

Ball valve VZBM

FESTO



Characteristics

At a glance

2- or 3-way ball valve VZBM made of brass with L- and T-bore. VZBM can be operated automatically or with a hand lever.

- Brass version
- Pipe thread to EN 10226-1

Type code

001	Series
VZBM	Ball valve

002	Nominal diameter DN
1/4	1/4"
3/8	3/8"
1/2	1/2"
3/4	3/4"
1	1"
1 1/4	1 1/4"
1 1/2	1 1/2"
2	2"

003	Process valve connection
RP	Rp thread

004	Nominal pressure [bar]
25	25
40	40
50	50

005	Design type
D	Two-part
F	Four-part

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

007	Flanged connection
	Standard
F03	Hole pattern 03
F0304	Hole pattern 03 and 04
F0405	Hole pattern 04 and 05
F05	Hole pattern 05

008	Actuation type
	Via drive
M	With hand lever

009	Housing material
B2	Brass, nickel-plated

010	Shut-off element material
B3	Brass, chrome-plated

Datasheet

General technical data, 3-way

Connection Process valve	Rp1/4	Rp3/8	Rp1/2	Rp3/4	Rp1	Rp1 1/2	Rp1 1/4	Rp2
Nominal size DN	8	10	15	20	25	40	32	50
Valve function	3/2							
Design	3-way ball valve, L-hole, T-hole							
Sealing principle	Soft							
Type of actuation	Mechanical							
Switching position indicator	Slot direction = flow direction							
Flow direction	Reversible							
Type of mounting	In-line installation							
Mounting position	optional							
Based on standard	EN 10226-1, ISO 5211							
Breakaway torque at differential pressure, nominal pressure, process valve PN	6		6.9	8	11	26.7	16.7	36
Inside diameter	8 mm	10 mm	14.1 mm	17.6 mm	25 mm	38 mm	32 mm	45 mm
Flow rate Kv	-							

Operating and environmental conditions, 3-way

Connection Process valve	Rp1/4	Rp3/8	Rp1/2	Rp3/4	Rp1	Rp1 1/2	Rp1 1/4	Rp2
Nominal pressure PN	40					25	40	25
Media temperature	-20 ... 130°C							
Medium	Compressed air to ISO 8573-1:2010 [---], Inert gases, Water – no water vapour, Neutral fluids							
CE mark (see declaration of conformity) ¹⁾	In accordance with EU Pressure Equipment Directive							

1) More information www.festo.com/sp see Certificates.

Materials, 2/3-way

Material housing	Brass, Nickel-plated
Material ball	Brass, Chrome-plated
Material shaft	Brass
Material seals	HNBR, PTFE
Note on materials	RoHS-compliant

General technical data, manual

Connection Process valve	Rp1/4	Rp3/8	Rp1/2	Rp3/4	Rp1	Rp1 1/2	Rp1 1/4
Nominal size DN	8	10	15	20	25	40	32
Valve function	2/2						
Design	2-way ball valve						
Sealing principle	Soft						
Type of actuation	Mechanical						
Switching position indicator	Slot direction = flow direction						
Flow direction	Reversible						
Type of mounting	In-line installation						
Mounting position	optional						
Based on standard	EN 10226-1						
Actuating torque with pressure difference relative to nominal valve pressure	7.5		9	20	25	50	37
Inside diameter	10 mm		15 mm	20 mm	25 mm	40 mm	32 mm
Flow rate Kv	6 m ³ /h	8 m ³ /h	15 m ³ /h	28 m ³ /h	39 m ³ /h	156 m ³ /h	84 m ³ /h

Datasheet

Operating and environmental conditions, manual

Connection Process valve	Rp1/4	Rp3/8	Rp1/2	Rp3/4	Rp1	Rp1 1/2	Rp1 1/4
Nominal pressure PN	50				40		
Media temperature	-15 ... 120°C						
Medium	Compressed air to ISO 8573-1:2010 [---], Inert gases, Water – no water vapour, Neutral fluids						
CE mark (see declaration of conformity) ¹⁾	In accordance with EU Pressure Equipment Directive						

1) More information www.festo.com/sp see Certificates.

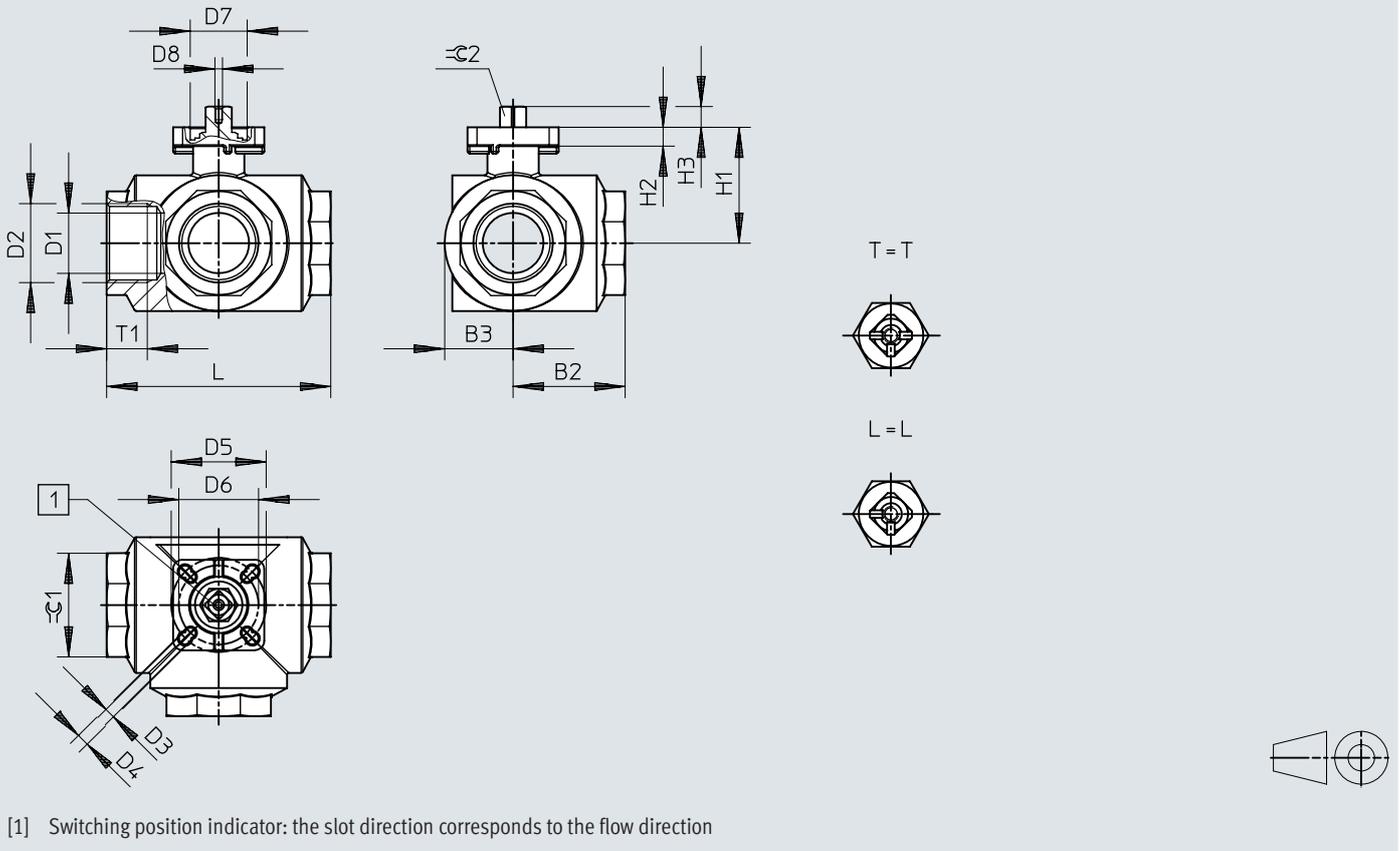
Materials manual

Material housing	Brass, Nickel-plated
Material number housing	CW617N
Material ball	Brass, Chrome-plated
Material number ball	CW617N
Material shaft	Brass
Material number shaft	CW617N
Material seals	NBR, PTFE
Note on materials	RoHS-compliant

Dimensions

Dimensions – Ball valves VZBM, 3-way

Download CAD data www.festo.com

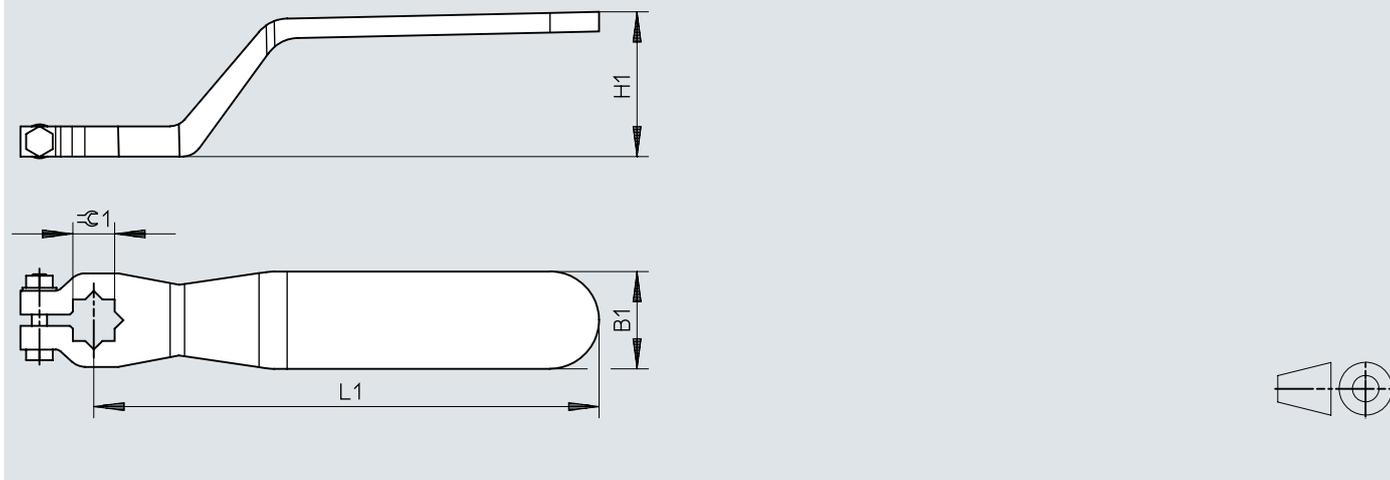


	B2	B3	D1 ø	D2	D3 ø	D4 ø	D5 ø	D6 ø	D7 ø H8	D8
VZBM-1/4-RP-40-F-3...-F03-B2B3	32,5	17	8	Rp1/4	5,5	-	36	-	25	M4
VZBM-3/8-RP-40-F-3...-F03-B2B3			10	Rp3/8						
VZBM-1/2-RP-40-F-3...-F03-B2B3			14,1	Rp1/2						
VZBM-3/4-RP-40-F-3...-F03-B2B3	38	21,5	17,6	Rp3/4		5,5	-	42	30	
VZBM-1-RP-40-F-3...-F0304-B2B3	48,5	26	25	Rp1						
VZBM-1 1/4-RP-40-F-3...-F0405-B2B3	59	36,5	32	Rp1 1/4		6,5	42	50	30	
VZBM-1 1/2-RP-25-F-3...-F0405-B2B3	67,5	38	38	Rp1 1/2		6,5	50	-	35	
VZBM-2-RP-25-F-3...-F05-B2B3	78,5	43	45	Rp2	6,5	50	-	35	M5	

	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-1 1/4-RP-40-F-3...-F0405-B2B3	61,3			157			
VZBM-1 1/2-RP-25-F-3...-F0405-B2B3	63,5	12	14	157	25,7	67	14
VZBM-2-RP-25-F-3...-F05-B2B3	74	12	14	157	25,7	67	14

Dimensions

Dimensions – Hand lever VAOH, 3-way

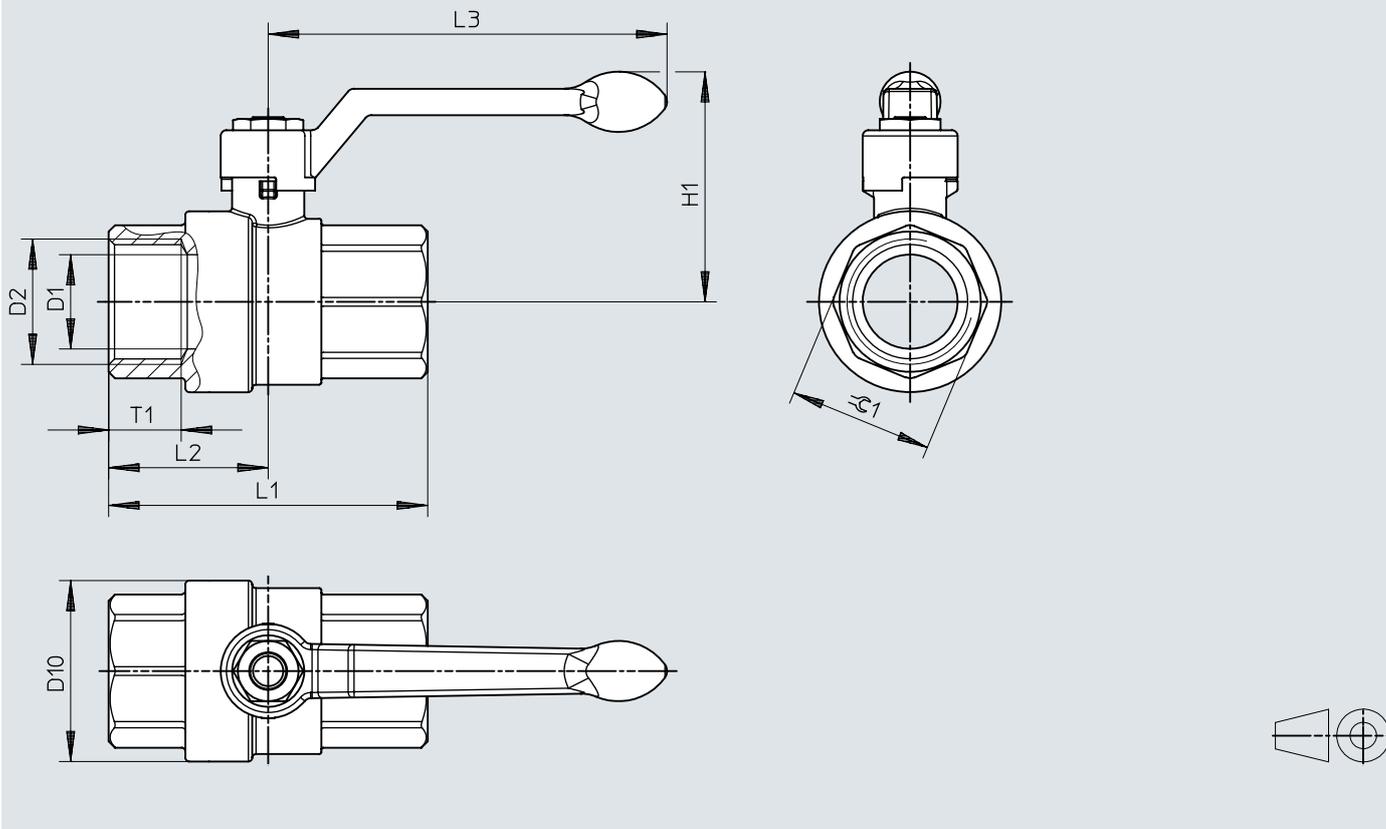
Download CAD data www.festo.com

		B1 ±5	H1 ±5	L1 ±10	$\approx C1$ ±0,5
VAOH-9-H9	Rp1/4 ... Rp1	21	36	120	9
VAOH-11-H9	Rp1 1/4 ... Rp1 1/2	26	40	140	11
VAOH-14-H9	Rp2	31	46	180	14

Dimensions

Dimensions – Ball valves VZBM, manual

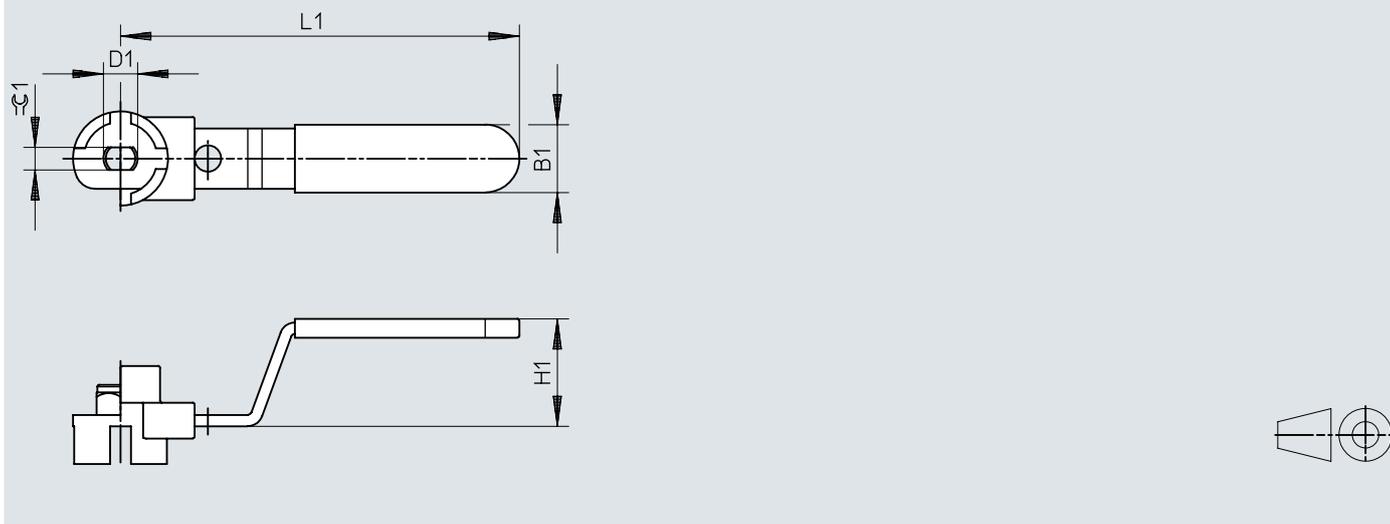
Download CAD data www.festo.com



	D1 ∅	D2	D10 ∅	H1	L1	L2	L3	T1 min.	$\approx \text{E}1$
VZBM-1/4-RP-50-D-2-M-B2B3	10	Rp1/4	23	41	49	23	85	12	18
VZBM-3/8-RP-50-D-2-M-B2B3	10	Rp3/8	24	41	50,5	23,5	85	12	21
VZBM-1/2-RP-50-D-2-M-B2B3	15	Rp1/2	32	49	61	30,5	85	15	26
VZBM-3/4-RP-50-D-2-M-B2B3	20	Rp3/4	40	57	69,5	35	105	16,3	32
VZBM-1-RP-40-D-2-M-B2B3	25	Rp1	48	61	84	42	105	19,1	38
VZBM-1 1/4-RP-40-D-2-M-B2B3	32	Rp1 1/4	60	75	98	49	130	21,4	47
VZBM-1 1/2-RP-40-D-2-M-B2B3	40	Rp1 1/2	72,5	81	108	54	130	22	54

Dimensions

Dimensions – Hand lever VAOH, manual

Download CAD data www.festo.com

		B1	D1 ∅	H1	L1	≈ 1
VAOH-F10-D7-H9-A	Rp1/4 ... Rp1/2	16	7	24,5	89	5
VAOH-F10-D9-H9-A	Rp3/4 ... Rp1	18	9	28,5	105	6
VAOH-F10-D12-H9-A	Rp1 1/4 ... Rp1 1/2	22	12	32	130	8

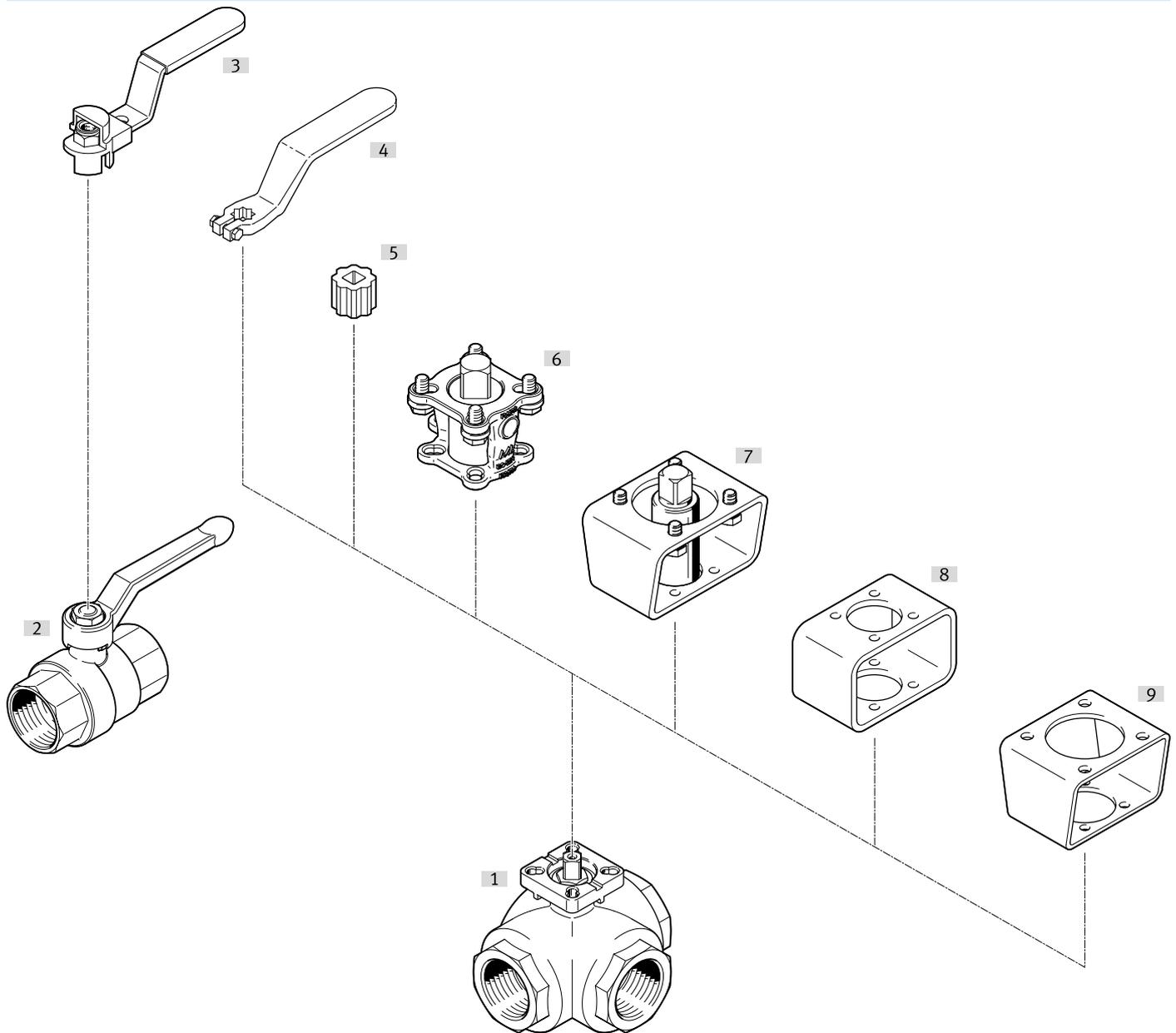
Ordering data

Ball valves VZBM, 3-way				
	Connection Process valve	Product weight	Part no.	Type
	Rp1/4	530 g	4451869	VZBM-1/4-RP-40-F-3L-F03-B2B3
			4451861	VZBM-1/4-RP-40-F-3T-F03-B2B3
	Rp3/8	460 g	4451854	VZBM-3/8-RP-40-F-3T-F03-B2B3
			4451868	VZBM-3/8-RP-40-F-3L-F03-B2B3
	Rp1/2	460 g	4451855	VZBM-1/2-RP-40-F-3T-F03-B2B3
			4451867	VZBM-1/2-RP-40-F-3L-F03-B2B3
	Rp3/4	710 g	4451856	VZBM-3/4-RP-40-F-3T-F03-B2B3
			4451866	VZBM-3/4-RP-40-F-3L-F03-B2B3
	Rp1	1,250 g	4451857	VZBM-1-RP-40-F-3T-F0304-B2B3
			4451862	VZBM-1-RP-40-F-3L-F0304-B2B3
	Rp1 1/2	3,190 g	4451859	VZBM-11/2-RP-25-F-3T-F0405-B2B3
			4451864	VZBM-11/2-RP-25-F-3L-F0405-B2B3
	Rp1 1/4	2,930 g	4451858	VZBM-11/4-RP-40-F-3T-F0405-B2B3
			4451863	VZBM-11/4-RP-40-F-3L-F0405-B2B3
	Rp2	4,320 g	4451860	VZBM-2-RP-25-F-3T-F05-B2B3
4451865			VZBM-2-RP-25-F-3L-F05-B2B3	

Ball valves VZBM, manual				
	Connection Process valve	Product weight	Part no.	Type
	Rp1/4	130 g	4405684	VZBM-1/4-RP-50-D-2-M-B2B3
	Rp3/8	120 g	4405685	VZBM-3/8-RP-50-D-2-M-B2B3
	Rp1/2	200 g	4405686	VZBM-1/2-RP-50-D-2-M-B2B3
	Rp3/4	335 g	4405687	VZBM-3/4-RP-50-D-2-M-B2B3
	Rp1	480 g	4405689	VZBM-1-RP-40-D-2-M-B2B3
	Rp1 1/2	1,116 g	4405691	VZBM-11/2-RP-40-D-2-M-B2B3
	Rp1 1/4	770 g	4405690	VZBM-11/4-RP-40-D-2-M-B2B3

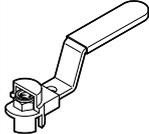
Peripherals

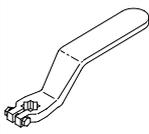
Peripherals overview

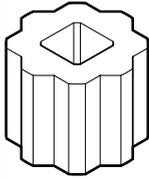


Accessories		→ Link
Type/order code	Description	
[2]		vzbm
[3] Ball valve VZBM	With hand lever	vzbm
[4] Hand lever VAOH	Lockable for VZBM, manual	12
[5] Hand lever VAOH	High-alloy stainless steel	12
[6] Reducing sleeve DARQ	<ul style="list-style-type: none"> • Connection 1, drive outlet function • Connection 2, reducing outlet function 	13
[7] Mounting kit DARQ	<ul style="list-style-type: none"> • Connection 1, drive outlet function • Connection 2, reducing outlet function 	13
[8] Mounting kit DARQ-K...R13	<ul style="list-style-type: none"> • DARQ-K-V-... (female square and male square) • DARQ-K-V-... (two-flats and male square) 	14
[9] Mounting flange adapter DARQ	Drive outlet function	14
[10] Mounting flange adapter DARQ	Reducing outletfunction	14

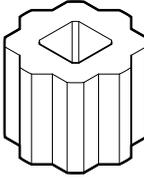
Accessories

Hand lever VAOH				
	Description	Product weight	Part no.	Type
	For connection Rp1/4 ... Rp1/2	50 g	4650069	VAOH-F10-D7-H9-A
	For connection Rp3/4 ... Rp1	75 g	4650070	VAOH-F10-D9-H9-A
	For connection Rp1 1/4 ... Rp1 1/2	145 g	4650071	VAOH-F10-D12-H9-A

Hand lever VAOH				
	Description	Product weight	Part no.	Type
	For connection Rp1/4 ... Rp2	100 g	542702	VAOH-9-H9
	For connection Rp1 1/4 ... Rp1 1/2	200 g	542703	VAOH-11-H9
	For connection Rp2	300 g	542704	VAOH-14-H9

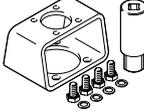
Reducing sleeve DARQ					
	Length		Part no.	Type	
	11 mm		8082140	DARQ-R-A-S11-S9-11-P10	
			8082131	DARQ-R-A-S11-S9-11-P5	
			8082117	DARQ-R-A-S11-S9-11	
			8082145	DARQ-R-A-S11-S9-11-P50	
	12 mm		8082130	DARQ-R-A-S11-S8-12-P5	
			8082116	DARQ-R-A-S11-S8-12	
		16 mm		8086383	DARQ-R-A-S14-S8-16
				8082120	DARQ-R-A-S14-S11-16
			8082121	DARQ-R-A-S14-S12-16	
			8082147	DARQ-R-A-S14-S11-16-P50	
			8082142	DARQ-R-A-S14-S11-16-P10	
			8082132	DARQ-R-A-S14-S9-16-P5	
			8082133	DARQ-R-A-S14-S11-16-P5	
			8086388	DARQ-R-A-S14-S8-16-P5	
			8082118	DARQ-R-A-S14-S9-16	
			8082146	DARQ-R-A-S14-S9-16-P50	
			8082141	DARQ-R-A-S14-S9-16-P10	
			8082119	DARQ-R-A-S14-S10-16	
	17 mm		8086384	DARQ-R-A-S17-S8-17	
			8086385	DARQ-R-A-S17-S12-17	
			8082122	DARQ-R-A-S17-S11-17	
			8082148	DARQ-R-A-S17-S11-17-P50	
			8096914	DARQ-R-A-S17-S9-17	
			8082134	DARQ-R-A-S17-S11-17-P5	
			8082135	DARQ-R-A-S17-S14-17-P5	
			8082143	DARQ-R-A-S17-S14-17-P10	
			8086389	DARQ-R-A-S17-S12-17-P5	
			8082123	DARQ-R-A-S17-S14-17	
	22 mm		8086386	DARQ-R-A-S22-S11-22	
			8082149	DARQ-R-A-S22-S17-22-P50	
			8082144	DARQ-R-A-S22-S17-22-P10	
			8082126	DARQ-R-A-S22-S17-22	
			8082125	DARQ-R-A-S22-S16-22	
			8082136	DARQ-R-A-S22-S14-22-P5	
			8082137	DARQ-R-A-S22-S17-22-P5	

Accessories

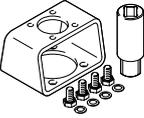
Reducing sleeve DARQ			
	Length	Part no.	Type
	22 mm	8082124	DARQ-R-A-S22-S14-22
	27 mm	8082127	DARQ-R-A-S27-S22-27
		8082138	DARQ-R-A-S27-S22-27-P5
		8086387	DARQ-R-A-S27-S17-27
	36 mm	8082139	DARQ-R-A-S36-S27-36-P5
		8082128	DARQ-R-A-S36-S27-36
		8096913	DARQ-R-A-S27-S14-27
		8096915	DARQ-R-A-S36-S22-36
		8082129	DARQ-R-A-S46-S36-46

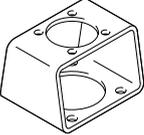
Mounting kit DARQ			
	Product weight	Part no.	Type
	232 g	8088299	DARQ-K-V-F04S11-F03S9-R1
	255 g	8088301	DARQ-K-V-F05S14-F03S9-R1
	342 g	8088297	DARQ-K-V-F05S14-F04S11-R1
	563 g	8088302	DARQ-K-V-F07S17-F04S11-R1
	771 g	8088303	DARQ-K-V-F07S17-F05S14-R1
	1,515 g	8088300	DARQ-K-V-F10S22-F05S14-R1
	2,010 g	8088298	DARQ-K-V-F10S22-F07S17-R1

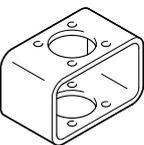
Mounting flange adapter DARQ			
	Product weight	Part no.	Type
	120 g	8087462	DARQ-B-F0405-F0304-R1
	300 g	8087463	DARQ-B-F0507-F0405-R1
	950 g	8087464	DARQ-B-F1012-F10-R1
	1,610 g	8087465	DARQ-B-F0710-F0507-R1

Mounting kit DARQ-K-V-...R13			
	Product weight	Part no.	Type
	392 g	8084186	DARQ-K-V-F03S9-F03S9-R13
	410 g	8084187	DARQ-K-V-F04S11-F03S9-R13
	480 g	8084188	DARQ-K-V-F04S11-F04S11-R13
	630 g	8084189	DARQ-K-V-F05S14-F03S9-R13
	725 g	8084190	DARQ-K-V-F05S14-F04S11-R13
	823 g	8084192	DARQ-K-V-F07S17-F04S11-R13
	830 g	8084191	DARQ-K-V-F05S14-F05S14-R13
	866 g	8132814	DARQ-K-V-F07S17-F03S9-R13
	926 g	8084193	DARQ-K-V-F07S17-F05S14-R13
	980 g	8084194	DARQ-K-V-F07S17-F07S14-R13
	986 g	8084195	DARQ-K-V-F07S22-F05S11-R13
	1,410 g	8133487	DARQ-K-V-F10S22-F04S11-R13
	1,432 g	8084196	DARQ-K-V-F10S22-F05S14-R13
	1,935 g	8084199	DARQ-K-V-F10S27-F05S14-R13
	2,045 g	8084197	DARQ-K-V-F10S22-F07S17-R13
	2,113 g	8084198	DARQ-K-V-F10S22-F10S22-R13
	2,116 g	8084200	DARQ-K-V-F10S27-F07S17-R13
	2,134 g	8086439	DARQ-K-V-F10S27-F07S14-R13
	2,615 g	8084201	DARQ-K-V-F12S27-F07S17-R13
	2,655 g	8131545	DARQ-K-V-F12S27-F07S14-R13
	2,728 g	8133486	DARQ-K-V-F12S27-F05S14-R13
	2,753 g	8084202	DARQ-K-V-F12S27-F10S22-R13
	3,552 g	8084203	DARQ-K-V-F12S27-F12S27-R13

Accessories

Mounting kit DARQ-K-Z-...R13			
	Product weight	Part no.	Type
	385 g	8085017	DARQ-K-Z-F03S9-F03S9-R13
	400 g	8085016	DARQ-K-Z-F04S11-F03S9-R13
	465 g	8085018	DARQ-K-Z-F04S11-F04S11-R13
	620 g	8085019	DARQ-K-Z-F05S14-F03S9-R13
	710 g	8085020	DARQ-K-Z-F05S14-F04S11-R13
	795 g	8085021	DARQ-K-Z-F05S14-F05S14-R13
	810 g	8085022	DARQ-K-Z-F07S17-F04S11-R13
	890 g	8085023	DARQ-K-Z-F07S17-F05S14-R13
	945 g	8085024	DARQ-K-Z-F07S17-F07S14-R13
	1,396 g	8085026	DARQ-K-Z-F10S22-F05S14-R13
	1,970 g	8085027	DARQ-K-Z-F10S22-F07S17-R13
	1,980 g	8085025	DARQ-K-Z-F10S22-F10S22-R13

Mounting flange adapter DARQ, function drive outlet			
	Product weight	Part no.	Type
	270 g	8082978	DARQ-B-F04-F03-R13
	442 g	8082980	DARQ-B-F05-F03-R13
	461 g	8082981	DARQ-B-F05-F04-R13
	514 g	8082983	DARQ-B-F07-F04-R13
	530 g	8082984	DARQ-B-F07-F05-R13
	836 g	8082986	DARQ-B-F10-F05-R13
	920 g	8082987	DARQ-B-F10-F07-R13
	1,504 g	8082989	DARQ-B-F12-F07-R13
	1,688 g	8082990	DARQ-B-F12-F10-R13
	1,775 g	8082992	DARQ-B-F14-F10-R13
	1,889 g	8082993	DARQ-B-F14-F12-R13
	2,305 g	8083005	DARQ-B-F05-F04-R13-P5
	2,648 g	8082995	DARQ-B-F16-F12-R13
	2,650 g	8083007	DARQ-B-F07-F05-R13-P5
	2,792 g	8082996	DARQ-B-F16-F14-R13
	4,600 g	8083009	DARQ-B-F10-F07-R13-P5
	14,734 g	8082998	DARQ-B-F25-F14-R13
	15,384 g	8082999	DARQ-B-F25-F16-R13
	16,740 g	8083001	DARQ-B-F30-F16-R13
	20,250 g	8083002	DARQ-B-F30-F25-R13

Mounting flange adapter DARQ, function reducing outlet			
	Product weight	Part no.	Type
	260 g	8082977	DARQ-B-F03-F03-R13
	275 g	8082979	DARQ-B-F04-F04-R13
	478 g	8082982	DARQ-B-F05-F05-R13
	583 g	8082985	DARQ-B-F07-F07-R13
	1,037 g	8082988	DARQ-B-F10-F10-R13
	1,375 g	8083004	DARQ-B-F04-F04-R13-P5
	1,802 g	8082991	DARQ-B-F12-F12-R13
	1,976 g	8082994	DARQ-B-F14-F14-R13
	2,390 g	8083006	DARQ-B-F05-F05-R13-P5
	2,844 g	8082997	DARQ-B-F16-F16-R13
	2,915 g	8083008	DARQ-B-F07-F07-R13-P5
	5,185 g	8083010	DARQ-B-F10-F10-R13-P5
	18,895 g	8083000	DARQ-B-F25-F25-R13
	21,644 g	8083003	DARQ-B-F30-F30-R13