

# **GEMÜ 616**

## **Manually operated diaphragm valve**



### **Features**

- Autoclave capability
- CIP/SIP capable
- Optional flow direction
- Suitable for inert, corrosive, liquid and gaseous media
- Insensitive to particulate media
- Installation for optimized draining is possible
- Sealed actuator version optionally available

### **Description**

The GEMÜ 616 2/2-way diaphragm valve is designed for use in sterile applications.

The compression springs installed in the actuator close the valve with consistent force, regardless of the manual force applied. This extends the service life of the diaphragm. Setting a seal adjuster is no longer required.

### **Technical specifications**

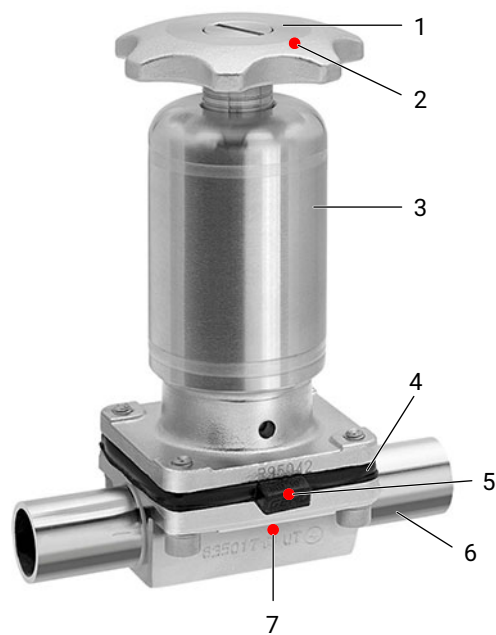
- Media temperature: -10 to 100 °C
- Sterilization temperature: max. 150 °C
- Ambient temperature\*: 0 to 60 °C
- Operating pressure\*: 0 to 10 bar
- Nominal sizes\*: DN 4 to 20
- Body configurations: 2/2-way body | i-body | Multi-port body | T body | Tank valve body | Welding configuration
- Connection types: Clamp | Spigot | Threaded connection
- Connection standards: ANSI | ASME | BS | DIN | EN | ISO | JIS
- Body materials: 1.4408, investment casting material | 1.4435 (316L), forged material | 1.4435 (316L), investment casting material | 1.4435 (BN2), forged material | 1.4539 (904L), forged material
- Diaphragm materials: EPDM | FKM | PTFE/EPDM
- Conformities\*: BSE/TSE | EAC | FDA | Reg. (EU) No. 10/2011 | Regulation (EC) No. 1935/2004 | Regulation (EC) No. 2023/2006 | TA Luft (German Clean Air Act) | USP

\* depending on version and/or operating parameters



Product description

Construction



Item	Name	Materials
1	Handwheel	
2	CONEXO RFID chip (see Conexo information)	
3	Actuator	Stainless steel
4	Diaphragm	FKM, EPDM, PTFE/EPDM
5	CONEXO RFID chip (see Conexo information)	
6	Valve body	1.4435 (F316L), forged body 1.4435 (BN2), forged body, $\Delta$ Fe < 0.5 % 1.4435, investment casting 1.4539, forged body
7	CONEXO RFID chip (see Conexo information)	

## Conexo

The product has one or more RFID chips. These chips can be fitted on any replaceable component, depending on the product and design. Where you can find the RFID chip differs from product to product (see chapter Construction).

If you order the product with CONEXO functionality, the RFID chip is used for electronic identification. The CONEXO pen helps read out information stored in the RFID chips. The CONEXO app or CONEXO portal is required to view this information.

If you order the product without CONEXO functionality, the RFID chip is used to increase process reliability and for internal identification. Expansion to include the CONEXO functionality at a later date must be coordinated with GEMÜ.

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" (see order data).

## Availability

### Availability of grades of surface finish

#### Internal surface finishes for forged and block material bodies <sup>1)</sup>

Readings for Process Contact Surfaces	Mechanically polished <sup>2)</sup>		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 <sup>3)</sup>	H5	1527	HE5	1516

Readings for Process Contact Surfaces according to ASME BPE 2016 <sup>4)</sup>	Mechanically polished <sup>2)</sup>		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 <sup>2)</sup>	
	Hygienic class DIN 11866	Code
Ra ≤ 6.30 µm	-	1500
Ra ≤ 0.80 µm	H3	1502
Ra ≤ 0.60 µm <sup>5)</sup>	-	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 <sup>1)</sup>													
		0		16	17	18	36	55	59		60		63	64	65
		Material code <sup>2)</sup>													
		C3	40, 42, F4	40, 42, F4	C3, 40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	C3	40, 42, F4	C3	40, 42, F4	40, 42, F4	40, 42, F4
8	4	X	X	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	X	-	X	-	-	-	-	X	X	-	X
	8	-	-	-	X	-	X	X	X	X	X	X	X	-	X
	10	-	-	X	X	X	-	X	X	X	-	-	-	-	-
	15	-	-	-	-	-	-	X	X	X	-	-	-	-	-
10	10	-	-	X	X	X	X	X	-	X	X	X	X	-	X
	15	-	X	X	X	X	X	X	-	X	X	X	X	X	X
	20	-	-	-	-	-	-	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 (formerly DIN 11850 series 2)/DIN 11866 series A

Code 18: Spigot DIN 11850 series 3

Code 36: Spigot JIS-G 3459 schedule 10s

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,  $\Delta Fe < 0.5\%$

Code C3: 1.4435, investment casting

Code F4: 1.4539, forged body

### Threaded connection

MG	DN	Connection type code <sup>1)</sup>	
		1	6, 6K
		Material code <sup>2)</sup>	
		37	40, 42
8	8	X	-
	10	-	W
10	10	-	W
	12	X	-

## Availability

MG	DN	Connection type code <sup>1)</sup>	
		1	6, 6K
		Material code <sup>2)</sup>	
		37	40, 42
	15	X	W

MG = diaphragm size

X = Standard

W = welded assembly

### 1) Connection type

Code 1: Threaded socket DIN ISO 228

Code 6: Threaded spigot DIN 11851

Code 6K: Cone spigot and union nut DIN 11851

### 2) Valve body material

Code 37: 1.4408, investment casting

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

## Clamp

MG	DN	Connection type code <sup>1)</sup>					
		80	82	88	8A	8P	8T
		Material code <sup>2)</sup>					
		40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4
8	6	-	K	-	K	-	-
	8	K	K	-	K	K	-
	10	K	-	-	W	K	-
	15	K	-	W	-	K	W
10	10	-	K	-	K	-	-
	15	K	W	K	K	K	K
	20	K	-	K	-	K	K

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, 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 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 diaphragms

### Elastomer diaphragms

MG	DN	NPS	Code
8	DN 4 – DN 15	1/4" – 3/8"	3A, 4A, 17, 19
10	DN 10 – DN 20	3/8" – 1/2"	13, 14, 17, 19

### PTFE diaphragms

MG	DN	NPS	Code
8	DN 4 – DN 15	1/4" – 3/8"	54

MG	DN	NPS	Code
10	DN 10 – DN 20	3/8" – 1/2"	54, 5M

## 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, manually operated, stainless steel handwheel, stainless steel bonnet, defined closing force	616

2 DN	Code
DN 4	4
DN 6	6
DN 8	8
DN 10	10
DN 12	12
DN 15	15
DN 20	20

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: For dimensions, see T Valves brochure	

4 Connection type	Code
<b>Spigot</b>	
Spigot DIN	0
Spigot EN 10357 series B, formerly DIN 11850 series 1	16
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17
Spigot DIN 11850 series 3	18
Spigot JIS-G 3459 schedule 10s	36
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
<b>Threaded connection</b>	
Threaded socket DIN ISO 228	1
Threaded spigot DIN 11851	6
Cone spigot and union nut DIN 11851	6K

4 Connection type	Code
<b>Clamp</b>	
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, 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 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
<b>Investment casting material</b>	
1.4435, investment casting	C3
<b>Forged material</b>	
1.4435 (F316L), forged body	40
1.4435 (BN2), forged body, $\Delta Fe < 0.5\%$	42
1.4539, forged body	F4

6 Diaphragm material	Code
<b>Elastomer</b>	
FKM	4
FKM	4A
EPDM	3A
EPDM	13
EPDM	17
EPDM	19
<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 10.	

7 Control function	Code
Manually operated	0



8 Actuator version	Code
Actuator size OTA	OTA
Actuator size 1T3	1T3

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 H5, mechanically polished internal, *) for inner pipe diameters < 6 mm, in the spigot Ra ≤ 0.38 µm	1527
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 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 CONEXO	Code
Without	
Integrated RFID chip for electronic identification and traceability	C

**Order example**

Ordering option	Code	Description
1 Type	616	Diaphragm valve, manually operated, stainless steel handwheel, stainless steel bonnet, defined closing force
2 DN	15	DN 15
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 Control function	0	Manually operated
8 Actuator version	1T3	Actuator size 1T3
9 Surface	1508	Ra ≤ 0.6 µm (25 µin.) for media wetted surfaces, electropolished internal/external
10 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.

### Temperature

**Media temperature:**

Diaphragm material	Standard
EPDM (Code 3A/13)	-10 – 100 °C
FKM (Code 4/4A)	-10 – 90 °C
EPDM (Code 17)	-10 – 100 °C
EPDM (Code 19)	-10 – 100 °C
PTFE/EPDM (Code 54)	-10 – 100 °C
PTFE/EPDM (Code 5M)	-10 – 100 °C

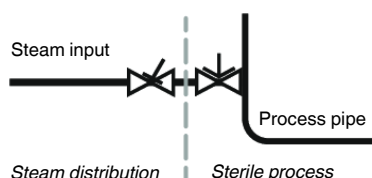
**Sterilization temperature:**

EPDM (Code 3A/13)	max. 150 °C, max. 60 min per cycle
FKM (Code 4/4A)	not applicable
EPDM (Code 17)	max. 150 °C, max. 180 min per cycle
EPDM (Code 19)	max. 150 °C, max. 180 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:** 0 – 60 °C

**Storage temperature:** 0 – 40 °C

### Pressure

**Operating pressure:**

MG	DN	Elastomer	PTFE
8	4 - 15	0 - 10	0 - 10
10	10 - 20	0 - 8	0 - 8

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

**Kv values:**

MG	DN	Connection types code					
		0	16	17	18	59	60
<b>8</b>	<b>4</b>	0.5	-	-	-	-	-
	<b>6</b>	-	-	1.1	-	-	1.2
	<b>8</b>	-	-	1.3	-	0.6	2.2
	<b>10</b>	-	2.1	2.1	2.1	1.3	-
	<b>15</b>	-	-	-	-	2.0	-
<b>10</b>	<b>10</b>	-	2.4	2.4	2.4	2.2	3.3
	<b>15</b>	3.3	3.8	3.8	3.8	2.2	4.0
	<b>20</b>	-	-	-	-	3.8	-

MG = diaphragm size, Kv values in m³/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.

## Product conformity

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

**Machinery Directive:** 2006/42/EC

## Mechanical data

**Weight:**
**Actuator**

Actuator version 0TA 0.70 kg  
Actuator version 1T3 0.75 kg

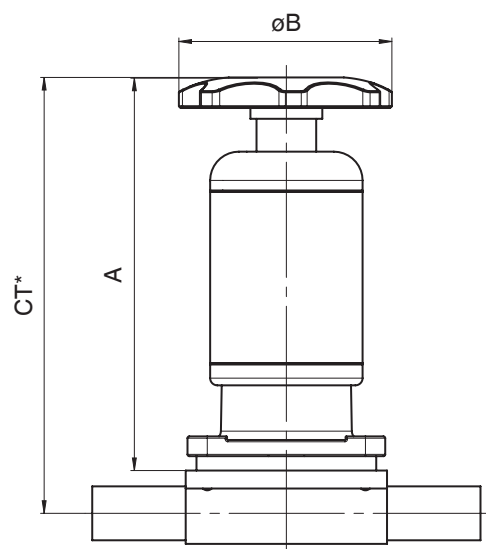
**Body**

Connection types code		0, 16, 17, 18, 35, 36, 55, 59, 60, 63, 64, 65	1	6, 6K	80, 82, 88, 8A, 8T, 8P
Valve body		Spigot	Threaded socket	Threaded spigot, cone spigot	Clamp
MG	DN				
<b>8</b>	<b>4</b>	0.09	-	-	-
	<b>6</b>	0.09	-	-	-
	<b>8</b>	0.09	0.09	-	0.15
	<b>10</b>	0.09	-	0.21	0.18
	<b>15</b>	0.09	-	-	0.18
<b>10</b>	<b>10</b>	0.30	-	0.33	0.30
	<b>12</b>	-	0.17	-	-
	<b>15</b>	0.30	0.26	0.35	0.43
	<b>20</b>	0.30	-	-	0.43

MG = diaphragm size, weight in kg

## Dimensions

### Installation dimensions



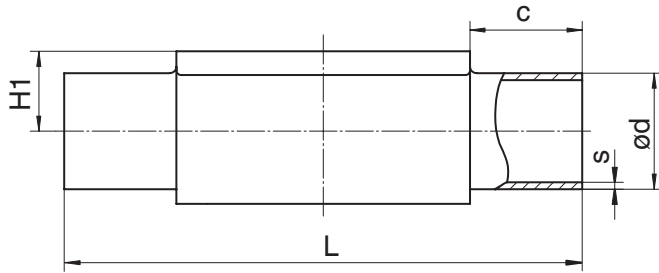
MG	DN	Actuator version	A	øB
8	4 - 15	0TA	106.0	60.0
10	10 - 20	1T3	111.0	60.0

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)<sup>1)</sup>, forged material (code 40, 42, F4)<sup>2)</sup>

MG	DN	NPS	c (min)	ød					H1	L	s				
				Connection type							Connection type				
				0	16	17	18	60			0	16	17	18	60
8	4	-	20.0	6.0	-	-	-	-	8.5	72.0	1.0	-	-	-	-
	6	-	20.0	-	-	8.0	-	10.2	8.5	72.0	-	-	1.0	-	1.6
	8	1/4"	20.0	-	-	10.0	-	13.5	8.5	72.0	-	-	1.0	-	1.6
	10	3/8"	20.0	-	12.0	13.0	14.0	-	8.5	72.0	-	1.0	1.5	2.0	-
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

#### Connection type spigot DIN/EN/ISO (code 17, 60)<sup>1)</sup>, investment casting material (code C3)<sup>2)</sup>

MG	DN	NPS	c (min)	ød		H1	L	s	
				Connection type				Connection type	
				17	60			17	60
8	6	-	20.0	8.0	-	8.5	72.0	1.0	-
	8	1/4"	20.0	10.0	13.5	8.5	72.0	1.0	1.6
	10	3/8"	20.0	13.0	-	8.5	72.0	1.5	-
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

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 (formerly DIN 11850 series 2)/DIN 11866 series A

Code 18: Spigot DIN 11850 series 3

Code 60: Spigot ISO 1127/EN 10357 series C/DIN 11866 series B

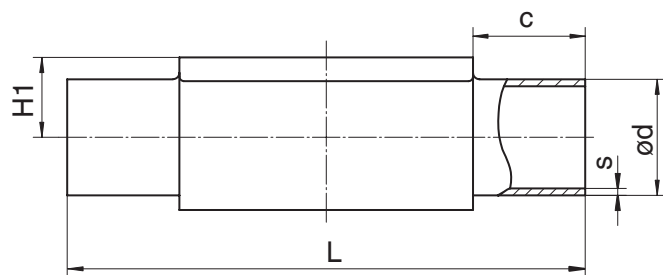
#### 2) Valve body material

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe &lt; 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)<sup>1)</sup>, forged material (code 40, 42, F4)<sup>2)</sup>**

MG	DN	NPS	c (min)	ød					H1	L	s				
				Connection type							Connection type				
				55	59	63	64	65			55	59	63	64	65
8	6	-	20.0	-	-	10.3	-	10.3	8.5	72.0	-	-	1.24	-	1.73
	8	1/4"	20.0	6.35	6.35	13.7	-	13.7	8.5	72.0	1.2	0.89	1.65	-	2.24
	10	3/8"	20.0	9.53	9.53	-	-	-	8.5	72.0	1.2	0.89	-	-	-
	15	1/2"	20.0	12.70	12.70	-	-	-	8.5	72.0	1.2	1.65	-	-	-
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	-	-	-

**Connection type spigot ASME BPE (code 59)<sup>1)</sup>, investment casting material (code C3)<sup>2)</sup>**

MG	DN	NPS	c (min)	ød	H1	L	s
<b>8</b>	<b>8</b>	<b>1/4"</b>	20.0	6.35	8.5	72.0	0.89
	<b>10</b>	<b>3/8"</b>	20.0	9.53	8.5	72.0	0.89
	<b>15</b>	<b>1/2"</b>	20.0	12.70	8.5	72.0	1.65
<b>10</b>	<b>20</b>	<b>3/4"</b>	25.0	19.05	12.5	108.0	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**

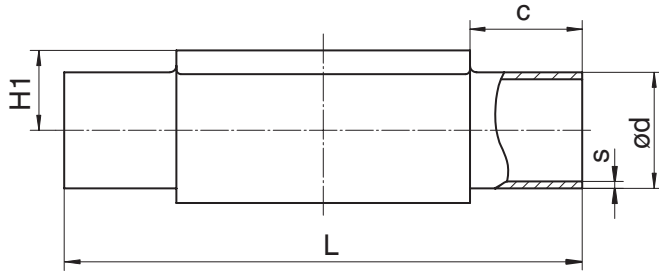
Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe &lt; 0.5%

Code C3: 1.4435, investment casting

Code F4: 1.4539, forged body

### Spigot JIS (code 36)



Connection type spigot JIS/SMS (code 36)<sup>1)</sup>, forged material (code 40, 42, F4)<sup>2)</sup>

MG	DN	NPS	c (min)	ød	H1	L	s
8	6	-	20.0	10.5	8.5	72.0	1.20
	8	1/4"	20.0	13.8	8.5	72.0	1.65
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

Dimensions in mm

MG = diaphragm size

1) **Connection type**

Code 36: Spigot JIS-G 3459 schedule 10s

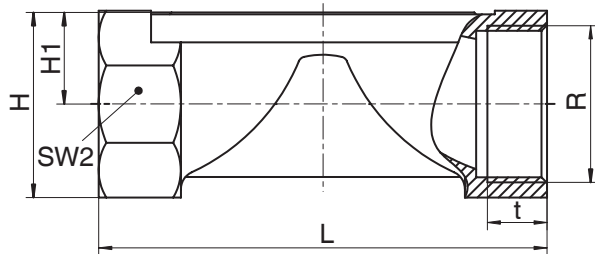
2) **Valve body material**

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Code F4: 1.4539, forged body

### Threaded socket (code 1)



Connection type threaded socket (code 1)<sup>1)</sup>, investment casting material (code 37)<sup>2)</sup>,

MG	DN	NPS	H	H1	L	n	R	SW 2	t
8	8	1/4"	19.0	9.0	72.0	6	G 1/4	18.0	11.0
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

Dimensions in mm

MG = diaphragm size

n = number of flats

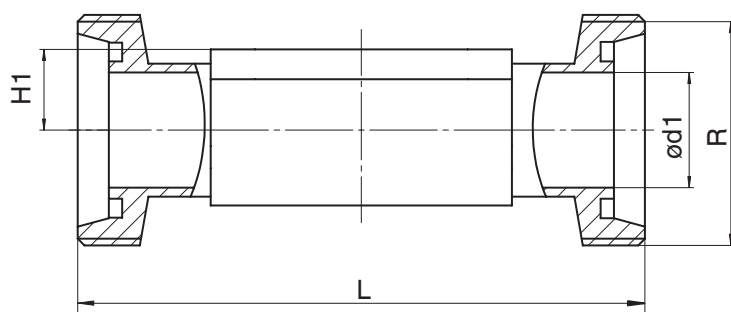
1) **Connection type**

Code 1: Threaded socket DIN ISO 228

2) **Valve body material**

Code 37: 1.4408, investment casting



**Threaded spigot (code 6)****Connection type threaded spigot DIN (code 6)<sup>1)</sup>, forged material (code 40, 42)<sup>2)</sup>**

MG	DN	NPS	ød1	H1	L	R
8	10	3/8"	10.0	8.5	92.0	Rd 28 x 1/8
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

Dimensions in mm

MG = diaphragm size

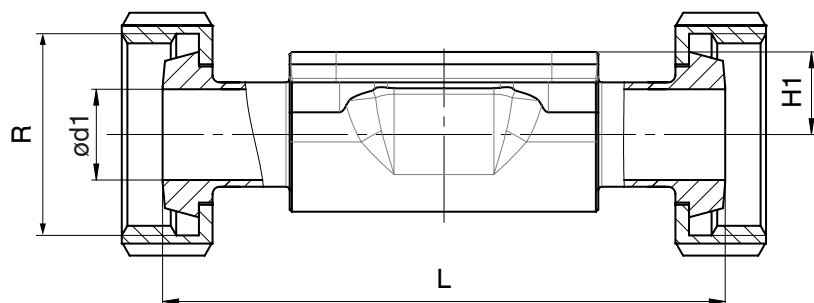
**1) Connection type**

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 &lt; 0.5%

**Cone spigot DIN (code 6K)****Connection type cone spigot DIN (code 6K)<sup>1)</sup>, forged material (code 40, 42)<sup>2)</sup>**

MG	DN	NPS	ød1	H1	L	R
8	10	3/8"	10.0	8.5	90.0	Rd 28 x 1/8
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

Dimensions in mm

MG = diaphragm size

**1) Connection type**

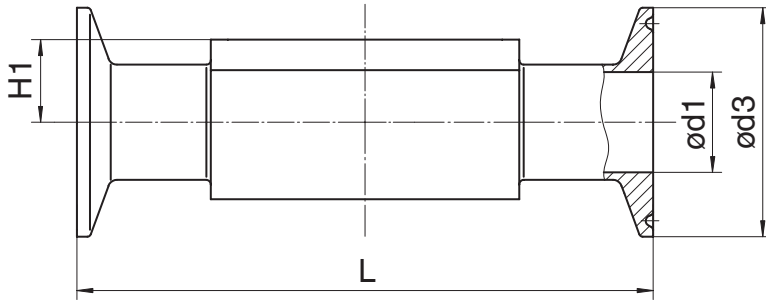
Code 6K: Cone spigot and union nut DIN 11851

**2) Valve body material**

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe &lt; 0.5%

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



#### Connection type clamp DIN/ISO (code 82, 8A, 8E)<sup>1)</sup>, forged material (code 40, 42, F4)<sup>2)</sup>

MG	DN	NPS	ød1		ød3		H1	L	
			Connection type		Connection type			Connection type	
			82	8A	82	8A		82	8A
8	6	1/8"	7.0	6.0	25.0	25.0	8.5	63.5	63.5
	8	1/4"	10.3	8.0	25.0	25.0	8.5	63.5	63.5
	10	3/8"	-	10.0	-	34.0	8.5	-	88.9
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

#### Connection type clamp DIN/ASME (code 80, 88, 8P, 8T)<sup>1)</sup>, forged material (code 40, 42, F4)<sup>2)</sup>

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
8	8	1/4"	4.57	-	25.0	-	8.5	63.5	-
	10	3/8"	7.75	-	25.0	-	8.5	63.5	-
	15	1/2"	9.40	9.40	25.0	25.0	8.5	63.5	108.0
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

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, 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/SMS 3017, 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



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