GEMÜ 649 eSyDrive

Motorized diaphragm valve

Features

- Hermetic separation between medium and actuator
- Installation for optimized draining is possible
- Open/Close function, positioner and process controller
- Force and speed are variably adjustable
- Extensive diagnostic functions
- Operable via web interface eSy-Web or Modbus TCP
- Various functions of add-on components and accessories are already integrated (e.g. position indicators, stroke limiters, etc.)

Description

The GEMÜ 649 diaphragm valve is actuated by a motorized hollow shaft actuator. It is based on technology that does not use brushes or sensors and therefore guarantees high performance and a long service life. In addition to open/close applications, the valve is ideal for variable and complex control applications. The actuator has an integrated web server for parameterization and diagnostics purposes.

Technical specifications

- **Media temperature:** -10 to 100 °C
- **Sterilization temperature:** max. 150 °C
- **Ambient temperature:** -10 to 60 °C
- **Operating pressure :** 0 to 10 bar
- **Nominal sizes:** DN 10 to 65
- **Body configurations:** 2/2-way body I i-body I Multi-port body I T body I Tank valve body I Welding configuration
- **Connection types:** Clamp I Flange I Spigot I Threaded connection
- **Connection standards:** ANSI I ASME I BS I DIN I EN I ISO I JIS I SMS
- **Body materials:** 1.4408, investment casting material I 1.4435 (316L), forged material I 1.4435 (BN2), forged material I 1.4435, investment casting material I 1.4539 (904L), forged material I CW614N, brass I CW617N, brass I EN-GJL-250, cast iron material I EN-GJS-400-18-LT, SG iron material
- **Body lining:** Hard rubber I PFA I PP
- **Diaphragm materials:** CR I EPDM I FKM I NBR I PTFE/EPDM
- **Supply voltage:** 24 V DC
- **Actuating speed:** max. 6 mm/s
- **Protection class:** IP 65
- **Conformities:** Belgaqua I BSE/TSE I EAC I EHEDG I FDA I Oxygen I Reg. (EU) No. 10/2011 I Regulation (EC) No. 1935/2004 I Regulation (EC) No. 2023/2006 I TA Luft (German Clean Air Act) I USP

Technical data depends on the respective configuration

further information
webcode: GW-649

Product description

Construction

Item	Name	Materials
1	O-rings	EPDM
2	Electrical connections	
3	Actuator base	1.4301
4	Distance piece with leak detection hole	1.4408
5	Diaphragm	CR, EPDM, FKM, NBR, PTFE/EPDM
6	Valve body	EN-GJL-250 (GG 25) EN-GJS-400-18-LT (GGG 40.3) EN-GJS-400-18-LT (GGG 40.3), PFA lined EN-GJS-400-18-LT (GGG 40.3), PP lined EN-GJS-400-18-LT (GGG 40.3), hard rubber lined 1.4408, investment casting 1.4408, PFA lined 1.4435 (F316L), forged body 1.4435 (BN2), forged body, Δ Fe < 0.5 % 1.4435, investment casting 1.4539, forged body CW614N, CW617N (brass)
7	CONEXO diaphragm RFID chip (see Conexo information)	
8	CONEXO body RFID chip (see Conexo information)	
9	CONEXO actuator RFID chip (see Conexo information)	
10	Optical position indicator	PESU
11	Cover with high visibility LED, manual override and on-site control	PESU

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".

Availability

Availability of grades of surface finish

Internal surface finishes for forged and block material bodies [1)]

Readings for Process Contact Surfaces	Mechanically polished [2)]		Electropolished	
	Hygienic class DIN 11866	Code	Hygienic class DIN 11866	Code
Ra ≤ 0.80 µm	H3	1502	HE3	1503
Ra ≤ 0.60 µm	-	1507	-	1508
Ra ≤ 0.40 µm	H4	1536	HE4	1537
Ra ≤ 0.25 µm [3)]	H5	1527	HE5	1516

Readings for Process Contact Surfaces according to ASME BPE 2016 [4)]	Mechanically polished [2)]		Electropolished	
	ASME BPE Surface Designation	Code	ASME BPE Surface Designation	Code
Ra Max. = 0.76 µm (30 µinch)	SF3	SF3	-	-
Ra Max. = 0.64 µm (25 µinch)	SF2	SF2	SF6	SF6
Ra Max. = 0.51 µm (20 µinch)	SF1	SF1	SF5	SF5
Ra Max. = 0.38 µm (15 µinch)	-	-	SF4	SF4

Internal surface finishes for investment cast bodies

Readings for Process Contact Surfaces	Mechanically polished [2)]	
	Hygienic class DIN 11866	Code
Ra ≤ 6.30 µm	-	1500
Ra ≤ 0.80 µm	H3	1502
Ra ≤ 0.60 µm [5)]	-	1507

Ra acc. to DIN EN ISO 4288 and ASME B46.1

1) Surface finishes of customized valve bodies may be limited in special cases.

2) Or any other finishing method that meets the Ra value (acc. to ASME BPE).

3) The smallest possible Ra finish for pipe connections with an internal pipe diameter < 6 mm is 0.38 µm.

4) When using these surfaces, the bodies are marked according to the specifications of ASME BPE.
The surfaces are only available for valve bodies which are made of materials (e.g. GEMÜ material codes 40, 41, F4, 44)) and use connections (e.g. GEMÜ connection codes 59, 80, 88) according to ASME BPE.

5) Not possible for GEMÜ connection code 59, DN 8 and GEMÜ connection code 0, DN 4.

Availability of valve bodies

Spigot

MG	DN	Connection type code [1]														
		0	16	17	18	35	36	37		55	59		60	63	64	65
		Material code [2]														
		40, 42, F4	40, 42, F4	C3, 40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	C3	40, 42, F4	40, 42, F4	C3	40, 42, F4	C3, 40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4
10	**10**	-	X	X	X	-	X	-	-	X	-	X	X	X	-	X
	15	X	X	X	X	-	X	-	-	X	-	X	X	X	X	X
	20	-	-	-	-	-	-	-	-	X	X	X	-	-	-	-
25	**15**	X	X	X	X	-	X	-	-	-	-	-	X	X	X	X
	20	X	X	X	X	-	X	-	-	X	X	X	X	X	X	X
	25	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X
40	**32**	X	X	X	X	X	X	-	X	-	-	-	X	X	X	X
	40	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X
50	**50**	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X
	65	-	-	-	-	X	-	-	X	-	-	X	-	-	-	-

MG = diaphragm size, X = standard

1) **Connection type**
Code 0: Spigot DIN
Code 16: Spigot EN 10357 series B, formerly DIN 11850 series 1
Code 17: Spigot EN 10357 series A / DIN 11866 series A formerly DIN 11850 series 2
Code 18: Spigot DIN 11850 series 3
Code 35: Spigot JIS-G 3447
Code 36: Spigot JIS-G 3459 schedule 10s
Code 37: Spigot SMS 3008
Code 55: Spigot BS 4825, part 1
Code 59: Spigot ASME BPE/DIN 11866 series C
Code 60: Spigot ISO 1127/EN 10357 series C/DIN 11866 series B
Code 63: Spigot ANSI/ASME B36.19M schedule 10s
Code 64: Spigot ANSI/ASME B36.19M schedule 5s
Code 65: Spigot ANSI/ASME B36.19M schedule 40s

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code C3: 1.4435, investment casting
Code F4: 1.4539, forged body

Threaded connection

MG	DN	Connection type code [1]				
		1			31	6, 6K
		Material code [2]				
		12	37	90	37, 90	40, 42
10	**10**	-	-	-	-	W
	12	X	X	-	-	-
	15	X	X	-	-	W
25	**15**	-	X	X	X	W
	20	-	X	X	X	W
	25	-	X	X	X	W
40	**32**	-	X	X	X	W
	40	-	X	X	X	W
50	**50**	-	X	X	X	W

MG = diaphragm size, X = standard
W = welded assembly

1) **Connection type**
Code 1: Threaded socket DIN ISO 228
Code 31: NPT female thread
Code 6: Threaded spigot DIN 11851
Code 6K: Cone spigot and union nut DIN 11851

2) **Valve body material**
Code 12: CW614N, CW617N (brass)
Code 37: 1.4408, investment casting
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code 90: EN-GJS-400-18-LT (GGG 40.3)

Flange

MG	DN	Connection type code [1]				
		8		38	39	
		Material code [2]				
		8, 17, 18, 39, 83	40, 42, C3	17, 18 [3], 39, 83	8, 17, 18, 39, 83	40, 42, C3
25	**15**	X	W	-	X	W
	20	X	W	X	X	W
	25	X	W	X	X	W
40	**32**	X	W	-	X	W
	40	X	W	X	X	W
50	**50**	X	W	X	X	W

MG = diaphragm size, X = standard
W = welded assembly

1) **Connection type**
Code 8: Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D
Code 38: Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D
Code 39: Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D

2) **Valve body material**
Code 8: EN-GJL-250 (GG 25)
Code 17: EN-GJS-400-18-LT (GGG 40.3), PFA lined
Code 18: EN-GJS-400-18-LT (GGG 40.3), PP lined
Code 39: 1.4408, PFA lined
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code 83: EN-GJS-400-18-LT (GGG 40.3), hard rubber lined
Code C3: 1.4435, investment casting

3) on request

Clamp

MG	DN	Connection type code [1]						
		80	82	88	8A	8E	8P	8T
		Material code [2]						
		40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4
10	**10**	-	K	-	K	-	-	-
	15	K	W	K	K	-	K	K
	20	K	-	K	-	-	K	K
25	**15**	-	W	-	K	-	-	-
	20	K	K	K	K	-	K	K
	25	K	K	K	K	K	K	K
40	**32**	-	W	-	K	K	-	-
	40	K	W	K	K	K	K	K
50	**50**	K	W	K	K	K	K	K
	65	W	-	W	-	W	W	W

MG = diaphragm size
K = connections completely machined (not welded)
W = welded assembly

1) **Connection type**
Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configuration D
Code 82: Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D
Code 88: Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configuration D
Code 8A: Clamp DIN 32676 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D
Code 8E: Clamp ISO 2852 for pipe ISO 2037, clamp SMS 3017 for pipe SMS 3008 face-to-face dimension FTF EN 558 series 7, length only for body configuration D
Code 8P: Clamp DIN 32676 series C, face-to-face dimension FTF ASME BPE, length only for body configuration D
Code 8T: Clamp DIN 32676 series C, face-to-face dimension FTF EN 558 series 7, length only for body configuration D

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code F4: 1.4539, forged body

Availability of product compliance

	Diaphragm material code [1]	Body material code [2]
Food		
FDA	17, 54, 5M	17, 39, 81
TA Luft (German Clean Air Act)		
TA Luft (German Clean Air Act)	All materials	17, 18, 81, 91
Drinking water		
Belgaqua (B)	28	37

1) **Diaphragm material**
Code 17: EPDM
Code 28: EPDM
Code 54: PTFE/EPDM one-piece
Code 5M: PTFE/EPDM two-piece

2) **Valve body material**
Code 17: EN-GJS-400-18-LT (GGG 40.3), PFA lined
Code 18: EN-GJS-400-18-LT (GGG 40.3), PP lined
Code 37: 1.4408, investment casting
Code 39: 1.4408, PFA lined
Code 81: EN-GJS-500-7 (GGG 50), PFA lined
Code 91: EN-GJS-500-7 (GGG 50), PP lined

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
Diaphragm valve, electrically operated, electro-mechanical hollow shaft actuator, eSyDrive	649

2 DN	Code
DN 10	10
DN 12	12
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65

3 Body configuration	Code
Tank bottom valve body	B
Body configuration code B: Dimensions and designs on request	
2/2-way body	D
T body	T
Body configuration code T: Dimensions on request	

4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A / DIN 11866 series A formerly DIN 11850 series 2	17
Spigot DIN 11850 series 3	18
Spigot JIS-G 3447	35
Spigot JIS-G 3459 schedule 10s	36
Spigot SMS 3008	37
Spigot BS 4825, part 1	55
Spigot ASME BPE/DIN 11866 series C	59
Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
Spigot ANSI/ASME B36.19M schedule 10s	63
Spigot ANSI/ASME B36.19M schedule 5s	64
Spigot ANSI/ASME B36.19M schedule 40s	65
Threaded connection	
Threaded socket DIN ISO 228	1
NPT female thread	31
Threaded spigot DIN 11851	6
Cone spigot and union nut DIN 11851	6K
Flange	
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	8
Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D	38

4 Connection type	Code
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	39
Clamp	
Clamp ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configuration D	80
Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	82
Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	88
Clamp DIN 32676 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D	8A
Clamp ISO 2852 for pipe ISO 2037, clamp SMS 3017 for pipe SMS 3008 face-to-face dimension FTF EN 558 series 7, length only for body configuration D	8E
Clamp DIN 32676 series C, face-to-face dimension FTF ASME BPE, length only for body configuration D	8P
Clamp DIN 32676 series C, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	8T

5 Valve body material	Code
Cast iron material	
EN-GJL-250 (GG 25)	8
SG iron material	
EN-GJS-400-18-LT (GGG 40.3), PFA lined	17
EN-GJS-400-18-LT (GGG 40.3), PP lined	18
EN-GJS-400-18-LT (GGG 40.3), hard rubber lined	83
EN-GJS-400-18-LT (GGG 40.3)	90
Investment casting material	
1.4408, investment casting	37
1.4408, PFA lined	39
1.4435, investment casting	C3
Forged material	
1.4435 (F316L), forged body	40
1.4435 (BN2), forged body, Δ Fe < 0.5%	42
1.4539, forged body	F4
Brass	
CW614N, CW617N (brass)	12

6 Diaphragm material	Code
Elastomer	
NBR	2
FKM	4

6 Diaphragm material	Code
CR	8
EPDM	13
EPDM	17
EPDM	19
EPDM	28
EPDM	29
EPDM	36
PTFE	
PTFE/EPDM one-piece	54
PTFE/EPDM two-piece	5M
Note: The PTFE/EPDM diaphragm (code 5M) is available from diaphragm size 25.	

7 Voltage/Frequency	Code
24 V DC	C1

8 Control module	Code
OPEN/CLOSE, positioner and process controller	L0

9 Surface	Code
Ra ≤ 6.3 µm (250 µin.) for media wetted surfaces, mechanically polished internal	1500
Ra ≤ 0.8 µm (30 µin.) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1502
Ra ≤ 0.8 µm (30 µin.) for media wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external	1503
Ra ≤ 0.6 µm (25 µin.) for media wetted surfaces, mechanically polished internal	1507
Ra ≤ 0.6 µm (25 µin.) for media wetted surfaces, electropolished internal/external	1508
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 H4, mechanically polished internal	1536
Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external	1537
Ra ≤ 0.25 µm (10 µin.) for media wetted surfaces *), in accordance with DIN 11866 HE5, electropolished internal/external, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1516
Ra ≤ 0.25 µm (10 µin.) for media wetted surfaces *), in accordance with DIN 11866 H5, mechanically polished internal, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1527
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF1, mechanically polished internal	SF1
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF2, mechanically polished internal	SF2
Ra max. 0.76 µm (30 µin.) for media wetted surfaces, in accordance with ASME BPE SF3, mechanically polished internal	SF3
Ra max. 0.38 µm (15 µin.) for media wetted surfaces, in accordance with ASME BPE SF4, electropolished internal/external	SF4
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF5, electropolished internal/external	SF5

9 Surface	Code
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF6, electropolished internal/external	SF6

10 Actuator version	Code
Actuator size 0	0A
Actuator size 1	1A
Actuator size 2	2A

11 Special version	Code
Without	
BELGAQUA certification	B
Special version for oxygen, maximum medium temperature: 60 °C	S

12 CONEXO	Code
Without	
Integrated RFID chip for electronic identification and traceability	C

Order example

Ordering option	Code	Description
1 Type	649	Diaphragm valve, electrically operated, electro-mechanical hollow shaft actuator, eSyDrive
2 DN	50	DN 50
3 Body configuration	D	2/2-way body
4 Connection type	60	Spigot ISO 1127/EN 10357 series C/DIN 11866 series B
5 Valve body material	40	1.4435 (F316L), forged body
6 Diaphragm material	5M	PTFE/EPDM two-piece
7 Voltage/Frequency	C1	24 V DC
8 Control module	L0	OPEN/CLOSE, positioner and process controller
9 Surface	1503	Ra ≤ 0.8 µm (30 µin.) for media wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external
10 Actuator version	2A	Actuator size 2
11 Special version	S	Special version for oxygen, maximum medium temperature: 60 °C
12 CONEXO		Without

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.

For special oxygen version (code S):only gaseous oxygen

Temperature

Media temperature:

Diaphragm material	Standard	Special version for oxygen
NBR (Code 2)	-10 — 100 °C	-
FKM (Code 4)	-10 — 90 °C	-
CR (Code 8)	-10 — 100 °C	-
EPDM (Code 13)	-10 — 100 °C	0 — 60 °C
EPDM (Code 17)	-10 — 100 °C	-
EPDM (Code 19)	-10 — 100 °C	0 — 60 °C
EPDM (code 28)	-10 — 85 °C	-
EPDM (Code 29)	-10 — 100 °C	-
EPDM (Code 36)	-10 — 100 °C	-
PTFE/EPDM (Code 54)	-10 — 100 °C	0 — 60 °C
PTFE/EPDM (Code 5M)	-10 — 100 °C	0 — 60 °C

Sterilization temperature:

EPDM (Code 13)	max. 150 °C, max. 60 min per cycle
EPDM (Code 17)	max. 150 °C, max. 180 min per cycle
EPDM (Code 19)	max. 150 °C, max. 180 min per cycle
EPDM (Code 36)	max. 150 °C, max. 60 min per cycle
PTFE/EPDM (Code 54)	max. 150 °C, permanent temperature per cycle
PTFE/EPDM (Code 5M)	max. 150 °C, permanent temperature per cycle

The sterilization temperature is only valid for steam (saturated steam) or superheated water.
If the sterilization temperatures listed above are applied to the EPDM diaphragms for longer periods of time, the service life of the diaphragms will be reduced. In these cases, maintenance cycles must be adapted accordingly.
PTFE diaphragms can also be used as moisture barriers; however, this will reduce their service life. This also applies to PTFE diaphragms exposed to high temperature fluctuations. The maintenance cycles must be adapted accordingly. GEMÜ 555 and 505 globe valves are particularly suitable for use in the area of steam generation and distribution. The following valve arrangement for interfaces between steam pipes and process pipes has proven itself over time: A globe valve for shutting off steam pipes and a diaphragm valve as an interface to the process pipes.

Ambient temperature: -10 — 60 °C

Storage temperature: 0 — 40 °C

Pressure

Operating pressure:

MG	DN	Actuator version	Diaphragm material		
			Elastomer	PTFE	
				Forged material	Cast material with and without lining
10	**10 - 20**	**0A**	0 - 10	0 - 10	0 - 6
25	**15 - 25**	**1A**	0 - 10	0 - 10	0 - 6
40	**32 - 40**	**1A**	0 - 5	0 - 2	0 - 2
		2A	0 - 10	0 - 10	0 - 6
50	**50 - 65**	**2A**	0 - 10	0 - 10	0 - 6

MG = diaphragm size
All pressures are gauge pressures. Operating pressure values were determined with static operating pressure applied on one side of a closed valve. Sealing at the valve seat and atmospheric sealing is ensured for the given values.
Information on operating pressures applied on both sides and for high purity media on request.

Pressure rating: PN 16

Leakage rate: Leakage rate A to P11/P12 EN 12266-1

Kv values:

MG	DN	Connection type							
		0	16	17	18	37	59	60	1
10	**10**	-	2.4	2.4	2.4	-	2.2	3.3	-
	12	-	-	-	-	-	-	-	3.2
	15	3.3	3.8	3.8	3.8	-	2.2	4.0	3.4
	20	-	-	-	-	-	3.8	-	-
25	**15**	4.1	4.7	4.7	4.7	-	-	7.4	6.5
	20	6.3	7.0	7.0	7.0	-	4.4	13.2	10.0
	25	13.9	15.0	15.0	15.0	12.6	12.2	16.2	14.0
40	**32**	25.3	27.0	27.0	27.0	26.2	-	30.0	26.0
	40	29.3	30.9	30.9	30.9	30.2	29.5	32.8	33.0
50	**50**	46.5	48.4	48.4	48.4	51.7	50.6	55.2	60.0
	65	-	-	-	-	62.2	61.8	-	-

MG = diaphragm size, Kv values in m^3/h
Kv values determined in accordance with DIN EN 60534 standard, inlet pressure 5 bar, Δp 1 bar, stainless steel valve body and soft elastomer diaphragm. The Kv values for other product configurations (e.g. other diaphragm or body materials) may differ. In general, all diaphragms are subject to the influences of pressure, temperature, the process and their tightening torques. Therefore the Kv values may exceed the tolerance limits of the standard.
The Kv value curve (Kv value dependent on valve stroke) can vary depending on the diaphragm material and duration of use.

Kv values:

MG	DN	SG iron 40.3 connection type 1, 31	SG iron 40.3 connection type 8, 39	PFA / PP	Hard rubber	Investment casting connection type 1, 31
25	**15**	8.0	10.0	5.0	6.0	6.5
	20	11.5	14.0	9.0	11.0	10.0
	25	11.5	17.0	13.0	15.0	14.0
40	**32**	28.0	36.0	23.0	29.0	26.0
	40	28.0	40.0	26.0	32.0	33.0
50	**50**	60.0	68.0	47.0	64.0	60.0

MG = diaphragm size, Kv values in m³/h
Kv values determined in accordance with DIN EN 60534, inlet pressure 5 bar, Δp 1 bar, with connection flange EN 1092 length EN 558 series 1 (or threaded socket DIN ISO 228 for body material GGG40.3) and soft elastomer diaphragm. The Kv values for other product configurations (e.g. other diaphragm or body materials) may differ. In general, all diaphragms are subject to the influences of pressure, temperature, the process and their tightening torques. Therefore the Kv values may exceed the tolerance limits of the standard.
The Kv value curve (Kv value dependent on valve stroke) can vary depending on the diaphragm material and duration of use.

Product conformity

Machinery Directive: 2006/42/EC

Pressure Equipment Directive: 2014/68/EU

Food:
Regulation (EC) No. 1935/2004*
Regulation (EC) No. 10/2011*
FDA*
USP* Class VI

EMC Directive: 2014/30/EU
Technical standards used:

Interference resistance	DIN EN 61000-6-2 (Nov. 2019) DIN EN 61326-1 (industry)
Interference emission	Actuator size 2, 3 DIN EN 61000-6-4 Interference emission class: Class A Interference emission group: Group 1
	Actuator size 4, 5 DIN EN 61800-3 Category: C3 The product is intended for operation in industrial environments.

Drinking water: Belgaqua*

* depending on version and / or operating parameters

Mechanical data

Protection class: IP 65 acc. to EN 60529

Actuating speed:

Actuator version 0A	adjustable, max. 6 mm/s
Actuator version 1A	adjustable, max. 6 mm/s
Actuator version 2A	adjustable, max. 4 mm/s

Weight:

Actuator

Actuator version 0A	2.1 kg
Actuator version 1A	3.0 kg
Actuator version 2A	9.0 kg

Body

Connection types code		0, 16, 17, 18, 35, 36, 37, 55, 59, 60, 63, 64, 65	1	1	1, 31	31	6, 6K	8, 38, 39	80, 82, 88, 8A, 8E, 8P, 8T
Valve body		Spigot	Threaded socket				Threaded spigot	Flange	Clamp
Material code			12	37	90	37			
MG	DN								
10	10	0.30	-	-	-	-	0.33	-	0.30
	12	-	0.17	0.17	-	-	-	-	-
	15	0.30	0.26	0.26	-	-	0.35	-	0.43
	20	-	-	-	-	-	-	-	0.43
25	15	0.62	-	0.32	0.50	0.32	0.71	1.50	0.75
	20	0.58	-	0.34	0.60	0.34	0.78	2.20	0.71
	25	0.55	-	0.39	0.90	0.39	0.79	2.80	0.63
40	32	1.45	-	0.88	1.40	0.88	1.66	3.40	1.62
	40	1.32	-	0.93	1.90	0.93	1.62	4.50	1.50
50	50	2.25	-	1.56	2.70	1.56	2.70	7.45	2.50
	65	2.20	-	-	-	-	-	-	2.30

MG = diaphragm size, weight in kg

Duty cycle and service life

Service life: **Control operation** - Class C acc. to EN 15714-2 (1,800,000 start-ups and 1200 start-ups per hour).
Open / Close duty - Minimum 1,000,000 switching cycles at room temperature and permissible duty cycle.

Duty cycle: **Control operation** - Class C acc. to EN 15714-2.
Open/Close duty - 100% ED.

Electrical data

Supply voltage:

	Actuator size 0	Actuator size 1	Actuator size 2
Voltage	Uv = 24 V DC ± 10%		
Rating	Max. 28 W	Max. 65 W	Max. 120 W
Reverse battery protection	Yes		

Analogue input signals

Set value

Input signal: 0/4 - 20 mA; 0 – 10 V DC (selectable using software)

Input type: passive

Input resistance: 250 Ω

Accuracy/linearity: ≤ ±0.3% of full flow

Temperature drift: ≤ ±0.1% / 10°K

Resolution: 12 bit

Reverse battery protection: No

Overload proof: Yes (up to ± 24 V DC)

Process actual value

Input signal: 0/4 - 20 mA; 0 – 10 V DC (selectable using software)

Input type: passive

Input resistance: 250 Ω

Accuracy/linearity: ≤ ±0.3% of full flow

Temperature drift: ≤ ±0.1% / 10°K

Resolution: 12 bit

Reverse battery protection: No

Overload proof: Yes (up to ± 24 V DC)

Digital input signals

Digital inputs:	3
Function:	selectable using software
Voltage:	24 V DC
Logic level "1":	>14 V DC
Logic level "0":	< 8 V DC
Input current:	typ. 2.5 mA (at 24 V DC)

Analogue output signals

Actual value

Output signal:	0/4 - 20 mA; 0 – 10 V DC (selectable using software)
Output type:	Active (AD5412)
Accuracy:	≤ ±1% of full flow
Temperature drift:	≤ ±0.1% / 10°K
Load resistor:	≤ 750 kΩ
Resolution:	10 bit
Overload proof:	Yes (up to ± 24 V DC)
Short-circuit proof:	Yes

Digital output signals

Switching outputs 1 and 2

Design:	2x make contact, potential-free
Switching voltage:	max. 48 V DC / 48 V AC
Switch rating:	max. 60 W / 2A
Switch points:	Adjustable 0 - 100 %

Switching output 3

Function:	Signal fault
Type of contact:	Push-Pull
Switching voltage:	Supply voltage
Switching current:	≤ 0.1 A
Drop voltage:	Max. 2.5 V DC at 0.1 A
Overload proof:	Yes (up to ± 24 V DC)
Short-circuit proof:	Yes
Pull-Down resistance:	120 kΩ

Communication eSy-Web

Interface:	Ethernet

Function: Parameterisation via web browser

IP address: 192.168.2.1 alterable via web browser

Subnet screen: 255.255.252.0 alterable via web browser

The actuator and the PC must be in the same network to use the web server. The IP address of the actuator is entered in the web browser and the actuator can then be parametrised. In order to use more than one actuator, a definitive IP address must be assigned to each actuator in the same network.

Communication Modus TCP

Interface: Modbus TCP

IP address: 192.168.2.1 alterable via web browser

Subnet screen: 255.255.252.0 alterable via web browser

Port: 502

Supported function codes:

Code Dezimal	Code Hex	Function
3	0x03	Read Holding Registers
4	0x04	Read Input Registers
6	0x06	Write Single Register
16	0x10	Write Multiple Registers
23	0x17	Read / Write Multiple Registers

Behaviour in the event of an error

Function: In the event of an error the valve moves to the error position.

Notes: Moving to the error position is only possible with full power supply. This behaviour is not a safety position. The valve must be operated with a GEMÜ 1571 emergency power supply module (see accessories) to ensure the function in case of voltage loss.

Error position: Closed, open or hold (adjustable via eSy-web web interface).

Electrical connection

Connection X1

7-pin plug, Binder, type 693

Pin	Signal name
Pin 1	Uv, 24 V DC supply voltage
Pin 2	Uv GND
Pin 3	Relay output K1, common
Pin 4	Relay output K1, make contact
Pin 5	Relay output K2, common
Pin 6	Relay output K2, make contact
Pin PE	Function earth

Connection X2

5-pin M12 built-in socket, D-coded

Pin	Signal name
Pin 1	Tx + (Ethernet)
Pin 2	Rx + (Ethernet)
Pin 3	Tx - (Ethernet)
Pin 4	Rx - (Ethernet)
Pin 5	Shield

Connection X3

8-pin M12 plug, A-coded

Pin	Signal name
Pin 1	W+ set value input
Pin 2	W – set value input
Pin 3	X + actual value output
Pin 4	GND (actual value output, digital input 1 – 3, error message output)
Pin 5	Error message output 24 V DC
Pin 6	Digital input 3
Pin 7	Digital input 1
Pin 8	Digital input 2

Connection X4

4-pin M12 built-in socket, A-coded

Pin	Signal name
Pin 1	UV, 24 V DC actual value supply
Pin 2	n.c.
Pin 3	GND (actual value supply, actual value input)
Pin 4	X+, process actual value input
Pin 5	n.c.

Connection diagram

= Switch
= Consumer
= Signal direction
= Power supply

Dimensions

Actuator dimensions

MG	DN	Actuator version	A	A1	Ø B	B1	B2	B3
10	**10 - 20**	**0A**	230.0	44.0	68.0	126.0	160.0	190.0
25	**15 - 25**	**1A**	305.0	83.0	82.0	132.0	172.0	250.0
40	**32, 40**	**1A**	303.0	75.0	82.0	132.0	172.0	243.0
		2A	360.0	111.0	134.0	157.0	224.0	296.0
50	**50, 65**	**2A**	360.0	111.0	134.0	157.0	224.0	296.0

Dimensions in mm
MG = diaphragm size
* CT = A + H1 (see body dimensions)

Body dimensions

Spigot DIN/EN/ISO (code 0, 16, 17, 18, 60)

Connection type spigot DIN/EN/ISO (code 0, 16, 17, 18, 60) [1], forged material (code 40, 42, F4) [2]

MG	DN	NPS	c (min)	ød					H1	L	s				
				Connection type							Connection type				
				0	16	17	18	60			0	16	17	18	60
10	**10**	**3/8"**	25.0	-	12.0	13.0	14.0	17.2	12.5	108.0	-	1.0	1.5	2.0	1.6
	15	**1/2"**	25.0	18.0	18.0	19.0	20.0	21.3	12.5	108.0	1.5	1.0	1.5	2.0	1.6
25	**15**	**1/2"**	25.0	18.0	18.0	19.0	20.0	21.3	19.0	120.0	1.5	1.0	1.5	2.0	1.6
	20	**3/4"**	25.0	22.0	22.0	23.0	24.0	26.9	19.0	120.0	1.5	1.0	1.5	2.0	1.6
	25	**1"**	25.0	28.0	28.0	29.0	30.0	33.7	19.0	120.0	1.5	1.0	1.5	2.0	2.0
40	**32**	**1¼"**	25.0	34.0	34.0	35.0	36.0	42.4	26.0	153.0	1.5	1.0	1.5	2.0	2.0
	40	**1½"**	25.0	40.0	40.0	41.0	42.0	48.3	26.0	153.0	1.5	1.0	1.5	2.0	2.0
50	**50**	**2"**	30.0	52.0	52.0	53.0	54.0	60.3	32.0	173.0	1.5	1.0	1.5	2.0	2.0

Connection type spigot DIN/EN/ISO (code 17, 60) [1], investment casting material (code C3) [2]

MG	DN	NPS	c (min)	ød		H1	L	s	
				Connection type				Connection type	
				17	60			17	60
10	**10**	**3/8"**	25.0	13.0	17.2	12.5	108.0	1.5	1.6
	15	**1/2"**	25.0	19.0	21.3	12.5	108.0	1.5	1.6
25	**15**	**1/2"**	25.0	19.0	21.3	13.0	120.0	1.5	1.6
	20	**3/4"**	25.0	23.0	26.9	16.0	120.0	1.5	1.6
	25	**1"**	25.0	29.0	33.7	19.0	120.0	1.5	2.0
40	**32**	**1¼"**	25.0	35.0	42.4	24.0	153.0	1.5	2.0
	40	**1½"**	25.0	41.0	48.3	26.0	153.0	1.5	2.0
50	**50**	**2"**	30.0	53.0	60.3	32.0	173.0	1.5	2.0

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 0: Spigot DIN
Code 16: Spigot EN 10357 series B, formerly DIN 11850 series 1
Code 17: Spigot EN 10357 series A / DIN 11866 series A formerly DIN 11850 series 2
Code 18: Spigot DIN 11850 series 3
Code 60: Spigot ISO 1127/EN 10357 series C/DIN 11866 series B

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code C3: 1.4435, investment casting
Code F4: 1.4539, forged body

Spigot ASME/BS (code 55, 59, 63, 64, 65)

Connection type spigot ASME/BS (code 55, 59, 63, 64, 65) [1], forged material (code 40, 42, F4) [2]

MG	DN	NPS	c (min)	ød					H1	L	s				
				Connection type							Connection type				
				55	59	63	64	65			55	59	63	64	65
10	**10**	**3/8"**	25.0	9.53	9.53	17.1	-	17.1	12.5	108.0	1.2	0.89	1.65	-	2.31
	15	**1/2"**	25.0	12.70	12.70	21.3	21.3	21.3	12.5	108.0	1.2	1.65	2.11	1.65	2.77
	20	**3/4"**	25.0	19.05	19.05	-	-	-	12.5	108.0	1.2	1.65	-	-	-
25	**15**	**1/2"**	25.0	-	-	21.3	21.3	21.3	19.0	120.0	-	-	2.11	1.65	2.77
	20	**3/4"**	25.0	19.05	19.05	26.7	26.7	26.7	19.0	120.0	1.2	1.65	2.11	1.65	2.87
	25	**1"**	25.0	-	25.40	33.4	33.4	33.4	19.0	120.0	-	1.65	2.77	1.65	3.38
40	**32**	**1¼"**	25.0	-	-	42.2	42.2	42.2	26.0	153.0	-	-	2.77	1.65	3.56
	40	**1½"**	25.0	-	38.10	48.3	48.3	48.3	26.0	153.0	-	1.65	2.77	1.65	3.68
50	**50**	**2"**	30.0	-	50.80	60.3	60.3	60.3	32.0	173.0	-	1.65	2.77	1.65	3.91
	65	**2½"**	30.0	-	63.50	-	-	-	34.0	173.0	-	1.65	-	-	-

Connection type spigot ASME BPE (code 59) [1], investment casting material (code C3) [2]

MG	DN	NPS	c (min)	ød	H1	L	s
10	**20**	**3/4"**	25.0	19.05	12.5	108.0	1.65
25	**20**	**3/4"**	25.0	19.05	16.0	120.0	1.65
	25	**1"**	25.0	25.40	19.0	120.0	1.65
40	**32**	**1¼"**	25.0	-	-	153.0	-
	40	**1½"**	25.0	38.10	26.0	153.0	1.65
50	**50**	**2"**	30.0	50.80	32.0	173.0	1.65
	65	**2½"**	30.0	63.50	-	173.0	1.65

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 55: Spigot BS 4825, part 1
Code 59: Spigot ASME BPE/DIN 11866 series C
Code 63: Spigot ANSI/ASME B36.19M schedule 10s
Code 64: Spigot ANSI/ASME B36.19M schedule 5s
Code 65: Spigot ANSI/ASME B36.19M schedule 40s

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code C3: 1.4435, investment casting
Code F4: 1.4539, forged body

Spigot JIS/SMS (code 35, 36, 37)

Connection type spigot JIS/SMS (code 35, 36, 37) [1], forged material (code 40, 42, F4) [2]

MG	DN	NPS	c (min)	ød			H1	L	s		
				Connection type					Connection type		
				35	36	37			35	36	37
10	**10**	**3/8"**	25.0	-	17.3	-	12.5	108.0	-	1.65	-
	15	**1/2"**	25.0	-	21.7	-	12.5	108.0	-	2.10	-
25	**15**	**1/2"**	25.0	-	21.7	-	19.0	120.0	-	2.10	-
	20	**3/4"**	25.0	-	27.2	-	19.0	120.0	-	2.10	-
	25	**1"**	25.0	25.4	34.0	25.0	19.0	120.0	1.2	2.80	1.2
40	**32**	**1¼"**	25.0	31.8	42.7	33.7	26.0	153.0	1.2	2.80	1.2
	40	**1½"**	25.0	38.1	48.6	38.0	26.0	153.0	1.2	2.80	1.2
50	**50**	**2"**	30.0	50.8	60.5	51.0	32.0	173.0	1.5	2.80	1.2
	65	**2½"**	30.0	63.5	-	63.5	34.0	173.0	2.0	-	1.6

Connection type spigot SMS (code 37) [1], investment casting material (code C3) [2]

MG	DN	NPS	c (min)	ød	H1	L	s
25	**25**	**1"**	25.0	25.0	19.0	120.0	1.2
40	**40**	**1½"**	25.0	38.0	26.0	153.0	1.2
50	**50**	**2"**	30.0	51.0	32.0	173.0	1.2

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 35: Spigot JIS-G 3447
Code 36: Spigot JIS-G 3459 schedule 10s
Code 37: Spigot SMS 3008

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code C3: 1.4435, investment casting
Code F4: 1.4539, forged body

Threaded socket DIN (code 1)

Connection type threaded socket (code 1) [1], brass material (code 12)

MG	DN	NPS	H	H1	L	n	R	SW 2	t
10	**12**	**3/8"**	23.0	11.0	55.0	2	G 3/8	22.0	13.0
	15	**1/2"**	29.0	14.0	75.0	2	G 1/2	25.0	15.0

Connection type threaded socket (code 1) [1], investment casting material (code 37)

MG	DN	NPS	H	H1	L	n	R	SW 2	t
10	**12**	**3/8"**	25.0	13.0	55.0	2	G 3/8	22.0	12.0
	15	**1/2"**	30.0	15.0	68.0	2	G 1/2	27.0	15.0
25	**15**	**1/2"**	28.3	14.8	85.0	6	G 1/2	27.0	15.0
	20	**3/4"**	33.3	17.3	85.0	6	G 3/4	32.0	16.0
	25	**1"**	42.3	21.8	110.0	6	G 1	41.0	13.0
40	**32**	**1¼"**	51.3	26.3	120.0	8	G 1¼	50.0	20.0
	40	**1½"**	56.3	28.8	140.0	8	G 1½	55.0	18.0
50	**50**	**2"**	71.3	36.0	165.0	8	G 2	70.0	26.0

Connection type threaded socket (code 1) [1], SG iron material (code 90) [2]

MG	DN	NPS	H	H1	L	n	R	SW 2	t
25	**15**	**1/2"**	32.7	16.7	85.0	6	G 1/2	32	15.0
	20	**3/4"**	42.0	21.5	85.0	6	G 3/4	41	16.3
	25	**1"**	46.7	23.7	110.0	6	G 1	46	19.1
40	**32**	**1¼"**	56.0	28.5	120.0	6	G 1¼	55	21.4
	40	**1½"**	66.0	33.5	140.0	6	G 1½	65	21.4
50	**50**	**2"**	76.0	38.5	165.0	6	G 2	75	25.7

Dimensions in mm
MG = diaphragm size
n = number of flats

1) **Connection type**
Code 1: Threaded socket DIN ISO 228

2) **Valve body material**
Code 12: CW614N, CW617N (brass)
Code 37: 1.4408, investment casting
Code 90: EN-GJS-400-18-LT (GGG 40.3)

Threaded socket NPT (code 31)

Connection type threaded socket NPT (code 31) [1], investment casting material (code 37) [2]

MG	DN	NPS	H	H1	L	n	R	SW 2	t
25	**15**	**1/2"**	28.3	14.8	85.0	6	NPT 1/2	27.0	14.0
	20	**3/4"**	33.3	17.3	85.0	6	NPT 3/4	32.0	14.0
	25	**1"**	42.3	21.8	110.0	6	NPT 1	41.0	17.0
40	**32**	**1¼"**	51.3	26.3	120.0	8	NPT 1¼	50.0	17.0
	40	**1½"**	56.3	28.8	140.0	8	NPT 1½	55.0	17.0
50	**50**	**2"**	71.3	36.3	165.0	8	NPT 2	70.0	18.0

Connection type threaded socket NPT (code 31) [1], SG iron material (code 90) [2]

MG	DN	NPS	H	H1	L	n	R	SW 2	t
25	**15**	**1/2"**	32.7	16.7	85.0	6	NPT 1/2	32	13.6
	20	**3/4"**	42.0	21.5	85.0	6	NPT 3/4	41	14.1
	25	**1"**	46.7	23.7	110.0	6	NPT 1	46	16.8
40	**32**	**1¼"**	56.0	28.5	120.0	6	NPT 1¼	55	17.3
	40	**1½"**	66.0	33.5	140.0	6	NPT 1½	65	17.3
50	**50**	**2"**	76.0	38.5	165.0	6	NPT 2	75	17.7

Dimensions in mm
MG = diaphragm size
n = number of flats

1) **Connection type**
Code 31: NPT female thread

2) **Valve body material**
Code 37: 1.4408, investment casting
Code 90: EN-GJS-400-18-LT (GGG 40.3)

Threaded spigot DIN (code 6)

Connection type threaded spigot DIN (code 6) [1], forged material (code 40, 42) [2]

MG	DN	NPS	ød1	H1	L	R
10	**10**	**3/8"**	10.0	12.5	118.0	Rd 28 x 1/8
	15	**1/2"**	16.0	12.5	118.0	Rd 34 x 1/8
25	**15**	**1/2"**	16.0	19.0	118.0	Rd 34 x 1/8
	20	**3/4"**	20.0	19.0	118.0	Rd 44 x 1/6
	25	**1"**	26.0	19.0	128.0	Rd 52 x 1/6
40	**32**	**1¼"**	32.0	26.0	147.0	Rd 58 x 1/6
	40	**1½"**	38.0	26.0	160.0	Rd 65 x 1/6
50	**50**	**2"**	50.0	32.0	191.0	Rd 78 x 1/6

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 6: Threaded spigot DIN 11851

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Cone spigot DIN (code 6K)

Connection type cone spigot DIN (code 6K) [1], forged material (code 40, 42) [2]

MG	DN	NPS	ød1	H1	L	R
10	**10**	**3/8"**	10.0	12.5	116.0	Rd 28 x 1/8
	15	**1/2"**	16.0	12.5	116.0	Rd 34 x 1/8
25	**15**	**1/2"**	16.0	19.0	116.0	Rd 34 x 1/8
	20	**3/4"**	20.0	19.0	114.0	Rd 44 x 1/6
	25	**1"**	26.0	19.0	127.0	Rd 52 x 1/6
40	**32**	**1¼"**	32.0	26.0	147.0	Rd 58 x 1/6
	40	**1½"**	38.0	26.0	160.0	Rd 65 x 1/6
50	**50**	**2"**	50.0	32.0	191.0	Rd 78 x 1/6

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 6K: Cone spigot and union nut DIN 11851

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Flange EN (code 8)

Connection type flange, length EN 558 (code 8) [1], cast iron material (code 8), SG iron material (code 17, 18, 83), investment casting material (code 39, C3), forged material (code 40, 42) [2]

MG	DN	NPS	øD	FTF		H1				øk	øL	n
				Material		Material						
				8, 17, 18, 39, 83	C3	8	17, 18, 39, 83	C3	40, 42			
25	**15**	**1/2"**	95.0	130.0	150.0	19.0	18.0	13.0	19.0	65.0	14.0	4
	20	**3/4"**	105.0	150.0	150.0	19.0	20.5	16.0	19.0	75.0	14.0	4
	25	**1"**	115.0	160.0	160.0	19.0	23.0	19.0	19.0	85.0	14.0	4
40	**32**	**1¼"**	140.0	180.0	180.0	28.0	28.7	24.0	26.0	100.0	19.0	4
	40	**1½"**	150.0	200.0	200.0	28.0	33.0	26.0	26.0	110.0	19.0	4
50	**50**	**2"**	165.0	230.0	230.0	35.0	39.0	32.0	32.0	125.0	19.0	4

Dimensions in mm
MG = diaphragm size
n = number of bolts

1) **Connection type**
Code 8: Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D

2) **Valve body material**
Code 8: EN-GJL-250 (GG 25)
Code 17: EN-GJS-400-18-LT (GGG 40.3), PFA lined
Code 18: EN-GJS-400-18-LT (GGG 40.3), PP lined
Code 39: 1.4408, PFA lined
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code 83: EN-GJS-400-18-LT (GGG 40.3), hard rubber lined
Code C3: 1.4435, investment casting

Flange ANSI Class (code 38, 39)

Connection type flange, length MSS SP-88 (code 38) [1], SG iron material (code 17, 18, 83), investment casting material (code 39)

MG	DN	NPS	øD	FTF		H1	øk	øL	n
				Material					
				17, 18, 39	83				
25	**20**	**3/4"**	100.0	146.0	146.4	20.5	69.9	15.9	4
	25	**1"**	110.0	146.0	146.4	23.0	79.4	15.9	4
40	**40**	**1½"**	125.0	175.0	171.4	33.0	98.4	15.9	4
50	**50**	**2"**	150.0	200.0	197.4	39.0	120.7	19.0	4

Connection type flange, length EN 558 (code 39) [1], SG iron material (code 17, 18), investment casting material (code C3), forged material (code 40, 42) [2]

MG	DN	NPS	øD	FTF	H1			øk	øL	n
					Material					
					17, 18	C3	40, 42			
25	**15**	**1/2"**	90.0	130.0	18.0	13.0	19.0	60.3	15.9	4
	20	**3/4"**	100.0	150.0	20.5	16.0	19.0	69.9	15.9	4
	25	**1"**	110.0	160.0	23.0	19.0	19.0	79.4	15.9	4
40	**32**	**1¼"**	115.0	180.0	28.7	24.0	26.0	88.9	15.9	4
	40	**1½"**	125.0	200.0	33.0	26.0	26.0	98.4	15.9	4
50	**50**	**2"**	150.0	230.0	39.0	32.0	32.0	120.7	19.0	4

Dimensions in mm
MG = diaphragm size
n = number of bolts

1) **Connection type**
Code 38: Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D
Code 39: Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D

2) **Valve body material**
Code 8: EN-GJL-250 (GG 25)
Code 17: EN-GJS-400-18-LT (GGG 40.3), PFA lined
Code 18: EN-GJS-400-18-LT (GGG 40.3), PP lined
Code 39: 1.4408, PFA lined
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code 83: EN-GJS-400-18-LT (GGG 40.3), hard rubber lined
Code C3: 1.4435, investment casting

Clamp (code 80, 82, 88, 8A, 8E, 8P, 8T)

Connection type clamp DIN/ISO (code 82, 8A, 8E) [1], forged material (code 40, 42, F4) [2]

MG	DN	NPS	ød1			ød3			H1	L		
			Connection type			Connection type				Connection type		
			82	8A	8E	82	8A	8E		82	8A	8E
10	**10**	**3/8"**	14.0	10.0	-	25.0	34.0	-	12.5	108.0	108.0	-
	15	**1/2"**	18.1	16.0	-	50.5	34.0	-	12.5	108.0	108.0	-
25	**15**	**1/2"**	18.1	16.0	-	50.5	34.0	-	19.0	108.0	108.0	-
	20	**3/4"**	23.7	20.0	-	50.5	34.0	-	19.0	117.0	117.0	-
	25	**1"**	29.7	26.0	22.6	50.5	50.5	50.5	19.0	1270	127.0	127.0
40	**32**	**1¼"**	38.4	32.0	31.3	64.0	50.5	50.5	26.0	146.0	146.0	146.0
	40	**1½"**	44.3	38.0	35.6	64.0	50.5	50.5	26.0	159.0	159.0	159.0
50	**50**	**2"**	56.3	50.0	48.6	77.5	64.0	64.0	32.0	190.0	190.0	190.0
	65	**2½"**	-	-	60.3	-	-	77.5	34.0	-	-	216.0

Connection type clamp DIN/ASME (code 80, 88, 8P, 8T) [1], forged material (code 40, 42, F4) [2]

MG	DN	NPS	ød1		ød3		H1	L	
			Connection type		Connection type			Connection type	
			80, 8P	88, 8T	80, 8P	88, 8T		80, 8P	88, 8T
10	**15**	**1/2"**	9.40	940	25.0	25.0	12.5	88.9	108.0
	20	**3/4"**	15.75	15.75	25.0	25.0	12.5	101.6	117.0
25	**15**	**1/2"**	9.40	9.40	25.0	25.0	19.0	101.6	108.0
	20	**3/4"**	15.75	15.75	25.0	250	19.0	101.6	117.0
	25	**1"**	22.10	22.10	50.5	50.5	19.0	114.3	127.0
40	**40**	**1½"**	34.80	34.80	50.5	50.5	26.0	139.7	159.0
50	**50**	**2"**	47.50	47.50	64.0	64.0	32.0	158.8	190.0
	65	**2½"**	60.20	60.20	77.5	77.5	34.0	193.8	216.0

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configuration D
Code 82: Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D
Code 88: Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configuration D
Code 8A: Clamp DIN 32676 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D
Code 8E: Clamp ISO 2852 for pipe ISO 2037, clamp SMS 3017 for pipe SMS 3008 face-to-face dimension FTF EN 558 series 7, length only for body configuration D
Code 8P: Clamp DIN 32676 series C, face-to-face dimension FTF ASME BPE, length only for body configuration D
Code 8T: Clamp DIN 32676 series C, face-to-face dimension FTF EN 558 series 7, length only for body configuration D

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code F4: 1.4539, forged body

Accessories

GEMÜ 1218

Connector

The GEMÜ 1218 is a connector (cable socket / cable plug), 7-pin. Straight and/or 90° angled plug type.

Ordering information

GEMÜ 1218 Binder connector			
Connection X1 – supply voltage, relay outputs			
Binder plug	468/eSy series mating connector	Terminal compartment/ screws, 7-pin	88220649 [1)]
		Terminal compartment/ screws, 7-pin, 90°	88377714
		Terminal compartment/ screws, 7-pin, 90°, fitted with a 2 metre cable set	88770522

1) provided in the scope of delivery

GEMÜ 1219

Cable socket / cable plug M12

The GEMÜ 1219 is a connector (cable socket / cable plug) M12, 5-pin. Straight and/or 90° angled plug type. Defined cable length or with threaded connection without cable. Various materials available for the threaded ring.

Ordering information

GEMÜ 1219 Ethernet/M12 cable			
Connection X2 - network connection			
M12 cable plug, straight, 4-pin	Fitted with a 1 metre cable set	Ethernet RJ45	88450499
	Fitted with a 4 metre cable set		88450500
	Fitted with a 15 metre cable set		88450502
M12 cable plug, angled, 4-pin	Fitted with a 4 metre cable set		88715615
Connection X3 – analogue/digital inputs and outputs			
M12 cable socket, straight, 8-pin	Without cable, for cable dia. 6-8 mm		88304829 [1)]
	Fitted with a 5 metre cable set, PUR black cable		88758155
M12 cable socket, angled, 8-pin	Without cable, for cable dia. 6-8 mm		88422823
	Fitted with a 5 metre cable set, PUR black cable		88374574
Connection X4 – actual value supply, actual value input			
M12 cable plug, straight, 5-pin	Without cable PG7	Nickel-plated brass	88208641 [1)]
	Fitted with a 2 metre cable set, PUR black cable	5 x 0.34, nickel-plated brass	88208643
	Fitted with a 5 metre cable set, PUR black cable	5 x 0.34, nickel-plated brass	88208644
M12 cable plug, angled, 5-pin	Without cable, for cable dia. 6-8 mm	Nickel-plated brass	88208645
	Fitted with a 2 metre cable set, PUR black cable	5 x 0.34, nickel-plated brass	88208649
	Fitted with a 5 metre cable set, PUR black cable	5 x 0.34, nickel-plated brass	88208650

1) provided in the scope of delivery

GEMÜ 1571

Emergency power supply module

The GEMÜ 1571 capacitive emergency power supply module is suitable for valves with motorized actuators such as GEMÜ eSyStep and eSyDrive as well as the GEMÜ C53 iComLine control valve. In the event of a power failure, the product provides an uninterrupted power supply so that the valve can be moved to the safety position. The emergency power supply module is available individually or with an expansion module and can supply several valves. The input and output voltage is 24 V.

Ordering information

GEMÜ 1571 emergency power supply module			
Input voltage	Output voltage	Capacity	Item number
24 V	24 V	1700 Ws	88660398
24 V	24 V	13200 Ws	88751062

GEMÜ 1573

Switching power supply unit

The GEMÜ 1573 switching power supply unit converts unstable input voltages from 100 to 240 V AC into a continuous DC voltage. It can be used as an accessory for valves with motorized actuators e. g. GEMÜ eSyLite, eSyStep und eSyDrive and for additional devices with a 24 V DC power supply. Different power levels, output currents and a 48 V DC version for servoDrive actuators are available.

Ordering information

GEMÜ 1573 switching power supply unit			
Input voltage	Output voltage	Output current	Item number
100 - 240 V AC	24 V DC	5 A	88660400
		10 A	88660401

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