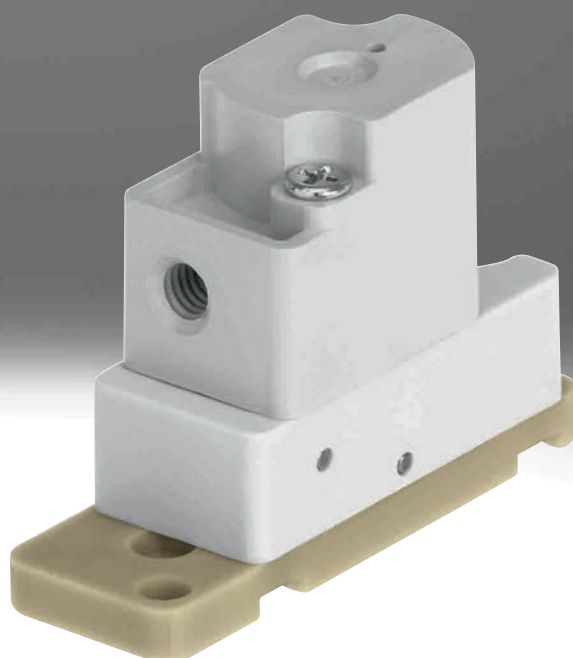


Media separated pneumatic valves VZDB

FESTO



Key features

Special characteristics

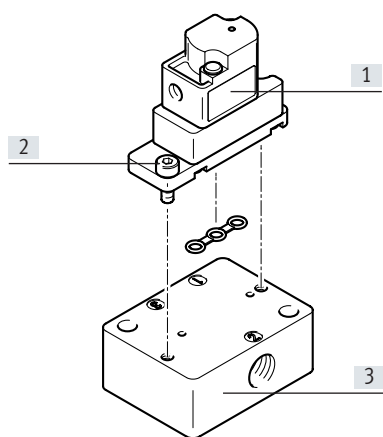
- Very easy to clean thanks to media separation
- Low media consumption thanks to small internal volume
- High-quality materials, therefore also suitable for aggressive media
- High flow rate with small size
- High repetition accuracy, switching frequency and precision, therefore also suitable for extremely small volumes and dosing tasks
- Extremely flexible in use thanks to 3/2-way and 2/2-way variants

Function

VZDB is a media separated pneumatic valve. It is used to control gaseous and liquid media in laboratories.

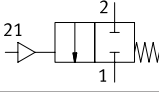
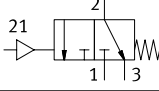
The valve VZDB is a pilot-actuated pneumatic valve. Normally closed (2/2-way solenoid valve and 3/2-way solenoid valve) and normally open (3/2-way solenoid valve only) variants are available.

Configuration



- [1] Pneumatic valve VZDB
- [2] Screws for mounting on the sub-base (included in the scope of delivery of the valves)
- [3] Sub-base VABS

Product range overview

Function	Circuit symbol	Type	Variants	Flow rate Kv [m³/h]	Pilot air port 21	→ Page/ Internet
Media separated pneumatic valve	Rocker valve with diaphragm seal					
		VZDB-...-M22C	2/2-way pneumatic valve: • Monostable • Normally closed	0.034	M3	7
		VZDB-...-M32	3/2-way pneumatic valve: • Monostable • Normally closed/open	0.034	M3	7

Type codes

001	Series	
VZDB	Diaphragm valves	

002	Directional control valve type	
F	Flanged valve	

003	Size	
10	Size 10	

004	Valve function	
M32	3/2-way valve, normally closed or open	
M22C	2/2-way valve, normally closed	

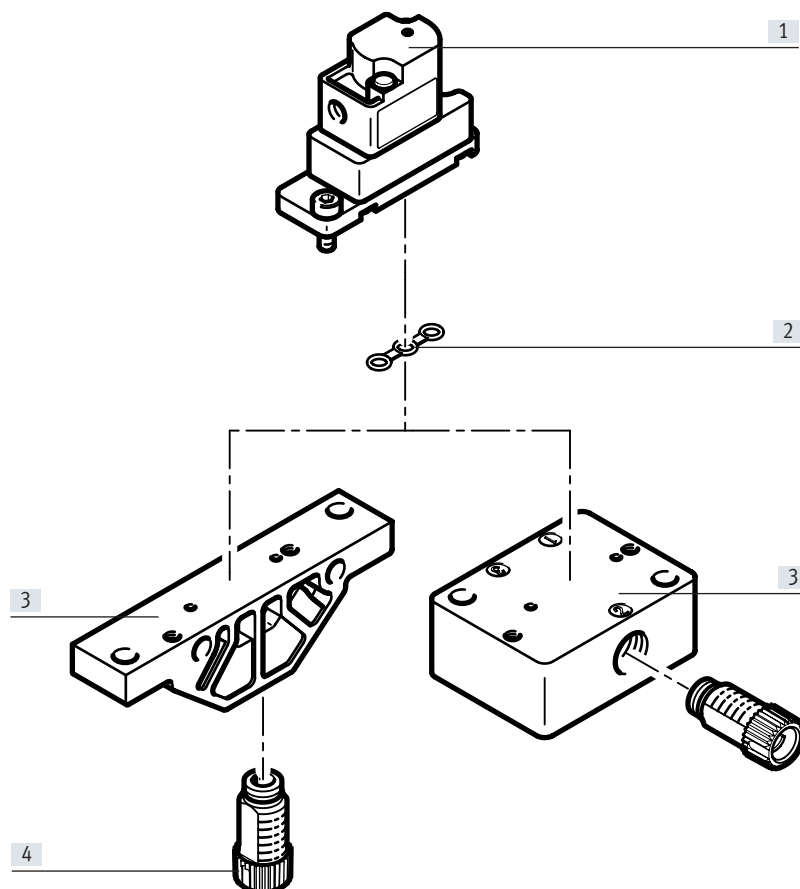
005	Nominal width	
16	1.6 mm	

006	Pneumatic connection	
M3	M3	

007	Housing material	
P	PEEK	

008	Sealant	
E	EPDM	
F	FFPM	
V	FPM	

Peripherals overview

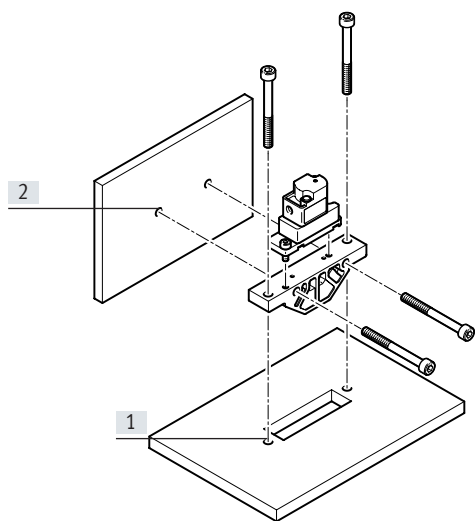


Accessories

	Type/order code	Description	→ Page/Internet
[1]	VZDB	Pneumatic valve	11
[2]	VAVC-K2	Seal	11
[3]	VABS-K2	Manifold rail	11
[4]	NLFA-D	Fitting	11

Key features – Mounting

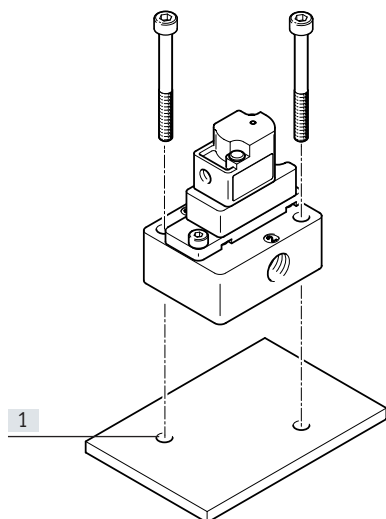
Mounting with ports underneath



- [1] Vertical mounting holes
- [2] Horizontal mounting holes

The individual sub-base for wall mounting is designed for integration into a system or machine. It can be mounted horizontally or vertically.

Mounting with ports at the side



- [1] Vertical mounting holes

The individual sub-base for wall mounting is designed for integration into a system or machine. It can be mounted vertically.

Technical data

-  - Size:
10 mm
-  - Flow rate:
0.034 [m³/h]



General technical data

Valve function	2/2-way, closed, monostable 3/2-way, open/closed, monostable	
Design	Rocker valve with diaphragm seal	
Reset method	Mechanical spring	
Size	[mm]	10 mm
Nominal size	[mm]	1.6
Fluid connection	Flange	
Flow rate Kv	2/2-way valve	[m ³ /h] 0.034
	3/2-way valve	[m ³ /h] 0.034
Internal volume	2/2-way valve	[μ] 35
	3/2-way valve	[μ] 35
Sealing principle	Soft	
Direction of flow	Not reversible	
Actuation type	Pneumatic	
Type of control	Piloted	
Manual override	None	
Type of mounting	Via through-hole for M2 screw	
Mounting position	Any	
Corrosion resistance class ¹⁾	0	
Product weight	[g]	7

1) Corrosion resistance class CRC 0 to Festo standard FN 940070

No corrosion stress. Applies to small, visually unimportant standards-based parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

Technical data

Switching time		2/2-way valve			3/2-way valve		
		Diaphragm material EPDM	Diaphragm material FFPM	Diaphragm material FPM	Diaphragm material EPDM	Diaphragm material FFPM	Diaphragm material FPM
Max. switching frequency	[Hz]	2	2	2	2	2	2

Operating and environmental conditions	
Medium	Liquid media Gaseous media
Note on the medium	Note resistance of materials in contact with the media Maximum particle size 5 µm
Temperature of medium	[°C] 0 ... 50
Ambient temperature	[°C] 0 ... 50
Storage temperature	[°C] -20 ... 70
Operating pressure	[MPa] -0.075 ... 0.1
Pilot pressure	[MPa] 0.150 ... 0.3

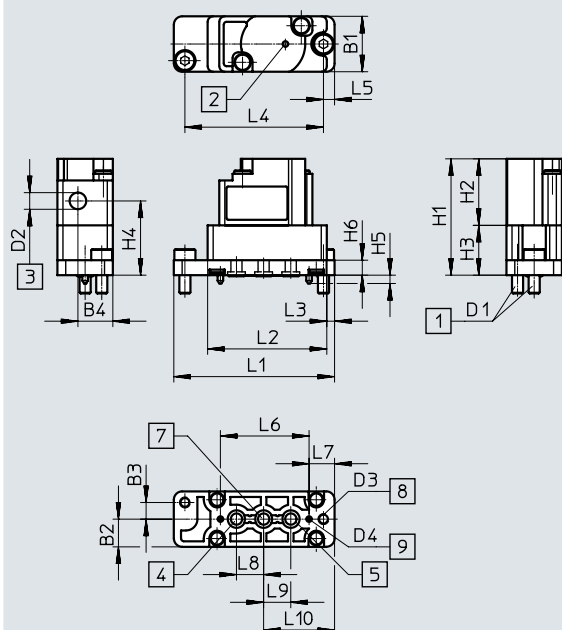
Information on materials		
Materials in contact with the media	All types	PEEK
	VZDB- ... -PE	EPDM
	VZDB- ... -PF	FFPM
	VZDB- ... -PV	FPM
Housing material		PEEK
Diaphragm material	VZDB- ... -PE	EPDM
	VZDB- ... -PF	FFPM
	VZDB- ... -PV	FPM
Sealing material	VZDB- ... -PE	EPDM
	VZDB- ... -PF	FFPM
	VZDB- ... -PV	FPM
Material of sub-base VABS		PEEK
Note on materials	Contains paint-wetting impairment substances	
	RoHS-compliant	

Technical data

Dimensions

Download CAD data → www.festo.com

Pneumatic valve



- [1] Mounting screws
- [2] Venting hole
- [3] Pilot air port
- [4] Port 1
- [5] Port 2
- [7] Port 3
- [8] Mounting holes
- [9] Coding pin

Type	B1	B2	B3	B4	D1	D2	D3 Ø	D4 Ø	H1	H2	H3	H4	H5	H6
VZDB	10	5	3	6.3	0.4	0.5	2.1	1	21	12	9	13.4	1.5	2.7

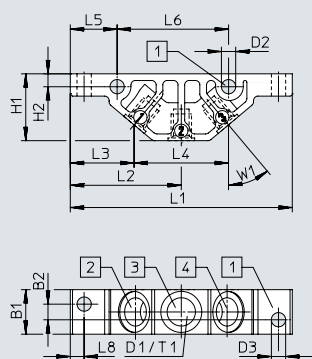
Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
VZDB	29	21.5	1.4	25	2	16	4.6	4.9	4.9	12.8

Technical data

Dimensions

Download CAD data → www.festo.com

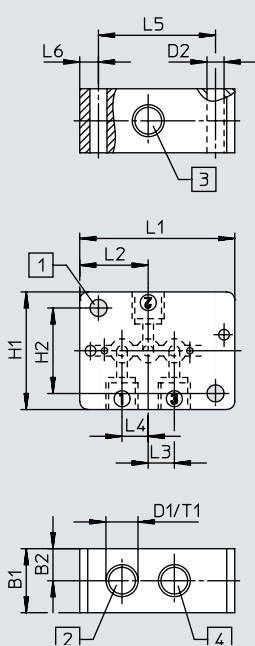
Manifold rail VABS-K2-10B



- [1] Mounting holes
- [2] Port 1
- [3] Port 2
- [4] Port 3

Type	B1	B2	D1	D2 Ø	D3 Ø	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	T1	W1
VABS-K2-10B-16-M6-P	10	3.5	M6	3.2	3.2	15	2.9	49.8	24.9	14.3	21.2	10.5	25	43.6	3.1	6	40°
VABS-K2-10B-16-U14-P			1/4-28 UNF														

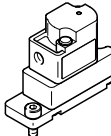
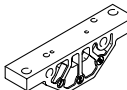
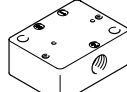
Manifold rail VABS-K2-10S



- [1] Mounting holes
- [2] Port 1
- [3] Port 2
- [4] Port 3

Type	B1	B2	D1	D2 Ø	H1	H2	L1	L2	L3	L4	L5	L6	T1
VABS-K2-10S-16-M6-P	12	6	M6	3.2	22	16	29	12.8	4.9	4.9	21.9	3.5	6
VABS-K2-10S-16-U14-P			1/4-28 UNF										

Accessories

Ordering data					Part No.	Type
Description						
Pneumatic valve						
	2/2-way valve, normally closed	Diaphragm and sealing material EPDM			8122795	VZDB-F10-M22C-16-M3-PE
		Diaphragm and sealing material FFPM			8122797	VZDB-F10-M22C-16-M3-PF
		Diaphragm and sealing material FPM			8122796	VZDB-F10-M22C-16-M3-PV
	3/2-way valve, normally closed or open	Diaphragm and sealing material EPDM			8122798	VZDB-F10-M32-16-M3-PE
		Diaphragm and sealing material FFPM			8122800	VZDB-F10-M32-16-M3-PF
		Diaphragm and sealing material FPM			8122799	VZDB-F10-M32-16-M3-PV
Manifold rail						
	Port underneath	Female thread M6	Size 10 mm		8122825	VABS-K2-10B-16-M6-P
		Female thread 1/4-28 UNF	Size 10 mm		8122826	VABS-K2-10B-16-U14-P
	Port at the side	Female thread M6			8122827	VABS-K2-10S-16-M6-P
		Female thread 1/4-28 UNF			8122828	VABS-K2-10S-16-U14-P
Seal						
	Included in the scope of delivery of the valves	For valves of size 10 mm, for mounting on manifold rails	Sealing material EPDM		8122829	VAVC-K2-S-3-E
			Sealing material FFPM		8122831	VAVC-K2-S-3-F
			Sealing material FPM		8122830	VAVC-K2-S-3-V
Fitting						
	Female thread 1/4-28 UNF	For tubing I.D. 1.2 mm			8104288	NLFA-D-U14-B1.2-PP-P10
		For tubing O.D. 1.6 mm			8104285	NLFA-D-U14-K1.6-PP-P10
		For tubing I.D. 2.1 mm			8104289	NLFA-D-U14-B2.1-PP-P10
		For tubing O.D. 3.0 mm			8104286	NLFA-D-U14-K3-PP-P10
		For tubing O.D. 3.2 mm			8104287	NLFA-D-U14-K3.2-PP-P10
	Female thread M3	For tubing O.D. 2 mm	Nominal width 0.9 mm	Container size 10	133027	QSM-M3-2
		For tubing O.D. 3 mm	Nominal width 1.6 mm	Container size 10	133001	QSM-M3-3-I-R
				Container size 100	132914	QSM-M3-3-I-R-100
		For tubing O.D. 4 mm	Nominal width 1.5 mm	Container size 10	133002	QSM-M3-4-I-R
				Container size 100	132915	QSM-M3-4-I-R-100

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