

# **GEMÜ R629 eSyLite**

## Motorized diaphragm valve



### **Features**

- Optional flow direction and installation position
- Low space requirement due to compact design
- Motorized alternative for applications without compressed air supply
- Standard integral optical position indicator
- Insensitive to particulate media
- Integrated RFID chip
- Integrated emergency power supply module (optional)
- Simple diaphragm replacement

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### **Description**

The GEMÜ R629 2/2-way plastic diaphragm valve is motorized. The actuator has an optical position indicator as standard. The electric motor is automatically switched off when reaching the relevant end position. The power supply is via 24 V DC as standard.

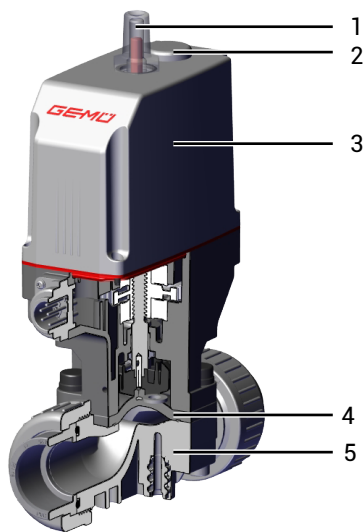
### **Technical specifications**

- Nominal sizes\*: DN 15 to 25
- Media temperature: -10 to 80 °C
- Sterilisation temperature:
- Operating pressure\*: 0 to 6 bar
- Connection types: Flange | Spigot | Union end
- Valve body materials: | | | ABS
- Supply voltage: 24 V DC
- \* depending on version and/or operating parameters
- Conformities: CE



## Product description

### Construction



Item	Name	Materials
1	Optical position indicator	PA 12
2	Manual override	
3	Motorized actuator	PA glass fibre reinforced
4	Diaphragm	NBR, FPM, EPDM, PTFE/ EPDM
5	Valve body	PVC, ABS, inliner PP-H or PVDF / outliner glass fibre reinforced PP

## GEMÜ CONEXO

The interaction of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.

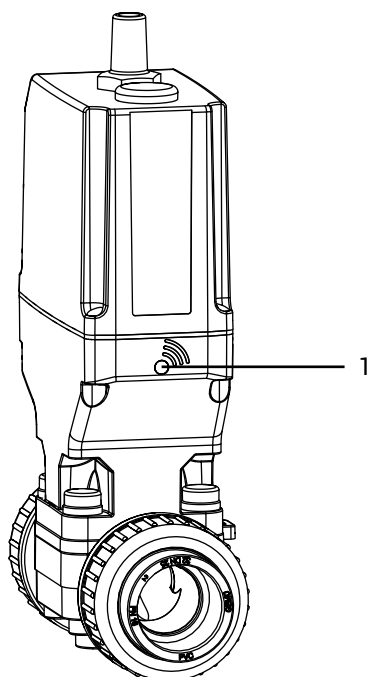


Thanks to serialization, every valve and every relevant valve component such as the body, actuator or diaphragm, and even automation components, can be clearly traced and read using the CONEXO pen RFID reader. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves 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](http://www.gemu-group.com/conexo)

The actuator of the product has an RFID chip (1) for electronic identification purposes. Where you can find the RFID chip differs from product to product.



Actuator RFID chip

The CONEXO pen helps read out information stored in these RFID chips. The CONEXO app or CONEXO portal is required to view this information.

## Availability

### Availability of valve bodies

#### Union end

MG = diaphragm size

X = Standard

Connection types code <sup>1)</sup>	Material code <sup>2)</sup>	MG 20		
		DN 15	DN 20	DN 25
<b>7</b>	<b>1, 4, 71, 75</b>	X	X	X
<b>7R</b>	<b>1</b>	X	X	X
<b>33</b>	<b>1, 4</b>	X	X	X
<b>3M</b>	<b>1</b>	X	X	X
<b>3T</b>	<b>1</b>	X	X	X
<b>78</b>	<b>71, 75</b>	X	X	X

#### 1) Connection type

- Code 7: Union end with DIN insert (socket)
- Code 7R: Union end with Rp threaded socket insert
- Code 33: Union end with inch insert - BS (socket)
- Code 3M: Union end with inch insert - ASTM (socket)
- Code 3T: Union end with JIS insert (socket)
- Code 78: Union end with DIN insert (for IR butt welding)

#### 2) Valve body material

- Code 1: PVC-U, grey
- Code 4: ABS
- Code 71: Inliner PP-H, grey, outliner PP, reinforced
- Code 75: Inliner PVDF/outliner PP, reinforced

### Spigot

Connection types code <sup>1)</sup>	Material code <sup>2)</sup>	MG 20		
		DN 15	DN 20	DN 25
<b>0</b>	<b>1, 71, 75</b>	X	X	X
<b>20</b>	<b>71, 75</b>	X	X	X
<b>30</b>	<b>1, 4</b>	X	X	X

X = Standard

MG = diaphragm size

#### 1) Connection type

- Code 0: Spigot DIN
- Code 20: Spigot for IR butt welding
- Code 30: Imperial butt weld spigot

#### 2) Valve body material

- Code 1: PVC-U, grey
- Code 4: ABS
- Code 71: Inliner PP-H, grey, outliner PP, reinforced
- Code 75: Inliner PVDF/outliner PP, reinforced

**Flange**

Connection types code <sup>1)</sup>	Material code <sup>2)</sup>	MG 20		
		DN 15	DN 20	DN 25
<b>4</b>	<b>1, 71, 75</b>	X	X	X
<b>39</b>	<b>1, 71, 75</b>	X	X	X

X = Standard

MG = diaphragm size

1) **Connection type**

Code 4: Flange EN 1092, PN 10, form B,length FTF EN 558 series 1, ISO 5752, basic series 1

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 1: PVC-U, grey

Code 71: Inliner PP-H, grey,outliner PP, reinforced

Code 75: Inliner PVDF/outliner PP, reinforced

## Order data

### Order codes

The order data provide an overview of standard configurations.

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

1 Type	Code
Diaphragm valve, electrically operated, Plastic diaphragm valve	R629

2 DN	Code
DN 15	15
DN 20	20
DN 25	25

3 Body configuration	Code
2/2-way body	D

4 Connection type	Code
Union end with DIN insert (socket)	7
Union end with Rp threaded socket insert	7R
Union end with inch insert - BS (socket)	33
Union end with inch insert - ASTM (socket)	3M
Union end with JIS insert (socket)	3T
Union end with DIN insert (for IR butt welding)	78
Spigot DIN	0
Flange EN 1092, PN 10, form B, length FTF EN 558 series 1, ISO 5752, basic series 1	4
Spigot for IR butt welding	20
Imperial butt weld spigot	30

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

5 Valve body material	Code
PVC-U, grey	1
ABS	4
Inliner PP-H, grey, outliner PP, reinforced	71
Inliner PVDF/outliner PP, reinforced	75

6 Diaphragm material	Code
NBR	2
FPM	4
EPDM	14
PTFE/EPDM	52

7 Voltage/Frequency	Code
24 V DC	C1

8 Control module	Code
Open/Close control (economy)	A0
Open/Close control (economy) with emergency power supply module (NC)	A1
Open/Close control (economy) with emergency power supply module (NO)	A2

9 Actuator version	Code
Actuator size 1 Diaphragm size 20	1E

### Order example

Order option	Code	Description
1 Type	R629	Diaphragm valve, electrically operated, Plastic diaphragm valve
2 DN	25	DN 25
3 Body configuration	D	2/2-way body
4 Connection type	7	Union end with DIN insert (socket)
5 Valve body material	1	PVC-U, grey
6 Diaphragm material	14	EPDM
7 Voltage/Frequency	C1	24 V DC
8 Control module	A0	Open/Close control (economy)
9 Actuator version	1E	Actuator size 1 Diaphragm size 20

## 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.  
The valve will seal in both flow directions up to full operating pressure (gauge pressure).

### Temperature

**Media temperature:**

PVC-U, grey	ABS	Inliner PP-H grey / outliner PP, rein- forced	Inliner PVDF / outliner PP, reinforced
Code 1	Code 4	Code 71	Code 75
10 to 60 °C	-10 to 60 °C	5 to 80 °C	-10 to 80 °C

**Ambient temperature:**

PVC-U, grey	ABS	Inliner PP-H grey / outliner PP, rein- forced	Inliner PVDF / outliner PP, reinforced
Code 1	Code 4	Code 71	Code 75
10 to 50 °C	-10 to 50 °C	5 to 50 °C	-10 to 50 °C

If the emergency power module is used (control module code A1, A2), the maximum ambient temperature is reduced to 40 °C.

### Pressure

**Operating pressure:**

0 to 6 bar  
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/temperature correlation:**

Valve body material		Temperature in °C (valve body)											
Materials	Code	-10	±0	5	10	20	25	30	40	50	60	70	80
PVC-U	1	-	-	-	6.0	6.0	6.0	4.8	3.6	2.1	0.9	-	-
ABS	4	6.0	6.0	6.0	6.0	6.0	6.0	4.8	3.6	2.4	1.2	-	-
PP-H	71	-	-	6.0	6.0	6.0	6.0	6.0	6.0	5.5	4.0	2.7	1.5
PVDF	75	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.4	4.7

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.  
Permissible operating pressure in bar

**Kv values:**

MG 20		
DN 15	DN 20	DN 25
6 m³/h	10 m³/h	12 m³/h

MG = diaphragm size

Kv values determined acc. to DIN EN 60534, PP valve body with union end and DIN insert.

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.

## Product compliance

<b>EMC Directive:</b>	2014/30/EU
	Technical standards used:
Interference emission:	DIN EN 61000-6-4
Interference resistance:	DIN EN 61000-6-2

## Materials

<b>Materials:</b>	Diaphragm material	O-ring material
	PTFE	FPM
	NBR	EPDM
	FPM	FPM
	EPDM	EPDM

## Mechanical data

<b>Protection class:</b>	IP 65 acc. to EN 60529
<b>Flow direction:</b>	Optional
<b>Installation position:</b>	Optional
<b>Weight:</b>	<b>Actuator</b> 0.88 kg

### Body

Valve body	MG 20		
	DN 15	DN 20	DN25
<b>Spigot code 0, 30</b>	0.12	0.13	0.16
<b>Spigot code 20</b>	0.10	0.12	0.14
<b>Union end code 7, 7R</b>	0.17	0.21	0.26
<b>Union end code 33</b>	0.24	0.28	0.33
<b>Union end code 3M, 3T</b>	0.26	0.30	0.38
<b>Union end code 78</b>	0.27	0.36	0.37
<b>Flange code 4, 39</b>	0.67	0.84	1.28

Weights in kg



### **Electrical data**

**Supply voltage:** 24 V DC  
Tolerance  $\pm 10\%$

**Operating time:** 3.5 s

**Duty cycle:** max. 30% duty

**Starting current /  
maximum current:** approx. 2.8 A

**Current consumption  
during tight sealing:** approx. 1.4 A

**Standby current  
consumption:** approx. 10 mA

### **Digital input signals**

**Input voltage:** max. 30 V DC

**High level:**  $\geq 18$  V DC

**Low level:**  $\leq 5$  V DC

### **Emergency power supply module**

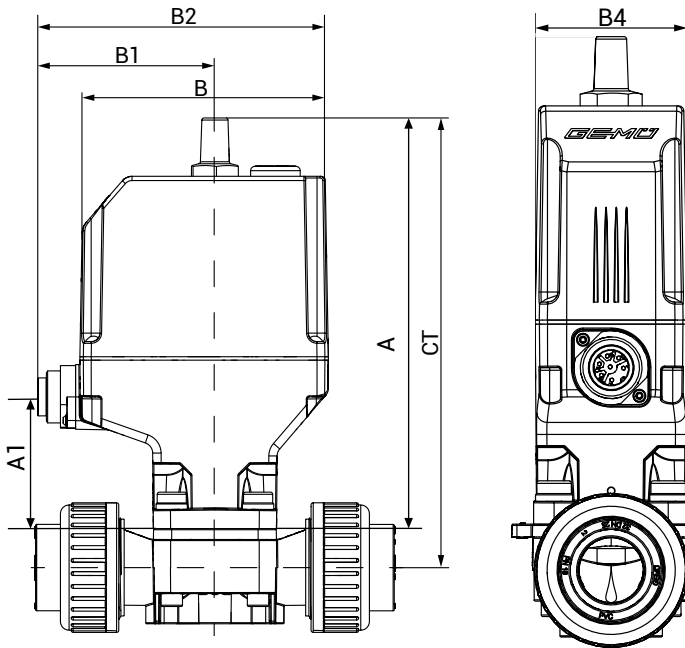
**On-load current:** max. 0.16 A

**Charging time:** approx. 13 min

**Service life:** Guide value at 25 °C ambient temperature, approx. 3 years

## Dimensions

### Actuator dimensions

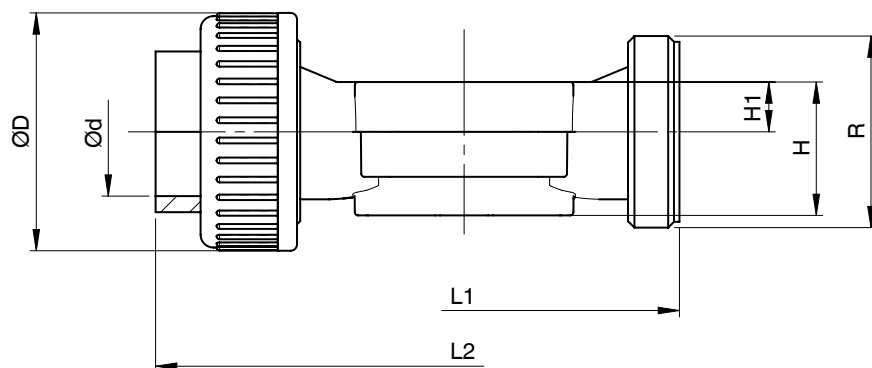


	A	A1	B	B1	B2	B4
MG 20	195	66	115	82	134.5	59.5

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

## Body dimensions

### Connection - Union end code 7



	Material code <sup>1)</sup>	MG 20		
		DN 15	DN 20	DN 25
<b>R</b>		G 1	G 1 1/4	G 1 1/2
<b>ØD</b>		43	53	60
<b>L1</b>		108	108	116
<b>H</b>		36	38	39
<b>H1</b>		10	12	13
<b>Ød</b>		20	25	32
<b>L2</b>	<b>1</b>	146	152	166
<b>L2</b>	<b>4</b>	150	156	170
<b>L2</b>	<b>71, 75</b>	146	150	162

Dimensions in mm

MG = diaphragm size

#### 1) Valve body material

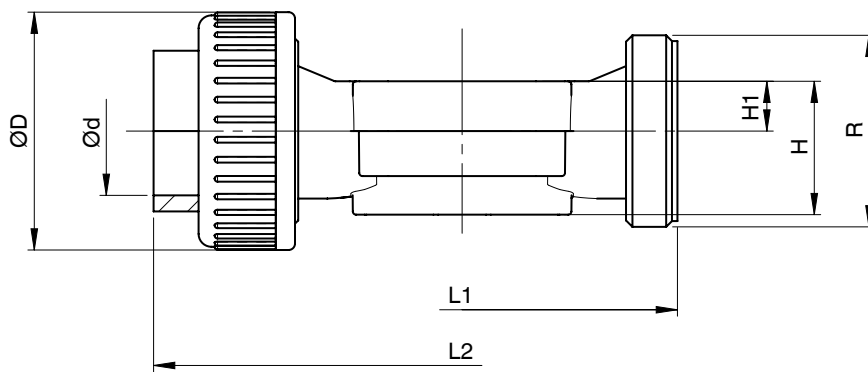
Code 1: PVC-U, grey

Code 4: ABS

Code 71: Inliner PP-H, grey, outliner PP, reinforced

Code 75: Inliner PVDF/outliner PP, reinforced

**Connection - Union end code 33, 3M**



	Connection types code <sup>1)</sup>	Material code <sup>2)</sup>	MG 20		
			DN 15	DN 20	DN 25
<b>NPS</b>			1/2"	3/4"	1"
<b>R</b>			G 1	G 1 1/4	G 1 1/2
<b>ØD</b>			43.0	53.0	60.0
<b>L1</b>			108.0	108.0	116.0
<b>H</b>			36.0	38.0	39.0
<b>H1</b>			10.0	12.0	13.0
<b>L2</b>	<b>33</b>	<b>1</b>	146.0	152.0	166.0
<b>L2</b>	<b>33</b>	<b>4</b>	149.0	155.0	169.0
<b>Ød</b>	<b>33</b>		21.4	26.8	33.6
<b>L2</b>	<b>3M</b>	<b>1</b>	158.0	164.0	180.0
<b>Ød</b>	<b>3M</b>		21.4	26.7	33.5

Dimensions in mm

MG = diaphragm size

1) **Connection type**

Code 33: Union end with inch insert - BS (socket)

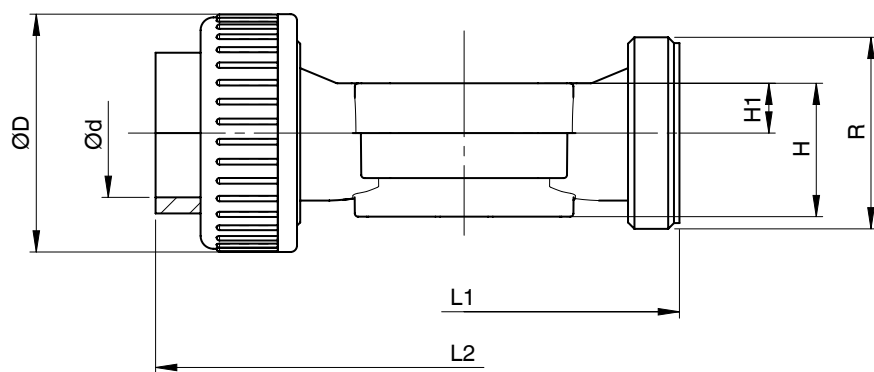
Code 3M: Union end with inch insert - ASTM (socket)

2) **Valve body material**

Code 1: PVC-U, grey

Code 4: ABS

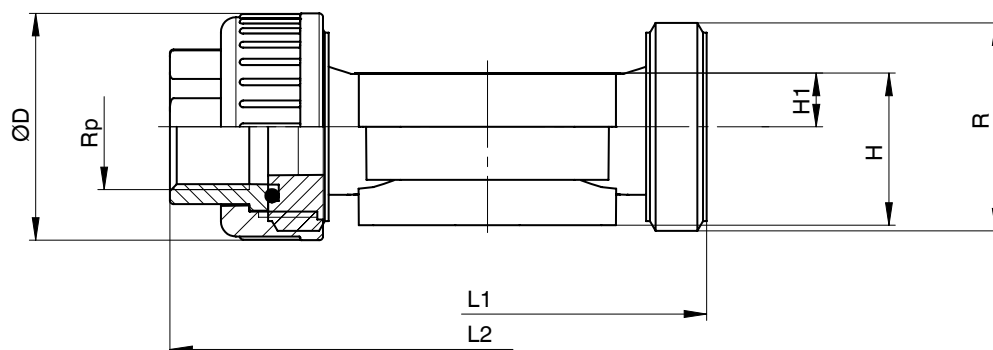
**Connection - Union end code 3T**



	MG 20		
	DN 15	DN 20	DN 25
<b>R</b>	G 1 1/4	G 1 1/4	G 1 1/2
<b>ØD</b>	53	53	60
<b>L1</b>	108	108	116
<b>H</b>	36	38	39
<b>H1</b>	10	12	13
<b>L2</b>	152	152	166
<b>Ød</b>	22	26	32

Dimensions in mm  
MG = diaphragm size

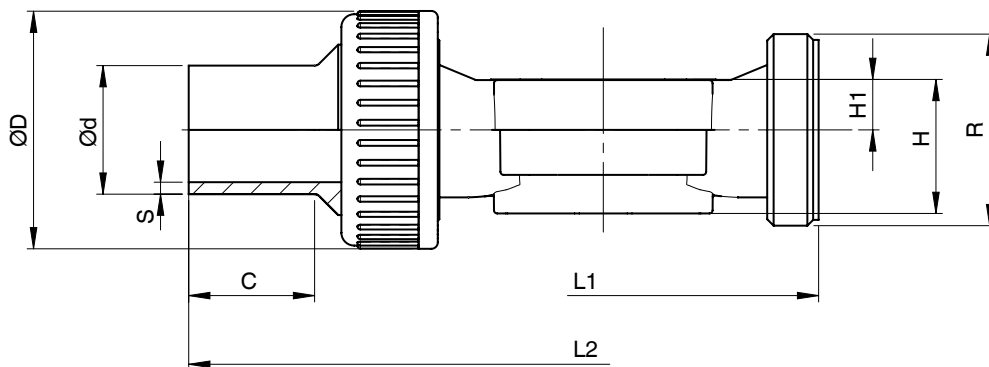
**Connection - Union end code 7R**



	MG 20		
	DN 15	DN 20	DN 25
<b>R</b>	G 1	G 1 1/4	G 1 1/2
<b>ØD</b>	43	53	60
<b>L1</b>	108	108	116
<b>H</b>	36	38	39
<b>H1</b>	10	12	13
<b>L2</b>	146	152	166
<b>Rp</b>	1/2	3/4	1

Dimensions in mm  
MG = diaphragm size

**Connection - Union end code 78**



	Material code <sup>1)</sup>	MG 20		
		DN 15	DN 20	DN 25
<b>L1</b>		108.0	108.0	116.0
<b>L2</b>		214.0	220.0	234.0
<b>H</b>		36.0	38.0	39.0
<b>H1</b>		10.0	12.0	13.0
<b>øD</b>		43.0	53.0	60.0
<b>ød</b>		20.0	25.0	32.0
<b>R</b>		G 1	G 1 1/4	G 1 1/2
<b>s</b>	<b>71</b>	1.9	2.3	2.9
	<b>75</b>	1.9	1.9	2.4
<b>c</b>		36.0	37.0	39.0

Dimensions in mm

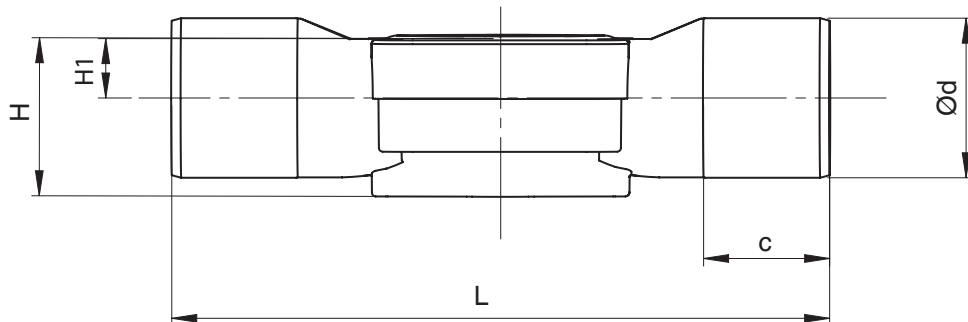
MG = diaphragm size

**1) Valve body material**

Code 71: Inliner PP-H, grey, outliner PP, reinforced

Code 75: Inliner PVDF/outliner PP, reinforced

**Connection - Spigot code 0, 30**



MG	DN	Connection types code <sup>1)</sup>														
		0										30				
		Material code <sup>2)</sup>														
				1	5, 20	71, 75			1	5, 20	71, 75	1, 4				
NPS	L	H	H	H	H1	Ød	c	c	c	L	H	H1	Ød	c		
20	15	1/2"	124.0	36.0	-	36.0	10.0	20.0	16.0	-	18.0	141.0	36.0	10.0	21.4	24.0
	20	3/4"	144.0	38.0	-	38.0	12.0	25.0	19.0	-	19.0	144.0	38.0	12.0	26.7	27.0
	25	1"	154.0	39.0	-	39.0	13.0	32.0	22.0	-	22.0	154.0	39.0	13.0	33.6	30.0

Dimensions in mm

MG = diaphragm size

1) **Connection type**

Code 0: Spigot DIN

Code 30: Imperial butt weld spigot

2) **Valve body material**

Code 1: PVC-U, grey

Code 4: ABS

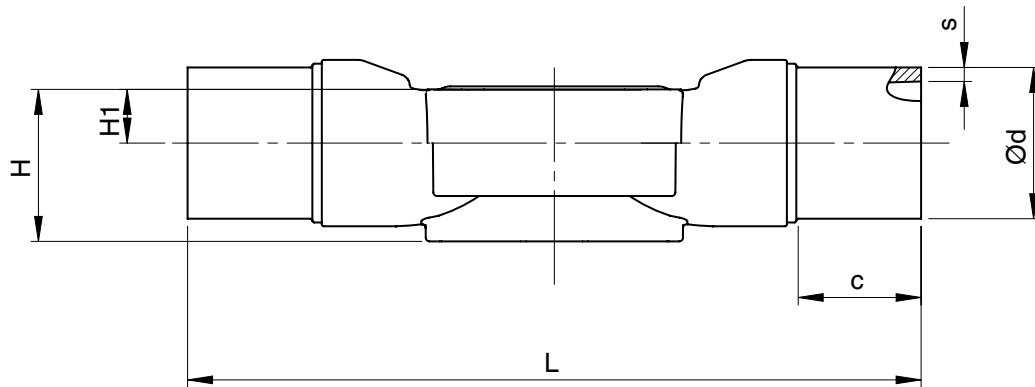
Code 5: PP, reinforced

Code 20: PVDF

Code 71: Inliner PP-H, grey, outliner PP, reinforced

Code 75: Inliner PVDF/outliner PP, reinforced

**Connection - Spigot code 20**



MG	DN	Connection types code 20 <sup>1)</sup>								
		Material code <sup>2)</sup>						20	71	75
		NPS	L	H	H1	Ød	c	s	s	s
20	15	1/2"	154.0	36.0	10.0	20.0	33.0	-	1.9	1.9
	20	3/4"	154.0	38.0	12.0	25.0	33.0	-	2.3	1.9
	25	1"	154.0	39.0	13.0	32.0	33.0	-	2.9	2.4

Dimensions in mm

MG = diaphragm size

1) **Connection type**

Code 20: Spigot for IR butt welding

2) **Valve body material**

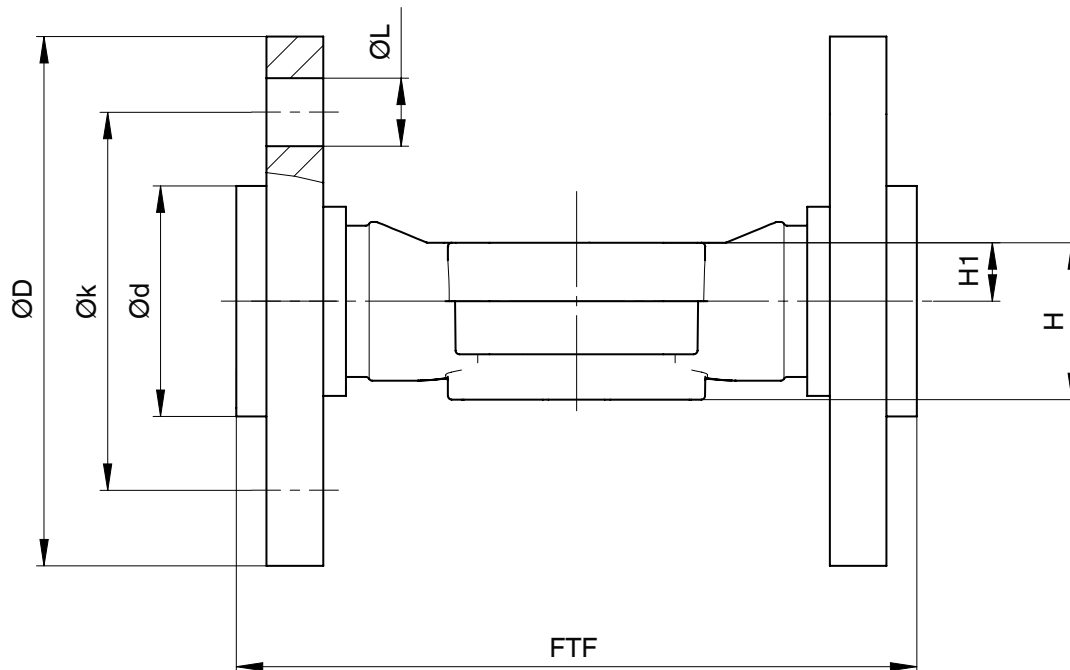
Code 20: PVDF

Code 71: Inliner PP-H, grey, outliner PP, reinforced

Code 75: Inliner PVDF/outliner PP, reinforced



**Connection - Flange code 4**



MG	DN	Connection types code 4 <sup>1)</sup>														
		Material code <sup>2)</sup>														
					1	5, 20	71, 75	1	5, 20	71, 75	1	5, 20	71, 75	1	5, 20	71, 75
		FTF	H	H1	øD			øL			ød			øk		
20	15	130.0	36.0	10.0	95.0	-	95.0	14.0	-	14.0	45.0	-	45.0	65.0	-	65.0
	20	150.0	38.0	12.0	105.0	-	105.0	14.0	-	14.0	58.0	-	58.0	75.0	-	75.0
	25	160.0	39.0	13.0	115.0	-	115.0	14.0	-	14.0	68.0	-	68.0	85.0	-	85.0

Dimensions in mm

MG = diaphragm size

1) **Connection type**

Code 4: Flange EN 1092, PN 10, form B, length FTF EN 558 series 1, ISO 5752, basic series 1

2) **Valve body material**

Code 1: PVC-U, grey

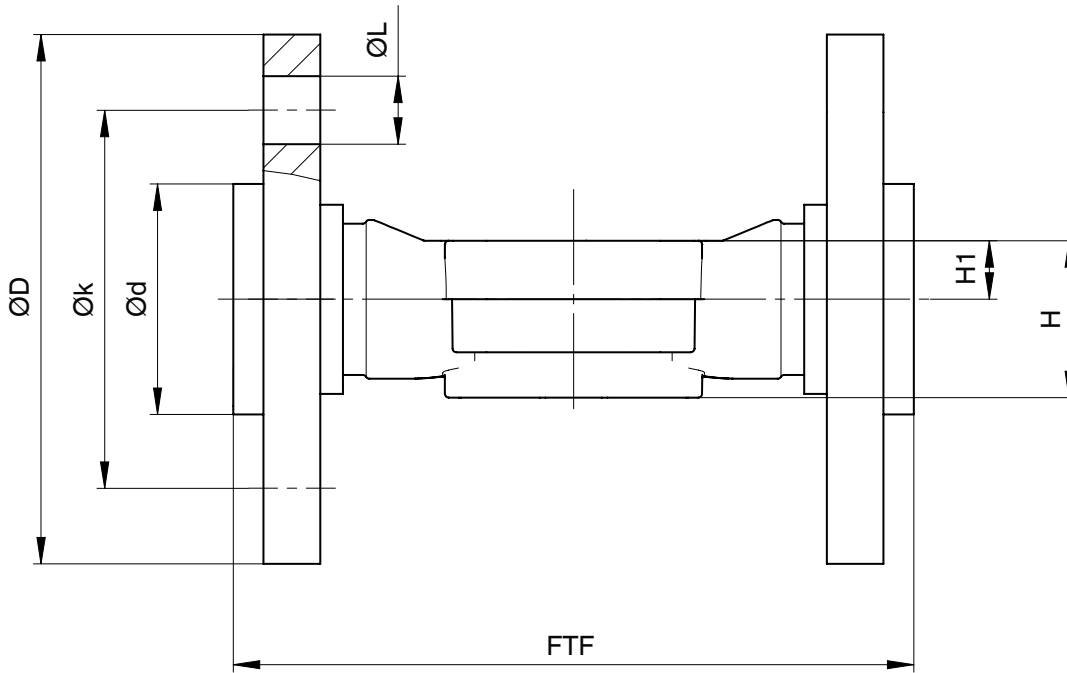
Code 5: PP, reinforced

Code 20: PVDF

Code 71: Inliner PP-H, grey, outliner PP, reinforced

Code 75: Inliner PVDF/outliner PP, reinforced

**Connection - Flange code 39**



MG	DN	Connection types code 39 <sup>1)</sup>														
		Material code <sup>2)</sup>														
					1	5, 20	71, 75	1	5, 20	71, 75	1	5, 20	71, 75	1	5, 20	71, 75
			FTF	H	H1	øD			øL			ød			øk	
20	15	130.0	36.0	10.0	95.0	-	95.0	16.0	-	16.0	45.0	-	45.0	60.0	-	60.0
	20	150.0	38.0	12.0	105.0	-	105.0	16.0	-	16.0	54.0	-	54.0	70.0	-	70.0
	25	160.0	39.0	13.0	115.0	-	115.0	16.0	-	16.0	63.0	-	63.0	79.0	-	79.0

Dimensions in mm  
 MG = diaphragm size

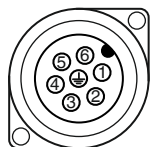
- 1) **Connection type**  
 Code 39: Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D
- 2) **Valve body material**  
 Code 1: PVC-U, grey  
 Code 5: PP, reinforced  
 Code 20: PVDF  
 Code 71: Inliner PP-H, grey, outliner PP, reinforced  
 Code 75: Inliner PVDF/outliner PP, reinforced

## Electrical connection

### Position of the connectors

## Electrical connection

### Connection X1



7-pin plug, Binder, type 693

Pin	Signal name
1	24 V supply voltage
2	GND
3	Digital input OPEN
4	Digital input CLOSED
5	n. c.
6	n. c.
7	n. c.

## Accessories

### GEMÜ 1041

#### Mounting and compensating plate

GEMÜ 1041 is a mounting and compensating plate which serves to mount and align GEMÜ plastic diaphragm valves with union ends.



### GEMÜ 1218

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			
<b>Connection X1 – supply voltage, relay outputs</b>			
Binder plug	Mating connector 468/ eSy series	Terminal compartment/ screws, 7-pin	88220649
		Terminal compartment/ screws, 7-pin, 90°	88377714 <sup>1)</sup>

1) provided in the scope of delivery



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