

Media separated solenoid valves VYKB

FESTO



Key features

Special characteristics

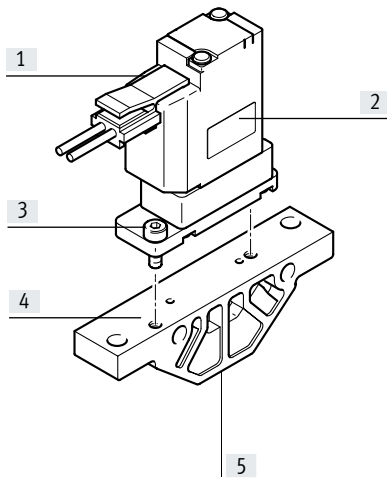
- Very easy to clean thanks to media separation
- Low media consumption thanks to small internal volume
- High-quality materials, therefore also suitable for aggressive media
- High flow rate with small size
- High repetition accuracy, switching frequency and precision, therefore also suitable for extremely small volumes and dosing tasks
- Low power consumption as a result of holding current reduction
- Extremely flexible in use thanks to 3/2-way and 2/2-way variants as well as 12 ... 24 V DC actuation

Function

VYKB is a media separated solenoid valve. It is used to control gaseous and liquid media in laboratories.

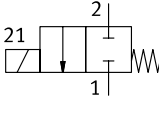
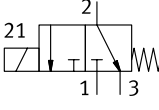
The valve VYKB is a directly actuated directional control valve with solenoid coil. In a de-energised state, the valve automatically returns to its normal position. Normally closed (2/2-way solenoid valve and 3/2-way solenoid valve) and normally open (3/2-way solenoid valve only) variants are available.

Configuration



- [1] Terminal contact for connecting cable NEBV (included in the scope of delivery of the valves)
- [2] Solenoid valve VYKB
- [3] Screws for mounting on the sub-base (included in the scope of delivery of the valves)
- [4] Sub-base VABS
- [5] Media connections

Product range overview

Function	Circuit symbol	Type	Variants	Size	Flow rate Kv [m ³ /h]	Outlet direction of electrical components	→ Page/ Internet
Media separated solenoid valve	Rocker valve with diaphragm seal						
		VYKB-...-M22C	2/2-way solenoid valve: • Single solenoid • Normally closed • Operating voltage 12 ... 24 V DC	10 mm	0.034	• Straight • Angled	7
				12 mm	0.056	• Straight	7
		VYKB-...-M32	3/2-way solenoid valve: • Single solenoid • Normally closed/open • Operating voltage 12 ... 24 V DC	10 mm	0.034	• Straight • Angled	7
12 mm				0.056	• Straight	7	

Type codes

001	Series	
VYKB	Solenoid valve VYKB	

002	Directional control valve type	
F	Flanged valve	

003	Size	
10	Size 10	
12	Size 12	

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

005	Nominal width	
20	2 mm	
16	1.6 mm	

006	Housing material	
P	PEEK	

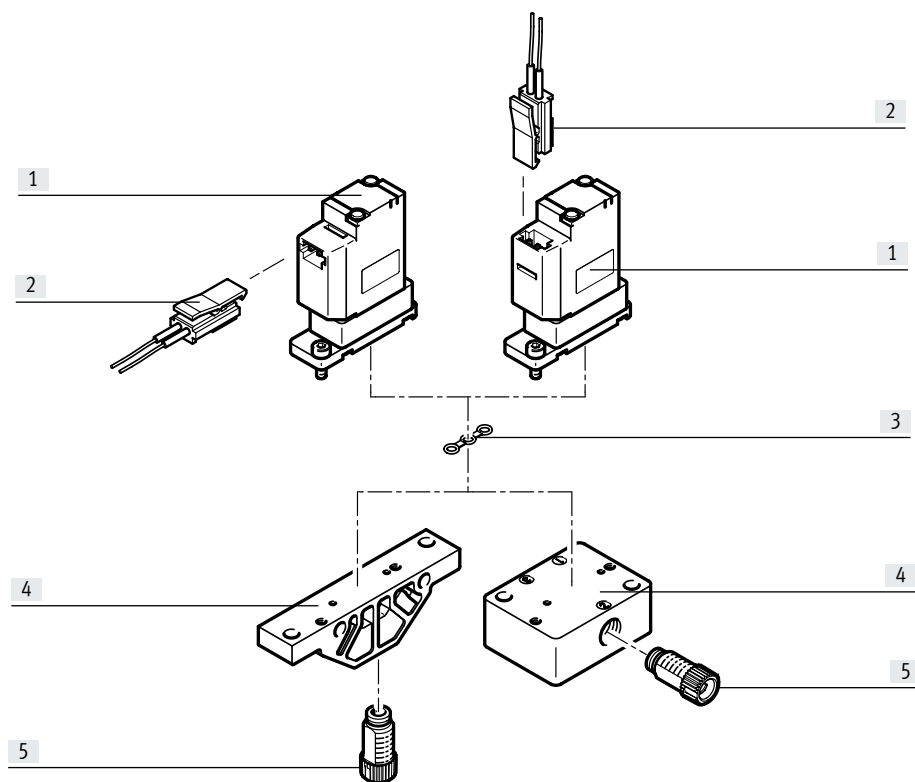
007	Diaphragm and sealing material	
E	EPDM	
F	FFPM	
V	FPM	

008	Nominal operating voltage	
1	24 V DC	
5	12 V DC	

009	Electrical connection	
HP	Port pattern HP	

010	Outlet direction of electrical components	
A	Angled	
S	Straight	

Peripherals overview

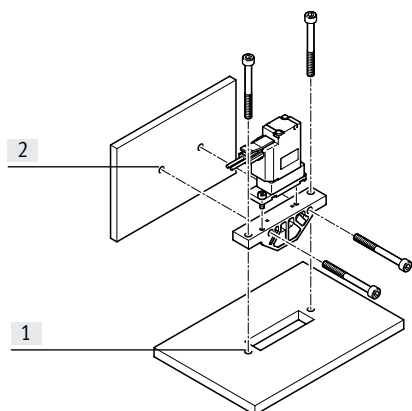


Accessories

	Type/order code	Description	→ Page/Internet
[1]	VYKB	Solenoid valve	12
[2]	NEBV-HPG2	Connecting cable	13
[3]	VAVC-K2	Seal	13
[4]	VABS-K2	Manifold rail	13
[5]	NLFA-D	Fitting	13

Key features – Mounting

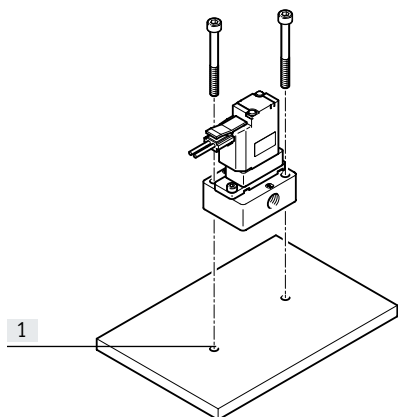
Mounting with ports underneath



- [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
12 mm
-  Flow rate:
0.034 [m³/h]
0.056 [m³/h]



General technical data			
Size		10 mm	12 mm
Valve function		2/2-way, closed, single solenoid 3/2-way, open/closed, single solenoid	
Design		Rocker valve with diaphragm seal	
Reset method		Mechanical spring	
Nominal size	[mm]	1.6	2.0
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		Electrical	
Type of control		Direct	
Manual override		None	
Type of mounting		With through-hole for M2 screw	With through-hole for M3 screw
Mounting position		Any	
Degree of protection		IP40	
Corrosion resistance class ¹⁾		0	
Product weight	[g]	20	42

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.

Electrical data			
Size		10 mm	12 mm
Operating voltage range	VYKB- ... -1HPS	[V DC]	24
	VYKB- ... -5HPS	[V DC]	12
Permissible voltage fluctuations	VYKB- ... -1HPS	[%]	±10
	VYKB- ... -5HPS	[%]	-5/ +10
Electrical port 1	Connection type		Cable with plug
	Connection technology		Plug pattern HP
Characteristic coil data	VYKB- ... -1HPS	[V DC]	24 V DC: low-current phase 1 W, high-current phase 3.7
	VYKB- ... -5HPS	[V DC]	12 V DC: low-current phase 1 W, high-current phase 3.7 W
Duty cycle		[%]	100

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
Switching time	On	[ms]	15	20	15	15	20	15
	Off	[ms]	15	20	15	15	20	15
Max. switching frequency		[Hz]	2	2	2	2	2	2

Operating and environmental conditions			10 mm		12 mm	
Size						
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			
Temperature of liquid media		[°C]	0 ... 50			
Ambient temperature		[°C]	0 ... 50			
Storage temperature		[°C]	-20 ... 70			
Pressure of medium		[MPa]	-0.075 ... 0.1		-0.075 ... 0.3	
		[psi]	-10.9 ... 14.5		-10.875 ... 43.5	

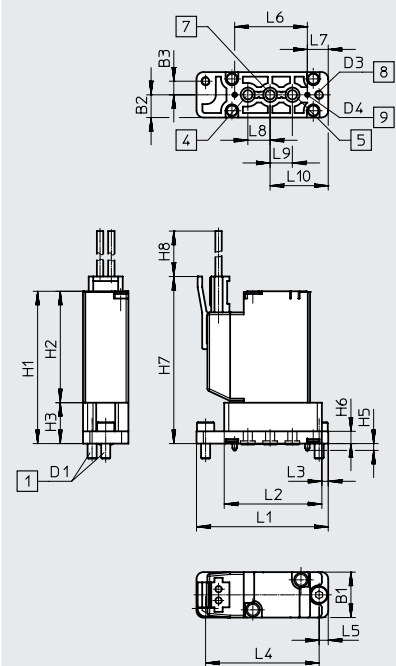
Information on materials		
Materials in contact with the media	All types	PEEK
	VYKB- ... -PE	EPDM
	VYKB- ... -PF	FFPM
	VYKB- ... -PV	FPM
Housing material		PEEK
Diaphragm material	VYKB- ... -PE	EPDM
	VYKB- ... -PF	FFPM
	VYKB- ... -PV	FPM
Sealing material	VYKB- ... -PE	EPDM
	VYKB- ... -PF	FFPM
	VYKB- ...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

Technical data

Dimensions – Solenoid valve size 10 mm

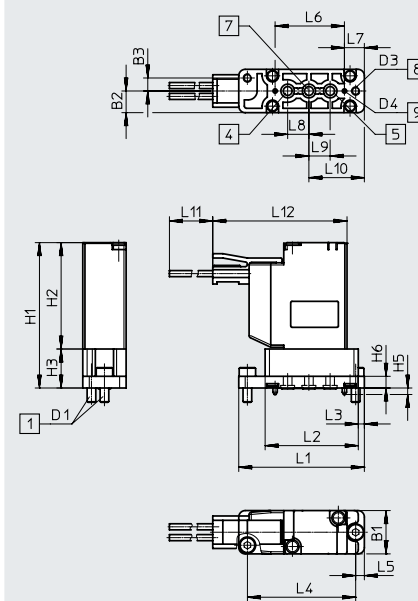
Download CAD data → www.festo.com

Outlet direction of electrical components: straight



- [1] Mounting screws
- [4] Port 1
- [5] Port 2
- [7] Port 3
- [8] Mounting holes
- [9] Coding pin

Outlet direction of electrical components: angled



- [1] Mounting screws
- [4] Port 1
- [5] Port 2
- [7] Port 3
- [8] Mounting holes
- [9] Coding pin

Type	B1	B2	B3	D1	D3 ∅	D4 ∅	H1	H2	H3	H5	H6	H7	H8
VYKB-...S Outlet direction of electrical components: straight	10	5	3	0.4	2.1	1	33.5	24.5	9	1.5	2.7	37	300
VYKB-...A Outlet direction of electrical components: angled	10	5	3	0.4	2.1	1	33.5	24.5	9	1.5	2.7	-	-

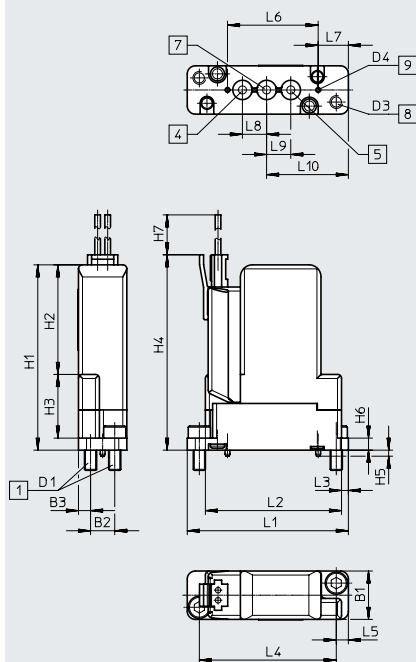
Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
VYKB-...S Outlet direction of electrical components: straight	29	21.5	1.4	25	2	16	4.6	4.9	4.9	12.8	-	-
VYKB-...A Outlet direction of electrical components: angled	29	21.5	1.4	25	2	16	4.6	4.9	4.9	12.8	300	31

Technical data

Dimensions – Solenoid valve size 12 mm

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Outlet direction of electrical components: straight



- [1] Mounting screws
- [4] Port 1
- [5] Port 2
- [7] Port 3
- [8] Mounting holes
- [9] Coding pin

Type	B1	B2	B3	D1	D2 ∅	D3 ∅	H1	H2	H3	H4	H5	H6	H7
VYKB-...S Outlet direction of electrical components: straight	12	6	3	0.5	3.2	1.2	46	27.2	15.8	48.5	1.5	3	300

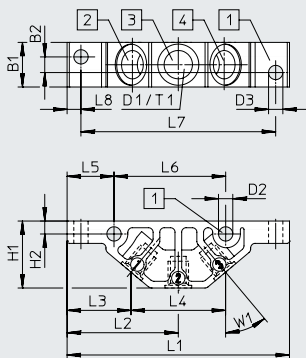
Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
VYKB-...S Outlet direction of electrical components: straight	40	33.8	1.7	34	3	22.5	7.5	6	6	20.3

Technical data

Dimensions

Download CAD data → www.festo.com

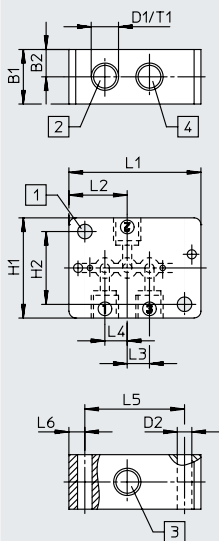
Manifold rail VABS-K2-10B



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

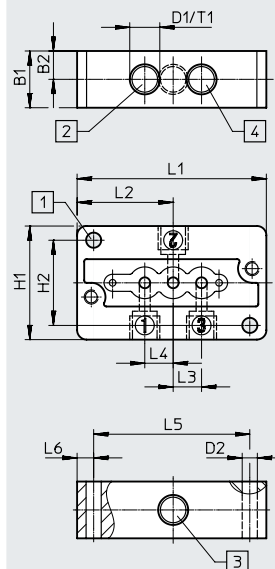
Type	B1	B2	D1	D2 ∅	D3 ∅	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	T1	W1
VABS-K2-10B-16-M6-P	10	3.5	M6	3.2	3.2	15	2.9	49.8	24.9	14.3	21.2	10.5	25	43.6	3.1	6	40°
VABS-K2-10B-16-U14-P			1/4-28 UNF														

Manifold rail VABS-K2-10S



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

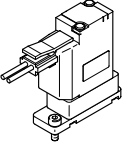
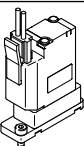
Manifold rail VABS-K2-12S



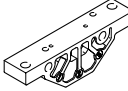
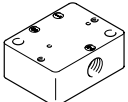
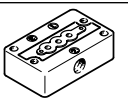
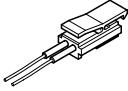



- [1] Mounting holes
- [2] Port 1
- [3] Port 2
- [4] Port 3

Type	B1	B2	D1	D2 ∅	H1	H2	L1	L2	L3	L4	L5	L6	T1
VABS-K2-10S-16-M6-P	12	6	3.2	M6	22	16	29	12.8	4.9	4.9	21.9	3.5	6
VABS-K2-10S-16-U14-P				1/4-28 UNF									
VABS-K2-12S-20-M6-P	12	6	3	M6	24	18	40	33	6	6	33	3.5	6
VABS-K2-12S-20-U14-P				1/4-28 UNF									

Accessories

Ordering data		Description	Part No.	Type			
Solenoid valve size 10 mm							
	2/2-way valve, normally closed	Diaphragm and sealing material EPDM	Nominal operating voltage 12 V DC	Outlet direction of electrical components: angled	8122801	VYKB-F10-M22C-16-PE-5HPA	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: angled	8122804	VYKB-F10-M22C-16-PE-1HPA	
			Nominal operating voltage 12 V DC	Outlet direction of electrical components: straight	8122813	VYKB-F10-M22C-16-PE-5HPS	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: straight	8122816	VYKB-F10-M22C-16-PE-1HPS	
		Diaphragm and sealing material FFPM	Nominal operating voltage 12 V DC	Outlet direction of electrical components: angled	8122803	VYKB-F10-M22C-16-PF-5HPA	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: angled	8122806	VYKB-F10-M22C-16-PF-1HPA	
			Nominal operating voltage 12 V DC	Outlet direction of electrical components: straight	8122815	VYKB-F10-M22C-16-PF-5HPS	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: straight	8122818	VYKB-F10-M22C-16-PF-1HPS	
		Diaphragm and sealing material FPM	Nominal operating voltage 12 V DC	Outlet direction of electrical components: angled	8122802	VYKB-F10-M22C-16-PV-5HPA	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: angled	8122805	VYKB-F10-M22C-16-PV-1HPA	
			Nominal operating voltage 12 V DC	Outlet direction of electrical components: straight	8122814	VYKB-F10-M22C-16-PV-5HPS	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: straight	8122817	VYKB-F10-M22C-16-PV-1HPS	
	3/2-way valve, normally closed or open	Diaphragm and sealing material EPDM	Nominal operating voltage 12 V DC	Outlet direction of electrical components: angled	8122807	VYKB-F10-M32-16-PE-5HPA	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: angled	8122810	VYKB-F10-M32-16-PE-1HPA	
			Nominal operating voltage 12 V DC	Outlet direction of electrical components: straight	8122819	VYKB-F10-M32-16-PE-5HPS	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: straight	8122822	VYKB-F10-M32-16PE-1HPS	
		Diaphragm and sealing material FFPM	Nominal operating voltage 12 V DC	Outlet direction of electrical components: angled	8122809	VYKB-F10-M32-16-PF-5HPA	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: angled	8122812	VYKB-F10-M32-16-PF-1HPA	
			Nominal operating voltage 12 V DC	Outlet direction of electrical components: straight	8122821	VYKB-F10-M32-16-PF-5HPS	
			Nominal operating voltage 24 V DC	Outlet direction of electrical components: straight	8122824	VYKB-F10-M32-16-PF-1HPS	
Diaphragm and sealing material FPM		Nominal operating voltage 12 V DC	Outlet direction of electrical components: angled	8122808	VYKB-F10-M32-16-PV-5HPA		
		Nominal operating voltage 24 V DC	Outlet direction of electrical components: angled	8122811	VYKB-F10-M32-16-PV-1HPA		
		Nominal operating voltage 12 V DC	Outlet direction of electrical components: straight	8122820	VYKB-F10-M32-16-PV-5HPS		
		Nominal operating voltage 24 V DC	Outlet direction of electrical components: straight	8122823	VYKB-F10-M32-16-PV-1HPS		
Solenoid valve size 12 mm							
		2/2-way valve, normally closed	Diaphragm and sealing material EPDM	Nominal operating voltage 12 V DC	Outlet direction of electrical components: straight	8140315	VYKB-F12-M22C-20-PE-5HPS
				Nominal operating voltage 24 V DC	Outlet direction of electrical components: straight	8140316	VYKB-F12-M22C-20-PE-1HPS
		3/2-way valve, normally closed or open	Diaphragm and sealing material EPDM	Nominal operating voltage 12 V DC	Outlet direction of electrical components: straight	8140317	VYKB-F12-M32-20-PE-5HPS
	Nominal operating voltage 24 V DC			Outlet direction of electrical components: straight	8140318	VYKB-F12-M32-20-PE-1HPS	

Accessories

Ordering data		Description	Part No.	Type
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	Size 10 mm	8122827 VABS-K2-10S-16-M6-P
		Female thread 1/4-28 UNF	Size 10 mm	8122828 VABS-K2-10S-16-U14-P
	Port at the side	Female thread M6	Size 12 mm	8140319 VABS-K2-12S-20-M6-P
		Female thread 1/4-28 UNF	Size 12 mm	8140320 VABS-K2-12S-20-U14-P
Connecting cable				
	Included in the scope of delivery of the valves	Straight socket, plug pattern Q7	Cable length 0.3 m	8122832 NEBV-HPG2-PN-0.3-N-LE2
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				
	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 M6	For tubing O.D. 6.0 mm	132600	QSM-M6-6