Ball valves VAPB, VZBA, VZBC

FESTO

New

Ball valves VAPB, VZBA, VZBC, mechanically actuated

Key features and product range overview

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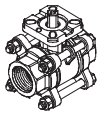
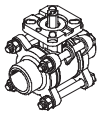
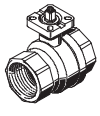
Function	Design	Type	Process valve connection	Nominal size DN	Flange hole pattern to ISO 5211	Process valve nominal pressure PN	→ Page/Internet
Ball valve, 2-way	**Stainless steel, corrosion-resistant with pipe thread to EN 10226-1 (previously DIN 2999)**						
		VZBA-...-GG	Rp¼	8	F0304	63	5
			Rp⅜	10	F0304		
			Rp½	15	F0304		
			Rp¾	20	F0304		
			Rp1	25	F0405		
			Rp1¼	32	F0405		
			Rp1½	40	F0507		
			Rp2	50	F0507		
			Rp2½	65	F0710		
			Rp3	80	F0710		
			Rp4	100	F10		
	Stainless steel, corrosion-resistant with welding ends						
		VZBA-...-WW	–	8	F0304	63	5
				10	F0304		
				15	F0304		
				20	F0304		
				25	F0405		
				32	F0405		
				40	F0507		
				50	F0507		
				65	F0710		
				80	F0710		
				100	F10		
	Stainless steel, corrosion-resistant in compact design						
		VZBC-...-FF	Ring housing with threaded flange	15	F0304	40	11
				20	F0304		
				25	F0405		
				32	F0405		
				40	F0507		
				50	F0507		
				65	F07	16	
				80	F07		
				100	F0710		
	Brass						
		VAPB	Rp¼	8	F03	40	17
			Rp⅜	10	F03	40	
			Rp½	15	F03	40	
			Rp¾	20	F03	40	
			Rp1	25	F0304	40	
			Rp1¼	32	F0405	40	
			Rp1½	40	F0405	25	
			Rp2	50	F05	25	
			Rp2½	65	F07	25	

Ball valves VAPB, VZBA, VZBC, mechanically actuated

Key features and product range overview

FESTO

Function	Design	Type	Process valve connection	Nominal size DN	Flange hole pattern to ISO 5211	Process valve nominal pressure PN	→ Page/Internet
Ball valve, 3-way	Stainless steel, corrosion-resistant						
		VZBA	Rp¼	8	F0304	63	22
			Rp⅜	10	F0304		
			Rp½	15	F0304		
			Rp¾	20	F0405		
			Rp1	25	F0405		
			Rp1¼	32	F0405		
			Rp1½	40	F0405		
			Rp2	50	F05		
			Rp¼	8	F0304		
			Rp⅜	10	F0304		
			Rp½	15	F0304		
			Rp¾	20	F0405		
			Rp1	25	F0405		
			Rp1¼	32	F0405		
			Rp1½	40	F0405		
			Rp2	50	F05		

Ball valves VZBA, mechanically actuated

Type codes

FESTO

VZBA	–	¼	–	G	G	–	63	–	T	–	22	–	F0304	–	V4	V4	–	T

Type	
VZBA	Ball valve

Nominal size DN	
¼	DN8
⅜	DN10
½	DN15
¾	DN20
1	DN25
1 ¼	DN32
1 ½	DN40
2	DN50
2 ½	DN65
3	DN80
4	DN100

Connection type 1	
G	Pipe thread to EN 10226-1
W	Welding end

Connection type 2	
G	Pipe thread to EN 10226-1
W	Welding end

Process valve nominal pressure PN	
63	63 bar

Design	
T	Three-piece

Directional control function	
22	2/2-way

Flange connection to ISO 5211	
F0304	2 pitch circle diameters of 36 mm and 42 mm
F0405	2 pitch circle diameters of 42 mm and 50 mm
F0507	2 pitch circle diameters of 50 mm and 70 mm
F07	1 pitch circle diameter of 70 mm
F0710	2 pitch circle diameters of 70 mm and 102 mm
F10	1 pitch circle diameter of 102 mm

Housing material	
V4	Stainless steel 1.4401, 1.4404 (AISI 316L), 1.4408

Material for shut-off element	
V4	Stainless steel 1.4401, 1.4404 (AISI 316L), 1.4408

Sealing material	
T	PTFE

Ball valves VZBA, mechanically actuated

Technical data – Stainless steel design

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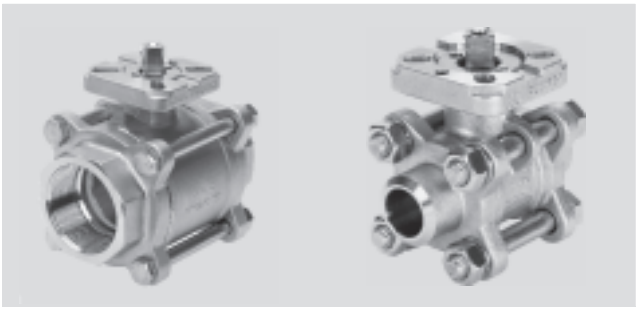
- Connecting thread Rp¼ ... Rp4
- Flow rate Kv 7 ... 1,414 m^3/h

- 2-way ball valve made from stainless steel
- With pipe thread or welding end



General technical data												
Process valve connection		Rp¼	Rp⅜	Rp½	Rp¾	Rp1	Rp1¼	Rp1½	Rp2	Rp2½	Rp3	Rp4
Nominal size DN		8	10	15	20	25	32	40	50	65	80	100
Valve function		2/2-way										
Design		2-way ball valve										
Sealing principle		Soft										
Actuation type		Mechanical										
Manual override		None										
Approved for use in the food industry		No										
Switching position display		Slot direction = flow direction										
Direction of flow		Reversible										
Type of mounting		In-line installation										
Mounting position		Any										
Based on standard with pipe thread		ISO 5211										
		DIN 3202-M3										
		EN 10226-1										
Based on standard with welding end		ISO 5211										
		DIN 3202-S13										
Actuation moment	[Nm]	6	6	10	14	17	24	29	44	78	112	140
Internal diameter	[mm]	10	12	16	20	25	32	38	50	65	80	100
Flow rate Kv	[m^3/h]	7	10	19.4	45.6	71.5	105	170	275	507	905	1,414
Product weight	[g]	650	650	650	850	1,250	1,850	2,800	4,550	9,200	13,950	22,300

Operating and environmental conditions												
Process valve connection		Rp¼	Rp⅜	Rp½	Rp¾	Rp1	Rp1¼	Rp1½	Rp2	Rp2½	Rp3	Rp4
Operating medium		Compressed air to ISO 8573-1:2010 [-:-:-]										
Process valve operating medium		Neutral liquids										
		Inert gases										
		Water – no water vapour										
Process valve nominal pressure[1]		PN 63										
Temperature of medium[2]	[°C]	–10 ... 200										
Corrosion resistance class CRC[3]		3										
CE marking (see declaration of conformity) ➔ www.festo.com		–						To EU Pressure Equipment Directive				

1) PN class to DIN EN 1333
2) As a function of operating pressure ➔ 6
3) Corrosion resistance class 3 according to Festo standard 940 070
Components subject to high corrosion stress. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

Ball valves VZBA, mechanically actuated

Technical data – Stainless steel design

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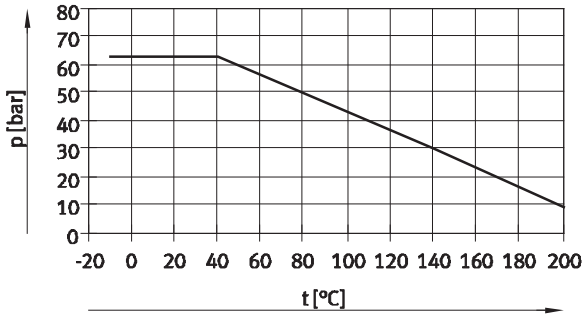
Materials		Information on materials	Material number
Housing		High-alloy stainless steel	1.4408
Ball			1.4401, 1.4408
Shaft			1.4401
Seals	Housing	PTFE	
	Shaft	PTFE reinforced	
Note on materials		RoHS-compliant, contains paint-wetting impairment substances	

Permissible operating pressure p as a function of temperature of the medium t



Ball valves VZBA, mechanically actuated

Technical data – Stainless steel design

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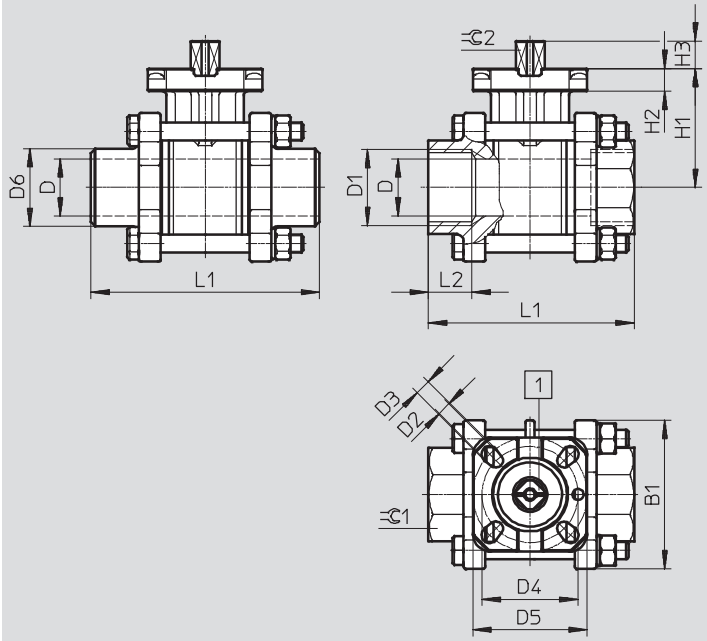
Dimensions Download CAD data ➔ **www.festo.com**



Note

Switching position display: the slot direction 1 corresponds to the flow direction.

Type	B1	D ∅ ±0.15	D1	D2 ∅	D3 ∅	D4 ∅	D5 ∅	D6	H1	H2	H3	L1 ±2	L2	⌀ 1	⌀ 2 −0.1
VZBA-¼-GG-63-T-22-F0304-V4V4T	42	10	Rp¼	6	6	36	42	–	40	9	9	65	14.5	24	9
VZBA-⅜-GG-63-T-22-F0304-V4V4T	42	12	Rp⅜	6	6	36	42	–	40	9	9	65	14.5	24	9
VZBA-½-GG-63-T-22-F0304-V4V4T	49	16	Rp½	6	6	36	42	–	40	9	9	75	16	29	9
VZBA-¾-GG-63-T-22-F0304-V4V4T	54	20	Rp¾	6	6	36	42	–	44	9	9	80	17	35	9
VZBA-1-GG-63-T-22-F0405-V4V4T	60.5	25	Rp1	6	7	42	50	–	52	10	12	90	19	41	11
VZBA-1¼-GG-63-T-22-F0405-V4V4T	71.5	32	Rp1¼	6	7	42	50	–	58	10	12	110	23	50	11
VZBA-1½-GG-63-T-22-F0507-V4V4T	80.5	38	Rp1½	7	9	50	70	–	68	13	16	120	24	58	14
VZBA-2-GG-63-T-22-F0507-V4V4T	99.5	50	Rp2	7	9	50	70	–	77	13	16	140	25.8	73	14
VZBA-2½-GG-63-T-22-F0710-V4V4T	127	65	Rp2½	9	11	70	102	–	98	13	19	185	34	90	17
VZBA-3-GG-63-T-22-F0710-V4V4T	191	80	Rp3	9	11	70	102	–	110	13	19	205	36	105	17
VZBA-4-GG-63-T-22-F10-V4V4T	222	100	Rp4	–	11	–	102	–	138	16	24	240	38	135	22
VZBA-1/4"-WW-63-T-22-F0304-V4V4T	42	10	–	6	6	36	42	16	40	9	9	70	–	–	9
VZBA-3/8"-WW-63-T-22-F0304-V4V4T	42	12	–	6	6	36	42	18	40	9	9	70	–	–	9
VZBA-1/2"-WW-63-T-22-F0304-V4V4T	49	16	–	6	6	36	42	22	40	9	9	75	–	–	9
VZBA-3/4"-WW-63-T-22-F0304-V4V4T	54	20	–	6	6	36	42	28	44	9	9	90	–	–	9
VZBA-1"-WW-63-T-22-F0405-V4V4T	60.5	25	–	6	7	42	50	35	52	10	12	100	–	–	11
VZBA-11/4"-WW-63-T-22-F0405-V4V4T	71.5	32	–	6	7	42	50	44	58	10	12	110	–	–	11
VZBA-11/2"-WW-63-T-22-F0507-V4V4T	80.5	38	–	7	9	50	70	50	68	13	16	125	–	–	14
VZBA-2"-WW-63-T-22-F0507-V4V4T	99.5	50	–	7	9	50	70	62	77	13	16	150	–	–	14
VZBA-21/2"-WW-63-T-22-F0710-V4V4T	127	65	–	9	11	70	102	77	98	13	19	190	–	–	17
VZBA-3"-WW-63-T-22-F0710-V4V4T	191	80	–	9	11	70	102	91	110	13	19	220	–	–	17
VZBA-4"-WW-63-T-22-F10-V4V4T	222	100	–	–	11	–	102	117	138	16	24	270	–	–	22

Ball valves VZBA, mechanically actuated

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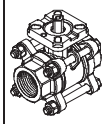
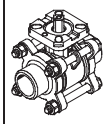
Technical data – Stainless steel design

Ordering data			
Version with pipe thread	Process valve connection	Part No.	Type
	Rp¼	**1686625**	**VZBA-¼-GG-63-T-22-F0304-V4V4T**
	Rp⅜	**1686632**	**VZBA-⅜-GG-63-T-22-F0304-V4V4T**
	Rp½	**1686636**	**VZBA-½-GG-63-T-22-F0304-V4V4T**
	Rp¾	**1686639**	**VZBA-¾-GG-63-T-22-F0304-V4V4T**
	Rp1	**1686640**	**VZBA-1-GG-63-T-22-F0405-V4V4T**
	Rp1¼	**1686641**	**VZBA-1¼-GG-63-T-22-F0405-V4V4T**
	Rp1½	**1686643**	**VZBA-1½-GG-63-T-22-F0507-V4V4T**
	Rp2	**1686646**	**VZBA-2-GG-63-T-22-F0507-V4V4T**
	Rp2½	**1686648**	**VZBA-2½-GG-63-T-22-F0710-V4V4T**
	Rp3	**1686651**	**VZBA-3-GG-63-T-22-F0710-V4V4T**
	Rp4	**1686654**	**VZBA-4-GG-63-T-22-F10-V4V4T**
Version with welding end	Process valve connection	Part No.	Type
	With welding end	**1686656**	**VZBA-1/4"-WW-63-T-22-F0304-V4V4T**
		1686662	**VZBA-3/8"-WW-63-T-22-F0304-V4V4T**
		1686663	**VZBA-1/2"-WW-63-T-22-F0304-V4V4T**
		1686665	**VZBA-3/4"-WW-63-T-22-F0304-V4V4T**
		1686689	**VZBA-1"-WW-63-T-22-F0405-V4V4T**
		1686696	**VZBA-11/4"-WW-63-T-22-F0405-V4V4T**
		1686697	**VZBA-11/2"-WW-63-T-22-F0507-V4V4T**
		1686699	**VZBA-2"-WW-63-T-22-F0507-V4V4T**
		1686702	**VZBA-21/2"-WW-63-T-22-F0710-V4V4T**
		1686704	**VZBA-3"-WW-63-T-22-F0710-V4V4T**
		1686705	**VZBA-4"-WW-63-T-22-F10-V4V4T**

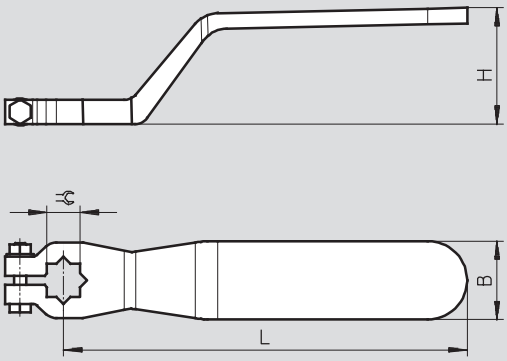
Ball valves VZBA, mechanically actuated

Accessories

Hand lever VAOH

Information on materials:
- High-alloy stainless steel
- Free of copper and PTFE
- Contains PWIS (paint-wetting impairment substances)

Dimensions and ordering data Download CAD data ➔ **www.festo.com**



For connection	⫧ ±0.5	L ±10	H ±5	B ±5	Weight [g]	Part No.	Type
Rp¼ … Rp¾	9	120	36	21	100	**542702**	**VAOH-9-H9**
Rp1 … Rp1¼	11	140	40	26	200	**542703**	**VAOH-11-H9**
Rp1½ … Rp2	14	180	46	31	300	**542704**	**VAOH-14-H9**
Rp2½ … Rp3	17	240	55	36	450	**542705**	**VAOH-17-H9**
Rp4	22	280	70	36	750	**542706**	**VAOH-22-H9**

Ball valves VZBC, mechanically actuated

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Type codes

VZBC – 15 – F F – 40 – 22 – F0304 – V4 V4 T

Type	
VZBC	Ball valve

Nominal size DN	
15	DN15
20	DN20
25	DN25
32	DN32
40	DN40
50	DN50
65	DN65
80	DN80
100	DN100

Connection type 1	
F	Flange to EN 1092-1

Connection type 2	
F	Flange to EN 1092-1

Process valve nominal pressure PN	
40	40 bar
16	16 bar

Directional control function	
22	2/2-way

Flange connection to ISO 5211	
F0304	2 pitch circle diameters of 36 mm and 42 mm
F0405	2 pitch circle diameters of 42 mm and 50 mm
F0507	2 pitch circle diameters of 50 mm and 70 mm
F07	1 pitch circle diameter of 70 mm
F0710	2 pitch circle diameters of 70 mm and 102 mm

Housing material	
V4	Stainless steel 1.4401, 1.4404 (AISI 316L), 1.4408

Material for shut-off element	
V4	Stainless steel 1.4401, 1.4404 (AISI 316L), 1.4408

Sealing material	
T	PTFE reinforced

Ball valves VZBC, mechanically actuated

Technical data – Stainless steel design

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- Ring housing
  DN15 ... DN100
- Flow rate Kv
  19.4 ... 1,414 m^3/h

- 2-way ball valve made from stainless steel

General technical data										
Process valve connection		Ring housing with threaded flange								
Nominal size DN		15	20	25	32	40	50	65	80	100
Valve function		2/2-way								
Design		2-way ball valve								
Sealing principle		Soft								
Actuation type		Mechanical								
Manual override		None								
Approved for use in the food industry		No								
Switching position display		Slot direction = flow direction								
Direction of flow		Reversible								
Type of mounting		In-line installation								
Mounting position		Any								
Based on standard		EN 1092-1								
		ISO 5211								
Actuation moment	[Nm]	10	13	17	24	35	54	85	117	148
Internal diameter	[mm]	15	20	25	32	38	50	64	76	96
Flow rate Kv	[m^3/h]	19.4	45.6	71.5	105	170	275	507	905	1,414
Product weight	[g]	1,500	2,100	2,600	3,700	4,400	6,200	10,000	14,400	20,600

Operating and environmental conditions										
Process valve connection		Ring housing with threaded flange								
Nominal size DN		15	20	25	32	40	50	65	80	100
Operating medium		Compressed air to ISO 8573-1:2010 [-:-:-]								
Process valve operating medium		Neutral liquids								
		Inert gases								
		Water – no water vapour								
Process valve nominal pressure[1]		PN 40						PN 16		
Temperature of medium[2]	[°C]	–10 ... 200								
Corrosion resistance class CRC[3]		3								
CE marking (see declaration of conformity) ➔ www.festo.com		–				To EU Pressure Equipment Directive				

1) PN class to DIN EN 1333
2) As a function of operating pressure ➔ 12
3) Corrosion resistance class 3 according to Festo standard 940 070
Components subject to high corrosion stress. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

Ball valves VZBC, mechanically actuated

Technical data – Stainless steel design

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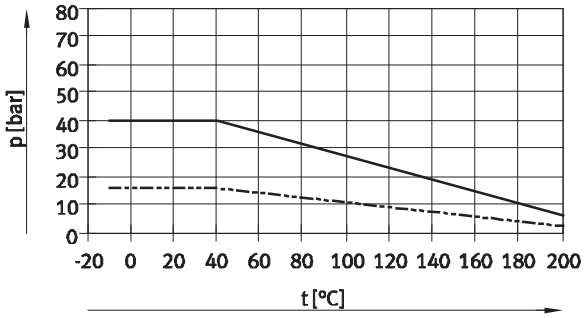
Materials		Information on materials	Material number
Housing		High-alloy stainless steel	1.4408
Ball			1.4408, 1.4401
Shaft			1.4401
Seals	Housing	PTFE	
	Shaft	PTFE reinforced	
Note on materials		RoHS-compliant, contains paint-wetting impairment substances	

Permissible operating pressure p as a function of temperature of the medium t



Ball valves VZBC, mechanically actuated

Technical data – Stainless steel design

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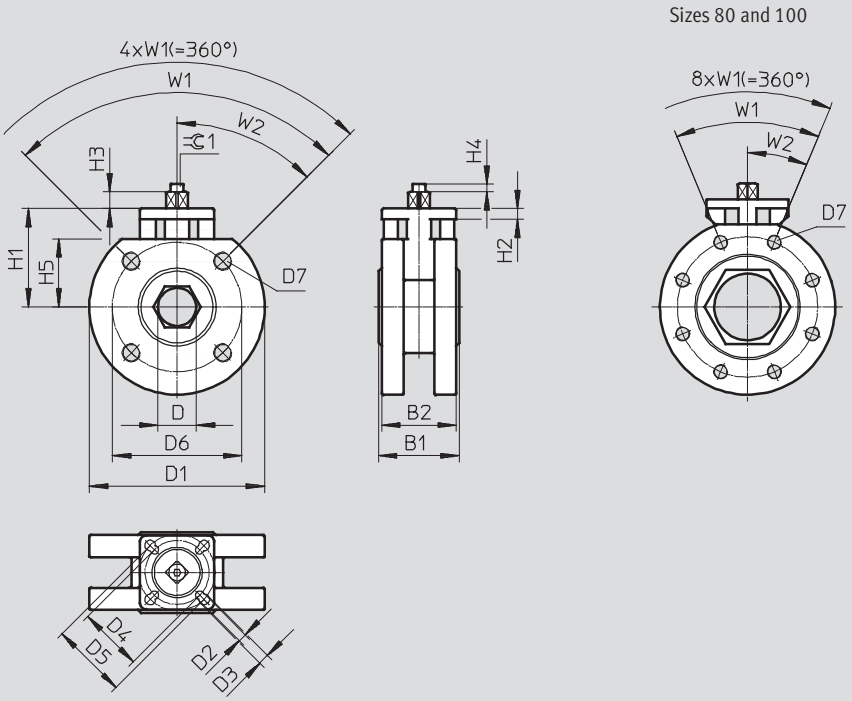
Dimensions Download CAD data ➔ **www.festo.com**



Type	B1 +1.6	B2	D ∅	D1 ∅ +5	D2 ∅	D3 ∅	D4 ∅	D5 ∅	D6 ∅	D7	H1	H2	H3 +15 −0.5	H4	H5	⌀C1 −0.1
VZBC-15-FF-40-22-F0304-V4V4T	40	43.5	15	95	6	5.5	36	42	65	M12	60	6.3	7.86	5	34.5	9
VZBC-20-FF-40-22-F0304-V4V4T	44	43.5	20	105	6	5.5	36	42	75	M12	64.3	7	11	5	38.5	9
VZBC-25-FF-40-22-F0405-V4V4T	53	48.5	25	115	5.5	7	42	50	85	M12	64.6	7	11	5	44.6	11
VZBC-32-FF-40-22-F0405-V4V4T	58.4	49.5	32	140	5.5	7	42	50	100	M16	69	7	11	–	51	11
VZBC-40-FF-40-22-F0507-V4V4T	62	62	38	150	7	8.5	50	70	110	M16	76.3	7.2	17	–	55	14
VZBC-50-FF-40-22-F0507-V4V4T	78	70	50	165	7	8.5	50	70	125	M16	85.5	7.2	15.3	–	63	14
VZBC-65-FF-16-22-F07-V4V4T	100	70	64	185	–	9	–	70	145	M16	105	10.6	14	–	73.5	17
VZBC-80-FF-16-22-F07-V4V4T	120	70	76	200	–	9	–	70	160	M16	123	10.6	18	–	94	17
VZBC-100-FF-16-22-F0710-V4V4T	152	96	96	220	9	10.5	70	102	180	M16	132	12.6	15	–	105	17

Ball valves VZBC, mechanically actuated

Technical data – Stainless steel design

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Ordering data			
	Process valve connection	Part No.	Type
	Ring housing with threaded flange	**1692198**	**VZBC-15-FF-40-22-F0304-V4V4T**
		1692200	**VZBC-20-FF-40-22-F0304-V4V4T**
		1692201	**VZBC-25-FF-40-22-F0405-V4V4T**
		1692202	**VZBC-32-FF-40-22-F0405-V4V4T**
		1692204	**VZBC-40-FF-40-22-F0507-V4V4T**
		1692206	**VZBC-50-FF-40-22-F0507-V4V4T**
		1692207	**VZBC-65-FF-16-22-F07-V4V4T**
		1692208	**VZBC-80-FF-16-22-F07-V4V4T**
		1692209	**VZBC-100-FF-16-22-F0710-V4V4T**

Ball valves VZBC, mechanically actuated

Accessories

Hand lever VAOH

Information on materials:
- High-alloy stainless steel
- Free of copper and PTFE
- Contains PWIS (paint-wetting impairment substances)

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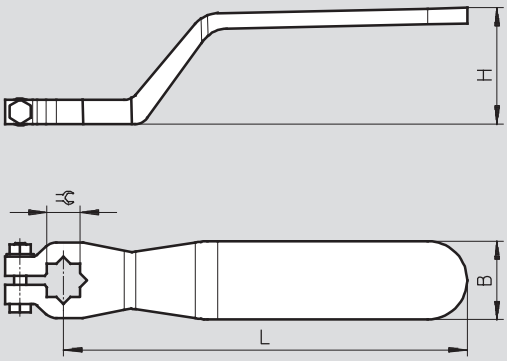


For connection	⌀ ±0.5	L ±10	H ±5	B ±5	Weight [g]	Part No.	Type
DN15 ... DN20	9	120	36	21	100	**542702**	**VAOH-9-H9**
DN25 ... DN32	11	140	40	26	200	**542703**	**VAOH-11-H9**
DN40 ... DN50	14	180	46	31	300	**542704**	**VAOH-14-H9**
DN65 ... DN100	17	240	55	36	450	**542705**	**VAOH-17-H9**

Ball valves VAPB, mechanically actuated

Type codes

VZBA	–	¼	–	G	G	–	63	–	T	–	22	–	F0304	–	V4	V4	–	T

Type	
VZBA	Ball valve

Nominal size DN	
¼	10
⅜	12
½	16
¾	20
1	25
1 ¼	32
1 ½	40
2	50
2 ½	65
3	80
4	100

Connection type 1	
G	Pipe thread to EN 10226-1
W	Welding end

Connection type 2	
G	Pipe thread to EN 10226-1
W	Welding end

Max. operating pressure	
63	63 bar
40	40 bar
16	16 bar

Design	
D	Two-piece
T	Three-piece

Directional control function	
22	2/2-way

Flange connection to ISO 5211	
F0304	2 pitch circle diameters of 36 mm and 42 mm
F0405	2 pitch circle diameters of 42 mm and 50 mm
F0507	2 pitch circle diameters of 50 mm and 70 mm
F07	1 pitch circle diameter of 70 mm
F0710	2 pitch circle diameters of 50 mm and 70 mm
F10	1 pitch circle diameter of 102 mm

Housing material	
V4	Stainless steel 1.4401, 1.4404 (AISI 316L), 1.4408

Material for shut-off element	
V4	Stainless steel 1.4401, 1.4404 (AISI 316L), 1.4408

Sealing material	
T	PTFE

Ball valves VAPB, mechanically actuated

Technical data – Brass design

- Connecting thread Rp¼ ... Rp2½
- Flow rate Kv 5.9 ... 535 m^3/h

- Connecting thread to DIN 2999
- Mounting flange to ISO 5211
- PN class to DIN EN 1333
- Blow-out proof shaft assembled from inside
- Centring attachment for easy automation
- O-ring seal for use with a vacuum

General technical data									
Connection	Rp¼	Rp⅜	Rp½	Rp¾	Rp1	Rp1¼	Rp1½	Rp2	Rp2½
Nominal size DN	15	15	15	20	25	32	40	50	63
Valve function	2/2-way								
Design	2-way ball valve								
Sealing principle	Soft								
Actuation type	Mechanical								
Switching position display	Slot direction = flow direction								
Direction of flow	Reversible								
Type of mounting	In-line installation								
Mounting position	Any								
Working line 1, 2	¼	⅜	½	¾	1	1¼	1½	2	2½
Internal diameter [mm]	15	15	15	20	25	32	40	50	63
Flow rate Kv [m^3/h]	5.9	9.4	17	41	70	121	200	292	535
Product weight [g]	500	500	400	500	800	1,300	1,900	3,100	3,100

Operating and environmental conditions									
Connection	Rp¼	Rp⅜	Rp½	Rp¾	Rp1	Rp1¼	Rp1½	Rp2	Rp2½
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [-:-:-]								
	Neutral liquids								
	Inert gases								
	Water								
Process valve nominal pressure[1]	PN 40	PN 40	PN 40	PN 40	PN 40	PN 40	PN 25	PN 25	PN 25
Temperature of medium [°C]	–20 ... +150								
Breakaway torque at a differential pressure of 0 bar	3.1	3.1	3.1	4.6	6.5	10.8	13.5	20	30
Breakaway torque at a differential pressure of 10 bar	3.5	3.5	3.5	5.1	7.2	11.9	14.9	22	33
Breakaway torque at process valve differential pressure PN	5	5	5	6	8.5	15	19	29	45
Corrosion resistance class CRC[2]	1								
CE marking (see declaration of conformity) ➔ www.festo.com	–							As per EU Pressure Equipment Directive	
Food industry approval	No								

1) PN class to DIN EN 1333

2) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Ball valves VAPB, mechanically actuated

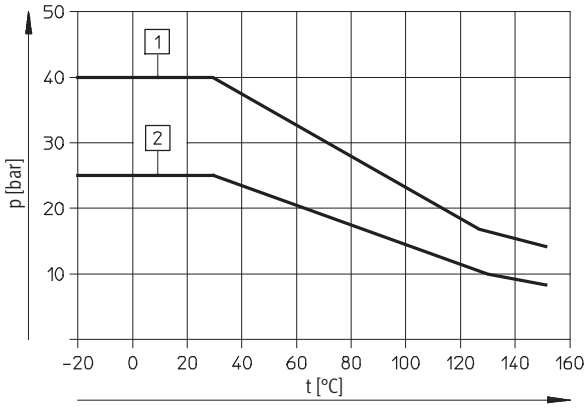
Technical data – Brass design

Materials		Information on materials	Material number
Housing		Nickel-plated brass	CW 617 N
Ball		Brass, hard-chromium plated	Up to Rp½ CW 614 N, Rp¾ and above CW 617 N
Shaft		Nickel-plated brass	CW 614 N
Seals	Housing	PTFE, HNBR	
	Shaft	PTFE	
Note on materials		Contains PWIS (paint-wetting impairment substances), RoHS-compliant	

Torque[1] [Nm]									
Process valve connection	Rp¼	Rp⅜	Rp½	Rp¾	Rp1	Rp1¼	Rp1½	Rp2	Rp2½
Δp = 0 bar	3.1	3.1	3.1	4.6	6.5	10.8	13.5	20	30
Δp = 10 bar	3.5	3.5	3.5	5.1	7.2	11.9	14.9	22	33
Δp = pN	5	5	5	6	8.5	15	19	29	45

1) Torque required for actuating the ball valve

Permissible operating pressure p as a function of temperature of the medium t



1 Rp¼ ... Rp1¼
2 Rp1½ ... Rp2½

Ball valves VAPB, mechanically actuated

Technical data – Brass design

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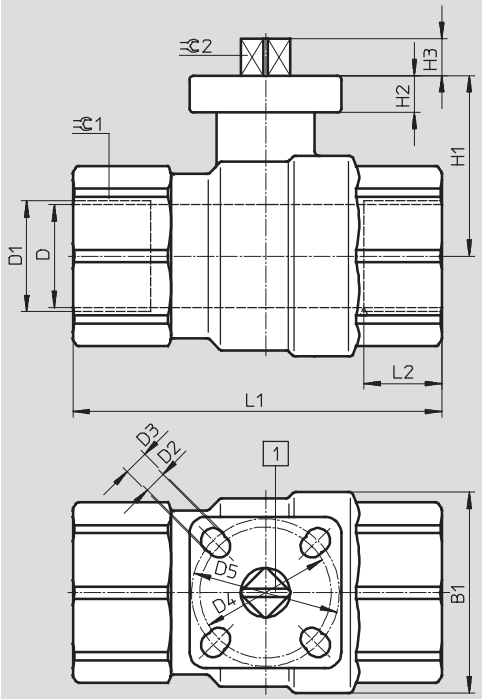


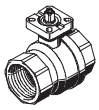
Note

Switching position display: the slot direction 1 corresponds to the flow direction.

Process valve connection D1[1]	B1	D ∅ ±0.15	D2 ∅	D3 ∅	D4 ∅	D5 ∅	H1	H2	H3	L1 ±2	L2	⌀1 −0.1	⌀2
Rp¼	35	15	5.5	–	36	–	40	9	9	75	15	26	9
Rp⅜	35	15	5.5	–	36	–	40	9	9	75	15	26	9
Rp½	35	15	5.5	–	36	–	40	9	9	75	15	26	9
Rp¾	45	20	5.5	–	36	–	45	9	9	80	16	32	9
Rp1	55	25	5.5	–	36	42	45	9	9	90	19	41	9
Rp1¼	65	32	5.5	6.5	42	50	60	10	11	110	21	50	11
Rp1½	75	40	5.5	6.5	42	50	65	10	11	120	21	55	11
Rp2	90	50	6.5	–	50	–	75	12	14	140	25	70	14
Rp2½	110	65	8.5	–	70	–	85	10	15.5	143	24	83	14

1) Cylindrical barrel with female thread to DIN 2999

Ordering data

Design	Process valve connection[1]	Part No.	Type
	Rp¼	**534302**	**VAPB-¼-F-40-F03**
	Rp⅜	**534303**	**VAPB-⅜-F-40-F03**
	Rp½	**534304**	**VAPB-½-F-40-F03**
	Rp¾	**534305**	**VAPB-¾-F-40-F03**
	Rp1	**534306**	**VAPB-1-F-40-F0304**
	Rp1¼	**534307**	**VAPB-1¼-F-40-F0405**
	Rp1½	**534308**	**VAPB-1½-F-25-F0405**
	Rp2	**534309**	**VAPB-2-F-25-F05**
	Rp2½	**534310**	**VAPB-2½-F-25-F07**

1) Cylindrical barrel with female thread to DIN 2999

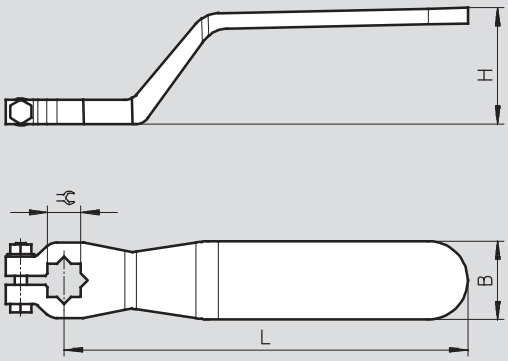
Ball valves VAPB, mechanically actuated

Accessories

Hand lever VAOH

Information on materials:
- High-alloy stainless steel
- Free of copper and PTFE
- Contains PWIS (paint-wetting impairment substances)

Dimensions and ordering data Download CAD data ➔ **www.festo.com**



For connection	⫧ ±0.5	L ±10	H ±5	B ±5	Weight [g]	Part No.	Type
Rp¼ ... Rp1	9	120	36	21	100	**542702**	**VAOH-9-H9**
Rp1¼ ... Rp1½	11	140	40	26	200	**542703**	**VAOH-11-H9**
Rp2 ... Rp2½	14	180	46	31	300	**542704**	**VAOH-14-H9**

Ball valves VZBA, mechanically actuated

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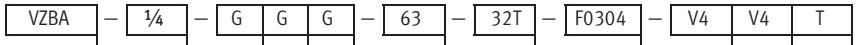
Type codes



Type	
VZBA	Ball valve

Nominal size DN	
¼	DN8
⅜	DN10
½	DN15
¾	DN20
1	DN25
1 ¼	DN32
1 ½	DN40
2	DN50

Connection type 1	
G	Pipe thread to EN 10226-1

Connection type 2	
G	Pipe thread to EN 10226-1

Connection type 3	
G	Pipe thread to EN 10226-1

Process valve nominal pressure PN	
63	63 bar

Directional control function	
32T	3/2-way, T-shaped hole
32L	3/2-way, L-shaped hole

Flange connection to ISO 5211	
F0304	2 pitch circle diameters of 36 mm and 42 mm
F0405	2 pitch circle diameters of 42 mm and 50 mm
F0507	2 pitch circle diameters of 50 mm and 70 mm

Housing material	
V4	Stainless steel 1.4401, 1.4404 (AISI 316L), 1.4408

Material for shut-off element	
V4	Stainless steel 1.4401, 1.4404 (AISI 316L), 1.4408

Sealing material	
T	PTFE reinforced

New

Ball valves VZBA, mechanically actuated

Technical data – Stainless steel design

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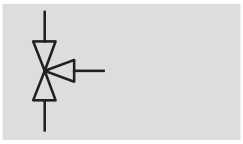


- Connecting thread Rp¼ ... Rp2
- Flow rate Kv 4.5 ... 100 m³/h

- Mounting flange to ISO 5211
- PN class to DIN EN 1333

General technical data									
Process valve connection		Rp¼	Rp⅜	Rp½	Rp¾	Rp1	Rp1¼	Rp1½	Rp2
Nominal size DN		8	10	15	20	25	32	40	50
Valve function		3/2-way							
Design		3-way ball valve							
Sealing principle		Soft							
Actuation type		Mechanical							
Manual override		None							
Switching position display		Slot direction = flow direction							
Direction of flow		Reversible							
Type of mounting		In-line installation							
Mounting position		Any							
Based on standard		EN 10226-1							
		ISO 5211							
Actuation moment	[Nm]	13	13	13	18	22	35	42	68
Internal diameter	[mm]	11.6	12.7	12.7	16	20	25.4	31.8	38.1
Flow rate Kv Type L[1]	[m³/h]	4.5	4.5	4.7	5.1	11.8	19.6	33.2	53.7
Type T[2]	[m³/h]	8	8	8.3	8.3	22.4	36.5	62	100
Type T[3]	[m³/h]	4.5	4.5	4.8	4.8	10.9	18	30	48.8
Flow rate tolerance Kv	[%]	± 20							
Product weight	[g]	700	700	700	1,000	1,600	2,800	3,800	7,400

1) Ball with L-shaped hole
2) Ball with T-shaped hole, straight flow
3) Ball with T-shaped hole, flow around corner

Operating and environmental conditions									
Process valve connection		Rp¼	Rp⅜	Rp½	Rp¾	Rp1	Rp1¼	Rp1½	Rp2
Operating medium		Compressed air to ISO 8573-1:2010 [-:-:-]							
		Neutral liquids							
		Inert gases							
		Water – no water vapour							
Process valve nominal pressure		PN 63							
Temperature of medium	[°C]	–10 ... +200							
Corrosion resistance class CRC[1]		3							
CE marking (see declaration of conformity)		–						To EU Pressure Equipment Directive	
➔ www.festo.com									

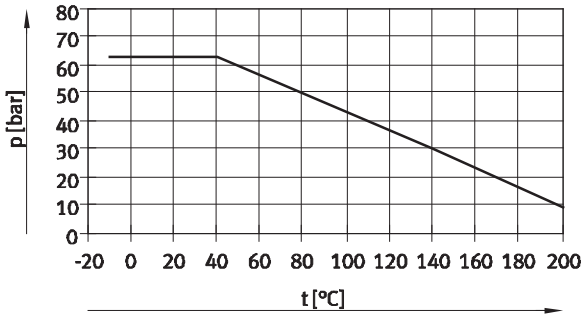
1) Corrosion resistance class 3 according to Festo standard 940 070
Components subject to high corrosion stress. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

Ball valves VZBA, mechanically actuated

Technical data – Stainless steel design

Materials		Material number
Housing, ball	High-alloy stainless steel	1.4408, 1.4401
Shaft	High-alloy stainless steel	1.4401
Seals	PTFE reinforced	–
Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant	

Permissible operating pressure p as a function of temperature of the medium t



Ball valves VZBA, mechanically actuated

Technical data – Stainless steel design

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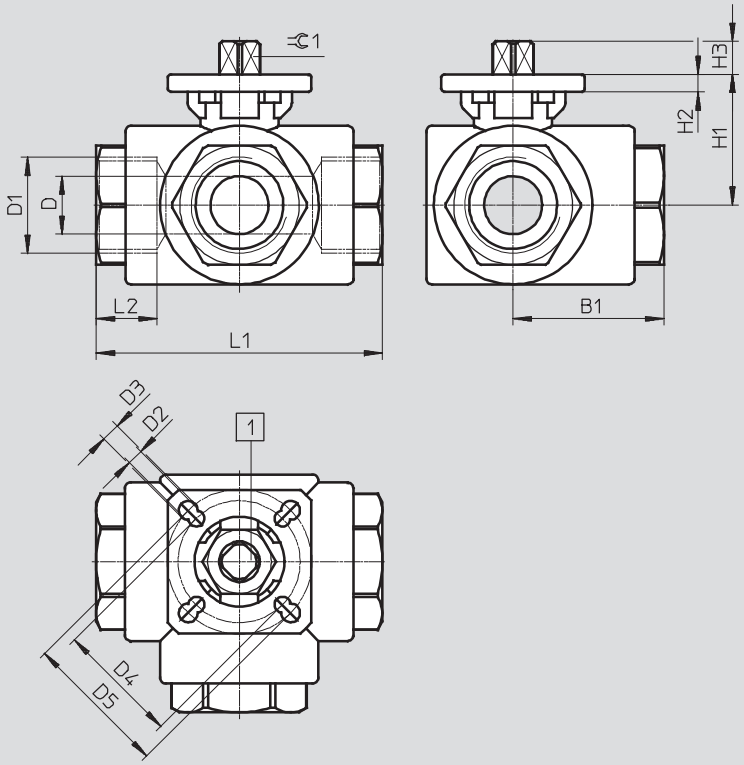


1 Switching position display

T = T-shaped hole

L = L-shaped hole

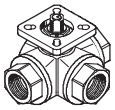
Note

Switching position display: the slot direction corresponds to the flow direction.

Process valve connection D1[1)]	D ∅ ±0.15	D1	D2 ∅	D3 ∅	D4 ∅	D5 ∅	H1	H2 ±1	H3	L1 ±1	L2	B1 ±2	⌯1 −0.1
VZBA-1/4"-GGG-63-32L-F0304-V4V4T	11.6	Rp¼	5.5	5.5	36	42	35.9	6	7.4	80	15	40	9
VZBA-1/4"-GGG-63-32T-F0304-V4V4T													
VZBA-3/8"-GGG-63-32L-F0304-V4V4T	12.7	Rp⅜	5.5	5.5	36	42	35.9	6	7.4	80	18	40	9
VZBA-3/8"-GGG-63-32T-F0304-V4V4T													
VZBA-1/2"-GGG-63-32L-F0304-V4V4T	12.7	Rp½	5.5	5.5	36	42	35.9	6	7.4	80	17.5	40	9
VZBA-1/2"-GGG-63-32T-F0304-V4V4T													
VZBA-3/4"-GGG-63-32L-F0405-V4V4T	16	Rp¾	5.5	6.5	42	50	40.9	6	12.8	87.5	20	43.75	11
VZBA-3/4"-GGG-63-32T-F0405-V4V4T													
VZBA-1"-GGG-63-32L-F0405-V4V4T	20	Rp1	5.5	6.5	42	50	45.15	6	11.4	100	21	50	11
VZBA-1"-GGG-63-32T-F0405-V4V4T													
VZBA-11/4"-GGG-63-32L-F0405-V4V4T	25.4	Rp1¼	5.5	6.5	42	50	51	6	12.6	123	21	61.5	11
VZBA-11/4"-GGG-63-32T-F0405-V4V4T													
VZBA-11/2"-GGG-63-32L-F0405-V4V4T	31.8	Rp1½	5.5	6.5	42	50	55.5	6	12.6	142.2	23	71.1	11
VZBA-11/2"-GGG-63-32T-F0405-V4V4T													
VZBA-2"-GGG-63-32L-F0507-V4V4T	38.1	Rp2	6.5	8.5	50	70	66	6	14.3	170.6	26	85.3	14
VZBA-2"-GGG-63-32T-F0507-V4V4T													

Ball valves VZBA, mechanically actuated

Technical data – Stainless steel design

Ordering data					
Design	Process valve connection[1]	L-shaped ball valve Part No.	Type	T-shaped ball valve Part No.	Type
	Rp¼	**1692210**	**VZBA-1/4-GGG-63-32L-F0304-V4V4T**	**1692220**	**VZBA-1/4-GGG-63-32T-F0304-V4V4T**
	Rp⅜	**1692211**	**VZBA-3/8-GGG-63-32L-F0304-V4V4T**	**1692221**	**VZBA-3/8-GGG-63-32T-F0304-V4V4T**
	Rp½	**1692212**	**VZBA-1/2-GGG-63-32L-F0304-V4V4T**	**1692224**	**VZBA-1/2-GGG-63-32T-F0304-V4V4T**
	Rp¾	**1692214**	**VZBA-3/4-GGG-63-32L-F0405-V4V4T**	**1692226**	**VZBA-3/4-GGG-63-32T-F0405-V4V4T**
	Rp1	**1692215**	**VZBA-1-GGG-63-32L-F0405-V4V4T**	**1692227**	**VZBA-1-GGG-63-32T-F0405-V4V4T**
	Rp1¼	**1692217**	**VZBA-11/4-GGG-63-32L-F0405-V4V4T**	**1692228**	**VZBA-11/4-GGG-63-32T-F0405-V4V4T**
	Rp1½	**1692218**	**VZBA-11/2-GGG-63-32L-F0405-V4V4T**	**1692229**	**VZBA-11/2-GGG-63-32T-F0405-V4V4T**
	Rp2	**1692219**	**VZBA-2-GGG-63-32L-F0507-V4V4T**	**1692230**	**VZBA-2-GGG-63-32T-F0507-V4V4T**

1) Cylindrical barrel with female thread to EN 10226-1 (previously DIN 2999)

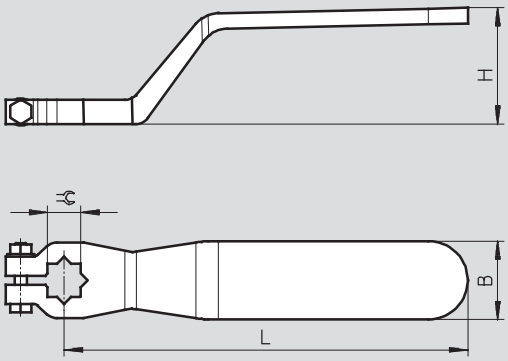
Ball valves VZBA, mechanically actuated

Accessories

Hand lever VAOH

Information on materials:
- High-alloy stainless steel
- Free of copper and PTFE
- Contains PWIS (paint-wetting impairment substances)

Dimensions and ordering data Download CAD data ➔ **www.festo.com**



For connection	⫧ ±0.5	L ±10	H ±5	B ±5	Weight [g]	Part No.	Type
Rp¼ ... Rp½	9	120	36	21	100	**542702**	**VAOH-9-H9**
Rp¾ ... Rp1½	11	140	40	26	200	**542703**	**VAOH-11-H9**
Rp2	14	180	46	31	300	**542704**	**VAOH-14-H9**