

Media separated solenoid valve VYKA

FESTO



Characteristics

At a glance

[Link](#) [vyka](#)

Special characteristics:

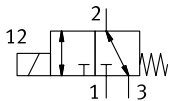
- Very easy to clean thanks to media separation
- Materials in contact with the media made of FDA-listed materials
- Developed according to ISO 13485
- High-quality materials, therefore also suitable for aggressive media
- High flow rate with small size
- High repetition accuracy, switching frequency and precision, therefore also suitable for extremely small volumes and dispensing tasks
- Low power consumption due to holding current reduction
- Very flexible in use thanks to 3/2-way and 2/2-way variants as well as 12 ... 26 V DC actuation

Function:

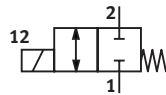
- The valve VYKA is a directly actuated valve with solenoid coil. When de-energised, the valve automatically returns to its normal position.
- The media separated solenoid valve VYKA is intended for mounting in laboratory devices. The valve is used to control gaseous and liquid media in line with its technical data.

Valve function

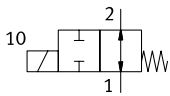
[M32] 3/2-way valve, normally closed or open



[M22C] 2/2-way valve, normally closed

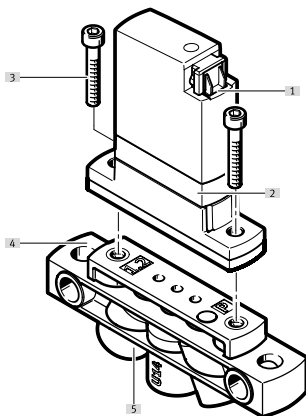


[M22U] 2/2-way valve, normally open



Series

[VYKA] Solenoid valve VYKA



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

Type code

001	Series		006	Pressure range [bar]	
VYKA	Solenoid valve VYKA		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		E	EPDM	
004	Valve function		F	FFPM	
M22C	2/2-way valve, normally closed		V	FPM	
M22U	2/2-way valve, normally open		009	Nominal operating voltage	
M32	3/2-way valve, normally closed or open		5Y	12 V DC to 26 V DC	
005	Nominal width		010	Electrical connection	
12	1.2 mm		Q7	Plug socket, connection pattern Q	

Datasheet

General technical data									
Valve function	2/2-way, closed, monostable			2/2 open, monostable			3/2-way, monostable, open/closed		
Material membrane	EPDM	FFPM	FPM	EPDM	FFPM	FPM	EPDM	FFPM	FPM
Flow rate Kv	0.018 m³/h	0.013 m³/h 0.018 m³/h	0.018 m³/h		0.013 m³/h 0.018 m³/h	0.018 m³/h	0.021 m³/h		
Design	Rocker valve with diaphragm seal								
Type of reset	Mechanical spring								
Nominal size	1.2 mm								
Size	7								
Grid dimension	7.5 mm								
Fluid connection	Flange								
Water flow rate at max. operating pressure	0.027 m³/h, 0.45 l/min	0.018 m³/h, 0.027 m³/h, 0.3 l/min, 0.45 l/min	0.027 m³/h, 0.45 l/min	0.024 m³/h, 0.4 l/min	0.018 m³/h, 0.024 m³/h, 0.3 l/min, 0.4 l/min	0.024 m³/h, 0.4 l/min	0.03 m³/h, 0.5 l/min		
Internal volume	18 µl fluid chamber valve, 24 µl valve with fluid connections	15 µl fluid chamber valve, 18 µl fluid chamber valve, 21 µl valve with fluid connections, 24 µl valve with fluid connections	18 µl fluid chamber valve, 24 µl valve with fluid connections		15 µl fluid chamber valve, 18 µl fluid chamber valve, 21 µl valve with fluid connections, 24 µl valve with fluid connections	18 µl fluid chamber valve, 24 µl valve with fluid connections	16 µl fluid chamber valve, 26 µl valve with fluid connections		

Datasheet

Operating and environmental conditions

Valve function	2/2-way, closed, monostable			2/2 open, monostable			3/2-way, monostable, open/closed		
Material membrane	EPDM	FFPM	FPM	EPDM	FFPM	FPM	EPDM	FFPM	FPM
Standard nominal flow rate (standardised to DIN 1343)	10 l/min	7.2 ... 10 l/min	10 l/min	7 ... 10 l/min	10 l/min	11 l/min			
Flow rate Kv	0.018 m³/h	0.013 ... 0.018 m³/h	0.018 m³/h	0.013 ... 0.018 m³/h	0.018 m³/h	0.021 m³/h			
Medium	Liquid media Gaseous media								
Pressure difference	2								
Ambient temperature	0 ... 50°C	15 ... 50°C	0 ... 50°C	15 ... 50°C	0 ... 50°C	15 ... 50°C	15 ... 50°C	0 ... 50°C	
Media temperature for fluids	0 ... 50°C	15 ... 50°C	0 ... 50°C	15 ... 50°C	0 ... 50°C	15 ... 50°C	15 ... 50°C	0 ... 50°C	
Medium temperature gaseous media	0 ... 50°C	15 ... 50°C	0 ... 50°C	15 ... 50°C	0 ... 50°C	15 ... 50°C	15 ... 50°C	0 ... 50°C	
Corrosion resistance class CRC ¹⁾	0 - No corrosion stress								
Medium pressure	-0.05 ... 0.2 MPa								
Medium pressure	-0.5 ... 2 bar								
Medium pressure	-7.25 ... 29 psi								
Note on the medium pressure	IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi OUT: -0.5 – 1 bar / -0.05 – 0.1 MPa / -7.25 – 14.5 psi	IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi IN: 0 – 2 bar / 0 – 0.2 MPa / 0 – 29 psi OUT: -0.5 – 0.5 bar / -0.05 – 0.05 MPa / -7.25 – 7.25 psi OUT: 0 – 1 bar / 0 – 0.1 MPa / 0 – 14.5 psi	IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi OUT: -0.5 – 1 bar / -0.05 – 0.1 MPa / -7.25 – 14.5 psi	IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi IN: 0 – 2 bar / 0 – 0.2 MPa / 0 – 29 psi OUT: -0.5 – 0.5 bar / -0.05 – 0.05 MPa / -7.25 – 7.25 psi OUT: 0 – 1 bar / 0 – 0.1 MPa / 0 – 14.5 psi	IN: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi OUT: -0.5 – 1 bar / -0.05 – 0.1 MPa / -7.25 – 14.5 psi	COM: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi NC: -0.5 – 1 bar / -0.05 – 0.1 MPa / -7.25 – 14.5 psi NO: -0.5 – 1 bar / -0.05 – 0.1 MPa / -7.25 – 14.5 psi	COM: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi COM: 0 – 2 bar / 0 – 0.2 MPa / 0 – 29 psi NC: -0.5 – 0.5 bar / -0.05 – 0.05 MPa / -7.25 – 7.25 psi NC: 0 – 1 bar / 0 – 0.1 MPa / 0 – 14.5 psi NO: -0.5 – 0.5 bar / -0.05 – 0.05 MPa / -7.25 – 7.25 psi NO: 0 – 1 bar / 0 – 0.1 MPa / 0 – 14.5 psi	COM: -0.25 – 2 bar / -0.025 – 0.2 MPa / -3.625 – 29 psi NC: -0.5 – 1 bar / -0.05 – 0.1 MPa / -7.25 – 14.5 psi	
Burst pressure	2.3 MPa								
Burst pressure	23 bar								
Burst pressure	333.5 psi								

1) More information www.festo.com/x/topic/crc

Datasheet

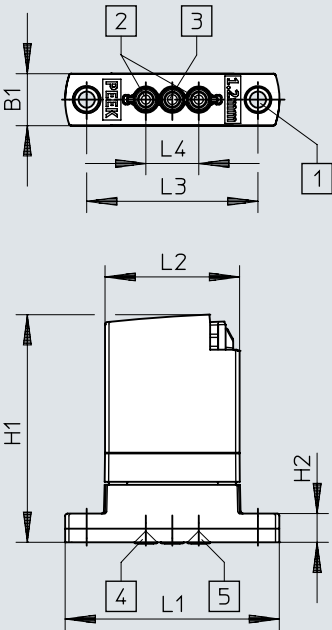
Electrical data									
Valve function	2/2-way, closed, monostable			2/2 open, monostable			3/2-way, monostable, open/closed		
Material membrane	EPDM	FFPM	FPM	EPDM	FFPM	FPM	EPDM	FFPM	FPM
Diaphragm and sealing material	EPDM	FFPM	FPM	EPDM	FFPM	FPM	EPDM	FFPM	FPM
Operational voltage range DC	12 ... 26 V								
Insulation material class	B								
Duty cycle	100% in conjunction with holding current reduction Observe the notes on operating the solenoid valves.								
Permissible voltage fluctuations	± 10%								
Characteristic coil data	12 - 26 V DC: low-current phase 0.06 W, high-current phase 2.2 W								
Switching time on gaseous media	5 ms	6 ms, 9 ms	5 ms	–			5 ms	5 ms, 9 ms	5 ms
Switching time off gaseous media	–			5 ms	6 ms, 9 ms	5 ms	5 ms, 9 ms		5 ms
Switch-on time for fluids	5 ms	5 ms, 9 ms	5 ms	–			5 ms	5 ms, 9 ms	5 ms
Switch-off time for fluids	–			5 ms	7 ms, 9 ms	5 ms	6 ms, 9 ms		5 ms
Note on switching time	Switching time depends on medium, temperature, medium pressure and individual operating conditions	Switching time depends on medium, temperature, medium pressure and individual operating conditions, The switching behaviour of the FFPM can be slower at temperatures below room temperature	Switching time depends on medium, temperature, medium pressure and individual operating conditions	Switching time depends on medium, temperature, medium pressure and individual operating conditions, The switching behaviour of the FFPM can be slower at temperatures below room temperature	Switching time depends on medium, temperature, medium pressure and individual operating conditions	Switching time depends on medium, temperature, medium pressure and individual operating conditions	Switching time depends on medium, temperature, medium pressure and individual operating conditions, The switching behaviour of the FFPM can be slower at temperatures below room temperature	Switching time depends on medium, temperature, medium pressure and individual operating conditions	Switching time depends on medium, temperature, medium pressure and individual operating conditions

Materials	
Material housing	PA-reinforced PEEK PPA reinforced
Note on materials	RoHS-compliant

Dimensions

Dimensions – Solenoid valve VYKA-...

Download CAD data www.festo.com

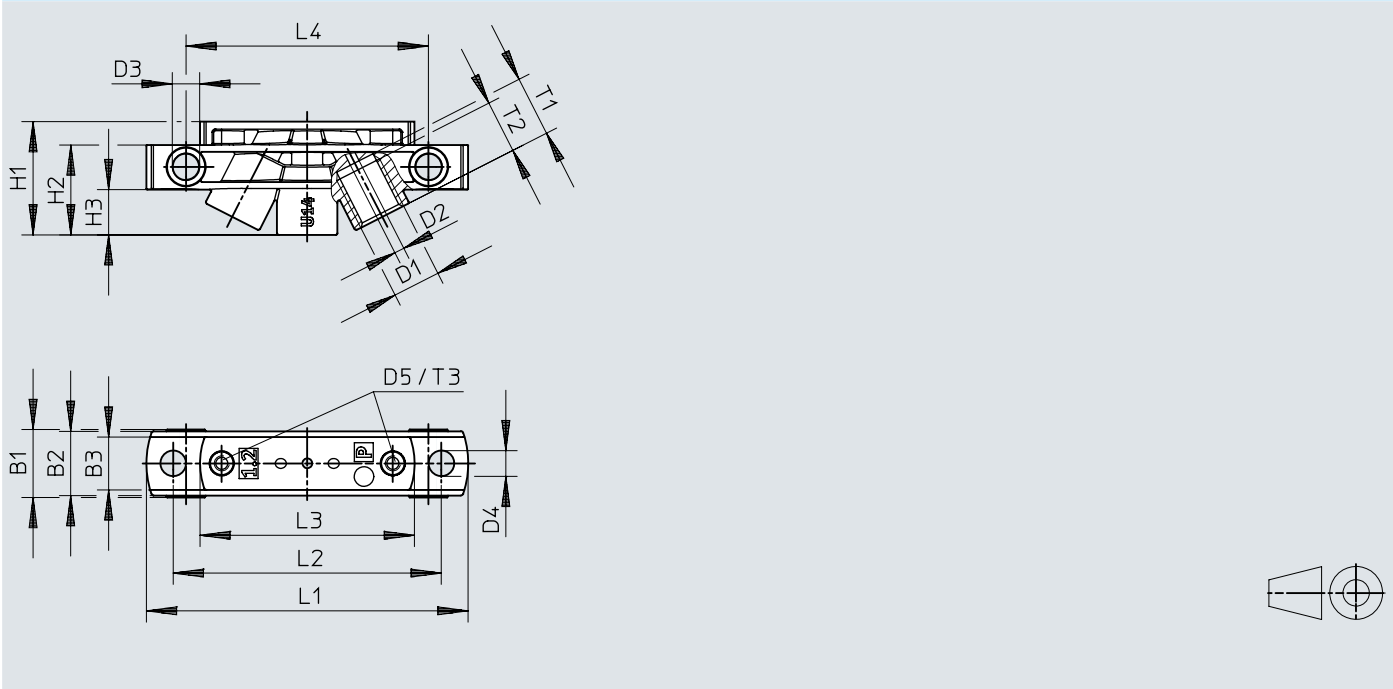


- [1] Mounting holes, screws enclosed for M2 threaded hole
- [2] Fluid connection
- [3] COM port (only 3/2-way variants)
- [4] Valve input only for VYKA-F7-M22U
- [5] Valve input only for VYKA-F7-M22C

	B1	H1	H2	L1	L2	L3 ± 0,1	L4 ± 0,1
VYKA-...	7	30	3,8	28,4	17,8	22,7	7

Dimensions

Dimensions – Manifold rail VABS-K1-7B-12-... Download CAD data www.festo.com



	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				

	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										

Ordering data

Ordering data, without vacuum

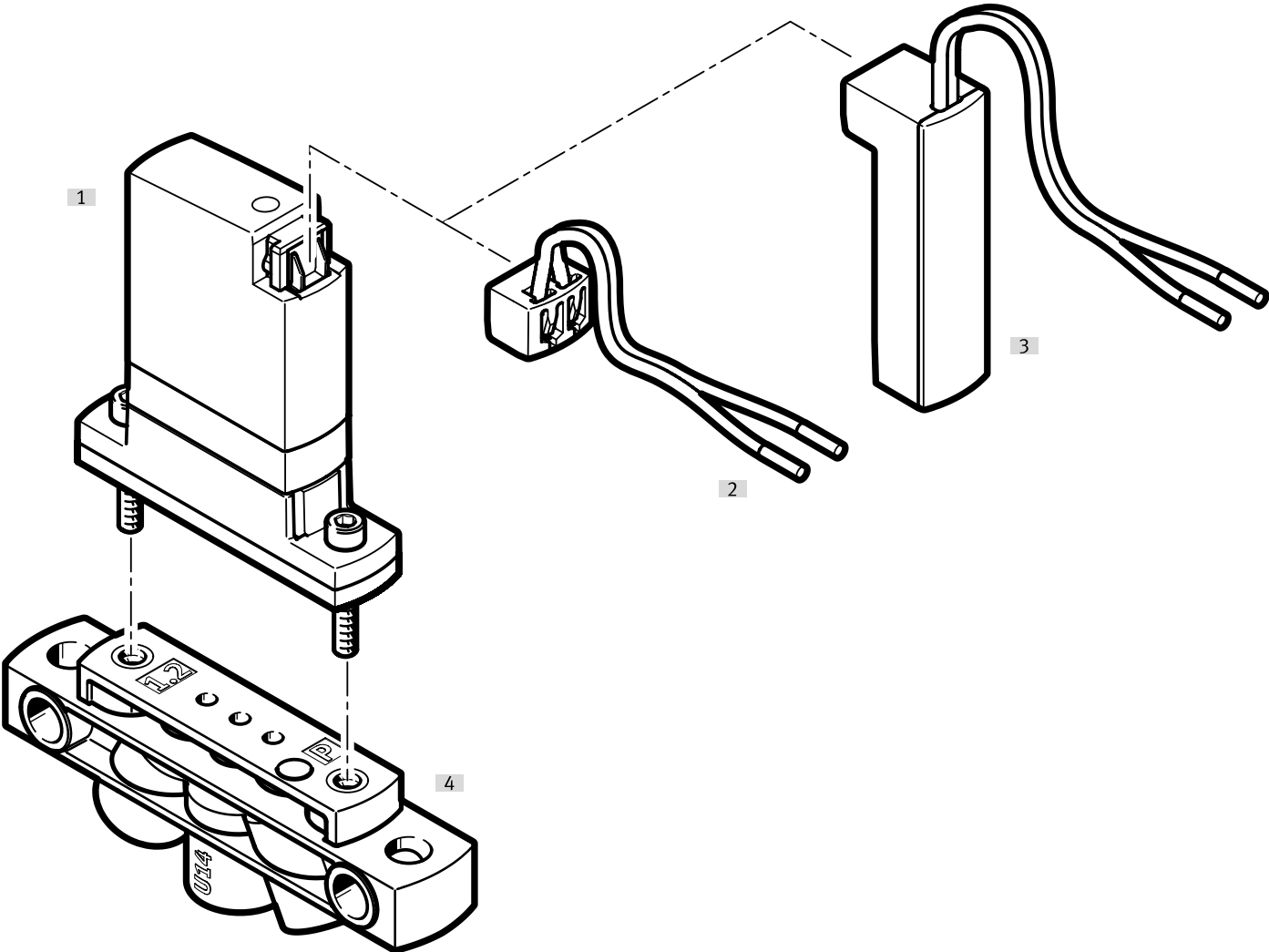
	Size	Valve function	Design	Water flow rate at max. operating pressure	Part no.	Type
	7	2/2-way, closed, monostable	Rocker valve with diaphragm seal	0.018 m³/h, 0.3 l/min	8114566	VYKA-F7-M22C-12-D2-PF-5YQ7
		2/2 open, monostable			8114568	VYKA-F7-M22U-12-D2-PF-5YQ7
		3/2-way, monostable, open/closed		0.03 m³/h, 0.5 l/min	8114564	VYKA-F7-M32-12-D2-PF-5YQ7

Ordering data, with vacuum

	Size	Valve function	Design	Water flow rate at max. operating pressure	Part no.	Type
	7	2/2-way, closed, monostable	Rocker valve with diaphragm seal	0.027 m³/h, 0.45 l/min	8170086	VYKA-F7-M22C-12-PF-5YQ7
					8170087	VYKA-F7-M22C-12-PV-5YQ7
					8170088	VYKA-F7-M22C-12-PE-5YQ7
		2/2 open, monostable		0.024 m³/h, 0.40 l/min	8170089	VYKA-F7-M22U-12-PF-5YQ7
					8170090	VYKA-F7-M22U-12-PV-5YQ7
					8170091	VYKA-F7-M22U-12-PE-5YQ7
		3/2-way, monostable, open/closed		0.03 m³/h, 0.5 l/min	8170084	VYKA-F7-M32-12-PV-5YQ7
					8170085	VYKA-F7-M32-12-PE-5YQ7
					8170083	VYKA-F7-M32-12-PF-5YQ7

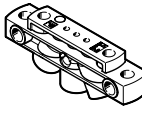
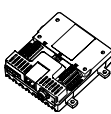
Peripherals

Peripherals overview



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

Accessories

Sub-base					
	Nominal size	Part no.	Type		
	1.2 mm	8047063	VABS-K1-7B-12-U14-P		
		8047064	VABS-K1-7B-12-M5-P		
E-box					
	Electrical connection	Part no.	Type		
	2-pin, Twin wire, Open end	8115100	VAVE-K1-7-5YL1-LR		
Connecting cable					
	Cable length	Part no.	Type		
	0.1 m	8115892	NEBV-Q7G2-PD-0.1-N-LE2		
	0.5 m	8115099	NEBV-Q7G2-PD-0.5-N-LE2		
Valve control module					
	Max. number of outputs	Part no.	Type		
	8	8088772	VAEM-V-S8EPRS2		
Push-in fitting					
	Pneumatic connection, port 1	Pneumatic connection, port 2	Part no.	Type	
	Male thread M5	For tubing outside diameter of 4 mm	8085657	NPQR-DK-M5-Q4	
		For tubing outside diameter of 6 mm	8085659	NPQR-DK-M5-Q6	
Fitting					
	Fluid connection	Fluid connection 2	Size of pack	Part no.	Type
	UNF1/4-28	For tubing O.D. 3 mm	10	8104286	NLFA-D-U14-K3-PP-P10
		For tubing I.D. 1.2 mm		8104288	NLFA-D-U14-B1.2-PP-P10
		For tubing I.D. 2.1 mm		8104289	NLFA-D-U14-B2.1-PP-P10
		For tubing O.D. 1.6 mm (1/16")		8104285	NLFA-D-U14-K1.6-PP-P10
		For tubing O.D. 3.2 mm (1/8")		8104287	NLFA-D-U14-K3.2-PP-P10
Dosing nozzles					
	Length of dosing needle	Nominal width of dosing needle	Size of pack	Part no.	Type
	30 mm	0.3 mm	10	8104295	VAVN-N-A1.6-03-30-F-V-V1-P10
		0.6 mm		8104294	VAVN-N-A1.6-03-30-V-V1-P10
				8104290	VAVN-N-A1.6-06-30-V1-P10
		1.2 mm		8104296	VAVN-N-A1.6-06-30-V-V1-P10
				8104291	VAVN-N-A1.6-12-30-V1-P10
	60 mm	0.3 mm		8104298	VAVN-N-A1.6-03-60-F-V-V1-P10
		0.6 mm		8104297	VAVN-N-A1.6-03-60-V-V1-P10
				8104292	VAVN-N-A1.6-06-60-V1-P10
				8104299	VAVN-N-A1.6-06-60-V-V1-P10

Accessories

Dosing nozzles					
	Length of dosing needle	Nominal width of dosing needle	Size of pack	Part no.	Type
	60 mm	1.2 mm	10	8104293	VAVN-N-A1.6-12-60-V1-P10