

# Ball valves VZBM, 2-way

Type codes

FESTO

VZBM - 1/4 - RP - 40 - D - 2 - F03 - B2 B3

Type	
VZBM	Ball valves

Nominal width DN	
1/4	DN8
3/8	DN10
1/2	DN15
3/4	DN20
1	DN25
1 1/4	DN32
1 1/2	DN40
2	DN50

Process valve connection type	
RP	Pipe thread to EN 10226-1

Nominal pressure	
25	25 bar
40	40 bar

Design	
D	Two parts

Valve function	
2	2/2-way

Flanged connection to ISO 5211	
F03	Hole pattern 03
F0305	Hole pattern 03 and 05

Housing material	
B2	Nickel-plated brass

Shut-off element material	
B3	Chrome-plated brass

# Ball valves VZBM, 2-way


Technical data


Function



- 2-way ball valve made from brass



-  - Connecting thread  
Rp1/4 ... Rp2

-  - Flow rate  
5.9 ... 243 m<sup>3</sup>/h

General technical data								
Connecting thread	Rp1/4	Rp3/8	Rp1/2	Rp3/4	Rp1	Rp11/4	Rp11/2	Rp2
Nominal width DN	8	10	15	20	25	32	40	50
Valve function	2/2							
Design	2-way ball valve							
Sealing principle	Soft							
Actuation type	Mechanical							
Switching position indication	Slot direction = flow direction							
Flow direction	Reversible							
Type of mounting	In-line installation							
Mounting position	Any							
Based on standard	ISO 5211 EN 10226-1							
Breakaway torque at differential pressure, nominal pressure, process valve PN [Nm]	2	2	3	3.5	4	5	7	10
Inside diameter [mm]	10	10	15	20	25	32	40	50
Flow rate Kv [m <sup>3</sup> /h]	5.9	9.4	15	28	39	84	156	243

Operating and environmental conditions								
Connecting thread	Rp1/4	Rp3/8	Rp1/2	Rp3/4	Rp1	Rp11/4	Rp11/2	Rp2
Process valve nominal pressure PN	40	40	25	25	25	25	25	25
Temperature of medium [°C]	-15 ... +90							
Medium	Compressed air to ISO 8573-1:2010 [:-:-] Inert gases Water – no water vapour Neutral fluids							
CE mark (see declaration of conformity) <sup>1)</sup>	To EU Pressure Equipment Directive							

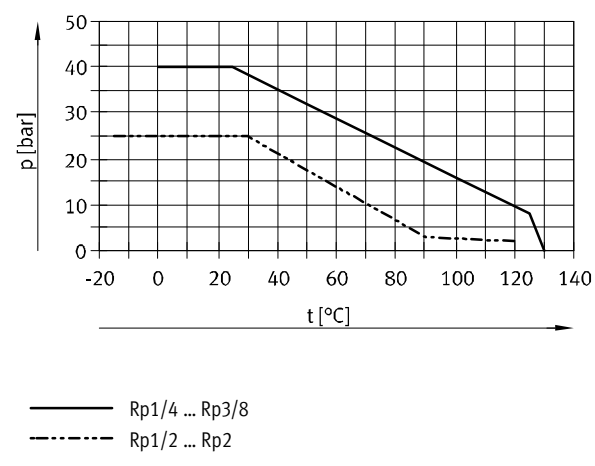
1) Additional information [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

# Ball valves VZBM, 2-way

Technical data

Materials		Material number
Housing	Nickel-plated brass	CW617N
Ball	Rp1/4 ... Rp3/8	Chrome-plated brass
	Rp1/2 ... Rp2	Chrome-plated brass
Shaft	Rp1/4 ... Rp3/8	Brass
	Rp1/2 ... Rp2	Brass
Seals	Rp1/4 ... Rp3/8	PTFE
	Rp1/2 ... Rp2	PTFE
		FPM
Note on materials	RoHS compliant	
	Contains paint-wetting impairment substances	

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



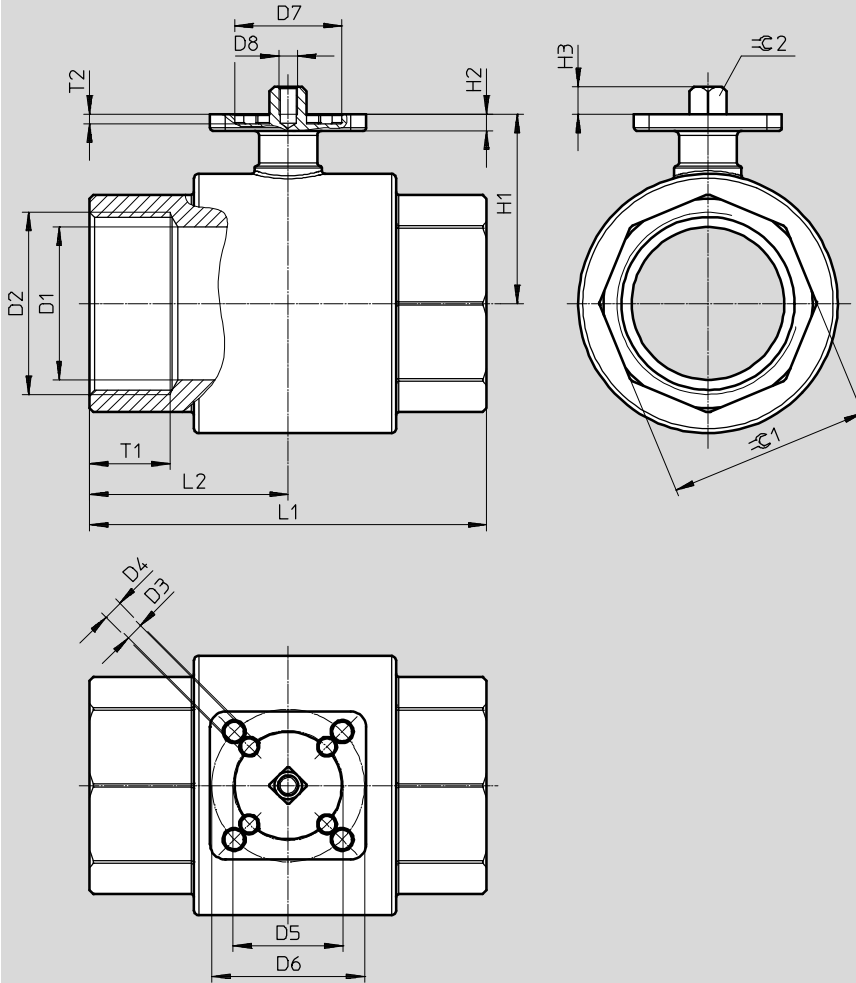
# Ball valves VZBM, 2-way

Technical data

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## Dimensions

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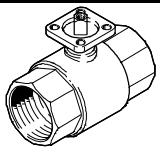
Type	D1 ∅ ±0.15	D2	D3 ∅ +0.2	D4 ∅ +0.2	D5 ∅ ±0.15	D6 ∅ ±0.15	D7 ∅	D8
VZBM-1/4-RP-40-D-2-F03-B2B3	10	Rp1/4	5.5	-	36	-	25 <sup>H8</sup>	M4
VZBM-3/8-RP-40-D-2-F03-B2B3	10	Rp3/8					25 <sup>H8</sup>	M4
VZBM-1/2-RP-25-D-2-F03-B2B3	15	Rp1/2					25.2±0.1	M6
VZBM-3/4-RP-25-D-2-F03-B2B3	20	Rp3/4					25.2±0.1	
VZBM-1-RP-25-D-2-F03-B2B3	25	Rp1					25.2±0.1	
VZBM-11/4-RP-25-D-2-F03-B2B3	32	Rp11/4					25.2±0.1	
VZBM-11/2-RP-25-D-2-F0305-B2B3	40	Rp11/2					35.2±0.1	
VZBM-2-RP-25-D-2-F0305-B2B3	50	Rp2					35.2±0.1	

Type	H1	H2	H3	L1 ±2	L2	T1 Min.	T2 ±0.1	⌀C1 ±1	⌀C2 h11	
VZBM-1/4-RP-40-D-2-F03-B2B3	38	9	9	75	32.5	15	3.2	26	9	
VZBM-3/8-RP-40-D-2-F03-B2B3	38	9		75	32.5					
VZBM-1/2-RP-25-D-2-F03-B2B3	32	5.5		61	30.5					
VZBM-3/4-RP-25-D-2-F03-B2B3	36			70	35					16.3
VZBM-1-RP-25-D-2-F03-B2B3	44			84	42					19.1
VZBM-11/4-RP-25-D-2-F03-B2B3	49			97	48.5					21.4
VZBM-11/2-RP-25-D-2-F0305-B2B3	54			108	54					22
VZBM-2-RP-25-D-2-F0305-B2B3	62			130	65					26.3

## Ball valves VZBM, 2-way

Technical data

**FESTO**

Ordering data				
	Connecting thread	Weight [g]	Part No.	Type
	Rp1/4	412	4405646 <sup>1)</sup>	VZBM-1/4-RP-40-D-2-F03-B2B3
	Rp3/8	390	4405647 <sup>1)</sup>	VZBM-3/8-RP-40-D-2-F03-B2B3
	Rp1/2	206	4405648 <sup>1)</sup>	VZBM-1/2-RP-25-D-2-F03-B2B3
	Rp3/4	306	4405649 <sup>1)</sup>	VZBM-3/4-RP-25-D-2-F03-B2B3
	Rp1	473	4405650 <sup>1)</sup>	VZBM-1-RP-25-D-2-F03-B2B3
	Rp1 1/4	730	4405651 <sup>1)</sup>	VZBM-1 1/4-RP-25-D-2-F03-B2B3
	Rp1 1/2	1135	4405652 <sup>1)</sup>	VZBM-1 1/2-RP-25-D-2-F0305-B2B3
	Rp2	1770	4405653 <sup>1)</sup>	VZBM-2-RP-25-D-2-F0305-B2B3

1) Festo is only a retailer of this product, not the manufacturer.

# Ball valves VZBM, 2-way

Accessories

## Hand lever VAOH

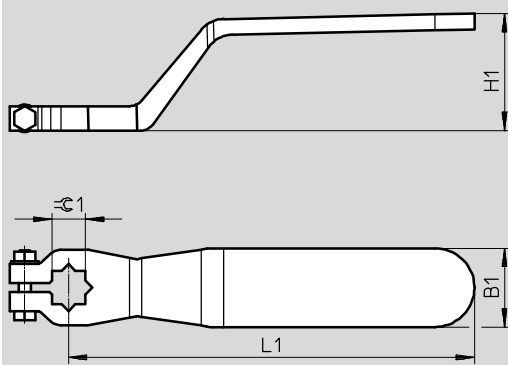
Information on materials:

- High-alloy stainless steel
- Free of copper and PTFE
- Contains paint-wetting impairment substances



### Dimensions and ordering data

Download CAD data → [www.festo.com](http://www.festo.com)



For connection	B1	H1	L1	∅1	Weight [g]	Part No.	Type
Rp1/4 ... Rp2	±5 21	±5 36	±10 120	±0.5 9	100	542702	VAOH-9-H9

# Ball valves VZBM, 3-way

Type codes

VZBM - 2 - RP - 25 - F - 3L - F05 - B2 B3

Type	
VZBM	Ball valves

Nominal width DN	
1/4	DN8
3/8	DN10
1/2	DN15
3/4	DN20
1	DN25
1 1/4	DN32
1 1/2	DN40
2	DN50

Process valve connection type	
RP	Pipe thread to EN 10226-1

Nominal pressure	
25	25 bar
40	40 bar

Design	
F	Four-part

Valve function	
3L	3/2-way, L-shaped bore
3T	3/2-way, T-shaped bore

Flanged connection to ISO 5211	
F03	Hole pattern 03
F0304	Hole pattern 03 and 04
F0405	Hole pattern 04 and 05
F05	Hole pattern 05

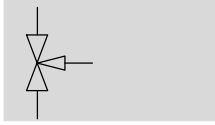
Housing material	
B2	Brass, nickel-plated/CW617N

Shut-off element material	
B3	Brass, chrome-plated/CW614N

# Ball valves VZBM, 3-way


Technical data


Function



- With L-shaped bore or T-shaped bore



-  - Connecting thread  
Rp1/4 ... Rp2

-  - Flow rate  
5.9 ... 292 m<sup>3</sup>/h

General technical data								
Connecting thread	Rp1/4	Rp3/8	Rp1/2	Rp3/4	Rp1	Rp1 1/4	Rp1 1/2	Rp2
Nominal width DN	8	10	15	20	25	32	40	50
Valve function	3/2							
Design	3-way ball valve							
Sealing principle	Soft							
Type of actuation	Mechanical							
Switching position indication	Slot direction = flow direction							
Flow direction	Reversible							
Type of mounting	In-line installation							
Mounting position	Any							
Based on standard	ISO 5211 EN 10226-1							
Breakaway torque at differential pressure, nominal pressure, process valve PN [Nm]	6	6	6.9	8	11	16.7	26.7	36
Inside diameter [mm]	8	10	14.1	17.6	25	32	38	45
Flow rate Kv [m <sup>3</sup> /h]	5.9	9.4	17	41	70	121	200	292

Operating and environmental conditions								
Connecting thread	Rp1/4	Rp3/8	Rp1/2	Rp3/4	Rp1	Rp1 1/4	Rp1 1/2	Rp2
Process valve nominal pressure PN	40	40	40	40	40	40	25	25
Temperature of medium [°C]	-20 ... +130							
Medium	Compressed air to ISO 8573-1:2010 [:-:-] Inert gases Water – no water vapour Neutral fluids							
CE mark (see declaration of conformity) <sup>1)</sup>	To EU Pressure Equipment Directive							

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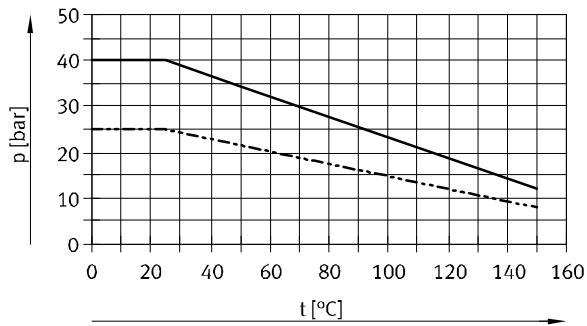


## Ball valves VZBM, 3-way

Technical data

Materials		Material number
Housing	Brass, nickel-plated	CW617N
Ball	Brass, chrome-plated	CW614N
Shaft	Brass	CW614N
Seals	PTFE	
	HNBR	
Note on materials	RoHS-compliant	
	Contains paint-wetting impairment substances	

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



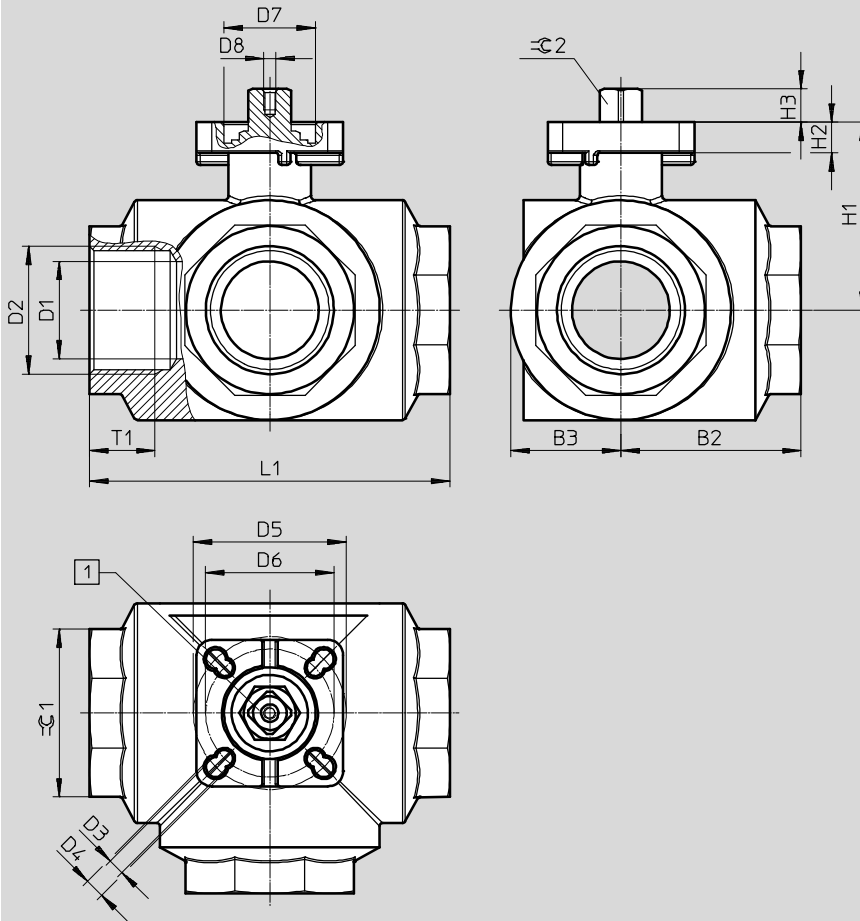
- Rp1/4 ... Rp1 1/4
- - - Rp1 1/2 ... Rp2

# Ball valves VZBM, 3-way

Technical data

## Dimensions

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1 Switching position indication: the slot direction corresponds to the flow direction → 68

Type	B1	B2	D1 ∅	D2	D3 ∅	D4 ∅	D5 ∅	D6 ∅	D7 ∅ H8	D8					
VZBM-1/4-RP-40-F-3...-F03-B2B3	32.5	17	8	Rp1/4	5.5	-	36	-	25	M4					
VZBM-3/8-RP-40-F-3...-F03-B2B3			10	Rp3/8											
VZBM-1/2-RP-40-F-3...-F03-B2B3			14.1	Rp1/2											
VZBM-3/4-RP-40-F-3...-F03-B2B3	38	21.5	17.6	Rp3/4							6.5	6.5	42	50	30
VZBM-1-RP-40-F-3...-F0304-B2B3	48.5	26	25	Rp1											
VZBM-11/4-RP-40-F-3...-F0405-B2B3	59	36.5	32	Rp1 1/4							5.5	42	50	30	
VZBM-11/2-RP-25-F-3...-F0405-B2B3	67.5	38	38	Rp1 1/2							6.5	6.5	50	-	35
VZBM-2-RP-25-F-3...-F05-B2B3	78.5	43	45	Rp2	6.5	6.5	50	-	35	M5					

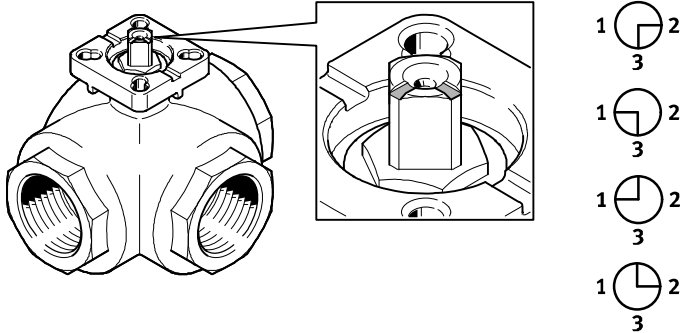
Type	H1	H2	H3	L1	T1	≈C1	≈C2
				±2	Min.		-0.1
VZBM-1/4-RP-40-F-3...-F03-B2B3	38	9	9	64.5	15	25	9
VZBM-3/8-RP-40-F-3...-F03-B2B3				76	16.3	31	
VZBM-1/2-RP-40-F-3...-F03-B2B3				97	19.1	41	
VZBM-3/4-RP-40-F-3...-F03-B2B3	42	10	11	118	21.4	55	11
VZBM-1-RP-40-F-3...-F0304-B2B3	46.5			134.5			
VZBM-11/4-RP-40-F-3...-F0405-B2B3	61.3	12	14	157	25.7	67	14
VZBM-11/2-RP-25-F-3...-F0405-B2B3	63.5						
VZBM-2-RP-25-F-3...-F05-B2B3	74						

# Ball valves VZBM, 3-way

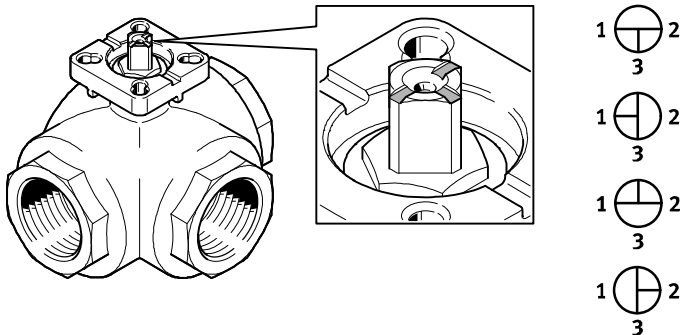
Technical data

## Switching position indication

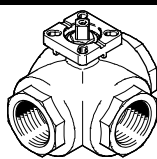
L-hole



T-hole



## Ordering data

	Version	Connecting thread	Weight [g]	Part No.	Type
	L-hole	Rp1/4	530	4451869 <sup>1)</sup>	VZBM-1/4-RP-40-F-3L-F03-B2B3
		Rp3/8	500	4451868 <sup>1)</sup>	VZBM-3/8-RP-40-F-3L-F03-B2B3
		Rp1/2	460	4451867 <sup>1)</sup>	VZBM-1/2-RP-40-F-3L-F03-B2B3
		Rp3/4	720	4451866 <sup>1)</sup>	VZBM-3/4-RP-40-F-3L-F03-B2B3
		Rp1	1280	4451862 <sup>1)</sup>	VZBM-1-RP-40-F-3L-F0304-B2B3
		Rp1 1/4	3000	4451863 <sup>1)</sup>	VZBM-11/4-RP-40-F-3L-F0405-B2B3
		Rp1 1/2	3260	4451864 <sup>1)</sup>	VZBM-11/2-RP-25-F-3L-F0405-B2B3
		Rp2	4470	4451865 <sup>1)</sup>	VZBM-2-RP-25-F-3L-F05-B2B3
	T-hole	Rp1/4	530	4451861 <sup>1)</sup>	VZBM-1/4-RP-40-F-3T-F03-B2B3
		Rp3/8	460	4451854 <sup>1)</sup>	VZBM-3/8-RP-40-F-3T-F03-B2B3
		Rp1/2	460	4451855 <sup>1)</sup>	VZBM-1/2-RP-40-F-3T-F03-B2B3
		Rp3/4	710	4451856 <sup>1)</sup>	VZBM-3/4-RP-40-F-3T-F03-B2B3
		Rp1	1250	4451857 <sup>1)</sup>	VZBM-1-RP-40-F-3T-F0304-B2B3
		Rp1 1/4	2930	4451858 <sup>1)</sup>	VZBM-11/4-RP-40-F-3T-F0405-B2B3
Rp1 1/2	3190	4451859 <sup>1)</sup>	VZBM-11/2-RP-25-F-3T-F0405-B2B3		
Rp2	4320	4451860 <sup>1)</sup>	VZBM-2-RP-25-F-3T-F05-B2B3		

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