

Valve series VOFC

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Solenoid valves VOFC

Features

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General remarks

- The valves of series VOFC are special 3/2-way and 5/2-way valves for process automation and applications in chemical and petrochemical installations, where they are frequently used as pilot valves for butterfly valves and actuators. Their sturdy design and high resistance to corrosion make these valves suitable for outdoor use under harsh ambient conditions.
- With the flange pattern to NAMUR, the solenoid valves are particularly suitable for quarter turn actuators. The integrated spring chamber re-breather function protects quarter turn actuators with spring return (single-acting cylinders and actuators) against contaminated ambient atmospheres and weather influences such as rain.
- Approved by the German Technical Control Board (TÜV) up to SIL-3

Function, design

- 3/2-way or 5/2-way, single or double solenoid, depending on the type
- Pilot-actuated piston spool and piston poppet valves

Robust

- The surface of the valve housing is Ematal coated. This treatment involves converting the aluminium surface into a very hard aluminium oxide layer with titanium oxide intercalations. This treatment makes the valves extremely resistant to wear and abrasion and gives them first-class sliding qualities. This provides optimum protection against atmospheric and chemical influences. The media resistance of the product can be found under www.festo.com.

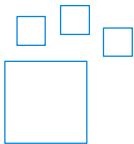
Flexible functionality

- Changeover between internal and external pilot air via automatic OR valve
- Suitable for vacuum

Economical

- Port pattern to NAMUR for direct mounting on the actuator and the G and NPT threaded connections in a valve housing

Ordering data – Product options



Configurable product
This product and all its options can be ordered using the configurator.

The configurator can be found under Products on the DVD or at www.festo.com/catalogue/...

Enter the type (or part number) in the search field:

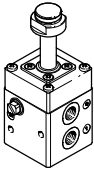
- VOFC-L 3344863
- VOFC-LT 2868687

Solenoid valves VOFC

Key features

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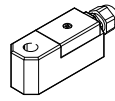
VOFC - Basic valves



- 3/2, 5/2-way valves
- Ports G $\frac{1}{4}$, $\frac{1}{4}$ NPT, G $\frac{1}{2}$, $\frac{1}{2}$ NPT, flange ports
- Port pattern to NAMUR, optionally with P duct

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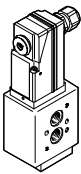
VACC - S13 coils



- AC and DC voltage 24 V, 60 V, 110 V, 230 V
- Types of ignition protection EX EMB II, EX IA IIC

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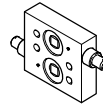
VOFC - Solenoid valves



- Combination of basic valve VOFC and P3 nozzle/baffle pilot control system
- 3/2, 5/2-way valves
- Types of ignition protection EX ia

➔ Page 21, 34

VOFC - Accessories



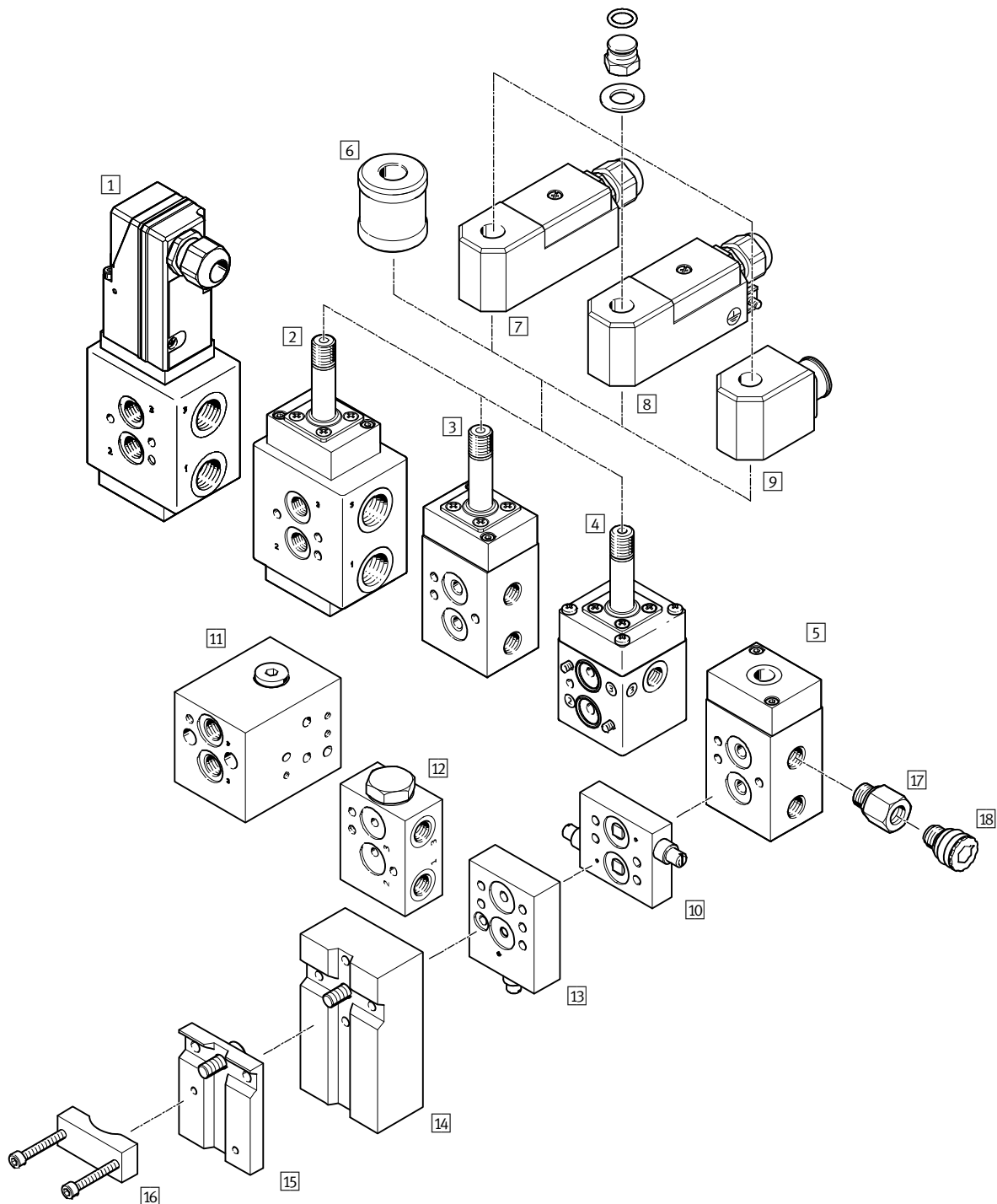
- Flow control plate
- Sub-base
- Mounting plate
- Connection kit
- Adapter with filter
- Mounting bracket
- Manual override

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Solenoid valves VOFC

Peripherals overview

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Solenoid valves VOFC

Peripherals overview

Mounting components and accessories		
	Brief description	→ Page/Internet
1 Solenoid valve VOFC-LT-...-FG12-...-P3-...	Solenoid valve with valve pilot control, interface for pilot nozzle/baffle plate → Modular product system - Configurable via online configurator	2 
2 Basic valve VOFC-LT-...-FG12-...-F19...	3/2-way valve, G1/2 port, poppet valve → Modular product system - Configurable via online configurator	2 
3 Basic valve VOFC-L-...-FG14-...-F19...	3/2-way valve, G1/4 port, piston spool → Modular product system - Configurable via online configurator	2 
4 Basic valve VOFC-LT-...-FG14-...-F19...	3/2-way valve, G1/4 port, poppet valve → Modular product system - Configurable via online configurator	2 
5 Directional control valve VOFC-L-...-SG14/SN14-...	3/2-way valve, 5/2-way valve, G1/4 port, piston spool → Modular product system - Configurable via online configurator	2 
6 Manual override VAOH-MB-S7-S13	Manual override (MO)	81 
7 Solenoid coil VACC-S13-...4A	Type of ignition protection iA = intrinsically safe, for use in zone 1	72
8 Solenoid coil VACC-S13-...ME	Type of ignition protection ME = mould-encapsulated, for use in zone 1	70
9 Solenoid coil VACC-S13-...A1	IP65, electrical port pattern type A to DIN EN 175-803	74
10 Flow control plate VABF-S7-F1B1P2-F	Exhaust-air flow control plate for NAMUR interface for installation between the solenoid valve and double-acting actuators	79
11 Sub-base VABS-S7-RB-B-...14-V14-A	For mounting two solenoid valves for redundant circuitry, with flange 1/4, port pattern to NAMUR	76 
12 Sub-base VABS-S7-BE-B-...14-V14-A	Pressurisation and exhaust block, with flange 1/4, port pattern to NAMUR	76 
13 Flow control plate VABF-S7-F1B5P1-F	Exhaust-air flow control plate for NAMUR interface for installation between the solenoid valve and single-acting actuators	79
14 Connection kit VABF-S7-S-G14	Mounting plate for attaching the valve to the NAMUR rib	79
15 Mounting plate VAME-S7-P	Mounting plate for attaching the valve to the NAMUR rib	78
16 Mounting bracket VAME-S7-Y	Alternative (instead of screw) for attaching the valve to the NAMUR rib using a mounting bracket	80
17 Adapter NPFV-AF-...-MF	Adapter with filter	80
18 Exhaust protection VABD-D3-SN-...	Exhaust protection IP65. The spring chamber of the solenoid valve is protected against the ingress of an aggressive ambient atmosphere and water by the non-return system	80

Solenoid valves VOFC

Type code VOFC

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Type		VOFC	-	L	-		-		-		-		-		-		-		-	
VOFC	Solenoid valves																			
Valve type																				
L	In-line valve																			
Nominal width																				
-	Standard																			
Design principle																				
-	Piston spool																			
T	Poppet valve																			
Valve function																				
B52	5/2-way valve, double solenoid																			
M52	5/2-way valve, single solenoid																			
M32C	3/2-way valve, normally closed																			
Reset method for single solenoid valves																				
-	Without																			
M	Mechanical spring																			
Pilot air																				
-	Internal																			
C	Internal/external																			
Z	External																			
Manual override																				
-	Without																			
H	Non-detenting (resetting)																			
Y	Detenting																			
Pneumatic connection																				
G12	G1/2																			
G14	G1/4																			
N12	1/2 NPT																			
N14	1/4 NPT																			
FG12	Flange G1/4, ports G1/2																			
FG13	Flange G1/2, ports G1/2																			
FG14	Flange G1/4, ports G1/4																			
FN12	Flange 1/4 NPT, ports 1/2 NPT																			
FN13	Flange 1/2 NPT, ports 1/2 NPT																			
FN14	Flange 1/4 NPT, ports 1/4 NPT																			
FGP14	Flange G1/4, ports G1/4 and additional pneumatic connection																			
FNP14	Flange 1/4 NPT, ports 1/4 NPT and additional pneumatic connection																			
Supply port version																				
-	Standard																			
PF	With particle filter																			
NPF	With particle filter and connecting thread 1/4 NPT																			

Solenoid valves VOFC

Type code VOFC

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		-		-		-		-		-		-		-		-		-	
Exhaust																			
-	Without fitting																		
U6	With exhaust protection																		
Corrosion protection																			
-	Standard																		
R1	Stainless steel																		
Valve pilot control interface																			
P3	Interface for pilot nozzle/baffle plate																		
F19	Electrical system with armature tube for solenoid coil 13mm																		
F19A	Electrical system with armature tube for solenoid coil 13mm, intrinsically safe																		
SG14	Interface with thread G1/4																		
SN14	Interface with thread 1/4 NPT																		
Power consumption																			
-	Without																		
11	1.1 W																		
18	1.8 W																		
0,4	40 mW																		
0,09	9 mW																		
Nominal operating voltage																			
-	Without																		
1U	24 V DC and AC																		
2U	110 V DC and AC																		
3U	230 V DC and AC																		
1	24 V DC																		
27	60 V DC																		
Electrical connection																			
-	Without																		
A1	Plug pattern type A, to EN 175301																		
K4	Cable connector, metric																		
Circuitry																			
-	Without																		
F	Fuse																		
EU certification																			
-	Without																		
EX4	II 2GD																		
Type of ignition protection																			
-	Without																		
A	Intrinsically safe																		
ME	Moulded encapsulation, enhanced safety																		

Solenoid valves VOFC-L ... F19/F19A/SN14/SG14

Technical data – Modular system, piston spool valve

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Function

- 3/2-way solenoid valve
- 5/2-way single solenoid valve
- 5/2-way double solenoid valve

 - Temperature range
-25 ... +60 °C

 - Flow rate
913 ... 1030 l/min



General technical data	
Type VOFC-L-...	
Valve functions	3/2-way closed, single solenoid, 5/2-way single solenoid, 5/2-way double solenoid
Design	Piston spool
Sealing principle	Soft
Width [mm]	40
Mounting position	Any
Manual override	None
	Non-detenting
	Detenting
Reset method	Without
	Mechanical spring
Actuation type	Electrical
Type of pilot control	Pilot-actuated
Pilot air supply	Internal
	External
Flow rate for piston valve pressurisation [m³/h]	0.66 ... 1.08
Flow rate for piston valve exhaust [m³/h]	0.66 ... 1.08
Switching time off [ms]	22 (VOFC-L-B52-..., VOFC-L-M52-...)
Switching time on [ms]	26 (VOFC-L-B52-..., VOFC-L-M52-...)
Flow direction	Non-reversible
Nominal width [mm]	6
Standard nominal flow rate 1→2 [l/min.]	913 ... 1030
Standard nominal flow rate 2→3 [l/min.]	978 ... 983

Technical data, 5/2-way valve, single or double solenoid		
VOFC-L-B52-G14-	1	G1/4
VOFC-L-M52-...-G14-	2	G1/4
	3	G1/4
	4	G1/4
	5	G1/4
VOFC-L-B52-N14-	1	1/4 NPT
VOFC-L-M52-...-N14-	2	1/4 NPT
	3	1/4 NPT
	4	1/4 NPT
	5	1/4 NPT
VOFC-L-B52-FG14-	1	G1/4
VOFC-L-M52-...-FG14-	2	Port pattern to NAMUR, flange 1/4
	3	G1/4
	4	Port pattern to NAMUR, flange 1/4
	5	G1/4
VOFC-L-B52-FN14-	1	1/4 NPT
	2	Port pattern to NAMUR, flange 1/4
	3	1/4 NPT
	4	Port pattern to NAMUR, flange 1/4
	5	1/4 NPT

Solenoid valves VOFC-L ... F19/F19A/SN14/SG14

Technical data – Modular system, piston spool valves

Technical data, 3/2-way valve, single or double solenoid		
VOFC-L-M32C-...-FG14-	1	G1/4
	2	Port pattern to NAMUR, flange 1/4
	3	G1/4

Technical data, weights		
Type	Weight of basic valve	Weight of pilot control -P3-
VOFC-L-B52-G14-...	790	170
VOFC-L-B52-N14-...	790	170
VOFC-L-B52-FG14-...	680	170
VOFC-L-M52-MH-G14-...	520	85
VOFC-L-M52-MY-G14-...	520	85
VOFC-L-M52-MH-FG14-...	520	85
VOFC-L-M52-MY-FG14-...	520	85
VOFC-L-M52-M-N14-...	520	85
VOFC-L-M32C-MH-FG14-...	520	85
VOFC-L-M32C-MY-FG14-...	520	85
VOFC-L-M52-MZ-...	430	–
VOFC-L-M32C-MZ-...	430	–

Operating and environmental conditions		
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
Degree of protection	IP50	
Operating pressure range	[bar]	2.5 ... 8
	[psi]	36 ... 116
Temperature of medium	[°C]	–25 ... +60
Ambient temperature	[°C]	–25 ... +60
Safety Integrity Level	[SIL]	Up to SIL2 Low Demand mode
		Up to SIL2 High Demand mode
Corrosion resistance class CRC ¹⁾	4	
Note on materials	Contains paint-wetting impairment substances	
	RoHS-compliant	

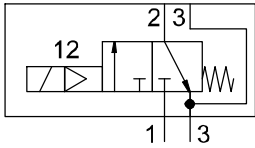
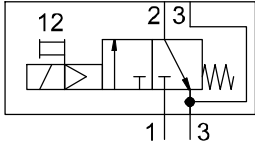
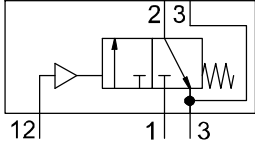
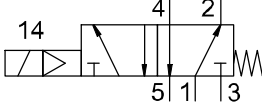
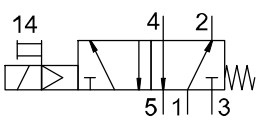
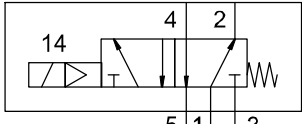
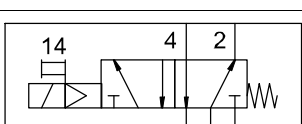
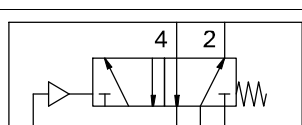
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔ also FN 940082) using appropriate media.

Materials		
	VOFC-L-...	VOFC-L-...-P3
Housing	Aluminium (Ematal coated)	Aluminium, Ematal coated, PBT-reinforced
Seals	NBR	NBR, EPDM, VMQ

Solenoid valves VOFC-L

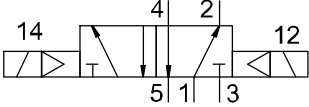
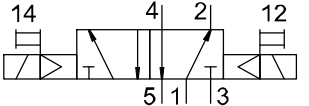
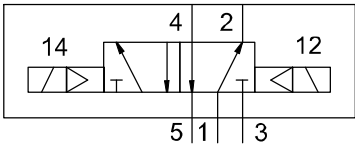
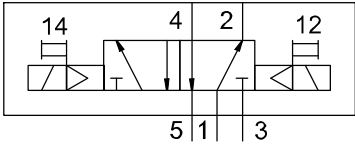
Technical data – Modular system, piston spool valves

Valve functions		
Circuit symbol	Type code	Description
	VOFC-L-M32C-M-FG14-...	3/2-way valve, single solenoid, closed - Electrically pilot-actuated - Non-reversible - With spring return - Internal pilot air - With NAMUR port - Without manual override (MO)
	VOFC-L-M32C-MH-FG14-... (MO non-detenting) VOFC-L-M32C-MY-FG14-... (MO detenting)	3/2-way valve, single solenoid, closed - Electrically pilot-actuated - Non-reversible - With spring return - Internal pilot air - With NAMUR port - With manual override (MO)
	VOFC-L-M32C-MZ-...	3/2-way valve, single solenoid, closed - Electrically pilot-actuated - Non-reversible - With spring return - External pilot air supply - With NAMUR port - Without manual override (MO)
	VOFC-L-M52-M-G14-... VOFC-L-M52-M-N14-...	5/2-way valve, single solenoid - Electrically pilot-actuated - Non-reversible - With spring return - Internal pilot air - Without manual override (MO)
	VOFC-L-M52-MH-G14-... (MO non-detenting) VOFC-L-M52-MY-G14-... (MO detenting) VOFC-L-M52-MH-N14-... (MO non-detenting) VOFC-L-M52-MY-N14-... (MO detenting)	5/2-way valve, single solenoid - Electrically pilot-actuated - Non-reversible - With spring return - Internal pilot air - With manual override (MO)
	VOFC-L-M52-M-FG14-... VOFC-L-M52-M-FN14-...	5/2-way valve, single solenoid - Electrically pilot-actuated - Non-reversible - With spring return - Internal pilot air - With NAMUR port - Without manual override (MO)
	VOFC-L-M52-MH-FG14-... (MO non-detenting) VOFC-L-M52-MY-FG14-... (MO detenting) VOFC-L-M52-MH-FN14-... (MO non-detenting) VOFC-L-M52-MY-FN14-... (MO detenting)	5/2-way valve, single solenoid - Electrically pilot-actuated - Non-reversible - With spring return - Internal pilot air - With NAMUR port - With manual override (MO)
	VOFC-L-M52-MZ-...	5/2-way valve, single solenoid - Electrically pilot-actuated - Non-reversible - With spring return - External pilot air supply - With NAMUR port - Without manual override (MO)

Solenoid valves VOFC-L

Technical data – Modular system, piston spool valves

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Valve functions		
Circuit symbol	Type code	Description
	VOFC-L-B52-G14-... VOFC-L-B52-N14-...	5/2-way solenoid valve, double solenoid • Electrically pilot-actuated • Non-reversible • Internal pilot air • Without manual override (MO)
	VOFC-L-B52-H-G14-... (MO non-detenting) VOFC-L-B52-H-N14-... (MO non-detenting)	5/2-way solenoid valve, double solenoid • Electrically pilot-actuated • Non-reversible • Internal pilot air • With manual override (MO)
	VOFC-L-B52-FG14-... VOFC-L-B52-FN14-...	5/2-way solenoid valve, double solenoid • Electrically pilot-actuated • Non-reversible • Internal pilot air • With NAMUR port • Without manual override (MO)
	VOFC-L-B52-H-FG14-... (MO non-detenting)	5/2-way solenoid valve, double solenoid • Electrically pilot-actuated • Non-reversible • Internal pilot air • With NAMUR port • With manual override (MO)

Solenoid valves VOFC-L ... SN14/SG14

Technical data – Modular system, piston spool valves

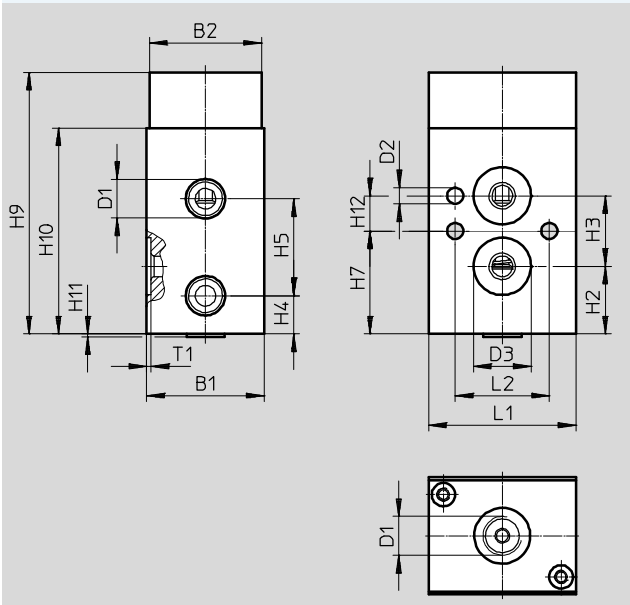
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Dimensions

Download CAD data → www.festo.com

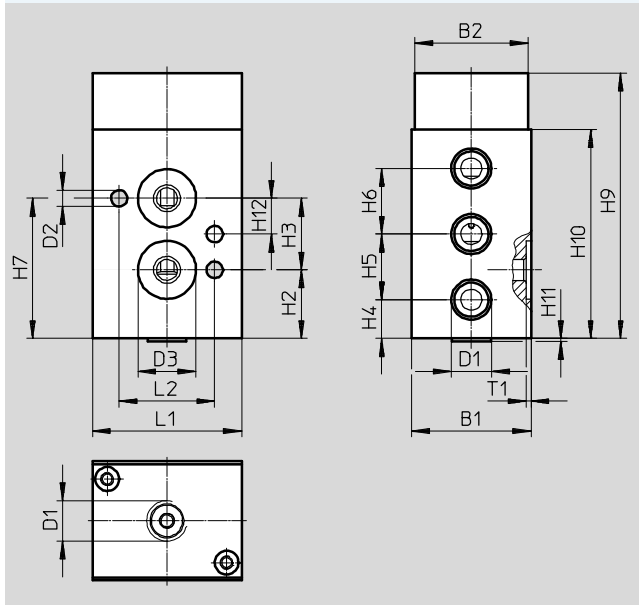
3/2-way valves (without armature tube)

Interface -SG14/-SN14



5/2-way valves (without armature tube)

Interface -SG14/-SN14



Type	B1	B2	D1	D2 Ø	D3 Ø	H2	H3	H4	H5	H6	H7	H9	H10	H11	H12	L1	L2	T1
VOFC-L-M32-MZ-FG14-SG14-...	40	38	G1/4	5.5	19.5	23	24	13	33	–	35	89	70	1	12	50	32	1.6
VOFC-L-M32-MZ-FN14-SN14-...			1/4 NPT															
VOFC-L-M52-MZ-FG14-SG14-...			G1/4						22	22	47							
VOFC-L-M52-MZ-FN14-SN14-...			1/4 NPT															

Solenoid valves VOFC-L ... F19/F19A

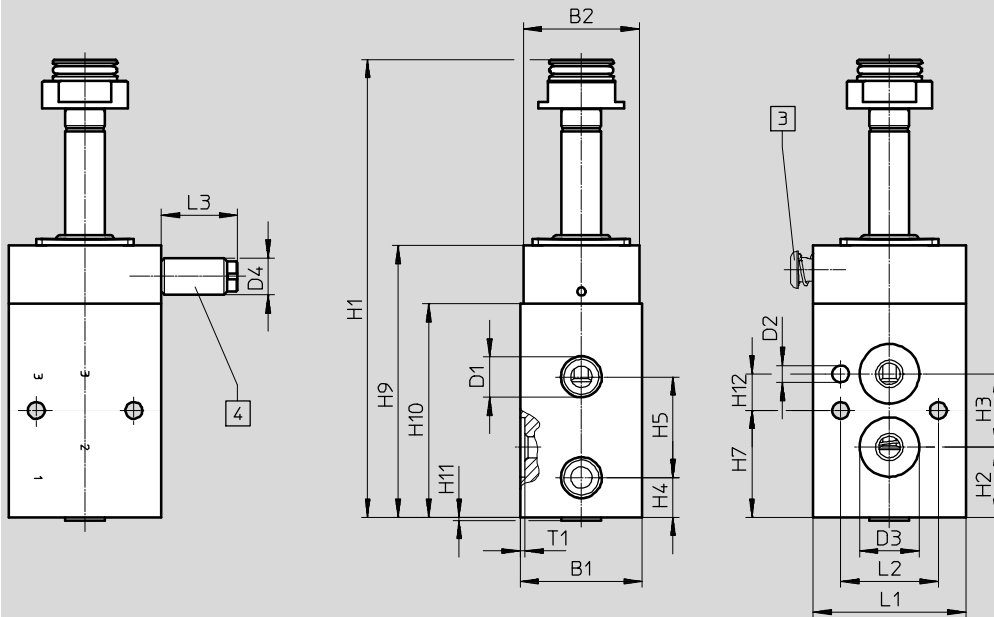
Technical data – Modular system, piston spool valves

FESTO

Dimensions

Download CAD data → www.festo.com

3/2-way valves, basic valve



3 Manual override,
non-detenting
(VOFC-L-M32-MH- ...)

4 Manual override, detenting
(VOFC-L-M32-MY- ...)

Type	B1	B2	D1	D2 Ø	D3 Ø	D4 Ø	H1	H2	H3	H4	H5	H7	H9	H10	H11	H12	L1	L2	L3	T1
VOFC-L-M32-M-FG14-...	40	38	G1/4	5.5	19.5	-	150	23	24	13	33	35	89	70	1	12	50	32	-	1.6
VOFC-L-M32-MH-FG14-...						-													-	
VOFC-L-M32-MY-FG14-...						12													25	

Solenoid valves VOFC-L ... F19/F19A

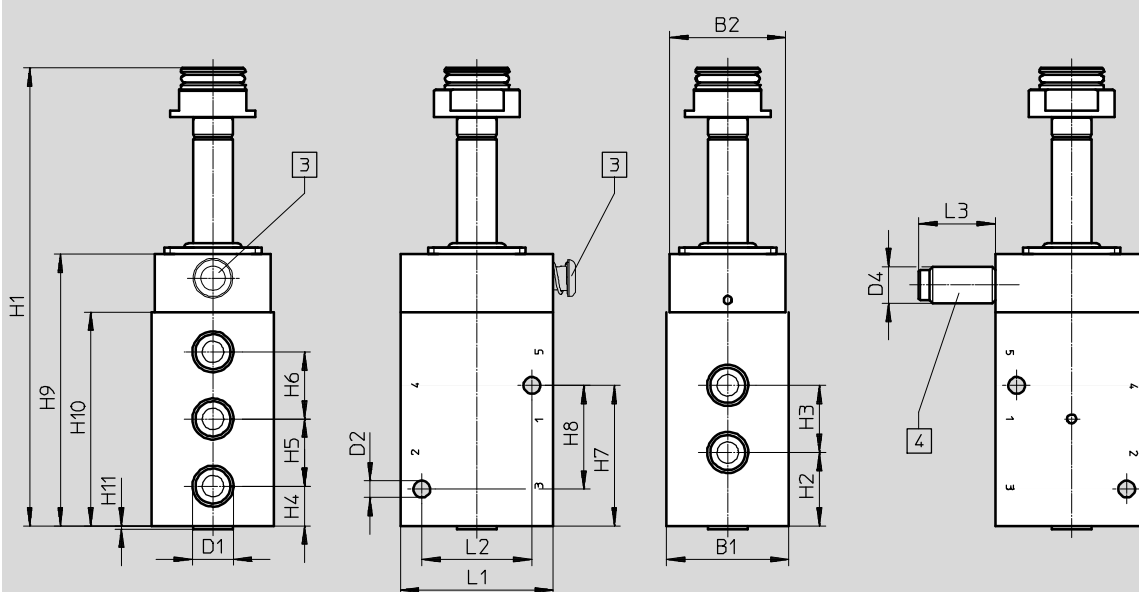
Technical data – Modular system, piston spool valves

Dimensions

Download CAD data → www.festo.com

5/2-way valves, basic valve, port

-G14/-N14



3 Manual override,
non-detenting
(VOFC-L-M52-MH- ...)

4 Manual override, detenting
(VOFC-L-M52-MY- ...)

Type	B1	B2	D1	D2 Ø	D4 Ø	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	L1	L2	L3
VOFC-L-M52-M-G14-...	40	38	G1/4	5.5	-	150	24	22	13	22	22	46	34	89	70	1	50	36	-
VOFC-L-M52-MH-G14-...																			
VOFC-L-M52-M-N14-...																			
VOFC-L-M52-MH-N14-...			1/4 NPT																
VOFC-L-M52-MY-G14-...					G1/4														12

Solenoid valves VOFC-L ... F19/F19A

Technical data – Modular system, piston spool valves

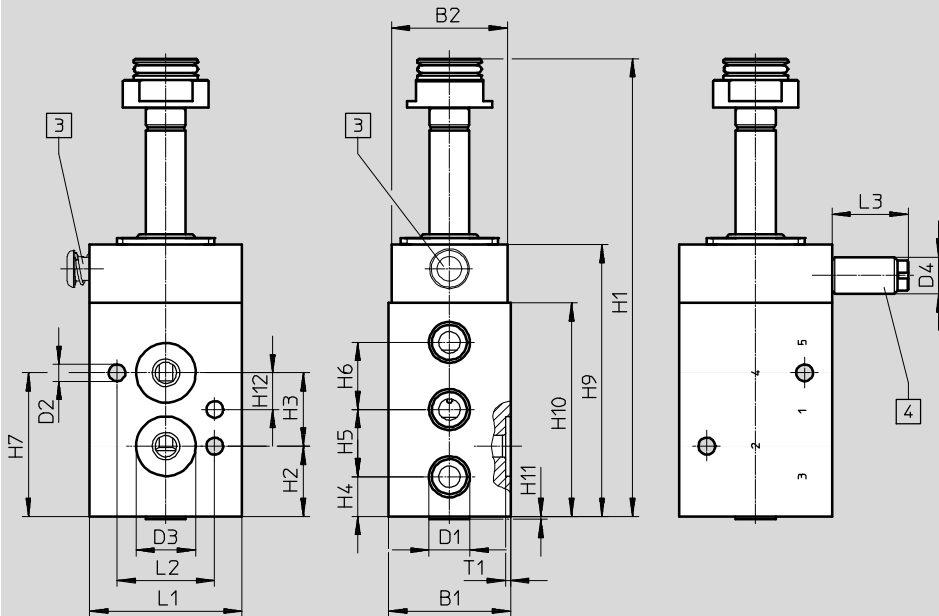
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Dimensions

Download CAD data → www.festo.com

5/2-way valves, basic valve, port

-FG14



3 Manual override, non-detenting (VOFC-L-M52-MH- ...)

4 Manual override, detenting (VOFC-L-M52-MY- ...)

Type	B1	B2	D1	D2 Ø	D3 Ø	D4 Ø	H1	H2	H3	H4	H5	H6	H7	H9	H10	H11	L1	L2	L3	T1
VOFC-L-M52-M-FG14-...	40	38	G1/4	5.5	19.5	-	150	23	24	13	22	22	47	89	70	1	50	36	-	1.6
VOFC-L-M52-MH-FG14-...						-													-	
VOFC-L-M52-MY-FG14-...						12													25	

Solenoid valves VOFC-L ... F19/F19A

Technical data – Modular system, piston spool valves

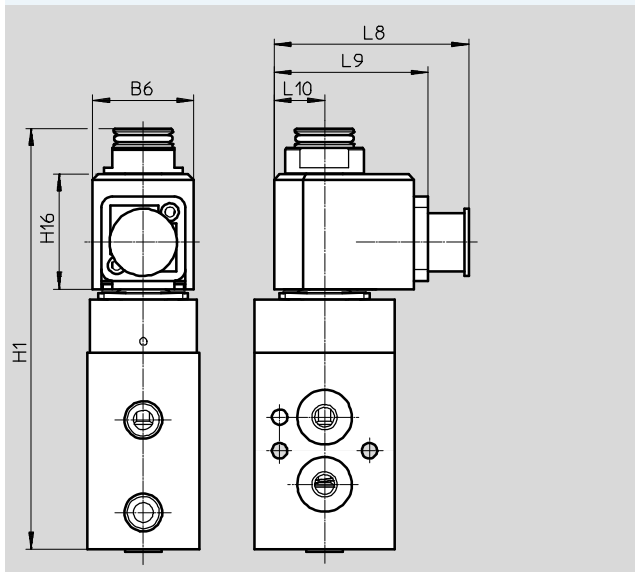
FESTO

Dimensions

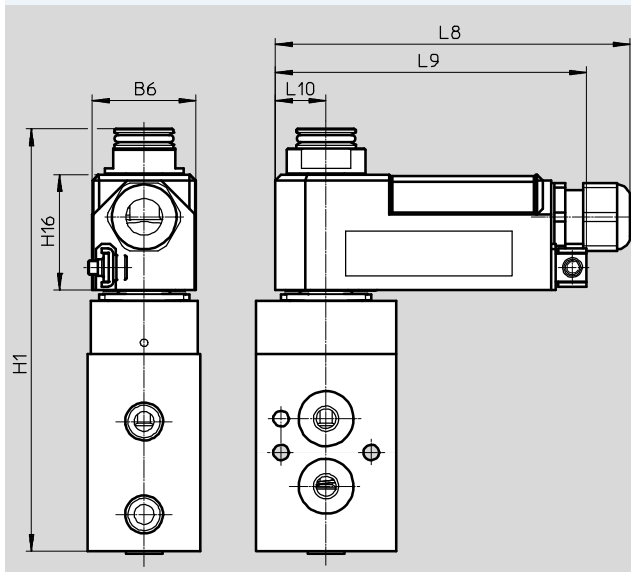
Download CAD data → www.festo.com

Single solenoid valves with solenoid coil

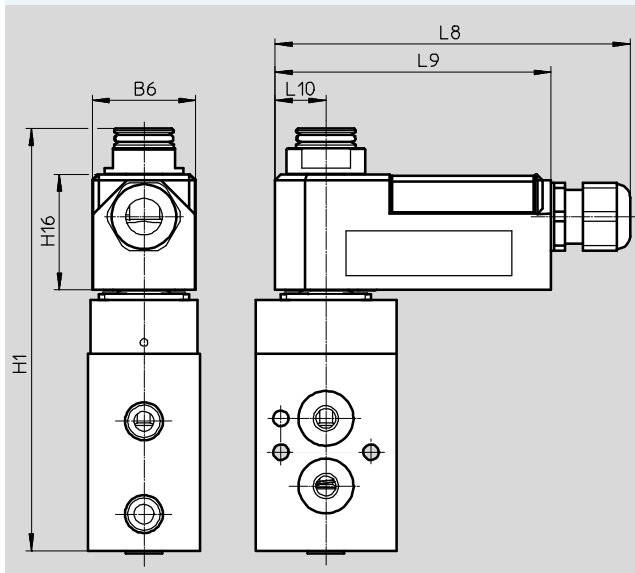
VOFC-...-18-A1-...



VOFC-...-18-K4-...-EX4ME



VOFC-...-11-K4-1-EX4A



Type	B6	H1	H16	L8	L9	L10
VOFC-...-18-A1-...	36	150	41	69.4	55	18
VOFC-...-18-K4-...-EX4ME	37	150	41	125	111	18
VOFC-...-11-K4-1-EX4A	37	150	41	125	98	18

Solenoid valves VOFC-L ... F19/F19A

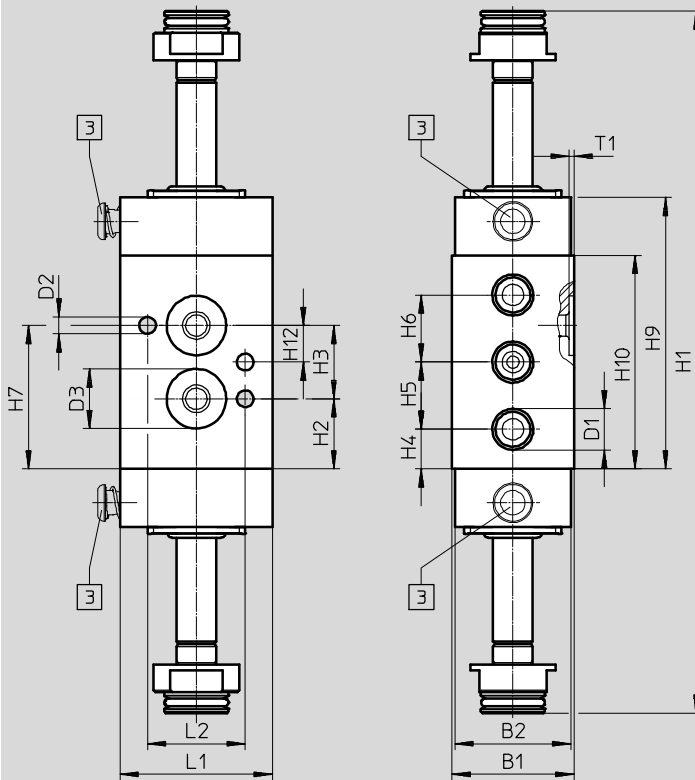
Technical data – Modular system, piston spool valves

Dimensions

Download CAD data → www.festo.com

5/2-way valves, double solenoid, basic valve

Port -FG



3 Manual override,
non-detenting
(VOFC-L-B52-H- ...)

Type	B1	B2	D1	D2 Ø	D3 Ø	H1	H2	H3	H4	H5	H6	H7	H9	H10	H12	L1	L2	T1
VOFC-L-B52-...-FG14-...	40	38	G1/4	5.5	19.5	230	23	24	13	22	22	47	89	70	12	50	32	1.6
VOFC-L-B52-H-...-FG14-...																		

Solenoid valves VOFC-L ... F19/F19A

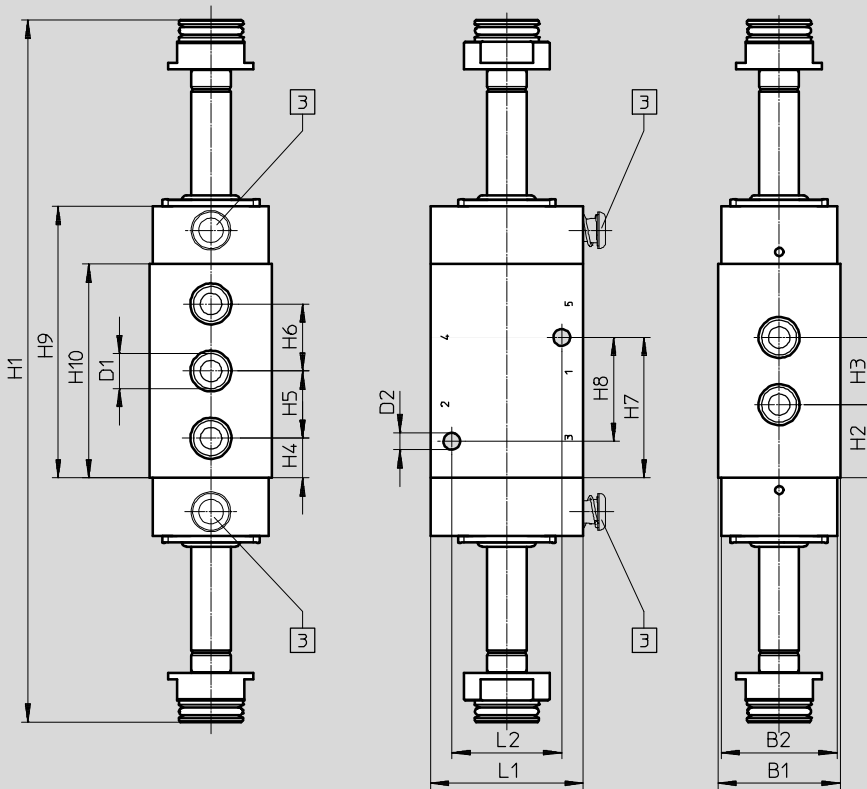
Technical data – Modular system, piston spool valves

Dimensions

Download CAD data → www.festo.com

5/2-way valves, double solenoid, basic valve

Port -G14/-N14



3 Manual override,
non-detenting
(VOFC-L-B52-H- ...)

Type	B1	B2	D1	D2 Ø	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	L1	L2
VOFC-L-B52-...-G14-...	40	38	G1/4	5.5	230	24	22	13	22	22	46	34	89	70	50	36
VOFC-L-B52-H-G14-...																
VOFC-L-B52-...-N14-...			1/4 NPT													
VOFC-L-B52-H-N14-...																

Solenoid valves VOFC-L ... F19/F19A

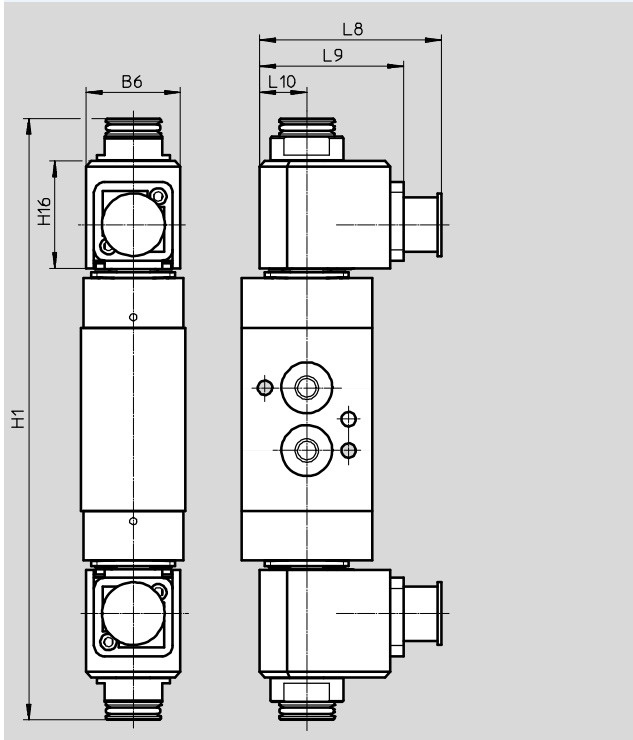
Technical data – Modular system, piston spool valves

Dimensions

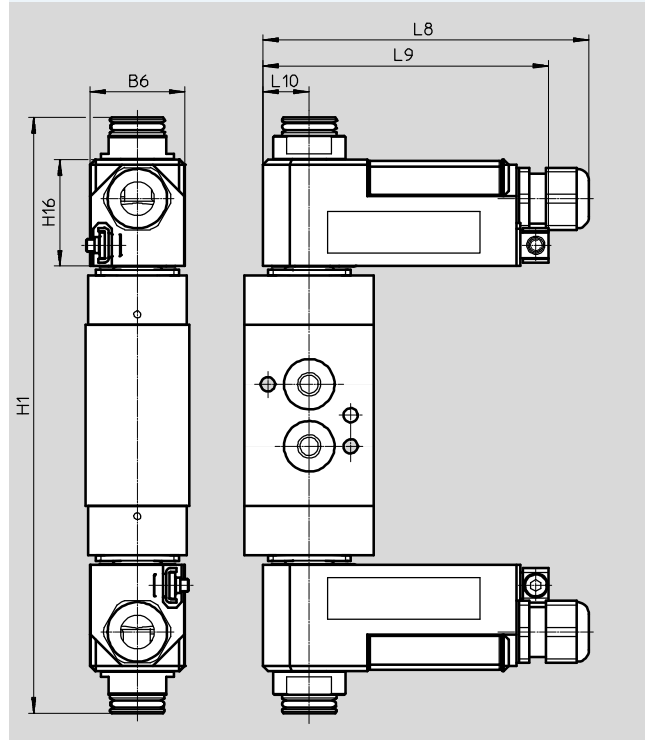
Download CAD data → www.festo.com

Double solenoid valves with solenoid coil

VOFC-...-18-A1-...



VOFC-...-18-K4-...-EX4ME



Type	B6	H1	H16	L8	L9	L10
VOFC-...-18-A1-...	36	230	41	69.4	55	18
VOFC-...-18-K4-...-EX4ME	37	230	41	125	111	18

Solenoid valves VOFC-L ... F19/F19A

Technical data – Modular system, piston spool valves

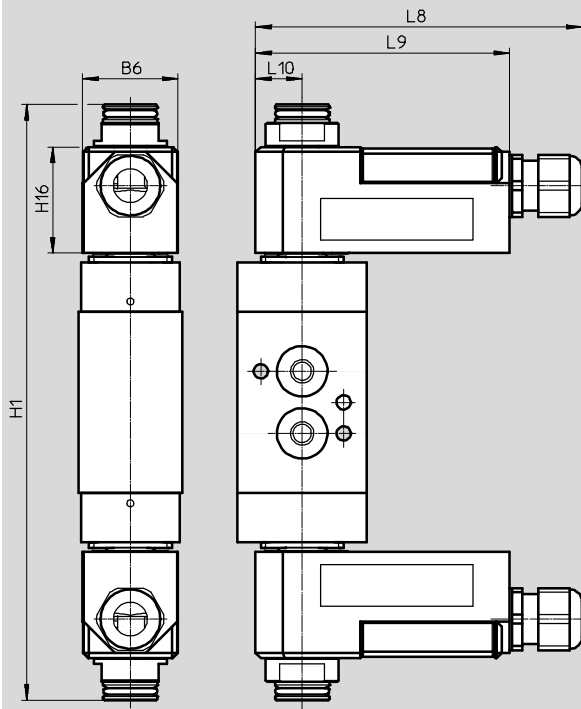
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Dimensions

Download CAD data → www.festo.com

Double solenoid valves with solenoid coil

VOFC-...-11-K4-1-EX4A



Type	B6	H1	H16	L8	L9	L10
VOFC-...-11-K4-1-EX4A	37	230	41	125	98	18

Solenoid valves VOFC-L ... P3

Technical data – Modular system, piston spool valves

Solenoid valve, nozzle/baffle plate
(VOFC-...-P3-...)



Technical data, solenoid valve, nozzle/baffle plate		
Type	VOFC-...-P3-...-0.09-...-EX4A	VOFC-...-P3-...-0.4-...-EX4A
With pilot control unit	VACC-P3-0.09-K4-1-EX4A	VACC-P3-0.4-K4-1-EX4A
Design	Nozzle/baffle plate pilot control	
Operating voltage range [V DC]	6.4 ... 40	16 ... 40
Degree of protection	IP 50	
Reverse polarity protection	Bipolar	
Duty cycle [%]	100	
Max. input power P_i [mW]	650	
Max. input voltage U_i [V]	40	
Max. input current I_i [mA]	200	
Effective internal capacitance C_i	Negligibly low	
Effective internal inductance L_i	Negligibly low	
ATEX category for gas	II 2G	
Type of ignition protection for gas	Ex ia IIC T6, T5 Gb	
ATEX category for dust	II 2D	
Type of ignition protection for dust	Ex ia IIIC T85°C, T125°C Db	
Explosion-proof ambient temperature [°C]	T5, T125: $-40 \leq T_a \leq +70$ T6, T85: $-40 \leq T_a \leq +30$	
Notified body for quality testing	0344	
Explosion protection certification outside the EU	BVS14ATEXE098X IECEx BVS14.0063X	
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)	
Insulation class	H	
Electrical connection	Terminal box, cable entry, thread M20 x 1.5, conductor cross-section max. 1.5 mm ² , cable diameter 5-9 mm	
Information on materials for solenoid coil	PBT-reinforced, UP	

Solenoid valves VOFC-L ... P3

Technical data – Modular system, piston spool valves

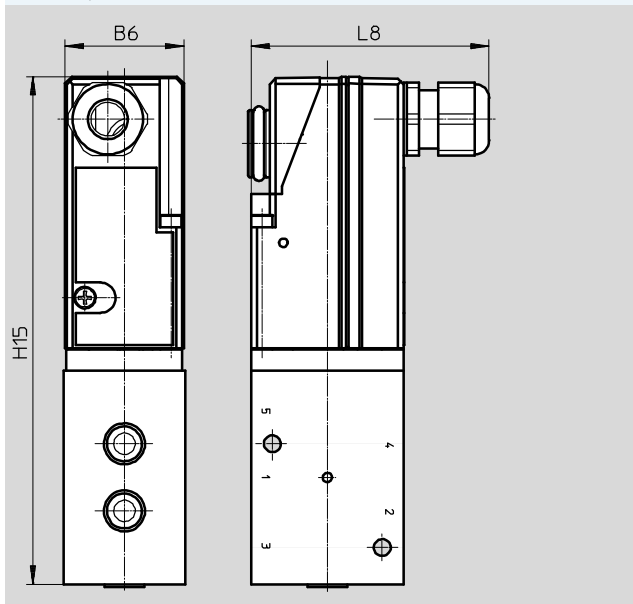
FESTO

Dimensions

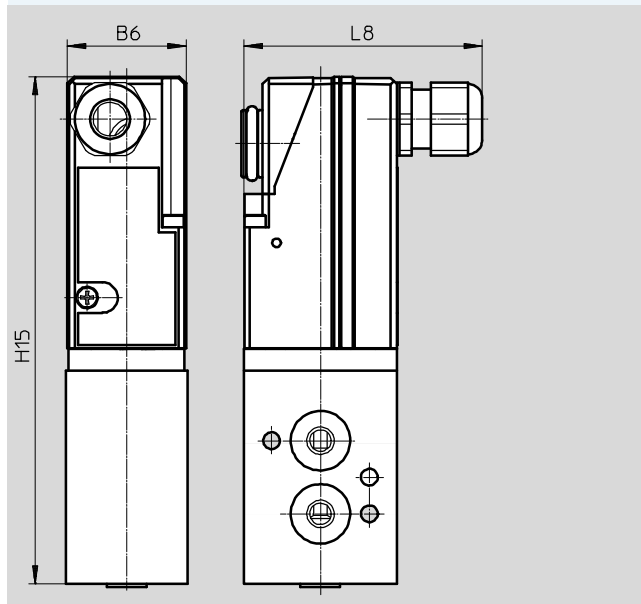
Download CAD data → www.festo.com

Solenoid valve with nozzle/baffle plate, pilot

Port -G14/-N14



Port -FG14



Type	B6	H15	L8
VOFC-L-M52-M...-G14-P3-0.4-1-K4-EX4A	39	167	76
VOFC-L-M52-M...-N14-P3-0.4-1-K4-EX4A			
VOFC-L-M52-M...-FG14-P3-0.4-1-K4-EX4A			
VOFC-L-M52-M...-G14-P3-0.09-1-K4-EX4A			
VOFC-L-M52-M...-N14-P3-0.09-1-K4-EX4A			
VOFC-L-M52-M...-FG14-P3-0.09-1-K4-EX4A			

Solenoid valves VOFC-L ... P3

Technical data – Modular system, piston spool valves

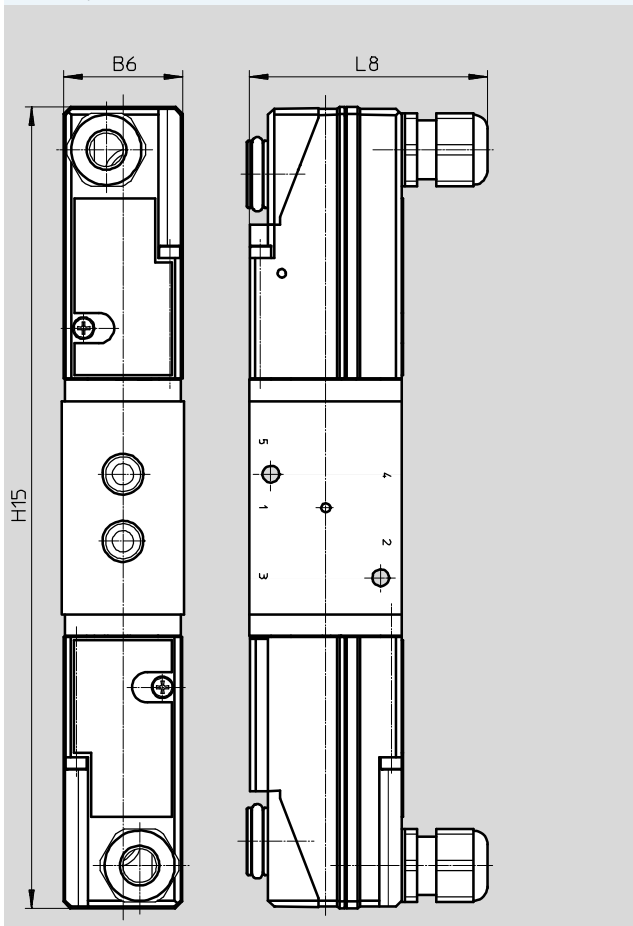
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Dimensions

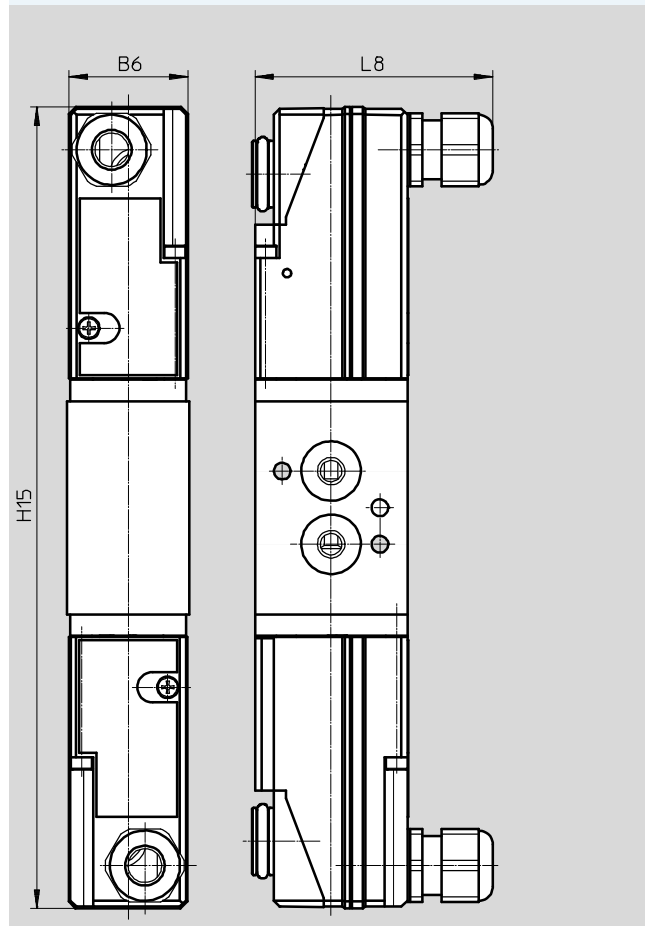
Download CAD data → www.festo.com

Double solenoid valve with nozzle/baffle plate pilot

Port -G14/-N14



Port -FG14



Type	B6	H15	L8
VOFC-L-B52-...-G14-P3-0.4-1-K4-EX4A	39	263	76
VOFC-L-B52-...-N14-P3-0.4-1-K4-EX4A			
VOFC-L-B52-...-FG14-P3-0.4-1-K4-EX4A			
VOFC-L-B52-...-G14-P3-0.09-1-K4-EX4A			
VOFC-L-B52-...-N14-P3-0.09-1-K4-EX4A			
VOFC-L-B52-...-FG14-P3-0.09-1-K4-EX4A			

Solenoid valves VOFC-LT ... F19/F19A

Technical data – Modular system, poppet valves

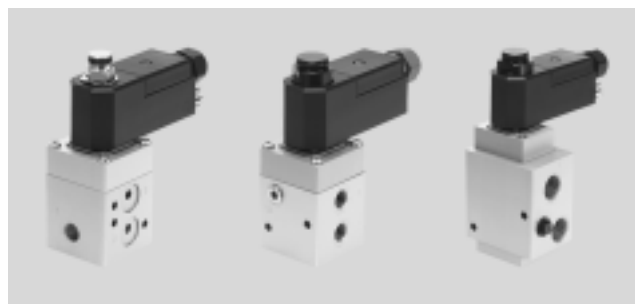
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Function

- 3/2-way solenoid valve

 - Temperature range
-25 ... +60 °C

 - Flow rate
738 ... 766 l/min



General technical data		
Type	VOFC-LT-M32C-M...12-... VOFC-LT-M32C-M...13-...	VOFC-LT-M32C-M...14-...
Valve functions	3/2-way single solenoid valve	
Design	Poppet valve	
Sealing principle	Hard	
Width [mm]	51	
Mounting position	Any	
Manual override	None	
Type of reset	Mechanical spring	
Actuation type	Electrical	
Type of control	Pilot-actuated	
Pilot air supply	Internal Internal/external	
Flow rate for piston valve pressurisation [m³/h]	0.5 ... 2.4	
Flow rate for piston valve exhaust [m³/h]	0.65 ... 3.3	
Switching time off [ms]	14	18
Switching time on [ms]	25	24
Direction of flow	Non-reversible	
Nominal width [mm]	6 ... 12	
Standard nominal flow rate 1 → 2 [l/min.]	738 ... 766	
Standard nominal flow rate 2 → 3 [l/min.]	660 ... 1467	

Technical data of pneumatic connection, type VOFC-LT-...14-...		
VOFC-LT-M32C-...-G14-...	1	G1/4
	2	G1/4
	3	G1/4
VOFC-LT-M32C-...-N14-...	1	1/4 NPT
	2	1/4 NPT
	3	1/4 NPT
VOFC-LT-M32C-...-FG14-...	1	G1/4
	2	Port pattern to NAMUR, flange 1/4
	3	G1/4
VOFC-LT-M32C-...-FGP14-...	1	Port pattern to M 5 NAMUR
	2	Port pattern to NAMUR, flange 1/4
	3	G1/4
VOFC-LT-M32C-...-FNP14-...	1	1/4 NPT
	2	Port pattern to NAMUR, flange 1/4
	3	1/4 NPT
VOFC-LT-M32C-...-FN14-...	1	1/4 NPT
	2	Port pattern to NAMUR, flange 1/4
	3	1/4 NPT

Solenoid valves VOFC-LT ... F19/F19A

Technical data – Modular system, poppet valves

Technical data of pneumatic connection, type VOFC-LT-...12-..., type VOFC-LT-...13-...		
VOFC-LT-M32C-...-G12-...	1	G1/2
	2	G1/2
	3	G1/2
VOFC-LT-M32C-...-N12-...	1	1/2 NPT
	2	1/2 NPT
	3	1/2 NPT
VOFC-LT-M32C-...-FG12-...	1	G1/2
	2	Port pattern to NAMUR, flange 1/4
	3	G1/2
VOFC-LT-M32C-...-FN12-...	1	1/2 NPT
	2	Port pattern to NAMUR, flange 1/4
	3	1/2 NPT
VOFC-LT-M32C-...-FG13-...	1	G1/2
	2	Port pattern to NAMUR, flange 1/2
	3	G1/2
VOFC-LT-M32C-...-FN13-...	1	1/2 NPT
	2	Port pattern to NAMUR, flange 1/2
	3	1/2 NPT

Technical data, weights		
Type	Weight of basic valve	Weight of pilot control -P3-
VOFC-LT-M32C-M-...12-...	880	85
VOFC-LT-M32C-MC-G14-...	550	85
VOFC-LT-M32C-MC-N14-...	550	85
VOFC-LT-M32C-M-F-...14-...	600	85
VOFC-LT-M32C-MC-F-...P14-...	600	85
VOFC-LT-M32C-MC-F-...13-...	900	85

Operating and environmental conditions						
Type VOFC-LT-...		-M32C-M-...12-...	-M32C-M-...14-...	-M32C-MC-...12-... -M32C-MC-...13-...	-M32C-MC-...14-...	-M32C-MZ-...14-...
Operating medium		Compressed air to ISO 8573-1:2010 [7: – : –]				
Degree of protection		IP50				
Operating pressure range	[bar]	2 ... 8	1 ... 8	2 ... 8	1 ... 8	0 ... 8
	[psi]	29 ... 116	15 ... 116	29 ... 116	15 ... 116	0 ... 116
Note on operating pressure	[bar]	–		0 ... 8 (for external pilot air)		
Pilot pressure	[bar]	–		>2		
Temperature of medium	[°C]	–25 ... +60				
Ambient temperature	[°C]	–25 ... +60				
Safety Integrity Level	[SIL]	Up to SIL3 Low Demand mode				
		Up to SIL3 High Demand mode				
Corrosion resistance class CRC ¹⁾		4				
Note on materials		Contains paint-wetting impairment substances				
		RoHS compliant				

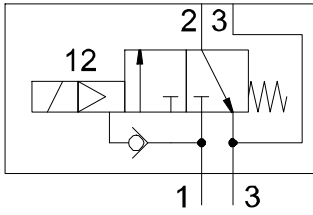
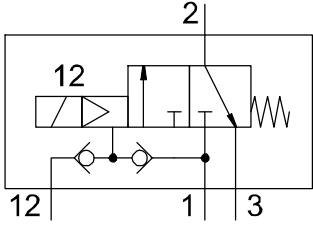
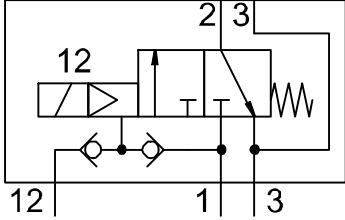
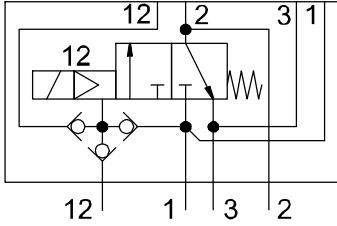
- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials			
Type	VOFC-LT-...	VOFC-LT-... -R1-...	VOFC-LT-... -P3-...
Housing	Aluminium (Ematal coated)	High-alloy stainless steel	Aluminium, Ematal coated, PBT-reinforced
Seals	NBR	NBR	NBR, EPDM, VMQ

Solenoid valves VOFC-LT

Technical data – Modular system, poppet valves

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Valve functions		
Circuit symbol	Type code	Description
	VOFC-LT-M32C-M-FG12- VOFC-LT-M32C-M-FG14- VOFC-LT-M32C-M-FN12- VOFC-LT-M32C-M-FN14-	3/2-way valve, single solenoid, closed • Electrically pilot-actuated • Non-reversible • With spring return • Internal pilot air supply • With NAMUR port • Without manual override • One-way flow control valve
	VOFC-LT-M32C-MC-G12- VOFC-LT-M32C-MC-G14- VOFC-LT-M32C-MC-N12- VOFC-LT-M32C-MC-N14-	3/2-way valve, single solenoid, closed • Electrically pilot-actuated • Non-reversible • With spring return • Pilot air supply, internal/external • Without manual override • One-way flow control valve
	VOFC-LT-M32C-MC-FG13- VOFC-LT-M32C-MC-FN13-	3/2-way valve, single solenoid, closed • Electrically pilot-actuated • Non-reversible • With spring return • Pilot air supply, internal/external • With NAMUR port • Without manual override • One-way flow control valve
	VOFC-LT-M32C-MC-FGP14- VOFC-LT-M32C-MC-FNP14-	3/2-way valve, single solenoid, closed • Electrically pilot-actuated • Non-reversible • With spring return • Pilot air supply, internal/external • With NAMUR port and additional supply port • Without manual override • One-way flow control valve

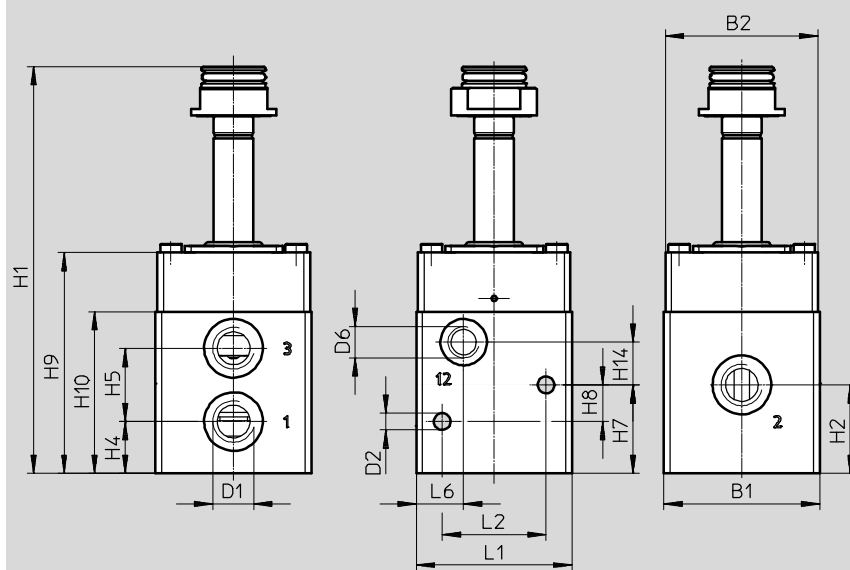
Solenoid valves VOFC-LT ... F19/F19A

Technical data – Modular system, poppet valves

Dimensions

Download CAD data → www.festo.com

3/2-way valves, basic valve, port -G14/-N14



Type	B1	B2	D1	D2 Ø	H1	H2	H4	H5
VOFC-LT-M32C-MC-G14-...	51	50	G1/4	5.5	133	29	17	24
VOFC-LT-M32C-MC-N14-...			1/4 NPT					

Type	H7	H8	H9	H10	H14	L1	L2	L6
VOFC-LT-M32C-MC-G14-...	29	12	72	53	14	51	34	15.5
VOFC-LT-M32C-MC-N14-...								

Solenoid valves VOFC-LT ... F19/F19A

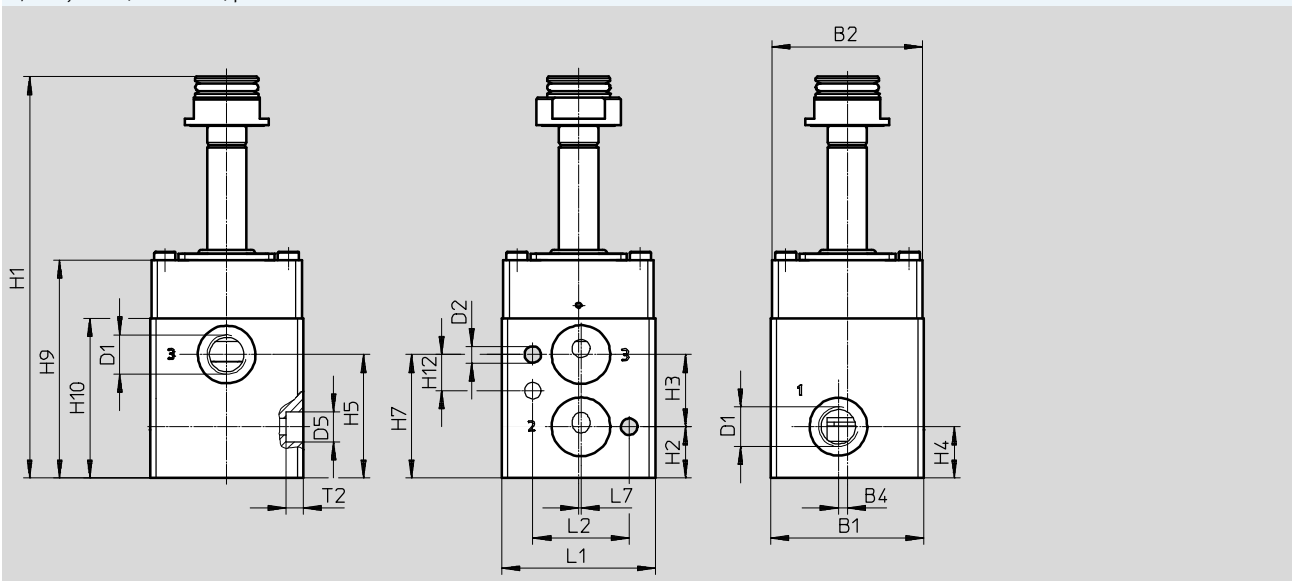
Technical data – Modular system, poppet valves

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Dimensions

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3/2-way valves, basic valve, port -FG14



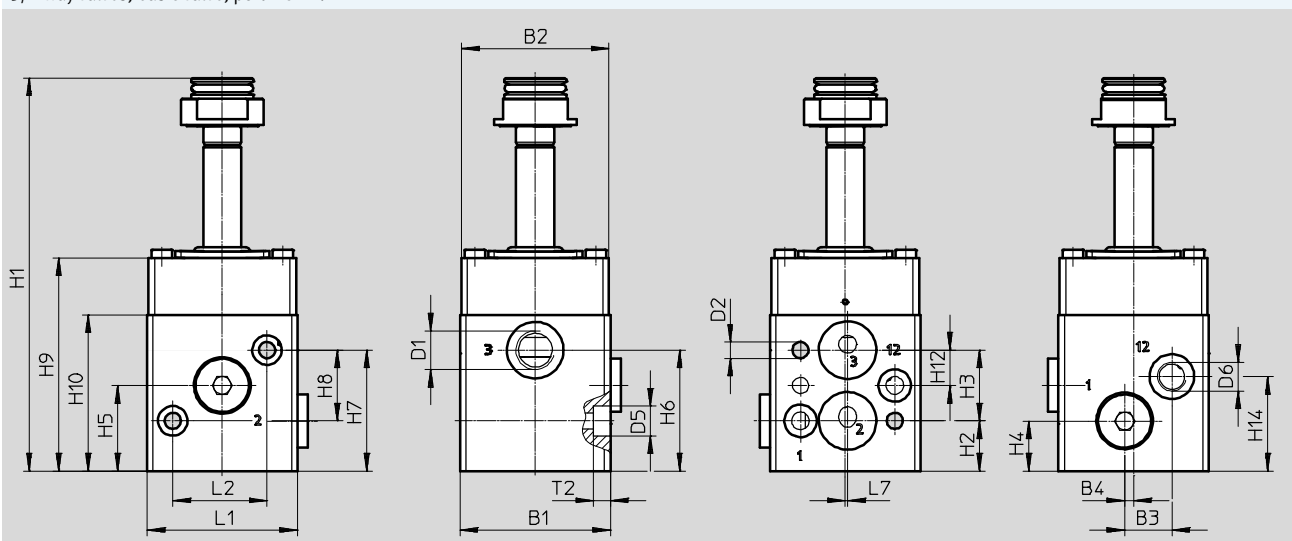
Type	B1	B2	B4	D1	D2 Ø	D5 Ø	H1	H2	H3	H4
VOFC-LT-M32C-M-FG14-...	51	50	3	G1/4	5.5	10	133	17	24	17

Type	H5	H7	H9	H10	H12	L1	L2	L7	T2
VOFC-LT-M32C-M-FG14-...	41	41	72	53	12	51	32	0.8	5.7

Dimensions

Download CAD data → www.festo.com

3/2-way valves, basic valve, port -FGP14



Type	B1	B2	B3	B4	D1	D2 Ø	D5 Ø	D6	H1	H2	H3	H4
VOFC-LT-M32C-M-FGP14-...	51	50	16	3	G1/4	5.5	10	G1/8	133	17	24	17

Type	H5	H6	H7	H8	H9	H10	H12	H14	L1	L2	L7	T2
VOFC-LT-M32C-M-FGP14-...	29	41	41	24	72	53	12	32	51	32	0.8	5.7

Solenoid valves VOFC-LT ... F19/F19A

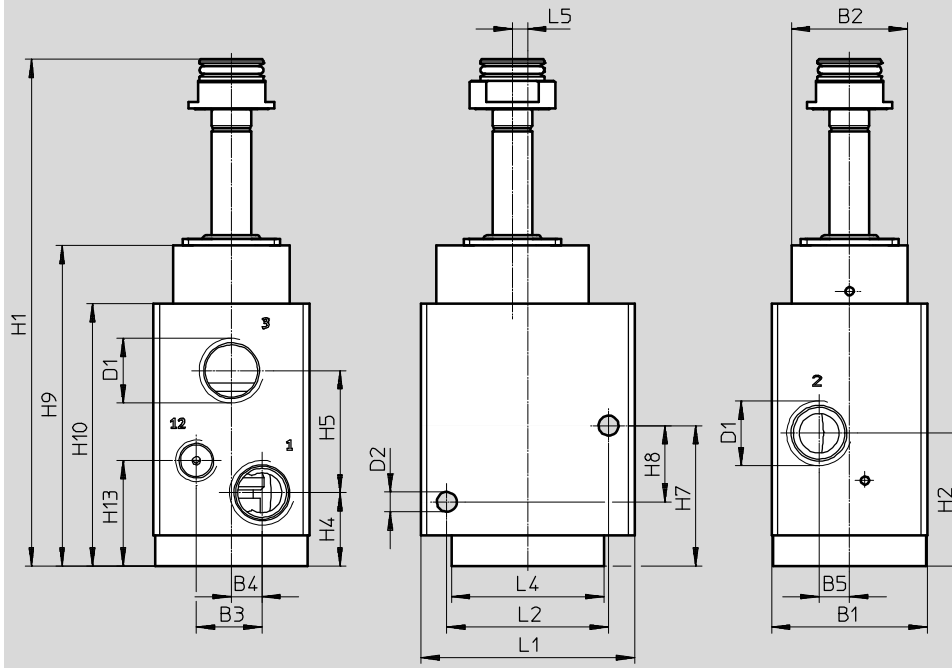
Technical data – Modular system, poppet valves

FESTO

Dimensions

Download CAD data → www.festo.com

3/2-way valves, basic valve, port -G12/-N12



Type	B1	B2	B3	B4	B5	D1	D2 Ø	H1	H2	H4
VOFC-LT-M32C-MC-G12-...	51	38	22	10	10	G1/2	5.5	166	43.5	24
VOFC-LT-M32C-MC-N12-...			21.5			1/2 NPT				

Type	H5	H7	H8	H9	H10	H13	L1	L2	L4	L5
VOFC-LT-M32C-MC-G12-...	40	46	25	89	105	34.5	70	53	50	5
VOFC-LT-M32C-MC-N12-...										

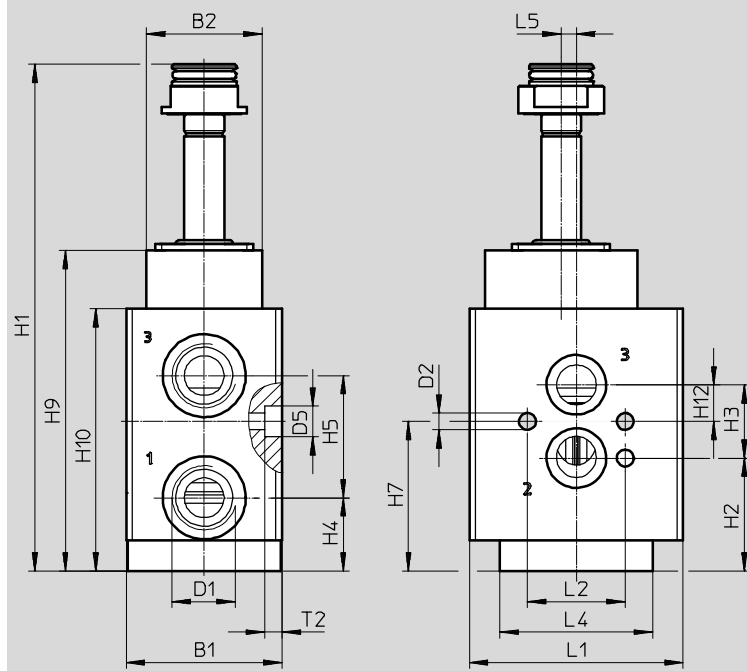
Solenoid valves VOFC-LT

Technical data – Modular system, poppet valves

Dimensions

Download CAD data → www.festo.com

3/2-way valves, basic valve, port -FG12



Type	B1	B2	D1	D2	D5	H1	H2	H3	H4	H5
VOFC-LT-M32C-MC-FG12-...	51	38	G1/2	5.5	10	166	37	24	24	40

Type	H7	H9	H10	H12	L1	L2	L4	L5	T2
VOFC-LT-M32C-MC-FG12-...	49	105	86	12	70	32	50	5	5.7

Solenoid valves VOFC-LT

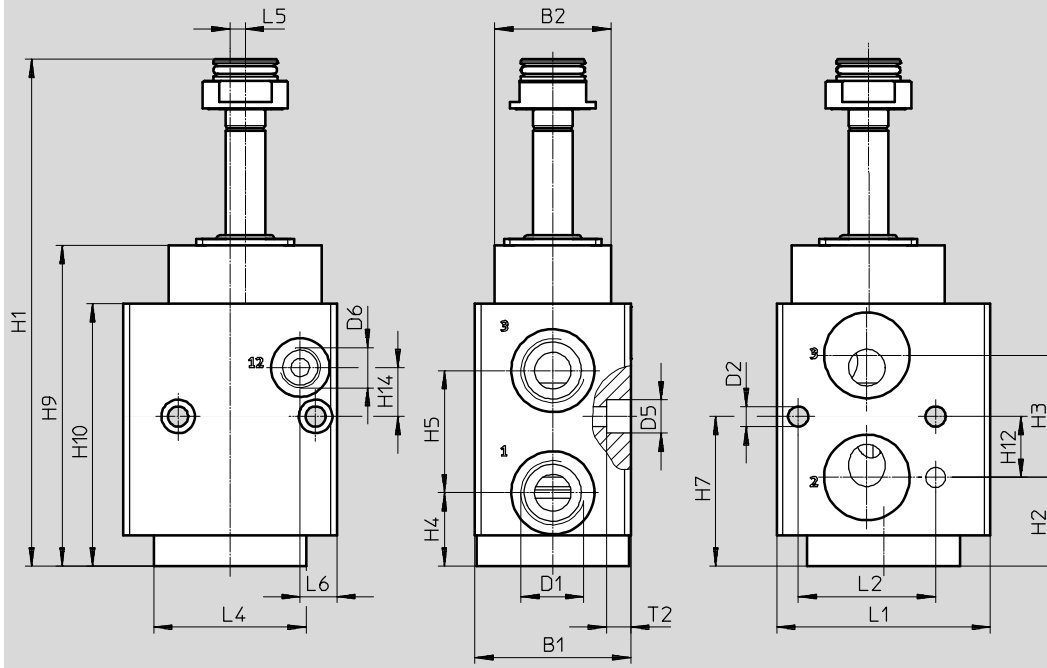
Technical data – Modular system, poppet valves

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Dimensions

Download CAD data → www.festo.com

3/2-way valves, basic valve, port -FG13



Type	B1	B2	D1	D2 Ø	D5 Ø	H1	H2	H3	H4	H5
VOFC-LT-M32C-M-FG13-...	51	38	G1/2	6.6	11	166	29	40	24	40

Type	H7	H9	H10	H12	H14	L1	L2	L4	L5	L6	T2
VOFC-LT-M32C-M-FG13-...	49	105	86	20	16	70	45	50	5	12	8

Solenoid valves VOFC-LT

Technical data – Modular system, poppet valves

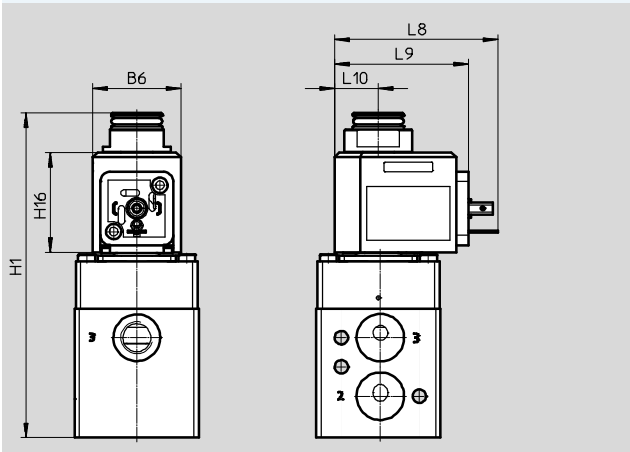
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Dimensions

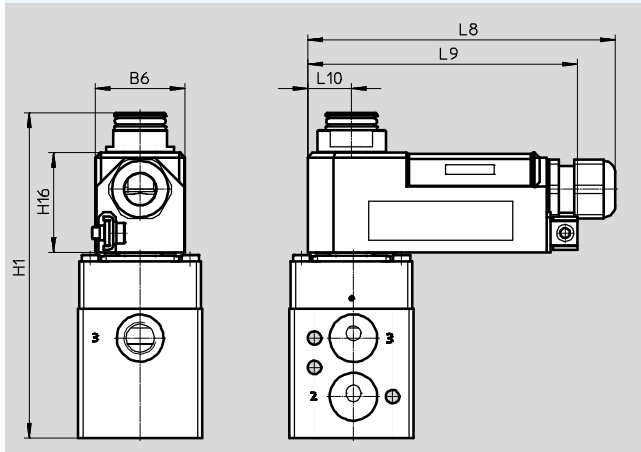
Download CAD data → www.festo.com

Valves with solenoid coil, pneumatic connection, size 1/4"

VOFC-LT-...-18-A1-...



VOFC-LT-...-18-K4-...-EX4ME

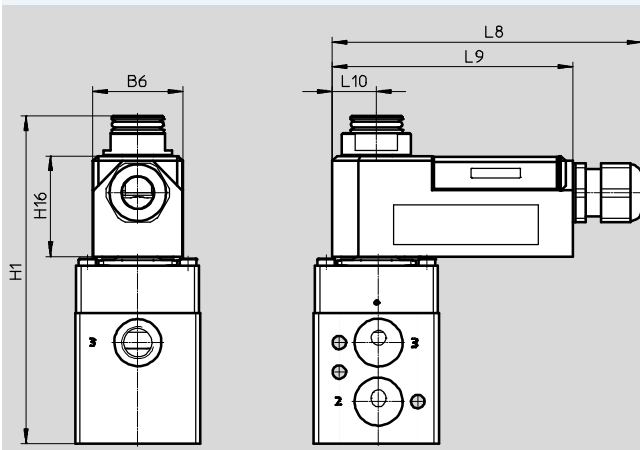


Dimensions

Download CAD data → www.festo.com

Valves with solenoid coil, pneumatic connection, size 1/4"

VOFC-LT-...-11-K4-1-EX4A



Type	B6	H1	H16	L8	L9	L10
VOFC-LT-...-18-A1-...	36	133	41	67	55	18
VOFC-LT-...-18-K4-...-EX4ME	37	133	41	125	111	18
VOFC-LT-...-11-K4-1-EX4A	37	133	41	125	98	18

Solenoid valves VOFC-LT

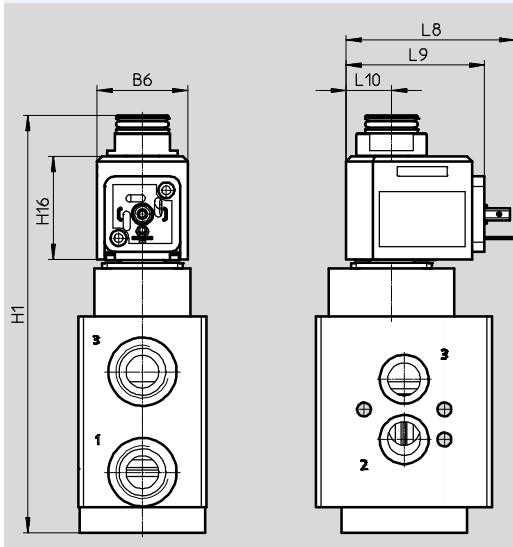
Technical data – Modular system, poppet valves

Dimensions

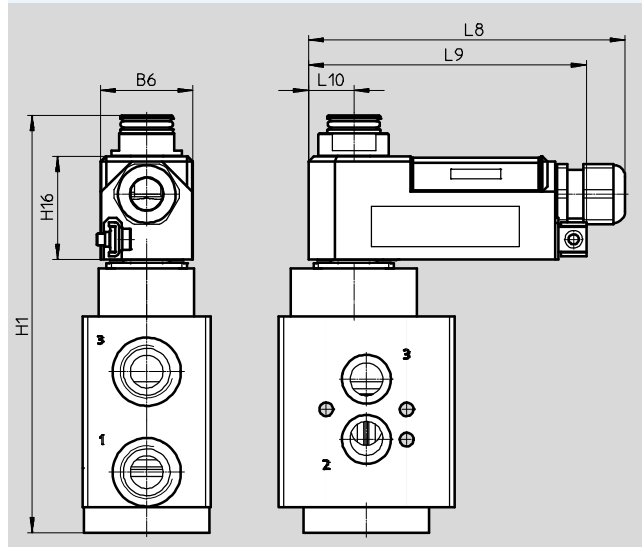
Download CAD data → www.festo.com

Valves with solenoid coil, pneumatic connection, size 1/2"

VOFC-LT-...-18-A1-...



VOFC-LT-...-18-K4-...-EX4ME

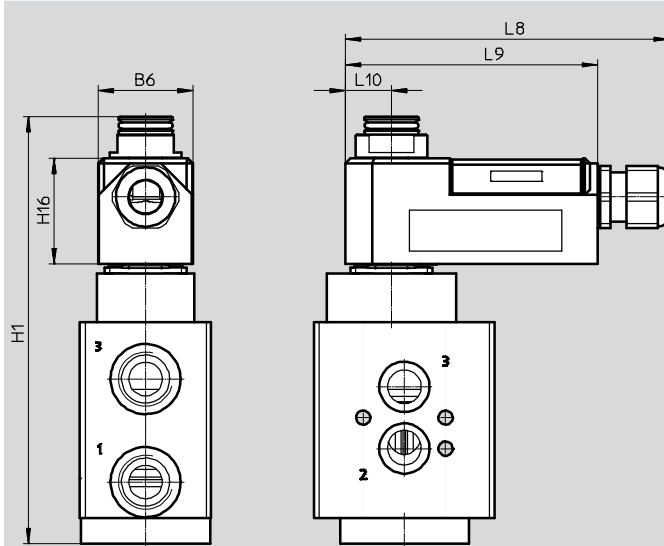


Dimensions

Download CAD data → www.festo.com

Valves with solenoid coil, pneumatic connection, size 1/2"

VOFC-LT-...-11-K4-1-EX4A



Type	B6	H1	H16	L8	L9	L10
VOFC-LT-...-18-A1-...	36	166	41	67	55	18
VOFC-LT-...-18-K4-...-EX4ME	37	166	41	125	111	18
VOFC-LT-...-11-K4-1-EX4A	37	166	41	125	98	18

Solenoid valves VOFC-LT ... P3

Technical data – Modular system, poppet valves

FESTO

Solenoid valve, nozzle/baffle plate
(VOFC-...-P3-...)



Technical data, solenoid valve, nozzle/baffle plate		
Type	VOFC-...-P3-...-0.09-...-EX4A	VOFC-...-P3-...-0.4-...-EX4A
With pilot control unit	VACC-P3-0.09-K4-1-EX4A	VACC-P3-0.4-K4-1-EX4A
Design	Nozzle/baffle plate pilot control	
Operating voltage range [V DC]	6.4 ... 40	16 ... 40
Degree of protection	IP 50	
Reverse polarity protection	Bipolar	
Duty cycle [%]	100	
Max. input power P_i [mW]	650	
Max. input voltage U_i [V]	40	
Max. input current I_i [mA]	200	
Effective internal capacitance C_i	Negligibly low	
Effective internal inductance L_i	Negligibly low	
ATEX category for gas	II 2G	
Type of ignition protection for gas	Ex ia IIC T6, T5 Gb	
ATEX category for dust	II 2D	
Type of ignition protection for dust	Ex ia IIIC T85°C, T125°C Db	
Explosion-proof ambient temperature [°C]	T5, T125: $-40 \leq T_a \leq +70$	
	T6, T85: $-40 \leq T_a \leq +30$	
Notified body for quality testing	0344	
Explosion protection certification outside the EU	BVS14ATEXE098X	
	IECEX BVS14.0063X	
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)	
Insulation class	H	
Electrical connection	Terminal box, cable entry, thread M20x1.5, conductor cross-section max. 1.5 mm ² , cable diameter 5-9 mm	
Information on materials for solenoid coil	PBT-reinforced, UP	

Solenoid valves VOFC-LT ... P3

Technical data – Modular system, poppet valves

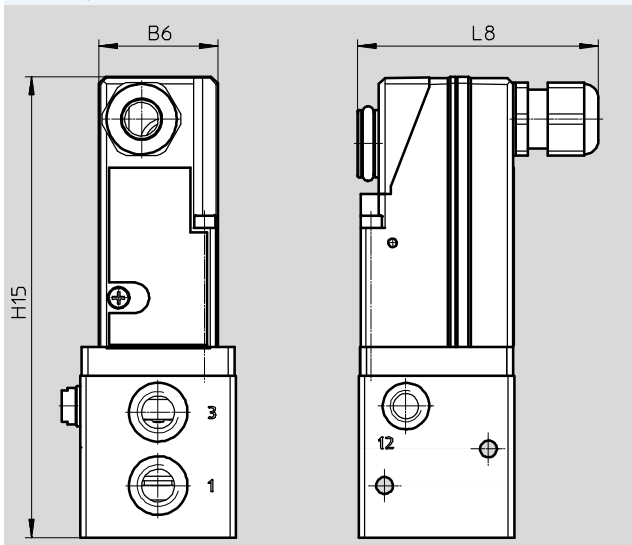
FESTO

Dimensions

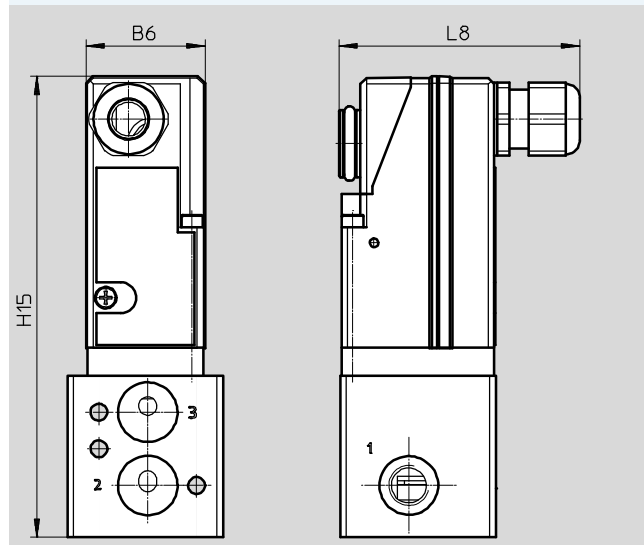
Download CAD data → www.festo.com

Solenoid valve with nozzle/baffle plate, pilot, pneumatic connection, size 1/4"

Port -G14/-N14



Port -FG14



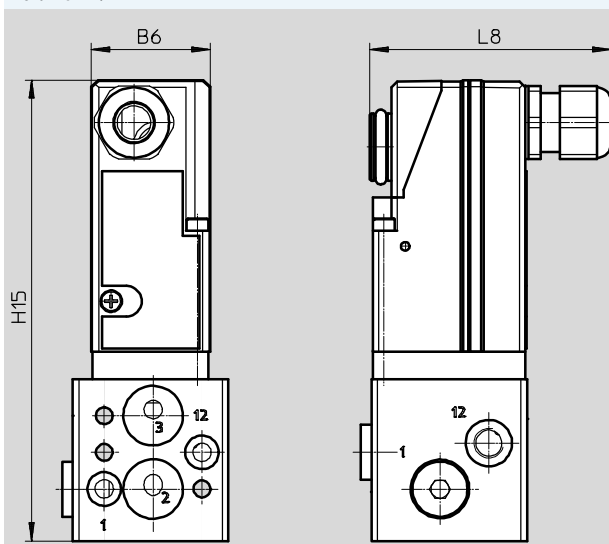
Type	B6	H15	L8
VOFC-LT-M32C-MC-G14-P3-0.4-1-K4-EX4A	39	151	77
VOFC-LT-M32C-MC-N14-P3-0.4-1-K4-EX4A			
VOFC-LT-M32C-MC-G14-P3-0.09-1-K4-EX4A			
VOFC-LT-M32C-MC-N14-P3-0.09-1-K4-EX4A			
VOFC-LT-M32C-M-FG14-P3-0.4-1-K4-EX4A			
VOFC-LT-M32C-M-FG14-P3-0.09-1-K4-EX4A			

Dimensions

Download CAD data → www.festo.com

Solenoid valve with nozzle/baffle plate, pilot, pneumatic connection, size 1/4"

Port -FGP14



Type	B6	H15	L8
VOFC-LT-M32C-M-FGP14-P3-0.4-1-K4-EX4A	39	151	77
VOFC-LT-M32C-M-FGP14-P3-0.09-1-K4-EX4A			

Solenoid valves VOFC-LT ... P3

Technical data – Modular system, poppet valves

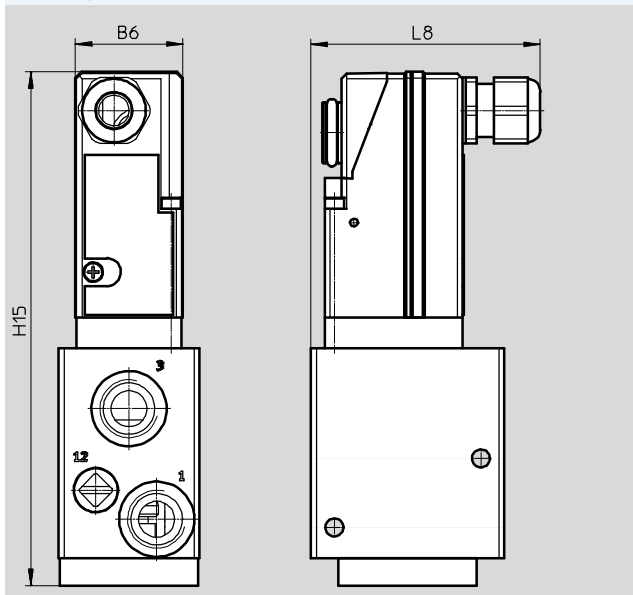
FESTO

Dimensions

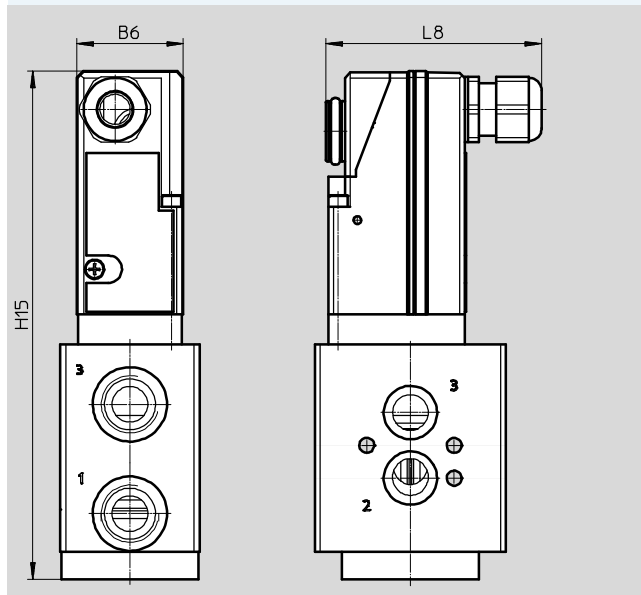
Download CAD data → www.festo.com

Solenoid valve with nozzle/baffle plate pilot, pneumatic connection, size 1/2"

Port -G12/-N12



Port -FG12



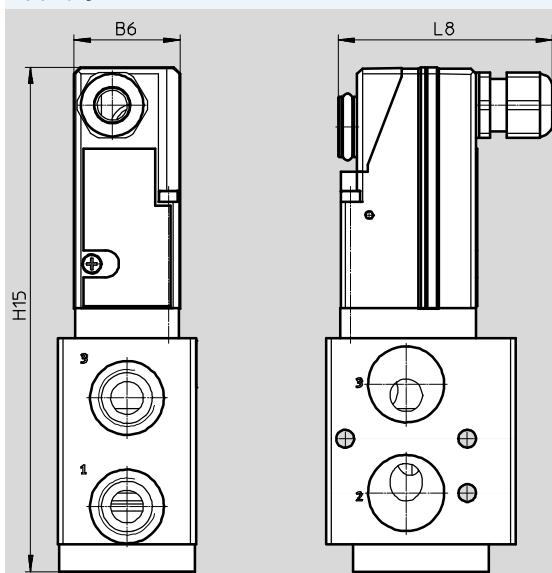
Type	B6	H15	L8
VOFC-LT-M32C-MC-G12-P3-0.4-1-K4-EX4A	39	185.9	79.9
VOFC-LT-M32C-MC-N12-P3-0.4-1-K4-EX4A			
VOFC-LT-M32C-MC-G12-P3-0.09-1-K4-EX4A			
VOFC-LT-M32C-MC-N12-P3-0.09-1-K4-EX4A			
VOFC-LT-M32C-M-FG12-P3-0.4-1-K4-EX4A			
VOFC-LT-M32C-M-FG12-P3-0.09-1-K4-EX4A			

Dimensions

Download CAD data → www.festo.com

Solenoid valve with nozzle/baffle plate pilot, pneumatic connection, size 1/2"

Port -FG13



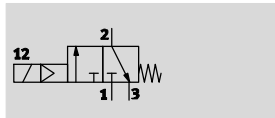
Type	B6	H15	L8
VOFC-LT-M32C-M-FG13-P3-0.4-1-K4-EX4A	39	185.9	79.9
VOFC-LT-M32C-M-FG13-P3-0.09-1-K4-EX4A			

Basic valves VOFC-LT ... F19/F19A

FESTO

Technical data – 3/2-way valves, poppet valve, single solenoid, G1/4 NAMUR

Function
3/2-way valve



- - Temperature range
-25 ... +60 °C

- - Flow rate
600 l/min (-F9/F9-A)
766 l/min (-F19/F19A)



General technical data					
Type -F9/F9-A		G1/4 basic valve, NAMUR	G1/4 basic valve, NAMUR, intrinsically safe	G1/4 basic valve, NAMUR, supply port	G1/4 basic valve, NAMUR, supply port, intrinsically safe
Valve function		3/2-way, single solenoid, closed			
Pneumatic connection	1	G1/4		Port pattern to NAMUR	
	2	G1/4 and port pattern to NAMUR			
	3	G1/4			
	4	G1/4 and port pattern to NAMUR			
Design		Pilot-actuated piston poppet valve			
Width	[mm]	51			
Mounting position		Any			
Duty cycle		100%			
Sealing principle		Soft			
Manual override		None			
Reset method		Mechanical spring			
Actuation type		Electrical			
Type of control		Pilot-actuated			
Pilot air supply		Internal			
Flow rate for piston valve pressurisation	[m³/h]	0.5			
Flow rate for piston valve exhaust	[m³/h]	0.65			
Flow direction		Non-reversible			
Product weight	[g]	600		550	
Switching time off	[ms]	12			
Switching time on	[ms]	20			
Nominal width	[mm]	6			
Standard nominal flow rate	[l/min.]	600			

Operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection	IP65
Operating pressure range [bar]	2 ... 8
Temperature of medium [°C]	–25 ... +60
Ambient temperature [°C]	–25 ... +60
Safety Integrity Level [SIL]	Up to SIL4 Low Demand mode
	Up to SIL4 High Demand mode
Corrosion resistance class CRC ¹⁾	4

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFC-LT ... F19/F19A

FESTO

Technical data – 3/2-way valves, poppet valve, single solenoid, G1/4 NAMUR

General technical data				
Type -F19/F19A		G1/4 basic valve, NAMUR	G1/4 basic valve, NAMUR, intrinsically safe	G1/4 basic valve, NAMUR, supply port, intrinsically safe
Valve function		3/2-way, single solenoid, closed		
Pneumatic connection	1	G1/4		M5 and port pattern to NAMUR
	2	Flange 1/4 and port pattern to NAMUR		
	3	G1/4		
Design		Pilot-actuated piston poppet valve		
Width	[mm]	51		
Mounting position		Any		
Sealing principle		Hard		
Manual override		None		
Reset method		Mechanical spring		
Actuation type		Electrical		
Type of control		Pilot-actuated		
Pilot air supply		Internal		Internal, external
Flow rate for piston valve pressurisation	[m³/h]	0.5		0.5
Flow rate for piston valve exhaust	[m³/h]	0.8		0.65
Flow direction		Non-reversible		
Product weight	[g]	600		
Switching time off	[ms]	18		
Switching time on	[ms]	24		
Nominal width	[mm]	6		
Standard nominal flow rate	[l/min.]	766		
Standard nominal flow rate 2→3	[l/min.]	1467		

Operating and environmental conditions				
Type -F19/F19A		G1/4 basic valve, NAMUR	G1/4 basic valve, NAMUR, intrinsically safe	G1/4 basic valve, NAMUR, supply port, intrinsically safe
Operating medium		Compressed air to ISO 8573-1:2010 [7:-:-]		
Operating pressure range	[bar]	1 ... 8		
Operating pressure range in case of external pilot air	[bar]	–		0 ... 8
Temperature of medium	[°C]	–25 ... +60		
Ambient temperature	[°C]	–25 ... +60		
Safety Integrity Level	[SIL]	Up to SIL3 Low Demand mode		
		Up to SIL3 High Demand mode		
Corrosion resistance class CRC ¹⁾		4		

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

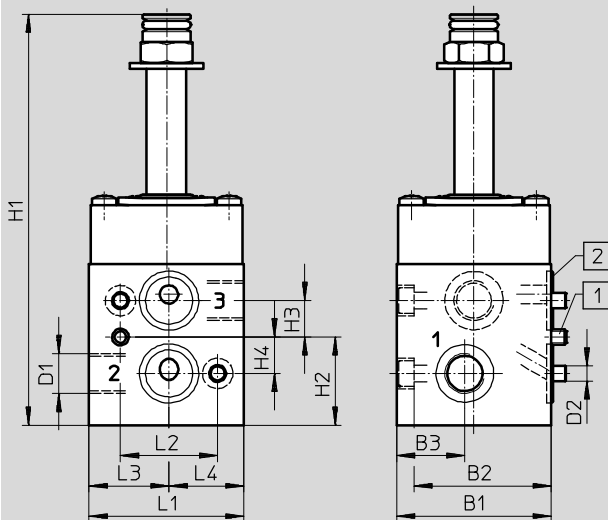
Basic valves VOFC-LT ... F19/F19A

Technical data – 3/2-way valves, poppet valve, single solenoid, G1/4 NAMUR

FESTO

Dimensions

Download CAD data → www.festo.com



- 1 Coding pin M5x10
- 2 O-ring 16 x 2

Type	B1	B2	B3	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4
VOFC-L-M32C-M-FG14-F9	51	45.3	22.5	G1/4	5.5	135.3	29	12	12	51	32	26.3	24.7
VOFC-LT-M32C-M-FG14-F19													
VOFC-L-M32C-M-FG14-F9-A													
VOFC-LT-M32C-M-FG14-F19A													

- 1 - Type to be discontinued
Available until 03/2017

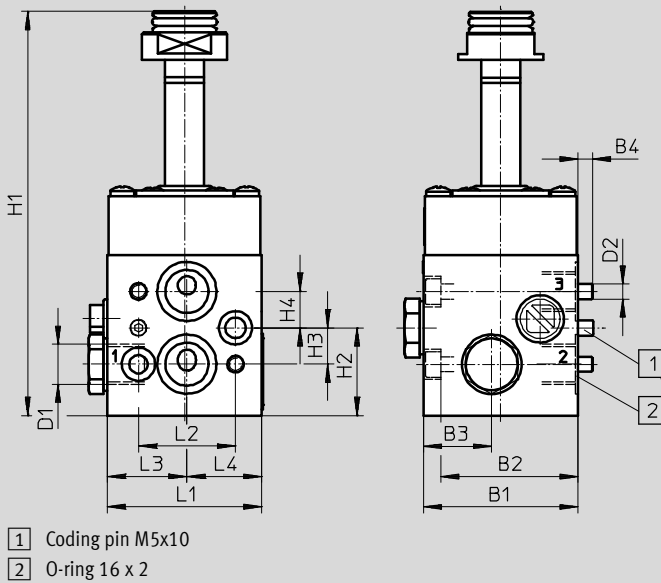
Basic valves VOFC-LT ... F19/F19A

Technical data – 3/2-way valves, poppet valve, single solenoid, G1/4 NAMUR

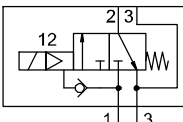
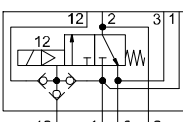
FESTO

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4
VOFC-L-M32C-M-FGP14-F9	51	45.3	22.5	4.7	NAMUR G1/4	M5	133.4	29	12	12	51	32	26.3	24.7
VOFC-LT-M32C-MC-FGP14-F19														
VOFC-L-M32C-M-FGP14-F9-A														
VOFC-LT-M32C-MC-FGP14-F19A														

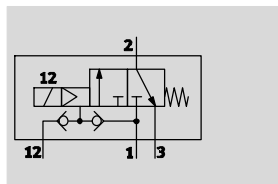
Ordering data						
Circuit symbol	Function	Pneumatic connection	Type of ignition protection	Part No.	Type	
In-line valve						
	3/2-way, single solenoid, closed	G1/4 and NAMUR	Without	562857	VOFC-L-M32C-M-FG14-F9	
				4514738	VOFC-LT-M32C-M-FG14-F19	
			Intrinsically safe	562858	VOFC-L-M32C-M-FG14-F9-A	
				4514739	VOFC-LT-M32C-M-FG14-F19A	
	3/2-way, single solenoid, closed	G1/4 and NAMUR, supply port	Without	570787	VOFC-L-M32C-M-FGP14-F9	
				4514744	VOFC-LT-M32C-MC-FGP14-F19	
			Intrinsically safe	570788	VOFC-L-M32C-M-FGP14-F9-A	
				4514745	VOFC-LT-M32C-MC-FGP14-F19A	

Basic valves VOFC-LT ... F19/F19A

FESTO

Technical data – 3/2-way valves, poppet valve, single solenoid, G1/4 sleeve

Function
3/2-way valve



-  - Temperature range
-25 ... +60 °C

-  - Flow rate
900 l/min (-F9/F9-A)
766 l/min (-F19/F19A)



General technical data					
Type -F9/F9-A		G1/4 basic valve	G1/4 basic valve, intrinsically safe	NPT basic valve	NPT basic valve, intrinsically safe
Valve function		3/2-way, single solenoid, closed			
Pneumatic connection	1	G1/4	G1/4	1/4 NPT	1/4 NPT
	2	G1/4	G1/4	1/4 NPT	1/4 NPT
	3	G1/4	G1/4	1/4 NPT	1/4 NPT
Design		Pilot-actuated piston poppet valve			
Width	[mm]	51			
Mounting position		Any			
Duty cycle		100%			
Sealing principle		Soft			
Manual override		None			
Reset method		Mechanical spring			
Actuation type		Electrical			
Type of control		Pilot-actuated			
Pilot air supply port		Internal, external			
Flow rate for piston valve pressurisation	[m³/h]	0.72			
Flow rate for piston valve exhaust	[m³/h]	1.38			
Flow direction		Non-reversible			
Product weight	[g]	550			
Switching time off	[ms]	12			
Switching time on	[ms]	20			
Nominal width	[mm]	6			
Standard nominal flow rate	[l/min.]	900			

Operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection	IP65
Operating pressure range	[bar] 2 ... 8
Operating pressure range in case of external pilot air	[bar] 0 ... 8
Temperature of medium	[°C] –25 ... +60
Ambient temperature	[°C] –25 ... +60
Safety Integrity Level	[SIL] Up to SIL4 Low Demand mode Up to SIL4 High Demand mode
Corrosion resistance class CRC ¹⁾	4

1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFC-LT ... F19/F19A

FESTO

Technical data – 3/2-way valves, poppet valve, single solenoid, G1/4 sleeve

General technical data					
Type -F19/F19A		G1/4 basic valve	G1/4 basic valve, intrinsically safe	NPT basic valve	NPT basic valve, intrinsically safe
Valve function		3/2-way, single solenoid, closed			
Pneumatic connection	1	G1/4	G1/4	1/4 NPT	1/4 NPT
	2	G1/4	G1/4	1/4 NPT	1/4 NPT
	3	G1/4	G1/4	1/4 NPT	1/4 NPT
Design		Pilot-actuated piston poppet valve			
Width [mm]		51			
Mounting position		Any			
Sealing principle		Hard			
Manual override		None			
Reset method		Mechanical spring			
Actuation type		Electrical			
Type of control		Pilot-actuated			
Pilot air supply port		Internal, external			
Flow rate for piston valve pressurisation [m³/h]		0.72			
Flow rate for piston valve exhaust [m³/h]		1.4			
Flow direction		Non-reversible			
Product weight [g]		550			
Switching time off [ms]		18			
Switching time on [ms]		24			
Nominal width [mm]		6			
Standard nominal flow rate [l/min.]		766			
Standard nominal flow rate 2→3 [l/min.]		1467			

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:-:-]
Operating pressure range [bar]		1 ... 8
Operating pressure range in case of external pilot air [bar]		0 ... 8
Temperature of medium [°C]		–25 ... +60
Ambient temperature [°C]		–25 ... +60
Safety Integrity Level [SIL]		Up to SIL3 Low Demand mode
		Up to SIL3 High Demand mode
Corrosion resistance class CRC ¹⁾		4

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

- 2 - Type to be discontinued
Available until 03/2017

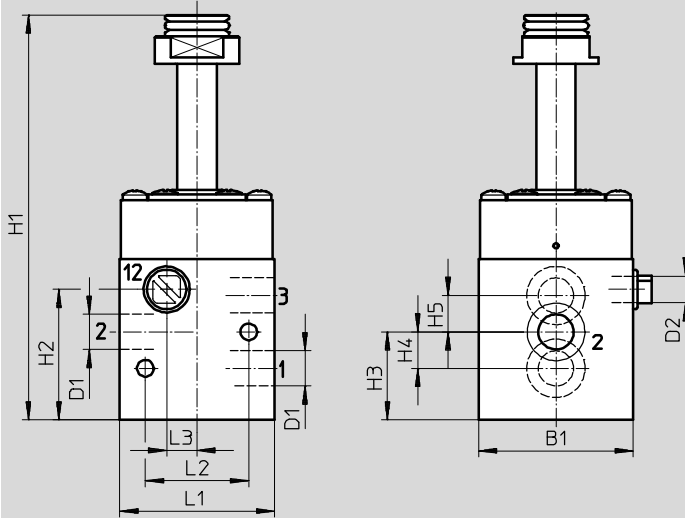
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Basic valves VOFC-LT ... F19/F19A

Technical data – 3/2-way valves, poppet valve, single solenoid, G1/4 sleeve

Dimensions

Download CAD data → www.festo.com



Type	B1	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3
VOFC-L-M32C-MC-G14-F9	51	G1/4	G1/8	133	43	29	12	12	51	34	10
VOFC-LT-M32C-MC-G14-F19											
VOFC-L-M32C-MC-G14-F9-A											
VOFC-LT-M32C-MC-G14-F19A		1/4NPT	1/8NPT								
VOFC-L-M32C-MC-N14-F9											
VOFC-LT-M32C-MC-N14-F19											
VOFC-L-M32C-MC-N14-F9-A											
VOFC-LT-M32C-MC-N14-F19A											

Ordering data

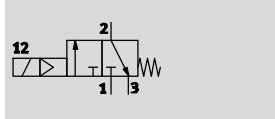
Circuit symbol	Function	Pneumatic connection	Type of ignition protection	Part No.	Type
In-line valve					
	3/2-way, single solenoid, closed	G1/4	Without	562859	VOFC-L-M32C-MC-G14-F9 2
			Intrinsically safe	4514740	VOFC-LT-M32C-MC-G14-F19 2
		1/4 NPT	Without	562860	VOFC-L-M32C-MC-G14-F9-A 2
				4514741	VOFC-LT-M32C-MC-G14-F19A 2
			Intrinsically safe	562861	VOFC-L-M32C-MC-N14-F9 2
				4514742	VOFC-LT-M32C-MC-N14-F19 2
				562862	VOFC-L-M32C-MC-N14-F9-A 2
				4514743	VOFC-LT-M32C-MC-N14-F19A 2

Basic valves VOFC-LT ... F19/F19A

FESTO

Technical data – 3/2-way valve, poppet valve, single solenoid, G1/2 NAMUR

Function
3/2-way valve



- - Temperature range
-25 ... +60 °C

- - Flow rate
3000 l/min (-F9/F9-A)
738 l/min (-F19/F19A)



General technical data		
Type -F9/F9-A		
Valve function		3/2-way, single solenoid, closed
Pneumatic connection	1	G1/2
	2	G1/2 and port pattern to NAMUR
	3	G1/2
	4	G1/2 and port pattern to NAMUR
Design		Pilot-actuated piston poppet valve
Width	[mm]	51
Mounting position		Any
Duty cycle		100%
Sealing principle		Soft
Manual override		None
Reset method		Mechanical spring
Actuation type		Electrical
Type of control		Pilot-actuated
Pilot air supply		Internal
Flow rate for piston valve pressurisation	[m³/h]	3.8
Flow rate for piston valve exhaust	[m³/h]	3.8
Flow direction		Non-reversible
Product weight	[g]	880
Switching time off	[ms]	14
Switching time on	[ms]	25
Nominal width	[mm]	12
Standard nominal flow rate	[l/min.]	3000

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection		IP65
Operating pressure range	[bar]	2 ... 8
Temperature of medium	[°C]	–25 ... +60
Ambient temperature	[°C]	–25 ... +60
Safety Integrity Level	[SIL]	Up to SIL4 Low Demand mode
		Up to SIL4 High Demand mode
Corrosion resistance class CRC ¹⁾		4

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFC-LT ... F19/F19A

FESTO

Technical data – 3/2-way valve, poppet valve, single solenoid, G1/2 NAMUR

General technical data			
Type -F19/F19A		VOFC-...-FG12-F19 VOFC-...-FG12-F19A	VOFC-...-FG13-F19 VOFC-...-FG13-F19A
Valve function		3/2-way, single solenoid, closed	
Pneumatic connection	1	G1/2	
	2	Flange 1/4 and port pattern to NAMUR	Flange 1/2 and port pattern to NAMUR
	3	G1/2	
Design		Pilot-actuated piston poppet valve	
Width	[mm]	51	
Mounting position		Any	
Sealing principle		Hard	
Manual override		None	
Reset method		Mechanical spring	
Actuation type		Electrical	
Type of control		Pilot-actuated	
Pilot air supply		Internal	Internal, external
Flow rate for piston valve pressurisation	[m³/h]	2.4	
Flow rate for piston valve exhaust	[m³/h]	3.3	
Flow direction		Non-reversible	
Product weight	[g]	880	900
Switching time off	[ms]	14	
Switching time on	[ms]	25	
Nominal width	[mm]	12	
Standard nominal flow rate	[l/min.]	738	
Standard nominal flow rate 2→3	[l/min.]	660	

Operating and environmental conditions			
Type -F19/F19A		VOFC-...-FG12-F19 VOFC-...-FG12-F19A	VOFC-...-FG13-F19 VOFC-...-FG13-F19A
Operating medium		Compressed air to ISO 8573-1:2010 [7:-:-]	
Operating pressure range	[bar]	2 ... 8	
Operating pressure range in case of external pilot air	[bar]	–	0 ... 8
Temperature of medium	[°C]	–25 ... +60	
Ambient temperature	[°C]	–25 ... +60	
Safety Integrity Level	[SIL]	Up to SIL3 Low Demand mode	
		Up to SIL3 High Demand mode	
Corrosion resistance class CRC ¹⁾		4	

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

- 1 - Type to be discontinued
Available until 03/2017

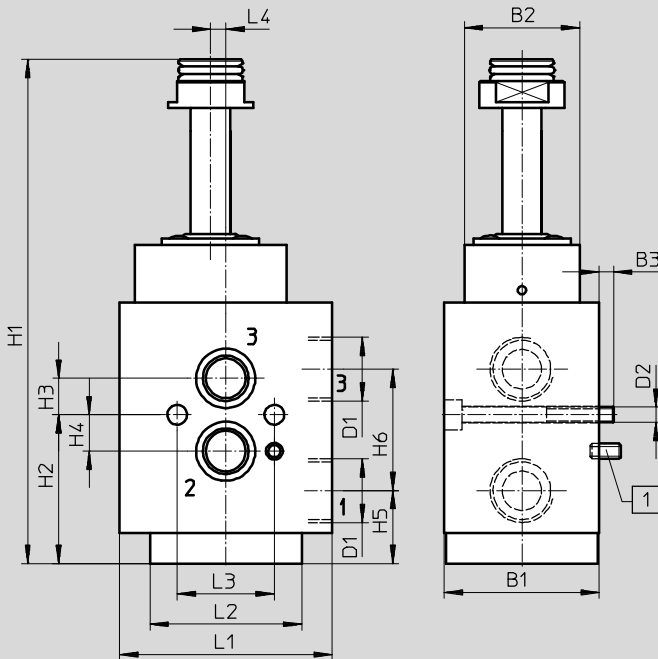
Basic valves VOFC-LT ... F19/F19A

Technical data – 3/2-way valve, poppet valve, single solenoid, G1/2 NAMUR

FESTO

Dimensions

Download CAD data → www.festo.com



1 Coding pin M5x10

Type	B1	B2	B3	D1	D2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4
VOFC-L-M32C-M-FG12-F9	51	38	4.7	G1/2	M5	166	49	12	12	24	40	70	50	32	5
VOFC-LT-M32C-M-FG12-F19															
VOFC-L-M32C-M-FG12-F9-A															
VOFC-LT-M32C-M-FG12-F19A															
VOFC-LT-M32C-MC-FG13-F19															
VOFC-LT-M32C-MC-FG13-F19A															

Ordering data

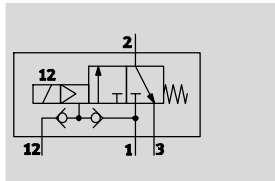
Circuit symbol	Function	Pneumatic connection	Type of ignition protection	Part No.	Type
	3/2-way, single solenoid, closed	G1/2 and NAMUR	Without	562863	VOFC-L-M32C-M-FG12-F9 1
			Intrinsically safe	4514746	VOFC-LT-M32C-M-FG12-F19
			Without	562864	VOFC-L-M32C-M-FG12-F9-A 1
			Intrinsically safe	4514747	VOFC-LT-M32C-M-FG12-F19A
	3/2-way, single solenoid, closed	G1/2 Flange 1/2 (port pattern to NAMUR) G1/2	Without	4527268	VOFC-LT-M32C-MC-FG13-F19
			Intrinsically safe	4527269	VOFC-LT-M32C-MC-FG13-F19A

Basic valves VOFC-LT ... F19/F19A

FESTO

Technical data – 3/2-way valve, poppet valve, single solenoid, G1/2 sleeve

Function
3/2-way valve



- - Temperature range
-25 ... +60 °C

- - Flow rate
3000 l/min (-F9/F9-A)
738 l/min (-F19/F19A)



General technical data		
Type -F9/F9-A		
Valve function		3/2-way, single solenoid, closed
Pneumatic connection	1	G1/2
	2	G1/2
	3	G1/2
Design		Pilot-actuated piston poppet valve
Width	[mm]	51
Mounting position		Any
Duty cycle		100%
Sealing principle		Soft
Manual override		None
Reset method		Mechanical spring
Actuation type		Electrical
Type of control		Pilot-actuated
Pilot air supply		Internal, external
Flow rate for piston valve pressurisation	[m³/h]	3.8
Flow rate for piston valve exhaust	[m³/h]	3.8
Flow direction		Non-reversible
Product weight	[g]	880
Switching time off	[ms]	14
Switching time on	[ms]	25
Nominal width	[mm]	12
Standard nominal flow rate	[l/min.]	3000

Operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection	IP65
Operating pressure range	[bar] 2 ... 8
External operating pressure range	[bar] 0 ... 8
Temperature of medium	[°C] –25 ... +60
Ambient temperature	[°C] –25 ... +60
Safety Integrity Level	Up to SIL4 Low Demand mode
	Up to SIL4 High Demand mode
Corrosion resistance class CRC ¹⁾	4

1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFC-LT ... F19/F19A

FESTO

Technical data – 3/2-way valve, poppet valve, single solenoid, G1/2 sleeve

General technical data		
Type -F19/F19A		
Valve function		3/2-way, single solenoid, closed
Pneumatic connection	1	G1/2
	2	G1/2
	3	G1/2
Design		Pilot-actuated piston poppet valve
Width	[mm]	51
Mounting position		Any
Sealing principle		Hard
Manual override		None
Reset method		Mechanical spring
Actuation type		Electrical
Type of control		Pilot-actuated
Pilot air supply		Internal, external
Flow rate for piston valve pressurisation	[m³/h]	2.4
Flow rate for piston valve exhaust	[m³/h]	3.3
Flow direction		Non-reversible
Product weight	[g]	880
Switching time off	[ms]	14
Switching time on	[ms]	25
Nominal width	[mm]	12
Standard nominal flow rate	[l/min.]	738
Standard nominal flow rate 2→3	[l/min.]	660

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:-:-]
Operating pressure range	[bar]	2 ... 8
Operating pressure range in case of external pilot air	[bar]	0 ... 8
Temperature of medium	[°C]	–25 ... +60
Ambient temperature	[°C]	–25 ... +60
Safety Integrity Level	[SIL]	Up to SIL3 Low Demand mode
		Up to SIL3 High Demand mode
Corrosion resistance class CRC ¹⁾		4

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

- 2 - Type to be discontinued
Available until 03/2017

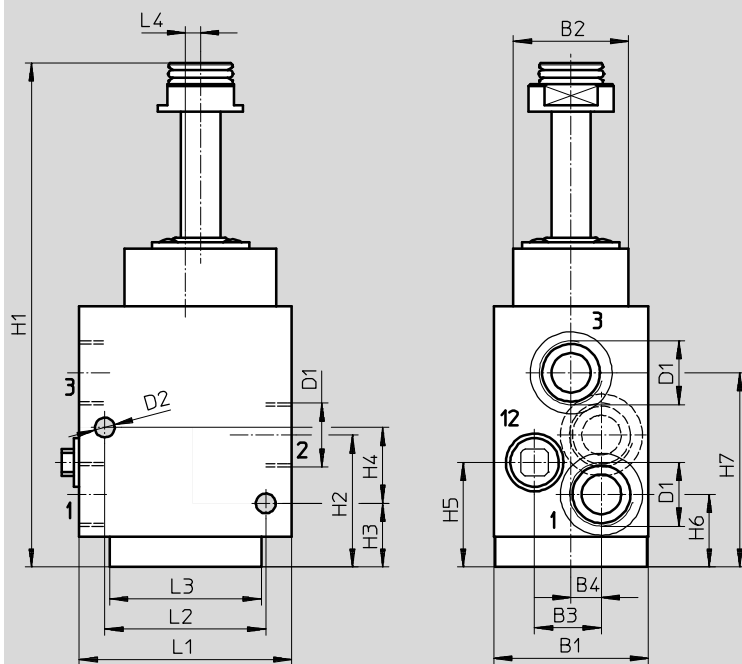
FESTO

Basic valves VOFC-LT ... F19/F19A

Technical data – 3/2-way valve, poppet valve, single solenoid, G1/2 sleeve

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3	L4
VOFC-L-M32C-MC-G12-F9	51	37	22	10	G1/2	6.5	166	43.5	21	25	34.5	70	53	50	5
VOFC-LT-M32C-MC-G12-F19															
VOFC-L-M32C-MC-G12-F9-A															
VOFC-LT-M32C-MC-G12-F19A															

Ordering data

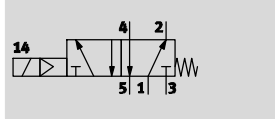
Circuit symbol	Function	Pneumatic connection	Type of ignition protection	Part No.	Type
	3/2-way, single solenoid, closed	G1/2	Without	562865	VOFC-L-M32C-MC-G12-F9 2
				4514748	VOFC-LT-M32C-MC-G12-F19
			Intrinsically safe	562866	VOFC-L-M32C-MC-G12-F9-A 2
				4514749	VOFC-LT-M32C-MC-G12-F19A

Basic valves VOFC-L ... F19/F19A

FESTO

Technical data – 5/2-way valve, piston spool, single solenoid, G1/4 NAMUR

Function
5/2-way valve



-  - Temperature range
-25 ... +60 °C
-  - Flow rate
750 l/min (-F9/F9-A)
1030 l/min (-F19/F19A)



General technical data		
Type -F9/F9-A		
Valve function		5/2-way, single solenoid
Pneumatic connection	1	G1/4
	2	G1/4 and port pattern to NAMUR
	3	G1/4
	4	G1/4 and port pattern to NAMUR
Design		Soft-switching piston spool valve
Mounting position		Any
Width	[mm]	40
Duty cycle		100%
Sealing principle		Soft
Manual override		None
Reset method		Mechanical spring
Actuation type		Electrical
Type of control		Pilot-actuated
Pilot air supply		Internal
Flow rate for piston valve pressurisation	[m³/h]	0.65
Flow rate for piston valve exhaust	[m³/h]	0.65
Flow direction		Non-reversible
Product weight	[g]	514
Switching time off	[ms]	40
Switching time on	[s]	< 1.0
Nominal width	[mm]	6
Standard nominal flow rate	[l/min.]	750

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection		IP65
Operating pressure range	[bar]	2 ... 8
Temperature of medium	[°C]	–25 ... +60
Ambient temperature	[°C]	–25 ... +60
Safety Integrity Level	[SIL]	Up to SIL2 Low Demand mode
		Up to SIL2 High Demand mode
Corrosion resistance class CRC ¹⁾		4

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFC-L ... F19/F19A

FESTO

Technical data – 5/2-way valve, piston spool, single solenoid, G1/4 NAMUR

General technical data		
Type -F19/F19A		
Valve function		5/2-way, single solenoid
Pneumatic connection	1	G1/4
	2	G1/4 and port pattern to NAMUR
	3	G1/4
	4	G1/4 and port pattern to NAMUR
	5	G1/4
Design		Piston spool valve
Mounting position		Any
Width	[mm]	40
Sealing principle		Soft
Manual override		None
Reset method		Mechanical spring
Actuation type		Electrical
Type of control		Pilot-actuated
Pilot air supply		Internal
Flow rate for piston valve pressurisation	[m ³ /h]	1.08
Flow rate for piston valve exhaust	[m ³ /h]	1.08
Flow direction		Non-reversible
Product weight	[g]	520
Switching time off	[ms]	22
Switching time on	[ms]	26
Nominal width	[mm]	6
Standard nominal flow rate	[l/min.]	1030
Standard nominal flow rate 2→3	[l/min.]	978

Operating and environmental conditions		
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Operating pressure range	[bar]	2.5 ... 8
Temperature of medium	[°C]	–25 ... +60
Ambient temperature	[°C]	–25 ... +60
Safety Integrity Level	[SIL]	Up to SIL2 Low Demand mode
		Up to SIL2 High Demand mode
Corrosion resistance class CRC ¹⁾		4

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

- 1 - Type to be discontinued
Available until 03/2017

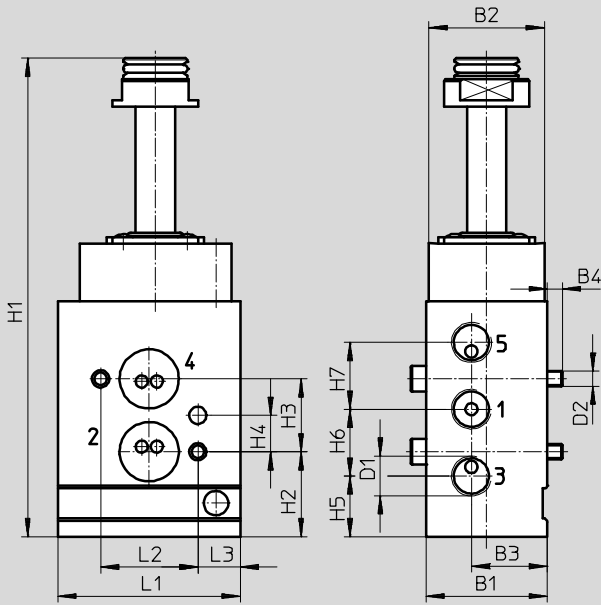
Basic valves VOFC-L ... F19/F19A

Technical data – 5/2-way valve, piston spool, single solenoid, G1/4 NAMUR

FESTO

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	H5	H6	H7	L1	L2	L3
VOFC-L-M52-M-FG14-F9	40	38	25	5	G1/4	M5	158	28	24	12	20	22	22	60	32	14
VOFC-L-M52-M-FG14-F19																
VOFC-L-M52-M-FG14-F9-A																
VOFC-L-M52-M-FG14-F19A																

Ordering data

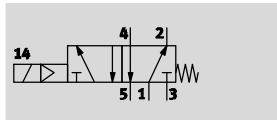
Circuit symbol	Function	Pneumatic connection	Type of ignition protection	Part No.	Type
	5/2-way, single solenoid	G1/4 and NAMUR	Without	2823469	VOFC-L-M52-M-FG14-F9 1
				4514923	VOFC-L-M52-M-FG14-F19
			Intrinsically safe	2823470	VOFC-L-M52-M-FG14-F9-A 1
				4514924	VOFC-L-M52-M-FG14-F19A

Basic valves VOFC-L ... F19/F19A

FESTO

Technical data – 5/2-way valve, piston spool, single solenoid, G1/4 sleeve

Function
5/2-way valve



-  - Temperature range
-25 ... +60 °C
-  - Flow rate
850 l/min (-F9/F9-A)
1030 l/min (-F19/F19A)



General technical data		
Type -F9/F9-A		
Valve function		5/2-way, single solenoid
Pneumatic connection	1	G1/4
	2	G1/4
	3	G1/4
	4	G1/4
Design		Soft-switching piston spool valve
Mounting position		Any
Width	[mm]	40
Duty cycle		100%
Sealing principle		Soft
Manual override		None
Reset method		Mechanical spring
Actuation type		Electrical
Type of control		Pilot-actuated
Pilot air supply		Internal
Flow rate for piston valve pressurisation	[m³/h]	0.65
Flow rate for piston valve exhaust	[m³/h]	0.65
Flow direction		Non-reversible
Product weight	[g]	514
Switching time off	[ms]	40
Switching time on	[s]	< 1.0
Nominal width	[mm]	6
Standard nominal flow rate	[l/min.]	850

Operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection	IP65
Operating pressure range	[bar] 2 ... 8
Temperature of medium	[°C] –25 ... +60
Ambient temperature	[°C] –25 ... +60
Safety Integrity Level	Up to SIL2 Low Demand mode
	Up to SIL2 High Demand mode
Corrosion resistance class CRC ¹⁾	4

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFC-L ... F19/F19A

FESTO

Technical data – 5/2-way valve, piston spool, single solenoid, G1/4 sleeve

General technical data		
Type -F19/F19A		
Valve function		5/2-way, single solenoid
Pneumatic connection	1	G1/4
	2	G1/4
	3	G1/4
	4	G1/4
	5	G1/4
Design		Piston spool valve
Mounting position		Any
Width	[mm]	40
Sealing principle		Soft
Manual override		None
Reset method		Mechanical spring
Actuation type		Electrical
Type of control		Pilot-actuated
Pilot air supply		Internal
Flow rate for piston valve pressurisation	[m ³ /h]	1.08
Flow rate for piston valve exhaust	[m ³ /h]	1.08
Flow direction		Non-reversible
Product weight	[g]	520
Switching time off	[ms]	22
Switching time on	[ms]	26
Nominal width	[mm]	6
Standard nominal flow rate	[l/min.]	1030
Standard nominal flow rate 2→3	[l/min.]	978

Operating and environmental conditions		
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Operating pressure range	[bar]	2.5 ... 8
Temperature of medium	[°C]	–25 ... +60
Ambient temperature	[°C]	–25 ... +60
Safety Integrity Level	[SIL]	Up to SIL2 Low Demand mode
		Up to SIL2 High Demand mode
Corrosion resistance class CRC ¹⁾		4

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

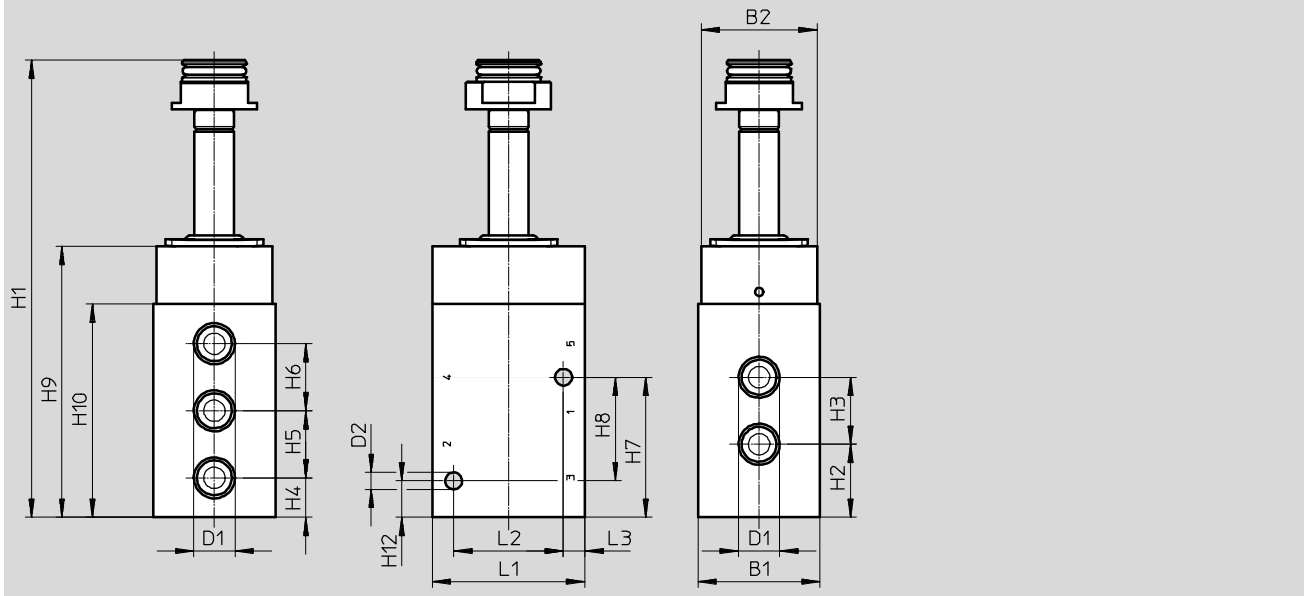
Basic valves VOFC-L ... F19/F19A

Technical data – 5/2-way valve, piston spool, single solenoid, G1/4 sleeve

FESTO

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	B3	D1	D2	H1	H2	H3	H4	H5	H6	H7	H8	L1	L2
VOFC-L-M52-M-G14-F9	40	38	25	G1/4	M5	158	52.6	21.6	33	22	20	22	22	60	46
VOFC-L-M52-M-G14-F19															
VOFC-L-M52-M-G14-F9-A															
VOFC-L-M52-M-G14-F19A															

Ordering data

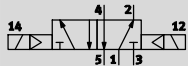
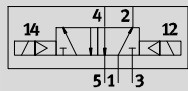
Circuit symbol	Function	Pneumatic connection	Type of ignition protection	Part No.	Type
	5/2-way, single solenoid	G1/4	Without	2823467	VOFC-L-M52-M-G14-F9
				4514925	VOFC-L-M52-M-G14-F19
			Intrinsically safe	2823468	VOFC-L-M52-M-G14-F9-A
				4514926	VOFC-L-M52-M-G14-F19A

Basic valves VOFC-L ... F19/F19A

FESTO

Technical data – 5/2-way valves, piston spool, double solenoid, G1/4, NAMUR

Function
5/2-way valve



-  Temperature range
–25 ... +60 °C
-  Flow rate
Up to 850 l/min (-F9/F9-A)
989 l/min (-F19/F19A)



General technical data			
Type -F9/F9-A		G1/4, NAMUR	G1/4
Valve function		5/2-way, double solenoid	
Pneumatic connection	1	G1/4	
	2	Port pattern to NAMUR	G1/4
	3	G1/4	
	4	Port pattern to NAMUR	G1/4
Design		Soft-switching piston spool valve	
Mounting position		Any	
Width	[mm]	40	
Duty cycle	[%]	100	
Sealing principle		Soft	
Manual override		None	
Actuation type		Electrical	
Type of control		Pilot-actuated	
Pilot air supply port		Internal	
Flow rate for piston valve pressurisation	[m³/h]	0.65	
Flow rate for piston valve exhaust	[m³/h]	0.65	
Flow direction		Non-reversible	
Product weight	[g]	670	
Switching time off	[ms]	40	20
Switching time on	[s]	< 1.0	< 1.0
Max. switching frequency	[Hz]	1	
Nominal width	[mm]	6	
Standard nominal flow rate	[l/min.]	750	850

Operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection	IP65
Operating pressure range	[bar] 2 ... 8
Temperature of medium	[°C] –25 ... +60
Ambient temperature	[°C] –25 ... +60
Safety Integrity Level	Up to SIL 2 Low Demand mode
	Up to SIL 2 High Demand mode
Corrosion resistance class CRC ¹⁾	4

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFC-L ... F19/F19A

FESTO

Technical data – 5/2-way valves, piston spool, double solenoid, G1/4, NAMUR

General technical data			
Type -F19/F19A		G1/4, NAMUR	G1/4
Valve function		5/2-way, double solenoid	
Pneumatic connection	1	G1/4	G1/4
	2	Flange 1/4 and port pattern to NAMUR	G1/4
	3	G1/4	G1/4
	4	Flange 1/4 and port pattern to NAMUR	G1/4
	5	G1/4	G1/4
Design		Piston spool valve	
Mounting position		Any	
Width	[mm]	40	
Sealing principle		Soft	
Manual override		None	
Actuation type		Electrical	
Type of control		Pilot-actuated	
Pilot air supply port		Internal	
Flow rate for piston valve pressurisation	[m³/h]	1.08	
Flow rate for piston valve exhaust	[m³/h]	1.08	
Flow direction		Non-reversible	
Product weight	[g]	680	790
Switching time off	[ms]	22	
Switching time on	[ms]	26	
Max. switching frequency	[Hz]	1	
Nominal width	[mm]	6	
Standard nominal flow rate	[l/min.]	989	
Standard nominal flow rate 2→3	[l/min.]	978	

Operating and environmental conditions			
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]	
Operating pressure range	[bar]	2.5 ... 8	
Temperature of medium	[°C]	–25 ... +60	
Ambient temperature	[°C]	–25 ... +60	
Safety Integrity Level	[SIL]	Up to SIL 2 Low Demand mode	
		Up to SIL 2 High Demand mode	
Corrosion resistance class CRC ¹⁾		4	

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

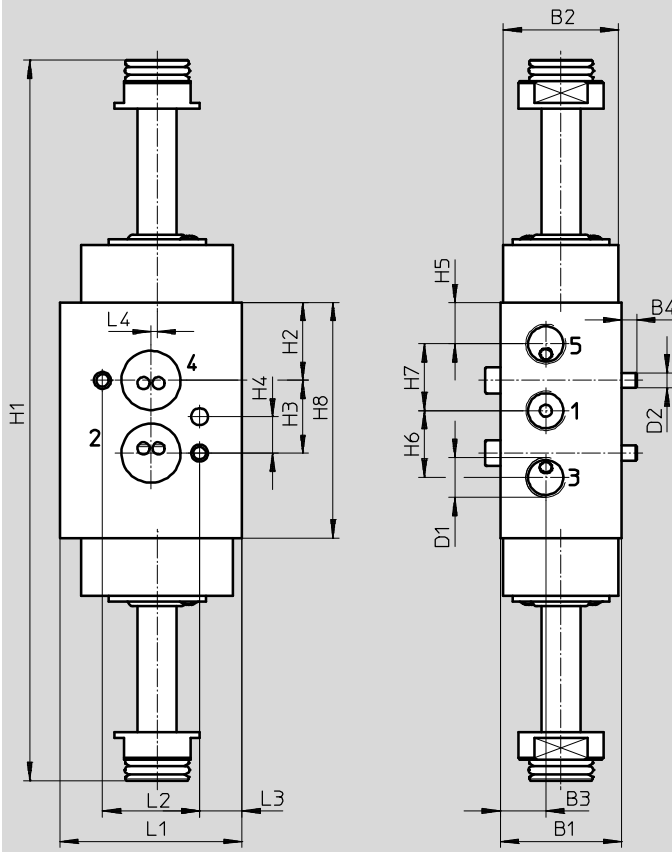
Basic valves VOFC-L ... F19/F19A

Technical data – 5/2-way valves, piston spool, double solenoid, G1/4, NAMUR

FESTO

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	H5	H6	H7	H8	L1	L2	L3	L4
VOFC-L-B52-FG14-F9	40	38	15	5	G1/4	M5	237.6	25.6	24	12	13.6	22	22	77.6	60	32	14	2
VOFC-L-B52-FG14-F19																		
VOFC-L-B52-FG14-F9-A																		
VOFC-L-B52-FG14-F19A																		

- 2 - Type to be discontinued
Available until 03/2017

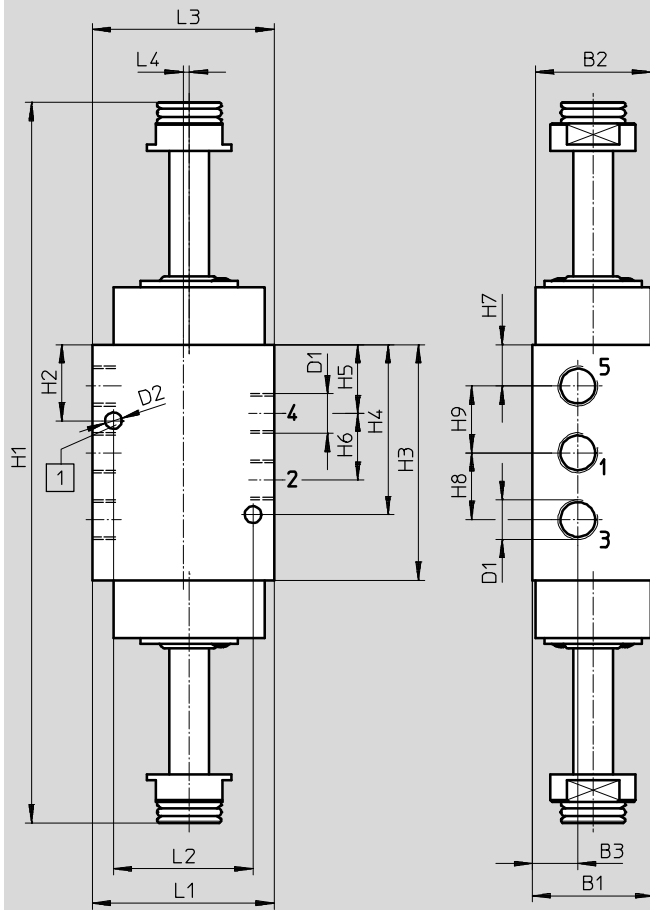
Basic valves VOFC-L ... F19/F19A

Technical data – 5/2-way valves, piston spool, double solenoid, G1/4, NAMUR

FESTO

Dimensions

Download CAD data → www.festo.com



1 Coding pin M5x10

Type	B1	B2	B3	D1	D2	H1	H2	H3	H4	H5	H6	H7	H8	H9	L1	L2	L3	L4
VOFC-L-B52-G14-F9	40	38	15	G1/4	5.5	240	25	77.6	56	22.6	22	13.6	22	22	60	46	60	2
VOFC-L-B52-G14-F19																		
VOFC-L-B52-G14-F9-A																		
VOFC-L-B52-G14-F19A																		

Ordering data

Circuit symbol	Function	Pneumatic connection	Type of ignition protection	Part No.	Type
In-line valve					
	5/2-way, double solenoid	G1/4 and NAMUR	Without	2821302	VOFC-L-B52-FG14-F9
				4514929	VOFC-L-B52-FG14-F19
			Intrinsically safe	2821303	VOFC-L-B52-FG14-F9-A
				4514930	VOFC-L-B52-FG14-F19A
	5/2-way, double solenoid	G1/4	Without	2820406	VOFC-L-B52-G14-F9
				4514927	VOFC-L-B52-G14-F19
			Intrinsically safe	2820407	VOFC-L-B52-G14-F9-A
				4514928	VOFC-L-B52-G14-F19A

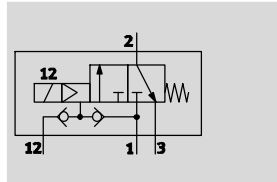
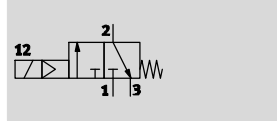
Solenoid valves VOFC-LT ... F19

FESTO

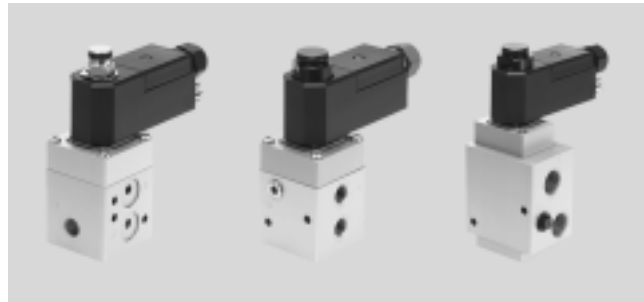
Technical data – 3/2-way poppet valve, single solenoid, with EX-ME solenoid

Function

3/2-way solenoid valve



- - Temperature range
-25 ... +60 °C
- - Flow rate
Up to 3000 l/min
- - Voltage
14 ... 32 V DC



General technical data		G1/4 and NAMUR	G1/4	1/4 NPT	G1/2
Valve function		3/2-way, single solenoid, closed			
Pneumatic connection	1	G1/4	G1/4	1/4 NPT	G1/2
	2	G1/4	G1/4	–	G1/2
	2	Port pattern to NAMUR	–	1/4 NPT	–
	3	G1/4	G1/4	1/4 NPT	G1/2
	4	Port pattern to NAMUR	–	1/4 NPT	G1/2
Width		51 mm			
Design		Pilot-actuated piston poppet valve			
Mounting position		Any			
Duty cycle		100%			
Sealing principle		Soft			
Manual override		None			
Reset method		Mechanical spring			
Actuation type		Electrical			
Type of control		Pilot-actuated			
Pilot air supply		Internal, external	Internal, external	Internal	Internal, external
Flow rate for piston valve pressurisation	[m³/h]	0.72	0.72	0.72	3.8
Flow rate for piston valve exhaust	[m³/h]	1.38	1.38	1.38	3.8
Flow direction		Non-reversible			
Electrical connection		Terminal box, cable entry thread M20x1.5			
Reset method		Mechanical spring			
Product weight	[g]	880	880	880	1210
Switching time off	[ms]	12			
Switching time on	[ms]	20			
Nominal width	[mm]	6			
Standard nominal flow rate	[l/min.]	900	900	900	3000

Electrical data		G1/4 and NAMUR	G1/4	1/4 NPT	G1/2
Permissible voltage fluctuations	[%]	-15 ... 10			
Max. input power, P _i	[W]	1.2	–		
Max. input voltage, U _i	[V]	32	–		
Max. input current	[A]	0.2	–		
Required current consumption, I _{min}	[mA]	16	–		
Characteristic coil data	Direct voltage	[V DC]	14 ... 32	–	
	Direct voltage 24 V	[W]	1.8		
	Alternating voltage 24 V	[VA]	1.8		

Solenoid valves VOFC-LT ... F19

FESTO

Technical data – 3/2-way poppet valve, single solenoid, with EX-ME solenoid

Operating and environmental conditions		G1/4 and NAMUR	G1/4	1/4 NPT	G1/2
Operating medium		Compressed air to ISO 8573-1:2010 [–:–:–]			
Degree of protection		IP65			
Operating pressure range	[bar]	2 ... 8			
External operating pressure range	[bar]	0 ... 8			
Temperature of medium	[°C]	–25 ... +60			
ATEX category for gas		II 2G			
ATEX category for dust		II 2D			
Type of ignition protection for gas		EX EMB II T6, T5			
Type of ignition protection for dust		EX TD A21 IP65 T80°C, T95°C			
Explosion-proof temperature	[°C]	T5: –20 ≤ Ta ≤ +60			
		T6: –20 ≤ Ta ≤ +50			
		T80: –20 ≤ Ta ≤ +50			
		T95: –20 ≤ Ta ≤ +60			
Certificate issuing authority		PTB 08 ATEX 2042 X			
CE marking (see declaration of conformity)		To EU Explosion Protection Directive (ATEX)			
Safety Integrity Level	[SIL]	Up to SIL4 Low Demand mode			
		Up to SIL4 High Demand mode			
Corrosion resistance class CRC ¹⁾		4			

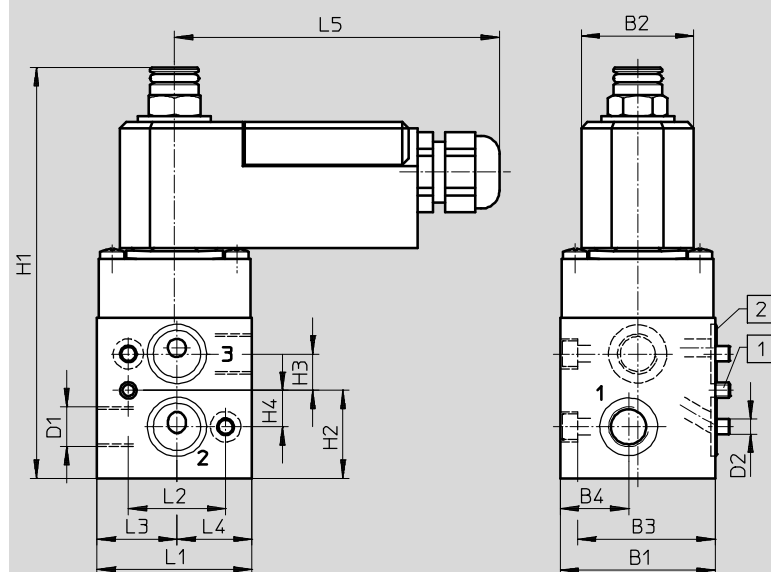
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Dimensions

Download CAD data → www.festo.com



1 Coding pin M5x10

2 O-ring 16x2

Type	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4	L5
VOFC-L-M32C-M-FG14-1UK4-EX4ME	51	37	45.3	22.5	G1/4	M5	135.3	29	12	12	51	32	26.3	24.7	107

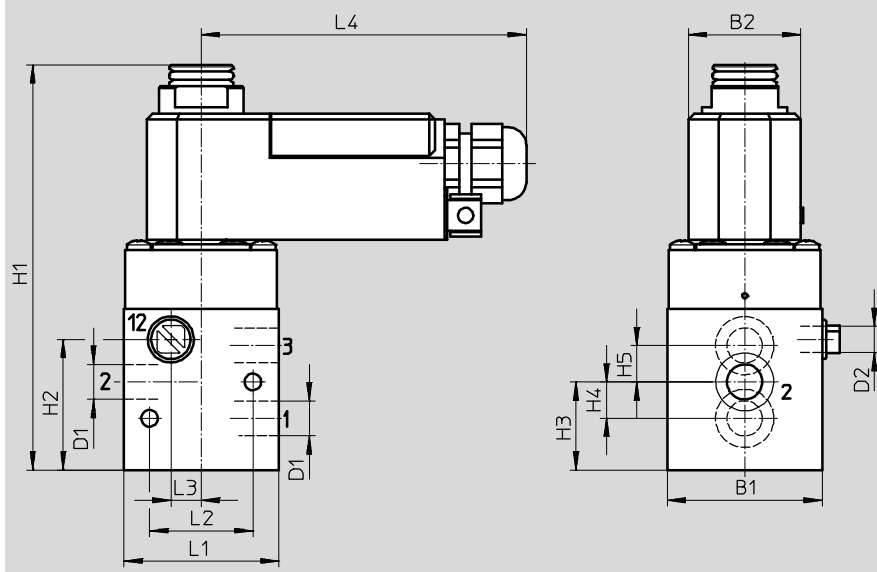
Solenoid valves VOFC-LT ... F19

Technical data – 3/2-way poppet valve, single solenoid, with EX-ME solenoid

FESTO

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3	L4
VOFC-L-M32C-MC-G14-1UK4-EX4ME	51	37	G1/4	G1/8	133	43	29	12	12	51	34	10	107
VOFC-L-M32C-MC-N14-1UK4-EX4ME													

- 2 - Type to be discontinued
Available until 03/2017

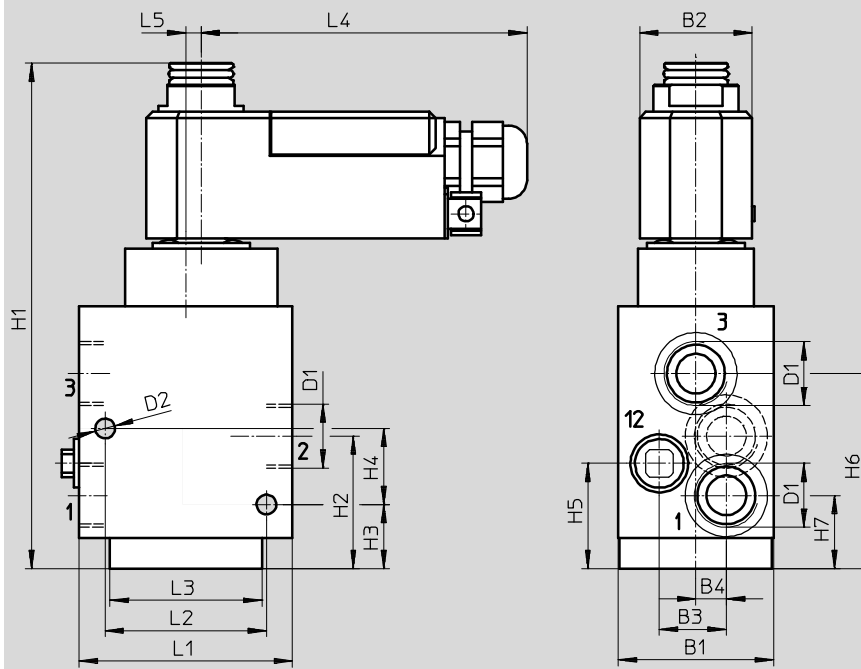
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Solenoid valves VOFC-LT ... F19

Technical data – 3/2-way poppet valve, single solenoid, with EX-ME solenoid

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5
VOFC-L-M32C-MC-G12-1UK4-EX4ME	51	37	22	10	G1/2	6.5	166	43.5	21	25	34.5	70	53	50	107	5

Ordering data

Circuit symbol	Function	Size	Type of ignition protection for gas	Operating voltage	Part No.	Type
	3/2-way, single solenoid, closed	G1/4 and NAMUR	Ex emb II T6, T5	24 V DC and AC	562875	VOFC-L-M32C-M-FG14-1UK4-EX4ME
	3/2-way, single solenoid, closed	G1/4	Ex emb II T6, T5	24 V DC and AC	562877	VOFC-L-M32C-MC-G14-1UK4-EX4ME
	3/2-way, single solenoid, closed	1/4 NPT	Ex emb II T6, T5	24 V DC and AC	562879	VOFC-L-M32C-MC-N14-1UK4-EX4ME
	3/2-way, single solenoid, closed	G1/2	Ex emb II T6, T5	24 V DC and AC	562880	VOFC-L-M32C-MC-G12-1UK4-EX4ME

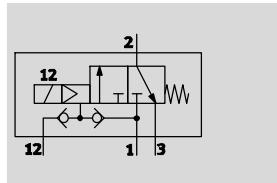
- 1 - Type to be discontinued
Available until 03/2017

Solenoid valves VOFC-LT ... F19

Technical data – 3/2-way poppet valve, single solenoid with EX-IA solenoid

Function

3/2-way solenoid valve



-  - Temperature range
-25 ... +60 °C
-  - Flow rate
600 l/min
-  - Voltage
14 ... 32 V DC



General technical data		G1/4 and NAMUR	G1/4 and NAMUR (EX4ME)
Valve function		3/2-way, single solenoid, closed	
Pneumatic connection	1	G1/4	
	2	Port pattern to NAMUR	
	3	G1/4	
	4	Port pattern to NAMUR	
Width	[mm]	51	
Design		Pilot-actuated piston poppet valve	
Mounting position		Any	
Duty cycle		100%	
Sealing principle		Soft	
Manual override		None	
Reset method		Mechanical spring	
Actuation type		Electrical	
Type of control		Pilot-actuated	
Pilot air supply		Internal	
Flow rate for piston valve pressurisation	[m³/h]	0.5	
Flow rate for piston valve exhaust	[m³/h]	0.65	
Flow direction		Non-reversible	
Electrical connection		Terminal box, cable entry thread M20x1.5	
Reset method		Mechanical spring	
Product weight	[g]	930	
Switching time off	[ms]	12	
Switching time on	[ms]	20	
Nominal width	[mm]	6	
Standard nominal flow rate	[l/min.]	600	

Electrical data		G1/4 and NAMUR	G1/4 and NAMUR (EX4ME)
Permissible voltage fluctuations	[%]	–	–15 ... 10
Max. input power, P _i	[W]	1.2	–
Max. input voltage, U _i	[V]	32	–
Max. input current, I _i	[A]	0.2	–
Required current consumption, I _{min}	[mA]	16	–
Characteristic coil data	Direct voltage	[V DC]	14 ... 32
	Direct voltage 24 V	[W]	–
	Alternating voltage 24 V	[VA]	–

Solenoid valves VOFC-LT ... F19

Technical data – 3/2-way poppet valve, single solenoid with EX-IA solenoid

Operating and environmental conditions		
	G1/4 and NAMUR	G1/4 and NAMUR (EX4ME)
Operating medium	Compressed air to ISO 8573-1:2010 [–:–:–]	
Degree of protection	IP65	
Operating pressure range [bar]	2 ... 8	
Temperature of medium [°C]	–25 ... +60	
ATEX category for gas	II 2G	
ATEX category for dust	–	II 2D
Type of ignition protection for gas	Ex ia IIC T6, T5	Ex emb II T6, T5
Explosion-proof temperature [°C]	T5: $-30 \leq T_a \leq +65$	T5: $-30 \leq T_a \leq +65$
	T6: $-30 \leq T_a \leq +50$	T6: $-30 \leq T_a \leq +50$
	–	T80: $-20 \leq T_a \leq +50$
	–	T95: $-20 \leq T_a \leq +60$
Certificate issuing authority	PTB 08 ATEX 2038	
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)	
Safety Integrity Level [SIL]	Up to SIL4 Low Demand mode	
	Up to SIL4 High Demand mode	
Corrosion resistance class CRC ¹⁾	4	

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

- 1 - Type to be discontinued
Available until 03/2017

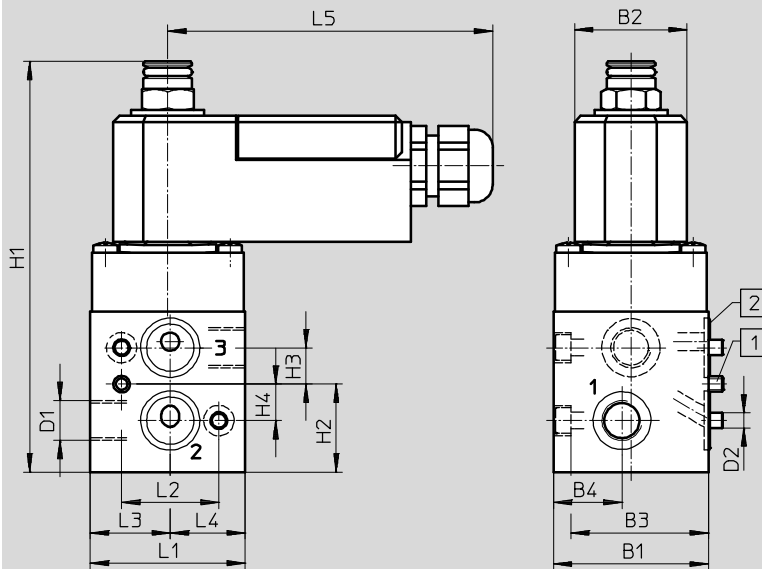
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Solenoid valves VOFC-LT ... F19

Technical data – 3/2-way poppet valve, single solenoid with EX-IA solenoid

Dimensions

Download CAD data → www.festo.com



- 1 Coding pin M5x10
- 2 O-ring 16 x 2

Type	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	L1	L2	L3	L4	L5
VOFC-L-M32C-MC-G14-1K4-EX3A	51	37	45.3	22.5	G1/4	M5	135.3	29	12	12	51	32	26.3	24.7	107

- 2 - Type to be discontinued
Available until 03/2017

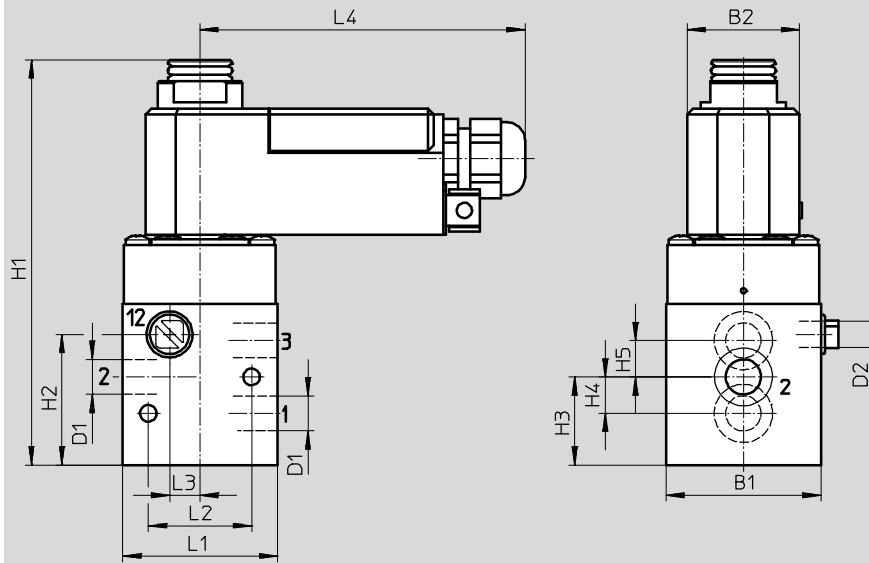
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Solenoid valves VOFC-LT ... F19

Technical data – 3/2-way poppet valve, single solenoid with EX-IA solenoid

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3	L4
VOFC-L-M32C-M-FG14-1K4-EX3A	51	37	G1/4	G1/8	133	43	29	12	12	51	34	10	107

Ordering data

Circuit symbol	Function	Size	Type of ignition protection for gas	Operating voltage	Part No.	Type
	3/2-way, single solenoid, closed	G1/4	Ex ia IIC T6, T5	14 ... 32 V DC	562878	VOFC-L-M32C-MC-G14-1K4-EX3A
	3/2-way, single solenoid, closed	G1/4 and NAMUR	Ex ia IIC T6, T5	14 ... 32 V DC	562876	VOFC-L-M32C-M-FG14-1K4-EX3A

Solenoid coils VACC-C

Type code VACC

FESTO

VACC – – – – –

Type	
VACC	Solenoid coil, series C

Solenoid coil type	
S13	Solenoid coil, for armature tube 13 mm
S18	Solenoid coil, for armature tube 18 mm

Power consumption	
11	1.1 W
18	1.8 W
25	2.5 W
35	3.5 W
70	7 W
0,4	40 mW
120	12 W
170	17 W
220	22 W
0,09	9 mW

Electrical connection	
A1	Plug pattern type A, to EN 175301
K4	Cable connector, metric
K5	Cable connector NPT

Operating voltage	
1A	24 V AC, 50/60 Hz
1U	24 V DC and AC
2A	110 V AC/50-60 Hz
2U	110 V DC and AC
3A	230 V AC/50-60 Hz
3U	230 V DC and AC
7U	48 V DC and AC
16U	120 V DC and AC
27U	60 V DC and AC
1	24 V DC
2	110 V DC
3	230 V DC
7	48 V DC
16	120 V DC
27	60 V DC

Circuitry	
–	Without
F	With fuse

Type code VACC

FESTO

Type of ignition protection	
–	Without
A	Intrinsically safe
D	Pressure-resistant encapsulation
ME	Moulded encapsulation, enhanced safety

Solenoid coils VACC

Accessories – Solenoid coils S13-18, EX4ME

FESTO



Voltage
24 V AC/DC
60 V AC/DC
110 V AC/DC
230 V AC/DC

Nominal power
2.0 W at 24 V DC



General technical data											
Type VACC-S13-18-...-EX4ME		-K4-1U-		-K4-1UF-		-K4-27U-		-K4-2U-		-K4-3U-	
Actuation type		Electrical									
Mounting position		Any									
Duty cycle [%]		100									
Electrical connection		Terminal box, cable entry thread, metric M20x1.5 (K4)									
Internal fuse protection		–		Fuse		–		–		–	
Switching position indication		No									
Product weight [g]		330									
Operating voltage [V]		24	24	24	24	60	60	110	110	230	230
Performance		[W]	–	1.8	–	1.8	–	1.8	–	1.8	–
		[VA]	1.8	–	1.8	–	1.8	–	1.8	–	1.8

Operating and environmental conditions	
Degree of protection	IP64 (IP65 with internal fuse protection)
Permissible voltage fluctuations [%]	–15 ... 10
Ambient temperature [°C]	–20 ... +60
ATEX category for gas	II 2G
ATEX category for dust	II 2D
Type of ignition protection for gas	Ex e mb IIC T6, T5, T4 Gb (without internal fuse protection)
Type of ignition protection for gas	Ex e mb II T6 (with internal fuse protection)
Type of ignition protection for dust	ExtbIICT85°C, T95°C, T130°C Db (without internal fuse protection)
Type of ignition protection for dust	Ex e tD A21 IP65 T70°C (with internal fuse protection)
Explosion-proof temperature [°C]	T4, T130: –20 ≤ Ta ≤ +60
	T5, T95: –20 ≤ Ta ≤ +60
	T6, T80: –20 ≤ Ta ≤ +50
Certificate issuing authority	BVS15 ATEXE029X (without internal fuse protection)
	IECEx BVS15.0075 X (without internal fuse protection)
	NEPSI GYJ111104X (without internal fuse protection)
	TÜV 12.1947 X (without internal fuse protection)
	KEMA 10ATEX0074 (with internal fuse protection)
Explosion protection certification outside the EU	EPL Gb (CN), EPL Db (CN), EPL Gb (BR), EPL Db (BR)
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)
Insulation class	H
Corrosion resistance class CRC ¹⁾	4

1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

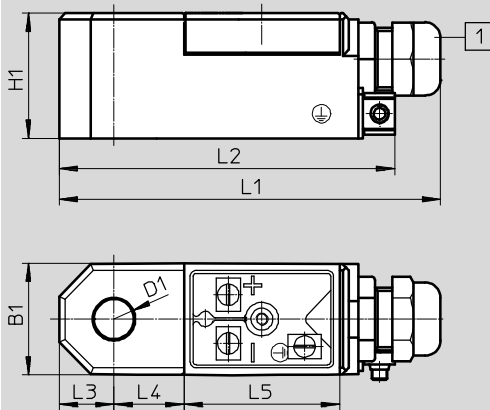
Materials	
Housing	PA, UP
Note on materials	RoHS-compliant, contains paint-wetting impairment substances

Solenoid coils VACC

Accessories – Solenoid coils S13-18, EX4ME

Dimensions

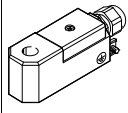
Download CAD data → www.festo.com



1 Terminal box, cable entry
thread M20x1.5

Type	B1	D1	H1	L1	L2	L3	L4	L5
VACC-S13-18-K4-...-EX4ME	37	13.1	41	125	98	18	23	51
VACC-S13-18-K4-27U-EX4ME					111			

Ordering data

	Description	Part No.	Type
	EX4-ME coil, terminal box, cable entry thread, metric M20x1.5	24 V AC/DC	562893 VACC-S13-18-K4-1U-EX4ME
		24 V AC/DC	570784 VACC-S13-18-K4-1UF-EX4ME
		60 V AC/DC	8040578 VACC-S13-18-K4-27U-EX4ME 
		110 V AC/DC	562894 VACC-S13-18-K4-2U-EX4ME
		230 V AC/DC	562895 VACC-S13-18-K4-3U-EX4ME

Solenoid coils VACC

Accessories – Solenoid coils S13-11, EX3A

FESTO

 Voltage
24 V DC

Nominal power
1.1 W at 24 V DC



General technical data		
Actuation type		Electrical
Mounting position		Any
Duty cycle	[%]	100
Electrical connection		Terminal box, cable entry thread, metric M20x1.5 (K4)
Switching position indication		No
Product weight	[g]	330
Maximum input power, P _i	[W]	1.2
Maximum input voltage, U _i	[V]	32
Maximum input current, I _i	[A]	0.2
Required current consumption, I _{min}	[mA]	16
Effective internal capacitance, C _i		Negligibly low
Effective internal inductance, L _i		Negligibly low
Operating voltage	[V]	14 ... 32
Power	[W]	0.22 ... 1.1

Operating and environmental conditions		
Degree of protection		IP65
Permissible voltage fluctuations	[%]	–15 ... 10
ATEX category for gas		II 2G
ATEX category for dust		II 2D
Type of ignition protection for gas		Ex ia IIC T6, T5 Gb
Type of ignition protection for dust		Ex ia IIIC T80°C, T95°C Db
Explosion-proof ambient temperature	[°C]	T5, T95: –30 ≤ Ta ≤ +65 T6, T80: –30 ≤ Ta ≤ +50
Certificate issuing authority		BVS 15 ATEX E030X IECEX BVS 15.0020X NEPSI GYJ111105 TÜV 12.1949 X
Explosion protection certification outside the EU		EPL Gb (BR), EPL Gb (CN), EPL Gc (BR), EPL Gc (CN)
CE marking (see declaration of conformity)		To EU Explosion Protection Directive (ATEX) In accordance with EU EMC Directive
Insulation class		H
Corrosion resistance class CRC ¹⁾		4

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	PA, UP
Note on materials	RoHS-compliant, contains paint-wetting impairment substances

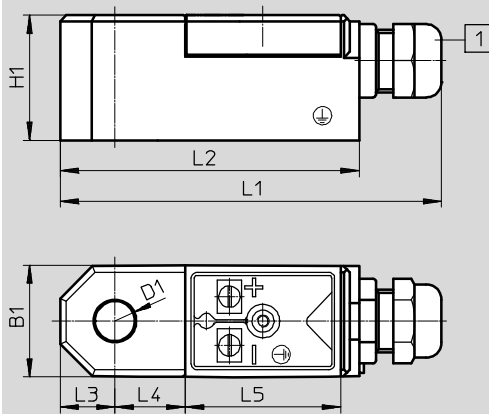
Solenoid coils VACC

Accessories – Solenoid coils S13-11, EX4-A

FESTO

Dimensions

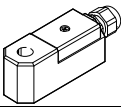
Download CAD data → www.festo.com



1 Terminal box, cable entry thread M20x1.5

Type	B1	D1	H1	L1	L2	L3	L4	L5
VACC-S13-11-K4-1-EX3A	37	13.1	41	125	98	18	23	51

Ordering data

	Description	Part No.	Type
	EX3A coil, terminal box, cable entry thread, metric M20x1.5	14 ... 32 V DC 562896	VACC-S13-11-K4-1-EX3A

Solenoid coils VACC

Accessories – Solenoid coils S13-18, A1

FESTO



Voltage
24 V DC
24 V AC/DC
110 V AC/DC
230 V AC/DC

Nominal power
2.0 W at 24 V DC



Temperature range
–20 ... +60 °C



General technical data								
Type VACC-S13-18...	-A1-1	-A1-1U	-A1-2U	-A1-3U				
Type of actuation	Electrical							
Mounting position	Any							
Duty cycle	[%]	100						
Electrical connection	Plug to EN 175301-803, design A							
Switching position indication	No							
Product weight	[g]	210						
Operating voltage	[V]	24	24	24	110	110	230	230
Power	[W]	1.8	–	1.8	–	1.8	–	1.8
	[VA]	–	1.8	–	1.8	–	1.8	–

Operating and environmental conditions				
Type VACC-S13-18...	-A1-1	-A1-1U	-A1-2U	-A1-3U
Degree of protection	IP65			
Permissible voltage fluctuations	[%]	-15 ... 10		
Ambient temperature	[°C]	-20 ... +60		
CE marking (see declaration of conformity)	-		To EU Low Voltage Directive	
Insulation class	H			
Corrosion resistance class CRC ¹⁾	4			

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	PA, UP
Note on materials	RoHS-compliant, contains paint-wetting impairment substances

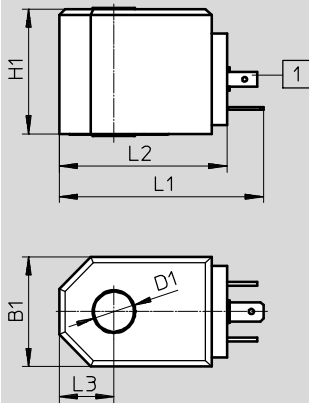
Solenoid coils VACC

Accessories – solenoid coils S13-18, A1

FESTO

Dimensions

Download CAD data → www.festo.com



1 Plug pattern to
EN 175301-803, design A

Type	B1	D1	H1	L1	L2	L3
VACC-S13-18-A1-...	36	13.1	41	67	55	18

Ordering data

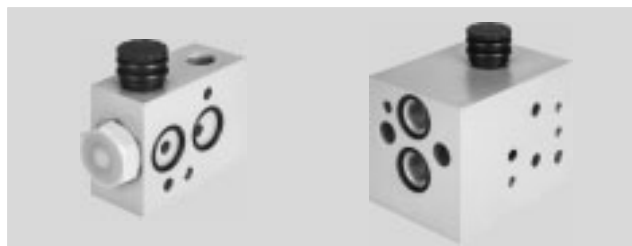
	Description	Part No.	Type
	A1 coil, plug to EN 175301-803, design A	24 V DC	562889 VACC-S13-18-A1-1
		24 V AC/DC	562890 VACC-S13-18-A1-1U
		110 V AC/DC	562891 VACC-S13-18-A1-2U
		230 V AC/DC	562892 VACC-S13-18-A1-3U

Sub-bases

Accessories – Sub-base VABS-S7-RB/BE...

Port pattern: NAMUR

FESTO



General technical data			
Type		Pressurisation and exhaust block, with flange 1/4, port pattern to NAMUR, VABS-S7-BE...	Redundancy block VABS-S7-RB...
Type of mounting		With through-hole	
Mounting position		Any	
Flow rate for piston valve pressurisation	[m³/h]	2.2	–
Flow rate for piston valve exhaust	[m³/h]	8.6	–
Product weight	[g]	250	–
Pneumatic connection	1	G1/4, 1/4 NPT	G1/4, 1/4 NPT
	2	Flange 1/4, port pattern to NAMUR	Flange 1/4, port pattern to NAMUR
	3	G1/4, 1/4 NPT	G1/4, 1/4 NPT
	12	–	G1/4, 1/4 NPT

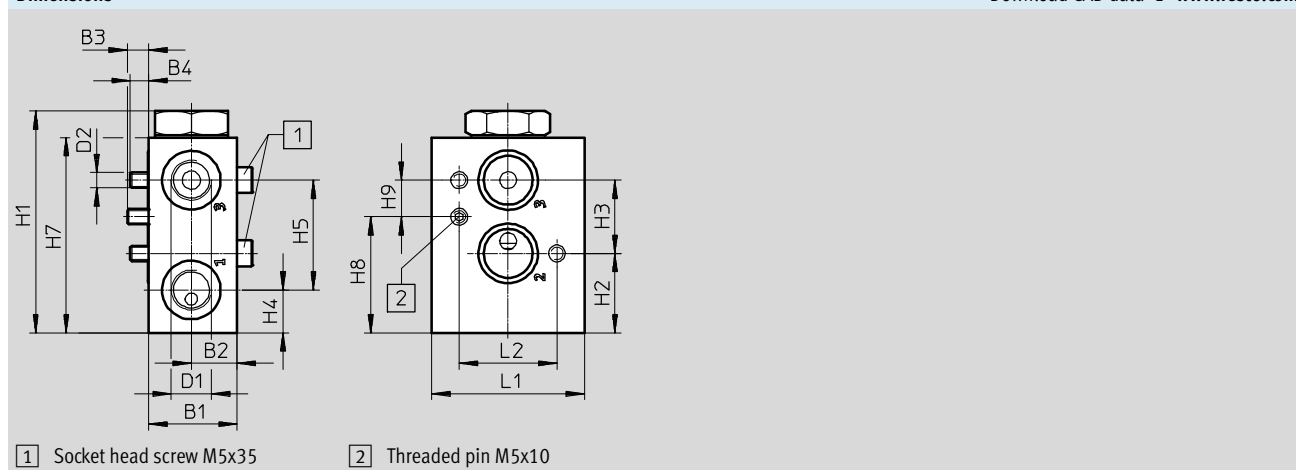
Operating and environmental conditions		VABS-S7-BE	VABS-S7-RB
Operating medium		Compressed air to ISO 8573-1:2010 [–:–:–]	
Operating pressure	[bar]	2 ... 8	0 ... 10
Pilot air supply		Internal	External/internal
Degree of protection		IP65 (when installed)	
Corrosion resistance class CRC ¹⁾		4	

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Sub-base	Aluminium, Ematal coated
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS compliant

Dimensions

Download CAD data → www.festo.com



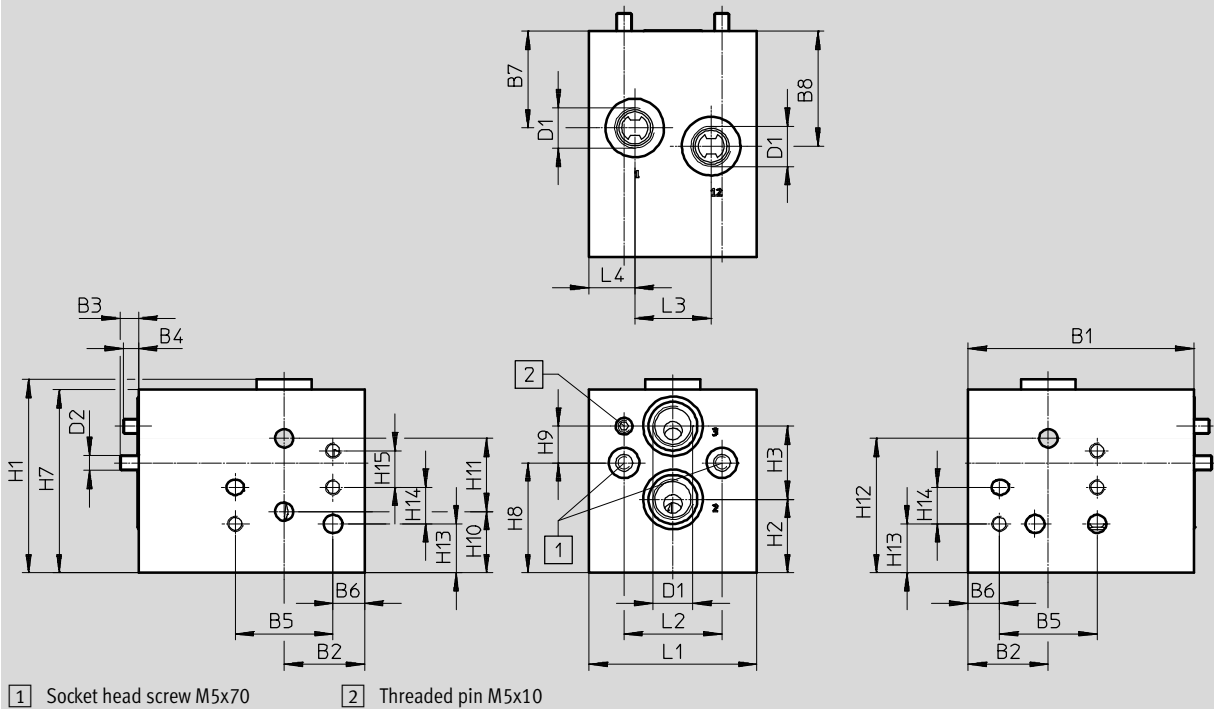
Type	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	H5	H7	H8	H9	L1	L2
VABS-S7-BE-B-G14-V14-A	29	15	7	6	G1/4	M5	72.7	26	24	14	36	64	38	12	50	32
VABS-S7-BE-B-N14-V14-A					1/4 NPT											

Sub-bases

Accessories – Sub-base VABS-S7-RB/BE-...

Dimensions

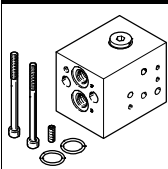
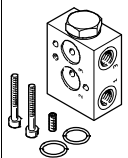
Download CAD data → www.festo.com



Type	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2	L1	L2	L3	L4
VABS-S7-RB-B-G14-V14-A	74	26.3	6	5	32	10.3	31.7	37.7	G1/4	M5	55	32	25	15
VABS-S7-RB-B-N14-V14-A									1/4 NPT					

Type	H1	H2	H3	H7	H8	H9	H10	H11	H12	H13	H14	H15
VABS-S7-RB-B-G14-V14-A	63.4	24	24	60	36	12	20	24	44	16	12	12
VABS-S7-RB-B-N14-V14-A												

Ordering data

	Description	Part No.	Type
	Sub-base for mounting two solenoid valves with a G thread port for redundant circuitry, with flange 1/4, port pattern to NAMUR With the auxiliary air supply connection, the intermediate plate can be used for fail-safe functions, also in the case of piloted solenoid valves and actuators with positioners.	3580505	VABS-S7-RB-B-G14-V14-A
	Sub-base the mounting two solenoid valves with an NPT thread port for redundant circuitry, with flange 1/4, port pattern to NAMUR With the auxiliary air supply connection, the intermediate plate can be used for fail-safe functions, also in the case of piloted solenoid valves and actuators with positioners.	4727331	VABS-S7-RB-B-N14-V14-A 
	Sub-base as pressurisation and exhaust block with G threaded port, with flange 1/4, port pattern to NAMUR	2999476	VABS-S7-BE-B-G14-V14-A
	Sub-base as pressurisation and exhaust block with NPT thread port, with flange 1/4, port pattern to NAMUR	4727328	VABS-S7-BE-B-N14-V14-A 

Solenoid valves

Accessories

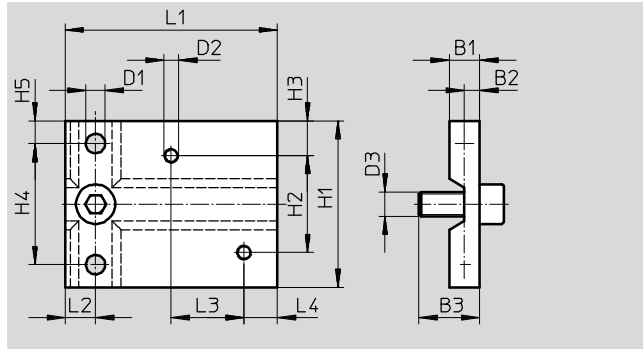
FESTO

Mounting plate VAME-S7-P

Mounting plate material: aluminium,
Ematal coated

Contains paint-wetting impairment
substances, RoHS-compliant

Mounting: With through-hole



Dimensions [mm] and ordering data																Part No.	Type
B1	B2	B3	D1	D2	D3	H1	H2	H3	H4	H5	L1	L2	L3	L4	CRC ¹⁾		
10	5	20	6.4	M5	M8	55	32	11.5	40	7.5	70	10	24	11	4	563399	VAME-S7-P

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Flow control plate for single-acting actuators

Flow control plate material:
Aluminium, Ematal coated

Material of seals: NBR
Contains paint-wetting impairment
substances, RoHS-compliant
Operating medium: Compressed air to
ISO 8573-1:2010 [7:-:-]

Operating pressure: 0 ... 12 bar

Pilot air supply: Internal/external

Width: 50 mm

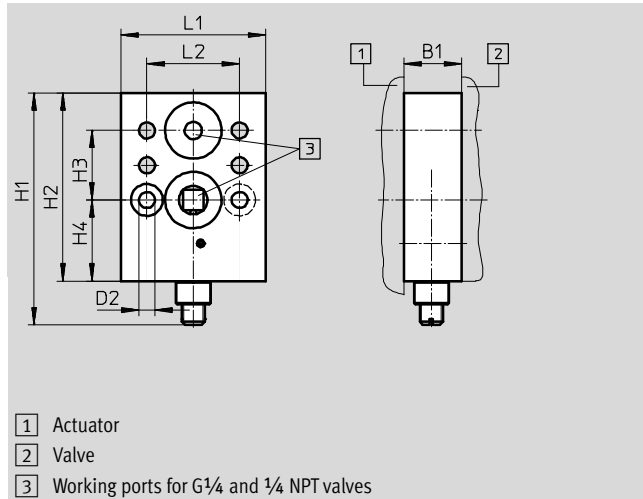
Mounting position: Any

Mounting: With through-hole

Degree of protection: IP65
(when installed)



Function:
Supply air flow control and/or
exhaust air flow control of an
actuator with a NAMUR interface for
VOFC/VOFD valves



Dimensions [mm] and ordering data											Part No.	Type
B1	D2	H1	H2	H3	H4	L1	L2	CRC ¹⁾				
20	5.5	80	65	24	28	50	32	4			563401	VABF-S7-F1B5P1-F

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

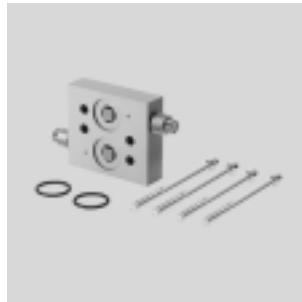
Solenoid valves

Accessories

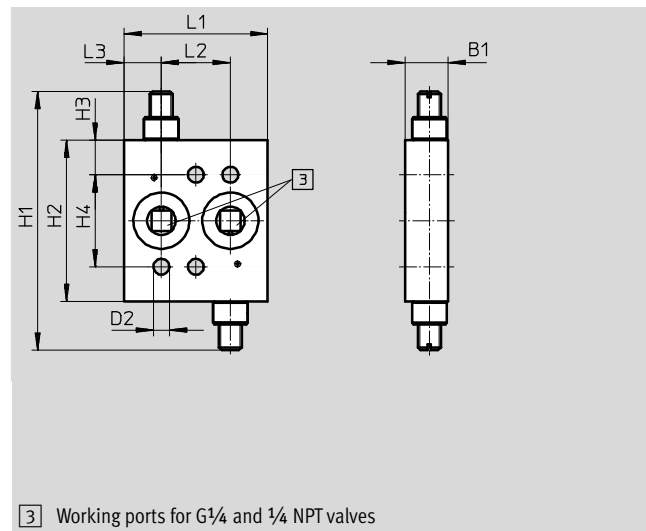
FESTO

Flow control plate for double-acting actuator

Flow control plate material:
Aluminium, Ematal coated
Material of seals: NBR
Contains paint-wetting impairment substances, RoHS-compliant
Operating medium: Compressed air to ISO 8573-1:2010 [7:--:-]
Operating pressure: 0 ... 12 bar
Pilot air supply: Internal/external
Width: 50 mm
Mounting position: Any
Mounting: With through-hole
Degree of protection: IP65 (when installed)



Function:
2-duct exhaust air flow control of an actuator with NAMUR interface



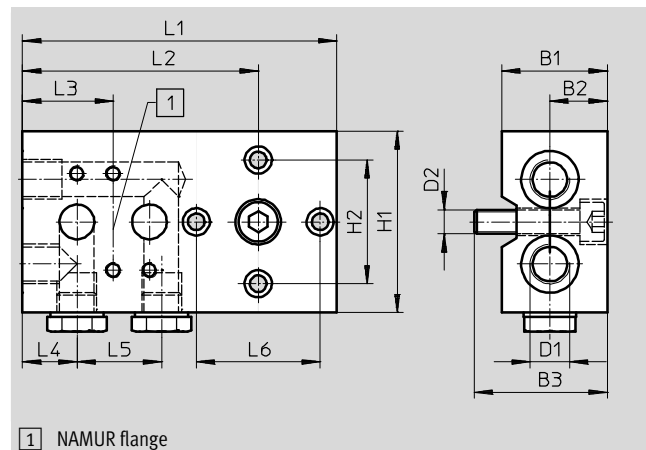
Dimensions [mm] and ordering data

B1	D2	H1	H2	H3	H4	L1	L2	L3	CRC ¹⁾	Part No.	Type
15	5.5	90	56	12	32	50	24	13	4	563395	VABF-S7-F1B1P2-F

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔ also FN 940082) using appropriate media.

Sub-base

Sub-base material: Aluminium,
Ematal coated
Material of seals: NBR
Contains paint-wetting impairment substances, RoHS-compliant
Operating medium: Compressed air to ISO 8573-1:2010 [7:--:-]
Operating pressure: 0 ... 10 bar
Width: 60 mm
Mounting position: Any
Mounting: With through-hole
Degree of protection: IP65 (when installed)



Dimensions [mm] and ordering data

B1	B2	B3	D1	D2	H1	H2	L1	L2	L3	L4	L5	L6	CRC ¹⁾	Part No.	Type
35	19	44	G $\frac{1}{4}$	M8	60	41	104	78	30	18	28	41	4	563396	VABS-S7-S-G14

- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔ also FN 940082) using appropriate media.

Solenoid valves

Accessories

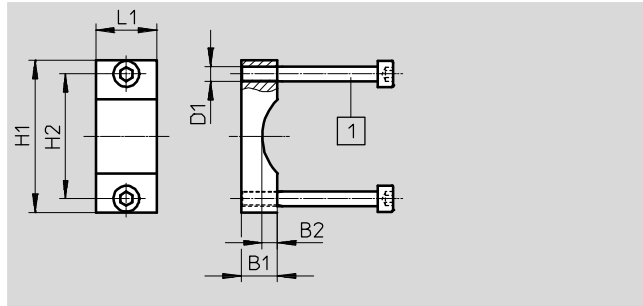
FESTO

Mounting bracket

Mounting bracket material:

Aluminium, Ematal coated

Contains paint-wetting impairment substances, RoHS-compliant



1) Socket head screw, 2 pcs. M5 x 45 and 2 pcs. M5 x 65

Dimensions [mm] and ordering data								
B1	B2	D1	H1	H2	L1	CRC ¹⁾	Part No.	Type
12	5	M5	50	41	20	4	563403	VAME-S7-Y

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Adapter with filter

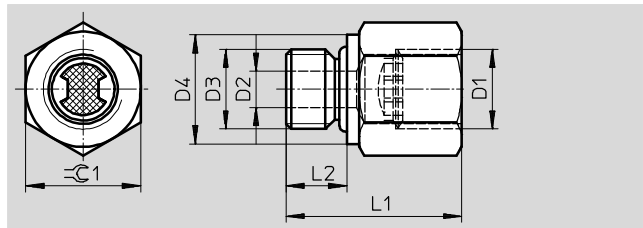
Adapter material: High-alloy stainless steel

Material of seals: NBR

Note on materials:

Contains paint-wetting impairment substances, RoHS-compliant

Operating pressure 2 ... 8 bar



Dimensions [mm] and ordering data								
D1	D2	D3	D4	L1	L2	≈C1	CRC ¹⁾	Part No. Type
1/4 NPT	6	G1/4	18	29	10	19	1	563397 NPFV-AF-G14-N14-MF
G1/4	6	G1/4	18	29	10	19	1	563398 NPFV-AF-G14-G14-MF
1/4 NPT	6	1/4 NPT	18	29	10	19	1	4727333 NPFV-AF-N14-N14-MF

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

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Exhaust protection G1/4

Housing material: PA

Material of seals: EPDM

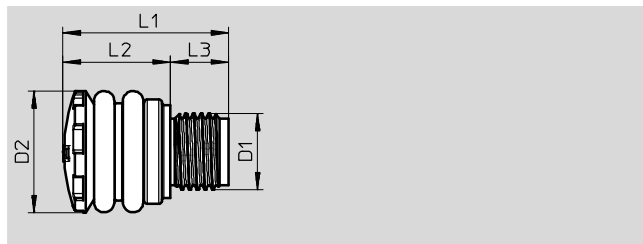
Contains paint-wetting impairment substances, RoHS-compliant

Operating medium: Compressed air to ISO 8573-1:2010 [7:--]

Operating pressure: 0 ... 10 bar

Ambient temperature: -50 ... +60 °C

Type of mounting: can be screwed in, with male thread



Dimensions [mm] and ordering data						
D1	D2	L1	L2	L3	Part No.	Type
G1/4, 1/4 NPT	21	28.5	18.5	10	563400	VABD-D3-SN-G14

**New**

Exhaust protection 1/2 NPT
Manual override

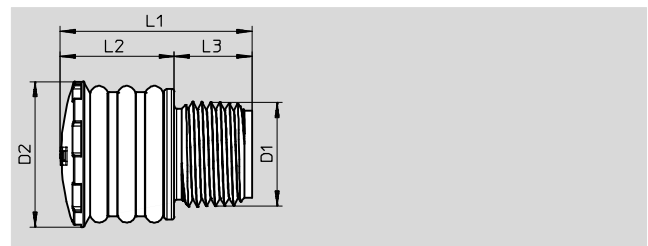
FESTO

Solenoid valves

Accessories

Exhaust protection 1/2 NPT

Housing material: PA
Material of seals: EPDM
Contains paint-wetting impairment substances, RoHS compliant
Operating medium: Compressed air to ISO 8573-1:2010 [7:-:-]
Operating pressure: 0 ... 12 bar
Ambient temperature: -50 ... +60 °C
Type of mounting: Can be screwed in, with male thread



Dimensions [mm] and ordering data

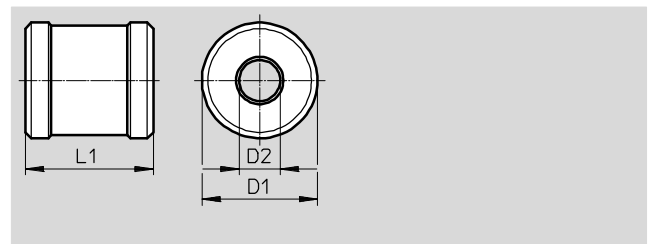
D1	D2	L1	L2	L3	Part No.	Type
G1/2, 1/2 NPT	29	38	23	15	3535104	VABD-D3-SN-N12

Manual override

Material: Aluminium, anodised,
Contains paint-wetting impairment substances, RoHS compliant

Function:

Manual override of basic valves
instead of a solenoid coil



Dimensions [mm] and ordering data

D1	D2	L1	Weight [g]	CRC ¹⁾	Part No.	Type
38	13.5	42	120	2	3580654	VAOH-MB-S7-S13

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Ordering data

Description		Part No.	Type
Connecting cable		Technical data → Internet: kmc	
	Operating voltage 24 V DC, switching status indication with LED	Cable length 2.5 m	30931 KMC-1-24 DC-2,5-LED
		Cable length 5 m	30933 KMC-1-24 DC-5-LED
		Cable length 10 m	193459 KMC-1-24-10-LED
	Operating voltage up to 240 V AC	Cable length 2.5 m	30932 KMC-1-230 AC-2,5
		Cable length 5 m	30934 KMC-1-230 AC-5
Plug socket		Technical data → Internet: mssd	
	Cable connection using clamping screws	34583	MSSD-C