GEMÜ 638

2/2-way diaphragm valve

Features

- High mechanical stability
- High flow rate due to straight through flow
- Optional flow direction
- Valve can be cleaned without disassembly of actuator
- Proven motorized actuators and control units in modular design

Description

The GEMÜ 638 2/2-way diaphragm valve has AUMA motor and control units and is motorized. The valve body is a full bore design.

Technical specifications

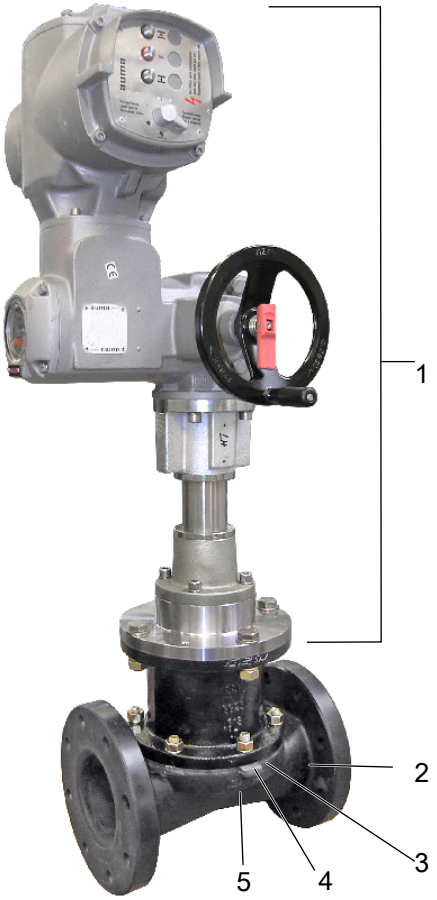
- **Media temperature :** 0 to 100 °C
- **Ambient temperature:** 0 to 50 °C
- **Operating pressure :** 0 to 7 bar
- **Nominal sizes:** DN 25 to 150
- **Body configurations:** 2/2-way body
- **Connection types:** Flange
- **Connection standards:** ANSI I EN
- **Body materials:** EN-GJL-250, cast iron material I EN-GJL-250, cast iron material with hard rubber lining I EN-GJL-250, cast iron material with soft rubber lining
- **Diaphragm materials:** CR I EPDM I IIR I NBR I PTFE/EPDM
- **Conformities:** EAC

Technical data depends on the respective configuration

further information
webcode: GW-638

Product description

Configuration



Item	Name	Materials
1	AUMA motor and control units	
2	Valve body	EN-GJL-250 (GG 25) EN-GJL-250 (GG 25), hard rubber lined EN-GJL-250 (GG 25), soft rubber lined
3	Diaphragm	CR EPDM IIR NBR PTFE/EPDM (two-piece)
4	CONEXO diaphragm RFID chip (see Conexo information)	
5	CONEXO body RFID chip (see Conexo information)	

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

Flange

MG	DN	Connection type (code) [1]					
		53			58		
		Material (code) [2]					
		8	13	52	8	13	52
40	**25**	X	X	X	X	X	X
	40	X	X	X	X	X	X
65	**50**	X	X	X	X	X	X
	65	X	X	X	X	X	X
100	**80**	X	X	X	X	X	X
	100	X	X	X	X	X	X
150	**125**	X	X	X	X	X	X
	150	X	X	X	X	X	X

MG = diaphragm size, X = standard

1) **Connection type**
Code 53: Flange EN 1092, PN 16, form A, face-to-face dimension FTF EN 558 series 7, ISO 5752, basic series 7, length only for body configuration D
Code 58: Flange ANSI Class 125/150 FF, face-to-face dimension FTF EN 558 series 7, ISO 5752, basic series 7, length only for body configuration D

2) **Valve body material**
Code 8: EN-GJL-250 (GG 25)
Code 13: EN-GJL-250 (GG 25), hard rubber lined
Code 52: EN-GJL-250 (GG 25), soft rubber lined

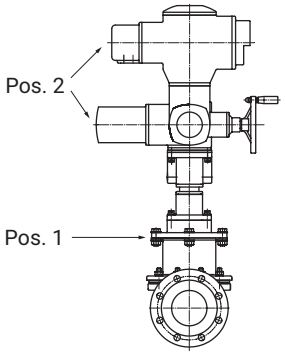
Actuator assignment

MG	DN	Actuator	Control system
40	**25**	LE12.1 (50) + SA07.2 + AM01.1	LE12.1 (50) + SAR07.2 + AC01.2
	40	LE12.1 (50) + SA07.2 + AM01.1	LE12.1 (50) + SAR07.2 + AC01.2
65	**50**	LE12.1 (50) + SA07.2 + AM01.1	LE12.1 (50) + SAR07.2 + AC01.2
	65	LE12.1 (50) + SA07.2 + AM01.1	LE12.1 (50) + SAR07.2 + AC01.2
100	**80**	LE25.1 (100) + SA07.6 + AM01.1	LE25.1 (100) + SAR07.6 + AC01.2
	100	LE25.1 (100) + SA07.6 + AM01.1	LE25.1 (100) + SAR07.6 + AC01.2
150	**125**	LE25.1 (100) + SA07.6 + AM01.1	LE25.1 (100) + SAR07.6 + AC01.2
	150	LE25.1 (100) + SA07.6 + AM01.1	LE25.1 (100) + SAR07.6 + AC01.2

LE 12.1 (50) = linear thrust unit from AUMA with a stroke of 50 mm
LE 25.1 (100) = linear thrust unit from AUMA with a stroke of 100 mm

Note:

As standard, the AUMA AM01.1 control unit is used for actuators and the AUMA AC01.2 control unit is used for control actuators.
Other control units on request.



Information for order data The order must include two items.
Item 1: Valve with adapter and suitable AUMA linear thrust unit e.g. 638 80 D 53 13 14 For details on the AUMA linear thrust unit, see AUMA's technical documentation.
Item 2 AUMA rotary actuator* e.g. SA 07.2F1022D380/506822KN For details, see AUMA's technical documentation.
AUMA control unit* Standard type AM01.1TP110/001 1110KC3F18E1 For details, see AUMA's technical documentation

*Other types on request

Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Products ordered with **bold marked ordering options** are so-called preferred series. Depending on the nominal size, these are available more quickly.

Order codes

1 Type	Code
Full bore diaphragm valve with AUMA actuator	638

2 DN	Code
DN 25	25
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
DN 125	125
DN 150	150

3 Body configuration	Code
2/2-way body	D

4 Connection type	Code
Flange EN 1092, PN 16, form A, face-to-face dimension FTF EN 558 series 7, ISO 5752, basic series 7, length only for body configuration D	53
Flange ANSI Class 125/150 FF, face-to-face dimension FTF EN 558 series 7, ISO 5752, basic series 7, length only for body configuration D	58

5 Valve body material	Code
EN-GJL-250 (GG 25)	8
EN-GJL-250 (GG 25), hard rubber lined	13
EN-GJL-250 (GG 25), soft rubber lined	52

6 Diaphragm material	Code
Elastomer	
NBR	2
IIR	6
CR	8
EPDM	29
PTFE	
PTFE/EPDM two-piece	5M

7 Actuator version	Code
Actuator version (see “Actuator assignment“, page 5)	

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

Order example

Ordering option	Code	Description
1 Type	638	Full bore diaphragm valve with AUMA actuator
2 DN	50	DN 50
3 Body configuration	D	2/2-way body
4 Connection type	53	Flange EN 1092, PN 16, form A, face-to-face dimension FTF EN 558 series 7, ISO 5752, basic series 7, length only for body configuration D
5 Valve body material	13	EN-GJL-250 (GG 25), hard rubber lined
6 Diaphragm material	14	EPDM
7 Actuator version		Actuator version (see “Actuator assignment“, page 5)
8 CONEXO		Without

Technical data for diaphragm valve

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: 0 — 100 °C

Ambient temperature: 0 — 50 °C

Storage temperature: 0 — 40 °C

Pressure

Operating pressure:

MG	DN	Operating pressure
40	**25**	0 - 7
	40	0 - 7
65	**50**	0 - 7
	65	0 - 7
100	**80**	0 - 6
	100	0 - 6
150	**125**	0 - 3
	150	0 - 3

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.
Higher operating pressures on request

Pressure rating: PN 16

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

Kv values:

MG	DN	Kv values
40	**25**	35.0
	40	38.0
65	**50**	108.0
	65	114.0
100	**80**	284.0
	100	298.0
150	**125**	650.0
	150	680.0

MG = diaphragm size
Kv values in m^3/h
Kv values determined in accordance with EN 60534, inlet pressure 5 bar, Δp 1 bar, valve body material cast iron EN-GJL-250 with connection flange EN 1092 length EN 558 series 7 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 compliance

Machinery Directive: 2006/42/EC

Pressure Equipment Directive: 2014/68/EU

Mechanical data

Weight:

MG	DN	Weight
40	**25**	39.0
	40	41.0
65	**50**	61.0
	65	62.0
100	**80**	79.0
	100	88.0
150	**125**	131.0
	150	139.0

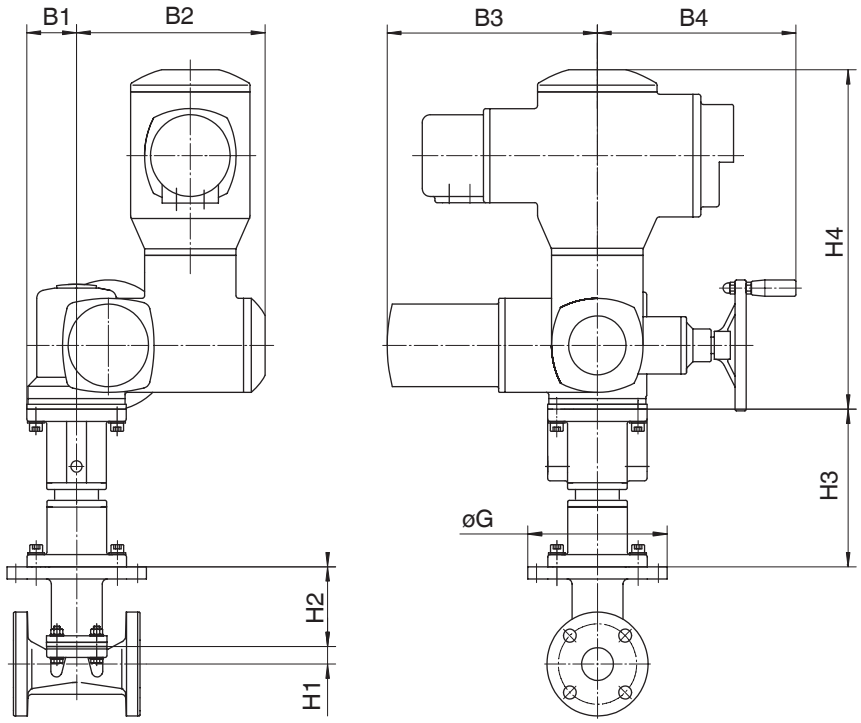
MG = diaphragm size
Weights in kg

Technical data for actuator

Note: For technical data see manufacturer's original datasheets

Dimensions

Actuator dimensions

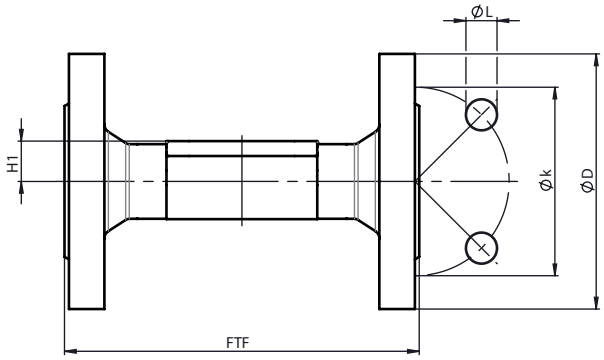


MG	DN	B1	B2	B3	B4	H1	H2	øG
40	**25 - 40**	63.0	237.0	264.0	250.0	22.0	98.0	175.0
65	**50 - 65**	63.0	237.0	264.0	250.0	32.0	141.0	175.0
100	**80 - 100**	63.0	237.0	264.0	250.0	47.0	191.0	175.0
150	**125 -150**	63.0	237.0	264.0	250.0	55.0	302.0	175.0

Dimensions in mm

Body dimensions

Flange EN (code 53)



*For information regarding H1, see actuator dimensions

Flange, length EN 558 (code 53) [1], cast iron material code 8, 13, 52 [2]

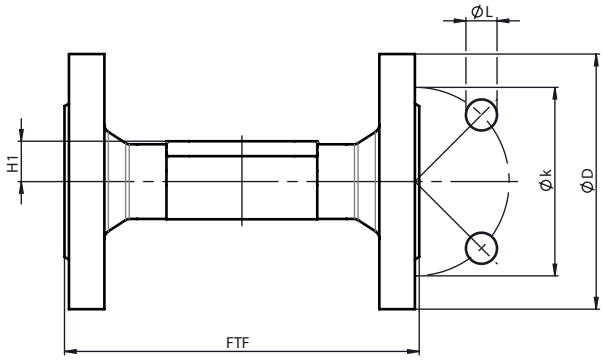
MG	DN	NPS	øD	FTF		øk	øL	n
				Material				
				8	13, 52			
40	**25**	**1"**	115.0	127.0	127.0	85.0	14.0	4
	40	**1½"**	150.0	159.0	159.0	110.0	19.0	4
50	**50**	**2"**	165.0	191.0	191.0	125.0	19.0	4
65	**65**	**2½"**	185.0	216.0	216.0	145.0	19.0	4
80	**80**	**3"**	200.0	254.0	254.0	160.0	19.0	8
100	**100**	**4"**	220.0	305.0	305.0	180.0	19.0	8
125	**125**	**5"**	250.0	356.0	366.0	210.0	19.0	8
150	**150**	**6"**	285.0	406.0	416.0	240.0	23.0	8

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

1) **Connection type**
Code 53: Flange EN 1092, PN 16, form A, face-to-face dimension FTF EN 558 series 7, ISO 5752, basic series 7, length only for body configuration D

2) **Valve body material**
Code 8: EN-GJL-250 (GG 25)
Code 13: EN-GJL-250 (GG 25), hard rubber lined
Code 52: EN-GJL-250 (GG 25), soft rubber lined

Flange EN (code 58)



*For information regarding H1, see actuator dimensions

Flange, length EN 558 (code 58) [1], **cast iron material (code 8, 13, 52)** [2]

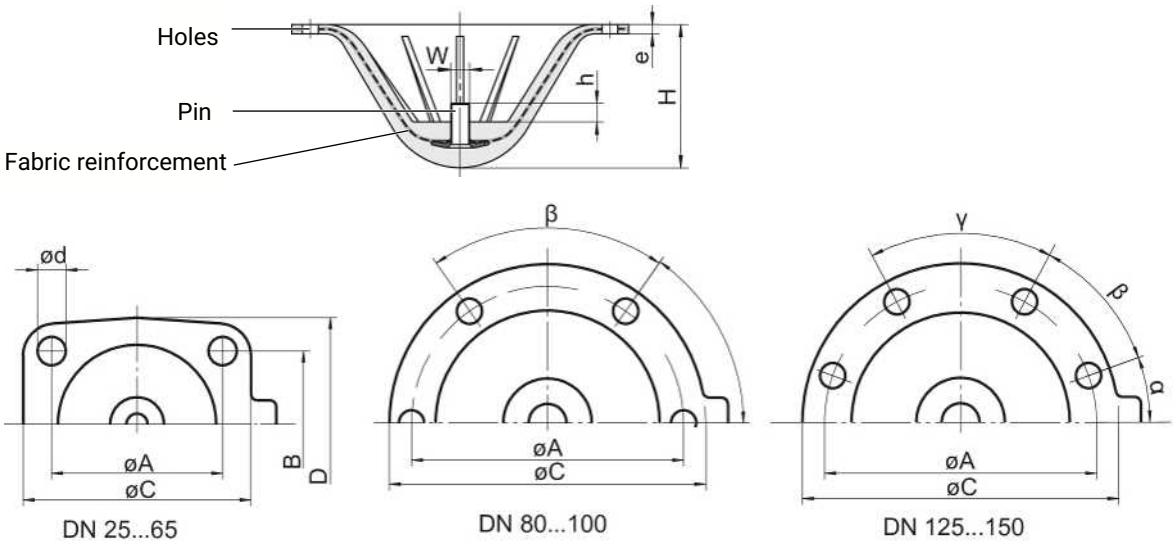
MG	DN	NPS	øD	FTF		øk	øL	n
				Material				
				8	13, 52			
40	**25**	**1"**	110.0	127.0	127.0	79.2	15.9	4
	40	**1½"**	125.0	159.0	159.0	98.4	15.9	4
65	**50**	**2"**	150.0	191.0	191.0	120.7	19.0	4
	65	**2½"**	180.0	216.0	216.0	139.7	19.0	4
100	**80**	**3"**	190.0	254.0	254.0	152.4	19.0	4
	100	**4"**	230.0	305.0	305.0	190.5	19.0	8
150	**125**	**5"**	255.0	356.0	366.0	215.9	22.2	8
	150	**6"**	280.0	406.0	416.0	241.3	22.2	8

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

1) **Connection type**
Code 58: Flange ANSI Class 125/150 FF, face-to-face dimension FTF EN 558 series 7, ISO 5752, basic series 7, length only for body configuration D

2) **Valve body material**
Code 8: EN-GJL-250 (GG 25)
Code 13: EN-GJL-250 (GG 25), hard rubber lined
Code 52: EN-GJL-250 (GG 25), soft rubber lined

Diaphragm dimensions



MG	DN	NPS	A	B	C	D	ød	e	h	W	H	α	β	γ	n
40	**25**	**1”**	64.0	51.0	90.0	70.0	9.0	5.0	8.0	1/4”	36.0	-	-	-	4
	40	**1 1/2”**	64.0	51.0	90.0	70.0	9.0	5.0	8.0	1/4”	36.0	-	-	-	4
65	**50**	**2”**	101.0	82.0	159.0	128.0	13.5	6.0	10.0	5/16”	64.0	-	-	-	4
	65	**2 1/2”**	101.0	82.0	159.0	128.0	13.5	6.0	10.0	5/16”	64.0	-	-	-	4
100	**80**	**3”**	175.0	-	223.0	-	13.5	6.0	12.0	5/16”	80.0	56°	34°	-	6
	100	**4”**	175.0	-	223.0	-	13.5	6.0	12.0	5/16”	80.0	56°	34°	-	6
150	**125**	**5”**	255.0	-	287.0	-	13.5	8.0	16.0	5/8”	115.0	20°	40°	60°	8
	150	**6”**	255.0	-	287.0	-	13.5	8.0	16.0	5/8”	115.0	20°	40°	60°	8

Dimensions in mm, MG = diaphragm size
n = number of bolts
The thread of the diaphragm pin "W" corresponds to Whitworth standard.

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany
Phone +49 (0) 7940 1230 · info@gemue.de
www.gemu-group.com

Subject to alteration | 12.2024 | 88269241