

GEMÜ 205

Electrically operated solenoid valve



Features

- Hermetic separation between medium and actuator
- In case of power failure operation possible by manual override
- Standard integral optical position indicator

Description

The GEMÜ 205 directly controlled 2/2-way plastic solenoid valve has a high performance coil. It is hermetically separated from the medium by means of a flexible PTFE bush. The armature is sealed by a bellows made of PTFE backed by an additional safety diaphragm. The plug has a rectifier for use with an AC supply. A manual override and an optical position indicator are integrated as standard.

Technical specifications

- **Media temperature:** -20 to 60 °C
- **Ambient temperature:** 10 to 40 °C
- **Operating pressure:** 0 to 6 bar
- **Nominal sizes:** DN 10 to 50
- **Connection types:** Solvent cement socket | Spigot | Threaded connection | Union end
- **Connection standards:** DIN | ISO
- **Body materials:** PVC-U, grey | PVDF
- **Supply voltages:** 120 V AC, 50/60 Hz | 230 V AC, 50/60 Hz | 24 V AC, 50/60 Hz | 24 V DC

Technical data depends on the respective configuration

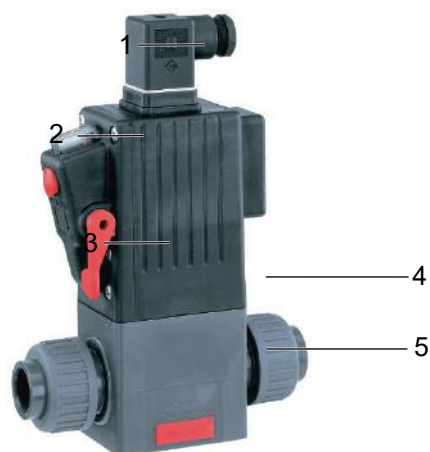


Product line

| | GEMÜ 52 | GEMÜ 102 | GEMÜ 202 | GEMÜ 205 | GEMÜ 225 |
|-----------------------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Nominal sizes | DN 2 to 6 | DN 6 to 10 | DN 10 to 15 | DN 10 to 50 | DN 15 to 50 |
| Voltage | | | | | |
| 12 V DC | ● | ● | ● | - | - |
| 120 V AC, 50/60 Hz | ● | ● | ● | ● | ● |
| 230 V AC, 50/60 Hz | ● | ● | ● | ● | ● |
| 24 V AC, 50/60 Hz | ● | ● | ● | ● | ● |
| 24 V DC | ● | ● | ● | ● | ● |
| Media temperature * | -20 to 100 °C | -20 to 100 °C | -20 to 100 °C | -20 to 60 °C | -20 to 60 °C |
| Operating pressure * | 0 to 6 bar | 0 to 4 bar | 0 to 2 bar | 0 to 6 bar | 0 to 6 bar |
| Connection types | | | | | |
| Solvent cement socket | - | ● | ● | ● | - |
| Spigot | - | - | - | ● | ● |
| Threaded connection | ● | ● | ● | ● | - |
| Union end | - | - | - | ● | ● |
| Body material | | | | | |
| PVC-U | - | - | - | - | ● |
| PVC-U, grey | ● | ● | ● | ● | - |
| PVDF | ● | ● | ● | ● | - |

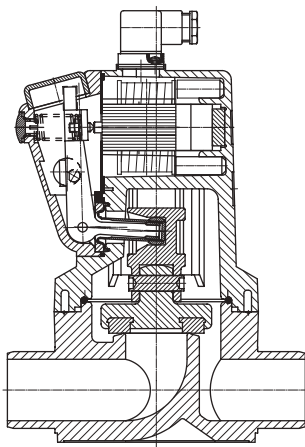
* depending on version and/or operating parameters

Product description



| Item | Name | Materials |
|------|----------------------------|---------------------|
| 1 | Plug | PA |
| 2 | Optical position indicator | PVC |
| 3 | Manual override | PBT |
| 4 | Valve housing | PBT |
| 5 | Valve body | PVC-U, grey or PVDF |
| | Seal materials | FKM, PTFE or EPDM |

Sectional view



Availability

| Material Code ¹⁾ | Connection Code ²⁾ | DN 10 | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 |
|-----------------------------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 0 | - | X | X | X | X | X | X |
| | 1 | X | - | - | - | - | - | - |
| | 2 | X | - | - | - | - | - | - |
| | 7 | X | X | X | - | - | - | - |
| | 30 | - | X | X | X | - | - | - |
| | 31 | X | - | - | - | - | - | - |
| 20 | 7 | X | X | X | - | - | - | - |

1) **Valve body material**

Code 1: PVC-U, grey

Code 20: PVDF

2) **Connection type**

Code 0: Spigot DIN

Code 1: Threaded socket DIN ISO 228

Code 2: Solvent cement socket DIN

Code 7: Union end with insert (socket) – DIN

Code 30: Spigot - inch, for welding or solvent cementing, dependent on body material

Code 31: Threaded socket NPT

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, directly controlled, optical position indicator, manual override | 205 |

| 2 DN | Code |
|-------|------|
| DN 10 | 10 |
| DN 15 | 15 |
| DN 20 | 20 |
| DN 25 | 25 |
| DN 32 | 32 |
| DN 40 | 40 |
| DN 50 | 50 |

| 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 |
| Spigot - inch, for welding or solvent cementing, dependent on body material | 30 |

| 4 Connection type | Code |
|---------------------|------|
| Threaded socket NPT | 31 |

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

| 6 Seal material | Code |
|-----------------|------|
| FKM | 4 |
| PTFE | 5 |
| EPDM | 14 |

| 7 Control function | Code |
|----------------------|------|
| Normally closed (NC) | 1 |

| 8 Voltage | Code |
|-----------|------|
| 24 V | 24 |
| 120 V | 120 |
| 230 V | 230 |

| 9 Frequency | Code |
|-------------|-------|
| DC | DC |
| 50 - 60 Hz | 50/60 |

Order example

| Ordering option | Code | Description |
|-----------------------|-------|--|
| 1 Type | 205 | Solenoid valve, directly controlled, optical position indicator, manual override |
| 2 DN | 15 | DN 15 |
| 3 Body configuration | D | 2/2-way body |
| 4 Connection type | 0 | Spigot DIN |
| 5 Valve body material | 1 | PVC-U, grey |
| 6 Seal material | 5 | PTFE |
| 7 Control function | 1 | Normally closed (NC) |
| 8 Voltage | 230 | 230 V |
| 9 Frequency | 50/60 | 50 - 60 Hz |

Technical data

Medium

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.

Temperature

Media temperature: PVC-U, grey (code 1): 10 to 60 °C
 PVDF (code 20): -20 to 100 °C

Ambient temperature: 10 – 40 °C

Storage temperature: 0 – 40 °C

Pressure

| Operating pressure: | DN 10 | DN 15 | DN 20 | DN 25 | DN 32* | DN 40 | DN 50 |
|---------------------|---------|---------|---------|---------|---------|---------|---------|
| | 0 - 6.0 | 0 - 2.0 | 0 - 1.0 | 0 - 1.0 | 0 - 1.0 | 0 - 0.2 | 0 - 0.2 |

* 24 V DC: 0 – 0.5 bar

All pressures are gauge pressures.

Nominal size corresponds to valve seat diameter.

| Kv values: | DN 10 | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 |
|------------|-------|-------|-------|-------|-------|-------|-------|
| | 0.8 | 1.8 | 2.3 | 6.0 | 7.5 | 9.5 | 12.5 |

Kv values in m³/h

| Leakage rate: | Seat seal | Standard | Test procedure | Leakage rate | Test medium |
|---------------|-----------------|----------------|----------------|--------------|-------------|
| | EPDM, FKM, PTFE | DIN EN 12266-1 | P12 | A | Air |

Product compliance

Machinery Directive: 2006/42/EC

Low Voltage Directive: 2014/35/EU

EMC Directive: 2014/30/EU

Technical standards used:

EN 55011:1991 (150 kHz to 30 MHz)

EN 55014:1993 (148.5 kHz to 30 MHz)

Mechanical data

Protection class: IP 65

| Weight: | DN 10 | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 |
|---------|-------|-------|-------|-------|-------|-------|-------|
| | 0.85 | 0.9 | 0.9 | 2.8 | 2.8 | 3.6 | 3.6 |

Weights in kg

Electrical data

Power consumption:

| AC operation | | |
|--------------|------------|--------|
| Pull in | DN 10 - 20 | 125 VA |
| | DN 25 - 50 | 400 VA |
| Hold in | DN 10 - 20 | 12 VA |
| | DN 25 - 50 | 30 VA |
| DC operation | | |
| Pull in | DN 10 - 20 | 35 W |
| | DN 25 - 50 | 70 W |
| Hold in | DN 10 - 20 | 7 W |
| | DN 25 - 50 | 18 W |

Permissible voltage tolerance: $\pm 10\%$ to VDE 0580

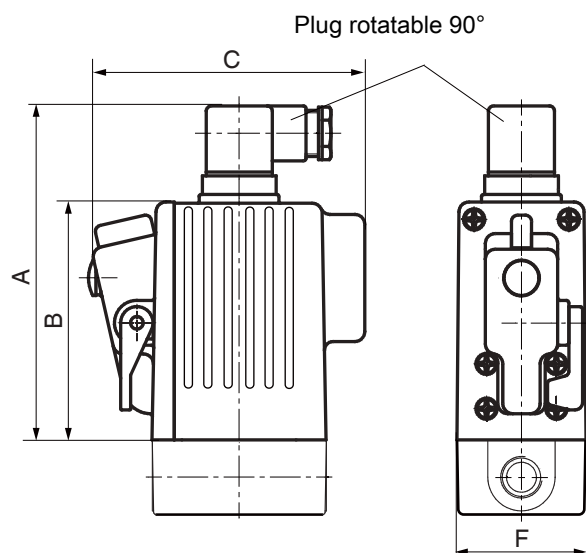
Duty cycle: Continuous duty

Wiring note: Special wiring on request. When using electronic switches and additional wiring, carefully design out any potential residual currents upon installation.

Installation note: Please note: The DC solenoid is designed for unsmoothed voltages, e.g. as obtained from a bridge rectifier.

Dimensions

Actuator

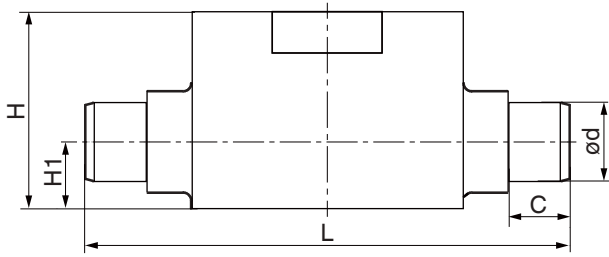


| | DN 10 | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 |
|----------|-------|-------|-------|-------|-------|-------|-------|
| A | 134 | 134 | 134 | 167 | 167 | 196 | 196 |
| B | 100 | 100 | 100 | 128 | 128 | 157 | 157 |
| C | 110 | 110 | 110 | 144 | 144 | 158 | 158 |
| F | 52 | 52 | 52 | 88 | 88 | 110 | 110 |

Dimensions in mm

Body dimensions

Solvent cement spigot (code 0, 30)



| | Connection Code ¹⁾ | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 |
|-----------|-------------------------------|-------|-------|-------|-------|-------|-------|
| C | | 16.0 | 19.0 | 22.0 | 26.0 | 31.0 | 39.0 |
| ød | 0 | 20.0 | 25.0 | 32.0 | 40.0 | 50.0 | 63.0 |
| | 30 | 21.3 | 26.7 | 33.4 | - | - | - |
| H | | 50.0 | 50.0 | 72.0 | 72.0 | 85.0 | 85.0 |
| H1 | | 17.0 | 17.0 | 24.0 | 24.0 | 34.0 | 34.0 |
| L | | 124.0 | 144.0 | 154.0 | 174.0 | 194.0 | 224.0 |

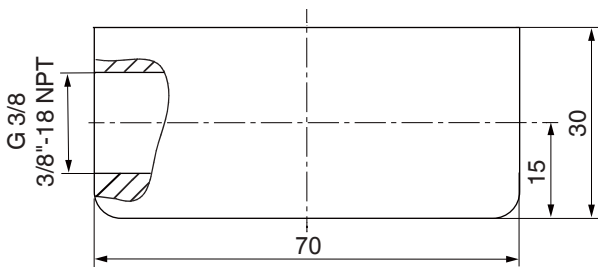
Dimensions in mm

1) **Connection type**

Code 0: Spigot DIN

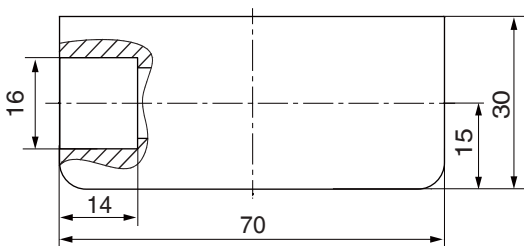
Code 30: Spigot - inch, for welding or solvent cementing, dependent on body material

Threaded socket (code 1, 31)

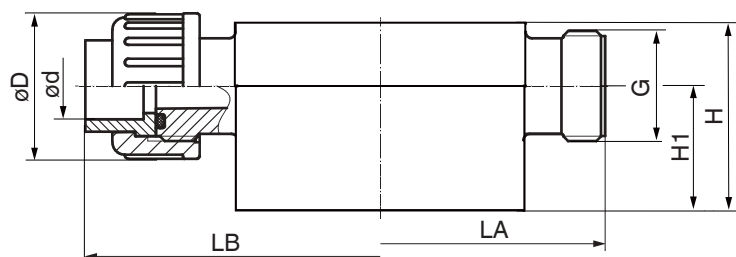


Dimensions in mm

Solvent cement socket (code 2)



Dimensions in mm

Union end with insert (code 7)

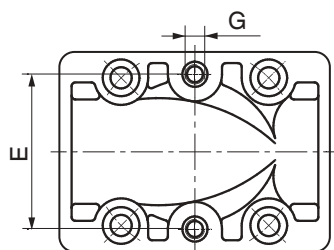
| | Material Code ¹⁾ | DN 10 | DN 15 | DN 20 |
|-----------------|-----------------------------|-------|-------|---------|
| $\varnothing d$ | | 16.0 | 20.0 | 25.0 |
| G | | G 3/4 | G 1 | G 1 1/4 |
| H | | 45.0 | 63.0 | 63.0 |
| H1 | | 30.0 | 30.0 | 30.0 |
| $\varnothing D$ | 1 | 35.0 | 43.0 | 53.0 |
| LA | | 108.0 | 108.0 | 108.0 |
| LB | | 142.0 | 146.0 | 152.0 |
| $\varnothing D$ | 20 | 34.0 | 47.0 | 57.0 |
| LA | | 106.0 | 106.0 | 106.0 |
| LB | | 142.0 | 144.0 | 148.0 |

Dimensions in mm

1) **Valve body material**

Code 1: PVC-U, grey

Code 20: PVDF

Mounting dimensions

| | Connection Code ¹⁾ | DN 10 | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 |
|----------|-------------------------------|------------|-------------|-------------|----------------|-------|-------|-------|
| E | | 40.0 | 40.0 | 40.0 | 44.5 | 44.5 | 44.5 | 44.5 |
| G | 0,1,2,7 | M5 | M5 | M5 | M8 | M8 | M8 | M8 |
| | 30,31 | 8 - 36 UNF | 10 - 32 UNF | 10 - 32 UNF | 5/16" - 32 UNF | - | - | - |

Dimensions in mm

1) **Connection type**

Code 0: Spigot DIN

Code 1: Threaded socket DIN ISO 228

Code 2: Solvent cement socket DIN

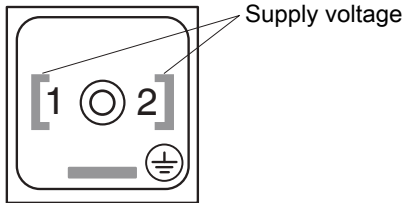
Code 7: Union end with insert (socket) – DIN

Code 30: Spigot - inch, for welding or solvent cementing, dependent on body material

Code 31: Threaded socket NPT

Electrical connection

Connection diagram for plug



Accessories



GEMÜ 2026

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. The scope of supply comprises a gasket made from NBR and a M3x35 central screw

Ordering information

| Designation 1 | Design | Item |
|-------------------------|---|----------|
| 2026000Z AM1600S2 2C1 | 24V DC, M16, suppressor diode, 2-pin | 88668463 |
| 2026000Z AM16G0S2 2C1 | 24V DC, M16, green LED, suppressor diode, 2-pin | 88668468 |
| 2026000Z AM16GBV2 2C1 | 24V DC, M16, green LED, bridge rectifier, varistor, 2-pin | 88668469 |
| 2026000Z AM16GBS2 2C1 | 24V DC, M16, green LED, bridge rectifier, suppressor diode, 2-pin | 88668470 |
| 2026000Z AM16G002 2C1 | 24V DC, M16, green LED, 2-pin | 88668471 |
| 2026000Z AM16G0V2 2C1 | 24V DC, M16, varistor, green LED, 2-pin | 88668473 |
| 2026000Z AM160BV2 2L4 | 230V 50/60Hz, M16, bridge rectifier, varistor, 2-pin | 88668464 |
| 2026000Z AM160002 2L4 | 230V 50/60Hz, M16, 2-pin | 88668465 |
| 2026000Z AM160003 2L4 | 230V 50/60Hz, M16, 3-pin | 88668466 |
| 2026000Z AM160002 2L42M | 230V 50/60Hz, M16, 2-pin, 2 m cable | 88668474 |
| 2026000Z AM160002 2L45M | 230V 50/60Hz, M16, 2-pin, 5 m cable | 88668475 |
| 2026000Z AM16Y002 2L4 | 230V 50/60Hz, M16, yellow LED, 2-pin | 88668476 |
| 2026000Z AM16Y0S2 2L4 | 230V 50/60Hz, M16, yellow LED, suppressor diode, 2-pin | 88668477 |

Design dependent on selected product configuration. Contact GEMÜ.



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