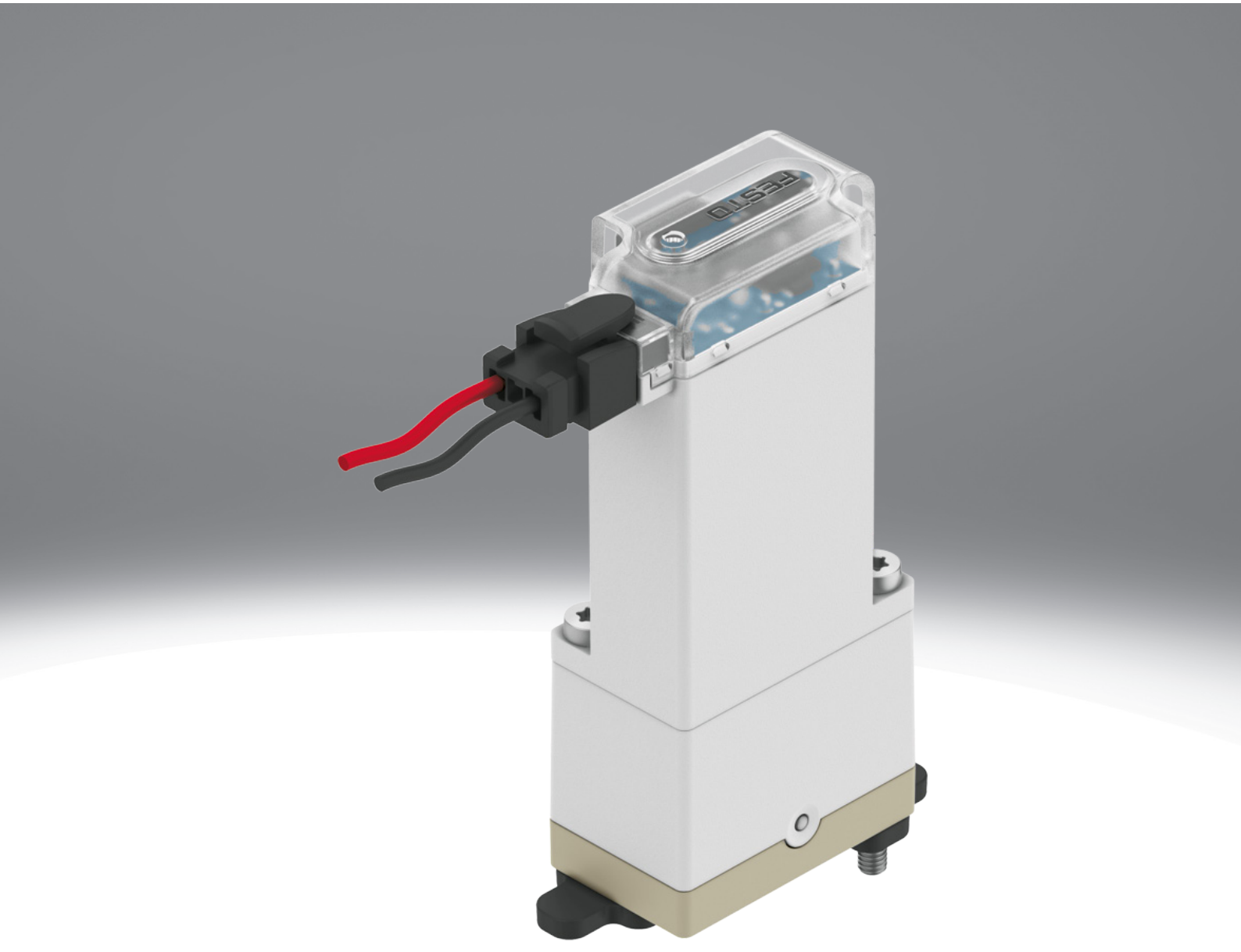
Media separated solenoid valve VYKC



Characteristics

At a glance Link vykc

Special characteristics:

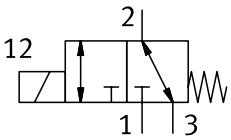
- Very easy to clean thanks to media separation
- Low media consumption thanks to small internal volume
- High flow rate with small size
- High repetition accuracy, switching frequency and precision, therefore also suitable for extremely small volumes and dispensing tasks
- Very flexible in use thanks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

Function:

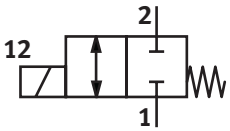
- The media separated solenoid valve VYKC is intended to be mounted on laboratory devices. The product is used to control gaseous and liquid media within its technical data.
- The valve VYKC is a directly actuated valve with solenoid coil. When de-energised, the valve automatically returns to its normal position. A closed or an open normal position (3/2-way solenoid valve only) are available as variants.

Valve function

[32]	3/2-way valve

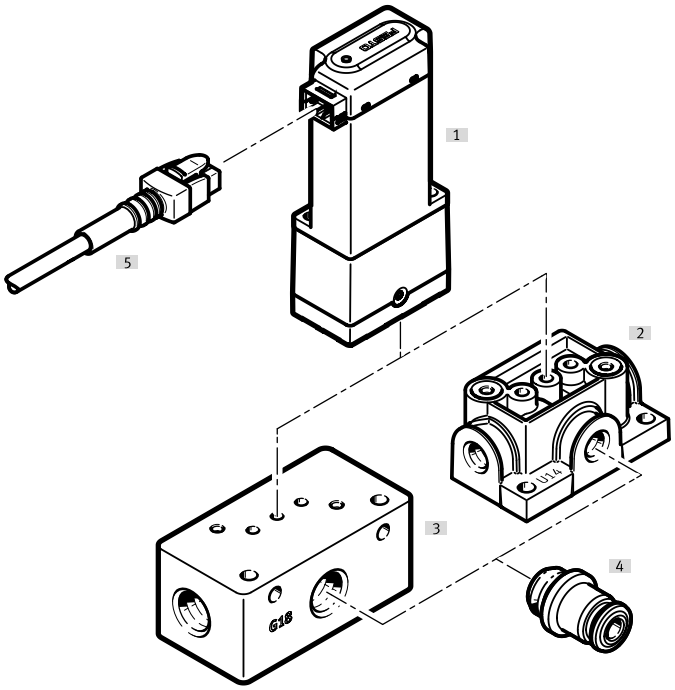


[M22C]	2/2-way valve, normally closed



Series

[VYKC]	Solenoid valve VYKC



[1] Solenoid valve VYKC
[2] Manifold rail
[3] Manifold rail VABS-K3-16-S-20-...18-P
[4] Fitting
[5] Connecting cable

Type code

001	Series	
VYKC	Solenoid valve VYKC	

002	Directional control valve type	
F	Flanged valve	

003	Size	
16	Size 16	

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	

006	Housing material	
P	PEEK	

007	Diaphragm and sealing material	
E	EPDM	

008	Electrical connection	
H2	Connection pattern H, horizontal plug	

009	Circuitry	
R	Holding current reduction with integrated protective circuit	

Datasheet

General technical data		
Valve function	2/2-way, closed, monostable	3/2-way, monostable, open/closed
Size	16	
Design	Electrical connection at the side Rocker valve with diaphragm seal	
Type of reset	Mechanical spring	
Nominal size	2 mm	
Fluid connection	Flange	
Flow rate Kv	0.048 m³/h	0.046 m³/h
Flow rate Kv	0.8 l/min	0.77 l/min
Note on flow rate Kv	For medium water, Pressure difference 1 bar	
Water flow rate at max. operating pressure	1.2 l/min, 0.07 m³/h	
Internal volume	110 µl valve with fl. conn. 89 µl fluid chamber valve	59 µl fluid chamber valve 94 µl valve with fl. conn.
Sealing principle	Soft	
Flow direction	Reversible	
Type of actuation	Electric	
Type of piloting	Direct	
Manual override	None	
Type of mounting	With through-hole for M2.5 screw	
Mounting position	optional	
Degree of protection	IP40	
Corrosion resistance class CRC [1]	0 - No corrosion stress	
Product weight	50 g	

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

Operating and environmental conditions	
Medium	Liquid media Gaseous media
Note on the medium	Observe resistance of materials that come into contact with the media Maximum particle size 5 µm
Media temperature	0 ... 50°C
Media temperature for fluids	0 ... 50°C
Ambient temperature	0 ... 50°C
Storage temperature	-20 ... 70°C
Medium pressure	-0.75 ... 2 bar

Electrical data	
Operational voltage range DC	12 V, 24 V
Permissible voltage fluctuations	+/- 10%
Electrical connection 1, connection type	Cable with plug
Electrical connection 1, connector system	Connection pattern H
Characteristic coil data	12 - 24 V DC: low-current phase 1.4 W, high-current phase 5.5 W
Duty cycle	100% in conjunction with holding current reduction Observe the notes on operating the solenoid valves.
Electrical power consumption	–
Max. electrical power consumption	–

Datasheet

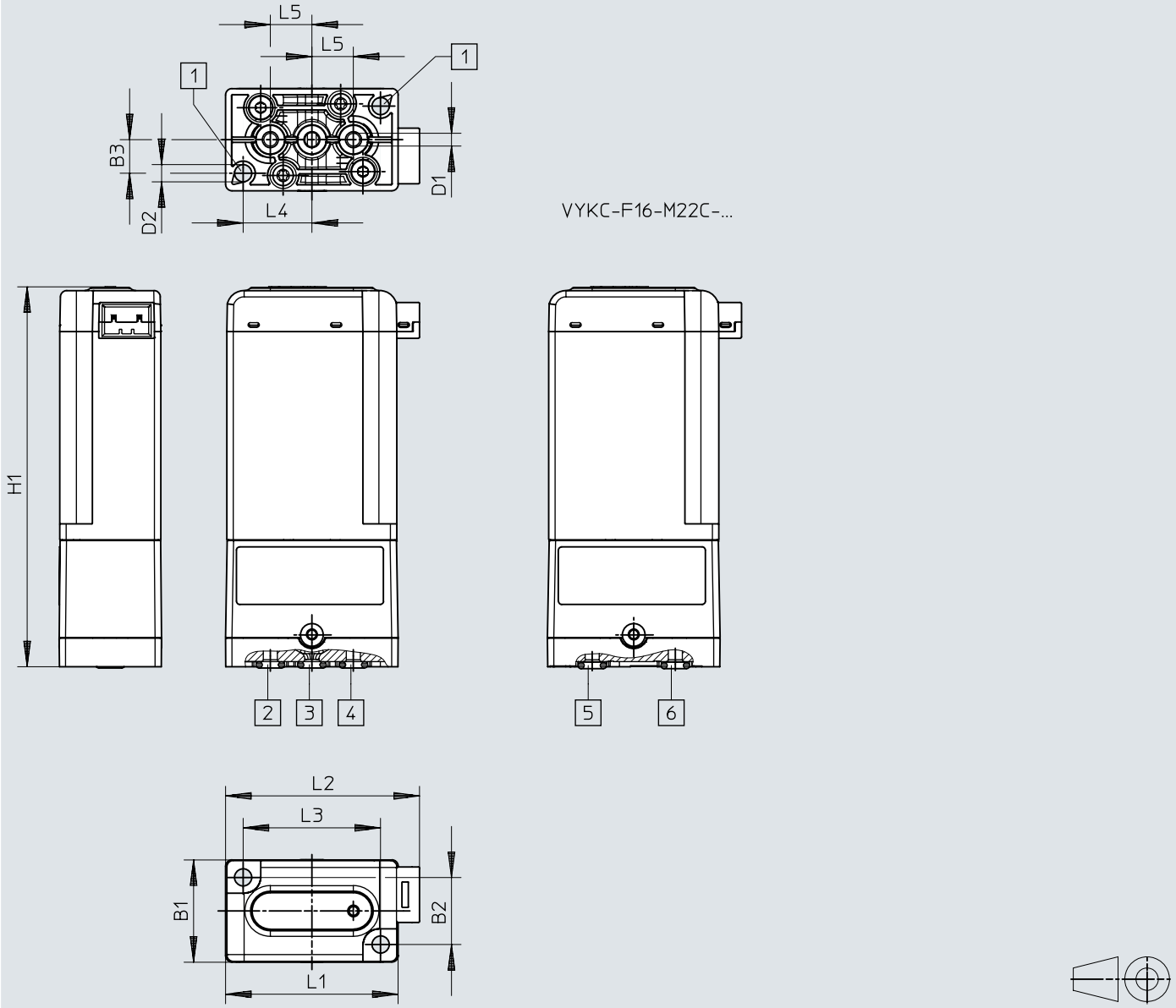
Switching time		
Valve function	2/2-way, closed, monostable	3/2-way, monostable, open/closed
Switching time on gaseous media	12 ms	13 ms
Switching time off gaseous media	–	3 ms
Switch-on time for fluids	16 ms	17 ms
Switch-off time for fluids	–	12 ms

Switching frequency	
Max. switching frequency	4 Hz
Note on switching frequency	Dependent on the ambient temperature and installation state, At 100% duty cycle depending on ambient temperature and installation condition. Higher switching frequencies possible with duty cycle < 100%.

Materials	
Material in contact with the medium	EPDM PEEK
Material housing	PEEK
Material membrane	EPDM
Material seals	EPDM
Note on materials	RoHS-compliant

Dimensions

Dimensions – Solenoid valve VYKC Download CAD data www.festo.com

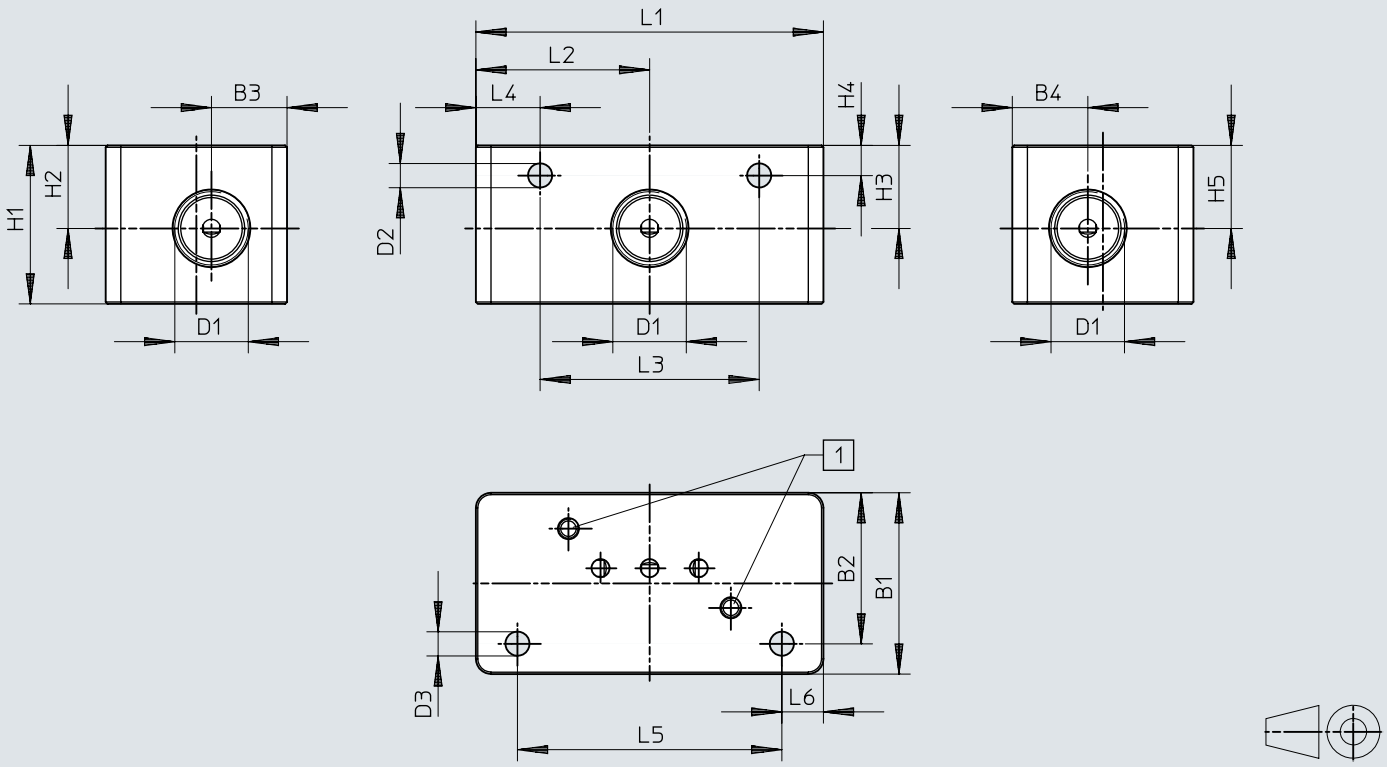


[1] Mounting holes. Screws enclosed for M2.5 thread
[2] Connection NO
[3] Connection COM
[4] Connection NC
[5] Connection IN
[6] Connection OUT

	B1 ±0,3	B2	B3	D1 ø	D2 ø	H1 ±0,4	L1 ±0,3	L2 ±0,4	L3	L4	L5
VYKC-F16-M32-20-PE-H2R	16	10,5	5,3	2,2	2,7	59,5	27	30,3	21,5	10,8	6,5
VYKC-F16-M32-20-PE-H2											
VYKC-F16-M22C-20-PE-H2R											
VYKC-F16-M22C-20-PE-H2											

Dimensions

Dimensions – Manifold rail VABS-K2-16S Download CAD data www.festo.com



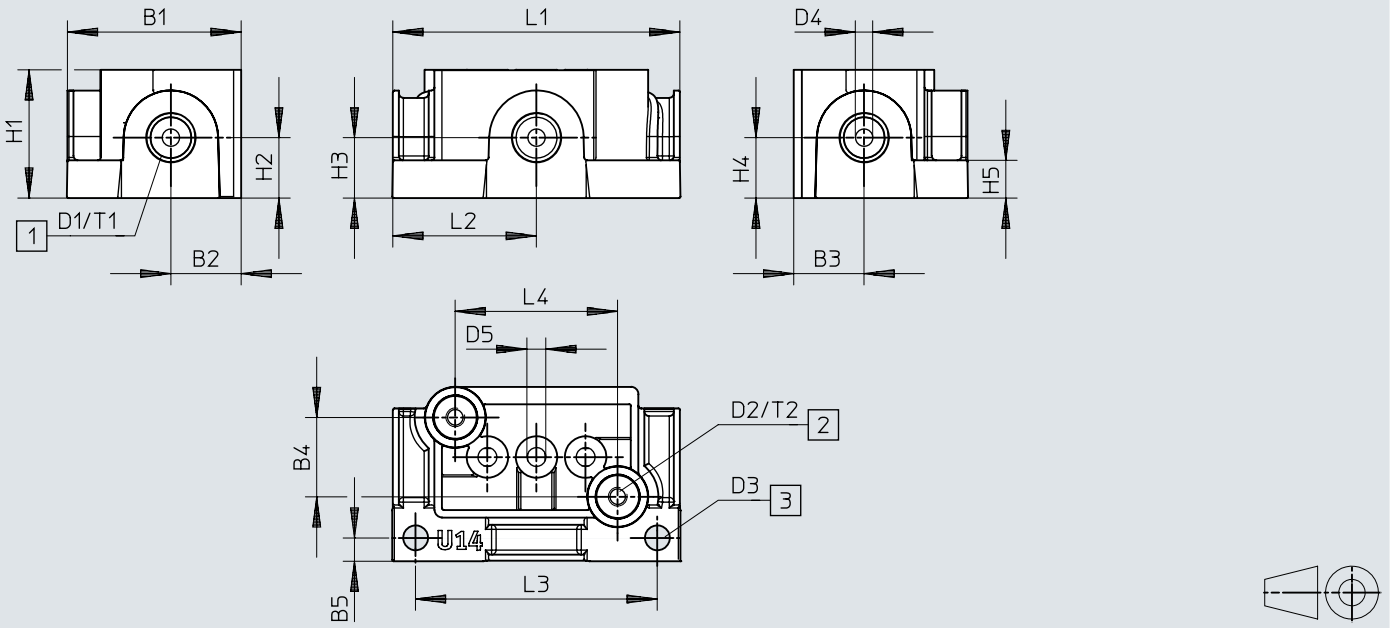
[1] Mounting holes: M2.5 thread (depth 6.5 mm)

	B1	B2	B3	B4	D1 ø	D2 ø	D3 ø	H1	H2
VABS-K3-16S-20-G18-P	24	20	10	10	G1/8	3,2	3,2	21	11
VABS-K3-16S-20-N18-P					NPT1/8-27				

	H3	H4	H5	L1	L2	L3	L4	L5	L6
VABS-K3-16S-20-G18-P	11	4	11	46	23	29	8,5	35	5,5
VABS-K3-16S-20-N18-P									

Dimensions

Dimensions – Manifold rail VABS-K2-16S-20-... Download CAD data www.festo.com



[1] Fluid connection
[2] Valve mounting
[3] Base plate mounting

	B1 ±0,5	B2	B3	B4	B5 ±0,5	D1 ±0,5	D2 ±0,2	D3 ø ±0,1	D4 ø	D5 ø
VABS-K3-16S-20-M5-P	23	9,3	9,3	10,5	3,1	M5	M2,5	3,3	2,3	2,5
VABS-K3-16S-20-U14-P						1/4-24 UNF-2A				

	H1 ±0,5	H2	H3	H4	H5 ±0,5	L1 ±0,5	L2	L3 ±0,5	L4	T1	T2 ±0,2
VABS-K3-16S-20-M5-P	17	8	8	8	5	38	19	32	21,5	7,5 ±0,5	7,5
VABS-K3-16S-20-U14-P										8,9 ±0,1	

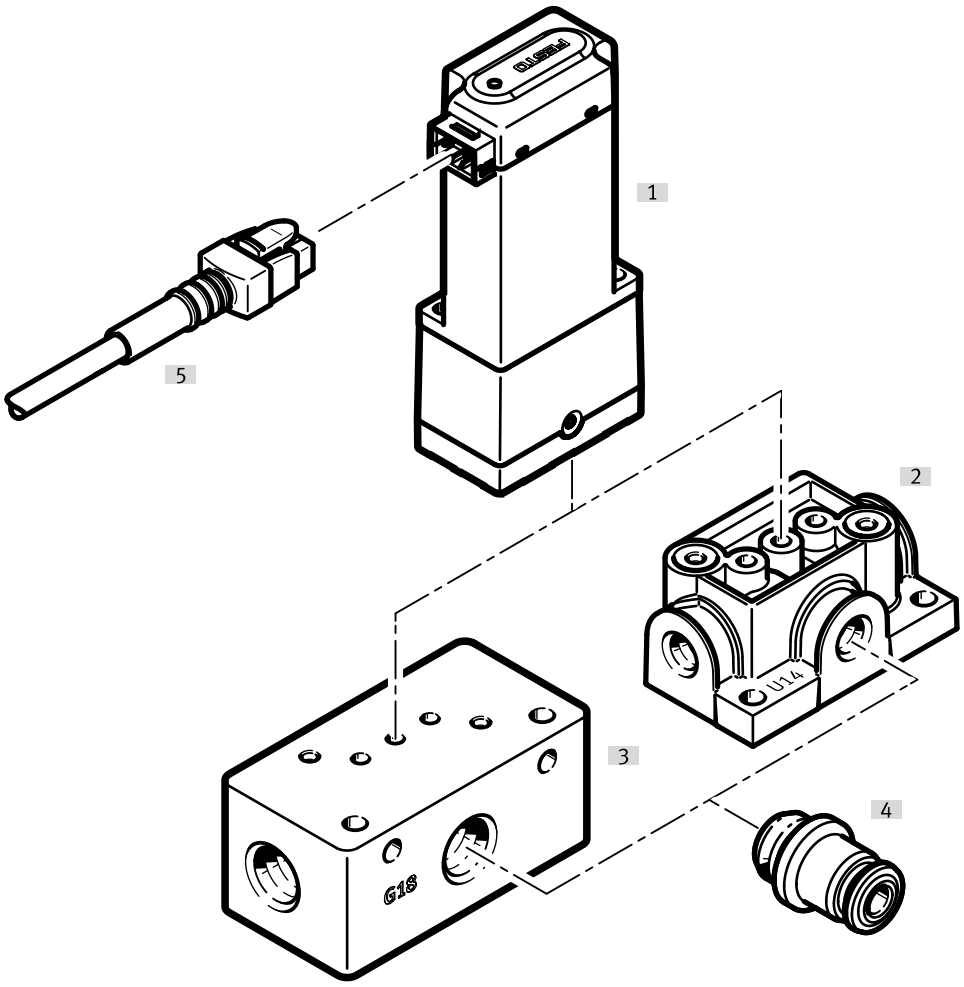
Ordering data

Solenoid valve VYKC

	Valve function	Part no.	Type
	2/2-way, closed, monostable	**8172734**	**VYKC-F16-M22C-20-PE-H2**
		8172719	**VYKC-F16-M22C-20-PE-H2R**
	3/2-way, monostable, open/closed	**8172698**	**VYKC-F16-M32-20-PE-H2R**
		8172707	**VYKC-F16-M32-20-PE-H2**

Peripherals

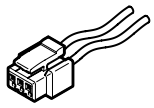
Peripherals overview



Accessories			→ Link
	Type/order code	Description	
[1]	Solenoid valve	VYKC	vykc
[2]	Manifold rail	VABS-K3-16S-20-...	11
[3]	Manifold rail	VABS-K316S-20-...18-P	11
[4]	Fitting	NPQR-DK-... NLFA-D-U14-...	11
[5]	Connecting cable	NEBV-H1G2-KN-...	11

Accessories

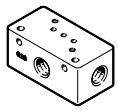
Connecting cable

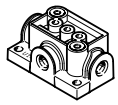
	Electrical connection 1, connection type	Electrical connection 1, cable outlet	Electrical connection 1, connector system	Cable length	Part no.	Type
	Socket	Straight	Connection pattern H	0.5 m	★ 566654	NEBV-H1G2-KN-0.5-N-LE2
					★ 566658	NEBV-H1G2-P-0.5-N-LE2
				1 m	★ 566659	NEBV-H1G2-P-1-N-LE2
					★ 566655	NEBV-H1G2-KN-1-N-LE2
				2.5 m	★ 566660	NEBV-H1G2-P-2.5-N-LE2
				5 m	566657	NEBV-H1G2-KN-5-N-LE2
					566661	NEBV-H1G2-P-5-N-LE2

Valve control module

	Max. number of outputs	Part no.	Type
	8	8088772	VAEM-V-S8EPRS2

Manifold rail

	Fluid connection	Part no.	Type
	Female thread 1/8 NPT	8186872	VABS-K3-16S-20-N18-P
	Female thread G1/8	8186873	VABS-K3-16S-20-G18-P

	Fluid connection	Part no.	Type
	Female thread 1/4-28 UNF-2B	8187600	VABS-K3-16S-20-U14-P
	Female thread M5	8187601	VABS-K3-16S-20-M5-P

Push-in fitting

	Nominal size	Pneumatic connection, port 1	Pneumatic connection, port 2	Part no.	Type
	2.1 mm	Male thread M5	For tubing outside diameter of 4 mm	8085657	NPQR-DK-M5-Q4
	2.6 mm		For tubing outside diameter of 6 mm	8085659	NPQR-DK-M5-Q6
		Male thread G1/8	For tubing outside diameter of 4 mm	8085661	NPQR-DK-G18-Q4
	4.2 mm		For tubing outside diameter of 6 mm	8085662	NPQR-DK-G18-Q6
	5.3 mm		For tubing outside diameter of 8 mm	8085663	NPQR-DK-G18-Q8
			For tubing outside diameter of 10 mm	8087695	NPQR-DK-G18-Q10

Fitting

	Fluid connection 2	Part no.	Type
	For tubing O.D. 3 mm	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