GEMÜ 653 / 654 BioStar

Manually operated diaphragm valve

Features

- CIP/SIP capable
- Autoclave capability
- Extensive range of accessories available
- Opening stroke and closing stroke limiter
- Handwheel locking available upon request (electric or mechanical)
- Configurable with proximity switches for position feedback

Description

The **GEMÜ 653 / 654** 2/2-way diaphragm valve has a stainless steel bonnet and is manually operated. The valve is available in two versions - GEMÜ 653 has a handwheel in high temperature and chemically resistant plastic, GEMÜ 654 a stainless steel handwheel. An integrated optical position indicator is standard.

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 100
- **Body configurations:** 2/2-way body I i-body I Multi-port body I Tank valve body I T-body I Welding configuration
- **Connection types:** Clamp I Flange I Spigot I Threaded connection
- **Connection standards:** ANSI I ASME I BS I DIN I EN I ISO I JIS I SMS
- **Body materials:** 1.4408, investment casting material I 1.4408, investment casting material, PFA lined I 1.4435 (316L), forged material I 1.4435 (BN2), forged material I 1.4435, investment casting material I 1.4539 (904L), forged material
- **Diaphragm materials:** EPDM I FKM I PTFE/EPDM
- **Conformities:** 3A I CRN I EAC I FDA I Oxygen I Reg. (EU) No. 10/2011 I Regulation (EC) No. 1935/2004 I Regulation (EC) No. 2023/2006 I TA Luft (German Clean Air Act) I USP

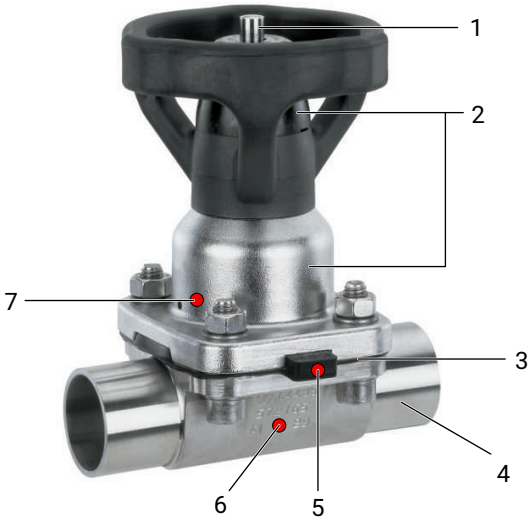
Technical data depends on the respective configuration

further information
webcode: GW-653 / 654

Product description

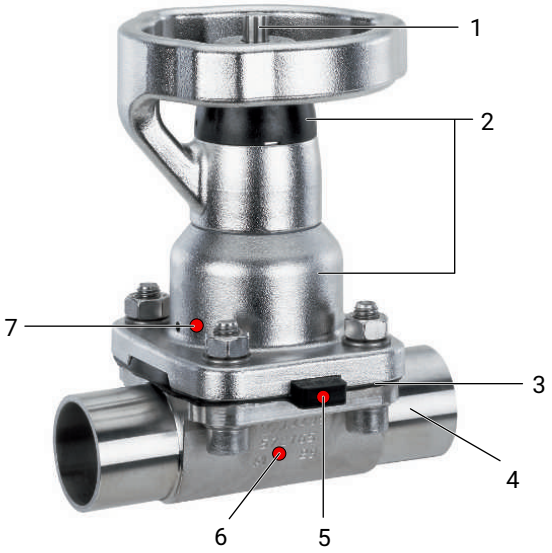
Construction

GEMÜ 653



Item	Name	Materials
1	Position indicator	
2	Manual actuator	Bonnet A4 stainless steel Cap (DN 10 - DN 40) PEEK Cap (DN 50 - DN 100) PES Handwheel PPS glass filled
3	Diaphragm	EPDM FKM PTFE/EPDM (one-piece, two-piece) PTFE/PVDF/EPDM (three-piece)
4	Valve body	1.4408, investment casting 1.4435, investment casting 1.4408, PFA lined 1.4435 (F316L), forged body 1.4435 (BN2), forged body, Δ Fe < 0.5% 1.4539, forged body
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 654



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6	CONEXO body RFID chip (see Conexo information)	
7	CONEXO actuator RFID chip (see Conexo information)	

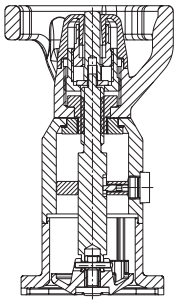
Design versions

Bonnet functions

Code H	With seal adjuster and stroke limiter	GEMÜ 653 diaphragm size 10 - 50 GEMÜ 654 diaphragm size 8 - 100
Code N	Without seal adjuster and stroke limiter	GEMÜ 653 diaphragm size 10 - 100 GEMÜ 654 diaphragm size 8 - 100
Code S	With seal adjuster	Diaphragm size 80 - 100

Additional functions (only in connection with bonnet version X)

Code A

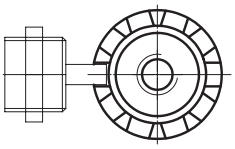


Diaphragm size 10 - 50
With seal adjuster and stroke limiter, mounting for proximity switches M 8x1

Diaphragm size 80 - 100
With seal adjuster, mounting for proximity switches M 12x1

Types of locking devices (only in connection with bonnet version X)

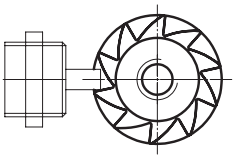
Code B



Diaphragm size 10 - 50
With seal adjuster and stroke limiter, locking device (both directions) mounting for proximity switches M 8x1

Diaphragm size 80 - 100
With seal adjuster, locking device (both directions) mounting for proximity switches M 12x1

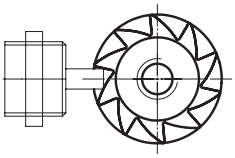
Code K



Diaphragm size 10 - 50
With seal adjuster and stroke limiter, locking device to prevent opening mounting for proximity switches M 8x1

Diaphragm size 80 - 100
With seal adjuster, locking device to prevent opening mounting for proximity switches M 12x1

Code F



Diaphragm size 10 - 50
With seal adjuster and stroke limiter, locking device to prevent closing mounting for proximity switches M 8x1

Diaphragm size 80 - 100
With seal adjuster, locking device to prevent closing mounting for proximity switches M 12x1

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 grades of surface finish

Internal surface finishes for forged and block material bodies [1)]

Readings for Process Contact Surfaces	Mechanically polished [2)]		Electropolished	
	Hygiene class DIN 11866	Code	Hygiene 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 [3)]	H5	1527	HE5	1516

Readings for Process Contact Surfaces according to ASME BPE 2016 [4)]	Mechanically polished [2)]		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 [2)]	
	Hygiene class DIN 11866	Code
Ra ≤ 6.30 µm	-	1500
Ra ≤ 0.80 µm	H3	1502
Ra ≤ 0.60 µm [5)]	-	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 [1]																	
		0		16	17		18	35	36	37		55	59		60		63	64	65
		Material code [2]																	
		C3	40, 42, F4	40, 42, F4	C3	40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	C3	40, 42, F4	40, 42, F4	C3	40, 42, F4	C3	40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4
8	4	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	X	X	-	-	X	-	-	-	-	-	-	X	X	-	X
	8	-	-	-	X	X	-	-	X	-	-	X	X	X	X	X	X	-	X
	10	-	-	X	X	X	X	-	-	-	-	X	X	X	-	-	-	-	-
	15	-	-	-	-	-	-	-	-	-	-	X	X	X	-	-	-	-	-
10	10	-	-	X	X	X	X	-	X	-	-	X	-	X	X	X	X	-	X
	15	-	X	X	X	X	X	-	X	-	-	X	-	X	X	X	X	X	X
	20	-	-	-	-	-	-	-	-	-	-	X	X	X	-	-	-	-	-
25	15	-	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
	25	-	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X
40	32	-	X	X	X	X	X	X	X	-	X	-	-	-	X	X	X	X	X
	40	-	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X
50	50	-	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X
	65	-	-	-	-	-	-	X	-	-	X	-	-	X	-	-	-	-	-
80	65	-	-	-	-	X	-	X	X	-	X	-	-	X	-	X	X	X	X
	80	-	-	-	-	X	-	X	X	-	X	-	-	X	-	X	X	X	X
100	100	-	-	-	-	X	-	X	X	-	X	-	-	X	-	X	X	X	X

MG = diaphragm size, X = standard

1) **Connection type**
Code 0: Spigot DIN
Code 16: Spigot DIN EN 10357 series B (2014 edition; formerly DIN 11850 series 1)
Code 17: Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2
Code 18: Spigot DIN 11850 series 3
Code 35: Spigot JIS-G 3447
Code 36: Spigot JIS-G 3459 schedule 10s
Code 37: Spigot SMS 3008
Code 55: Spigot BS 4825, part 1
Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/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, Δ Fe < 0.5%
Code C3: 1.4435, investment casting
Code F4: 1.4539, forged body

Threaded connection

MG	DN	Connection type code [1]	
		1	6, 6K
		Material code [2]	
		37	40, 42
8	**8**	X	-
	10	-	W
10	**10**	-	W
	12	X	-
	15	X	W
25	**15**	X	W
	20	X	W
	25	X	W
40	**32**	X	W
	40	X	W
50	**50**	X	W
80	**65**	-	W
	80	-	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%

Flange

MG	DN	Connection type code [1]							
		8			34	38	39		
		Material code [2]							
		C3	39	40, 42	39	39	C3	39	40, 42
25	**15**	W	X	W	X	-	W	X	W
	20	W	X	W	X	X	W	X	W
	25	W	X	W	X	X	W	X	W
40	**32**	W	X	W	X	-	W	X	W
	40	W	X	W	X	X	W	X	W
50	**50**	W	X	W	X	X	W	X	W
	65	-	X	-	-	X	-	X	-
80	**65**	-	-	W	-	-	-	-	W
	80	-	X	W	-	X	-	X	W
100	**100**	-	X	W	-	X	-	X	W

MG = diaphragm size
X = Standard
W = welded assembly

1) **Connection type**
Code 8: Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D
Code 34: Flange JIS B2220, 10K, RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D
Code 38: Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D
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 39: 1.4408, PFA lined
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code C3: 1.4435, investment casting

Clamp

MG	DN	Connection type code [1]				
		80, 8P	82	88, 8T	8A	8E
		Material code [2]				
		40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4	40, 42, F4
8	6	-	K	-	K	-
	8	K	K	-	K	-
	10	K	-	-	W	-
	15	K	-	W	-	-
10	10	-	K	-	K	-
	15	K	W	K	K	-
	20	K	-	K	-	-
25	15	-	W	-	K	-
	20	K	K	K	K	-
	25	K	K	K	K	K
40	32	-	W	-	K	K
	40	K	W	K	K	K
50	50	K	W	K	K	K
	65	W	-	W	-	W
80	65	K	K	K	K	K
	80	K	W	K	W	K
100	100	W	W	W	W	W

MG = diaphragm size, X = standard
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, for pipe 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 for pipe ISO 2037, clamp SMS 3017 for pipe SMS 3008 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

Availability of product conformity

	Diaphragm material code [1]
Food	
3A	54, 5M

1) **Diaphragm material**
Code 54: PTFE/EPDM one-piece
Code 5M: PTFE/EPDM two-piece

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, plastic handwheel, stainless steel distance piece electropolished, optical position indicator	653
Diaphragm valve, manually operated, stainless steel handwheel electropolished optical position indicator	654

2 DN	Code
DN 4	4
DN 6	6
DN 8	8
DN 10	10
DN 12	12
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
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: Dimensions on request	

4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot DIN EN 10357 series B (2014 edition; formerly DIN 11850 series 1)	16
Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2	17
Spigot DIN 11850 series 3	18
Spigot JIS-G 3447	35
Spigot JIS-G 3459 schedule 10s	36
Spigot SMS 3008	37
Spigot BS 4825, part 1	55
Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C	59
Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/ DIN 11866 series B	60
Spigot ANSI/ASME B36.19M schedule 10s	63

4 Connection type	Code
Spigot ANSI/ASME B36.19M schedule 5s	64
Spigot ANSI/ASME B36.19M schedule 40s	65
Threaded connection	
Threaded socket DIN ISO 228	1
Threaded spigot DIN 11851	6
Cone spigot and union nut DIN 11851	6K
Flange	
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	8
Flange JIS B2220, 10K, RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	34
Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D	38
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
Clamp	
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, for pipe 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 ISO 2852 for pipe ISO 2037, clamp SMS 3017 for pipe SMS 3008 face-to-face dimension FTF EN 558 series 7, length only for body configuration D	8E
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
Investment casting material	
1.4408, investment casting	37
1.4408, PFA lined	39
1.4435, investment casting	C3

5 Valve body material	Code
Forged material	
1.4435 (F316L), forged body	40
1.4435 (BN2), forged body, Δ Fe < 0.5%	42
1.4539, forged body	F4

6 Diaphragm material	Code
Elastomer	
EPDM	3A
FKM	4
FKM	4A
EPDM	13
EPDM	17
EPDM	19
PTFE	
PTFE/EPDM one-piece	54
PTFE/EPDM two-piece	5M
PTFE/PVDF/EPDM three-piece	71
Note: The PTFE/EPDM diaphragm (code 5M) is available from diaphragm size 10.	
Note: The PTFE/PVDF/EPDM diaphragm (code 71) can only be combined with PFA lined valve bodies.	

7 Control function	Code
Manually operated	0

8 Diaphragm size	Code
Diaphragm size 8	8
Diaphragm size 10	10
Diaphragm size 25	25
Diaphragm size 40	40
Diaphragm size 50	50
Diaphragm size 80	80
Diaphragm size 100	100

9 Actuator version	Code
Design versions (see page 4)	
With diaphragm size 8	
With seal adjuster and stroke limiter	0TH
Without seal adjuster and stroke limiter	0TN
With seal adjuster, black handwheel	0TS
Actuator size 0TB	0TB
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	0XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1, correct setting of the seal adjuster is absolutely essential	0XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	0XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	0XK

9 Actuator version	Code
With diaphragm size 10	
Actuator size 1DH, for 2/2-way body, with seal adjuster and stroke limiter	1DH
Actuator size 1DN, for 2/2-way body	1DN
With seal adjuster and stroke limiter	1TH
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	1XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	1XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	1XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	1XK
With diaphragm size 25	
Actuator size 2DH, for 2/2-way body, with seal adjuster and stroke limiter	2DH
Actuator size 2DN, for 2/2-way body	2DN
With seal adjuster and stroke limiter	2TH
Without seal adjuster and stroke limiter	2TN
With seal adjuster, black handwheel	2TS
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	2XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	2XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	2XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	2XK
With diaphragm size 40	
Actuator size 3DH, for 2/2-way body, with seal adjuster and stroke limiter	3DH
Actuator size 3DN, for 2/2-way body	3DN
With seal adjuster and stroke limiter	3TH
Without seal adjuster and stroke limiter	3TN
With seal adjuster, black handwheel	3TS
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	3XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	3XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	3XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	3XK

9 Actuator version	Code
With diaphragm size 50	
Actuator size 4DH, for 2/2-way body, with seal adjuster and stroke limiter	4DH
Actuator size 4DN, for 2/2-way body	4DN
With seal adjuster and stroke limiter	4TH
Without seal adjuster and stroke limiter	4TN
With seal adjuster, black handwheel	4TS
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	4XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	4XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	4XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	4XK
With diaphragm size 80	
With seal adjuster and stroke limiter	5TH
Without seal adjuster and stroke limiter	5TN
With seal adjuster	5TS
With seal adjuster, mounting for proximity switches M12 x 1	5XA
With seal adjuster, locking device (both directions), mounting for proximity switches M12 x 1	5XB
With seal adjuster, locking device to prevent opening, mounting for proximity switches M12 x 1	5XK
With diaphragm size 100	
Actuator size 6TH, with seal adjuster and stroke limiter	6TH
Without seal adjuster and stroke limiter	6TN
With seal adjuster	6TS
With seal adjuster, mounting for proximity switches M12 x 1	6XA
With seal adjuster, locking device (both directions), mounting for proximity switches M12 x 1	6XB
With seal adjuster, locking device to prevent opening, mounting for proximity switches M12 x 1	6XK

10 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

10 Surface	Code
Ra ≤ 0.6 µm (25 µin.) for media wetted surfaces, electropolished internal/external	1508
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 ≤ 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 ≤ 0.4 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 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
Ra max. 0.64 µm (25 µin.) for media wetted surfaces, in accordance with ASME BPE SF6, electropolished internal/external	SF6

11 Special version	Code
Without	
Special version for 3A	M
Special version for oxygen, maximum medium temperature: 60 °C	S

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

Order example

Ordering option	Code	Description
1 Type	654	Diaphragm valve, manually operated, stainless steel handwheel electropolished optical position indicator
2 DN	50	DN 50
3 Body configuration	D	2/2-way body
4 Connection type	60	Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/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	4DH	Actuator size 4DH, for 2/2-way body, with seal adjuster and stroke limiter
9 Surface	1503	Ra ≤ 0.8 µm (30 µin.) for media wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external
10 Special version		Without
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.

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

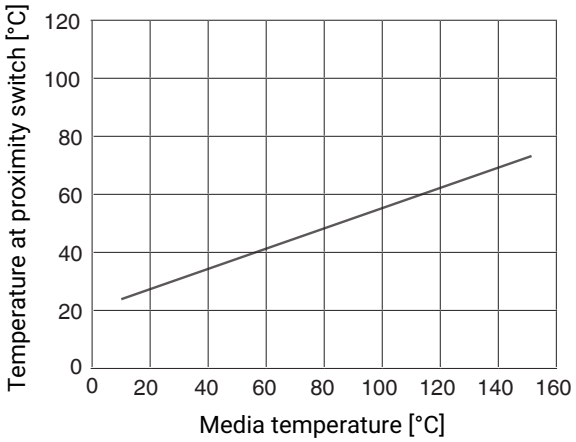
For special oxygen version (code S): only gaseous oxygen

Temperature

Media temperature:

Diaphragm material	Standard	Special version for oxygen
EPDM (code 3A/13)	-10 — 100 °C	0 — 60 °C
FKM (code 4/4A)	-10 — 90 °C	-
EPDM (code 17)	-10 — 100 °C	-
EPDM (code 19)	-10 — 100 °C	0 — 60 °C
PTFE/EPDM (code 54)	-10 — 100 °C	0 — 60 °C
PTFE/PVDF/EPDM (code 71)	-10 — 100 °C	-
PTFE/EPDM (code 5M)	-10 — 100 °C	0 — 60 °C

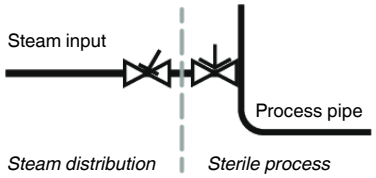
Values measured at 25°C ambient temperature



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, constant temperature per cycle
PTFE/PVDF/EPDM (code 71)	not applicable
PTFE/EPDM (code 5M)	max. 150 °C, constant 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 steam 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

With electrical locking device (code MAG): 0 — 35 °C

Storage temperature:

0 — 40 °C

Pressure

Operating pressure:

MG	DN	Diaphragm material		
		Elastomer	PTFE	
			Forged body*	Investment cast body
8	**4 - 15**	0 - 10	0 - 10	0 - 6
10	**10 - 20**	0 - 10	0 - 10	0 - 6
25	**15 - 25**	0 - 10	0 - 10	0 - 6
40	**32 - 40**	0 - 10	0 - 10	0 - 6
50	**50 - 65**	0 - 10	0 - 10	0 - 6
80	**65 - 80**	0 - 10	0 - 10	0 - 6
100	**100**	0 - 10	0 - 10	0 - 6

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.

* with actuator versions T and X. Actuator version D: 0 - 6 bar

Pressure rating:

PN 16

Leakage rate:

Leakage rate A to P11/P12 EN 12266-1

Kv values:

MG	DN	Connection type code								
		0	16	17	18	37	59	60	1	31
8	**4**	0.5	-	-	-	-	-	-	-	-
	6	-	-	1.1	-	-	-	1.2	-	-
	8	-	-	1.3	-	-	0.6	2.2	1.4	-
	10	-	2.1	2.1	2.1	-	1.3	-	-	-
	15	-	-	-	-	-	2.0	-	-	-
10	**10**	-	2.4	2.4	2.4	-	2.2	3.3	-	-
	12	-	-	-	-	-	-	-	3.2	-
	15	3.3	3.8	3.8	3.8	-	2.2	4.0	3.4	-
	20	-	-	-	-	-	3.8	-	-	-
25	**15**	4.1	4.7	4.7	4.7	-	-	7.4	6.5	6.5
	20	6.3	7.0	7.0	7.0	-	4.4	13.2	10.0	10.0
	25	13.9	15.0	15.0	15.0	12.6	12.2	16.2	14.0	14.0
40	**32**	25.3	27.0	27.0	27.0	26.2	-	30.0	26.0	26.0
	40	29.3	30.9	30.9	30.9	30.2	29.5	32.8	33.0	33.0
50	**50**	46.5	48.4	48.4	48.4	51.7	50.6	55.2	60.0	60.0
	65	-	-	-	-	62.2	61.8	-	-	-
80	**65**	-	-	77.0	-	68.5	68.5	96.0	-	-
	80	-	-	111.0	-	80.0	87.0	111.0	-	-
100	**100**	-	-	194.0	-	173.0	188.0	214.0	-	-

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.
The Kv value curve (Kv value dependent on valve stroke) can vary depending on the diaphragm material and duration of use.

MG	DN	PFA/PP
25	**15**	5.0
	20	9.0
	25	13.0
40	**32**	23.0
	40	26.0
50	**50**	47.0
	65	47.0

MG = diaphragm size, Kv values in m³/h
Kv values determined in accordance with DIN EN 60534, inlet pressure 5 bar, Δp 1 bar, with connection flange EN 1092 length EN 558 series 1 (or threaded socket DIN ISO 228 for body material GGG40.3) 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 duration of use.

Product conformity

Machinery Directive:	2006/42/EC
Pressure Equipment Directive:	2014/68/EU
Food:	FDA* Regulation (EC) No. 1935/2004* Regulation (EC) No. 10/2011* Regulation (EC) No. 2023/2006* FDA 21 CFR 177.2600* USP* Class VI Titel 87 USP* Class VI Title 88 (50 °C and 121 °C) 3A*
TA Luft (German Clean Air Act):	The product meets the following requirements under the max. permissible operating conditions: -Tightness or compliance with the specific leak rate within the sense of TA-Luft as well as VDI 2440 and VDI 2290 -Compliance with the requirements in accordance with DIN EN ISO 15848-1, Table C.2, Class BH

* depending on version and/or operating parameters

Mechanical data

Weight:

Actuator

MG	DN	Weight	
			Special version, additional functions code A, B, F, K
8	**4 - 15**	0.35	-
10	**10 - 20**	0.65	0.7
25	**15 - 25**	1.40	1.7
40	**32 - 40**	2.20	2.8
50	**50 - 65**	3.20	4.3
80	**65 - 80**	7.80	10.5
100	**100**	8.50	12.5

Weights in kg
MG = diaphragm size

Body

MG	DN	Spigot	Threaded socket	Threaded spigot, cone spigot	Flange	Clamp
		Connection type code				
		0, 16, 17, 18, 35, 36, 37, 55, 59, 60, 63, 64, 65	1	6, 6K	8, 38, 39	80, 82, 88, 8A , 8E, 8P, 8T
8	**4**	0.09	-	-	-	-
	6	0.09	-	-	-	-
	8	0.09	0.09	-	-	0.15
	10	0.09	-	0.21	-	0.18
	15	0.09	-	-	-	0.18
10	**10**	0.30	-	0.33	-	0.30
	12	-	0.17	-	-	-
	15	0.30	0.26	0.35	-	0.43
	20	-	-	-	-	0.43
25	**15**	0.62	0.32	0.71	1.50	0.75
	20	0.58	0.34	0.78	2.20	0.71
	25	0.55	0.39	0.79	2.80	0.63
40	**32**	1.45	0.88	1.66	3.40	1.62
	40	1.32	0.93	1.62	4.50	1.50
50	**50**	2.25	1.56	2.70	6.30	2.50
	65	2.20	-	-	10.30	2.30
80	**65**	8.60	-	9.22	10.20	8.90
	80	8.00	-	9.20	13.80	8.50
100	**100**	24.10	-	-	20.80	24.80

Weights in kg
MG = diaphragm size

Installation position:

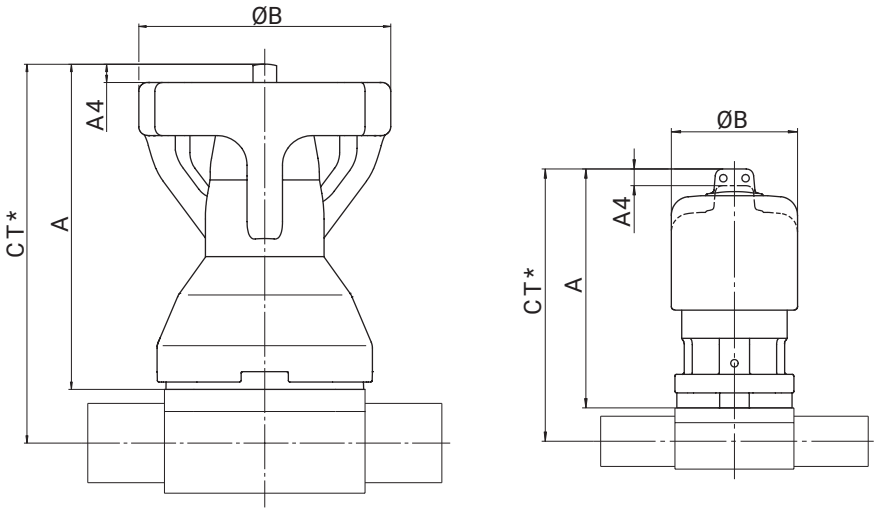
Optional

Observe the angle of rotation for optimized draining when it comes to installation.
See separate document, "Angle of rotation technical information".

Dimensions

Actuator dimensions

GEMÜ 653, 654

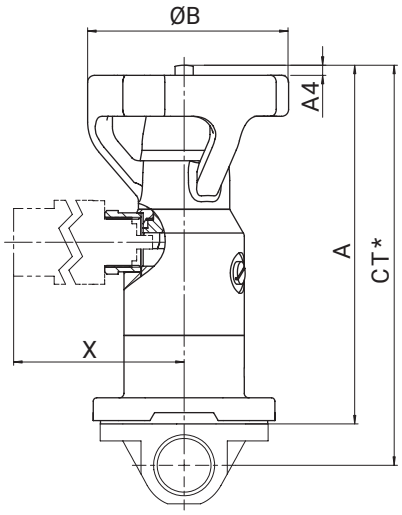


MG	DN	A			A4			ØB
Actuator function		H	N	S	H	N	S	
8	**4 - 15**	85.0	65.0	-	4.5	4.5	-	36.0
10	**10 - 20**	86.0	86.0	-	2.0	2.0	-	63.0
25	**15 - 25**	108.0	108.0	-	5.0	5.0	-	92.0
40	**32 - 40**	145.0	145.0	-	9.0	9.0	-	114.0
50	**50 - 65**	171.0	171.0	-	21.0	21.0	-	132.0
80	**65 - 80**	231.0**	202.0	231.0	33.0**	18.0	33.0	211.0
100	**100**	255.0**	223.0	255.0	43.0**	28.0	43.0	211.0

Dimensions in mm
MG = diaphragm size
* CT = A + H1 (see body dimensions)
** only GEMÜ 654

A4: Protrusion of indicator spindle over highest point when actuator is in the open position (approximate values)

GEMÜ 653, 654 with additional functions A, B, F, K



MG	DN	A	A4	ØB	X MAG	X LOC
10	**10 - 20**	124.0	2.0	63.0	107.0	73.0
25	**15 - 25**	159.0	5.0	92.0	112.0	78.0
40	**32 - 40**	192.0	9.0	114.0	119.0	85.0
50	**50 - 65**	233.0	21.0	132.0	125.0	91.0
80	**65 - 80**	290.0	33.0	211.0	142.0	108.0
100	**100**	323.0	43.0	211.0	152.0	118.0

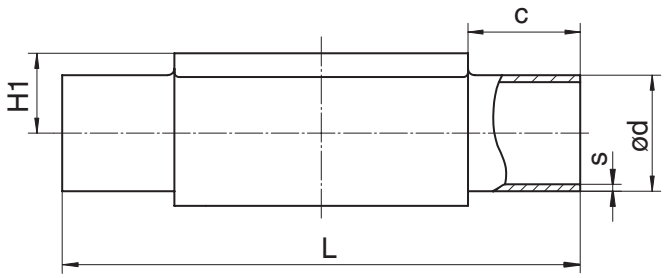
Dimensions in mm
MG = diaphragm size
* CT = A + H1 (see body dimensions)

A4: Protrusion of indicator spindle over highest point when actuator is in the open position (approximate values)

X: Only for additional function B, F, K

Body dimensions

Spigot DIN/EN/ISO (code 0, 16, 17, 18, 60)



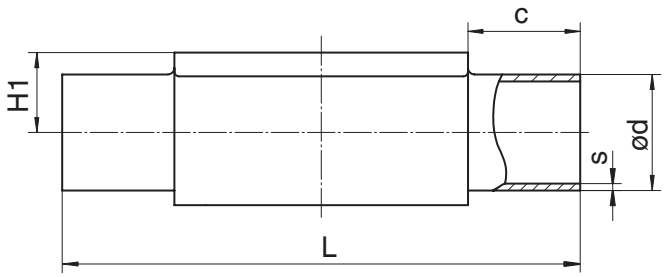
Connection type spigot DIN/EN/ISO (code 0, 16, 17, 18, 60) [1], forged material (code 40, 42, F4) [2]

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
25	15	1/2"	25.0	18.0	18.0	19.0	20.0	21.3	19.0	120.0	1.5	1.0	1.5	2.0	1.6
	20	3/4"	25.0	22.0	22.0	23.0	24.0	26.9	19.0	120.0	1.5	1.0	1.5	2.0	1.6
	25	1"	25.0	28.0	28.0	29.0	30.0	33.7	19.0	120.0	1.5	1.0	1.5	2.0	2.0
40	32	1¼"	25.0	34.0	34.0	35.0	36.0	42.4	26.0	153.0	1.5	1.0	1.5	2.0	2.0
	40	1½"	30.5	40.0	40.0	41.0	42.0	48.3	26.0	153.0	1.5	1.0	1.5	2.0	2.0
50	50	2"	30.0	52.0	52.0	53.0	54.0	60.3	32.0	173.0	1.5	1.0	1.5	2.0	2.0
80	65	2½"	30.0	-	-	70.0	-	76.1	62.0	216.0	-	-	2.0	-	2.0
	80	3"	30.0	-	-	85.0	-	88.9	62.0	254.0	-	-	2.0	-	2.3
100	100	4"	30.0	-	-	104.0	-	114.3	76.0	305.0	-	-	2.0	-	2.3

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 0: Spigot DIN
Code 16: Spigot DIN EN 10357 series B (2014 edition; formerly DIN 11850 series 1)
Code 17: Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2
Code 18: Spigot DIN 11850 series 3
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B

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



Connection type spigot DIN/EN/ISO (code 0, 17, 60) [1], investment casting material (code C3) [2]

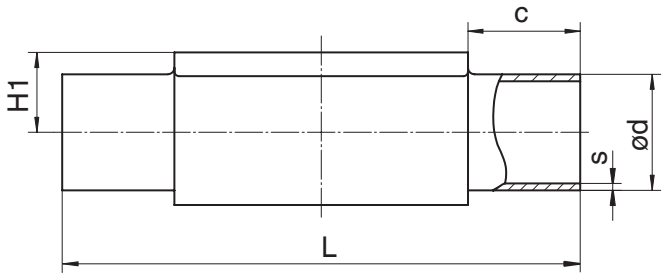
MG	DN	NPS	c (min)	ød			H1	L	s		
				Connection type					Connection type		
				0	17	60			0	17	60
8	4	-	20.0	6,0	-	-	8.5	72.0	1,0	-	-
	6	-	20.0	-	8.0	10.2	8.5	72.0	-	1.0	-
	8	1/4"	20.0	-	10.0	13.5	8.5	72.0	-	1.0	1.6
	10	3/8"	20.0	-	13.0	-	8.5	72.0	-	1.5	-
10	10	3/8"	25.0	-	13.0	17.2	12.5	108.0	-	1.5	1.6
	15	1/2"	25.0	-	19.0	21.3	12.5	108.0	-	1.5	1.6
25	15	1/2"	25.0	-	19.0	21.3	13.0	120.0	-	1.5	1.6
	20	3/4"	25.0	-	23.0	26.9	16.0	120.0	-	1.5	1.6
	25	1"	25.0	-	29.0	33.7	19.0	120.0	-	1.5	2.0
40	32	1¼"	25.0	-	35.0	42.4	24.0	153.0	-	1.5	2.0
	40	1½"	30.5	-	41.0	48.3	26.0	153.0	-	1.5	2.0
50	50	2"	30.0	-	53.0	60.3	32.0	173.0	-	1.5	2.0

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 0: Spigot DIN
Code 17: Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B

2) **Valve body material**
Code C3: 1.4435, investment casting

Spigot ASME/BS (code 55, 59, 63, 64, 65)



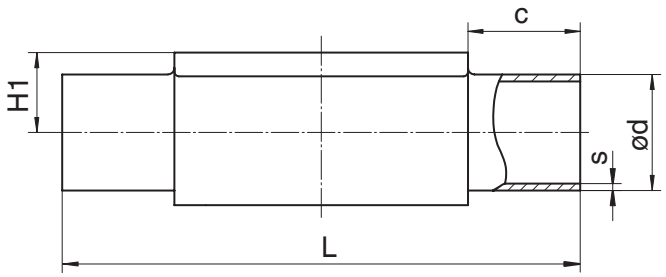
Connection type spigot ASME/BS (code 55, 59, 63, 64, 65) [1], forged material (code 40, 42, F4) [2]

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	-	-	-
25	**15**	**1/2"**	25.0	-	-	21.3	21.3	21.3	19.0	120.0	-	-	2.11	1.65	2.77
	20	**3/4"**	25.0	19.05	19.05	26.7	26.7	26.7	19.0	120.0	1.2	1.65	2.11	1.65	2.87
	25	**1"**	25.0	-	25.40	33.4	33.4	33.4	19.0	120.0	-	1.65	2.77	1.65	3.38
40	**32**	**1¼"**	25.0	-	-	42.2	42.2	42.2	26.0	153.0	-	-	2.77	1.65	3.56
	40	**1½"**	30.5	-	38.10	48.3	48.3	48.3	26.0	153.0	-	1.65	2.77	1.65	3.68
50	**50**	**2"**	30.0	-	50.80	60.3	60.3	60.3	32.0	173.0	-	1.65	2.77	1.65	3.91
	65	**2½"**	30.0	-	63.50	-	-	-	34.0	173.0	-	1.65	-	-	-
80	**65**	**2½"**	30.0	-	63.50	73.0	73.0	73.0	62.0	216.0	-	1.65	3.05	2.11	5.16
	80	**3"**	30.0	-	76.20	88.9	88.9	88.9	62.0	254.0	-	1.65	3.05	2.11	5.49
100	**100**	**4"**	30.0	-	101.60	114.3	114.3	114.3	76.0	305.0	-	2.11	3.05	2.11	6.02

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 55: Spigot BS 4825, part 1
Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/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 < 0.5%
Code F4: 1.4539, forged body



Connection type spigot ASME BPE (code 59) [1], investment casting material (code C3) [2]

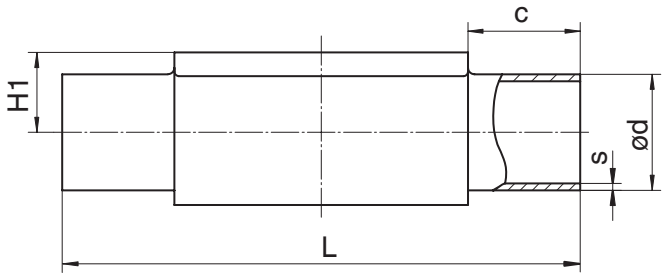
MG	DN	NPS	c (min)	ød	H1	L	s
8	**8**	**1/4"**	20.0	6.35	8.5	72.0	0.89
	10	**3/8"**	20.0	9.53	8.5	72.0	0.89
	15	**1/2"**	20.0	12.70	8.5	72.0	1.65
10	**20**	**3/4"**	25.0	19.05	12.5	108.0	1.65
25	**20**	**3/4"**	25.0	19.05	16.0	120.0	1.65
	25	**1"**	25.0	25.40	19.0	120.0	1.65
40	**40**	**1½"**	30.5	38.10	26.0	153.0	1.65
50	**50**	**2"**	30.0	50.80	32.0	173.0	1.65

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C

2) **Valve body material**
Code C3: 1.4435, investment casting

Spigot JIS/SMS (code 35, 36, 37)



Connection type spigot JIS/SMS (code 35, 36, 37) [1], forged material (code 40, 42, F4) [2]

MG	DN	NPS	c (min)	ød			H1	L	s		
				Connection type					Connection type		
				35	36	37			35	36	37
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	-
25	**15**	**1/2"**	25.0	-	21.7	-	19.0	120.0	-	2.10	-
	20	**3/4"**	25.0	-	27.2	-	19.0	120.0	-	2.10	-
	25	**1"**	25.0	25.4	34.0	25.0	19.0	120.0	1.2	2.80	1.2
40	**32**	**1¼"**	25.0	31.8	42.7	33.7	26.0	153.0	1.2	2.80	1.2
	40	**1½"**	30.5	38.1	48.6	38.0	26.0	153.0	1.2	2.80	1.2
50	**50**	**2"**	30.0	50.8	60.5	51.0	32.0	173.0	1.5	2.80	1.2
	65	**2½"**	30.0	63.5	-	63.5	34.0	173.0	2.0	-	1.6
80	**65**	**2½"**	30.0	63.5	76.3	63.5	62.0	216.0	2.0	3.00	1.6
	80	**3"**	30.0	76.3	89.1	76.1	62.0	254.0	2.0	3.00	1.6
100	**100**	**4"**	30.0	101.6	114.3	101.6	76.0	305.0	2.0	3.00	2.0

Connection type spigot SMS (code 37) [1], investment casting material (code C3) [2]

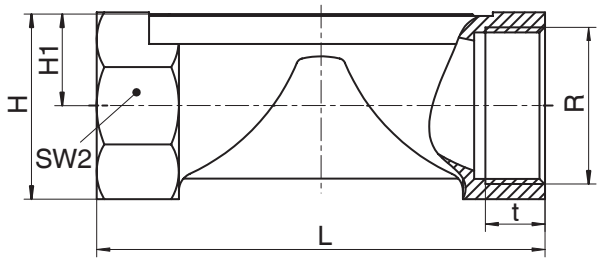
MG	DN	NPS	c (min)	ød	H1	L	s
25	**25**	**1"**	25.0	25.0	19.0	120.0	1.2
40	**40**	**1½"**	30.5	38.0	26.0	153.0	1.2
50	**50**	**2"**	30.0	51.0	32.0	173.0	1.2

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 35: Spigot JIS-G 3447
Code 36: Spigot JIS-G 3459 schedule 10s
Code 37: Spigot SMS 3008

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code C3: 1.4435, investment casting
Code F4: 1.4539, forged body

Threaded socket DIN (code 1)



Connection type threaded socket (code 1) [1], investment casting material (code 37) [2]

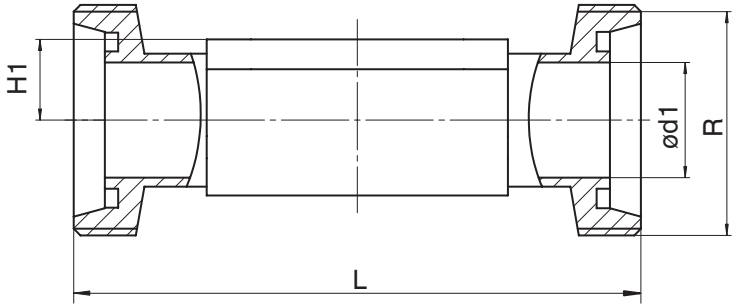
MG	DN	NPS	H	H1	L	n	R	SW 2	t
8	**8**	**1/4"**	19.0	9.0	72.0	6	G 1/4	18.0	11.0
10	**12**	**3/8"**	25.0	13.0	55.0	2	G 3/8	22.0	12.0
	15	**1/2"**	30.0	15.0	68.0	2	G 1/2	27.0	15.0
25	**15**	**1/2"**	28.3	14.8	85.0	6	G 1/2	27.0	15.0
	20	**3/4"**	33.3	17.3	85.0	6	G 3/4	32.0	16.0
	25	**1"**	42.3	21.8	110.0	6	G 1	41.0	13.0
40	**32**	**1¼"**	51.3	26.3	120.0	8	G 1¼	50.0	20.0
	40	**1½"**	56.3	28.8	140.0	8	G 1½	55.0	18.0
50	**50**	**2"**	71.3	36.0	165.0	8	G 2	70.0	26.0

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 DIN (code 6)



Connection type threaded spigot DIN (code 6) [1], forged material (code 40, 42) [2]

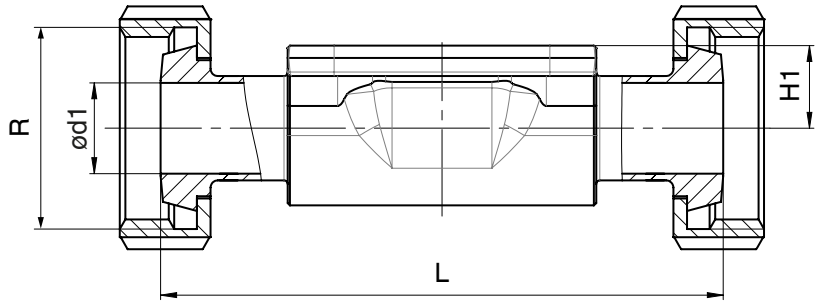
MG	DN	NPS	ød1	H1	L	R
8	**10**	**3/8"**	10.0	8.5	92.0	Rd 28 x 1/8
10	**10**	**3/8"**	10.0	12.5	118.0	Rd 28 x 1/8
	15	**1/2"**	16.0	12.5	118.0	Rd 34 x 1/8
25	**15**	**1/2"**	16.0	19.0	118.0	Rd 34 x 1/8
	20	**3/4"**	20.0	19.0	118.0	Rd 44 x 1/6
	25	**1"**	26.0	19.0	128.0	Rd 52 x 1/6
40	**32**	**1¼"**	32.0	26.0	147.0	Rd 58 x 1/6
	40	**1½"**	38.0	26.0	160.0	Rd 65 x 1/6
50	**50**	**2"**	50.0	32.0	191.0	Rd 78 x 1/6
80	**65**	**2½"**	66.0	62.0	246.0	Rd 95 x 1/6
	80	**3"**	81.0	62.0	256.0	Rd 110 x 1/4

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 < 0.5%

Cone spigot DIN (code 6K)



Connection type cone spigot DIN (code 6K) [1], forged material (code 40, 42) [2]

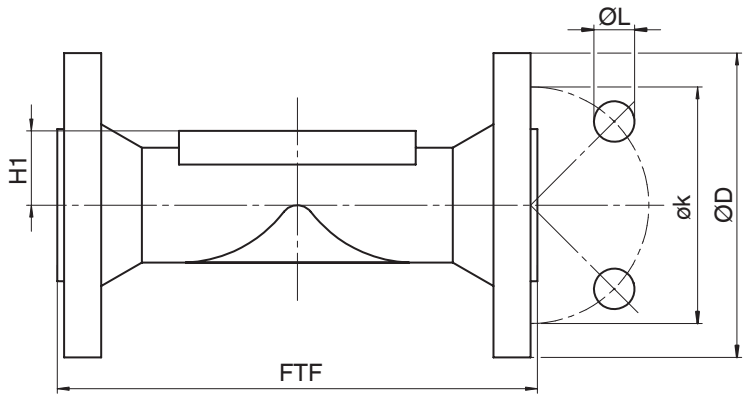
MG	DN	NPS	ød1	H1	L	R
8	**10**	**3/8"**	10.0	8.5	90.0	Rd 28 x 1/8
10	**10**	**3/8"**	10.0	12.5	116.0	Rd 28 x 1/8
	15	**1/2"**	16.0	12.5	116.0	Rd 34 x 1/8
25	**15**	**1/2"**	16.0	19.0	116.0	Rd 34 x 1/8
	20	**3/4"**	20.0	19.0	114.0	Rd 44 x 1/6
	25	**1"**	26.0	19.0	127.0	Rd 52 x 1/6
40	**32**	**1¼"**	32.0	26.0	147.0	Rd 58 x 1/6
	40	**1½"**	38.0	26.0	160.0	Rd 65 x 1/6
50	**50**	**2"**	50.0	32.0	191.0	Rd 78 x 1/6
80	**65**	**2½"**	66.0	62.0	246.0	Rd 95 x 1/6
	80	**3"**	81.0	62.0	256.0	Rd 110 x 1/4

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 < 0.5%

Flange EN (code 8)



Connection type flange, length EN 558 (code 8) [1], investment casting material (code 39, C3), forged material (code 40, 42) [2]

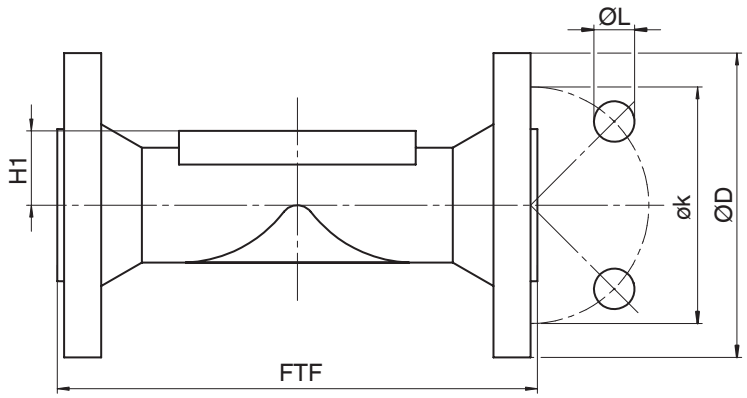
MG	DN	NPS	øD	FTF			H1			øk	øL	n
				Material			Material					
				39	C3	40, 42	39	C3	40, 42			
25	**15**	**1/2"**	95.0	130.0	150.0	150.0	18.0	13.0	19.0	65.0	14.0	4
	20	**3/4"**	105.0	150.0	150.0	150.0	20.5	16.0	19.0	75.0	14.0	4
	25	**1"**	115.0	160.0	160.0	160.0	23.0	19.0	19.0	85.0	14.0	4
40	**32**	**1¼"**	140.0	180.0	180.0	180.0	28.7	24.0	26.0	100.0	19.0	4
	40	**1½"**	150.0	200.0	200.0	200.0	33.0	26.0	26.0	110.0	19.0	4
50	**50**	**2"**	165.0	230.0	230.0	230.0	39.0	32.0	32.0	125.0	19.0	4
	65	**2½"**	185.0	290.0	-	-	51.0	-	-	145.0	19.0	4
80	**65**	**2½"**	185.0	-	-	290.0	-	-	62.0	145.0	19.0	4
	80	**3"**	200.0	310.0	-	310.0	59.5	-	62.0	160.0	19.0	8
100	**100**	**4"**	220.0	350.0	-	350.0	73.0	-	76.0	180.0	19.0	8

Dimensions in mm
MG = diaphragm size
n = number of bolts

1) **Connection type**
Code 8: Flange EN 1092, PN 16, form B, 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 39: 1.4408, PFA lined
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code C3: 1.4435, investment casting

Flange JIS (code 34)



Connection type flange, length 558 (code 34) [1], **investment casting material (code 39)** [2]

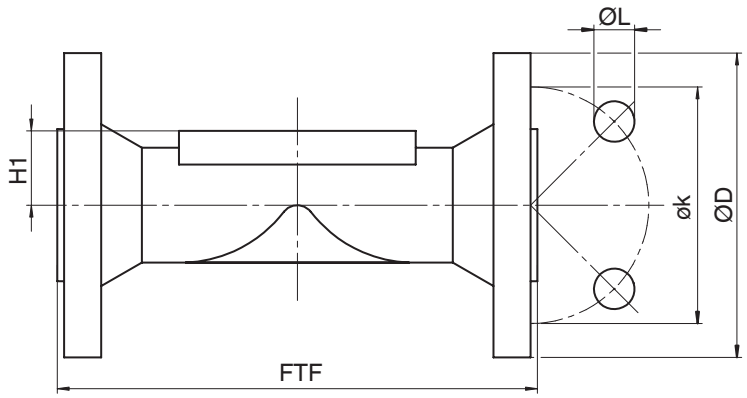
MG	DN	NPS	øD	FTF	H1	øk	øL	n
25	15	1/2"	95.0	130.0	18.0	70.0	15.0	4
	20	3/4"	100.0	150.0	20.5	75.0	15.0	4
	25	1"	125.0	160.0	23.0	90.0	19.0	4
40	32	1¼	135.0	180.0	28.7	100.0	19.0	4
	40	1½"	140.0	200.0	33.0	105.0	19.0	4
50	50	2"	155.0	230.0	39.0	120.0	19.0	4

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 34: Flange JIS B2220, 10K, 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 39: 1.4408, PFA lined

Flange ANSI Class (code 38, 39)



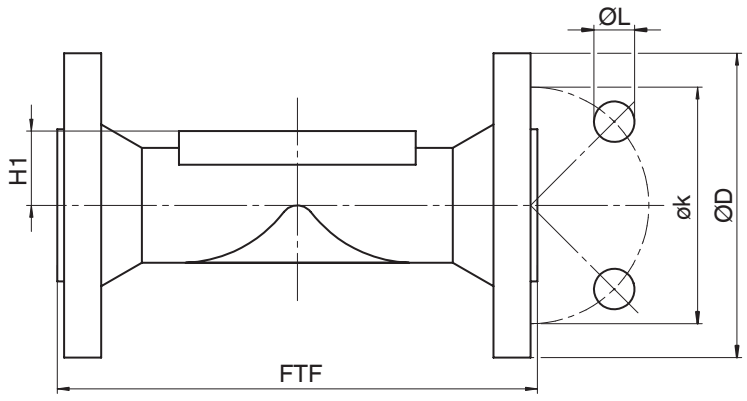
Connection type flange, length MSS SP-88 (code 38) [1], investment casting material (code 39) [2]

MG	DN	NPS	øD	FTF	H1	øk	øL	n
25	**20**	**3/4"**	100.0	146.0	20.5	69.9	15.9	4
	25	**1"**	110.0	146.0	23.0	79.4	15.9	4
40	**40**	**1½"**	125.0	175.0	33.0	98.4	15.9	4
50	**50**	**2"**	150.0	200.0	39.0	120.7	19.0	4
	65	**2½"**	180.0	226.0	51.0	139.7	19.0	4
80	**80**	**3"**	190.0	260.0	59.5	152.4	19.0	4
100	**100**	**4"**	230.0	327.0	73.0	190.5	19.0	8

Dimensions in mm
MG = diaphragm size
n = number of bolts

1) **Connection type**
Code 38: Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D

2) **Valve body material**
Code 39: 1.4408, PFA lined



Connection type flange, length EN 558 (code 39) [1], investment casting material (code 39, C3), forged material (code 40, 42) [2]

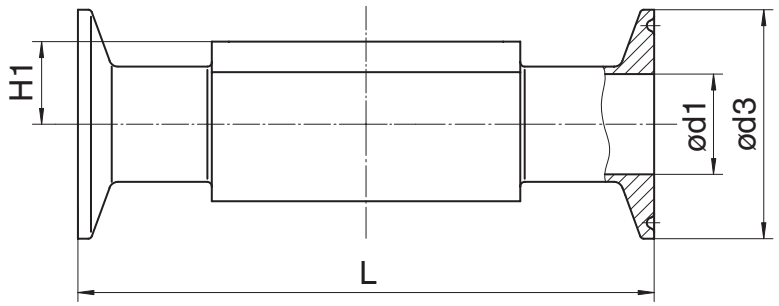
MG	DN	NPS	øD	FTF			H1			øk	øL	n
				Material			Material					
				39	C3	40, 42	39	C3	40, 42			
25	**15**	**1/2"**	90.0	130.0	150.0	150.0	18.0	13.0	19.0	60.3	15.9	4
	20	**3/4"**	100.0	150.0	150.0	150.0	20.5	16.0	19.0	69.9	15.9	4
	25	**1"**	110.0	160.0	160.0	160.0	23.0	19.0	19.0	79.4	15.9	4
40	**32**	**1¼"**	115.0	180.0	180.0	180.0	28.7	24.0	26.0	88.9	15.9	4
	40	**1½"**	125.0	200.0	200.0	200.0	33.0	26.0	26.0	98.4	15.9	4
50	**50**	**2"**	150.0	230.0	230.0	230.0	39.0	32.0	32.0	120.7	19.0	4
	65	**2½"**	180.0	290.0	-	-	51.0	-	-	139.7	19.0	4
80	**65**	**2½"**	180.0	-	-	290.0	-	-	62.0	139.7	19.0	4
	80	**3"**	190.0	310.0	-	310.0	59.5	-	62.0	152.4	19.0	4
100	**100**	**4"**	230.0	350.0	-	350.0	73.0	-	76.0	190.5	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 39: 1.4408, PFA lined
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%
Code C3: 1.4435, investment casting

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



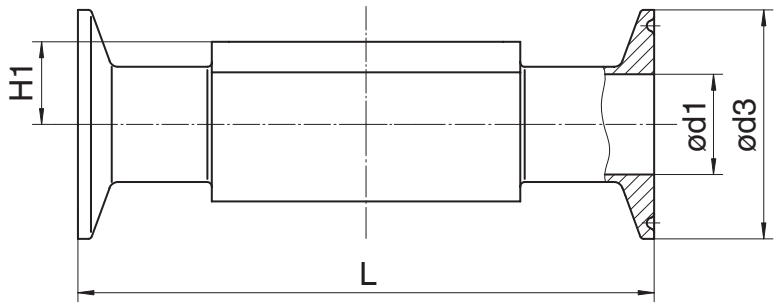
Connection type clamp DIN/ASME (code 80, 88, 8P, 8T) [1], forged material (code 40, 42, F4) [2]

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
25	**20**	**3/4"**	15.75	15.75	25.0	250	19.0	101.6	117.0
	25	**1"**	22.10	22.10	50.5	50.5	19.0	114.3	127.0
40	**40**	**1½"**	34.80	34.80	50.5	50.5	26.0	139.7	159.0
50	**50**	**2"**	47.50	47.50	64.0	64.0	32.0	158.8	190.0
	65	**2½"**	60.20	60.20	77.5	77.5	34.0	193.8	216.0
80	**65**	**2½"**	60.20	60.20	77.5	77.5	62.0	193.8	216.0
	80	**3"**	72.90	72.90	91.0	91.0	62.0	222.3	254.0
100	**100**	**4"**	97.38	97.38	119.0	119.0	76.0	292.1	305.0

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 88: Clamp ASME BPE, for pipe ASME BPE, 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



Connection type clamp DIN/ISO (code 82, 8A, 8E) [1], **forged material (code 40, 42, F4)** [2]

MG	DN	NPS	ød1			ød3			H1	L		
			Connection type			Connection type				Connection type		
			82	8A	8E	82	8A	8E		82	8A	8E
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	-
25	**15**	**1/2"**	18.1	16.0	-	50.5	34.0	-	19.0	108.0	108.0	-
	20	**3/4"**	23.7	20.0	-	50.5	34.0	-	19.0	117.0	117.0	-
	25	**1"**	29.7	26.0	22.6	50.5	50.5	50.5	19.0	1270	127.0	127.0
40	**32**	**1¼"**	38.4	32.0	31.3	64.0	50.5	50.5	26.0	146.0	146.0	146.0
	40	**1½"**	44.3	38.0	35.6	64.0	50.5	50.5	26.0	159.0	159.0	159.0
50	**50**	**2"**	56.3	50.0	48.6	77.5	64.0	64.0	32.0	190.0	190.0	190.0
	65	**2½"**	-	-	60.3	-	-	77.5	34.0	-	-	216.0
80	**65**	**2½"**	72.1	66.0	60.3	91.0	91.0	77.5	62.0	216.0	216.0	216.0
	80	**3"**	84.3	81.0	72.9	106.0	106.0	91.0	62.0	254.0	254.0	254.0
100	**100**	**4"**	109.7	100.0	97.6	130.0	119.0	119.0	76.0	305.0	305.0	305.0

Dimensions in mm
MG = diaphragm size

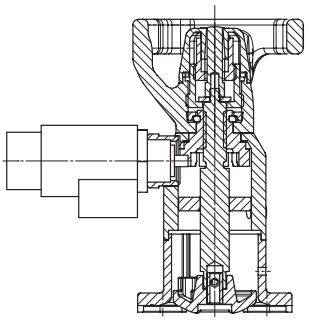
1) **Connection type**
Code 82: Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D
Code 8A: Clamp DIN 32676 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D
Code 8E: Clamp ISO 2852 for pipe ISO 2037, clamp SMS 3017 for pipe SMS 3008 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

Accessories

GEMÜ 653MAG

Electromagnetic locking device, 24 V DC.

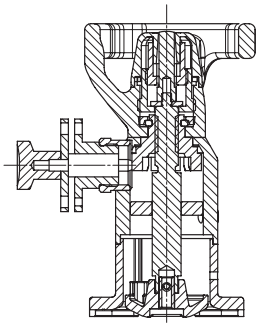


The magnets, padlocks etc. for the "locking device" must be ordered separately as accessories.
Available only in connection with the actuator additional functions B, K, F!

Designation	Design	Item
653MAGVE1 C1 X	Electromagnetic locking device 24 V DC, normally closed, M22x1 ATEX	88264576
653MAGVE1 C1	Electromagnetic locking device 24 V DC, normally closed, M22x1 IP 54, plug design A DIN EN 175301-803	88232776
653MAGVE2 C1	Electromagnetic locking device 24 V DC, normally open, M22x1 IP 54, plug design A DIN EN 175301-803	88279388

GEMÜ 653LOC

Mechanical locking device M22x1 with / without padlock.



The magnets, padlocks etc. for the "locking device" must be ordered separately as accessories.
Available only in connection with the actuator additional functions B, K, F!

Designation	Design	Item
653LOCVML	Locking device M22x1 with padlock	88239348

GEMÜ 653LOC

Mechanical locking device M22x1 with / without padlock.

Designation	Design	Item
653LOCVMB	Locking device M22x1 without padlock	88239405

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