

GEMÜ 534

Pneumatically operated globe valve



Features

- Low actuator weight due to plastic body
- ATEX optionally available
- Optional for food contact according to Regulation (EC) No. 1935/2004
- Quick drive change and free drive positioning
- Suitable for vacuum up to 20 mbar (a)
- Available as shut-off or control valve

Description

The 2/2-way globe valve GEMÜ 534 has a plastic piston actuator and is pneumatically operated. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing also protects the seal against contamination and damage.

Technical specifications

- **Media temperature:** -10 to 180 °C
- **Ambient temperature:** 0 to 60 °C
- **Operating pressure:** 0 to 40 bar
- **Nominal sizes:** DN 15 to 100
- **Body configurations:** Straight through body
- **Connection types:** Flange
- **Connection standards:** ANSI | ASME | EN | ISO | JIS
- **Body materials:** 1.4408, cast stainless steel material | EN-GJS-400-18-LT (GGG 40.3)
- **Seat seal materials:** 1.4404 | PTFE | PTFE, reinforced
- **Conformities:** ATEX | CRN | EAC | FDA | FMEDA | Oxygen | Reg. (EU) No. 10/2011 | Regulation (EC) No. 1935/2004 | RoHS | TA Luft (German Clean Air Act)

Technical data depends on the respective configuration

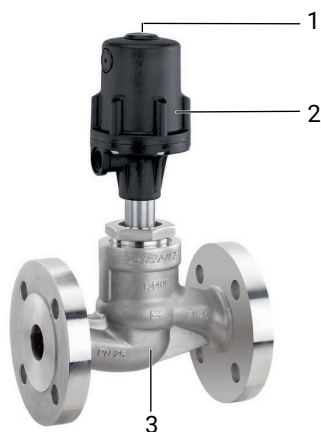


further information
webcode: GW-534



Product description

Construction



Item	Name	Materials
1	Optical position indicator	
2	Piston actuator	Plastic
3	Valve body	1.4408, investment casting EN-GJS-400-18-LT (GGG 40.3), SG iron

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:

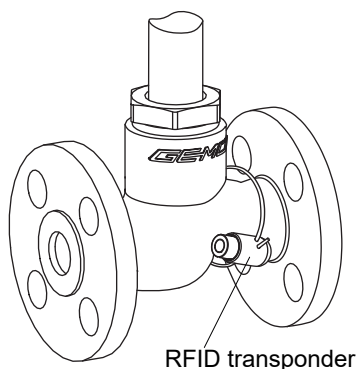
www.gemu-group.com/conexo

Ordering

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

In the corresponding design with CONEXO, this product has an RFID chip for electronic identification purposes. The position of the RFID chip can be seen below.

Installing the RFID chip



Availability

Actuator assignment

DN	Normally closed					Normally open/double acting		
	Piston dia. [mm]							
	50	50	70	70	120	50	70	120
	Actuator size							
	0	3	1	4	2	0	1	2
15	X	X	X	X	-	X	X	-
20	X	X	X	X	X	X	X	X
25	X	X	X	X	X	X	X	X
32	-	-	X	X	X	-	X	X
40	-	-	X	X	X	-	X	X
50	-	-	X	X	X	-	X	X
65	-	-	-	-	X	-	-	X
80	-	-	-	-	X	-	-	X
100	-	-	-	-	X	-	-	X

Flange

DN	Connection type code ¹⁾								
	8		11		39		48		
	Material code ²⁾								
	37		90		37		90		37
15	-	X	X	X	X	X	X	X	X
20	-	X	X	X	X	X	X	X	X
25	-	X	X	X	X	X	X	X	X
32	-	X	X	X	X	X	X	-	-
40	-	X	X	X	X	X	X	X	X
50	X	X	X	X	X	X	X	X	X
65	X	X	X	X	X	X	X	-	-
80	X	X	X	X	X	X	X	-	-
100	X	X	X	X	X	X	X	-	-

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

Code 11: Flange EN 1092, PN 40, 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

Code 48: Flange JIS 20K, face-to-face dimension FTF EN 558 series 10, ASME/ANSI B16.10 table 1, column 16, DN 50 drilled to JIS 10K

2) Valve body material

Code 37: 1.4408, investment casting

Code 90: EN-GJS-400-18-LT (GGG 40.3)

Type of design

Type of design	
For contact with foodstuffs, the product must be ordered with the following ordering options (code 2013)	Seat seal (code 5, 5G) Valve body material (code 37)

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
Globe valve, pneumatically operated, plastic piston actuator	534

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 Housing configuration	Code
2/2-way body	D

4 Connection type	Code
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	8
Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	11
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	39
Flange JIS 20K, face-to-face dimension FTF EN 558 series 10, ASME/ANSI B16.10 table 1, column 16, DN 50 drilled to JIS 10K	48

5 Valve body material	Code
1.4408, investment casting	37
EN-GJS-400-18-LT (GGG 40.3)	90

6 Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G

7 Control function	Code
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3
Double acting and normally open	8
Note: Only for control valves	

8 Actuator version	Code
Actuator size 0	0
Actuator size 1	1
Actuator size 2	2

8 Actuator version	Code
Actuator size 3	3
Actuator size 4	4

9 Regulating cone	Code
Please find the number of the optional regulating cone (R-No.) for the linear or equal-percentage modified regulating cone in the Kv value table.	R...

10 Type of design	Code
Standard	
PTFE-PTFE spindle seal	2013

11 Special version	Code
Standard	
Special version for oxygen, (max. temperature 60 °C; max. operating pressure 10 bar), media wetted seal materials and auxiliary materials with BAM testing	S

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

Order example

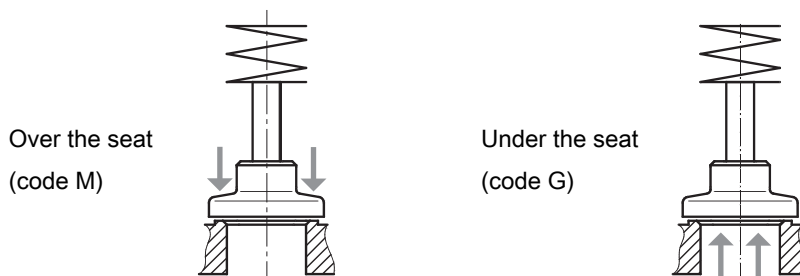
Ordering option	Code	Description
1 Type	534	Globe valve, pneumatically operated, plastic piston actuator
2 DN	25	DN 25
3 Housing configuration	D	2/2-way body
4 Connection type	8	Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
5 Valve body material	90	EN-GJS-400-18-LT (GGG 40.3)
6 Seat seal	5	PTFE
7 Control function	1	Normally closed (NC)
8 Actuator version	1	Actuator size 1
9 Regulating cone	RS617	60 m ³ /h – mod.EQ
10 Type of design		Standard
11 Special version		Standard
12 CONEXO		Without

Technical data

General

Flow direction

The flow direction is indicated by an arrow on the valve body.



Under the seat (code G) is the preferred flow direction with incompressible liquid media to avoid water hammer
 Over the seat (code M) only with control function - Normally closed (NC)

Medium

Working medium: Corrosive, inert, gaseous and liquid media and steam which have no negative impact on the physical and chemical properties of the body and seal material.

Control medium: Inert gases

Max. permissible viscosity: 600 mm²/s (cSt)
 Other versions for lower/higher temperatures and higher viscosities on request.

Special version for oxygen

Special version for oxygen: The S special version comes with PTFE-PTFE packing as standard, so K-no. 2013 does not need to be used for FDA conformity and 1935/2004.

Temperature

Media temperature: -10 – 180 °C
 -10–60 °C only with special function ordering option (code S)

Ambient temperature: 0 – 60 °C

Control medium temperature: 0 – 60 °C

Storage temperature: -20 – 60 °C

Pressure/temperature

Pressure/temperature correlation:

Connection type code	Material code	Permissible operating pressures in bar at temperature in °C					
		RT	100	150	200	250	300
8	37	16.0	16.0	14.5	13.4	12.7	11.8
10	37	25.0	25.0	22.7	21.0	19.8	18.5
11	37	40.0	40.0	36.3	33.7	31.8	29.7
39	37	19.0	16.0	14.8	13.6	12.0	10.2
8	90	16.0	16.0	15.5	14.7	13.9	11.2
39	90	17.0	16.0	14.8	13.9	12.1	10.2

All pressures are gauge pressures.

The valves are suitable for temperatures as low as -10 °C

RT = room temperature

Pressure/temperature correlation for connection code 48: DN 15–40 see connection code 10, DN 50 see connection code 8.

DN	Normally closed					Normally open/double acting		
	Piston dia. [mm]							
	50	50	70	70	120	50	70	120
	Actuator size							
	0	3	1	4	2	0	1	2
15	12,0	10,0	40,0	10,0	-	32,0	40,0	-
20	6,0	10,0	20,0	10,0	40,0	20,0	40,0	40,0
25	2,5	10,0	10,0	10,0	40,0	12,0	32,0	40,0
32	-	-	7,0	10,0	20,0	-	20,0	40,0
40	-	-	4,5	10,0	12,0	-	12,0	40,0
50	-	-	3,0	10,0	10,0	-	8,0	30,0
65	-	-	-	-	7,0	-	-	16,0
80	-	-	-	-	5,0	-	-	12,0
100	-	-	-	-	2,5	-	-	8,0

Pressures in bar

All pressures are gauge pressures.

For max. operating pressures the pressure / temperature correlation must be observed.

Pressure rating:

PN 16

PN 25

PN 40

Control pressure

Control pressure:

DN	Normally closed (NC) (code 1)				Normally open (NO) (code 2)/ double acting (DA) (code 3)/ double acting and normally open (DA+NO) (code 8)			
	Piston dia. [mm]							
	50	50	70	70	120	50	70	120
	Actuator size							
	0	3	1	4	2	0	1	2
15	4.8 - 7.0	Max. 7	5.5 - 7.0	Max. 7	-	max. 7.0	max. 5.0	-
20	4.8 - 7.0		5.5 - 7.0		4.0 - 7.0	max. 7.0	max. 7.0	max. 7.0
25	4.8 - 7.0		5.5 - 7.0		4.0 - 7.0	max. 7.0	max. 7.0	max. 7.0
32	-		5.5 - 7.0		4.0 - 7.0	-	max. 7.0	max. 7.0
40	-		5.5 - 7.0		4.0 - 7.0	-	max. 7.0	max. 7.0
50	-		5.5 - 7.0		5.0 - 7.0	-	max. 7.0	max. 7.0
65	-		-		5.0 - 7.0	-	-	max. 7.0
80	-		-		5.0 - 7.0	-	-	max. 7.0
100	-		-		5.0 - 7.0	-	-	max. 7.0

All pressures are gauge pressures.

Observe control pressure / operating pressure diagram

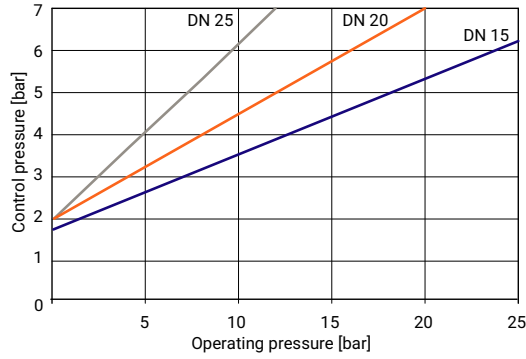
Control pressure/operating pressure diagram:

Control function

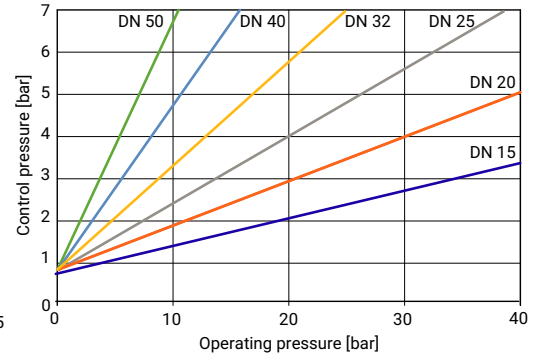
**Normally open (NO) (code 2),
double acting (DA) (code 3),
double acting and normally open (DA+NO) (code 8)**

Flow direction: Under the seat

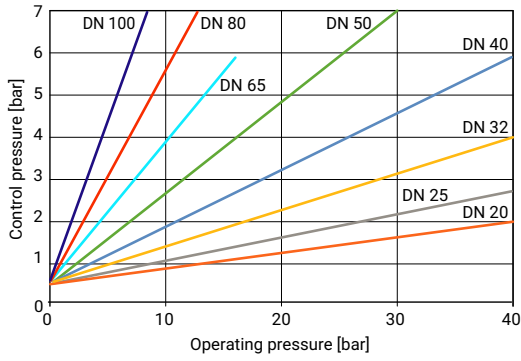
Actuator size 0



Actuator size 1



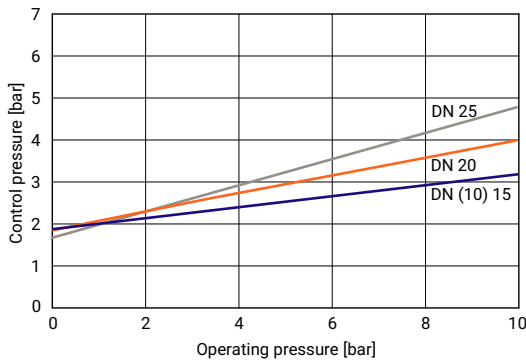
Actuator size 2



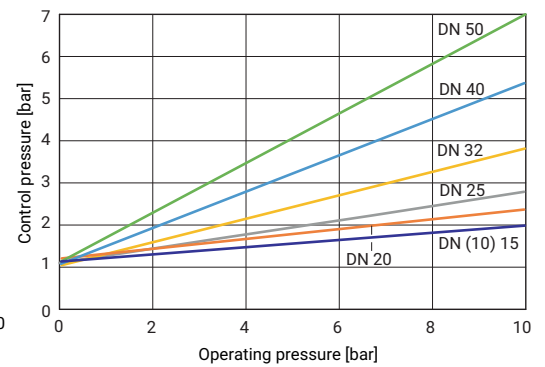
Normally closed (NC) (code 1)

Flow direction: Over the seat

Actuator size 3



Actuator size 4



Min. control pressure dependent on operating pressure

Product conformities

Food:	Regulation (EC) No. 1935/2004*	
	Regulation (EC) No. 10/2011*	
TA Luft (German Clean Air Act)*:	The product complies with the equivalence requirements of section 5.2.6.4 of the German Clean Air Act (TA Luft / VDI 2440 according to section 3.3.1.3)	
Pressure Equipment Directive:	2014/68/EU	
Machinery Directive:	2006/42/EC	
Explosion protection:	ATEX (2014/34/EU) on request	
Approvals:	FDA*	
	CRN	
	* depending on version and/or operating parameters	
FMEDA:	Product description:	GEMÜ globe valve 534
	Device type:	A
	Fail safe function:	Due to the fail safe function, the straight seat or angle seat globe valve is placed in the closed position (with control function 1) or open position (with control function 2), or it seals tightly (with control function 1).
	HFT (Hardware Fault Tolerance):	0
	There is no proof of systematic suitability in accordance with IEC 61508.	

Mechanical data

Weight:

Total weight

DN	Actuator size		
	0, 3	1, 4	2
15	3.1	3.6	7.8
20	4.1	4.6	8.6
25	5.0	5.5	9.3
32	-	7.7	10.9
40	-	9.0	11.9
50	-	11.8	14.0
65	-	-	21.5
80	-	-	25.1
100	-	-	33.4

Weights in kg

Valve body

DN	Weight
15	2.2
20	3.0
25	3.7
32	5.3
40	6.3
50	11.5
65	12.7
80	15.4
100	23.0

Weights in kg

Open/Close valves

Operating pressure

Operating pressure:

DN	Normally closed					Normally open/double acting		
	Piston dia. [mm]							
	50	50	70	70	120	50	70	120
	Actuator size							
	0	3	1	4	2	0	1	2
15	12,0	10,0	40,0	10,0	-	32,0	40,0	-
20	6,0	10,0	20,0	10,0	40,0	20,0	40,0	40,0
25	2,5	10,0	10,0	10,0	40,0	12,0	32,0	40,0
32	-	-	7,0	10,0	20,0	-	20,0	40,0
40	-	-	4,5	10,0	12,0	-	12,0	40,0
50	-	-	3,0	10,0	10,0	-	8,0	30,0
65	-	-	-	-	7,0	-	-	16,0
80	-	-	-	-	5,0	-	-	12,0
100	-	-	-	-	2,5	-	-	8,0

Pressures in bar

All pressures are gauge pressures.

For max. operating pressures the pressure / temperature correlation must be observed.

Kv values

Kv values:

DN	Kv values
15	4.6
20	8.0
25	13.0
32	22.0
40	35.0
50	50.0
65	90.0
80	127.0
100	200.0

Kv values in m³/h

Kv values determined in accordance with DIN EN 60534. The Kv value specifications refer to control function 1 (NC) and the largest actuator for the respective nominal size.

The Kv values for other product configurations (e.g. other connections or body materials) may differ.

Kv values AG0 on request.

Leakage rate

Leakage rate:

Seat seal	Standard	Test procedure	Leakage rate	Test medium
PTFE	DIN EN 12266-1	P12	A	Air

Filling volume

Filling volume:

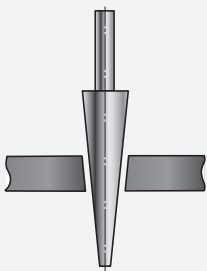
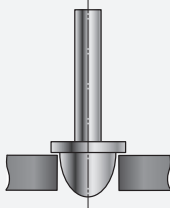
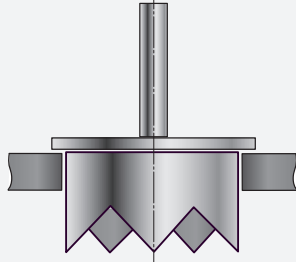
Actuator 0, 3: 0.05 dm³

Actuator 1, 4: 0.125 dm³

Actuator 2: 0.625 dm³

Control valves

Operating pressure/Kv values

Regulating needle	Regulating cone	Regulating cage
		
Regulating needle: RAxxx – RCxxx (reduced valve seat)	Regulating cone: DN 15 - 50	Regulating cage: DN 65 – 100

The control valves shown are only possible with control function – normally closed (NC) and flow direction under the seat.

Control valve:

Valve body material 1.4408 (code 37), EN-GJS-400-18-LT (code 90)

DN	Kv value [m³/h]	Operating pressure [bar]	Actuator size	Regulating cone number	
				Linear	Equal-percentage (mod.)
15	4.0	12.0	0	RS021	RS031
		40.0	1	RS020	RS030
20	6.3	6.0	0	RS022	RS032
		20.0	1	RS023	RS033
25	10.0	10.0	1	RS024	RS034
32	16.0	7.0	1	RS028	RS038
		20.0	2	RS025	RS035
40	25.0	4.5	1	RS029	RS039
		12.0	2	RS026	RS036
50	40.0	3.0	1	RS363	RS353
		10.0	2	RS027	RS037
65	63.0	7.0	2	-	RS350
80	90.0	5.0	2	-	RS351
100	140.0	2.5	2	-	RS352

Valve body material 1.4408 (code 37)

DN	Kv value [m³/h]	Operating pressure [bar]	Actuator size	Regulating cone number	
				Linear	Equal-percentage (mod.)
15	0.1*	40.0	1	RA101	RA301
	0.16*	40.0	1	RB101	RA302
	0.25*	40.0	1	RB102	RB302
	0.4*	40.0	1	RB103	RB301
	0.63*	40.0	1	RC101	RC301
	1.0*	40.0	1	RC102	RC302
	1.6	40.0	1	RD101	RD301
	2.5	40.0	1	RE101	RE301
20	1.6	40.0	1	RD102	RD302
	2.5	40.0	1	RE102	RE302
	4.0	40.0	1	RF101	RF301
25	2.5	40.0	1	RE103	RE303
	4.0	40.0	1	RF102	RF303
	6.3	18.0	1	RG101	RG301
32	4.0	40.0	1	RF103	RF302
	6.3	18.0	1	RG102	RG302
	10.0	10.0	1	RH102	RH301
40	6.3	40.0	1	RG103	RG303
	10.0	24.0	1	RH101	RH302
	16.0	15.0	1	RJ101	RJ302
50**	10.0	16.0	1	RH103	RH303
	16.0	12.0	1	RJ102	RJ301
	25.0	16.0	2	RK101	RK301

*metal seated

**only for connection code 8, 39, 48

Please observe the pressure/temperature correlation table.

Pressure/temperature correlation:

Connection type code	Material code	Permissible operating pressures in bar at temperature in °C					
		RT	100	150	200	250	300
8	37	16.0	16.0	14.5	13.4	12.7	11.8
10	37	25.0	25.0	22.7	21.0	19.8	18.5
11	37	40.0	40.0	36.3	33.7	31.8	29.7
39	37	19.0	16.0	14.8	13.6	12.0	10.2
8	90	16.0	16.0	15.5	14.7	13.9	11.2
39	90	17.0	16.0	14.8	13.9	12.1	10.2

All pressures are gauge pressures.

The valves are suitable for temperatures as low as -10 °C

RT = room temperature

Pressure/temperature correlation for connection code 48: DN 15–40 see connection code 10, DN 50 see connection code 8.

Pressure rating:

PN 16

PN 25

PN 40

Leakage rate

Leakage rate:

Control valve

Seat seal	Standard	Test procedure	Leakage rate	Test medium
Metal	DIN EN 60534-4	1	IV	Air
PTFE	DIN EN 60534-4	1	VI	Air

Filling volume

Filling volume:

Actuator 0: 0.050 dm³

Actuator 1: 0.125 dm³

Actuator 2: 0.625 dm³

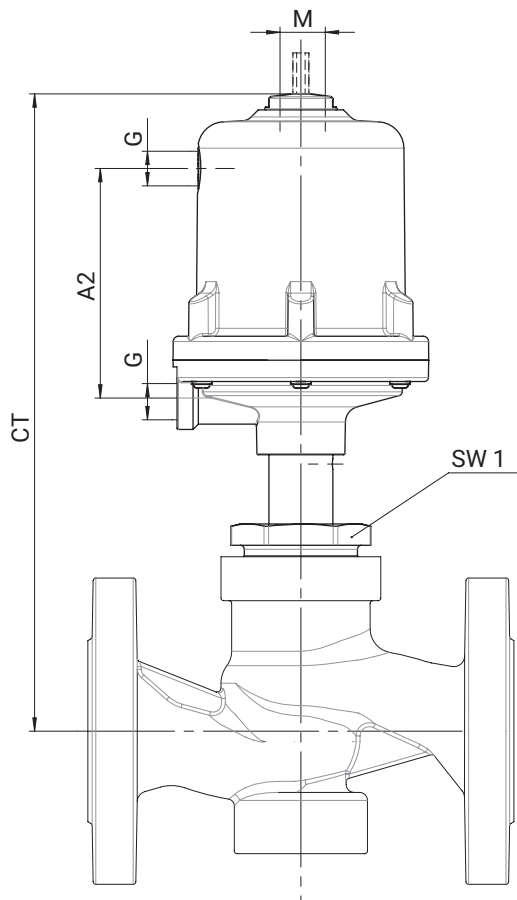
Control pressure

Control pressure:

max. 7.0 bar

Dimensions

Installation dimensions

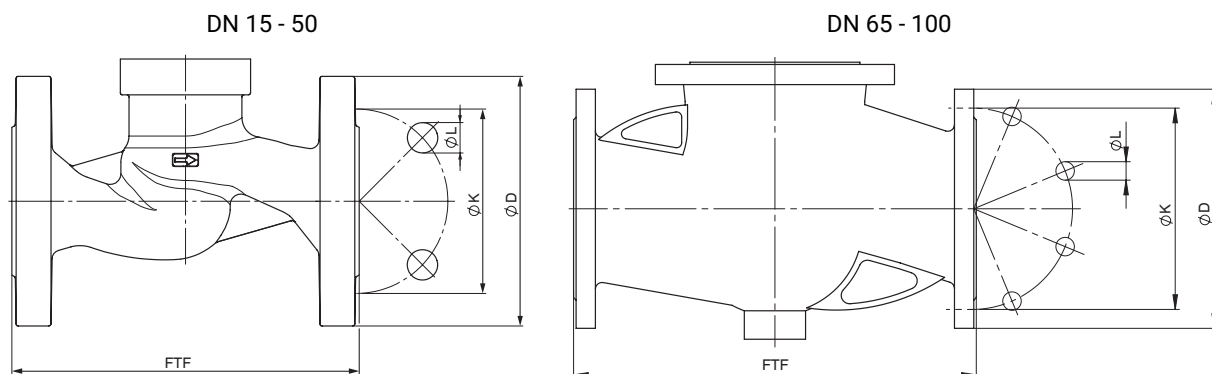


DN	WAF1 metric	G	Actuator size											
			0, 3				1, 4				2			
			A2	ØB	CT	M	A2	ØB	CT	M	A2	ØB	CT	M
15	36.0	G 1/4	70.0	72.0	196.0	M16x1	86.0	96.0	224.0	M16x1	-	-	-	-
20	41.0	G 1/4	70.0	72.0	203.0	M16x1	86.0	96.0	231.0	M16x1	149.0	168.0	328.0	M22x1.5
25	46.0	G 1/4	70.0	72.0	214.0	M16x1	86.0	96.0	242.0	M16x1	149.0	168.0	339.0	M22x1.5
32	55.0	G 1/4	-	-	-	-	86.0	96.0	247.0	M16x1	149.0	168.0	344.0	M22x1.5
40	60.0	G 1/4	-	-	-	-	86.0	96.0	258.0	M16x1	149.0	168.0	355.0	M22x1.5
50	75.0	G 1/4	-	-	-	-	86.0	96.0	266.0	M16x1	149.0	168.0	363.0	M22x1.5
65	75.0	G 1/4	-	-	-	-	-	-	-	-	149.0	168.0	391.0	M22x1.5
80	75.0	G 1/4	-	-	-	-	-	-	-	-	149.0	168.0	406.0	M22x1.5
100	75.0	G 1/4	-	-	-	-	-	-	-	-	149.0	168.0	427.0	M22x1.5

Dimensions in mm

Body dimensions

Flange EN (code 8)



Connection type flange, length EN 558 (code 8)¹⁾, SG iron material (code 90)²⁾

DN	NPS	ϕD	FTF	ϕk	ϕL	n
15	1/2"	95.0	130.0	65.0	14.0	4
20	3/4"	105.0	150.0	75.0	14.0	4
25	1"	115.0	160.0	85.0	14.0	4
32	1 1/4"	140.0	180.0	100.0	18.0	4
40	1 1/2"	150.0	200.0	110.0	18.0	4
50	2"	165.0	230.0	125.0	18.0	4
65	2 1/2"	185.0	290.0	145.0	18.0	4
80	3"	200.0	310.0	160.0	18.0	8
100	4"	220.0	350.0	180.0	18.0	8

Connection type flange, length EN 558 (code 8)¹⁾, investment casting material (code 37)²⁾

DN	NPS	ϕD	FTF	ϕk	ϕL	n
50	2"	165.0	230.0	125.0	18.0	4
65	2 1/2"	185.0	290.0	145.0	18.0	4
80	3"	200.0	310.0	160.0	18.0	8
100	4"	220.0	350.0	180.0	18.0	8

Dimensions in mm

n = number of bolts

1) Connection type

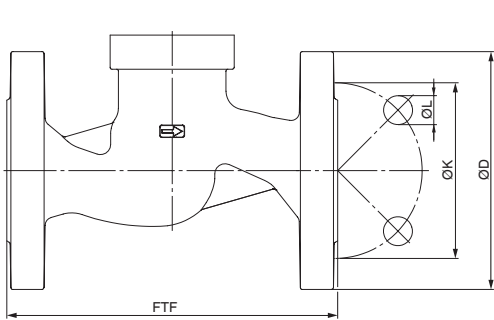
Code 8: Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

2) Valve body material

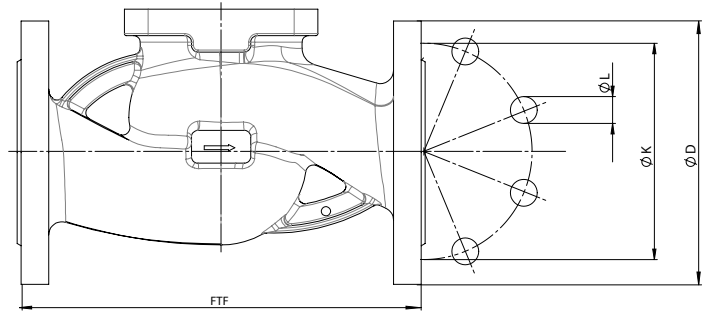
Code 37: 1.4408, investment casting

Code 90: EN-GJS-400-18-LT (GGG 40.3)

Flange EN (code 11, 48)



DN 15 - 50



DN 65 - 100

Connection type flange, length EN 558 (code 11)¹⁾, investment casting material (code 37)²⁾

DN	NPS	ø D	FTF	ø k	ø L	n
15	1/2"	95.0	130.0	65.0	14.0	4
20	3/4"	105.0	150.0	75.0	14.0	4
25	1"	115.0	160.0	85.0	14.0	4
32	1¼"	140.0	180.0	100.0	18.0	4
40	1½"	150.0	200.0	110.0	18.0	4
50	2"	165.0	230.0	125.0	18.0	4
65	2½"	185.0	290.0	145.0	18.0	8
80	3"	200.0	310.0	160.0	18.0	8
100	4"	235.0	350.0	190.0	22.0	8

Connection type flange, length EN 558 (code 48)¹⁾, investment casting material (code 37)²⁾

DN	NPS	ø D	FTF	ø k	ø L	n
15	1/2"	95.0	108.0	70.0	15.0	4
20	3/4"	100.0	117.0	75.0	15.0	4
25	1"	125.0	127.0	90.0	19.0	4
40	1½"	140.0	165.0	105.0	19.0	4
50	2"	155.0	203.0	120.0	19.0	4

Dimensions in mm

n = number of bolts

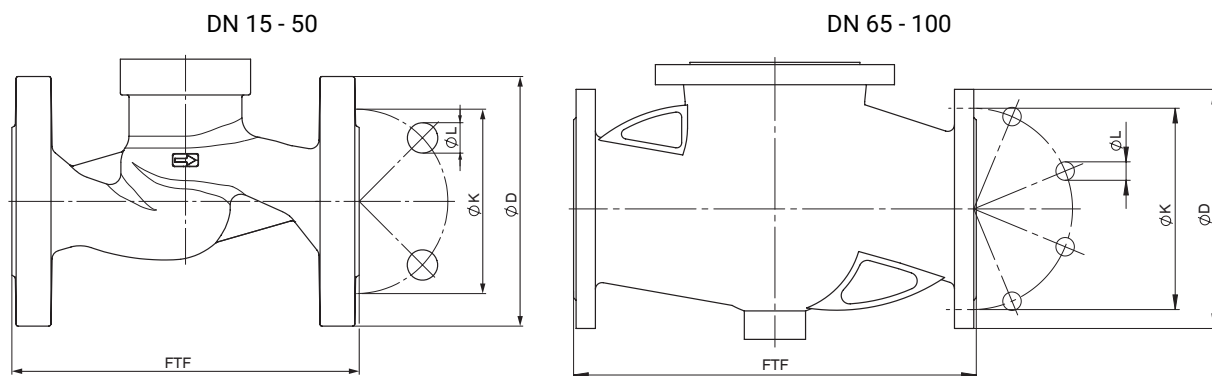
1) Connection type

Code 11: Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

Code 48: Flange JIS 20K, face-to-face dimension FTF EN 558 series 10, ASME/ANSI B16.10 table 1, column 16, DN 50 drilled to JIS 10K

2) Valve body material

Code 37: 1.4408, investment casting

Flange ANSI Class (code 39)**Connection type flange, length EN 558 (code 39)¹⁾, investment casting material (code 37), SG iron material (code 90)²⁾**

DN	NPS	ϕD	FTF	ϕk	ϕL	n
15	1/2"	90.0	130.0	60.3	15.9	4
20	3/4"	100.0	150.0	69.9	15.9	4
25	1"	110.0	160.0	79.4	15.9	4
32	1¼"	115.0	180.0	88.9	15.9	4
40	1½"	125.0	200.0	98.4	15.9	4
50	2"	150.0	230.0	120.7	19.0	4
65	2½"	180.0	290.0	139.7	19.0	4
80	3"	190.0	310.0	152.4	19.0	4
100	4"	230.0	350.0	190.5	19.0	8

Dimensions in mm

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

2) Valve body material

Code 37: 1.4408, investment casting

Code 90: EN-GJS-400-18-LT (GGG 40.3)



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