

## GEMÜ R690

### Pneumatically operated diaphragm valve



#### Features

- Compact system design due to flow-optimized high-flow valve bodies
- Reduced control air consumption
- Modified spring sets available for applications with reduced control pressure
- Position indicator and positioner optionally available
- Closing stroke limiter optionally available

#### Description

The GEMÜ R690 2/2-way diaphragm valve has a low maintenance membrane actuator and is pneumatically operated. Normally Closed (NC), Normally Open (NO) and Double Acting (DA) control functions are available. The high-flow valve body provides compact dimensions at high flow rates.

#### Technical specifications

- **Media temperature :** -10 to 80 °C
- **Ambient temperature:** -10 to 50 °C
- **Operating pressure :** 0 to 10 bar
- **Nominal sizes:** DN 15 to 100
- **Body configurations:** Straight through body
- **Connection standards :** ANSI | ASTM | BS | DIN | EN | ISO | JIS
- **Connection types:** Flange | Spigot | Union end
- **Body materials:** ABS | Inliner PP-H, grey / outliner PP, reinforced | Inliner PVDF/outliner PP, reinforced | PP, reinforced | PVC-U, grey | PVDF
- **Diaphragm materials:** EPDM | FKM | NBR | PTFE/EPDM
- **Conformities:** ACS | EAC | FDA | System 1+

Technical data depends on the respective configuration



further information  
webcode: GW-R690



## Product description

### Construction



Item	Name	Materials
1	Optical position indicator	PP-H red
2	Actuator	PP- H 30% glass fibre reinforced
3	CONEXO actuator RFID chip (see Conexo information)	
4	Control air connector	Brass
5	Diaphragm	NBR, FKM, EPDM, PTFE / EPDM one-piece, PTFE / EPDM two-piece
6	Valve body	PVC-U, grey ABS PP, reinforced PVDF Inliner PP-H, grey / outliner PP, reinforced Inliner PVDF / outliner PP, reinforced
7	CONEXO diaphragm RFID chip (see Conexo information)	
8	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](http://www.gemu-group.com/conexo)

### Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO".

## Availabilities

### Availability of valve bodies

#### Spigot

MG	DN	Connection type code <sup>1)</sup>						
		0			20		30	7X
		Material code <sup>2)</sup>						
		1	5, 20	71, 75	20	71, 75	1, 4	1, 4, 71, 75
20	15	X	-	X	-	X	X	X
	20	X	-	X	-	X	X	X
	25	X	-	X	-	X	X	X
25	32	X	-	X	-	X	X	X
40	40	X	-	X	-	X	X	X
	50	X	-	X	-	X	X	X
50	65	X	X	-	X	-	X	-
80	80	X	X	-	X	-	X	-
100	100	X	X	-	X	-	X	-

MG = diaphragm size, X = standard

1) **Connection type**

Code 0: Spigot DIN

Code 20: Spigot for IR butt welding

Code 30: Spigot – inch, for welding or solvent cementing, depending on the body material

Code 7X: Body with threaded spigots for unions

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

**Union end**

MG	DN	Connection type code <sup>1)</sup>																
		07						7				7R, 3P	33		3M	3T	78	
		Material code <sup>2)</sup>																
		1	4	5	20	71	75	1	4	71	75	1	1	4	1	1	71	75
20	15	X	X	-	-	X	X	X	X	X	X	X	X	X	X	-	X	X
	20	X	X	-	-	X	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	X
25	32	X	X	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X
40	40	X	X	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X
	50	X	X	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X
50	65	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-
80	80	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	100	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

MG = diaphragm size, X = standard

1) **Connection type**

- Code 07: Spigot body with GEMÜ 1035 union end, DIN insert (socket)
- Code 7: Union end with insert (socket) – DIN
- Code 7R: Union end with insert (Rp threaded socket) – DIN
- Code 33: Union end with inch insert – BS (socket)
- Code 3M: Union end with inch insert – ASTM (socket)
- Code 3P: Union end with NPT threaded socket insert
- Code 3T: Union end with JIS insert (socket)
- Code 78: Union end with insert (for IR butt welding) – DIN

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

**Flange**

MG	DN	Connection type code <sup>1)</sup>									
		4					39				
		Material code <sup>2)</sup>									
		1	5	20	71	75	1	5	20	71	75
20	15	X	-	-	X	X	X	-	-	X	X
	20	X	-	-	X	X	X	-	-	X	X
	25	X	-	-	X	X	X	-	-	X	X
25	32	X	-	-	X	X	X	-	-	X	X
40	40	X	-	-	X	X	X	-	-	X	X
	50	X	-	-	X	X	X	-	-	X	X
50	65	X	X	X	-	-	X	X	X	-	-
80	80	X	X	X	-	-	X	X	X	-	-
100	100	X	X	X	-	-	X	X	X	-	-

MG = diaphragm size, X = standard

1) **Connection type**

Code 4: Flange EN 1092, PN 10, form B, face-to-face dimension 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 5: PP, reinforced

Code 20: PVDF

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

Code 75: Inliner PVDF/outliner PP, reinforced

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

MG	DN	Connection type code <sup>1)</sup>				Material code	Diaphragm material code
		0	30	7	33		
20	15	X	X	X	X	X	
	20	X	X	X	X	X	
	25	X	X	X	X	X	
25	32	X	X	X	X	X	
40	40	X	X	X	X	X	
	50	X	X	X	X	X	
50	65	X	X	-	-	X	
80	80	X	X	-	-	X	
100	100	X	X	-	-	X	

MG = diaphragm size, X = standard

1) **Connection type**

Code 0: Spigot DIN

Code 7: Union end with insert (socket) – DIN

Code 30: Spigot – inch, for welding or solvent cementing, depending on the body material

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 membrane actuator	R690

2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100

3 Body configuration	Code
2/2-way body	D

4 Connection type	Code
<b>Spigot</b>	
DIN spigot	0
Spigot for IR butt welding	20
Spigot - inch, for welding or gluing, depending on the body material	30
Threaded spigot for fitting screw connection	7X
<b>Union end</b>	
Union end with insert (socket) – DIN	7
GEMÜ 1035 fitting body with valve connection, DIN insert (sleeve)	07
Fitting screw connection with insert (threaded socket Rp) - DIN	7R
Fitting screw connection with insert inch - BS (socket)	33
Fitting screw connection with insert inch - ASTM (socket)	3M
Fitting screw connection with insert threaded socket NPT	3P
Fitting screw connection with insert JIS (socket)	3T
Fitting screw connection with insert (IR butt welding) – DIN	78
For DN 65 code 07: Spigot body with fitting screw connection see data sheet 1035.	
<b>Flange</b>	
Flange EN 1092, PN 10, form B, Overall length FTF EN 558 series 1, ISO 5752, basic series 1	4
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
PP, reinforced	5
PVDF	20
Inliner PP-H, grey, Outliner PP, reinforced	71
Inliner PVDF/Outliner PP, reinforced	75

6 Diaphragm material	Code
<b>Elastomer</b>	
NBR	2
FKM	4
EPDM	17
EPDM	29
<b>PTFE</b>	
PTFE/EPDM one-piece	54
PTFE/EPDM two-piece	5M
<b>Note:</b> The PTFE/EPDM diaphragm (code 5M) is available from diaphragm size 25.	

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

8 Actuator version	Code
Actuator size EDL, control air connector 90° offset to flow direction, adapted control and operating pressure	EDL
Actuator size EDM, control air connector 90° offset to flow direction, adapted control and operating pressure	EDM
Actuator size EDN, control air connector 90° offset to flow direction	EDN
Actuator size FDL, control air connector 90° offset to flow direction, adapted control and operating pressure	FDL
Actuator size FDM, control air connector 90° offset to flow direction, adapted control and operating pressure	FDM
Actuator size FDN, control air connector 90° offset to flow direction	FDN
Actuator size HDL, control air connector 90° offset to flow direction, adapted control and operating pressure	HDL
Actuator size HDM, control air connector 90° offset to flow direction, adapted control and operating pressure	HDM
Actuator size HDN, control air connector 90° offset to flow direction	HDN

## Order data

8 Actuator version	Code	9 Mounting type	Code
Actuator size JDL, control air connector 90° offset to flow direction, adapted control and operating pressure	JDL	Actuator with thrust washer inside, suitable for stroke limiter	SV
Actuator size JDM, control air connector 90° offset to flow direction, adapted control and operating pressure	JDM	<b>Note:</b> For mounting equipment on the R690 with MG20: Use an actuator with internal thrust washer.	
Actuator size JDN, control air connector 90° offset to flow direction	JDN	10 Special version	Code
Actuator size JDN, control air connector 90° offset to flow direction	MDN	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
Actuator size NDN, control air connector 90° offset to flow direction	NDN	11 CONEXO	Code
		Integrated RFID chip for electronic identification and traceability	C
		Without	

## Order codes

Ordering option	Code	Description
1 Type	R690	Diaphragm valve, pneumatically operated, plastic membrane actuator
2 DN	20	DN 20
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	EDN	Actuator size EDN, control air connector 90° offset to flow direction
9 Mounting type	SV	Actuator with thrust washer inside, suitable for stroke limiter
10 Special version	1	Drinking water hygiene suitability according to system 1+, UBA-BWGL for plastics and other organic materials, Cold and hot water (23 °C–60 °C)
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
ABS (code 4)	-10 – 60 °C
PP, reinforced (code 5)	5 – 80 °C
PVDF (code 20)	-10 – 80 °C
Inliner PP-H grey / outliner PP, reinforced (code 71)	5 – 80 °C
Inliner PVDF / outliner PP, reinforced (code 75)	-10 – 80 °C

**Ambient temperature:**

Valve body material	
PVC-U, grey (code 1)	10 – 50 °C
ABS (code 4)	-10 – 50 °C
PP, reinforced (code 5)	5 – 50 °C
PVDF (code 20)	-10 – 50 °C
Inliner PP-H grey / outliner PP, reinforced (code 71)	5 – 50 °C
Inliner PVDF / outliner PP, reinforced (code 75)	-5 – 50 °C

**Control medium temperature:** 0 – 40 °C

**Storage temperature:** 0 – 40 °C

## Pressure

Operating pressure:

MG	DN	NPS	Actuator size*	Control function	Diaphragm materials	
					Elastomer	PTFE
20	15, 20, 25	1/2", 3/4", 1"	EDL	1	0 - 3	0 - 3
			EDM	1	0 - 6	0 - 6
			EDN	1	0 - 10	0 - 10
			EDN	2, 3	0 - 10	0 - 10
25	32	1 1/4"	FDL	1	0 - 3	0 - 3
			FDM	1	0 - 6	0 - 6
			FDN	1	0 - 10	0 - 10
			FDN	2, 3	0 - 10	0 - 10
40	40, 50	1 1/2", 2"	HDL	1	0 - 4	0 - 4
			HDM	1	0 - 6	0 - 6
			HDN	1	0 - 10	0 - 10
			HDN	2, 3	0 - 10	0 - 10
50	65	2 1/2"	JDL	1	0 - 3	0 - 3
			JDM	1	0 - 6	0 - 6
			JDN	1	0 - 10	0 - 10
			JDN	2, 3	0 - 10	0 - 10
80	80	3"	MDN	1, 2, 3	0 - 8	0 - 6
100	100	4"	NDN	1, 2, 3	0 - 6	0 - 4

MG = diaphragm size

\* Actuator sizes \_DL, \_DM with weaker spring set for operating the system with low wear on the diaphragm and for vacuum applications.

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 10

Leakage rate:

Leakage rate A (acc. to EN 12266-1)

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	-	-	-	10.0	10.0	10.0	8.0	6.0	3.5	1.5	-	-
ABS	4	10.0	10.0	10.0	10.0	10.0	10.0	8.0	6.0	4.0	2.0	-	-
PP	5	-	-	10.0	10.0	10.0	10.0	8.5	7.0	5.5	4.0	2.7	1.5
PP-H	71	-	-	10.0	10.0	10.0	10.0	8.5	7.0	5.5	4.0	2.7	1.5
PVDF	20	10.0	10.0	10.0	10.0	10.0	10.0	9.0	8.0	7.1	6.3	5.4	4.7
PVDF	75	10.0	10.0	10.0	10.0	10.0	10.0	9.0	8.0	7.1	6.3	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.

Control pressure:

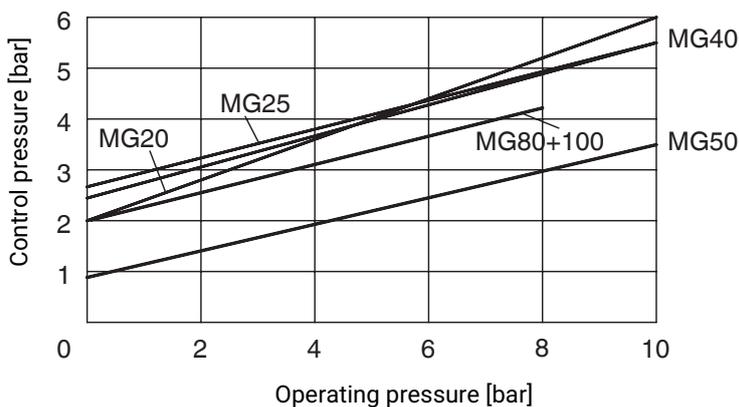
MG	DN	NPS	Actuator size	Control function	Control pressure*
20	15, 20, 25	1/2", 3/4", 1"	EDL	1	3.0 - 7.0
			EDM	1	3.8 - 7.0
			EDN	1	5.0 - 7.0
			EDN	2, 3	max. 6.0
25	32	1 1/4"	FDL	1	2.5 - 6.0
			FDM	1	3.8 - 6.0
			FDN	1	5.0 - 7.0
			FDN	2, 3	max. 5.5
40	40, 50	1 1/2", 2"	HDL	1	3.0 - 7.0
			HDM	1	3.8 - 6.0
			HDN	1	5.0 - 7.0
			HDN	2, 3	max. 5.5
50	65	2 1/2"	JDL	1	3.0 - 6.0
			JDM	1	3.8 - 6.0
			JDN	1	5.5 - 7.0
			JDN	2, 3	max. 5.0
80	80	3"	MDN	1	5.0 - 7.0
			MDN	2	max. 5.0
			MDN	3	max. 4.5
			MDN	3	max. 4.5
100	100	4"	NDN	1	5.5 - 7.0
			NDN	2	max. 5.0
			NDN	3	max. 4.5

MG = diaphragm size

\*For required control pressure depending on operating pressure see diagram

**Control pressure characteristic DN 15 - 100 (EPDM, FPM)**

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.

Technical data

**Kv values:**

MG	DN	Kv values
<b>20</b>	<b>15</b>	6.0
	<b>20</b>	10.0
	<b>25</b>	12.0
<b>25</b>	<b>32</b>	20.0
<b>40</b>	<b>40</b>	42.0
	<b>50</b>	46.0
<b>50</b>	<b>65</b>	70.0
<b>80</b>	<b>80</b>	120.0
<b>100</b>	<b>100</b>	189.0

MG = diaphragm size

Kv values in m<sup>3</sup>/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.

**Filling volume:**

Diaphragm size 20	0.10 dm <sup>3</sup>
Diaphragm size 25	0.20 dm <sup>3</sup>
Diaphragm size 40	0.55 dm <sup>3</sup>
Diaphragm size 50	1.06 dm <sup>3</sup>
Diaphragm size 80	2.50 dm <sup>3</sup>
Diaphragm size 100	2.50 dm <sup>3</sup>

## Product conformity

**Pressure Equipment Directive:** 2014/68/EU

**EAC:** TR CU 010/2011

**Drinking water:** 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)

**Food:** FDA

## Materials

**Materials:**

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

## Mechanical data

**Weight:**

**Actuator**

MG	Actuator size	Control function	Weight
20	EDL, EDM, EDN	1	0.7
	EDL, EDM, EDN	2 + 3	0.5
25	FDL, FDM, FDN	1	1.6
	FDL, FDM, FDN	2 + 3	1.0
40	HDL, HDM, HDN	1	3.5
	HDL, HDM, HDN	2 + 3	2.0
50	JDL, JDM, JDN	1	5.7
	JDL, JDM, JDN	2 + 3	3.8
80	MDN	1	11.3
	MDN	2 + 3	8.1
100	NDN	1	11.5
	NDN	2 + 3	9.4

Weights in kg  
MG = diaphragm size

**Weight:**

**Valve body**

MG	DN	Spigot		Union end				Flange
		Connection type code						
		0, 30	20	3P, 7, 7R	33	3M, 3T	78	4, 39
<b>20</b>	<b>15</b>	0.12	0.10	0.17	0.24	0.26	0.27	0.67
	<b>20</b>	0.13	0.12	0.21	0.28	0.30	0.36	0.84
	<b>25</b>	0.16	0.14	0.26	0.33	0.38	0.37	1.28
<b>25</b>	<b>32</b>	0.22	0.18	0.40	0.70	0.73	0.63	1.89
<b>40</b>	<b>40</b>	0.50	0.40	0.73	0.83	0.93	1.13	2.36
	<b>50</b>	0.57	0.47	1.00	1.40	1.50	1.60	3.08
<b>50</b>	<b>65</b>	0.92	3.57	-	-	-	-	3.20
<b>80</b>	<b>80</b>	4.00	3.30	-	-	-	-	6.70
<b>100</b>	<b>100</b>	4.40	4.00	-	-	-	-	8.20

Weights in kg  
MG = diaphragm size

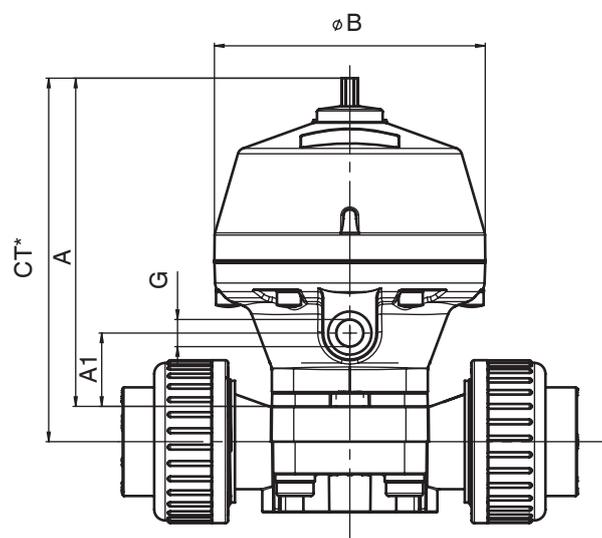
**Installation position:** Optional

**Flow direction:** Optional

## Dimensions

### Actuator dimensions

#### Actuator - Control function 1



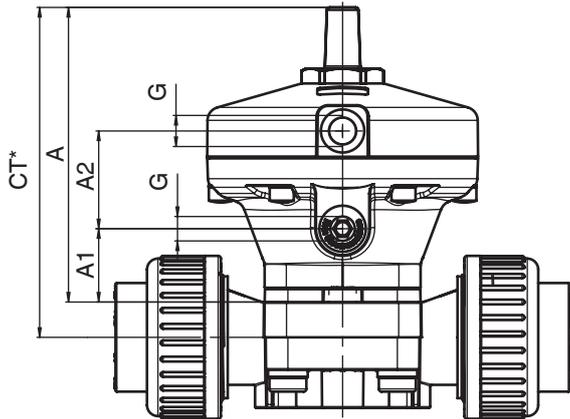
MG	DN	Actuator size	$\phi B$	A	A1	G
20	15 - 25	EDL, EDM, EDN	100.0	119.0	27.0	G 1/4
25	32	FDL, FDM, FDN	130.0	145.0	28.0	G 1/4
40	40 - 50	HDL, HDM, HDN	170.0	198.0	52.0	G 1/4
50	65	JDL, JDM, JDN	211.0	245.0	90.0	G 1/4
80	80	MDN	260.0	317.0	127.0	G 1/4
100	100	NDN	260.0	349.0	149.0	G 1/4

Dimensions in mm

MG = diaphragm size

\* CT = A + H1 (see body dimensions)

**Actuator - Control function 2 and 3**



MG	DN	Actuator size	A	A1	A2	G
20	15 - 25	EDL, EDM, EDN	109.0	27.0	36.0	G 1/4
25	32	FDL, FDM, FDN	123.0	28.0	46.0	G 1/4
40	40 - 50	HDL, HDM, HDN	163.0	52.0	55.0	G 1/4
50	65	JDL, JDM, JDN	206.0	90.0	48.0	G 1/4
80	80	MDN	270.0	127.0	41.0	G 1/4
100	100	NDN	307.0	149.0	46.0	G 1/4

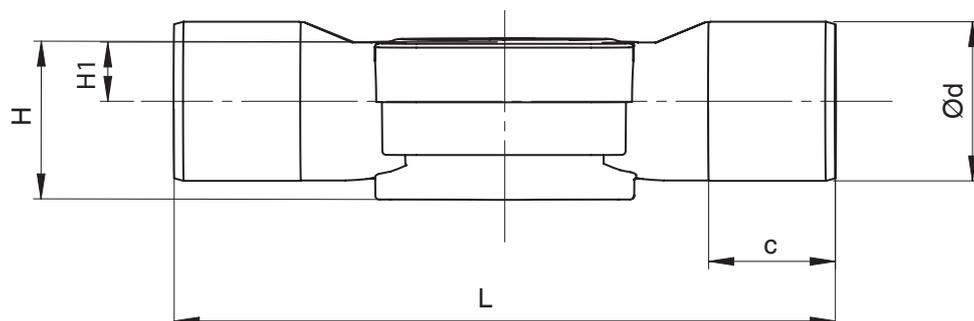
Dimensions in mm

MG = diaphragm size

\* CT = A + H1 (see body dimensions)

## Body dimensions

### Spigot DIN/inch (code 0, 30)



Connection type spigot DIN (code 0)<sup>1)</sup>, body material PVC-U (code 1), PP (code 5), PVDF (code 20), inliner/outliner (code 71, 75)<sup>2)</sup>

MG	DN	NPS	c			ød	H			H1	L
			Material				Material				
			1	5, 20	71, 75		1	5, 20	71, 75		
20	15	1/2"	16.0	-	18.0	20.0	36.0	-	36.0	10.0	124.0
	20	3/4"	19.0	-	19.0	25.0	38.0	-	38.0	12.0	144.0
	25	1"	22.0	-	22.0	32.0	39.0	-	39.0	13.0	154.0
25	32	1 1/4"	32.0	-	32.0	40.0	41.0	-	41.0	15.0	174.0
40	40	1 1/2"	35.0	-	26.0	50.0	63.2	-	63.2	23.2	194.0
	50	2"	38.0	-	33.0	63.0	63.2	-	63.2	23.2	224.0
50	65	2 1/2"	46.0	46.0	-	75.0	78.8	78.8	-	38.8	284.0
80	80	3"	51.0	51.0	-	90.0	117.0	117.0	-	62.0	300.0
100	100	4"	61.0	61.0	-	110.0	140.0	140.0	-	75.0	340.0

Connection type spigot - inch (code 30)<sup>1)</sup>, body material PVC-U (code 1), ABS (code 4)<sup>2)</sup>

MG	DN	NPS	c	ød	H	H1	L
20	15	1/2"	24.0	21.4	36.0	10.0	141.0
	20	3/4"	27.0	26.7	38.0	12.0	144.0
	25	1"	30.0	33.6	39.0	13.0	154.0
25	32	1 1/4"	33.0	42.2	41.0	15.0	174.0
40	40	1 1/2"	35.0	48.3	63.2	23.2	194.0
	50	2"	40.0	60.3	63.2	23.2	224.0
50	65	2 1/2"	46.0	73.0	78.8	38.8	284.0
80	80	3"	51.0	88.9	117.0	62.0	300.0
100	100	4"	61.0	114.3	140.0	75.0	340.0

Dimensions in mm

MG = diaphragm size

#### 1) Connection type

Code 0: Spigot DIN

Code 30: Spigot - inch, for welding or solvent cementing, depending on the body material

#### 2) Valve body material

Code 1: PVC-U, grey

Code 4: ABS

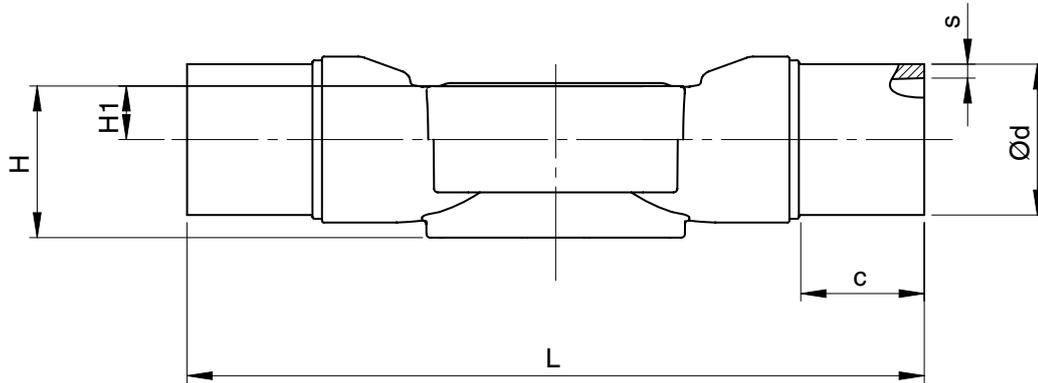
Code 5: PP, reinforced

Code 20: PVDF

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

Code 75: Inliner PVDF/outliner PP, reinforced

**Spigot IR (code 20)**



**Connection type spigot IR (code 20)<sup>1)</sup>, body material inliner/outliner (code 71, 75)<sup>2)</sup>**

MG	DN	NPS	c	ød	H	H1	L	s	
								Material	
								71	75
20	15	1/2"	33.0	20.0	36.0	10.0	154.0	1.9	1.9
	20	3/4"	33.0	25.0	38.0	12.0	154.0	2.3	1.9
	25	1"	33.0	32.0	39.0	13.0	154.0	2.9	2.4
25	32	1¼"	33.0	40.0	41.0	15.0	194.0	3.7	2.4
40	40	1½"	33.0	50.0	63.2	23.2	194.0	4.6	3.0
	50	2"	33.0	63.0	63.2	23.2	224.0	5.8	3.0

**Connection type spigot IR (code 20)<sup>1)</sup>, body material PVDF (code 20)<sup>2)</sup>**

MG	DN	NPS	c	ød	H	H1	L	s
50	65	2½"	43.0	75.0	78.8	38.8	284.0	3.6
80	80	3"	51.0	90.0	117.0	62.0	300.0	4.3
100	100	4"	59.0	110.0	140.0	75.0	340.0	5.3

Dimensions in mm

MG = diaphragm size

**1) Connection type**

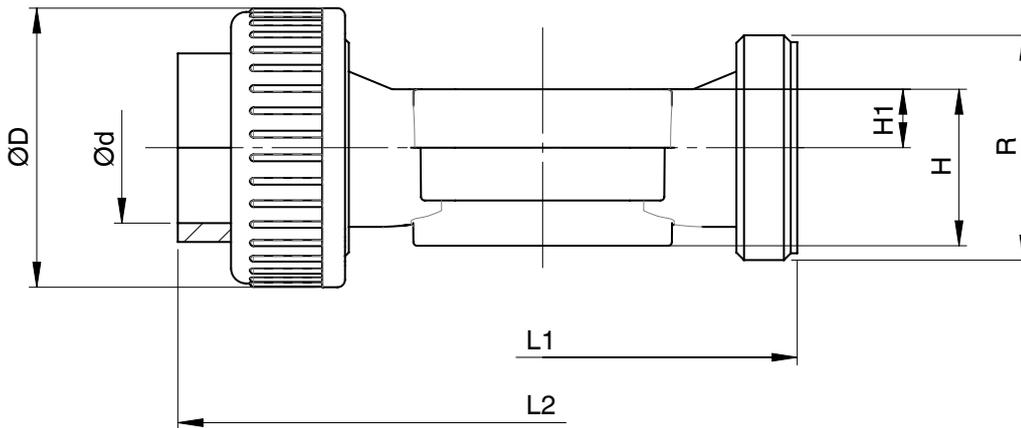
Code 20: Spigot for IR butt welding

**2) Valve body material**

Code 20: PVDF

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

Code 75: Inliner PVDF/outliner PP, reinforced

**Union end DIN (code 7)**

Connection type union end (code 7)<sup>1)</sup>, body material PVC-U (code 1), ABS (code 4), inliner/outliner (code 71, 75)<sup>2)</sup>, diaphragm sizes 20 – 40

MG	DN	NPS	ød	øD	H	H1	L1	L2				R
								Material				
								1	4	71	75	
20	15	1/2"	20.0	43.0	36.0	10.0	108.0	146.0	150.0	143.0	146.0	G 1
	20	3/4"	25.0	53.0	38.0	12.0	108.0	152.0	156.0	146.0	150.0	G 1¼
	25	1"	32.0	60.0	39.0	13.0	116.0	166.0	170.0	158.0	162.0	G 1½
25	32	1¼"	40.0	74.0	41.0	15.0	134.0	192.0	196.0	181.0	184.0	G 2
40	40	1½"	50.0	83.0	63.2	23.2	154.0	222.0	222.0	207.0	210.0	G 2¼
	50	2"	63.0	103.0	63.2	23.2	184.0	266.0	266.0	245.0	248.0	G 2¾

Dimensions in mm

MG = diaphragm size

1) **Connection type**

Code 7: Union end with insert (socket) – DIN

2) **Valve body material**

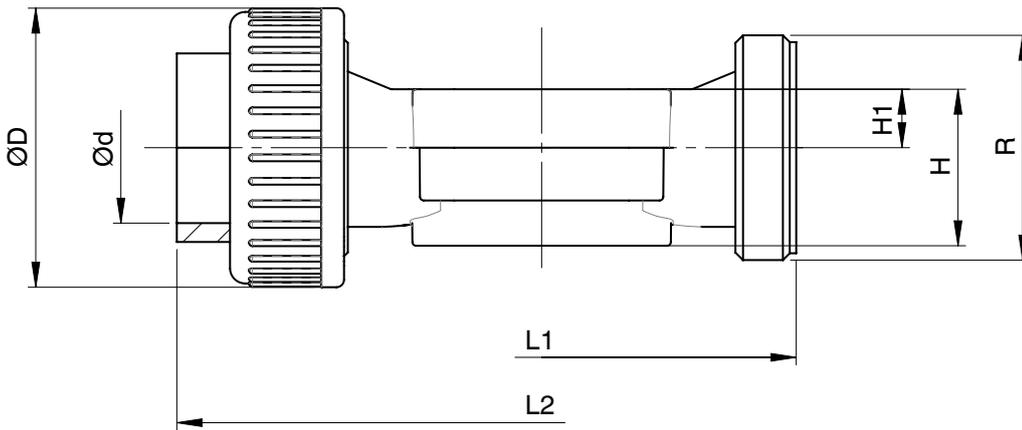
Code 1: PVC-U, grey

Code 4: ABS

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

Code 75: Inliner PVDF/outliner PP, reinforced

**Union end inch (code 33, 3M, 3T)**



**Connection type union end inch (code 33, 3M, 3T)<sup>1)</sup>, body material PVC-U (code 1)<sup>2)</sup>, diaphragm sizes 20 - 40**

MG	DN	NPS	ød			øD			H	H1	L1	L2			R	
			Connection type			Connection type						Connection type			Connection type	
			33	3M	3T	33, 3M	3T	33				3M	3T	33	3M	3T
20	15	1/2"	21.4	21.4	22.0	43.0	53.0 *	36.0	10.0	108.0	146.0	158.0	152.0	G 1	G 1 ¼ *	
	20	3/4"	26.8	26.7	26.0	53.0	53.0	38.0	12.0	108.0	152.0	164.0	152.0	G 1 ¼	G 1 ¼	
	25	1"	33.6	33.5	32.0	60.0	60.0	39.0	13.0	116.0	166.0	180.0	166.0	G 1 ½	G 1 ½	
25	32	1 ¼"	42.3	42.2	38.0	74.0	74.0	41.0	15.0	134.0	192.0	204.0	192.0	G 2	G 2	
40	40	1 ½"	48.3	48.3	48.0	83.0	83.0	63.2	23.2	154.0	222.0	230.0	222.0	G 2 ¼	G 2 ¼	
	50	2"	60.4	60.4	60.0	103.0	103.0	63.2	23.2	184.0	264.0	266.0	266.0	G 2 ¾	G 2 ¾	

**Connection type BS (code 33)<sup>1)</sup>, body material ABS (code 4)<sup>2)</sup>**

MG	DN	NPS	ød	øD	H	H1	L1	L2	R
20	15	1/2"	21.4	43.0	36.0	10.0	108.0	150.0	G 1
	20	3/4"	26.8	53.0	38.0	12.0	108.0	156.0	G 1 ¼
	25	1"	33.6	60.0	39.0	13.0	116.0	170.0	G 1 ½
25	32	1 ¼"	42.3	74.0	41.0	15.0	134.0	198.0	G 2
40	40	1 ½"	48.3	83.0	63.2	23.2	154.0	220.0	G 2 ¼
	50	2"	60.4	103.0	63.2	23.2	184.0	264.0	G 2 ¾

Dimensions in mm

MG = diaphragm size

\* Insert requires valve body DN 20

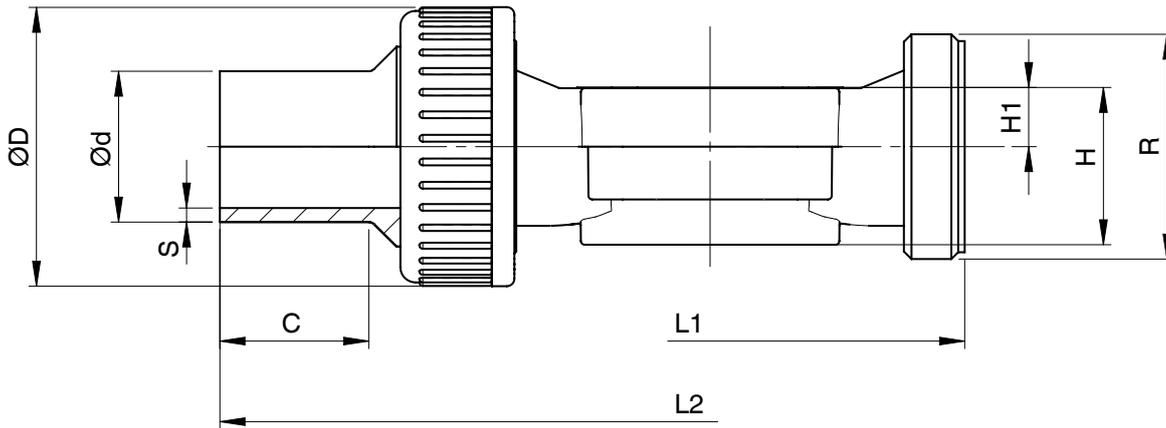
**1) Connection type**

- 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)

**2) Valve body material**

- Code 1: PVC-U, grey
- Code 4: ABS

**Union end DIN, IR butt welding (code 78)**



**Connection type union end DIN, IR butt welding (code 78)<sup>1)</sup>, body materials inliner/outliner (code 71, 75)<sup>2)</sup>**

MG	DN	NPS	c	ød	øD	H	H1	L1	L2	R	s	
											Material	
											71	75
20	15	1/2"	36.0	20.0	43.0	36.0	10.0	108.0	214.0	G 1	1.9	1.9
	20	3/4"	37.0	25.0	53.0	38.0	12.0	108.0	220.0	G 1¼	2.3	1.9
	25	1"	39.0	32.0	60.0	39.0	13.0	116.0	234.0	G 1½	2.9	2.4
25	32	1¼"	39.0	40.0	74.0	41.0	15.0	134.0	258.0	G 2	3.7	2.4
40	40	1½"	43.0	50.0	83.0	63.2	23.2	154.0	284.0	G 2¼	4.6	3.0
	50	2"	43.0	63.0	103.0	63.2	23.2	184.0	320.0	G 2¾	5.8	3.0

Dimensions in mm

MG = diaphragm size

**1) Connection type**

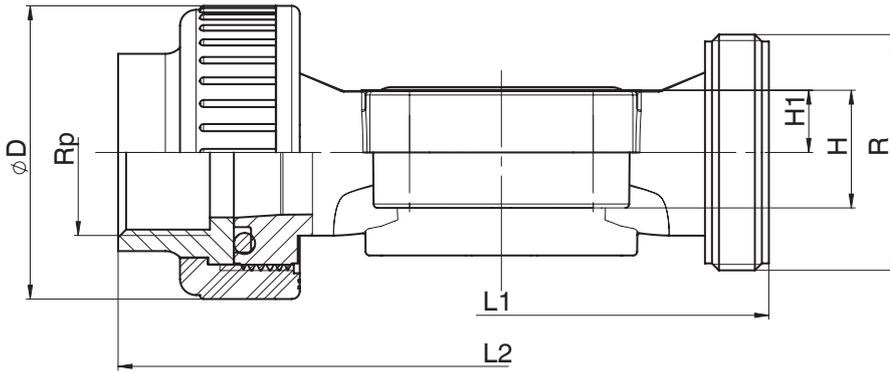
Code 78: Union end with insert (for IR butt welding) – DIN

**2) Valve body material**

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

Code 75: Inliner PVDF/outliner PP, reinforced

**Union end Rp (code 7R), NPT (code 3P)**



**Connection type union end Rp (code 7R), NPT (code 3P)<sup>1)</sup>, body material PVC-U (code 1)<sup>2)</sup>**

MG	DN	NPS	øD	H	H1	L1	L2	R	Rp/NPT
20	15	1/2"	43.0	36.0	10.0	108.0	146.0	G 1	1/2
	20	3/4"	53.0	38.0	12.0	108.0	152.0	G 1¼	3/4
	25	1"	60.0	39.0	13.0	116.0	166.0	G 1½	1
25	32	1¼"	74.0	41.0	15.0	134.0	192.0	G 2	1¼
40	40	1½"	83.0	63.2	23.2	154.0	222.0	G 2¼	1½
	50	2"	103.0	63.2	23.2	184.0	266.0	G 2¾	2

Dimensions in mm

MG = diaphragm size

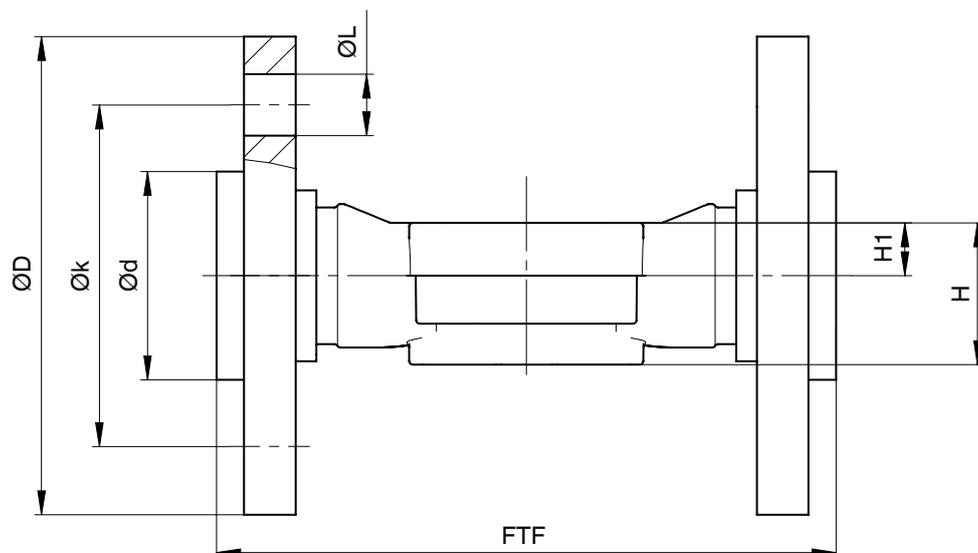
**1) Connection type**

Code 7R: Union end with insert (Rp threaded socket) – DIN

Code 3P: Union end with NPT threaded socket insert

**2) Valve body material**

Code 1: PVC-U, grey

**Flange EN (code 4)****Connection type flange EN (code 4)<sup>1)</sup>, body material PVC-U (code 1)<sup>2)</sup>**

MG	DN	NPS	ød	øD	FTF	H	H1	øk	øL	n
20	15	1/2"	34.0	95.0	130.0	36.0	10.0	65.0	14.0	4
	20	3/4"	41.0	105.0	150.0	38.0	12.0	75.0	14.0	4
	25	1"	50.0	115.0	160.0	39.0	13.0	85.0	14.0	4
25	32	1¼"	61.0	140.0	180.0	41.0	15.0	100.0	18.0	4
40	40	1½"	73.0	150.0	200.0	63.2	23.2	110.0	18.0	4
	50	2"	90.0	165.0	230.0	63.2	23.2	125.0	18.0	4
50	65	2½"	106.0	185.0	290.0	78.8	38.8	145.0	18.0	4
80	80	3"	125.0	200.0	310.0	117.0	62.0	160.0	18.0	8
100	100	4"	150.0	220.0	350.0	140.0	75.0	180.0	18.0	8

**Connection type flange EN (code 4)<sup>1)</sup>, body materials PP (code 5), PVDF (code 20)<sup>2)</sup>**

MG	DN	NPS	ød		øD	FTF	H	H1	øk	øL	n
			Material								
			5	20							
50	65	2½"	122.0	120.0	185.0	290.0	78.8	38.8	145.0	18.0	4
80	80	3"	138.0	125.0	200.0	310.0	117.0	62.0	160.0	18.0	8
100	100	4"	158.0	150.0	220.0	350.0	140.0	75.0	180.0	18.0	8

Dimensions in mm

MG = diaphragm size

n = number of bolts

**1) Connection type**

Code 4: Flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

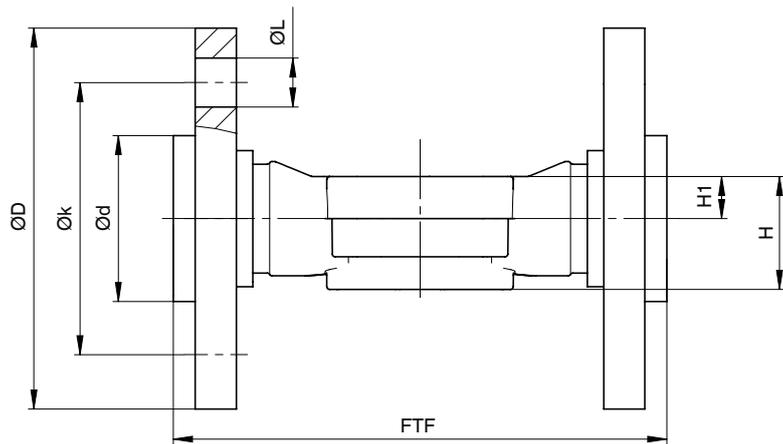
**2) Valve body material**

Code 1: PVC-U, grey

Code 5: PP, reinforced

Code 20: PVDF

## Dimensions



Connection type flange EN (code 4)<sup>1)</sup>, body material inliner/outliner (code 71, 75)<sup>2)</sup>

MG	DN	NPS	ød	øD	FTF	H	H1	øk	øL	n
20	15	1/2"	45.0	95.0	130.0	36.0	10.0	65.0	14.0	4
	20	3/4"	58.0	105.0	150.0	38.0	12.0	75.0	14.0	4
	25	1"	68.0	115.0	160.0	39.0	13.0	85.0	14.0	4
25	32	1¼"	78.0	140.0	180.0	41.0	15.0	100.0	18.0	4
40	40	1½"	88.0	150.0	200.0	63.2	23.2	110.0	18.0	4
	50	2"	102.0	165.0	230.0	63.2	23.2	125.0	18.0	4

Dimensions in mm

MG = diaphragm size

n = number of bolts

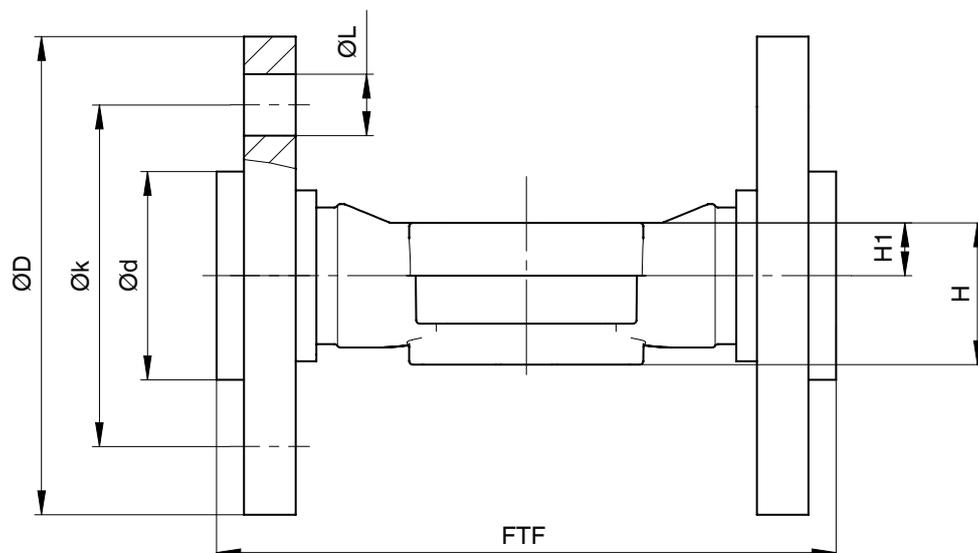
1) **Connection type**

Code 4: Flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

2) **Valve body material**

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

Code 75: Inliner PVDF/outliner PP, reinforced

**Flange ANSI Class (code 39)****Connection type flange ANSI (code 39)<sup>1)</sup>, body material PVC-U (code 1)<sup>2)</sup>**

MG	DN	NPS	ød	øD	FTF	H	H1	øk	øL	n
20	15	1/2"	34.0	95.0	130.0	36.0	10.0	60.0	16.0	4
	20	3/4"	41.0	105.0	150.0	38.0	12.0	70.0	16.0	4
	25	1"	50.0	115.0	160.0	39.0	13.0	79.0	16.0	4
25	32	1¼"	61.0	140.0	180.0	41.0	15.0	89.0	16.0	4
40	40	1½"	73.0	150.0	200.0	63.2	23.2	98.0	16.0	4
	50	2"	90.0	165.0	230.0	63.2	23.2	121.0	19.0	4
50	65	2½"	106.0	185.0	290.0	78.8	38.8	140.0	19.0	4
80	80	3"	125.0	200.0	310.0	117.0	62.0	152.0	19.0	4
100	100	4"	150.0	229.0	350.0	140.0	75.0	190.0	19.0	8

**Connection type flange ANSI (code 39)<sup>1)</sup>, body material PP (code 5), PVDF (code 20)<sup>2)</sup>**

MG	DN	NPS	ød		øD	FTF	H	H1	øk	øL	n
			Material								
			5	20							
50	65	2½"	122.0	120.0	185.0	290.0	78.8	38.8	140.0	19.0	4
80	80	3"	133.0	125.0	200.0	310.0	117.0	62.0	152.0	19.0	4
100	100	4"	158.0	150.0	229.0	350.0	140.0	75.0	190.0	19.0	8

Dimensions in mm

MG = diaphragm size

n = number of bolts

**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

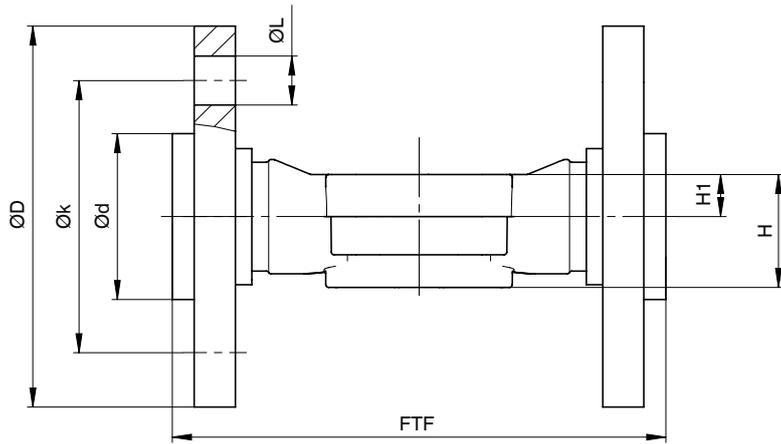
**2) Valve body material**

Code 1: PVC-U, grey

Code 5: PP, reinforced

Code 20: PVDF

## Dimensions



Connection type flange ANSI (code 39)<sup>1)</sup>, inliner/outliner body material (code 71, 75)<sup>2)</sup>

MG	DN	NPS	ød	øD	FTF	H	H1	øk	øL	n
20	15	1/2"	45.0	95.0	130.0	36.0	10.0	60.0	16.0	4
	20	3/4"	54.0	105.0	150.0	38.0	12.0	70.0	16.0	4
	25	1"	63.0	115.0	160.0	39.0	13.0	79.0	16.0	4
25	32	1¼"	73.0	140.0	180.0	41.0	15.0	89.0	16.0	4
40	40	1½"	82.0	150.0	200.0	63.2	23.2	98.0	16.0	4
	50	2"	102.0	165.0	230.0	63.2	23.2	121.0	19.0	4

Dimensions in mm

MG = diaphragm size

n = number of bolts

1) **Connection type**

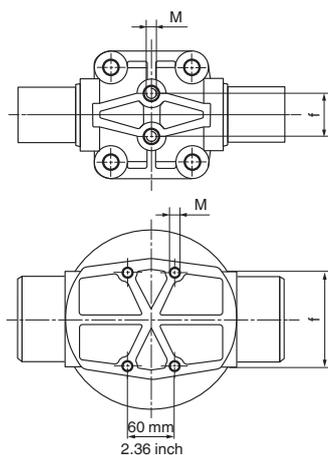
Code 39: Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D

2) **Valve body material**

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

Code 75: Inliner PVDF/outliner PP, reinforced

## Valve body mounting



MG	DN	M Connection code 0, 4, 7, 7R, 20, 33, 39, 3M, 3T, 78	M Connection code 30	f
20	15 – 25	M6	M6 *	25.0
25	32	M6	M6 *	25.0
40	40 - 50	M8	M8 *	44.5
50	65	M8	M8 *	44.5
80	80	M12	1/2" **	100.0
100	100	M10	3/4" **	120.0

\* Inch thread on request

\*\* Metric thread on request

Dimensions in mm

MG = diaphragm size



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Gert-Müller-Platz 1, 74635 Kupferzell, Germany  
Phone +49 (0) 7940 1230 · info@gemue.de  
www.gemu-group.com