

Ball valve actuator unit VZBM

FESTO



Characteristics

At a glance

- Electric or pneumatic actuation
- Flange hole pattern according to ISO 5211
- Connection pattern to NAMUR VDI/VDE 3845
- Corrosion-resistant and acid-resistant versions
- Versions with ATEX certification
- Combination of a pneumatic quarter-turn actuator and a ball valve
- The flow is fully opened or closed in both directions
- Sensor boxes or limit switches for sensing the end positions can be mounted directly on the actuator unit

Design type

- 2-way ball valve actuator units made of stainless steel or brass with pipe thread or with weld ends
- 2-way ball valve actuator units made of stainless steel in compact design
- 3-way ball valve actuator units made of stainless steel or brass

Type code

001	Series
VZBM	Ball valve

002	Version
A	Ball valve actuator unit

003	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"

004	Process valve connection
RP	Rp thread

005	Nominal pressure [bar]
25	25
40	40

006	Design type
D	Two-part
F	Four-part

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

008	Housing material
B2	Brass, nickel-plated

009	Drive
PA	DFPD, double-acting
PB	DFPD, single-acting

010	Size
10	10
20	20
40	40
80	80
120	120

Datasheet

General technical data, 2-way

Nominal size DN	8	10	15	20	25	32	40	50
Type of mounting	In-line installation							
Mounting position	optional							
Design	2-way ball valve, Semi-rotary drive							
Type of actuation	Pneumatic							
Switching position indicator	Slot direction = flow direction							
Nominal pressure PN	40		25					
Flow rate Kv	5.9 m ³ /h	9.4 m ³ /h	15 m ³ /h	28 m ³ /h	39 m ³ /h	84 m ³ /h	156 m ³ /h	243 m ³ /h

Operating and environmental conditions, 2-way

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]							
Operating pressure	5.5 ... 8 bar							
Ambient temperature	-20 ... 80°C							
Media temperature ¹⁾	-20 ... 130°C							
Medium	Compressed air to ISO 8573-1:2010 [:-:-], Inert gases, Water – no water vapour, Neutral fluids							
Note on operating and pilot medium	Dew point at least 10°C below the ambient temperature and temperature of the medium, Lubricated operation possible (in which case lubricated operation will always be required)							
Corrosion resistance class CRC ²⁾	1 - Low corrosion stress							

1) As a function of operating pressure

2) Corrosion resistance class CRC 3 to Festo standard FN 940070 High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional surface requirements that are in direct contact with a normal industrial atmosphere.

Materials, 2-way

Material housing	Brass, nickel-plated							
Material number housing	CW617N							
Material ball	Brass, chrome-plated							
Material number ball	CW614N							
Material shaft	Brass							
Material number shaft	CW614N							
Material seals	FPM, HNBR, PTFE							
Note on materials	RoHS-compliant							

General technical data, 3-way

Nominal size DN	8	10	15	20	25	32	40	50
Type of mounting	In-line installation							
Mounting position	optional							
Design	3-way ball valve, Semi-rotary drive							
Type of actuation	Pneumatic							
Switching position indicator	Slot direction = flow direction							
Nominal pressure PN	25							

Operating and environmental conditions, 3-way

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]							
Operating pressure	5.5 ... 8 bar							
Ambient temperature	-20 ... 80°C							
Media temperature ¹⁾	-20 ... 130°C							
Medium	Compressed air to ISO 8573-1:2010 [:-:-], Inert gases, Water – no water vapour, Neutral fluids							
Note on operating and pilot medium	Dew point at least 10°C below the ambient temperature and temperature of the medium, Lubricated operation possible (in which case lubricated operation will always be required)							
Corrosion resistance class CRC ²⁾	1 - Low corrosion stress							

1) As a function of operating pressure

2) Corrosion resistance class CRC 3 to Festo standard FN 940070 High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional surface requirements that are in direct contact with a normal industrial atmosphere.

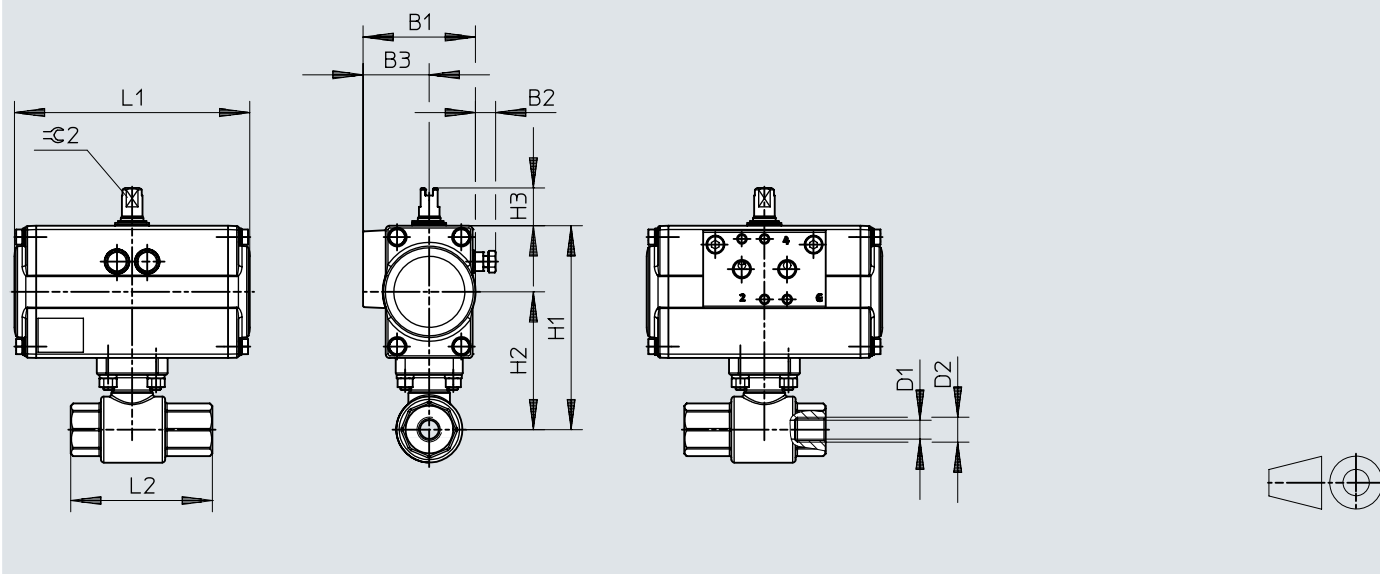
Datasheet

Materials, 3-way	
Material housing	Brass, nickel-plated
Material number housing	CW617N
Material ball	Brass, chrome-plated
Material number ball	CW614N
Material shaft	Brass
Material number shaft	CW614N
Material seals	HNBR, PTFE
Note on materials	RoHS-compliant

Dimensions

Dimensions – 2-way, brass, DFPD double-acting

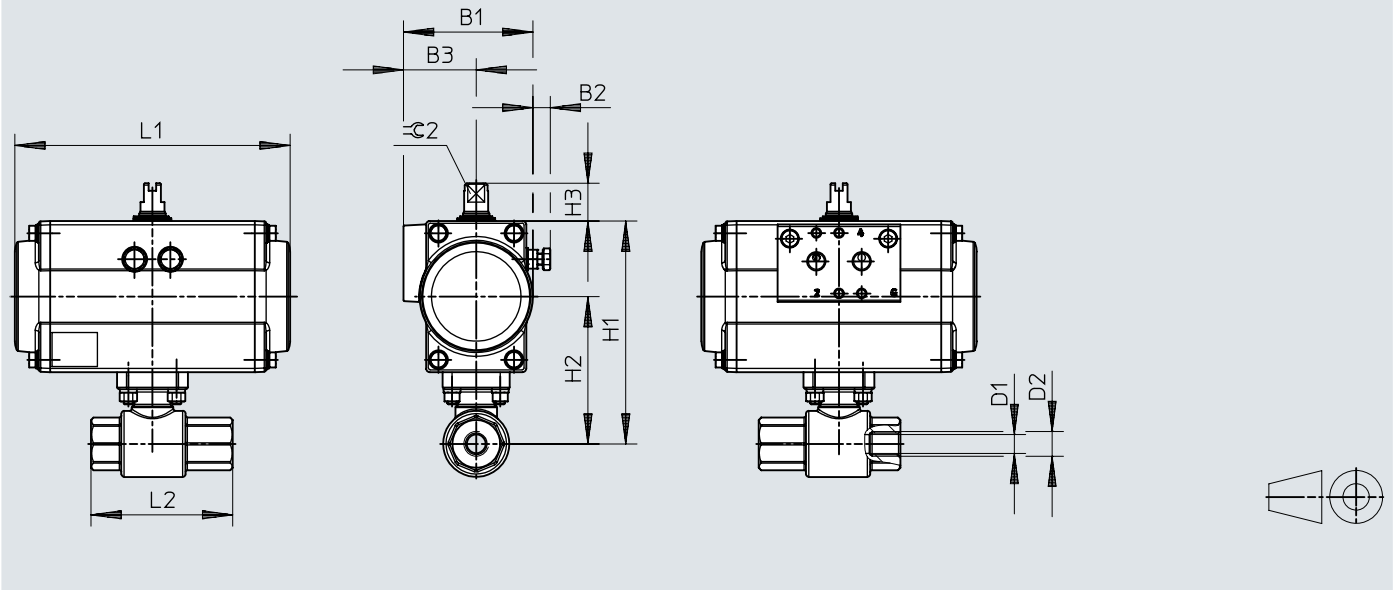
Download CAD data www.festo.com



	B1	B2	B3	D1 ø	D2	H1	H2	H3	L1	L2	Ra 2 h11
VZBM-A-1/4"-...	59,5	10,7	35	10	RP1/4	108	73	20	124,7	75	9
VZBM-A-3/8"-...	59,5	10,7	35	10	RP3/8	108	73	20	124,7	75	9
VZBM-A-1/2"-...	59,5	10,7	35	15	RP1/2	102	67	20	124,7	61	9
VZBM-A-3/4"-...	59,5	10,7	35	20	RP3/4	106	71	20	124,7	70	9
VZBM-A-1"-...	59,5	10,7	35	25	RP1	114	79	20	124,7	84	9
VZBM-A-1 1/4"-...	59,5	10,7	35	32	RP1 1/4	119	84	20	124,7	97	9
VZBM-A-1 1/2"-...	68,5	9,2	38,5	40	RP1 1/2	134	94	20	133,3	108	9
VZBM-A-2"-...	81,5	8,2	45	50	RP2	152	108	20	151,4	130	12

Dimensions

Dimensions – 2-way, brass, DFPD single-acting

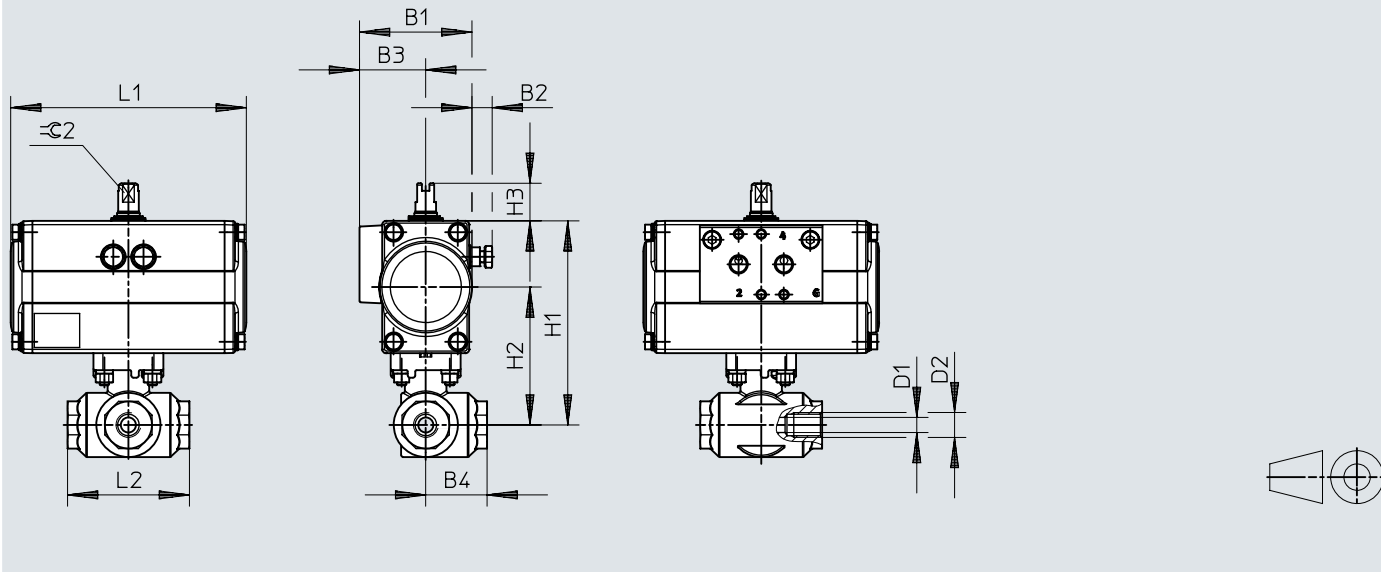
Download CAD data www.festo.com

	B1	B2	B3	D1 ø	D2	H1	H2	H3	L1	L2	∠ 2 h11
VZBM-A-1/4"-...	68,5	9,2	38,5	10	RP1/4	118	78	20	145,7	75	9
VZBM-A-3/8"-...	68,5	9,2	38,5	10	RP3/8	118	78	20	145,7	75	9
VZBM-A-1/2"-...	68,5	9,2	38,5	15	RP1/2	112	72	20	145,7	61	9
VZBM-A-3/4"-...	68,5	9,2	38,5	20	RP3/4	116	76	20	145,7	70	9
VZBM-A-1"-...	68,5	9,2	38,5	25	RP1	124	84	20	145,7	84	9
VZBM-A-1 1/4"-...	68,5	9,2	38,5	32	RP1 1/4	129	89	20	145,7	97	9
VZBM-A-1 1/2"-...	81,5	8,2	45	40	RP1 1/2	146	100	20	170,4	108	9
VZBM-A-2"-...	99	9	53	50	RP2	172	117	20	223,1	130	12

Dimensions

Dimensions – 3-way, brass, DFPD double-acting

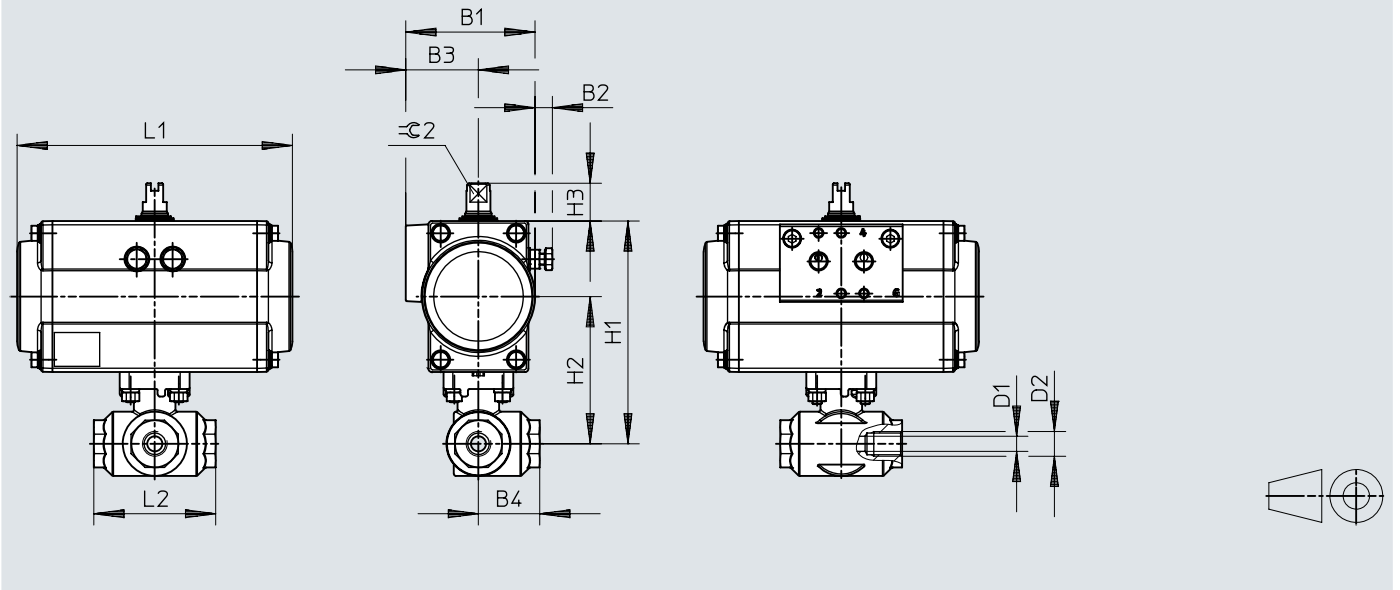
Download CAD data www.festo.com



	B1	B2	B3	B4	D1 ø	D2	H1	H2	H3	L1	L2	⊕ 2 h11
VZBM-A-1/4"-...	59,5	10,7	35	32,5	8	RP1/4	108	73	20	124,7	64,5	9
VZBM-A-3/8"-...	59,5	10,7	35	32,5	10	RP3/8	108	73	20	124,7	64,5	9
VZBM-A-1/2"-...	59,5	10,7	35	32,5	14,1	RP1/2	108	73	20	124,7	64,5	9
VZBM-A-3/4"-...	68,5	9,2	38,5	38	17,6	RP3/4	122	82	20	133,3	76	9
VZBM-A-1"-...	68,5	9,2	38,5	48,5	25	RP1	126,5	86,5	20	133,3	97	9
VZBM-A-1 1/4"-...	81,5	8,2	45	59	32	RP1 1/4	153,3	107,3	20	151,4	118	12
VZBM-A-1 1/2"-...	99	9	53	67,5	38	RP1 1/2	155,5	118,5	20	189,3	134,5	15
VZBM-A-2"-...	99	9	53	78,5	45	RP2	166	129	20	189,3	157	15


Dimensions


Dimensions – 3-way, brass, DFPD single-acting


Download CAD data www.festo.com


	B1	B2	B3	B4	D1 ø	D2	H1	H2	H3	L1	L2	h11 ±0.2
VZBM-A-1/4"-...	68,5	9,2	38,5	32,5	8	RP1/4	118	78	20	145,7	64,5	9
VZBM-A-3/8"-...	68,5	9,2	38,5	32,5	10	RP3/8	118	78	20	145,7	64,5	9
VZBM-A-1/2"-...	68,5	9,2	38,5	32,5	14,1	RP1/2	118	78	20	145,7	64,5	9
VZBM-A-3/4"-...	81,5	8,2	45	38	17,6	RP3/4	132	88	20	170,4	76	12
VZBM-A-1"-...	81,5	8,2	45	48,5	25	RP1	138,5	92,5	20	170,4	97	12
VZBM-A-1 1/4"-...	99	9	53	59	32	RP1 1/4	171,3	116,3	20	223,1	118	15
VZBM-A-1 1/2"-...	111,5	12,3	60,5	67,5	38	RP1 1/2	186,5	124,5	20	252,3	134,5	15
VZBM-A-2"-...	111,5	12,3	60,5	78,5	45	RP2	197	135,5	20	252,3	157	15

Ordering data

DFPD double-acting, 2-way			
	Connection Process valve	Part no.	Type
	Rp1/4	8070234	VZBM-A-1/4"-RP-40-D-2-B2-PA10
	Rp3/8	8070235	VZBM-A-3/8"-RP-40-D-2-B2-PA10
	Rp1/2	8070236	VZBM-A-1/2"-RP-25-D-2-B2-PA10
	Rp3/4	8070237	VZBM-A-3/4"-RP-25-D-2-B2-PA10
	Rp1	8070238	VZBM-A-1"-RP-25-D-2-B2-PA10
	Rp1 1/2	8070240	VZBM-A-1 1/2"-RP-25-D-2-B2-PA20
	Rp1 1/4	8070239	VZBM-A-1 1/4"-RP-25-D-2-B2-PA10
	Rp2	8070241	VZBM-A-2"-RP-25-D-2-B2-PA40


DFPD single-acting, 2-way			
	Connection Process valve	Part no.	Type
	Rp1/4	8070242	VZBM-A-1/4"-RP-40-D-2-B2-PB20
	Rp3/8	8070243	VZBM-A-3/8"-RP-40-D-2-B2-PB20
	Rp1/2	8070244	VZBM-A-1/2"-RP-25-D-2-B2-PB20
	Rp3/4	8070245	VZBM-A-3/4"-RP-25-D-2-B2-PB20
	Rp1	8070246	VZBM-A-1"-RP-25-D-2-B2-PB20
	Rp1 1/2	8070248	VZBM-A-1 1/2"-RP-25-D-2-B2-PB40
	Rp1 1/4	8070247	VZBM-A-1 1/4"-RP-25-D-2-B2-PB20
	Rp2	8070249	VZBM-A-2"-RP-25-D-2-B2-PB80


DFPD double-acting type L, 3-way			
	Connection Process valve	Part no.	Type
	Rp1/4	8070250	VZBM-A-1/4"-RP-25-F-3L-B2-PA10
	Rp3/8	8070251	VZBM-A-3/8"-RP-25-F-3L-B2-PA10
	Rp1/2	8070252	VZBM-A-1/2"-RP-25-F-3L-B2-PA10
	Rp3/4	8070253	VZBM-A-3/4"-RP-25-F-3L-B2-PA20
	Rp1	8070254	VZBM-A-1"-RP-25-F-3L-B2-PA20
	Rp1 1/2	8070256	VZBM-A-1 1/2"-RP-25-F-3L-B2-PA80
	Rp1 1/4	8070255	VZBM-A-1 1/4"-RP-25-F-3L-B2-PA40
	Rp2	8070257	VZBM-A-2"-RP-25-F-3L-B2-PA80

DFPD single-acting type L, 3-way			
	Connection Process valve	Part no.	Type
	Rp1/4	8070266	VZBM-A-1/4"-RP-25-F-3L-B2-PB20
	Rp3/8	8070267	VZBM-A-3/8"-RP-25-F-3L-B2-PB20
	Rp1/2	8070268	VZBM-A-1/2"-RP-25-F-3L-B2-PB20
	Rp3/4	8070269	VZBM-A-3/4"-RP-25-F-3L-B2-PB40
	Rp1	8070270	VZBM-A-1"-RP-25-F-3L-B2-PB40
	Rp1 1/2	8070272	VZBM-A-1 1/2"-RP-25-F-3L-B2-PB120
	Rp1 1/4	8070271	VZBM-A-1 1/4"-RP-25-F-3L-B2-PB80
	Rp2	8070273	VZBM-A-2"-RP-25-F-3L-B2-PB120

DFPD double-acting type T, 3-way			
	Connection Process valve	Part no.	Type
	Rp1/4	8070258	VZBM-A-1/4"-RP-25-F-3T-B2-PA10

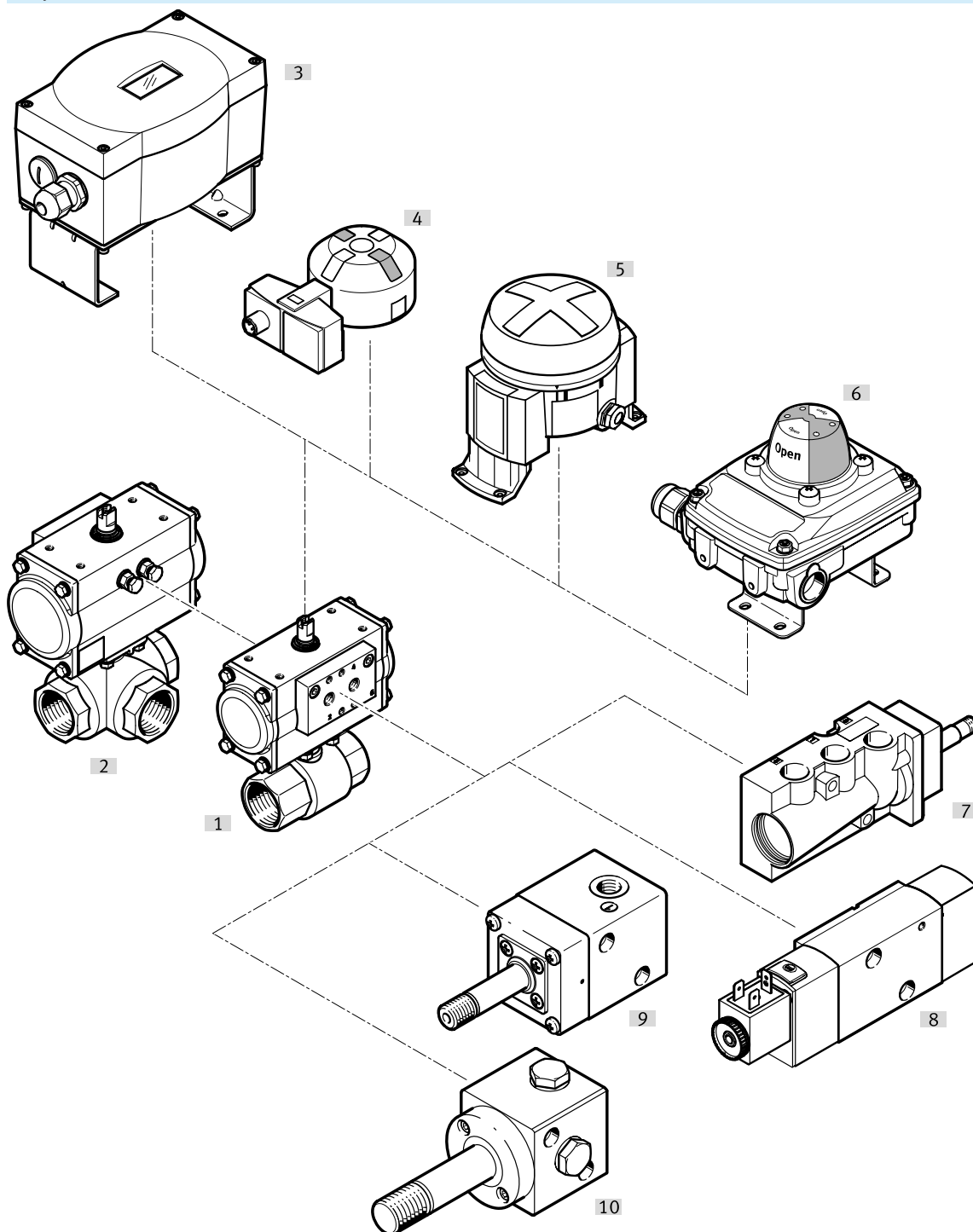
Ordering data

DFPD double-acting type T, 3-way			
	Connection Process valve	Part no.	Type
	Rp3/8	8070259	VZBM-A-3/8"-RP-25-F-3T-B2-PA10
	Rp1/2	8070260	VZBM-A-1/2"-RP-25-F-3T-B2-PA10
	Rp3/4	8070261	VZBM-A-3/4"-RP-25-F-3T-B2-PA20
	Rp1	8070262	VZBM-A-1"-RP-25-F-3T-B2-PA20
	Rp1 1/2	8070264	VZBM-A-1 1/2"-RP-25-F-3T-B2-PA80
	Rp1 1/4	8070263	VZBM-A-1 1/4"-RP-25-F-3T-B2-PA40
	Rp2	8070265	VZBM-A-2"-RP-25-F-3T-B2-PA80

DFPD single-acting type T, 3-way			
	Connection Process valve	Part no.	Type
	Rp1/4	8070274	VZBM-A-1/4"-RP-25-F-3T-B2-PB20
	Rp3/8	8070275	VZBM-A-3/8"-RP-25-F-3T-B2-PB20
	Rp1/2	8070276	VZBM-A-1/2"-RP-25-F-3T-B2-PB20
	Rp3/4	8070277	VZBM-A-3/4"-RP-25-F-3T-B2-PB40
	Rp1	8070278	VZBM-A-1"-RP-25-F-3T-B2-PB40
	Rp1 1/2	8070280	VZBM-A-1 1/2"-RP-25-F-3T-B2-PB120
	Rp1 1/4	8070279	VZBM-A-1 1/4"-RP-25-F-3T-B2-PB80
	Rp2	8070281	VZBM-A-2"-RP-25-F-3T-B2-PB120

Peripherals

Peripherals overview



Accessories		→ Link
Type/order code	Description	
[1] Ball valve actuator unit VZBM	Combination of double-acting or single-acting quarter turn actuator DFPD and 2-way ball valve, brass	vzbm
[2] Ball valve actuator unit VZBM	Combination of double-acting or single-acting quarter turn actuator DFPD and 3-way ball valve, brass	vzbm
[3] Positioner CMSX	For controlling the position of quarter-turn actuators in process automation systems	cmsx
[4] Sensor boxes SRBG	For electrical feedback and position monitoring of process valves actuated by quarter turn actuators	srbg
[5] Limit switch attachments DAPZ	Round design, variant AR, electrical sensing, inductive or inductive explosion-proof	dapz
[6] Sensor boxes SRBC	For electrical feedback and position monitoring of process valves actuated by quarter turn actuators	srbc
[7] Solenoid valve NVF3	For F solenoid coil and explosion-proof F solenoid coil	nvf3
[8] Solenoid valves VSNC	For single-acting and double-acting quarter turn actuators with a connection pattern to VDI/VDE 3845	vsnc
[9] Solenoid valves VOFC	Solenoid valve with solenoid coil, NAMUR connection pattern	vofc

Peripherals

Accessories		→ Link
Type/order code	Description	
[10] Solenoid valves VOFD	Solenoid valve with solenoid coil, NAMUR connection pattern	vofd