

Control Valve, Plastic/Metal

Construction

The GEMÜ 563/568 control valve has a low maintenance electric actuator and a reversible synchronous motor. It is operated via a non-self-locking reduction gear and cam. The valve has an integrated optical position indicator as standard.

Features

- Suitable for inert and corrosive* liquid and gaseous media
- The motor will withstand being stalled under full voltage
- Valve body and seat seal are available in various materials
- Suitable for use as a control valve
- Integrated optical position indicator

Advantages

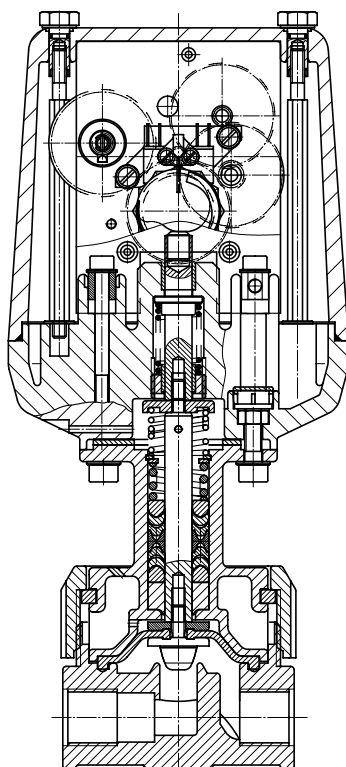
- Direct 0/4 - 20 mA signal processing via the integrated controller
- Opening and closing behaviour is independent of the operating pressure
- Hermetic separation between medium and actuator

*see information on working medium on page 2



GEMÜ 563
Plastic design

Sectional drawing



GEMÜ 568
Metal design

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.

Media temperature:

GEMÜ 563:

See data sheet "Technical Information on Plastic Materials"

GEMÜ 568:

80 °C

Ambient conditions

Ambient temperature -15 to +55 °C
For limitations see table Pressure/temperature correlation

Electrical data

Power supply $U_v = 24 \text{ V } 50/60 \text{ Hz } \pm 10 \%$
 $U_v = 120 \text{ V } 50/60 \text{ Hz } \pm 10 \%$
 $U_v = 230 \text{ V } 50/60 \text{ Hz } \pm 10 \%$

Power consumption 3.5 VA

Rating Continuously rated

Electrical connections

2 x PG 13.5
Versions AE, AP

2 x Round connector (Hirschmann plug N 6 R AM 2)
Versions E1, E2 and E3

Protection class

IP 65 acc. to EN 60529

Operating time

See actuator version page 4 approx. 17 or 45 s

Input resistance

33 Ω (input protected by reverse diode)

Maximum permissible seat leakage class

Seat seal	Standard	Test procedure	Leakage rate	Test medium
FPM, EPDM	DIN EN 60534-4	1	VI	air

Nominal size	Operating pressure	Weight [kg]	
		GEMÜ 563	GEMÜ 568
DN	[bar]		
3, 6, 10, 15	0 - 6	1.6	2.4

All pressures are gauge pressures.

Pressure / temperature correlation for plastic

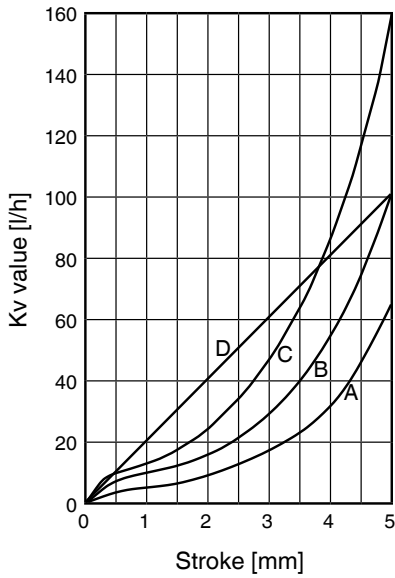
Temperature in °C Plastic body	-20	-10	±0	5	10	20	25	30	40	50	60	70	80
	Permissible operating pressure in bar												
PVC-U Code 1	-	-	-	-	6.0	6.0	6.0	4.8	3.6	2.1	0.9	-	-
PVDF Code 20	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.4	4.8	4.3	3.8	3.2	2.8

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.

Kv values [l/h]

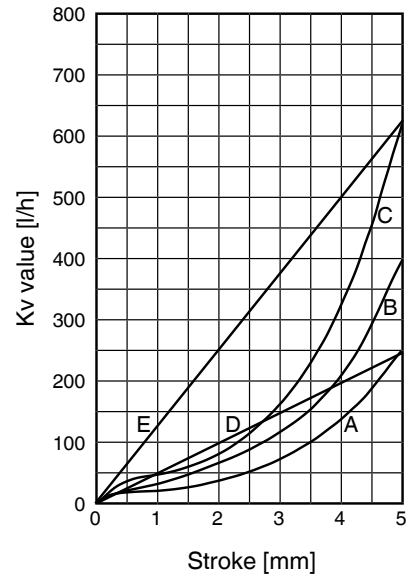
Characteristics DN 3 (seat)

Characteristic	Kv value [l/h]
A	63
B	100
C	160
D	100



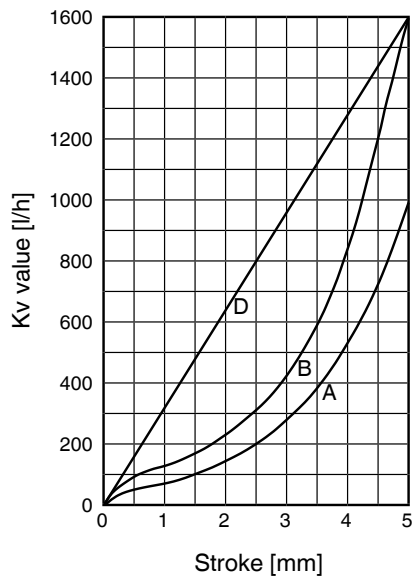
Characteristics DN 6 (seat)

Characteristic	Kv value [l/h]
A	250
B	400
C	630
D	250
E	630



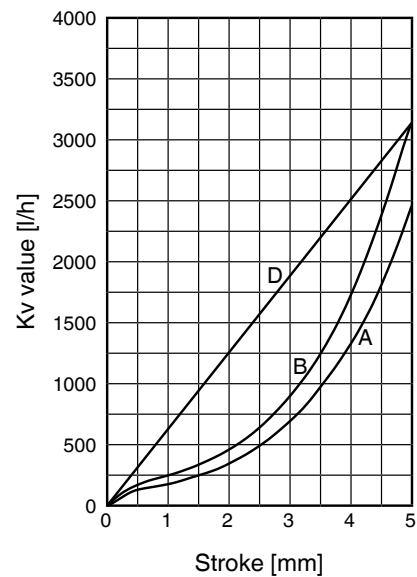
Characteristics DN 10 (seat)

Characteristic	Kv value [l/h]
A	1000
B	1600
D	1600



Characteristics DN 15 (seat)

Characteristic	Kv value [l/h]
A	2500
B	3300
D	3300



Order data

Body configuration	Code
2/2-way body	D

Connection	Code
Threaded connections	
Threaded sockets DIN ISO 228 (GEMÜ 563/568)	1
Threaded spigots DIN 11851 (GEMÜ 568)	6
Union ends with DIN insert (socket) (GEMÜ 563)	7
Clamp connections	
Clamps DIN 32676 series A for pipe DIN 11850, length EN 558, series 1 (GEMÜ 568)	86

Valve body material	Code
PVC-U, grey / Regulating cone PEEK (GEMÜ 563)	1
PVDF / Regulating cone PEEK (GEMÜ 563)	20
1.4435 (ASTM A 351 CF3M) investment casting* (GEMÜ 568)	34
* Material equivalency 316 L	

Isolating diaphragm material	Code
FPM	4
EPDM	14

Supply voltage/mains frequency	Code
24 V 50/60 Hz	C4
120 V 50/60 Hz	G4
230 V 50/60 Hz	L4

Functional module	Code
OPEN / CLOSE control with additional end position feedback (signal voltage = supply voltage)	AE
OPEN / CLOSE control with potentiometer output	AP
Control of valve position, actual value detection internal, set value external, 0 - 10 V	E1*
Control of valve position, actual value detection internal, set value external, 0/4 - 20 mA	E2*
Control of process variables, actual value external, 0/4 - 20 mA, set value external, 0/4 - 20 mA	E3*
* only in conjunction with K-no. 6027	

Control characteristic	Code
Kv values / control characteristic / equal-percentage	A*
/ equal-percentage	B*
/ equal-percentage	C*
/ linear	D*
/ linear	E*
* For selection see diagrams page 3.	

Kv value	see page 3
Kv values: Tolerance $\pm 10\%$	

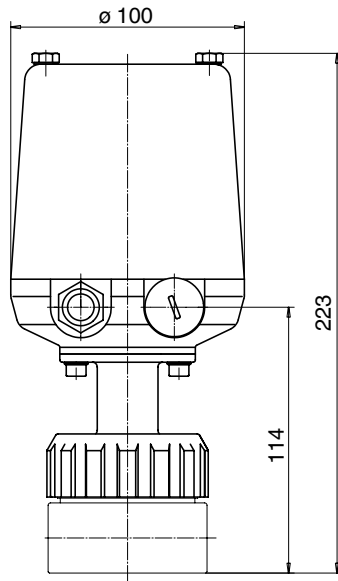
Actuator version	Code
Operating time 17 sec.	A0
Operating time 45 sec.	A1

Special version	K-no.
With Hirschmann plug	6027

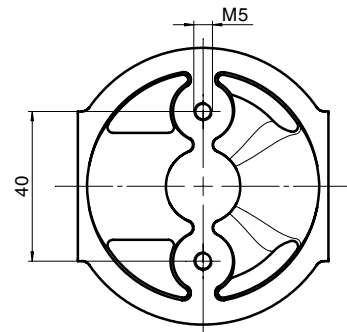
Order example	563	10	D	1	1	14	L4	AE	B	1600	A0	-
Type	563											
Nominal size		10										
Body configuration (code)			D									
Connection (code)				1								
Valve body material (code)					1							
Seat seal (code)						14						
Supply voltage/mains frequency (code)							L4					
Functional module (code)								AE				
Control characteristic (code)									B			
Kv value (see diagrams page 3)										1600		
Actuator version (code)											A0	
Special version (K-no.)												-

Dimensions [mm]

Actuator dimensions



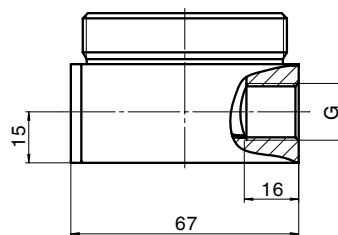
Mounting dimensions



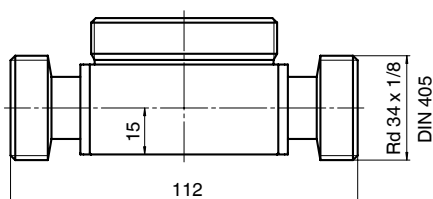
Body dimensions [mm]

**Threaded sockets DIN ISO 228, Connection code 1 (GEMÜ 563 / GEMÜ 568)
Valve body material code 1, 20, 34**

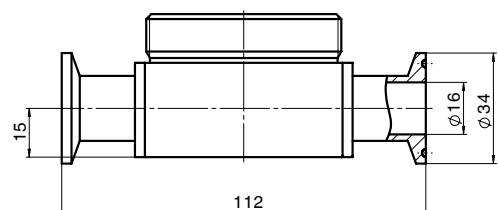
DN (seat)	G
3	G 3/8
6	G 3/8
10	G 3/8
15	G 1/2



**Threaded spigots DIN 11851
Connection code 6 (only GEMÜ 568)
Valve body material code 34**



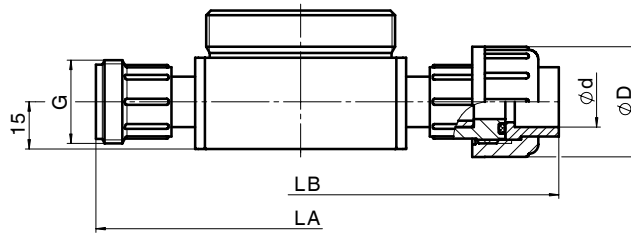
**Clamp connections
Connection code 86 (only GEMÜ 568)
Valve body material code 34**



Body dimensions [mm]

Union ends, Connection code 7 (only GEMÜ 563) Valve body material code 1

DN	G	øD	ød	LA	LB
3	G 3/4	35	16	130	164
6	G 3/4	35	16	130	164
10	G 3/4	35	16	130	164
15	G 1	43	20	130	168

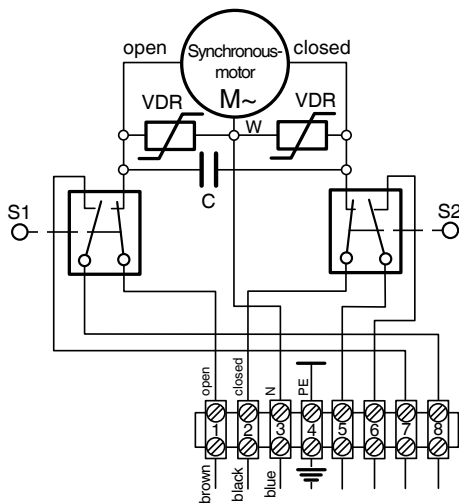


Overview of valve bodies for GEMÜ 563 and GEMÜ 568

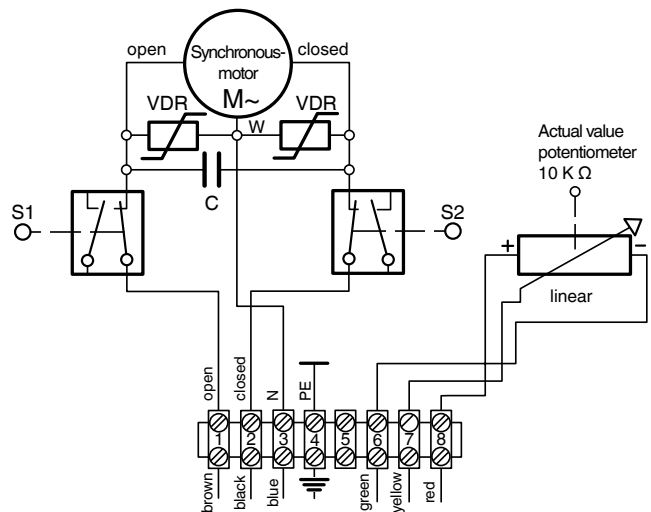
Connection code	GEMÜ 563			GEMÜ 568		
	1	20	7	1	6	86
Material code	1	20	1	34	34	34
DN 3	X	X	X	X	X	X
DN 6	X	X	X	X	X	X
DN 10	X	X	X	X	X	X
DN 15	X	X	X	X	X	X

Connection diagramm

Connection diagram - Functional module code AE

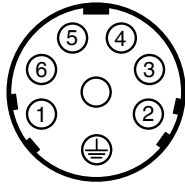


Connection diagram - Functional module code AP

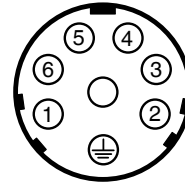


The voltage of the end position feedback must be identical with the supply voltage of the actuator.

Connection diagram - Functional module code E1 / E2

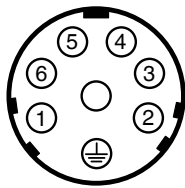


Pin	Designation
1	L, motor voltage
2	N, motor voltage
3	not connected
4	not connected
5	not connected
6	not connected
7	⊥, PE

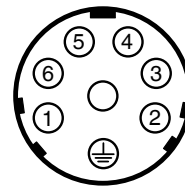


Pin	Designation
1	not connected
2	not connected
3	not connected
4	not connected
5	GND, set value input
6	I+ / U+, set value input
7	not connected

Connection diagram - Functional module code E3

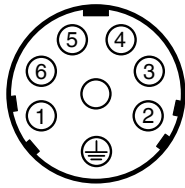


Pin	Designation
1	L, motor voltage
2	N, motor voltage
3	not connected
4	not connected
5	not connected
6	not connected
7	⊥, PE



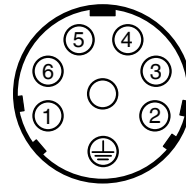
Pin	Designation
1	not connected
2	not connected
3	GND, actual value input
4	I+ / U+, actual value input
5	GND, set value input
6	I+ / U+, set value input
7	not connected

Functional module AE OPEN / CLOSE control with 2 additional end position feedback signals and Hirschmann plug N 6 R AM2 (design: 6027)



Pin	Designation
1	L1, motor voltage for direction of travel OPEN
2	L1, motor voltage for direction of travel CLOSED
3	N, reference voltage
4	n.c.
5	Us, S2 (24) CLOSED end position [Us=Ub]
6	Us, S1 (24) OPEN end position [Us=Ub]
7	⊥, PE

Functional module AP OPEN / CLOSE control with potentiometer output and Hirschmann plug N 6 R AM2 (design: 6027)

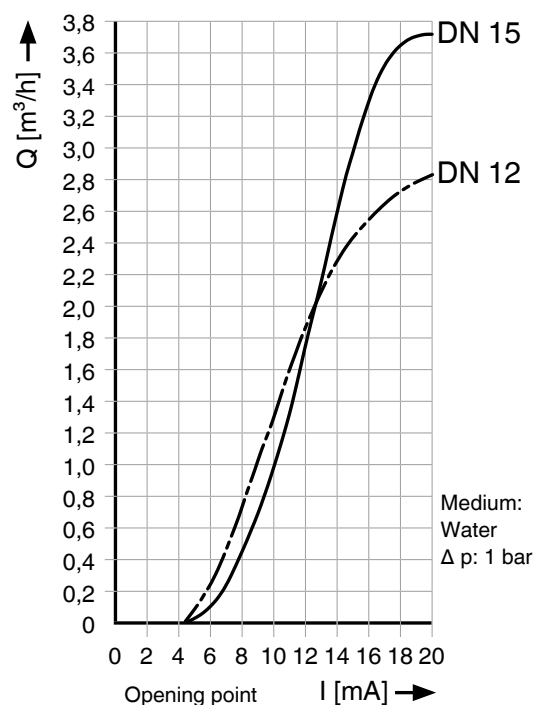


Pin	Designation
1	L1, motor voltage for direction of travel OPEN
2	L1, motor voltage for direction of travel CLOSED
3	N, reference voltage
4	Us +, actual value potentiometer, signal voltage
5	Us -, actual value potentiometer, signal output
6	Us ∞, actual value potentiometer, signal voltage
7	⊥, PE

Electrical connection version

	Terminal strip and cable gland	Hirschmann plug (K-no. 6027)
AE	X	X
AP	X	X
E1	-	X
E2	-	X
E3	-	X

Characteristic progress with functional module E2 or 3-point controller GEMÜ 1283



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