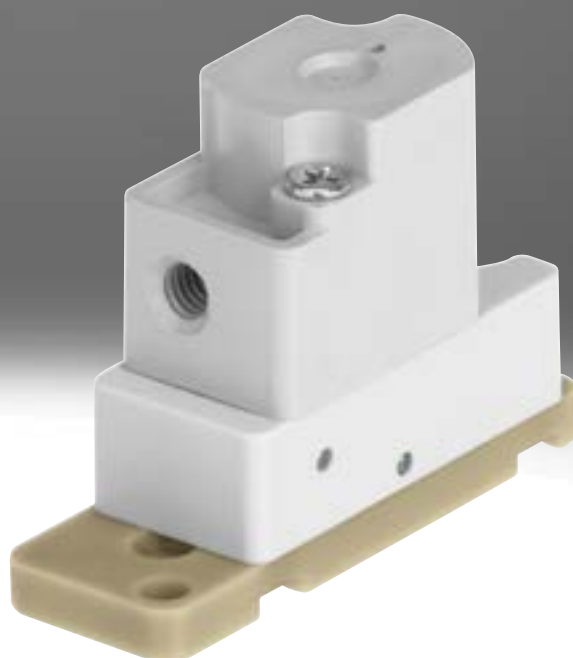


## Media separated pneumatic valves VZDB

**FESTO**



## Key features

### Special characteristics

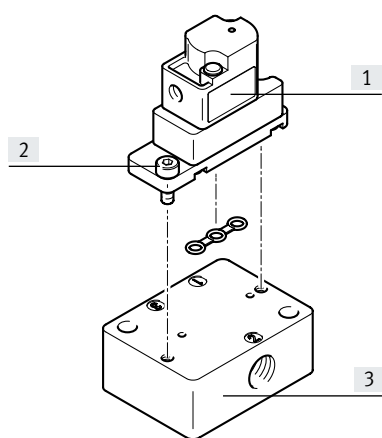
- Very easy to clean thanks to media separation
- Low media consumption thanks to small internal volume
- High-quality materials, therefore also suitable for aggressive media
- High flow rate with small size
- High repetition accuracy, switching frequency and precision, therefore also suitable for extremely 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.

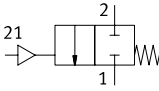
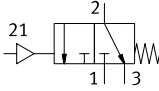
The valve VZDB is a pilot-actuated pneumatic valve. Normally closed (2/2-way solenoid valve and 3/2-way solenoid valve) and normally open (3/2-way solenoid valve only) variants are available.

### 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 [m <sup>3</sup> /h]	Pilot air port 21	→ Page/ Internet
Media separated pneumatic valve	<b>Rocker valve with diaphragm seal</b>					
		<b>VZDB-...-M22C</b>	2/2-way pneumatic valve: • Monostable • Normally closed	0.034	M3	7
		<b>VZDB-...-M32</b>	3/2-way pneumatic valve: • Monostable • Normally closed/open	0.034	M3	7

## Type codes

001	Series
<b>VZDB</b>	Diaphragm valves

002	Directional control valve type
<b>F</b>	Flanged valve

003	Size
<b>10</b>	Size 10

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

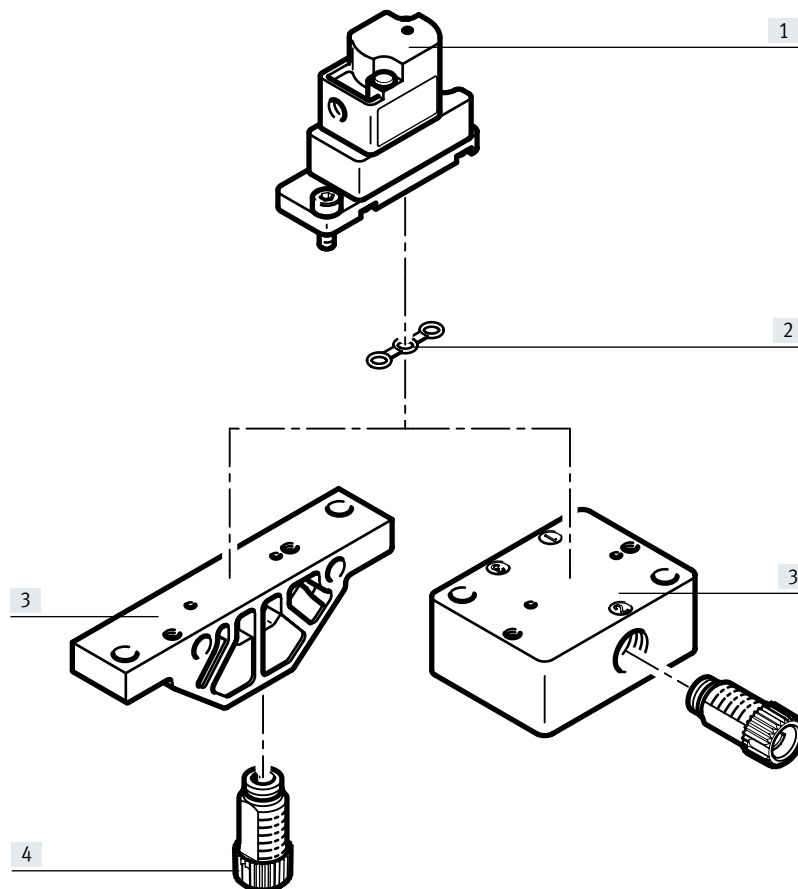
005	Nominal width
<b>16</b>	1.6 mm

006	Pneumatic connection
<b>M3</b>	M3

007	Housing material
<b>P</b>	PEEK

008	Sealant
<b>E</b>	EPDM
<b>F</b>	FFPM
<b>V</b>	FPM

## Peripherals overview

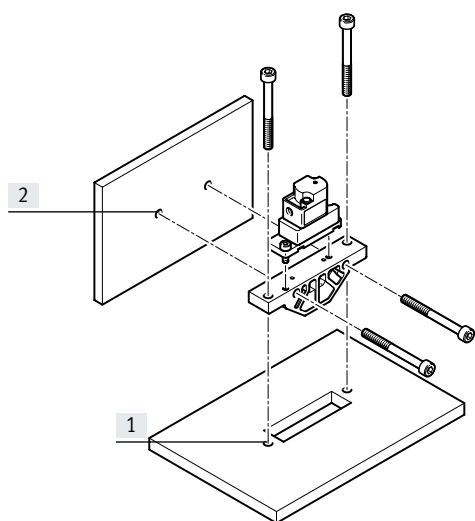


## Accessories

	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

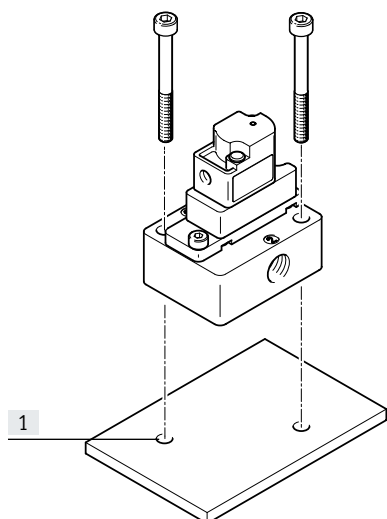
## Mounting with ports underneath



- [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 [m<sup>3</sup>/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 <sup>3</sup> /h] 0.034
	3/2-way valve	[m <sup>3</sup> /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 <sup>1)</sup>	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
<b>Operating and environmental conditions</b>							
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					
	[bar]	-0.75 ... 1					
	[psi]	-10.875 ... 14.5					
Pilot pressure	[MPa]	0.150 ... 0.3					
	[bar]	1.5 ... 3					
	[psi]	21.75 ... 43.5					
<b>Information on materials</b>							
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		RoHS-compliant					
PWIS conformity		VDMA24364 zone III					

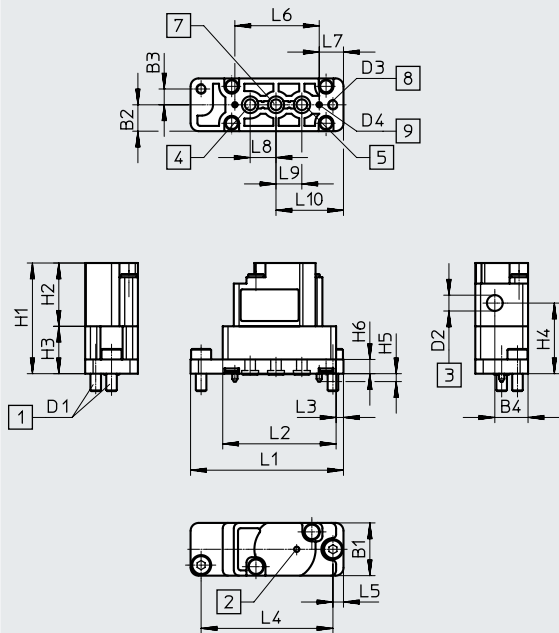


Technical data

Dimensions

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

Pneumatic valve



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

Type	B1	B2	B3	B4	D1	D2	D3 ∅	D4 ∅	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

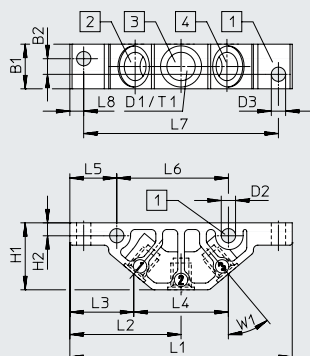
Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
VZDB	29	21.5	1.4	25	2	16	4.6	4.9	4.9	12.8

## Technical data

## Dimensions

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

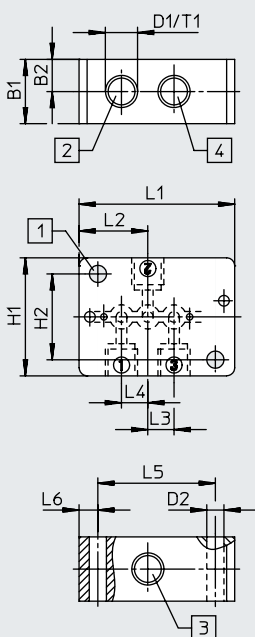
## Manifold rail VABS-K2-10B



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

Type	B1	B2	D1	D2 ∅	D3 ∅	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														

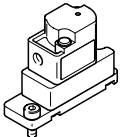
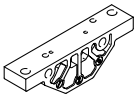
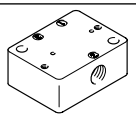



## Manifold rail VABS-K2-10S



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

Type	B1	B2	D1	D2 ∅	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		Description	Part No.	Type		
<b>Pneumatic valve</b>						
	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		
<b>Manifold rail</b>						
	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	
<b>Seal</b>						
	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	
<b>Fitting</b>						
	Male 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	
	Male 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