

### Construction

The manually operated 2/2-way diaphragm valve has a valve body which is available either in investment cast or forged design. Bonnet and internals are made all of stainless steel. GEMÜ 612 has a high temperature resistant plastic handwheel to avoid accidental burning. An integral optical position indicator and a seal adjuster to increase service life of the diaphragm are included as standard.

### Features

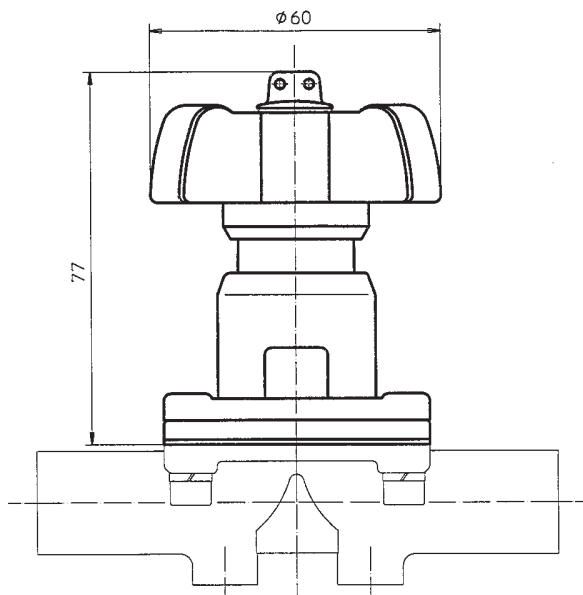
- Suitable for inert, corrosive\*, liquid, viscous and gaseous media
- Autoclave capability
- CIP/SIP cleaning and sterilizing capabilities
- Stepless minimum flow regulation due to seal adjuster
- Insensitive to particulate media
- Valve body and diaphragm available in various materials and designs
- Compact design (when space is at a premium)

### Advantages

- Long service life of the diaphragm due to patented seal adjuster (US-Pat. 5 377 956)
- Valve body also available in multi-port designs (M-block and T-body) or as tank bottom outlet body
- Surface finishes down to 0.25 µm, electropolished
- Hermetic sealing
- Optional flow direction, will seal in either flow direction up to full working pressure
- Optional mounting position

\* see information on working medium on page 2

### Actuator dimensions (mm)



## Technical specifications

### 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.

Nominal size (mm)	Max. working pressure		K <sub>v</sub> value* (m <sup>3</sup> /h)	Weight (g)
	Diaphragm material EPDM, FPM	Diaphragm material PTFE		
10	10 bar	6 bar	3.9	450
12	10 bar	6 bar	4.0	500
15	10 bar	6 bar	5.3	680
20	10 bar	6 bar	5.5	690

All pressures are given as gauge pressures, when applied upstream only.

\* Given K<sub>v</sub> values are valid for valve body  
DN 10 and 15 with connection ref. no. 60,  
DN 12 with connection ref. no. 1,  
DN 20 with connection ref. no. 59,

Diaphragm material EPDM, K<sub>v</sub> values determined with p<sub>1</sub> ± 6 bar.

## Order specifications

### Body configuration

Ref. no.

Straight through	D
Tank bottom valve body	B
T body	T

### Valve body material

Ref. no.

Investment casting	1.4539	33
Investment casting	1.4435 (316 L)	34
Forged body	1.4435 (316 L)	40

### Connections

Ref. no.

#### Butt weld spigots

DIN	0
DIN 11850, series 1	16
DIN 11850, series 2	17
DIN 11850, series 3	18
BS 4825 Part 1 (O.D.Tubing)	55
ASME BPE	59
EN ISO 1127	60

#### Threaded connections

Threaded sockets DIN ISO 228	1
Threaded spigots (acc. to DIN 11851)	6
One side threaded spigot (acc. to DIN 11851) other side cone spigot with union nut (acc. to DIN 11851)	62
Aseptic unions on enquiry	

#### Clamp connections (see last page)

Clamp DIN 32676 for tube DIN 11850	86
Clamp ASME BPE for tube ASME BPE (ref.no. 59)	88

### Diaphragm material

Ref. no.

FPM		4
EPDM	max. 130°C*	12
EPDM	max. 150°C*	13
EPDM	max. 150°C*	16
PTFE/EPDM	PTFE laminated max. 150°C*	52

\* Steam sterilisation temperature / 20 min

### Control function

Ref. no.

Manually operated	0
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### Bonnet design

Ref. no.

With seal adjuster	S
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### Surface finish

Ref. no.

See top of page 3

### Order example

	612	15	D	60	34	13	0	S	1500
Type	612								
Nominal size (mm)		15							
Body configuration (D)			D						
Connection (reference number)				60					
Valve body material (reference number)					34				
Diaphragm material (reference number)						13			
Control function (reference number)							0		
Bonnet design (reference number)								S	
Surface finish (reference number, see top of page 3)									1500

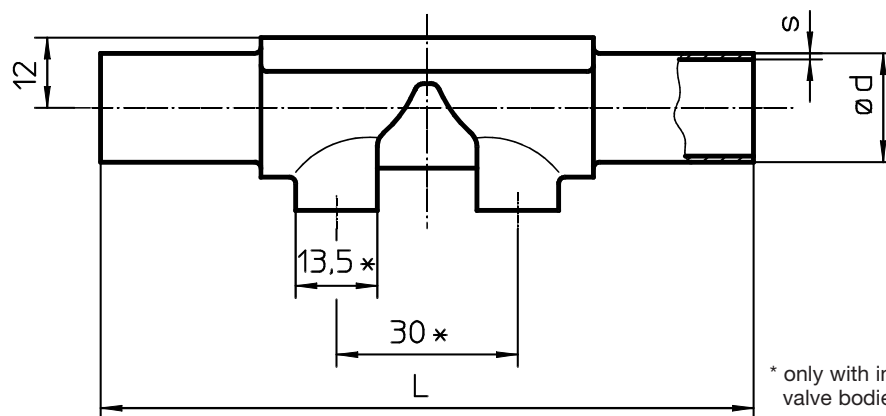
Valve surface finishes, internal finish		Code
*Ra ≤ 6,3 µm	blasted internal/external	1500
*Ra ≤ 6,3 µm	electropolished internal/external	1509
*Ra ≤ 0,8 µm	mechanically polished internal, blasted external	1502
*Ra ≤ 0,8 µm	electropolished internal/external	1503
*Ra ≤ 0,6 µm	mechanically polished internal, blasted external	1507
*Ra ≤ 0,6 µm	electropolished internal/external	1508
*Ra ≤ 0,4 µm	mechanically polished internal, blasted external	1536
*Ra ≤ 0,4 µm	electropolished internal/external	1537
*Ra ≤ 0,25 µm	mechanically polished internal, blasted external	1527
*Ra ≤ 0,25 µm	lectropolished internal/external	1516

\*Ra acc. to DIN 4768; at defined reference points

### Body dimensions - Butt weld spigots (mm)

Connection ref. no. 0, 16, 17, 18, 55, 59, 60  
Valve body material ref. no. 33, 34, 40

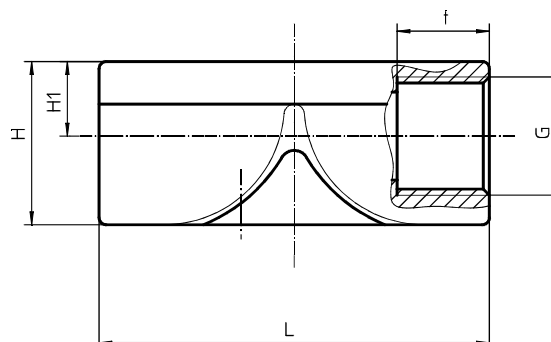
DN	DIN Series 0; ref. no. 0			DIN 11850 Series 1; ref. no. 16			DIN 11850 Series 2; ref. no. 17			DIN 11850 Series 3; ref. no. 18			ISO 4200 Ref. no. 60			BS 4825 Ref. no. 55			ASME BPE Ref. no. 59			
	ød	s	L	ød	s	L	ød	s	L	ød	s	L	ød	s	L	NPS	ød	s	L	ød	s	L
10	-	-	-	12	1.0	108	13	1.5	108	14	2.0	108	17.2	1.6	108	3/8"	9.53	1.2	108	9.53	0.89	108
15	18	1.5	108	18	1.0	108	19	1.5	108	20	2.0	108	21.3	1.6	108	1/2"	12.70	1.2	108	12.70	1.65	108
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3/4"	19.05	1.2	108	19.05	1.65	108



### Body dimensions - Threaded sockets (mm)

Connection ref. no. 1 DIN ISO  
Valve body material ref. no. 34

DN	G	H	H1	t	L
12	3/8	23	10.5	13	55
15	1/2	29	13.5	15	68

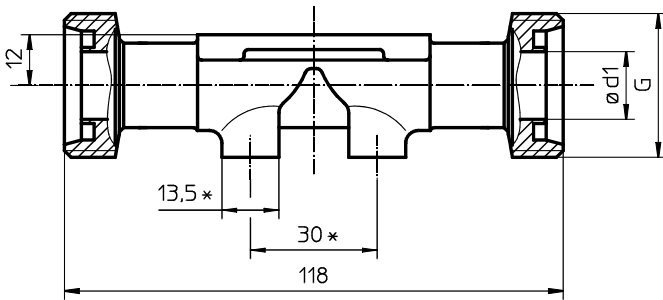


**Body dimensions - Dairy pipe unions (mm)**  
 Connection ref. no. 6 acc. to DIN 11851  
 Valve body material ref. no. 34, 40

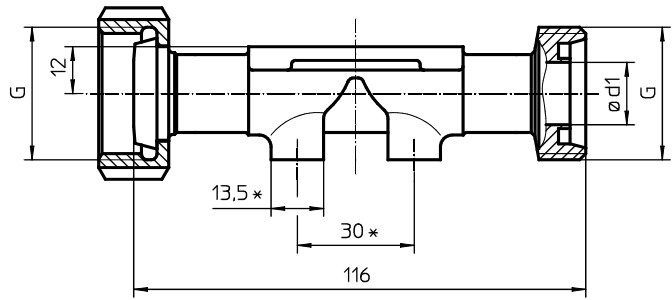
**Body dimensions - Dairy pipe unions (mm)**  
 Connection ref. no. 62 acc. to DIN 11851  
 Valve body material ref. no. 34, 40

DN	G	ø d1
10	Rd 28x1/8"	10
15	Rd 34x1/8"	16

DN	G	ø d1
10	Rd 28x1/8"	10
15	Rd 34x1/8"	16



\* only with investment cast valve bodies



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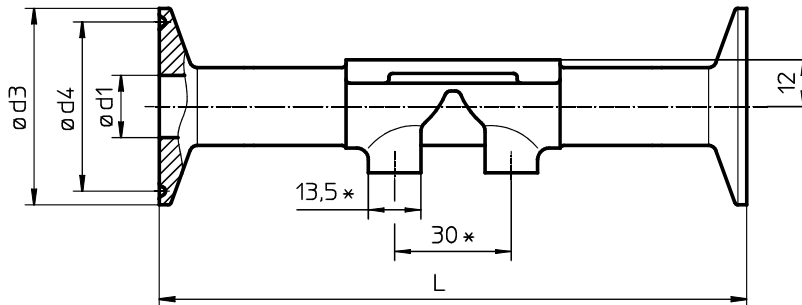
**Body dimensions - Clamp connections (mm)**

Connection ref. no. 86, 88

Valve body material ref. no. 33, 34, 40

DIN 32676					BS 4825 (Part 3)				
Ref. no. 86					Ref. no. 88				
DN	L	ød1	ød3	ød4	NPS	L	ød1*	ød3	ød4
10	151	10	34	27.5	3/8"	-	-	-	-
15	151	16	34	27.5	1/2"	108	9.5	25	-
20	-	-	-	-	3/4"	117	15.85	25	-

\* K.-no. 1686



\* only with investment cast valve bodies

**Overview of valve bodies for type 612**

Valve body material (ref. no.)	Ref. no. 34	Ref. no. 33 / Ref. no. 34 / Ref. no. 40										
Connection (ref. no.)	1	0	16	17	18	55	59	60	6	62	86	88
DN 10	-	-	X	X	X	X	X	X	X	X	X	-
DN 12	X	-	-	-	-	-	-	-	-	-	-	-
DN 15	X	X	X	X	X	X	X <sup>1)</sup>	X	X	X	X	X <sup>1)</sup>
DN 20	-	-	-	-	-	X	X	-	-	-	-	X

<sup>1)</sup> only available in material ref. no. 40

Further metal diaphragm valves, accessories and other products see our Product Range catalogue and Price List. Contact GEMÜ.



**GEMÜ**® VALVES, ACTUATORS  
 AND CONTROL SYSTEMS