

GEMÜ 566

Manually operated control valve



Features

- Control of liquid and gaseous media from 63 l/h to 2500 l/h
- Linear or equal-percentage control characteristic options
- Hermetic separation between medium and actuator
- Actuator and actuator type can be changed without draining or removing the valve body from the piping
- Various types of actuators available

Description

The GEMÜ 566 2/2-way straight seat control valve has a body with an integrated control mechanism. Manual, pneumatic and motorized actuator types are available. The GEMÜ 566 valve was specially developed for controlling small quantities and allows flow rates from 63 l/h to 2500 l/h.

Technical specifications

- **Media temperature:** 0 to 90 °C
- **Ambient temperature:** -15 to 60 °C
- **Operating pressure:** 0 to 6 bar
- **Nominal sizes:** DN 8 to 20
- **Body configurations:** 2/2-way body
- **Connection types:** Clamp | Threaded connection
- **Connection standards:** ASME | DIN | EN | ISO
- **Body materials:** 1.4435, investment casting material
- **Seat seal materials:** EPDM | FKM
- **Conformities:** EAC | FDA | Regulation (EC) No. 1935/2004




Technical data depends on the respective configuration



further information
webcode: GW-566

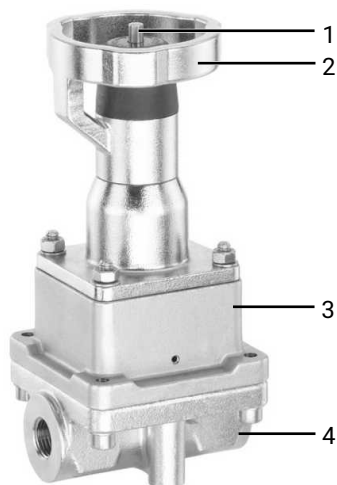


Product comparison

| |  |  |  |
|-------------------------------------|---|---|---|
| | GEMÜ 566 | GEMÜ 566 | GEMÜ 566 eSyStep |
| Operation | | | |
| Manual | ● | - | - |
| Pneumatic | - | ● | - |
| Motorized | - | - | ● |
| Nominal sizes | DN 8 to 20 | DN 8 to 20 | DN 8 to 20 |
| Operating pressure | 0 to 6 bar | 0 to 6 bar | 0 to 6 bar |
| Body material | | | |
| 1.4435, investment casting material | ● | ● | ● |
| Connection types | | | |
| Clamp | ● | ● | ● |
| Threaded connection | ● | ● | ● |

Product description

Construction - manual valve



| Item | Name | Materials |
|------|---|-------------------------------------|
| 1 | Optical position indicator | |
| 2 | Handwheel | |
| 3 | Distance piece with leak detection hole | 1.4305 / 1.4408 |
| 4 | Valve body | ASTM A 351 CF3M, investment casting |

Availability

Availability of valve bodies

Threaded connection / Clamp

| DN | Connection type code 1 ¹⁾ | Connection type code 88 ¹⁾ |
|----|--------------------------------------|---------------------------------------|
| | Material code C1 ²⁾ | |
| 8 | X | - |
| 10 | X | - |
| 15 | X | X |
| 20 | - | X |

X = Standard

1) **Connection type**

Code 1: Threaded socket DIN ISO 228

Code 88: Clamp ASME BPE, face-to-face dimension FTF EN 558 series 7

2) **Valve body material**

Code C1: ASTM A 351 CF3M, investment casting

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 |
|---------------|------|
| Control valve | 566 |

| 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 |
|---|------|
| Threaded socket DIN ISO 228 | 1 |
| Clamp ASME BPE, face-to-face dimension FTF EN 558 series 7 | 88 |

| 5 Valve body material | Code |
|-------------------------------------|------|
| ASTM A 351 CF3M, investment casting | C1 |

| 6 Seal material | Code |
|-----------------|------|
| FKM | 4 |

| 6 Seal material | Code |
|-----------------|------|
| EPDM | 19 |

| 7 Control function | Code |
|--------------------|------|
| Manually operated | 0 |

| 8 Actuator version | Code |
|---|------|
| Actuator size 1 with locking device. | 1TB |
| Actuator size 1 without locking device. | 1TN |

| 9 Control characteristic | Code |
|---------------------------|------|
| Modified equal-percentage | G |
| linear | L |

| 10 Kv value | Code |
|-------------|------|
| 63 l/h | 63 |
| 100 l/h | 100 |
| 160 l/h | 160 |
| 1000 l/h | 1000 |
| 1600 l/h | 1600 |
| 2500 l/h | 2500 |

Order example

| Ordering option | Code | Description |
|--------------------------|------|---|
| 1 Type | 566 | Control valve |
| 2 DN | 8 | DN 8 |
| 3 Body configuration | D | 2/2-way body |
| 4 Connection type | 1 | Threaded socket DIN ISO 228 |
| 5 Valve body material | C1 | ASTM A 351 CF3M, investment casting |
| 6 Seal material | 4 | FKM |
| 7 Control function | 0 | Manually operated |
| 8 Actuator version | 1TN | Actuator size 1 without locking device. |
| 9 Control characteristic | G | Modified equal-percentage |
| 10 Kv value | 63 | 63 l/h |

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 diaphragm material.

Temperature

Media temperature: Standard: 0 °C – 90 °C
 CIP max. 30 min. 85 °C
 (isolating diaphragm material code 19)

Ambient temperature: -15 – 60 °C

Storage temperature: 0 – 40 °C

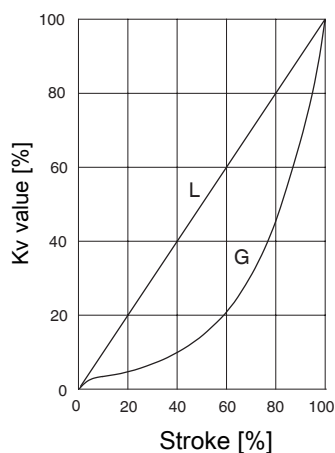
Pressure

Operating pressure: 0 – 6 bar
 All pressures are gauge pressures.

Leakage rate:

| Seat seal | Standard | Test procedure | Leakage rate | Test medium |
|-----------|----------------|----------------|--------------|-------------|
| Metal | DIN EN 60534-4 | 1 | IV | Air |

Kv values:



Equal-percentage (connection code 1) / linear (connection code 1)

| Control characteristic | Seat Ø [mm] | Kv value | DN 8 | DN 10 | DN 15 |
|------------------------|-------------|----------|------|-------|-------|
| G | 3 | 63 | X | - | - |
| G, L | 3 | 100 | X | - | - |
| G | 3 | 160 | X | - | - |
| G, L | 6 | 250 | X | - | - |
| G | 6 | 400 | X | - | - |
| G, L | 6 | 630 | X | - | - |
| G | 11 | 1000 | - | X | - |
| G, L | 11 | 1600 | - | X | - |
| G, L | 15 | 2500 | - | - | X |

G = equal-percentage, L = linear

Kv values:

Equal-percentage (connection code 88) / linear (connection code 88)

| Control characteristic | Seat Ø [mm] | Kv value | DN 15 | DN 20 |
|------------------------|-------------|----------|-------|-------|
| G | 3 | 63 | X | - |
| G, L | 3 | 100 | X | - |
| G | 3 | 160 | X | - |
| G, L | 6 | 250 | X | - |
| G | 6 | 400 | X | - |
| G, L | 6 | 630 | X | - |
| G | 11 | 1000 | X | - |
| G, L | 11 | 1600 | X | - |
| G, L | 15 | 2500 | - | X |

G = equal-percentage, L = linear

Product compliance

Machinery Directive: 2006/42/EC

Food:
 FDA 21 CFR 177.2600
 USP Class VI Title 87
 USP Class VI Title 88 (50 °C and 121 °C)
 Regulation (EC) No. 1935/2004
 Regulation (EC) No. 2023/2006

EAC:
 TR CU 010/2011
 TR CU 004/2011

Mechanical data

Stroke: 5 mm

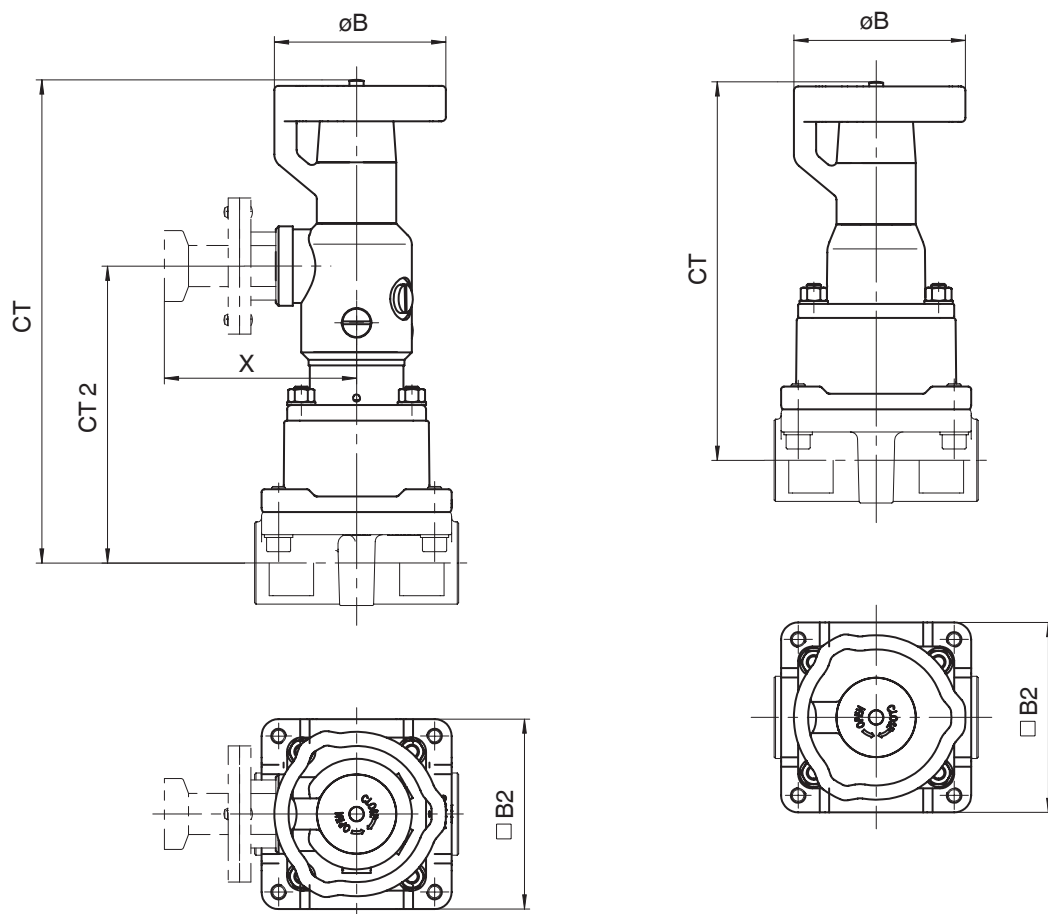
Weight:

| | |
|----------------|-----|
| DN 8 | 4.0 |
| DN 10 | 4.0 |
| DN 15 | 3.5 |
| DN 15, code 88 | 4.2 |
| DN 20, code 88 | 4.2 |

Weights in kg

Dimensions

Installation and actuator dimensions

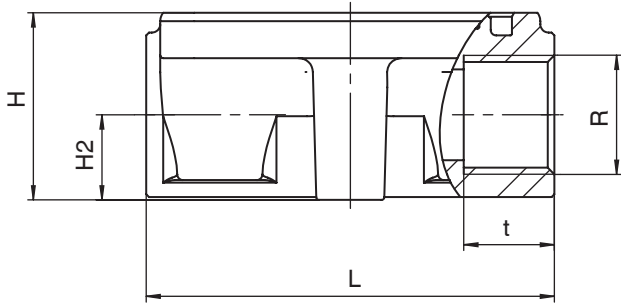


| Actuator size | CT | CT2 | $\varnothing B$ | $\square B2$ | X | |
|---------------|-----|-----|-----------------|--------------|-----|-----|
| | | | | | MAG | LOC |
| 1TB | 170 | 105 | 63 | 67 | 107 | 73 |
| 1TN | 135 | - | 63 | 67 | - | - |

Dimensions in mm

Body dimensions

Threaded socket

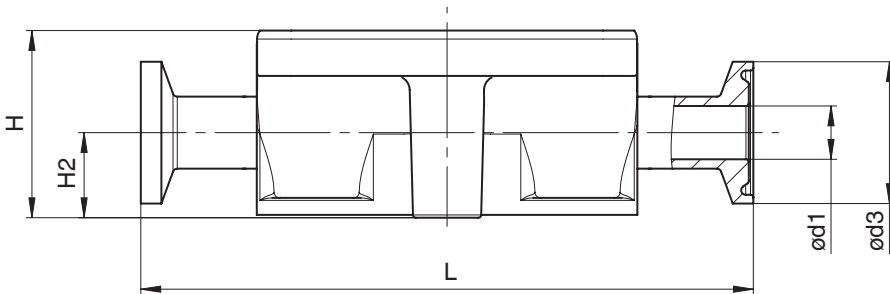


| DN | Connection type code 1 ¹⁾ | | | | |
|----|--------------------------------------|------|------|------|------|
| | Material code C1 ²⁾ | | | | |
| | R | t | H | H2 | L |
| 8 | G 1/4 | 16.0 | 33.0 | 15.0 | 72.0 |
| 10 | G 3/8 | 16.0 | 33.0 | 15.0 | 72.0 |
| 15 | G 1/2 | 16.0 | 33.0 | 15.0 | 72.0 |

Dimensions in mm

- 1) **Connection type**
Code 1: Threaded socket DIN ISO 228
- 2) **Valve body material**
Code C1: ASTM A 351 CF3M, investment casting

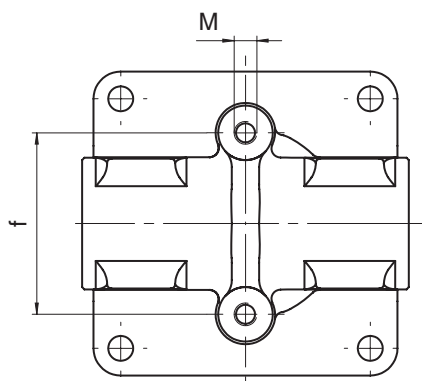
Clamp



| DN | Connection type code 88 ¹⁾ | | | | |
|----|---------------------------------------|------|------|-------|------|
| | Material code C1 ²⁾ | | | | |
| | L | H | H2 | ød1 | ød3 |
| 15 | 108.0 | 33.0 | 15.2 | 9.40 | 25.0 |
| 20 | 117.0 | 33.0 | 15.2 | 15.75 | 25.0 |

Dimensions in mm

- 1) **Connection type**
Code 88: Clamp ASME BPE, face-to-face dimension FTF EN 558 series 7
- 2) **Valve body material**
Code C1: ASTM A 351 CF3M, investment casting

Valve body mounting

| DN | f | M |
|------------|----|----|
| 8,10,15,20 | 40 | M5 |

Dimensions in mm

Specification | GEMÜ regulating cones for globe valves

Customer/Project _____ Contact person _____

Date _____ Phone _____

Contact person (GEMÜ) _____ E-mail _____

Technical requirements

Medium ¹⁾

| Requirement characteristic | 1st operating point maximum flow | 2nd operating point medium flow | 3rd operating point minimum flow |
|------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| Media temperature ⁴⁾ | | | |
| Inlet pressure | | | |
| Outlet pressure | | | |
| Flow rate ^{2,3)} | | | |
| in [m ³ /h] for liquids | | | |
| for gases ⁶⁾ | | | |
| in [kg/h] for steam | | | |

| Operation | Manual | | | | | |
|--------------------|-----------|-----------------------|----------------------|---------------------------|--------------------|----------------------------------|
| | Pneumatic | Control function | NC (normally closed) | NO (normally open) | DA (double acting) | Double acting (normally open) |
| | Motorized | Voltage | 24 V DC | Other | | |
| Control fitting | | Set value information | 0-10 V | 0/4-20 mA | | |
| | Feature | | linear | modified equal-percentage | | |

| Valve body | Type | | |
|------------|-----------------------------------|------|-------|
| | Required valve DN | | |
| | Max. operating pressure (bar) | | |
| | Ambient temperature ⁴⁾ | | |
| | Max. media temperature | | |
| | Connection type | | |
| | Body material | | |
| | Seat seal ⁷⁾ | PTFE | Other |
| | Control pressure | min | max |

1) Liquid or gas?

For media other than water or air, it is useful to give data for the density and viscosity of the medium (with unit of measurement). Otherwise we will assume data for standard conditions.

2) For steam especially, the minimum or maximum flow rate should be assigned to the appropriate inlet or outlet pressure. The temperature of the medium should also be taken into account.

3) GEMÜ recommends a positioning ratio of 1 : 10 (e.g. minimal flow rate is 10 m³/h and the maximum flow rate is 100 m³/h). Please note that the valve only controls reliably from a flow of about 10% of the max. Kv value on account of the valve opening behaviour. Other positioning ratios are possible on request or in the selection of standard regulating cones.

4) The media temperature range must be specified for steam applications. T = 20 °C is assumed unless specified otherwise.

5) This data is not absolutely necessary. A room temperature of 20 °C is assumed unless specified otherwise.

6) Basis: standard conditions 0 °C, 1013.25 mbar. If conditions differ, please specify them.

7) The seat seal is made of PTFE as standard. For regulating needles with a Kv value between 0.1 and 1.0 m³/h, only a metal seal is possible. Other materials possible on request.

The technical details of each enquiry must be checked by GEMÜ.

Comment:



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