

## Ball valve, metal

### Construction

GEMÜ 790, 791, 797 and 798 are 3-piece 2/2-way ball valves with top flange EN ISO 5211 in sizes 1/4" to 4" (DN 8 - 100). This flange enables both pneumatic and electric actuators to be mounted.

The ball valve can be supplied with various operators: GEMÜ 797 with hand lever, GEMÜ 791 with pneumatic actuator, GEMÜ 798 with motorized on/off or control actuator.

### Features

- Suitable for inert, corrosive, liquid and gaseous media and steam
- Suitable for vacuum applications
- The ball valves comply with the safety requirements of Annex I of the European Pressure Equipment Directive 2014/34/EU (PED) for fluids of groups 1 and 2
- Compliance with the technical requirements of TA Luft (German Clean Air Act) 2002 Sec. 5.2.6.4 VDI 2440 Nov. 2000, Sec. 3.3.1.3
- ATEX version II 2G/2D ATEX 2014/9/EU on request

### Advantages

- Low maintenance and reliable spindle sealing
- TA-Luft compliant
- Broad range of operating temperatures and pressures
- Choice of various body materials and connections
- Lockable hand lever
- Relief bore hole



GEMÜ 791



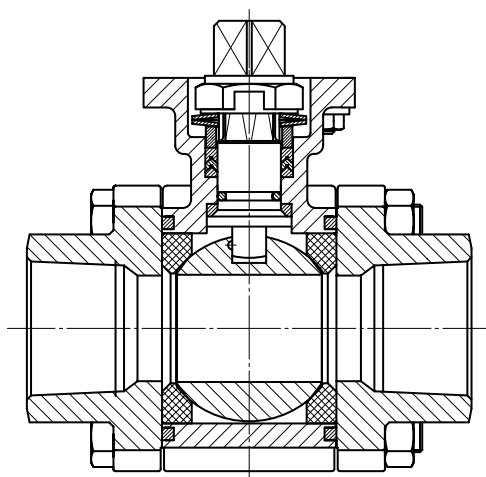
GEMÜ 797



GEMÜ 798



### Sectional view

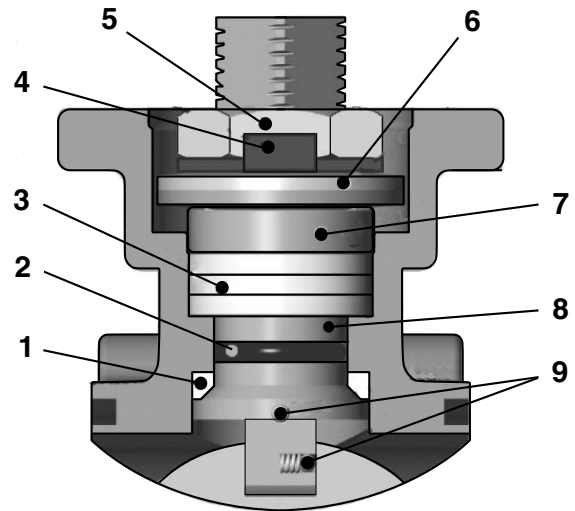


## Product description

### The spindle seal system

#### Long service life due to threefold spindle seal, TA-Luft compliant

- Conical spindle seal:  
The seal **1** arranged at an angle of 45° effectively prevents the leakage of medium when operating the spindle
- O-ring:  
Stabilising spindle seal **2** with low wear and long service life
- Pretensioned, self-adjusting spindle seal:  
The spindle packing consists of several V-rings **3**, a spring washer **6** and a stainless steel sleeve **7**. The spring washer **6** is pretensioned via the spindle nut **5**.  
The pretension force is distributed to the V-rings **3** via the stainless steel sleeve **7** thus preventing the leakage of media. The pretension provides low maintenance and reliable spindle sealing even after a long service life.



### Parts list

- 1 Conical spindle seal (PTFE)
- 2 O-ring (FPM), other materials on request
- 3 V-rings (PTFE)
- 4 Lock washer (1.4301), secures the nut thus holding the valve spindle in position
- 5 Spindle nut (1.4301)
- 6 Spring washer (1.4310)
- 7 Stainless steel sleeve (1.4301)
- 8 Valve spindle (1.4401), the machined spindle surface reduces the friction at the spindle, reduces the actuation forces (torque) and minimizes wear
- 9 Antistatic device (1.4401), spindle - ball

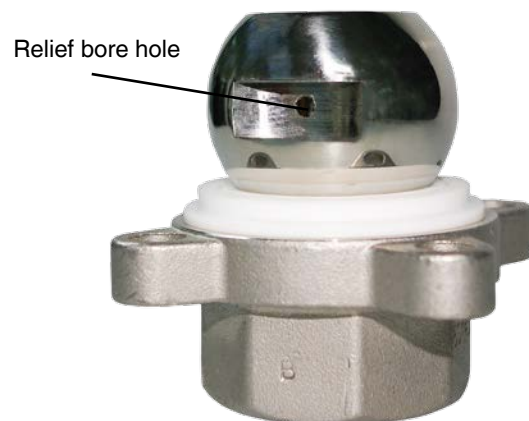
### Application

#### Full flow:

- Reduction of pressure loss
- Reduction of frictional resistance

#### Reduced flow:

- Increase of flow velocity in and after the ball valve
- Increase of thorough mixing in the ball valve
- Reduction of torques by ca. 20%
- Higher pressure rating per nominal size possible



## General technical data

### 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.

Maximum permissible pressure of the working medium see diagram  
(for water and non-hazardous media to which the body material is resistant)

Permissible operating pressure\* 137 bar

Maximum permissible operating temperature 180 °C

Maximum permissible ambient temperature -20 to 60 °C

\* Media temperature 20 °C

### Leakage rate

Leakage rate to ANSI FCI70 – B16.104

Leakage rate A to EN12266, 6bar air

### Control medium (only GEMÜ 791)

Control pressure 6 - 8 bar

Max. permissible temperature of control medium 60 °C

## Torque, Kv value, Weight

DN	NPS	Torque [Nm]		Kv values [m <sup>3</sup> /h]		Weight - Ball valve body [kg]				
						Threaded sockets, Welded sockets		Welded sockets		Flange
		Application								
		Full flow	Reduced bore	Full flow	Reduced bore	Full flow	Reduced bore	Full flow	Reduced bore	Full flow
8	1/4"	8	-	7	-	0.89	-	0.89	-	-
10	3/8"	8	-	7	-	0.88	-	0.88	-	-
15	1/2"	8	8	13	7	0.82	0.83	0.82	0.83	1.39
20	3/4"	10	8	29	13	1.29	0.84	1.29	0.84	2.52
25	1"	16	10	48	29	2.01	1.50	2.01	1.50	4.47
32	1 1/4"	23	16	73	48	2.76	2.17	2.76	2.17	6.44
40	1 1/2"	33	23	108	73	4.21	4.27	4.21	4.27	8.30
50	2"	47	33	215	108	6.90	5.30	6.90	5.30	11.80
65	2 1/2"	62	47	275	215	12.0	6.51	12.0	6.51	20.11
80	3"	101	62	499	275	16.2	12.0	-	-	26.48
100	4"	124	101	877	499	25.8	16.2	-	-	38.95

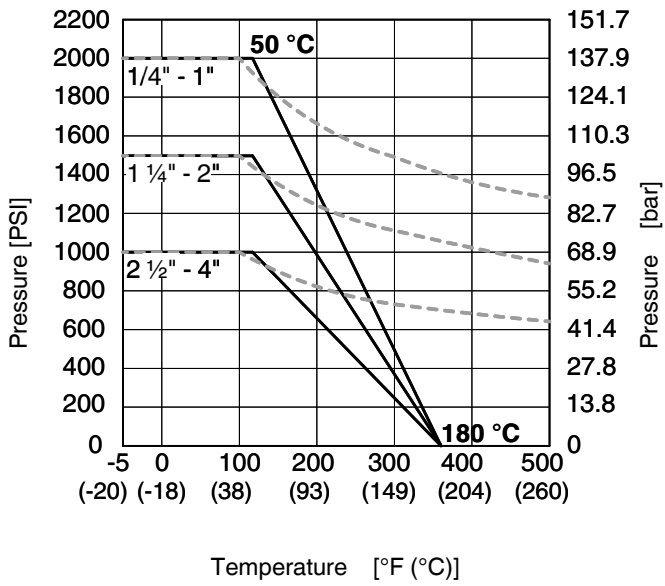
## Availability

Connection		Nominal size										
		8	10	15	20	25	32	40	50	65	80	100
Threaded sockets ISO, Code 1	Full flow	X	X	X	X	X	X	X	X	X	X	X
Threaded sockets NPT, Code 31	Full flow	X	X	X	X	X	X	X	X	X	X	X
Welded sockets, Code 2A	Full flow	X	X	X	X	X	X	X	X	X	-	-
Spigots DIN EN 12627, Code 19	Full flow	X	X	X	X	X	X	X	X	X	X	X
Spigots ASME BPE, Code 59	Full flow	-	-	X	X	X	X	X	X	X	X	X
Spigots EN ISO 1127, Code 60	Full flow	-	X	X	X	X	X	X	X	X	X	X
Flange EN 1092 / PN16, Code 8	Full flow	-	-	X	X	X	X	X	X	X	X	X
Flange EN 1092 / PN40, Code 11	Full flow	-	-	X	X	X	X	X	X	X	X	X
Threaded sockets ISO, Code 1	Reduced	-	-	X	X	X	X	X	X	X	X	X
Threaded sockets NPT, Code 31	Reduced	-	-	X	X	X	X	X	X	X	X	X
Welded sockets, Code 2A	Reduced	-	-	X	X	X	X	X	X	X	-	-
Spigots DIN EN 12627, Code 19	Reduced	-	-	X	X	X	X	X	X	X	X	X
Spigots SMS 3008, Code 37	Reduced	-	-	X	X	X	X	X	X	X	X	X

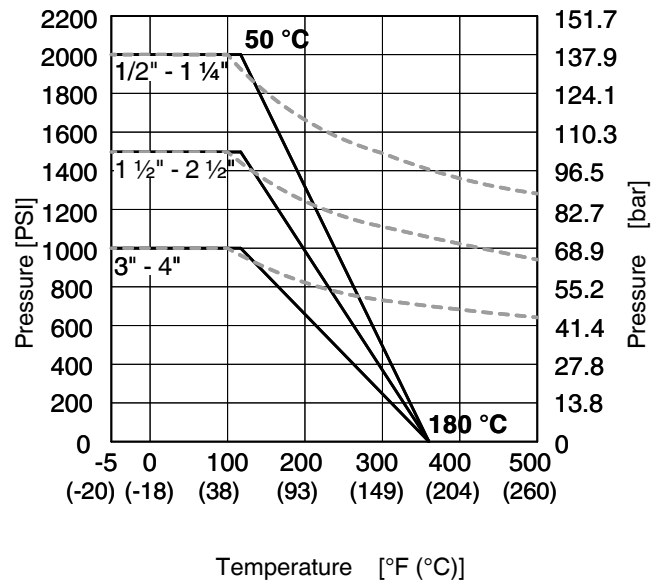
## General technical data

### Pressure-temperature diagram

**Full bore (code V)**



**Reduced bore (code R)**



- Seal (PTFE)
- - - Valve body

## Order data - GEMÜ 790 - Ball valve with bare shaft and full bore

1 Type	Code
Ball valve with bare shaft	790

2 Nominal size	Code
DN 8      1/4"	8
DN 10     3/8"	10
DN 15     1/2"	15
DN 20     3/4"	20
DN 25     1"	25
DN 32     1 1/4"	32
DN 40     1 1/2"	40
DN 50     2"	50
DN 65     2 1/2"	65
DN 80     3"	80
DN 100    4"	100

3 Body configuration	Code
Full bore	V

4 Connection	Code
Threaded sockets DIN ISO 228	1
Threaded sockets NPT ANSI B 1.20.1	31
Welded sockets DIN 12760	2A
Spigots DIN EN 12627, length DIN 3202-5, S13	19
Spigots ASME BPE	59
Spigots EN ISO 1127	60
Flanges EN 1092 / PN16 / form B, length EN 558, series 1, ISO 5752, basic series 1	8
Flanges EN 1092 / PN40 / form B, length EN 558, series 1, ISO 5752, basic series 1	11

5 Valve body material	Code
Body WCB, ball 1.4401 (316)	31
Body CF8M 1.4408 investment casting, ball 1.4401 (316)	37

6 Seal material	Code
PTFE	5

Order example	1	2	3	4	5	6
Code	790	32	V	1	37	5

## Order data - GEMÜ 790 - Ball valve with bare shaft and reduced bore

1 Type	Code
Ball valve with bare shaft	790

2 Nominal size	Code
DN 15 1/2"	15
DN 20 3/4"	20
DN 25 1"	25
DN 32 1 1/4"	32
DN 40 1 1/2"	40
DN 50 2"	50
DN 65 2 1/2"	65
DN 80 3"	80
DN 100 4"	100

3 Body configuration	Code
Reduced bore	R

4 Connection	Code
Threaded sockets DIN ISO 228	1
Threaded sockets NPT ANSI B 1.20.1	31
Welded sockets DIN 12760	2A
Spigots DIN EN 12627, length DIN 3202-5, S13	19
Spigots SMS 3008	37

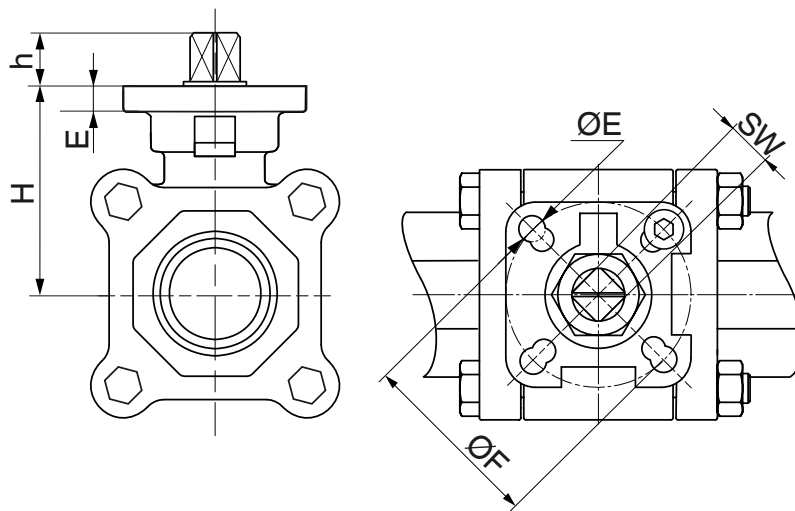
5 Valve body material	Code
Body WCB, ball 1.4401 (316)	31
Body CF8M 1.4408 investment casting, ball 1.4401 (316)	37

6 Seal material	Code
PTFE	5

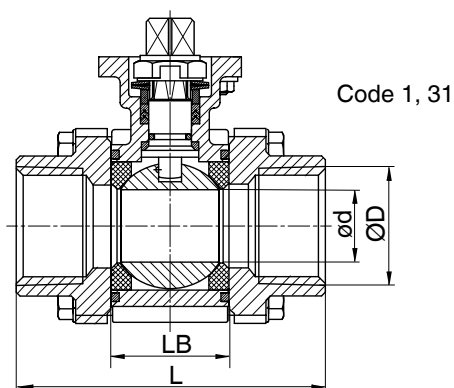
Order example	1	2	3	4	5	6
Code	790	32	R	1	37	5

## Connection dimensions [mm]

Top flange ISO 5211															
DN	NPS		Full bore (code V)						Reduced bore (code R)						
			E	ØE	ØF	H	h	SW		E	ØE	ØF	H	h	SW
8	1/4"	F03/F04	5	6	42	42.6	7.6	9	-	-	-	-	-	-	-
10	3/8"	F03/F04	5	6	42	42.6	7.6	9	-	-	-	-	-	-	-
15	1/2"	F03/F04	5	6	42	42.6	7.6	9	F03/F04	5	6	42	42.6	7.6	9
20	3/4"	F03/F04	5	6	42	46.9	8.6	9	F03/F04	5	6	42	42.6	7.6	9
25	1"	F04 / F05	7	7	50	59.3	10.4	11	F03/F04	7	6	42	46.9	8.6	9
32	1 1/4"	F04 / F05	7	7	50	62.6	10.4	11	F04 / F05	7	7	50	59.3	10.4	11
40	1 1/2"	F05/F07	9	9	70	79.0	13.4	14	F04 / F05	9	7	50	62.6	10.4	11
50	2"	F05/F07	9	9	70	87.7	13.4	14	F05/F07	9	9	70	79.0	13.4	14
65	2 1/2"	F07/F10	10	12	102	108.7	16.8	17	F05/F07	10	9	70	87.7	13.4	14
80	3"	F07/F10	10	12	102	117.7	17.8	17	F07/F10	10	12	102	108.7	16.8	17
100	4"	F07/F10	10	12	102	133.7	16.8	17	F07/F10	10	12	102	117.7	17.8	17



## Body dimensions [mm]



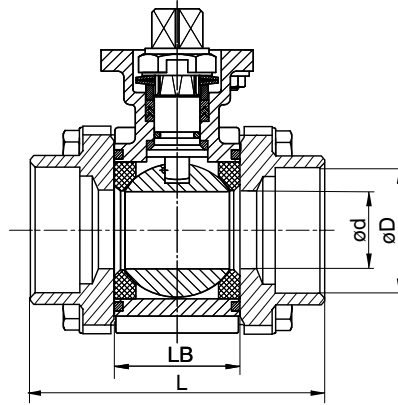
### Threaded sockets ISO, connection code 1

DN	NPS	ØD	Bore					
			Full (code V)			Reduced (code R)		
			L	LB	ød	L	LB	ød
8	1/4"	G 1/4	75.0	24.5	11.5	-	-	-
10	3/8"	G 3/8	75.0	24.5	12.6	-	-	-
15	1/2"	G 1/2	72.5	24.5	15.0	75.0	24.5	12.6
20	3/4"	G 3/4	85.4	31.4	20.0	72.5	24.5	15.0
25	1"	G 1	105.3	41.3	25.0	85.4	31.4	20.0
32	1 1/4"	G 1 1/4	111.0	48.4	32.0	105.3	41.3	25.0
40	1 1/2"	G 1 1/2	127.3	56.3	38.0	111.0	48.4	32.0
50	2"	G 2	144.0	71.4	50.0	127.3	56.3	38.0
65	2 1/2"	G 2 1/2	185.0	86.6	65.0	144.0	71.4	50.0
80	3"	G 3	205.0	99.0	80.0	185.0	86.6	65.0
100	4"	G 4	240.0	127.0	100.0	205.0	99.0	80.0

### Threaded sockets NPT, connection code 31

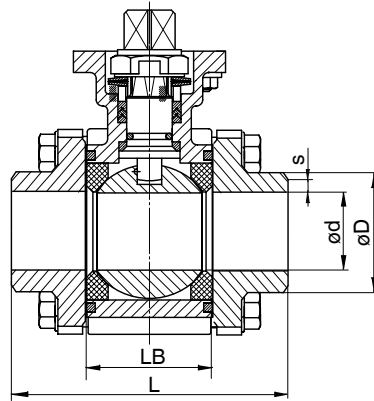
DN	NPS	ØD	Bore					
			Full (code V)			Reduced (code R)		
			L	LB	ød	L	LB	ød
8	1/4"	1/4" NPT	75.0	24.5	11.5	-	-	-
10	3/8"	3/8" NPT	75.0	24.5	12.6	-	-	-
15	1/2"	1/2" NPT	72.5	24.5	15.0	75.0	24.5	12.6
20	3/4"	3/4" NPT	85.4	31.4	20.0	72.5	24.5	15.0
25	1"	1" NPT	105.3	41.3	25.0	85.4	31.4	20.0
32	1 1/4"	1 1/4" NPT	111.0	48.4	32.0	105.3	41.3	25.0
40	1 1/2"	1 1/2" NPT	127.3	56.3	38.0	111.0	48.4	32.0
50	2"	2" NPT	144.0	71.4	50.0	127.3	56.3	38.0
65	2 1/2"	2 1/2" NPT	185.0	86.6	65.0	144.0	71.4	50.0
80	3"	3" NPT	205.0	99.0	80.0	185.0	86.6	65.0
100	4"	4" NPT	240.0	127.0	100.0	205.0	99.0	80.0

**Body dimensions [mm]**



**Welded sockets, connection code 2A**

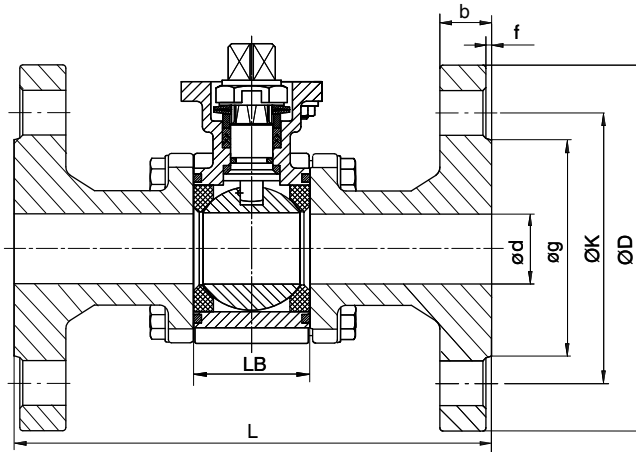
DN	NPS	Bore							
		Full (code V)				Reduced (code R)			
		L	LB	$\varnothing D$	$\varnothing d$	L	LB	$\varnothing D$	$\varnothing d$
8	1/4"	75.0	24.5	14.3	11.5	-	-	-	-
10	3/8"	75.0	24.5	17.6	12.6	-	-	-	-
15	1/2"	72.5	24.5	21.9	15.0	75.0	24.5	21.9	12.6
20	3/4"	85.4	31.4	27.3	20.0	72.5	24.5	27.3	15.0
25	1"	105.3	41.3	33.9	25.0	85.4	31.4	33.9	20.0
32	1 1/4"	111.0	48.4	42.8	32.0	105.3	41.3	42.8	25.0
40	1 1/2"	127.3	56.3	48.9	38.0	111.0	48.4	48.9	32.0
50	2"	144.0	71.4	61.3	50.0	127.3	56.3	61.3	38.0
65	2 1/2"	185.0	86.6	72.7	65.0	144.0	71.4	72.7	50.0



**Spigots DIN EN 12627, connection code 19**

DN	NPS	Bore									
		Full (code V)					Reduced (code R)				
		LB	L	$\varnothing d$	$\varnothing D$	s	LB	L	$\varnothing d$	$\varnothing D$	s
8	1/4"	24.5	75.0	11.5	21.7	1.6	-	-	-	-	-
10	3/8"	24.5	75.0	12.6	21.7	1.6	-	-	-	-	-
15	1/2"	24.5	75.0	15.0	21.7	1.6	24.5	75.0	12.6	21.7	1.6
20	3/4"	31.4	90.0	20.0	27.2	1.6	24.5	75.0	15.0	27.2	1.6
25	1"	41.3	110.0	25.0	34.0	1.6	31.4	90.0	20.0	34.0	1.6
32	1 1/4"	48.4	115.0	32.0	42.7	1.6	41.3	110.0	25.0	42.7	1.6
40	1 1/2"	56.3	130.0	38.0	48.6	1.6	48.4	115.0	32.0	48.6	1.6
50	2"	71.4	143.0	50.0	60.5	1.6	56.3	130.0	38.0	60.5	1.6
65	2 1/2"	86.6	185.0	65.0	76.3	2	71.4	145.0	50.0	76.3	2
80	3"	99.0	205.0	80.0	90.0	2	86.6	185.0	65.0	90.0	2
100	4"	127.0	240.0	100.0	116.0	2	99.0	205.0	80.0	116.0	2

## Body dimensions [mm]



### Flanges EN 1092 / PN16, connection code 8

#### Full bore (code V)

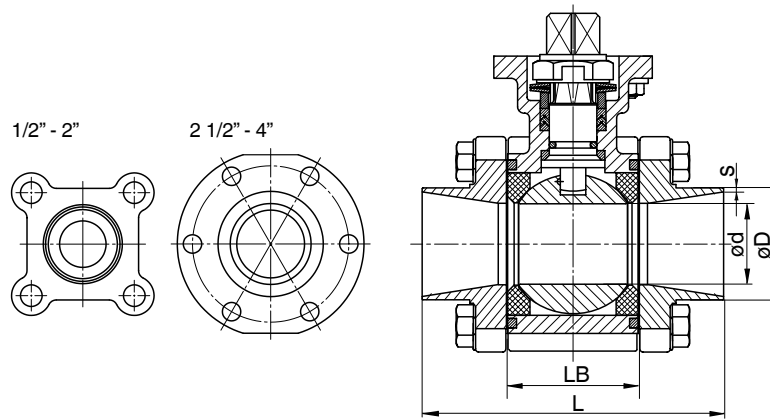
DN	NPS	LB	L	ød	øD	øg	øK	f	b	øy	n
15	1/2"	24.5	130	15	95	45	65	2	16	14	4
20	3/4"	31.4	150	20	105	58	75	2	18	14	4
25	1"	41.3	160	25	115	68	85	2	18	14	4
32	1 1/4"	48.4	180	32	140	78	100	2	18	18	4
40	1 1/2"	56.3	200	40	150	88	110	3	18	18	4
50	2"	71.4	230	50	165	102	125	3	20	18	4
65	2 1/2"	86.6	290	65	185	122	145	3	18	18	4
80	3"	99.0	310	80	200	138	160	3	20	18	8
100	4"	127.0	350	100	220	158	180	3	20	18	8

### Flanges EN 1092 / PN40, connection code 11

#### Full bore (code V)

DN	NPS	LB	L	ød	øD	øg	øK	f	b	øy	n
15	1/2"	24.5	130	15	95	45	65	2	16	14	4
20	3/4"	31.4	150	20	105	58	75	2	18	14	4
25	1"	41.3	160	25	115	68	85	2	18	14	4
32	1 1/4"	48.4	180	32	140	78	100	2	18	18	4
40	1 1/2"	56.3	200	40	150	88	110	3	18	18	4
50	2"	71.4	230	50	165	102	125	3	20	18	4
65	2 1/2"	86.6	290	65	185	122	145	3	22	18	8
80	3"	99.0	310	80	200	138	160	3	24	18	8
100	4"	127.0	350	100	235	162	190	3	24	22	8

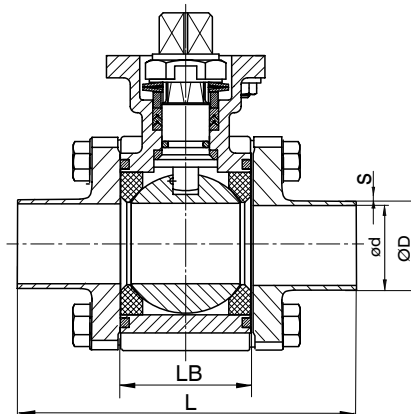
## Body dimensions [mm]



### Spigots SMS 3008, connection code 37

#### Reduced bore (code R)

DN	NPS	LB	L	ød	øD	s
15	1/2"	24.5	75.0	12.6	18.0	1.0
20	3/4"	31.4	81.7	15	25.0	1.2
25	1"	41.3	99.7	20	32.0	1.2
32	1 1/4"	48.4	116.5	25	33.7	1.2
40	1 1/2"	56.3	122.3	32	38.0	1.2
50	2"	71.4	145.1	38	51.0	1.2
65	2 1/2"	86.6	160.2	50	63.5	1.6
80	3"	99.0	197.4	65	76.1	1.6
100	4"	127.0	233.0	80	101.6	2.0

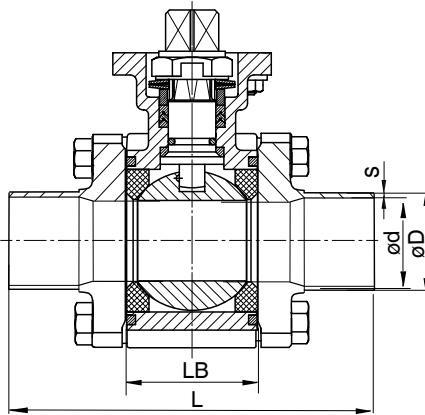


### Spigots ASME BPE, connection code 59

#### Full bore (code V)

DN	NPS	LB	L	ød	øD	s
15	1/2"	24.5	134.5	9.4	12.7	2.1
20	3/4"	31.4	140.9	15.8	19.0	2.1
25	1"	41.3	161.5	22.2	25.4	2.3
40	1 1/2"	56.3	182.2	34.9	38.1	2.5
50	2"	71.4	191.7	47.5	50.8	3.0
65	2 1/2"	86.6	247.6	60.3	63.5	3.5
80	3"	99.0	266.8	73.0	76.2	3.5
100	4"	127.0	317.6	97.4	101.6	3.5

## Body dimensions [mm]



### Spigots EN ISO 1127, connection code 60

#### Full bore (code V)

DN	NPS	LB	L	ød	øD	s
10	3/8"	24.5	120	12.7	17.2	2.1
15	1/2"	24.5	140	15	21.3	2.1
20	3/4"	31.4	140	20	26.9	2.1
25	1"	41.3	152	25	33.7	2.3
32	1 1/4"	48.4	165	32	42.4	2.5
40	1 1/2"	56.3	190	38	48.3	2.5
50	2"	71.4	203	50	60.3	3.0
65	2 1/2"	86.6	254	65	76.1	3.5
80	3"	99.0	280	80	88.9	3.5
100	4"	127.0	317	100	114.3	3.5

## Order data - GEMÜ 797 - manually operated with full-flow bore

1 Type	Code
Ball valve with hand lever	797

2 Nominal size	Code
DN 8      1/4"	8
DN 10     3/8"	10
DN 15     1/2"	15
DN 20     3/4"	20
DN 25     1"	25
DN 32     1 1/4"	32
DN 40     1 1/2"	40
DN 50     2"	50
DN 65     2 1/2"	65
DN 80     3"	80
DN 100    4"	100

3 Body configuration	Code
Full bore	V

4 Connection	Code
Threaded sockets DIN ISO 228	1
Threaded sockets NPT ANSI B 1.20.1	31
Welded sockets DIN 12760	2A
Spigots DIN EN 12627, length DIN 3202-5, S13	19
Spigots ASME BPE	59
Spigots EN ISO 1127	60
Flanges EN 1092 / PN16 / form B, length EN 558, series 1, ISO 5752, basic series 1	8
Flanges EN 1092 / PN40 / form B, length EN 558, series 1, ISO 5752, basic series 1	11

5 Valve body material	Code
Body WCB, ball 1.4401 (316)	31
Body CF8M 1.4408 investment casting, ball 1.4401 (316)	37

6 Seal material	Code
PTFE	5

7 Control function	Code
Manually operated with lockable hand lever	

Order example	1	2	3	4	5	6	7
Code	797	32	V	1	37	5	L

## Order data - GEMÜ 797 - manually operated with reduced bore

1 Type	Code
Ball valve with hand lever	797

2 Nominal size	Code
DN 15      1/2"	15
DN 20      3/4"	20
DN 25      1"	25
DN 32      1 1/4"	32
DN 40      1 1/2"	40
DN 50      2"	50
DN 65      2 1/2"	65
DN 80      3"	80
DN 100     4"	100

3 Body configuration	Code
Reduced bore	R

4 Connection	Code
Threaded sockets DIN ISO 228	1
Threaded sockets NPT ANSI B 1.20.1	31
Welded sockets DIN 12760	2A
Spigots DIN EN 12627, length DIN 3202-5, S13	19
Spigots SMS 3008	37

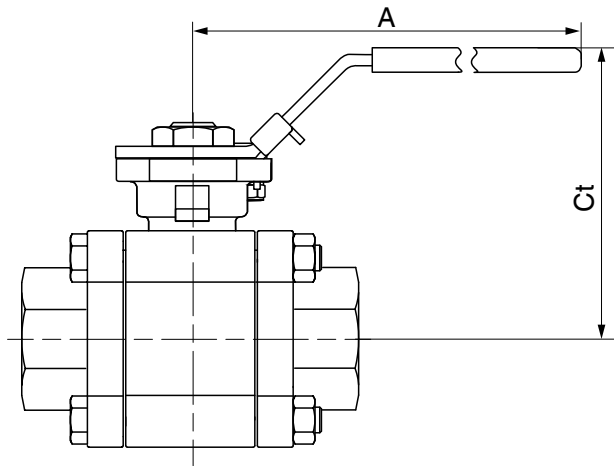
5 Valve body material	Code
Body WCB, ball 1.4401 (316)	31
Body CF8M 1.4408 investment casting, ball 1.4401 (316)	37

6 Seal material	Code
PTFE	5

7 Control function	Code
Manually operated with lockable hand lever	

Bestellbeispiel	1	2	3	4	5	6	7
Code	797	32	R	1	37	5	L

**Dimensions - Hand lever [mm]**



DN	NPS	A	Ct		Weight [kg]
			Bore		
			Full (code V)	Reduced (code R)	
8	1/4"	139	77	-	0.140
10	3/8"	139	77	-	0.140
15	1/2"	139	77	77	0.140
20	3/4"	139	83	77	0.140
25	1"	165	96	83	0.200
32	1 1/4"	165	100	96	0.200
40	1 1/2"	215	127	100	0.372
50	2"	215	134	127	0.372
65	2 1/2"	300	167	134	0.716
80	3"	370	176	167	0.874
100	4"	370	192	176	0.874

## Order data - GEMÜ 791 - pneumatically operated with full bore

1 Type	Code
Ball valve with pneumatic actuator	791

2 Nominal size	Code	
DN 8	1/4"	8
DN 10	3/8"	10
DN 15	1/2"	15
DN 20	3/4"	20
DN 25	1"	25
DN 32	1 1/4"	32
DN 40	1 1/2"	40
DN 50	2"	50
DN 65	2 1/2"	65
DN 80	3"	80
DN 100	4"	100

3 Body configuration	Code
Full bore	V

4 Connection	Code
Threaded sockets DIN ISO 228	1
Threaded sockets NPT ANSI B 1.20.1	31
Welded sockets DIN 12760	2A
Spigots DIN EN 12627, length DIN 3202-5, S13	19
Spigots ASME BPE	59
Spigots EN ISO 1127	60
Flanges EN 1092 / PN16 / form B, length EN 558, series 1, ISO 5752, basic series 1	8
Flanges EN 1092 / PN40 / form B, length EN 558, series 1, ISO 5752, basic series 1	11

5 Valve body material	Code
Body WCB, ball 1.4401 (316)	31
Body CF8M 1.4408 investment casting, ball 1.4401 (316)	37

6 Seal material	Code
PTFE	5

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

8 Actuator size		Code
<b>DN</b>	<b>Single acting SC</b>	
DN 8	SC0030U 6 F05F07NS14A*	SU03KP0
DN 10	SC0030U 6 F05F07NS14A*	SU03KP0
DN 15	SC0030U 6 F05F07NS14A*	SU03KP0
DN 20	SC0030U 6 F05F07NS14A*	SU03KP0
DN 25	SC0060U 6 F05F07NS14A**	SU06KP0
DN 32	SC0060U 6 F05F07NS14A**	SU06KP0
DN 40	SC0100U 6 F05F07NS17A**	SU10KC0
DN 50	SC0100U 6 F05F07NS17A**	SU10KC0
DN 65	SC0150U 6 F07F10NS17A	SU15KE0
DN 80	SC0220U 6 F07F10NS22A**	SU22KD0
DN 100	SC0450U 6 F10F12NS27A**	SU45KG0
	<b>Double acting DR</b>	
DN 8	DR0015U F04NS11A**	DU01AO0
DN 10	DR0015U F04NS11A**	DU01AO0
DN 15	DR0015U F04NS11A**	DU01AO0
DN 20	DR0015U F04NS11A**	DU01AO0
DN 25	DR0015U F03F05NS11A	DU01AW0
DN 32	DR0030U F05F07NS14A**	DU03AP0
DN 40	DR0030U F05F07NS14A	DU03AP0
DN 50	DR0030U F05F07NS14A	DU03AP0
DN 65	DR0150U F07F10NS17A	DU15AE0
DN 80	DR0150U F07F10NS17A	DU15AE0
DN 100	DR0150U F07F10NS17A	DU15AE0
	<b>Single acting ASR</b>	
DN 8	ASR0020US08 F04YS14/S11A**	AU02FA0
DN 10	ASR0020US08 F04YS14/S11A**	AU02FA0
DN 15	ASR0020US08 F04YS14/S11A**	AU02FA0
DN 20	ASR0020US08 F04YS14/S11A**	AU02FA0
DN 25	ASR0040US14 F05YS14/S11A	AU04KB0
DN 32	ASR0080US14F05F07YS17/S14A**	AU08KC0
DN 40	ASR0080US14F05F07YS17/S14A	AU08KC0
DN 50	ASR0130US14F05F07YS17/S14A	AU13KC0
DN 65	ASR0200US14F07F10YS17/S14A	AU20KE0
DN 80	ASR0300US14F07F10Y S22A**	AU30KD0
DN 100	ASR0300US14F07F10Y S22A**	AU30KD0
	<b>Double acting ADA</b>	
DN 8	ADA0020U F04YS14/S11A**	BU02AA0
DN 10	ADA0020U F04YS14/S11A**	BU02AA0
DN 15	ADA0020U F04YS14/S11A**	BU02AA0
DN 20	ADA0020U F04YS14/S11A**	BU02AA0
DN 25	ADA0020U F05YS14/S11A**	BU02AB0
DN 32	ADA0040U F05YS14/S11A	BU04AB0
DN 40	ADA0080U F05F07YS17/S14A	BU08AC0
DN 50	ADA0080U F05F07YS17/S14A	BU08AC0
DN 65	ADA0200U F07F10YS17/S14A	BU20AE0
DN 80	ADA0200U F07F10YS17/S14A	BU20AE0
DN 100	ADA0200U F07F10YS17/S14A	BU20AE0

\* Mounting kit incl.

\*\* Mounting sleeve incl.

9 K number	Code
Thermal separation by mounting kit (galvanised steel), coupling (1.4305)	5222
Thermal separation by mounting kit Mounting kit and mounting parts in stainless steel	5227
For operating temperatures > 100 °C a mounting flange with an adapter is required between ball valve and actuator!	

Order example	1	2	3	4	5	6	7	8	9
Code	791	50	V	1	37	5	1	DU03AP0	-

## Order data - GEMÜ 791 - pneumatically operated with reduced bore

1 Type	Code
Ball valve with pneumatic actuator	791

2 Nominal size	Code
DN 15 1/2"	15
DN 20 3/4"	20
DN 25 1"	25
DN 32 1 1/4"	32
DN 40 1 1/2"	40
DN 50 2"	50
DN 65 2 1/2"	65
DN 80 3"	80
DN 100 4"	100

3 Body configuration	Code
Reduced bore	R

4 Connection	Code
Threaded sockets DIN ISO 228	1
Threaded sockets NPT ANSI B 1.20.1	31
Welded sockets DIN 12760	2A
Spigots DIN EN 12627, length DIN 3202-5, S13	19
Spigots SMS 3008	37

5 Valve body material	Code
Body WCB, ball 1.4401 (316)	31
Body CF8M 1.4408 investment casting, ball 1.4401 (316)	37

6 Seal material	Code
PTFE	5

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

8 Actuator size	Code
<b>Single acting SC</b>	
DN 15 SC0030U 6 F05F07NS14A*	SU03KP0
DN 20 SC0030U 6 F05F07NS14A*	SU03KP0
DN 25 SC0030U 6 F05F07NS14A*	SU03KP0
DN 32 SC0060U 6 F05F07NS14A**	SU06KP0
DN 40 SC0060U 6 F05F07NS14A**	SU06KP0
DN 50 SC0100U 6 F05F07NS17A**	SU10KC0
DN 65 SC0100U 6 F05F07NS17A**	SU10KC0
DN 80 SC0150U 6 F07F10NS17A	SU15KE0
DN 100 SC0220U 6 F10F10NS22A**	SU22KG0
<b>Double acting DR</b>	
DN 15 DR0015U F04NS11A**	DU01AO0
DN 20 DR0015U F04NS11A**	DU01AO0
DN 25 DR0015U F04NS11A**	DU01AO0
DN 32 DR0015U F03F05NS11A	DU01AW0
DN 40 DR0030U F05F07NS14A**	DU03AP0
DN 50 DR0030U F05F07NS14A	DU03AP0
DN 65 DR0030U F05F07NS14A	DU03AP0
DN 80 DR0150U F07F10NS17A	DU15AE0
DN 100 DR0150U F07F10NS17A	DU15AE0
<b>Single acting ASR</b>	
DN 15 ASR0020US08 F04YS14S11A**	AU02FA0
DN 20 ASR0020US08 F04YS14S11A**	AU02FA0
DN 25 ASR0020US08 F04YS14S11A**	AU02FA0
DN 32 ASR0040US14 F05YS14S11A	AU04KB0
DN 40 ASR0080US14 F05F07YS17S14A**	AU08KC0
DN 50 ASR0080US14 F05F07YS17S14A	AU08KC0
DN 65 ASR0130US14 F05F07YS17S14A	AU13KC0
DN 80 ASR0200US14 F07F10YS17S14A	AU20KE0
DN 100 ASR0300US14 F07F10YS22A**	AU30KD0
<b>Double acting ADA</b>	
DN 15 ADA0020U F04YS14S11A**	BU02AA0
DN 20 ADA0020U F04YS14S11A**	BU02AA0
DN 25 ADA0020U F04YS14S11A**	BU02AA0
DN 32 ADA0020U F05YS14S11A**	BU02AB0
DN 40 ADA0040U F05YS14S11A	BU04AB0
DN 50 ADA0080U F05F07YS17S14A	BU08AC0
DN 65 ADA0080U F05F07YS17S14A	BU08AC0
DN 80 ADA0200U F07F10YS17S14A	BU20AE0
DN 100 ADA0200U F07F10YS17S14A	BU20AE0

\* Mounting kit incl.

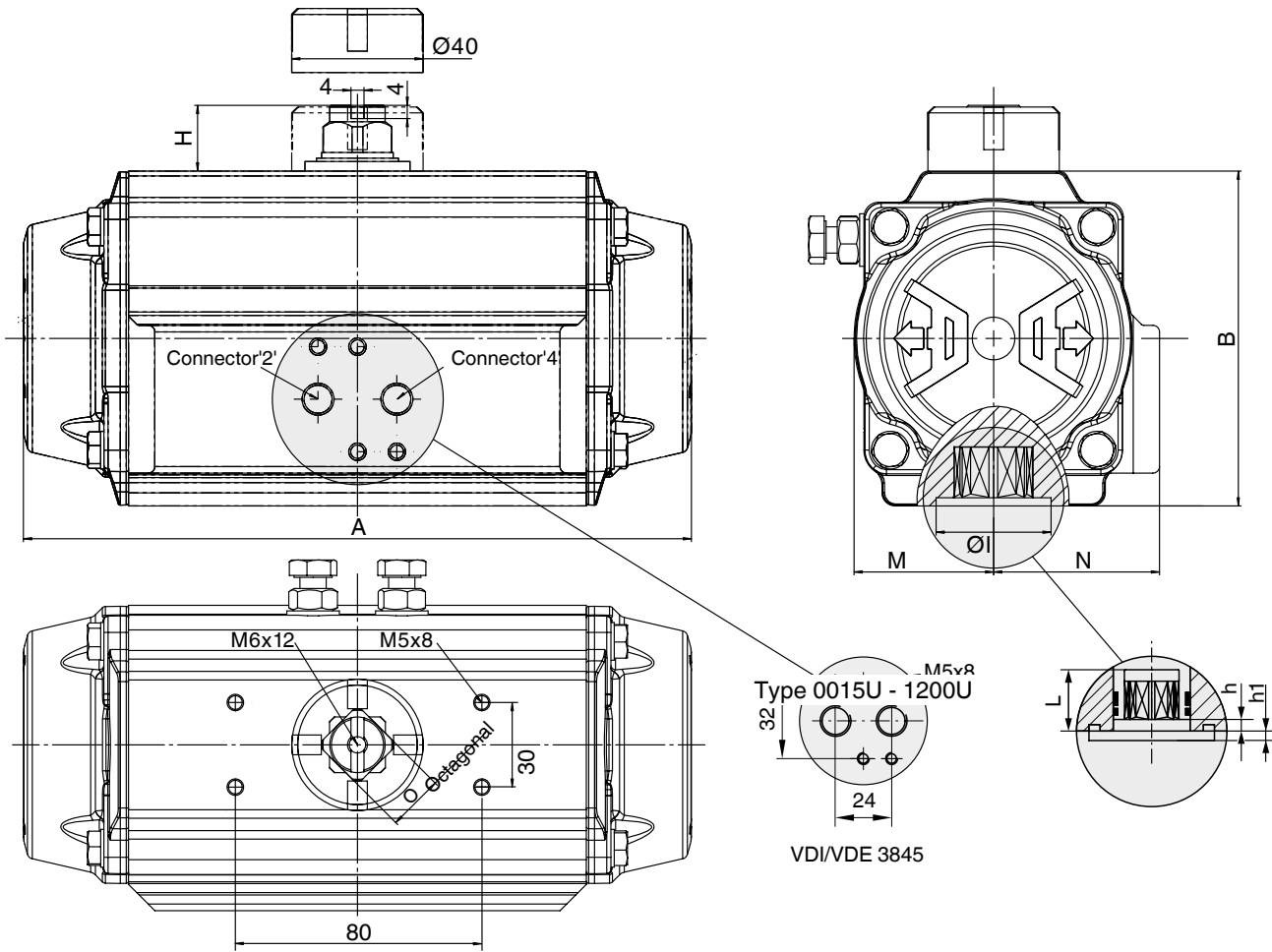
\*\* Mounting sleeve incl.

9 K number	Code
Thermal separation by mounting kit (galvanised steel), coupling (1.4305)	5222
Thermal separation by mounting kit Mounting kit and mounting parts in stainless steel	5227
For operating temperatures > 100 °C a mounting flange with an adapter is required between ball valve and actuator!	

Order example	1	2	3	4	5	6	7	8	9
Code	791	50	R	1	37	5	1	DU03AP0	-

## Actuator dimensions - GEMÜ 791 - pneumatically operated

### Actuator DR/SC [mm]

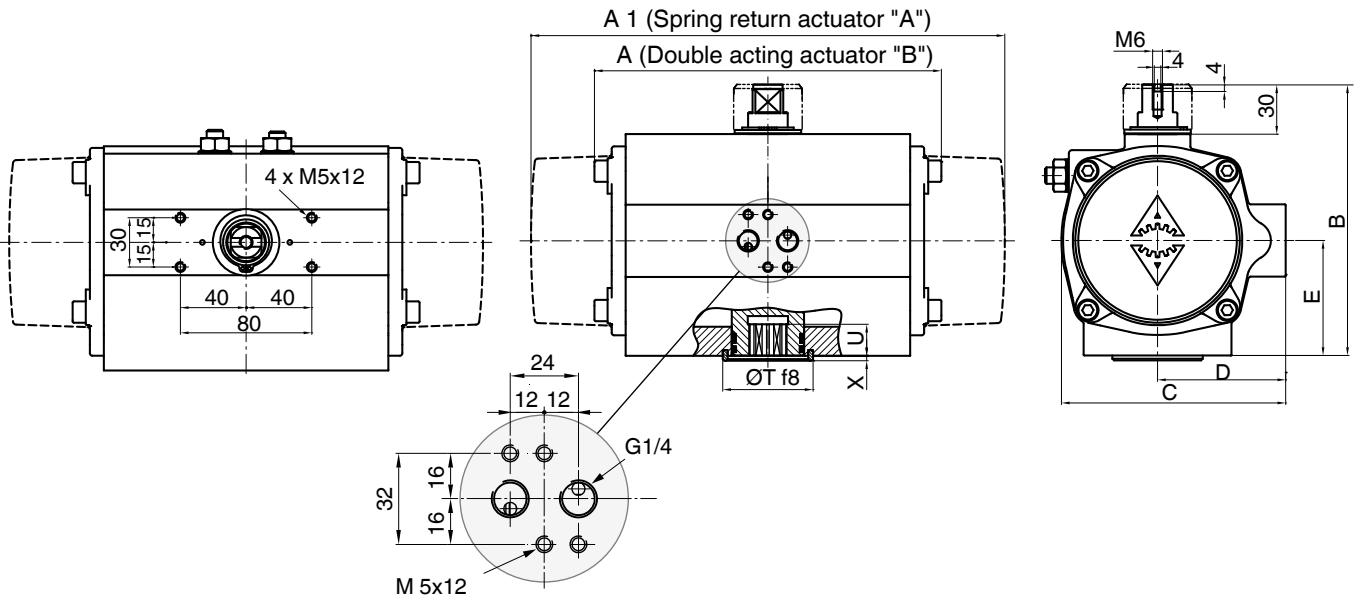


Stroke limiter on request

Type	0015U	0030U	0060U	0100U	0150U	0220U	0300U	0450U
ISO flange	F04   F03/05	F05/07	F05/07	F05/07	F07/10	F07/10	F07/10	F10/12
Octagonal	11	14	14	17	17	22	22	27
Air connector	G 1/8	G 1/8	G 1/8	G 1/8	G 1/4	G 1/4	G 1/4	G 1/4
A	136.0	153.5	203.5	241.0	259.0	304.0	333.0	394.5
B	69.0	85.0	102.0	115.0	127.0	145.0	157.0	177.0
H	20	20	20	20	20	30	30	30
Ø I	30	35	35	40	55	55	55	70
M	29.0	36.0	42.5	49.5	55.5	64.0	69.5	80.0
N	43.0	48.5	50.5	56.5	63.0	72.0	77.0	86.0
O	11	11	17	17	17	27	27	27
h	0.5	0.5	0.5	1.5	1.5	1.5	1.5	1.5
h1	1.5	2.0	2.0	1.5	2.0	2.0	2.0	3.0
L	11	11	19	19	19	19	25	30
Weight [kg]								
DR	1.0	1.6	2.7	3.7	5.2	8.0	9.8	14.0
SC	1.1	1.7	3.1	4.3	6.1	9.3	12.0	17.0

## Actuator dimensions - GEMÜ 791 - pneumatically operated

### Actuator ADA/ASR [mm]



ADA/ASR	0020U			0040U		0080U		0130U		0200U		0300U	0500U
	F03/F05	F04	F05	F04	F05	F05	F07	F05	F07	F07	F10	F07/F10	F10
ISO 5211	9	14	11	14	11	17	14	17	14	17	14	22	22
Octagonal													
Air connector	G1/4			G1/4		G1/4		G1/4		G1/4		G1/4	G1/4
A	145			158		177		196		225		273	304
A1	163			195		217		258		299		348.5	397
B	96			115		137		147		165		182	199
C	76			91		111		122		135.5		152.5	173
D	48			56		66		71		78		86	96
E	34			45		55		60		70		80	85
ØT	25	35		35		55		55		55		70	70
U	10	12		12		19		22		23		24	32
<b>Weight [kg]</b>													
ADA	1.4			2.1		3.0		3.8		5.6		8.5	11.2
ASR	1.5			2.3		3.7		4.8		7.3		7.3	10.8

## Technical data - GEMÜ 798 - motorized

### Travel range

Nominal travel range	90°
Max. travel range	93°
Setting range limit switch Min.	-2 to 12°
Setting range limit switch Max.	76 to 91°

### Manual override

With Allen key SW3  
for actuator version 1015, 3035

With hand crank  
for actuator version 2070, 4100, 4200

### Permissible temperatures

Ambient temperature	-10 to +60 °C
Storage temperature	-20 to +60 °C

### Weight

Actuator version 1015	1.0 kg
Actuator version 3035	2.4 kg
Actuator version 2070	4.6 kg
Actuator version 4100, 4200	11.0 kg

### Protection class to EN 60529

IP 65

### Actuator materials

	Actuator version			
	1015	3035	2070	4100, 4200
Housing base	PP (30 % glass reinforced)	PP (30 % glass reinforced)	ABS	Aluminium
Housing cover	PPO (10 % glass reinforced)	PP (30 % glass reinforced)	ABS	Aluminium
Optical position indicator	PPR natural	PPR natural	PPR natural	PMMA

### Correlation Actuator / Ball valve

#### GEMÜ 798 with full bore

Ball valve				Actuator version				
DN	Flange type	Torque [Nm]	SW	1015 15 Nm	3035 35 Nm	2070 70 Nm	4100 100 Nm	4200 200 Nm
8	F04	8	9	X	-	-	-	-
10	F04	8	9	X	-	-	-	-
15	F04	8	9	X	-	-	-	-
20	F04	10	9	X	-	-	-	-
25	F05	16	11	X	X	-	-	-
32	F05	23	11	-	X	-	-	-
40	F07	33	14	-	-	X	-	-
50	F07	47	14	-	-	X	-	-
65	F10	62	17	-	-	-	X	-
80	F10	101	17	-	-	-	-	X
100	F10	124	17	-	-	-	-	X

#### GEMÜ 798 with reduced bore

Ball valve				Actuator version				
DN	Flange type	Torque [Nm]	SW	1015 15 Nm	3035 35 Nm	2070 70 Nm	4100 100 Nm	4200 200 Nm
15	F04	8	9	X	-	-	-	-
20	F04	8	9	X	-	-	-	-
25	F04	10	9	X	-	-	-	-
32	F05	16	11	-	X	-	-	-
40	F05	23	11	-	X	-	-	-
50	F07	33	14	-	-	X	-	-
65	F07	47	14	-	-	X	-	-
80	F10	62	17	-	-	-	X	-
100	F10	101	17	-	-	-	-	X

## Technical data - GEMÜ 798 - motorized

### Correlation Actuator version (torque) / Voltage-frequency

Voltage/Frequency	B1 12V DC	C1 24V DC	C4 24V AC	G4 120V AC	L4 230V AC	O4 100-250V AC
1015 ( 15 Nm)	X	X	-	-	-	-
3035 ( 35 Nm)	-	X	-	-	-	X
2070 ( 70 Nm)	-	X	X	X	X	-
4100 (100 Nm)	-	X	X	X	X	-
4200 (200 Nm)	-	X	X	X	X	-

### Correlation Actuator version (torque) / Functional module

Functional module	A0	AE	AP	E2	E1	00	0E	0P
1015 ( 15 Nm)	X	X	-	-	-	-	-	-
3035 ( 35 Nm)	X	X	-	-	-	-	-	-
2070 ( 70 Nm)	X	X	X	X	X	X	X	X
4100 (100 Nm)	X	X	X	X	X	X	X	X
4200 (200 Nm)	X	X	X	X	X	X	X	X

### Power consumption [W]

Voltage/ Frequency	B1 12V DC	C1 24V DC		C4 24V AC		G4 120V AC		L4 230V AC		O4 100-250V AC
Functional module	A0,AE,AP E1,E2	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P	A0,AE
1015	30	30	-	-	-	-	-	-	-	-
3035	-	30	-	30	-	-	-	-	-	50
2070	-	96	63	-	63	160	-	161	-	-
4100	-	96	105	-	140	160	105	161	130	-
4200	-	96	90	-	110	160	90	161	105	-

### Electrical connection

Actuator version	1015, 3035			2070, 4100, 4200			
Supply voltages	12 V / 24 V		100 - 250 V	24 V, 120 V, 230 V			
Functional module	A0,AE			A0,AE, AP	00, 0E, 0P	E1	E2
Control input voltage	Motor voltage	20 - 250 V AC/DC		24 - 250 V AC/DC	Motor voltage	0...10 V	-
Control input current	-	typ. 1 mA		typ. 1 mA	-	-	4...20 mA
Duty cycle	Continuous duty	40% duty		Continuous duty			
Connection	Cable connection PG 13.5	Hirschmann plug type N6RFFS11		Flange plug Binder 692/693			
Cable diameter	7.5 ... 12.5 mm	7 ... 9 mm		max. 8 mm			
Max. cross section of wire	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>		0.75 mm <sup>2</sup>			
Recommended connection cable	5x1 mm <sup>2</sup> Ölflex®	1 connector (standard): 7x1 mm <sup>2</sup> Ölflex®		7x1 mm <sup>2</sup> Ölflex®			
Overload protection	Motor protective system by customer	Integrated stall and overload protection plus excess current release T 1A 5x20 mm		Motor protective system by customer			

## Order data - GEMÜ 798 - motorized with full-flow bore

1 Type	Code
Ball valve with motorized actuator	798

2 Nominal size	Code
DN 8      1/4"	8
DN 10     3/8"	10
DN 15     1/2"	15
DN 20     3/4"	20
DN 25     1"	25
DN 32     1 1/4"	32
DN 40     1 1/2"	40
DN 50     2"	50
DN 65     2 1/2"	65
DN 80     3"	80
DN 100    4"	100

3 Body configuration	Code
Full bore	V

4 Connection	Code
Threaded sockets DIN ISO 228	1
Threaded sockets NPT ANSI B 1.20.1	31
Welded sockets DIN 12760	2A
Spigots DIN EN 12627, length DIN 3202-5, S13	19
Spigots ASME BPE	59
Spigots EN ISO 1127	60
Flanges EN 1092 / PN16 / form B, length EN 558, series 1, ISO 5752, basic series 1	8
Flanges EN 1092 / PN40 / form B, length EN 558, series 1, ISO 5752, basic series 1	11

5 Valve body material	Code
Body WCB, ball 1.4401 (316)	31
Body CF8M 1.4408 investment casting, ball 1.4401 (316)37	

6 Seal material	Code
PTFE	5

7 Voltage / Frequency	Code
12 V DC	B1
24 V DC	C1
24 V AC 50/60Hz	C4
120 V AC 50/60Hz	G4
100-250 V AC 50/60Hz	O4
230 V AC 50/60Hz	L4

8 Functional module	Code
OPEN / CLOSE control with relay, not reversible	00
OPEN / CLOSE control with 2 additional potential-free limit switches, with relay, not reversible	0E
OPEN / CLOSE control with potentiometer output, with relay, not reversible	0P
Standard OPEN/CLOSE control	A0
OPEN/CLOSE control with 2 additional potential-free limit switches	AE
OPEN / CLOSE control with potentiometer output	AP
Control module for external set value 0-10 V DC	E1
Control module for external set value 4-20 mA	E2

9 Actuator version	Code
DN 8 - 25 (torque 15 Nm) operating time 11 sec; supply voltage B1/C1	1015
DN 25 - 32 (torque 35 Nm) operating time 15 sec; supply voltage C1/O4	3035
DN 32 - 65 (torque 70 Nm) operating time 15 sec; supply voltage C1/C4/G4/L4	2070
DN 80 (torque 100 Nm) operating time 20 sec; supply voltage C1/C4/G4/L4	4100
DN 100 (torque 200 Nm) operating time 16 sec; supply voltage C1/C4/G4/L4	4200

10 K number	Code
Thermal separation by mounting kit (galvanised steel), coupling (1.4305)	5222
Thermal separation by mounting kit Mounting kit and mounting parts in stainless steel	5227
For operating temperatures > 100 °C a mounting flange with an adapter is required between ball valve and actuator!	

Order example	1	2	3	4	5	6	7	8	9	10
Code	798	50	D	1	37	5	B1	00	2070	-

## Order data - GEMÜ 798 - motorized with reduced bore

1 Type	Code
Ball valve with motorized actuator	798

2 Nominal size	Code
DN 15      1/2"	15
DN 20      3/4"	20
DN 25      1"	25
DN 32      1 1/4"	32
DN 40      1 1/2"	40
DN 50      2"	50
DN 65      2 1/2"	65
DN 80      3"	80
DN 100     4"	100

3 Body configuration	Code
Reduced bore	R

4 Connection	Code
Threaded sockets DIN ISO 228	1
Threaded sockets NPT ANSI B 1.20.1	31
Welded sockets DIN 12760	2A
Spigots DIN EN 12627, length DIN 3202-5, S13	19
Spigots SMS 3008	37

5 Valve body material	Code
Body WCB, ball 1.4401 (316)	31
Body CF8M 1.4408 investment casting, ball 1.4401 (316)	37

6 Seal material	Code
PTFE	5

7 Voltage / Frequency	Code
12 V DC	B1
24 V DC	C1
24 V AC 50/60Hz	C4
120 V AC 50/60Hz	G4
100-250 V AC 50/60Hz	O4
230 V AC 50/60Hz	L4

8 Functional module	Code
OPEN / CLOSE control with relay, not reversible	00
OPEN / CLOSE control with 2 additional potential-free limit switches, with relay, not reversible	0E
OPEN / CLOSE control with potentiometer output, with relay, not reversible	0P
Standard OPEN/CLOSE control	A0
OPEN/CLOSE control with 2 additional potential-free limit switches	AE
OPEN / CLOSE control with potentiometer output	AP
Control module for external set value 0-10 V DC	E1
Control module for external set value 4-20 mA	E2

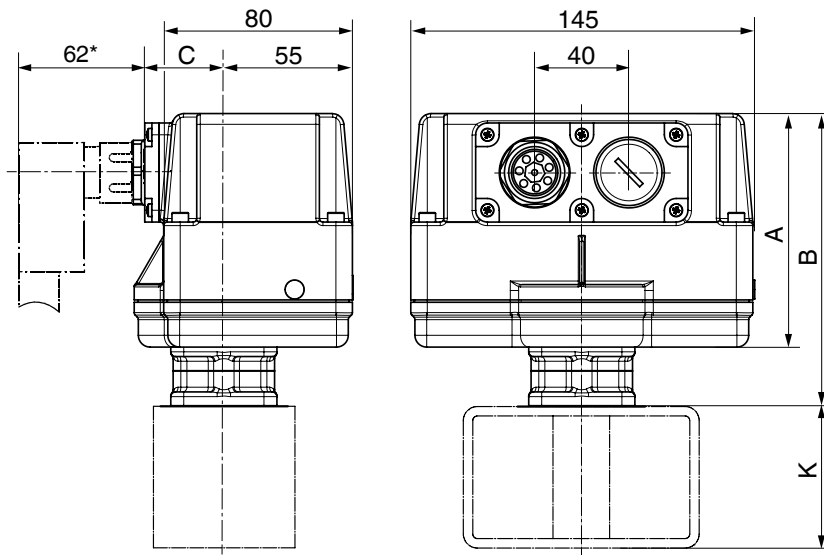
9 Actuator version	Code
DN 8 - 25 (torque 15 Nm) operating time 11 sec; supply voltage B1/C1	1015
DN 25 - 32 (torque 35 Nm) operating time 15 sec; supply voltage C1/O4	3035
DN 32 - 65 (torque 70 Nm) operating time 15 sec; supply voltage C1/C4/G4/L4	2070
DN 80 (torque 100 Nm) operating time 20 sec; supply voltage C1/C4/G4/L4	4100
DN 100 (torque 200 Nm) operating time 16 sec; supply voltage C1/C4/G4/L4	4200

10 K number	Code
Thermal separation by mounting kit (galvanised steel), coupling (1.4305)	5222
Thermal separation by mounting kit Mounting kit and mounting parts in stainless steel	5227
For operating temperatures > 100 °C a mounting flange with an adapter is required between ball valve and actuator!	

Order example	1	2	3	4	5	6	7	8	9	10
Code	798	50	R	1	37	5	B1	00	2070	-

## Actuator dimensions - GEMÜ 798 motorized [mm]

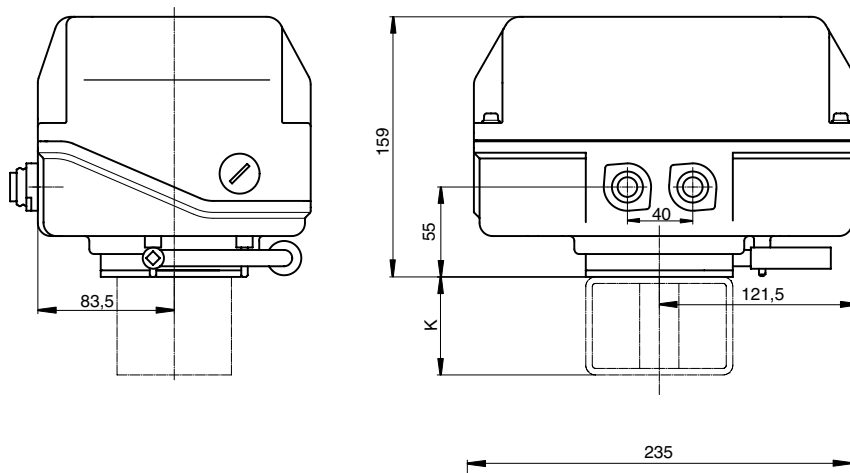
### Actuator version 1015



DN	Actuator version	Voltages	ISO 5211	SW square drive socket	A	B	C	K
8 - 25	1015	12V, 24V	F04 / F05	9	69	94	34	60

\* Standard with supply voltage code O4

### Actuator version 2070

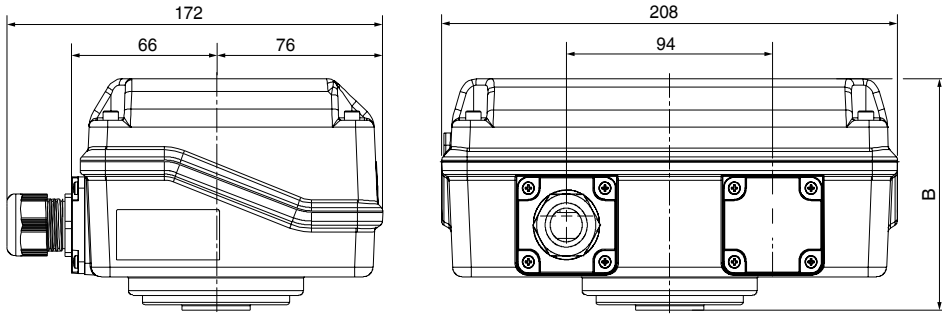


DN	Actuator version	Voltages	ISO 5211	SW square drive socket	K
25, 32	2070	24 V DC	F05*	11	56
40, 50		24, 120, 230 V	F07	14	-
65		AC 50/60Hz	F10*	17	76

\* with mounting bracket

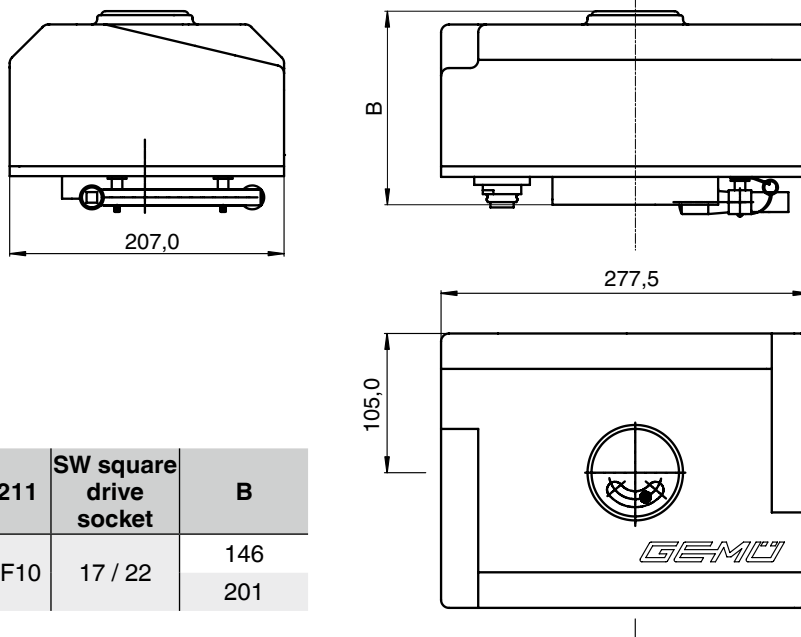
## Actuator dimensions - GEMÜ 798 motorized [mm]

### Actuator version 3035



Voltages	B
24 V	100.5
100 V - 250 V	124.5

### Actuator version 4100 / 4200



Functional module	ISO 5211	SW square drive socket	B
00, 0E, 0P	F07 + F10	17 / 22	146
A0, AE, AP, E2, E1			201

For further ball valves and other products, please see our Product Range catalogue and Price List.  
Contact GEMÜ.

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AND CONTROL SYSTEMS

