GEMÜ 610

Pneumatically operated diaphragm valve

Features

- Same mounting height planes over multiple nominal sizes
- High flow rate
- Integral optical position indicator and closing stroke limiter as standard
- Option with electrical position indicator

Description

The GEMÜ 610 2/2-way diaphragm valve has a low maintenance plastic piston actuator and is pneumatically operated. An integral optical position indicator is standard. Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available.

Technical specifications

- **Media temperature :** -10 to 80 °C
- **Ambient temperature:** -10 to 50 °C
- **Operating pressure :** 0 to 6 bar
- **Nominal sizes:** DN 12 to 20
- **Body configurations:** 2/2-way body
- **Connection types:** Flare I Solvent cement socket I Spigot I Threaded connection I Union end
- **Connection standards:** BS I DIN I ISO
- **Body materials:** PP, reinforced I PP-H, natural I PVC-U, grey I PVDF
- **Diaphragm materials:** EPDM I FKM I NBR I PTFE/EPDM
- **Conformities:** EAC I FDA I FMEDA I NSF I System 1+

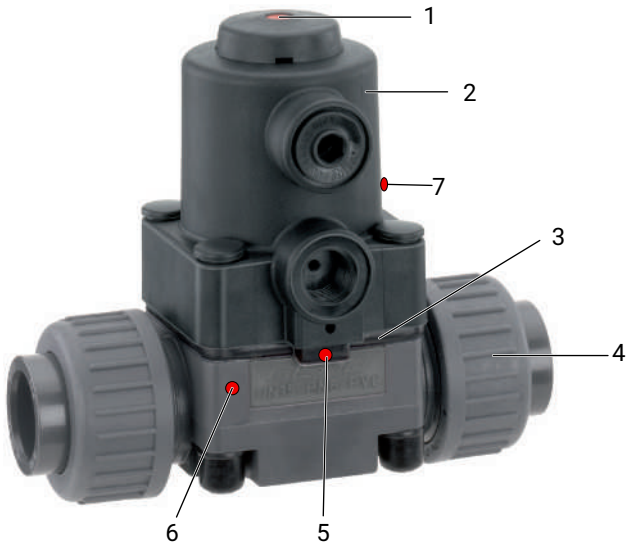
Technical data depends on the respective configuration

Certified to NSF/ANSI/CAN 61

further information
webcode: GW-610

Product description

Construction



Item	Name	Materials
1	Optical position indicator	
2	Membrane actuator	
3	Diaphragm	NBR, FKM, EPDM, PTFE/EPDM, one-piece
4	Valve body	PVC-U, grey PP, glass fibre reinforced PVDF PP-H natural
5	CONEXO diaphragm RFID chip (see Conexo information)	
6	CONEXO body RFID chip (see Conexo information)	
7	CONEXO actuator 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".

Availabilities

Availability of valve bodies

Threaded socket

MG	DN	Connection type code 1 [1]
		Material code 1, 5, 20 [2]
10	12	X
	15	-
	20	-

MG = diaphragm size, X = standard

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

2) **Valve body material**
Code 1: PVC-U, grey
Code 5: PP, reinforced
Code 20: PVDF

Solvent cement socket

MG	DN	Connection type code 2 [1]
		Material code 1 [2]
10	12	X
	15	-
	20	-

MG = diaphragm size, X = standard

1) **Connection type**
Code 2: Solvent cement socket DIN

2) **Valve body material**
Code 1: PVC-U, grey

Union end

MG	DN	Connection type code [1]							
		7, 7X				33	78		
		Material code [2]							
		1	5	20	N5	1	5	20	N5
10	12	-	-	-	-	-	-	-	-
	15	X	X	X	X	X	X	X	X
	20	-	-	-	-	-	-	-	-

MG = diaphragm size, X = standard

1) **Connection type**
Code 7: Union end with insert (socket) – DIN
Code 7X: Body with threaded spigots for unions
Code 33: Union end with inch insert – BS (socket)
Code 78: Union end with insert (for IR butt welding) – DIN

2) **Valve body material**
Code 1: PVC-U, grey
Code 5: PP, reinforced
Code 20: PVDF
Code N5: PP-H, natural

Spigot

MG	DN	Connection type code 28 [1]
		Material code 20 [2]
10	12	-
	15	X
	20	-

MG = diaphragm size, X = standard

1) **Connection type**
Code 28: Spigot for IR butt welding, BCF

2) **Valve body material**
Code 20: PVDF

Flare

MG	DN	Connection type code 75 [1]
		Material code N5 [2]
10	12	-
	15	X
	20	X

MG = diaphragm size, X = standard

1) **Connection type**
Code 75: Flare connection with PVDF union nut

2) **Valve body material**
Code N5: PP-H, natural

Availability of NSF product conformity (special function code N)

MG	DN	Connection type code [1]				Material code	Diaphragm material code
		1	2	7	33	1	17
10	**12**	X	X	-	-	X	X
	15	-	-	X	X	X	X

MG = diaphragm size

1) **Connection type**
Code 1: Threaded socket DIN ISO 228
Code 2: Solvent cement socket DIN
Code 7: Union end with insert (socket) – DIN
Code 33: Union end with inch insert – BS (socket)

Availability of product conformity – drinking water hygiene suitability according to system 1+ (special function 1)

MG	DN	Connection type code [1]				Material code	Diaphragm material code
		1	2	7	33	1	28
10	**12**	X	X	-	-	X	X
	15	-	-	X	X	X	X

MG = diaphragm size

1) **Connection type**
Code 1: Threaded socket DIN ISO 228
Code 2: Solvent cement socket DIN
Code 7: Union end with insert (socket) – DIN
Code 33: Union end with inch insert – BS (socket)

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, pneumatically operated, plastic piston actuator, optical position indicator	610

2 DN	Code
DN 12	12
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
Solvent cement socket DIN	2
Union end with insert (socket) – DIN	7
Spigot for IR butt welding, BCF	28
Union end with inch insert – BS (socket)	33
Flare connection with PVDF union nut	75
Union end with insert (for IR butt welding) – DIN	78
Body with threaded spigots for unions	7X

5 Valve body material	Code
PVC-U, grey	1
PP, reinforced	5
PVDF	20
PP-H, natural	N5

6 Diaphragm material	Code
Elastomer	
NBR	2
FKM	4
EPDM	17
EPDM	29
PTFE	
PTFE/EPDM one-piece	54

7 Control function	Code
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3

8 Actuator version	Code
Actuator size 1/N control air connector 90° offset to flow direction	1/N
Actuator size 1RN control air connector in-line with flow direction	1RN

9 Mounting plate	Code
Including mounting plate	M

9 Mounting plate	Code
Without mounting plate	O
Without	

10 Special version	Code
NSF 61 water approval	N
Drinking water hygiene suitability according to system 1+, UBA-BWGL for plastics and other organic materials, Cold and hot water (23 °C–60 °C)	1

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

Order codes

Ordering option	Code	Description
1 Type	610	Diaphragm valve, pneumatically operated, plastic piston actuator, optical position indicator
2 DN	15	DN 15
3 Body configuration	D	2/2-way body
4 Connection type	7	Union end with insert (socket) – DIN
5 Valve body material	1	PVC-U, grey
6 Diaphragm material	17	EPDM
7 Control function	1	Normally closed (NC)
8 Actuator version	1/N	Actuator size 1/N control air connector 90° offset to flow direction
9 Mounting plate		Without
10 Special version	N	NSF 61 water approval
11 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.

Control medium: Inert gases

Temperature

Media temperature:

Valve body material	
PVC-U, grey (code 1)	10 — 60 °C
PP, reinforced (code 5)	5 – 80 °C
PVDF (code 20)	-10 — 80 °C
PP-H, natural (code N5)	5 – 80 °C

Ambient temperature:

Valve body material	
PVC-U, grey (code 1)	10 — 50 °C
PP, reinforced (code 5)	5 — 50 °C
PVDF (code 20)	-10 — 50 °C
PP-H, natural (code N5)	5 — 50 °C

Storage temperature: 0 — 40 °C

Control medium temperature: max. 40 °C

Pressure

Operating pressure: 0 — 6 bar

Pressure rating: PN 6

Pressure/temperature correlation:

MG	Valve body		Temperatures in °C										
	Material	Code	-10	0	5	10	20	30	40	50	60	70	80
10	**PVC-U**	**1**	-	-	-	6.0	6.0	6.0	6.0	3.5	1.5	-	-
	PP-H	**5**	-	-	6.0	6.0	6.0	6.0	6.0	5.5	4.0	2.7	1.5
	PVDF	**20**	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.4	4.7
	PP-H-Natur	**N5**	-	-	6.0	6.0	6.0	6.0	6.0	5.5	4.0	2.7	1.5

All pressures are gauge pressures.
The permissible operating pressure depends on the working medium temperature.
Data for extended temperature ranges on request. Please note that the ambient temperature and media temperature generate a combined temperature at the valve body which must not exceed the above values.

Filling volume: 0.02 dm³

Kv values:

MG	DN	Kv values
10	**12**	2.8
	15	3.5
	20	3.5

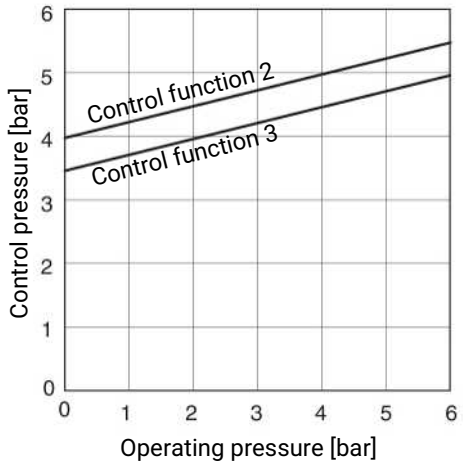
MG = diaphragm size, Kv values in m³/h
Kv values determined acc.to DIN EN 60534 standard, inlet pressure 5 bar, Δp 1 bar, PVC-U valve body and soft elastomer diaphragm.
The Kv values for other product configurations (e.g. other diaphragm or body materials) may differ. In general, all diaphragms are subject 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 term of use.

Control pressure:

MG	DN	Control function 1	Control function 2	Control function 3
10	**12 - 20**	5.0–7.0	max. 5.5 see diagram	Max. 5.0

MG = diaphragm size
All pressures are gauge pressures.

Control pressure/operating pressure diagram – Control function 2 and 3



The control pressure depending on the prevailing operating pressure, as shown in the diagram, is intended as a guide for operating the system with low wear on the diaphragm.

Product conformity

Pressure Equipment Directive: 2014/68/EU

Food: FDA*

EAC: TR CU 010/2011

Drinking water: NSF*

* depending on version and/or operating parameters

Drinking water hygiene suitability according to system 1+ (special function 1)

UBA-BWGL for plastics and other organic materials,
Cold and hot water (23 °C–60 °C)

System 1+

Materials

Materials:

Diaphragm material	O-ring material
PTFE	FKM
NBR	EPDM
FKM	FKM
EPDM	EPDM

Mechanical data

Weight:

Actuator

0.18 kg

Valve body

MG	DN	Spigot	Union end			Threaded socket	Solvent cement socket	Flare
		Connection type code						
		28	7	33	78	1	2	75
10	**12**	-	-	-	-	0.08	0.06	-
	15	0.13	0.18	0.13	0.20	-	-	0.08
	20	-	-	-	-	-	-	0.125

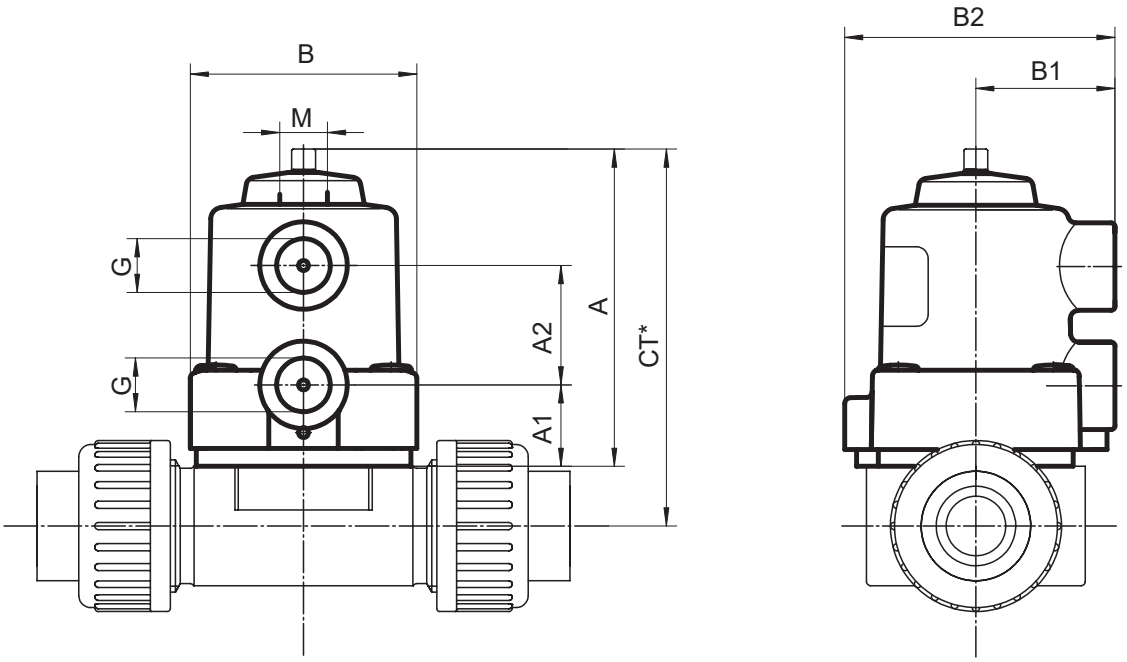
MG = diaphragm size, weight in kg

Installation position: Optional

Flow direction: Optional

Dimensions

Actuator dimensions

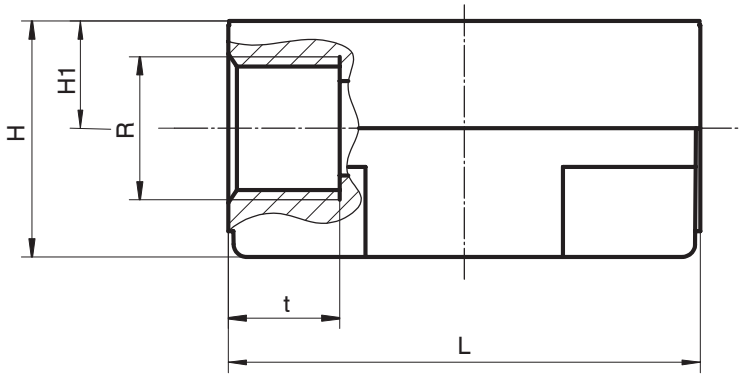


MG	A	A1	A2	B	B1	B2	G	M
10	82	21	30.0	57.0	35.0	68.0	G 1/4	M12x1

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

Body dimensions

Threaded socket (code 1)



Connection type threaded socket (code 1) [1], body materials PVC-U (code 1), PP (code 5), PVDF (code 20) [2]

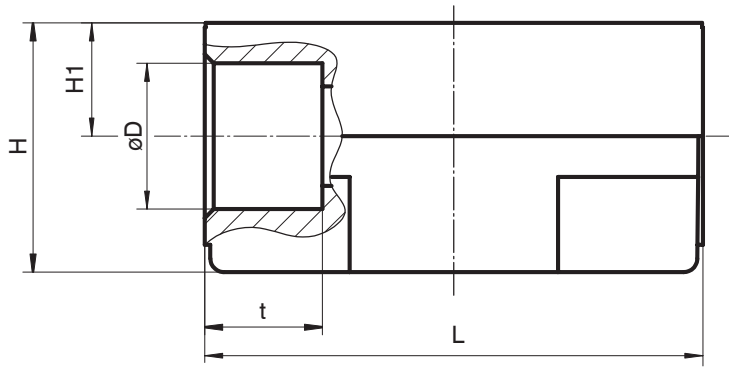
MG	DN	NPS	H		H1	L	R	t
			Material					
			1, 5	20				
10	**12**	**3/8"**	27.5	31.5	12.5	55.0	G3/8	13.0

Dimensions in mm
MG = diaphragm size

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

2) **Valve body material**
Code 1: PVC-U, grey
Code 5: PP, reinforced
Code 20: PVDF

Solvent cement socket (code 2)



Connection type solvent cement socket (code 2) [1], body material PVC-U (code 1) [2]

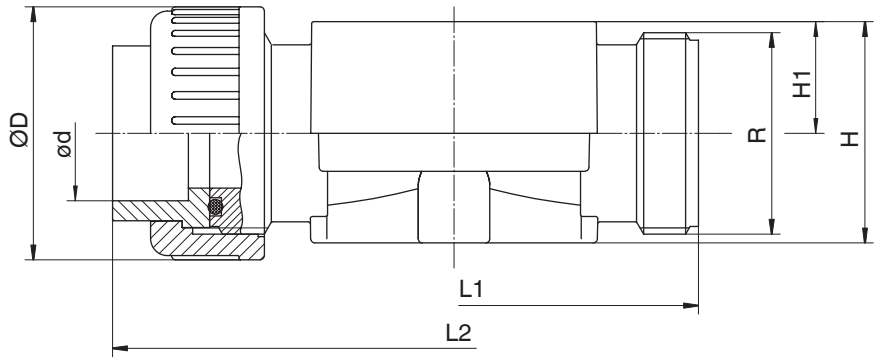
MG	DN	NPS	ø D	H	H1	L	t
10	**12**	**3/8"**	16.0	27.5	12.5	55.0	13.0

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 2: Solvent cement socket DIN

2) **Valve body material**
Code 1: PVC-U, grey

DIN union end (code 7)



Connection type union end DIN (code 7) [1], body material PVC-U (code 1), PP (code 5), PVDF (code 20), PP-H (code N5) [2], diaphragm size 10

MG	DN	NPS	ød	øD	H		H1		L1	L2		R
					Material		Material			Material		
					1, 20	5, N5	1, 20	5, N5		1, 20	5, N5	
10	**15**	**1/2"**	20.0	43.0	30.0	41.0	15.0	16.0	90.0	128.0	125.0	G 1

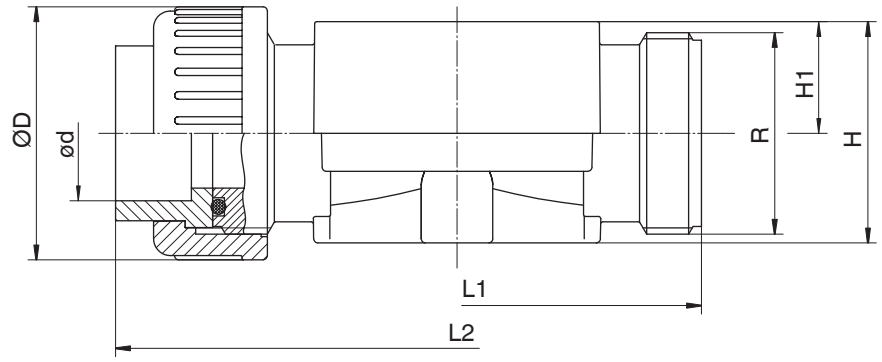
Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 7: Union end with insert (socket) – DIN

2) **Valve body material**
Code 1: PVC-U, grey
Code 5: PP, reinforced
Code 20: PVDF
Code N5: PP-H, natural

Valve body material PVDF (code 20), PP-H (code N5) with integrated mounting plate (code M), observe dimension HM (see “Mounting plate“, page 18)

Inch union end (code 33)



Connection type inch union end (code 33) [1], body material PVC-U (code 1) [2], diaphragm size 10

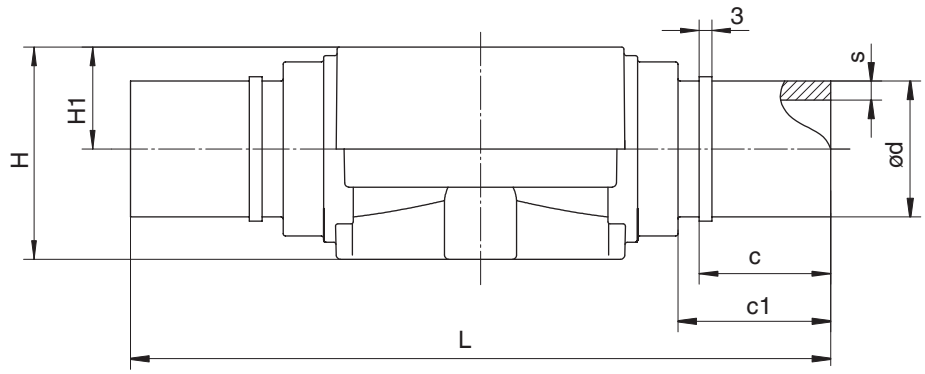
MG	DN	NPS	ød	øD	H	H1	L1	L2	R
10	**15**	**1/2"**	21.4	43.0	30.0	15.0	90.0	128.0	G1

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 33: Union end with inch insert – BS (socket)

2) **Valve body material**
Code 1: PVC-U, grey

Spigot (code 28)



Connection type spigot (code 28) [1], body material PVDF (code 20) [2]

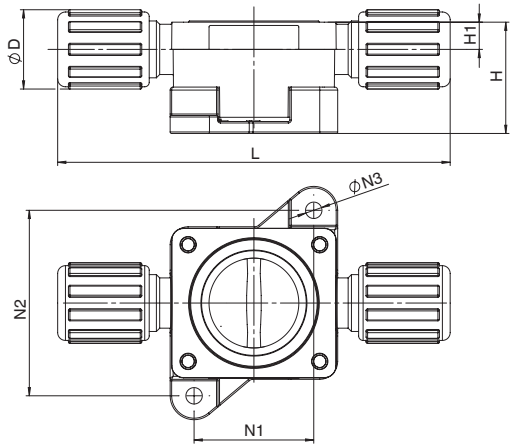
MG	DN	NPS	c	c1	ød	H	H1	L	s
10	**15**	**1/2"**	31.0	37.0	20.0	41.0	16.0	134.0	1.9

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 28: Spigot for IR butt welding, BCF

2) **Valve body material**
Code 20: PVDF

Flare (code 75)



Connection type flare (code 75) [1], body material PP-H (code N5) [2]

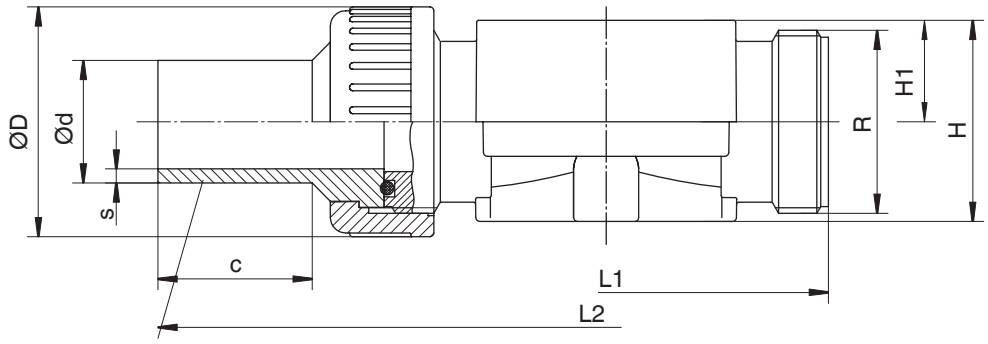
MG	DN	NPS	øD	H	H1	L	N1	N2	øN3
10	**15**	**1/2"**	26.5	38.1	10.0	132.0	40.0	62.0	5.5
	20	**3/4"**	26.5	44.5	15.0	134.0	40.0	62.0	5.5

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 75: Flare connection with PVDF union nut

2) **Valve body material**
Code N5: PP-H, natural

DIN union end, IR butt welding (code 78)



Connection type DIN union end, IR butt welding (code 78)[1], body materials PP (code 5), PVDF (code 20), PP-H (code N5)[2]

MG	DN	NPS	c	ød	øD	H		H1		L1	L2	R	s
						Material		Material					
						5	20, N5	5	20, N5				
10	**15**	**1/2"**	36.0	20.0	42.0	30.0	41.0	15.0	16.0	90.0	196.0	G 1	1.9

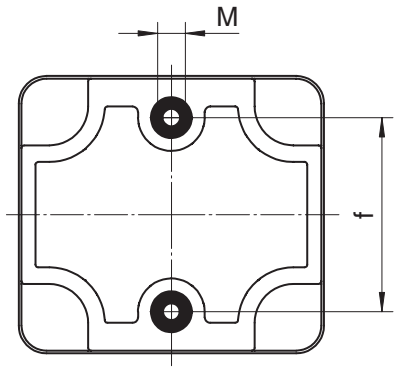
Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 78: Union end with insert (for IR butt welding) – DIN

2) **Valve body material**
Code 5: PP, reinforced
Code 20: PVDF
Code N5: PP-H, natural

Valve body material PVDF (code 20), PP-H (code N5) with integrated mounting plate (code M), observe dimension HM (see “Mounting plate“, page 18)

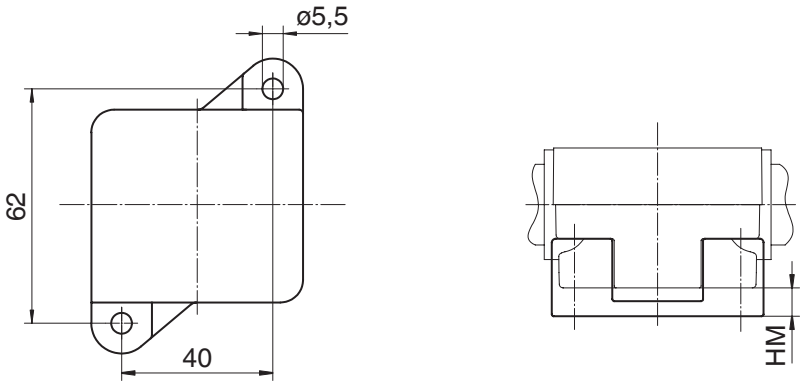
Valve body mounting



Diaphragm size	DN	M	f
10	**10 - 20**	M5	35.0

Dimensions in mm
MG = diaphragm size

Mounting plate



MG	DN	HM
10	**12**	5.0
	15	4.5
	20	4.5

Dimensions in mm
MG = diaphragm size

Subject to alteration | 06.2025 | 88048750

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