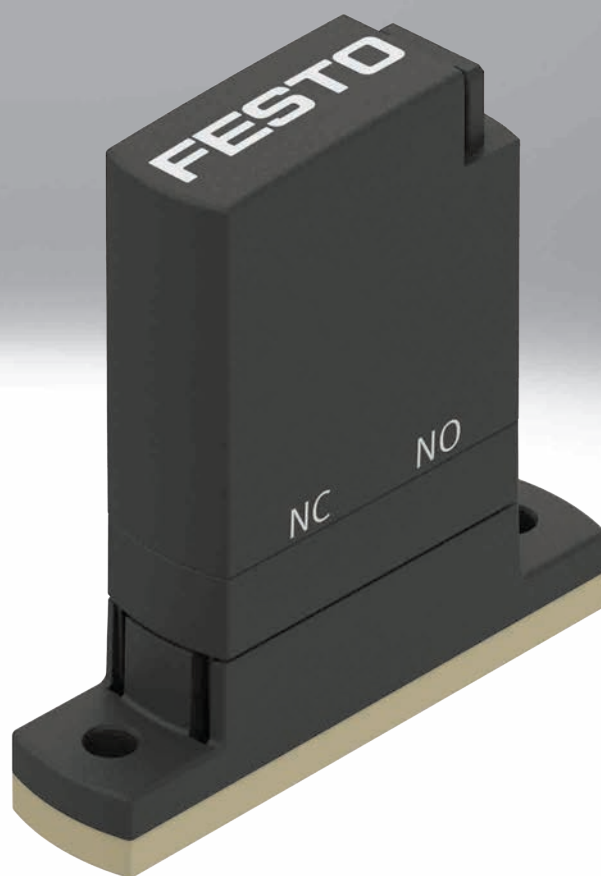


Media separated solenoid valves VYKA

FESTO



Characteristics

Special characteristics

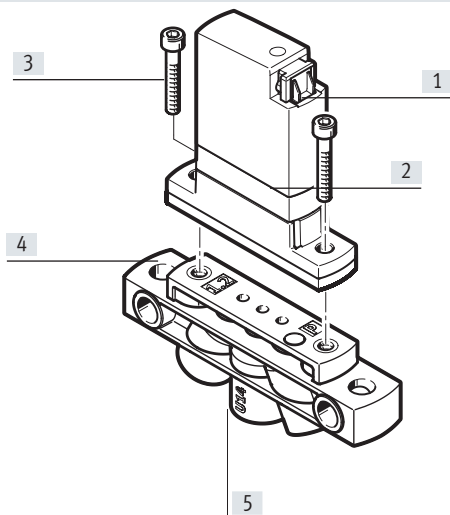
- Very easy to clean thanks to media separation
- Low media consumption owing to small internal volume
- Materials in contact with the media are FDA listed
- Developed to ISO 13485
- High-quality materials, therefore also suitable for aggressive media
- High flow rate with minimal size (width 7 mm and nominal width 1.2 mm)
- 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 ... 26 V DC actuation

Function

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

The valve VYKA is a directly actuated directional control valve with solenoid coil. In a de-energised state, the valve automatically returns to its normal position. The normal position is available as a closed or open variant.

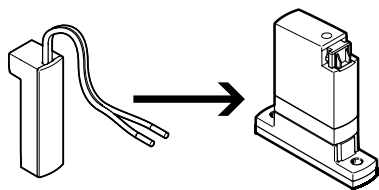
Design



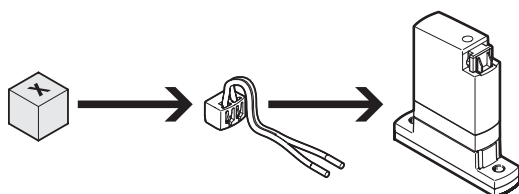
- [1] Terminal contact for the electrical connection box VAVE or connecting cable NEBV
- [2] Solenoid valve
- [3] Screws for mounting on the sub-base (included in the scope of delivery of the valves)
- [4] Sub-base VABS
- [5] Media connections

Key features

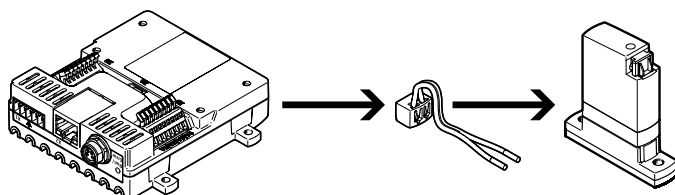
Control



When using electrical sub-base VAVE, holding current reduction is integrated.

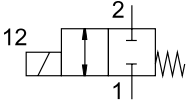
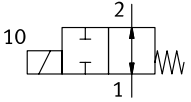
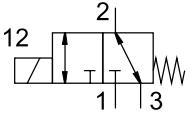


When using connecting cable NEBV, a separate means must be provided for holding current reduction.



The valve control module VAEM offers the option of control with holding current reduction.

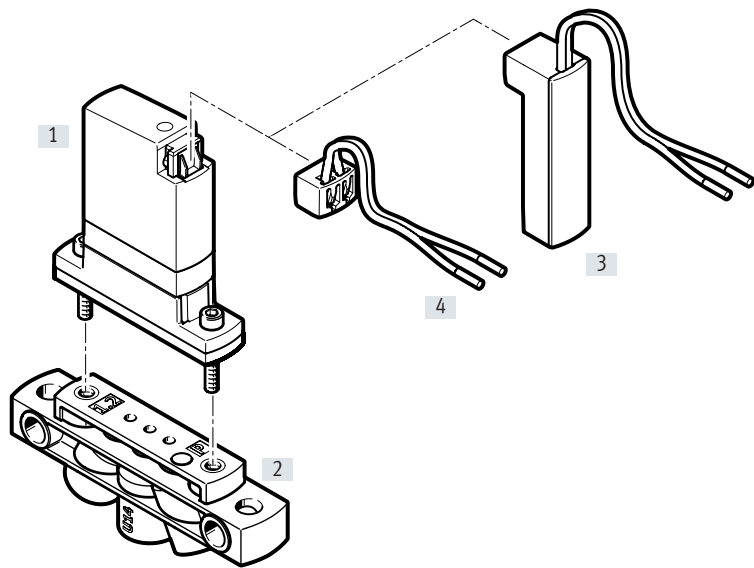
Product range overview

Function	Circuit symbol	Type	Valve function	Flow rate Kv [m³/h]	Operating voltage in combination with VAVE-K1	→ Page/ Internet
Media separated solenoid valve	Rocker valve with diaphragm seal					
		VYKA-F7-M22C	2/2-way solenoid valve: <ul style="list-style-type: none"> • Single solenoid • Normally closed 	0.013	12 ... 26 V DC	7
		VYKA-F7-M22U	2/2-way solenoid valve: <ul style="list-style-type: none"> • Single solenoid • Normally open 	0.013	12 ... 26 V DC	7
		VYKA-F7-M32	3/2-way solenoid valve: <ul style="list-style-type: none"> • Single solenoid • Normally closed/open 	0.021	12 ... 26 V DC	7

Type codes



001	Series		006	Pressure range [bar]	
VYKA	Solenoid valve		D2	0 ... 2	
002	Directional control valve type		007	Housing material	
F	Flanged valve		P	PEEK	
003	Size		008	Diaphragm and sealing material	
7	Size 7		V	FPM	
004	Valve function		F	FFPM	
M22U	2/2-way valve, normally open		009	Nominal operating voltage	
M22C	2/2-way valve, normally closed		5Y	12 V DC to 26 V DC	
M32	3/2-way valve, normally closed or open		010	Electrical connection	
005	Nominal width		Q7	Plug socket, connection pattern Q	
12	1.2 mm				

Peripherals overview



Accessories			
	Type/order code	Description	→ Page/Internet
[1]	VYKA	Solenoid valve	11
[2]	VABS	Sub-base	11
[3]	VAVE	Electrical connection box	11
[4]	NEBV	Connecting cable	11

Data sheet

-  - 7 mm
-  - Flow rate
0.013 ... 0.021 m³/h



General technical data

Valve function			2/2-way, single solenoid, closed
			2/2-way, single solenoid, open
			3/2-way, single solenoid, open/closed
Design			Rocker valve with diaphragm seal
Reset method			Mechanical spring
Size			7
Nominal width		[mm]	1.2
Grid dimension		[mm]	7.5
Fluid connection			Flange
Flow rate Kv	2/2-way valve	[m³/h]	0.013
	3/2-way valve	[m³/h]	0.021
Water flow rate at max. operating pressure	2/2-way valve	[m³/h]	0.018
	3/2-way valve	[m³/h]	0.03
Internal volume	2/2-way valve	20 µl including 2 fluid connections	
	3/2-way valve	22 µl including 2 fluid connections	
Sealing principle			Soft
Flow direction			Reversible with limitations
Actuation type			Electrical
Type of control			Direct
Manual override			None
Type of mounting			With through-hole for M2 screw
Mounting position			Any
Degree of protection			IP40
Note on degree of protection			When mounted
Note regarding use			For indoor use only
Corrosion resistance class ¹⁾			0
Product weight		[g]	10.9

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

No corrosion stress. Applies to small, visually unimportant standard 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

Operating voltage range	[V DC]	12 ... 26
Note on operating voltage range	With electrical connection box VAVE-K1-...	
Permissible voltage fluctuations	[%]	±10
Electrical connection 1	Connection type	Socket
	Connection technology	Plug pattern Q7
	Number of pins/wires	2
Insulation class	B	
Electrical power consumption	[W]	3.5
Note on power consumption	Low-current phase 0.3 W, high-current phase 3.5 W for 60 ms, in combination with VAVE-K1-...	
Characteristic coil data	12 ... 26 V DC: low-current phase 0.06 W, high-current phase 2.2 W	
Duty cycle	[%]	100, in combination with holding current reduction
	Observe notes on operating the solenoid valves	

Data sheet

Switching time				2/2-way valve		3/2-way valve	
				Diaphragm material FFPM	Diaphragm material FPM	Diaphragm material FFPM	Diaphragm material FPM
Switching time	On	[ms]	6	4	5	4	
	Off	[ms]	6	4	5	5	
Switching time for liquid media	On	[ms]	5	5	5	4	
	Off	[ms]	7	6	6	6	
Max. switching frequency			[Hz]	6			
Note on switching frequency				Dependent on the ambient temperature and installation state			

Switching frequency				Ambient temperature			
				< 20°C	20 ... 30°C	30 ... 40°C	40 ... 50°C
Maximum switching frequency	Individual valve	[Hz]	6	5	4	3	
	Manifold assembly ¹⁾	[Hz]	2	1.5	1	0.5	

1) Space between two valves: < 7.5 mm

Operating and environmental conditions		Diaphragm material FFPM		Diaphragm material FPM	
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]	15 ... 50		0 ... 50	
Temperature of liquid media	[°C]	15 ... 50		0 ... 50	
Ambient temperature	[°C]	15 ... 50		0 ... 50	
Storage temperature	[°C]	−20 ... 70		−20 ... 70	
Pressure of medium	[MPa]	0 ... 0.2			
	[psi]	0 ... 29			
Pressure of medium, reversible	[MPa]	0 ... 0.1			
	[psi]	0 ... 14.5			
Burst pressure	[MPa]	2.3			

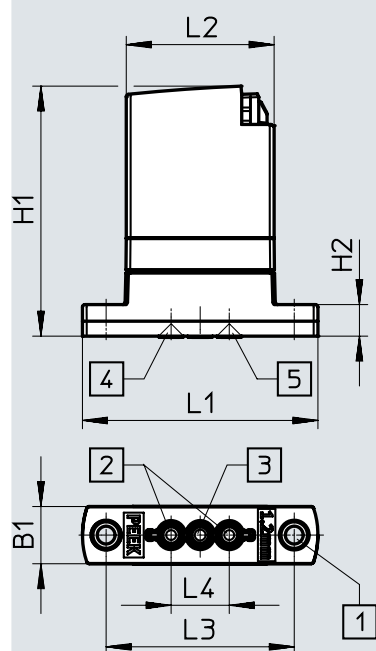
Information on materials				
Materials in contact with the medium	All types			PEEK
	VYKA- ... -PF			FFPM
	VYKA- ... -PV			FPM
Food-safe				See supplementary material information
Housing material				Reinforced PA
				PEEK
				Reinforced PPA
Diaphragm material	VYKA- ... -PF			FFPM
	VYKA- ... -PV			FPM
Seals material	VYKA- ... -PF			FFPM
	VYKA- ... -PV			FPM
Sub-base VABS material				PEEK
Note on materials				Contains paint-wetting impairment substances
				RoHS-compliant

Data sheet

Dimensions

Download CAD data → www.festo.com

Solenoid valve



- [1] Mounting holes, screws supplied for threaded hole M2
- [2] Fluid connection
- [3] COM port (only 3/2-way variants)
- [4] Valve inlet only for VYKA-F7-M22C
- [5] Valve inlet only for VYKA-F7-M22U

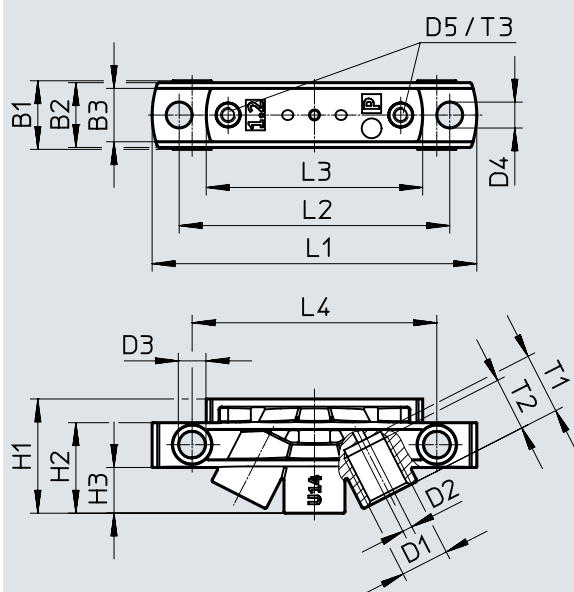
Type	B1	H1	H2	L1	L2	L3 ± 0.1	L4 ± 0.1
VYKA	7	30	3.8	28.4	17.8	22.7	7

Data sheet

Dimensions

Download CAD data → www.festo.com

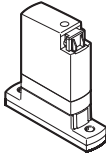
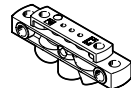
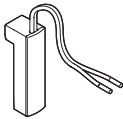
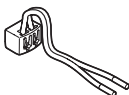
Manifold rail



Type	B1	B2	B3	D1	D2	D3	D4	D5
VABS-K1-7B-12-U14-P	9	8.5	7	UNF 1/4-28	1.3	3.6	3.4	M2
VABS-K1-7B-12-M5-P				M5				
VABS-K1-7B-08-U14-P				UNF 1/4-28				
VABS-K1-7B-08-M5-P				M5				

Type	H1	H2	H3	L1	L2	L3	L4	T1	T2	T3
VABS-K1-7B-12-U14-P	15	11.9	6	42.6	35.5	28.4	32.1	8	7	5
VABS-K1-7B-12-M5-P										
VABS-K1-7B-08-U14-P										
VABS-K1-7B-08-M5-P										

Accessories

Ordering data		Description		Part no.	Type
Solenoid valve					
	2/2-way valve, normally closed	Diaphragm and sealing material FFPM	8114566	VYKA-F7-M22C-12-D2-PF-5YQ7	
		Diaphragm and sealing material FPM	8114567	VYKA-F7-M22C-12-D2-PV-5YQ7	
	2/2-way valve, normally open	Diaphragm and sealing material FFPM	8114568	VYKA-F7-M22U-12-D2-PF-5YQ7	
		Diaphragm and sealing material FPM	8114569	VYKA-F7-M22U-12-D2-PV-5YQ7	
	3/2-way valve, normally closed or open	Diaphragm and sealing material FFPM	8114564	VYKA-F7-M32-12-D2-PF-5YQ7	
		Diaphragm and sealing material FPM	8114565	VYKA-F7-M32-12-D2-PV-5YQ7	
Sub-base					
	Female thread M5	Nominal width 0.8 mm	8047066	VABS-K1-7B-08-M5-P	
		Nominal width 1.2 mm	8047064	VABS-K1-7B-12-M5-P	
	Female thread 1/4-28 UNF-2B	Nominal width 0.8 mm	8047065	VABS-K1-7B-08-U14-P	
		Nominal width 1.2 mm	8047063	VABS-K1-7B-12-U14-P	
Electrical connection box					
	Straight socket, plug pattern Q7, with holding current reduction			8115100	VAVE-K1-7-5YL1-LR
Connecting cable					
	Straight socket, plug pattern Q7	Cable length 0.1 m	8115892	NEBV-Q7G2-PD-0.1-N-LE2	
		Cable length 0.5 m	8115099	NEBV-Q7G2-PD-0.5-N-LE2	

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