-U (code 1)**

| DN | ø d |
|----|-----|
| 6  | 10  |
| 10 | 16  |

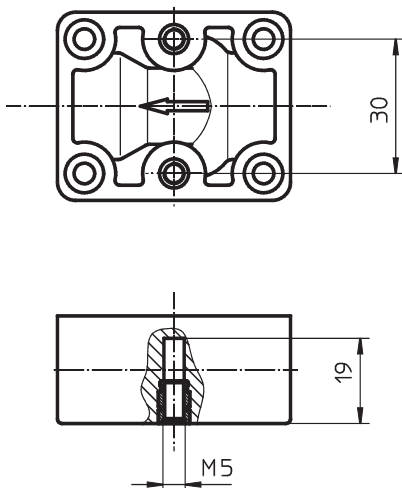


**Union ends with insert, connection code 7, 33**  
**Valve body material: PVC-U (code 1), PVDF (code 20)**

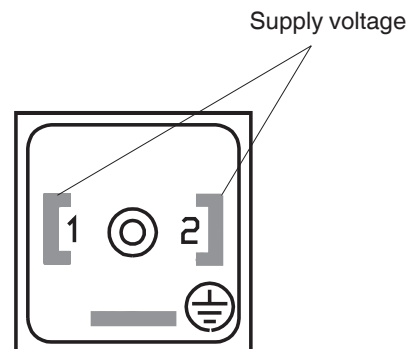
| Connection code | Code 7 | Code 33 |
|-----------------|--------|---------|
| DN              | ø d    |         |
| 10              | 16     | 3/8"    |



**Mounting dimensions [mm]**  
**GEMÜ 105**



**Connection diagram for plug form A (DIN EN 175301-803)**



The GEMÜ 1220 plug (without light) or GEMÜ 1221 (with light) is available as a spare part.

## Overview of valve bodies for GEMÜ 105

| Material code   | PVC-U (Code 1) |   |    |   |    | PVDF (Code 20) |    |   |
|-----------------|----------------|---|----|---|----|----------------|----|---|
| Connection code | 1              | 2 | 31 | 7 | 33 | 1              | 31 | 7 |
| DN              |                |   |    |   |    |                |    |   |
| 6               | X              | X | X  | - | -  | X              | X  | - |
| 10              | X              | X | X  | X | X  | X              | X  | X |

## Other GEMÜ plastic solenoid valves



GEMÜ 52, 102, 202  
DN 2 - 15, (0 - 6 bar)

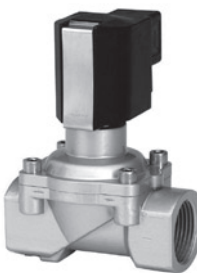


GEMÜ 205  
DN 10 - 50, (0 - 6 bar)



GEMÜ 225  
DN 15 - 50, (0 - 6 bar)

## Other GEMÜ brass or stainless steel solenoid valves



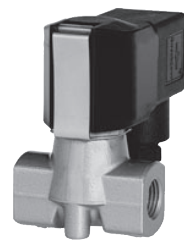
GEMÜ 8253  
DN 8 - 50, (0 - 10 bar)



GEMÜ 8257  
DN 10, (0 - 10 bar)



GEMÜ 8258  
DN 8 - 50, (0,1 - 16 bar)



GEMÜ 8259  
DN 2 - 5, (0 - 20 bar)

For other solenoid valves, accessories and other products,  
please see our Product Range catalogue and Price List.  
Contact GEMÜ.



**GEMÜ**® VALVES, MEASUREMENT  
AND CONTROL SYSTEMS

