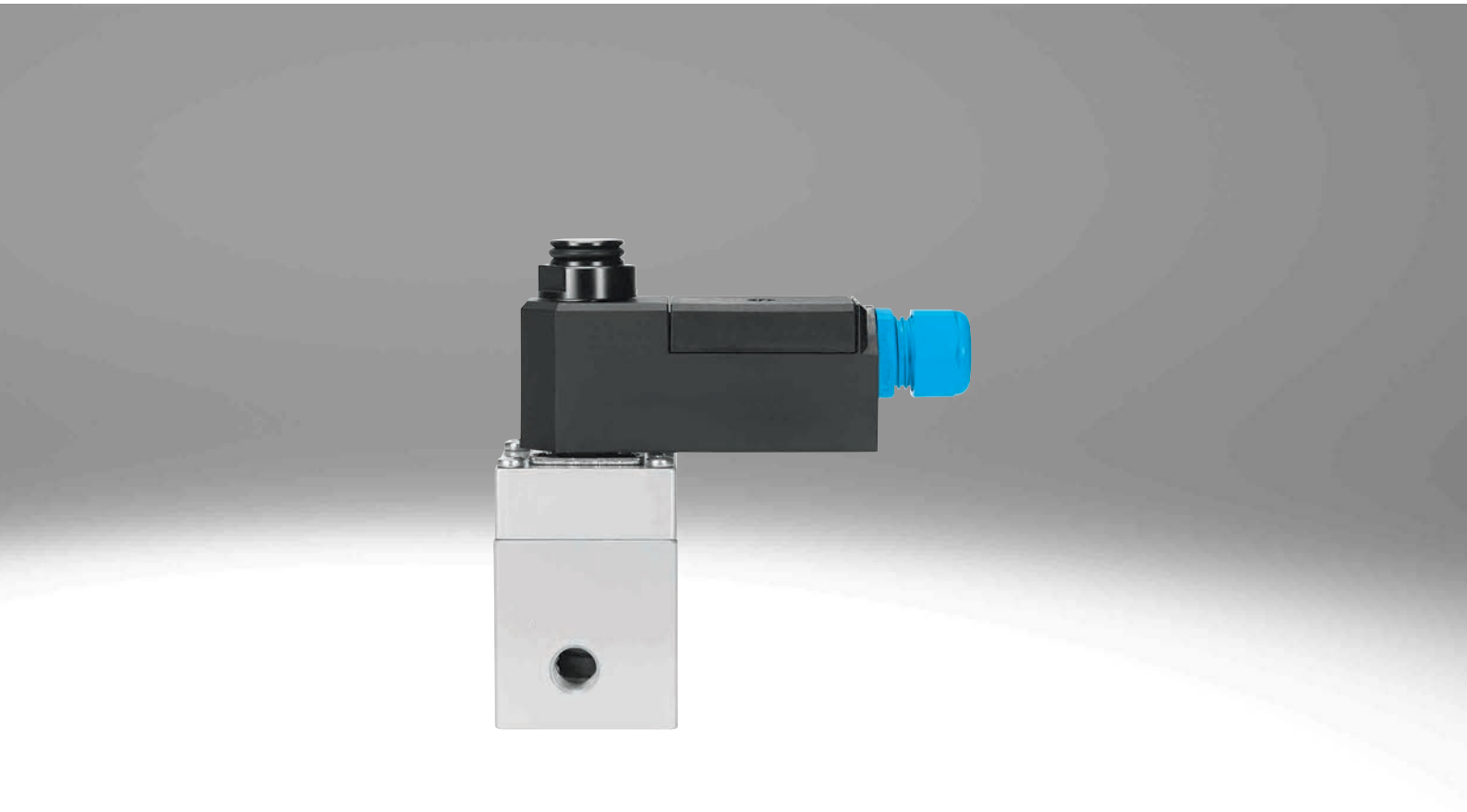
Valve series VOFC

FESTO



Characteristics

General

- 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 air and weather conditions such as rain.
- With German Technical Control Board (TÜV) report up to SIL3

Function, design

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

Sturdy

- 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 deposits, which 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. You can find information on the media resistance of the product at
  → www.festo.com.

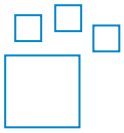
Flexible functionality

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

Economical

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

Ordering data – Product options



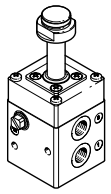
Configurable product
This product and all its product options can be ordered using the configurator.

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

Part no.	Type
3344863	VOFC-L
2868687	VOFC-LT

Characteristics

VOFC – Basic valves



- 3/2, 5/2-way valves
- Connections G1/4, 1/4 NPT, G1/2, 1/2 NPT, flanged connections
- Connection pattern to NAMUR, optionally with P duct

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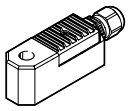
VACC – S13 coils



- AC and DC voltage 24 V, 60 V 110 V, 230 V
- CE marking (see declaration of conformity) to EU Explosion Protection Directive (ATEX)

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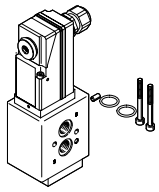
VOFC – Solenoid valves



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

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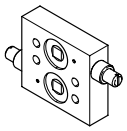
VOFC – Accessories



- Throttle plate
- Sub-base
- Mounting plate
- Connection set
- Adapter with filter
- Mounting bracket
- Manual override

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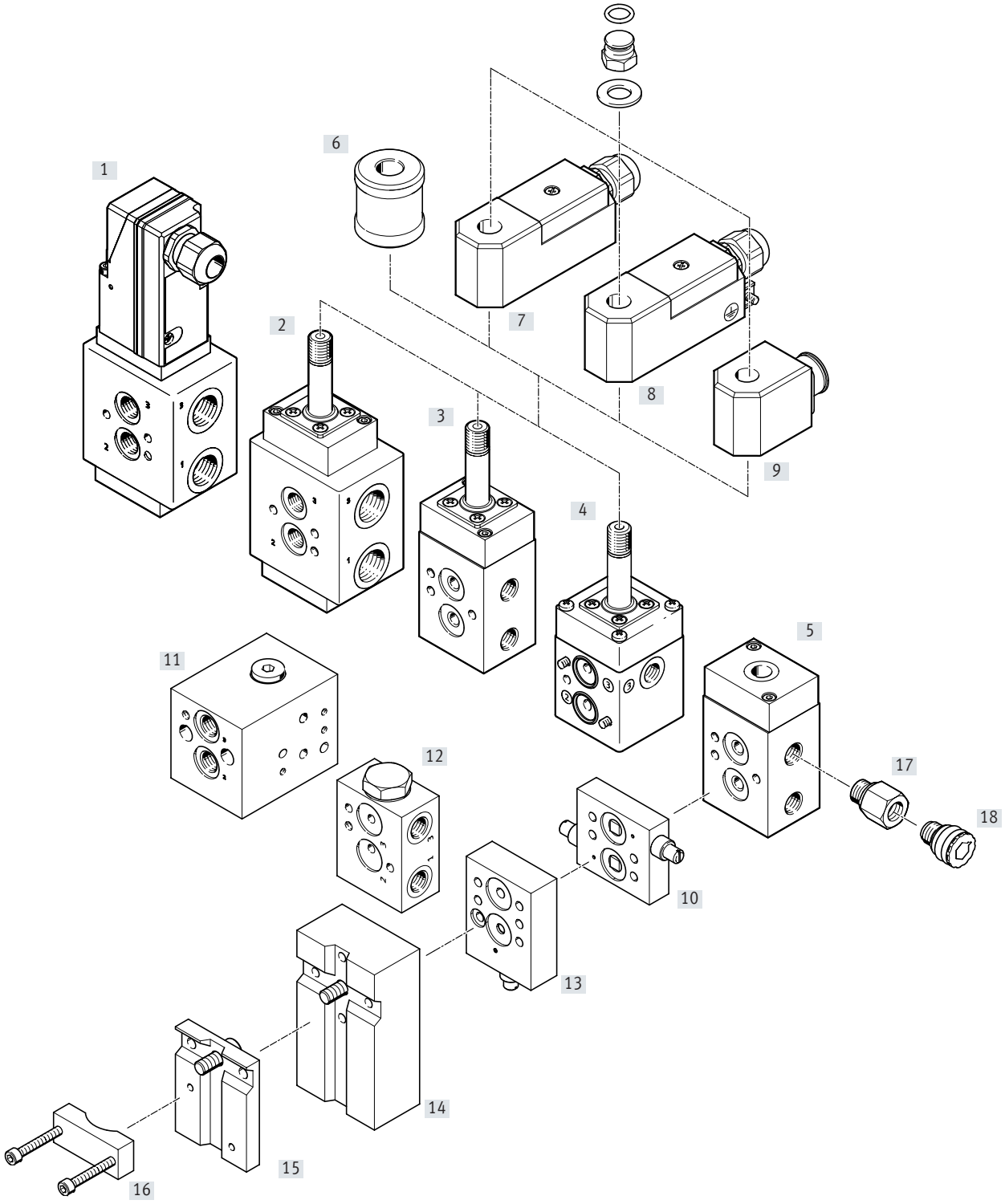
Peripherals overview



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 – can be configured using the online configurator	2
[2]	Basic valve VOFC-LT-...-FG12-...-F19...	3/2-way valve, connection G1/2, poppet valve → modular product system – can be configured using the online configurator	2
[3]	Basic valve VOFC-L-...-FG14-...-F19...	3/2-way valve, connection G1/4, piston spool → modular product system – can be configured using the online configurator	2
[4]	Basic valve VOFC-LT-...-FG14-...-F19...	3/2-way valve, connection G1/4, poppet valve → modular product system – can be configured using the online configurator	2
[5]	Directional control valve VOFC-L-...-SG14/SN14-...	3/2-way valve, 5/2-way valve, connection G1/4, piston spool → modular product system – can be configured using the online configurator	2
[6]	Manual override VAOH-MB-S7-S13	Manual override (MO)	58
[7]	Solenoid coil VACC-S13-...3A	Type of ignition protection iA = intrinsically safe, for use in zone 1	52
[8]	Solenoid coil VACC-S13-...ME	Type of ignition protection ME = encapsulated, for use in zone 1	52
[9]	Solenoid coil VACC-S13...A1	IP65, electrical plug pattern type A to DIN EN 175-803	52
[10]	Throttle plate VABF-S7-F1B1P2-F	Exhaust air throttle plate for NAMUR interface for installation between the solenoid valve and double-acting actuators	56
[11]	Sub-base VABS-S7-RB-B-...14-V14-A	For mounting two solenoid valves for redundant circuitry, with flange 1/4, connection pattern to NAMUR	53
[12]	Sub-base VABS-S7-BE-B-...14-V14-A	Pressurisation and exhaust block, with flange 1/4, connection pattern to NAMUR	53
[13]	Throttle plate VABF-S7-F1B5P1-F	Exhaust air throttle plate for NAMUR interface for installation between the solenoid valve and single-acting actuators	56
[14]	Connection set VABF-S7-S-G14	Mounting plate for attaching the valve to the NAMUR rib	56
[15]	Mounting plate VAME-S7-P	Mounting plate for attaching the valve to the NAMUR rib	55
[16]	Mounting bracket VAME-S7-Y	Alternative (instead of screw) for mounting the valve on a NAMUR rib using a mounting bracket	57
[17]	Adapter NPFV-AF-...-MF	Adapter with filter	57
[18]	Exhaust protection VABD-D3-SN-...	Exhaust protection to IP65. The spring chamber of the solenoid valve is protected against the ingress of aggressive ambient air and water by the one-way flow control system	57

Type codes for VOFC

001	Series	
VOFC	Solenoid valve	

002	Directional control valve type	
L	In-line valve	

003	Design principle	
	Piston spool	
T	Poppet valve	

004	Valve function	
B52	5/2-way valve, double solenoid/bistable	
M52	5/2-way valve, single solenoid/monostable	
M32C	3/2-way valve, normally closed	

005	Reset method for monostable/single solenoid valves	
	None	
M	Mechanical spring	

006	Pilot air	
	Internal	
C	Internal/external	
Z	External	

007	Manual override	
	None	
H	Non-detenting	
Y	Detenting	

008	Pneumatic connection	
G12	G1/2	
G14	G1/4	
N12	1/2 NPT	
N14	1/4 NPT	
FG12	Flange G1/4, connections G1/2	
FG13	Flange G1/2, connections G1/2	
FG14	Flange G1/4, connections G1/4	
FN12	Flange 1/4 NPT, connections 1/2 NPT	
FN13	Flange 1/2 NPT, connections 1/2 NPT	
FN14	Flange 1/4 NPT, connections 1/4 NPT	
FGP14	Flange G1/4, connections G1/4 and other pneumatic connection	
FNP14	Flange 1/4 NPT, connections 1/4 NPT and another pneumatic connection	

009	Supply connection version	
	Standard	
PF	With particle filter	
NPF	With particle filter and connecting thread NPT	

010	Exhaust	
	No fitting	
U6	With exhaust protection	

011	Corrosion protection	
	Standard	
R1	Stainless steel	

012	Valve pilot control interface	
P3	Interface for pilot nozzle/baffle plate	
F19	Electric with armature tube for solenoid coil, 13 mm	
F19A	Electric with armature tube for solenoid coil 13 mm, intrinsically safe	
SG14	Interface with thread G1/4	
SN14	Interface with thread 1/4 NPT	

013	Power consumption	
	None	
11	1.1 W	
18	1.8 W	
0.09	9 mW	
0.4	40 mW	

014	Nominal operating voltage	
	None	
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	

015	Electrical connection	
	None	
A1	Connection pattern type A, to EN 175 301	
K4	Cable connector metric	

016	Circuitry	
	None	
F	Fuse	

017	EU certification	
	None	
EX4	II 2GD	

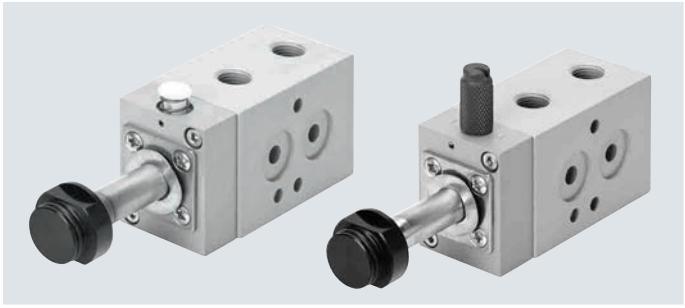
018	Type of ignition protection	
	None	
A	Intrinsically safe	
ME	Encapsulation, enhanced security	

Data sheet – Modular system, piston spool valves

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		Electric
Type of control		Piloted
Pilot air supply		Internal
		External
Flow rate Kv for pressurisation	[m^3/h]	0.66 ... 1.08
Flow rate Kv for exhausting	[m^3/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- VOFC-L-M52-...-G14-	1	G1/4
	2	G1/4
	3	G1/4
	4	G1/4
	5	G1/4
VOFC-L-B52-N14- VOFC-L-M52-...-N14-	1	1/4 NPT
	2	1/4 NPT
	3	1/4 NPT
	4	1/4 NPT
	5	1/4 NPT
VOFC-L-B52-FG14- VOFC-L-M52-...-FG14-	1	G1/4
	2	Connection pattern to NAMUR, flange 1/4
	3	G1/4
	4	Connection pattern to NAMUR, flange 1/4
	5	G1/4
VOFC-L-B52-FN14-	1	1/4 NPT
	2	Connection pattern to NAMUR, flange 1/4
	3	1/4 NPT
	4	Connection pattern to NAMUR, flange 1/4
	5	1/4 NPT

Data sheet – Modular system, piston spool valves

Technical data, 3/2-way valve, single or double solenoid		
VOFC-L-M32C-...-FG14-	1	G1/4
	2	Connection 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, IP65
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

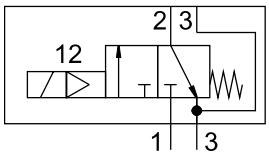
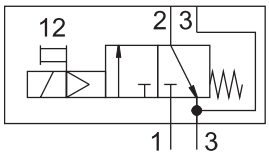
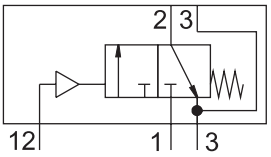
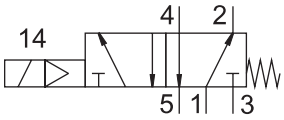
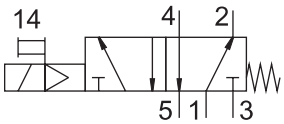
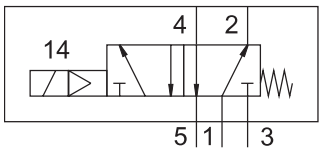
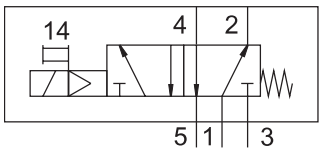
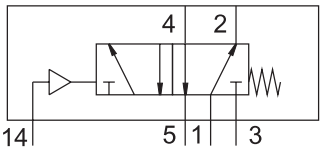
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN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

Materials

	VOFC-L-...	VOFC-L-...-P3
Housing	Ematal-coated aluminium	Ematal-coated aluminium, reinforced PBT
Seals	NBR	NBR, EPDM, VMQ

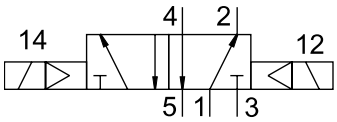
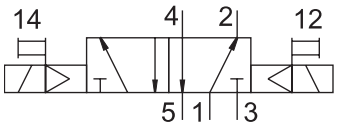
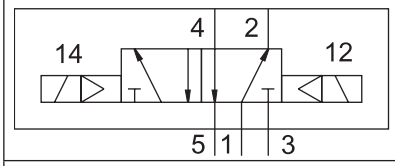
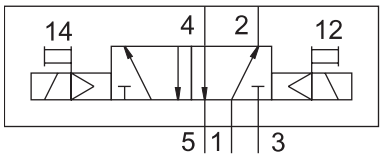
Data sheet – Modular system, piston spool valves

Valve functions

Circuit symbol	Type code	Description
	VOFC-L-M32C-M-FG14-...	3/2-way valve, single solenoid, closed • Electrically piloted • Non-reversible • With spring return • Internal pilot air supply • With NAMUR connection • 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 piloted • Non-reversible • With spring return • Internal pilot air supply • With NAMUR connection • With manual override (MO)
	VOFC-L-M32C-MZ-...	3/2-way valve, monostable, closed • Pneumatically piloted • Non-reversible • With spring return • External pilot air supply • With NAMUR connection • Without manual override (MO)
	VOFC-L-M52-M-G14-... VOFC-L-M52-M-N14-...	5/2-way single solenoid valve • Electrically piloted • Non-reversible • With spring return • Internal pilot air supply • 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 single solenoid valve • Electrically piloted • Non-reversible • With spring return • Internal pilot air supply • With manual override (MO)
	VOFC-L-M52-M-FG14-... VOFC-L-M52-M-FN14-...	5/2-way single solenoid valve • Electrically piloted • Non-reversible • With spring return • Internal pilot air supply • With NAMUR connection • 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 single solenoid valve • Electrically piloted • Non-reversible • With spring return • Internal pilot air supply • With NAMUR connection • With manual override (MO)
	VOFC-L-M52-MZ-...	5/2-way monostable valve • Pneumatically piloted • Non-reversible • With spring return • External pilot air supply • With NAMUR connection • Without manual override (MO)

Data sheet – Modular system, piston spool valves

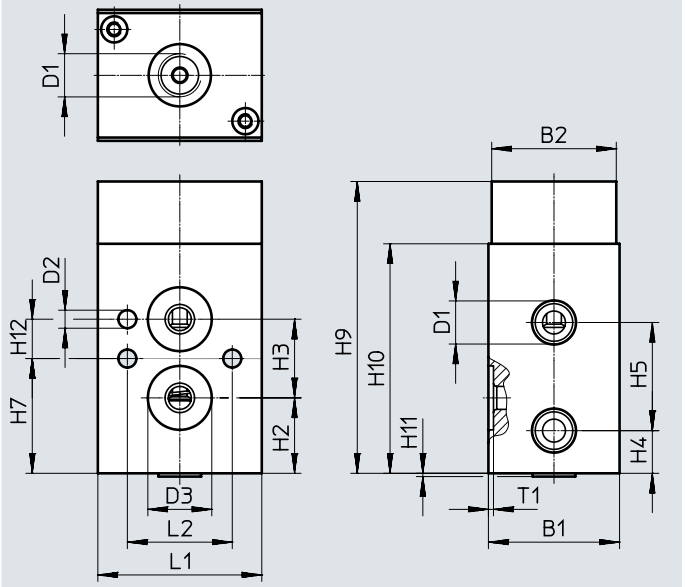
Valve functions

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

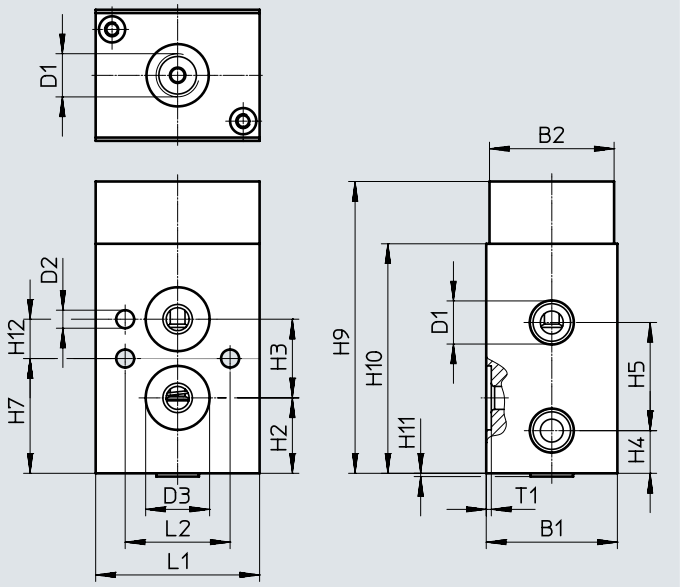
Data sheet – Modular system, piston spool valves

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



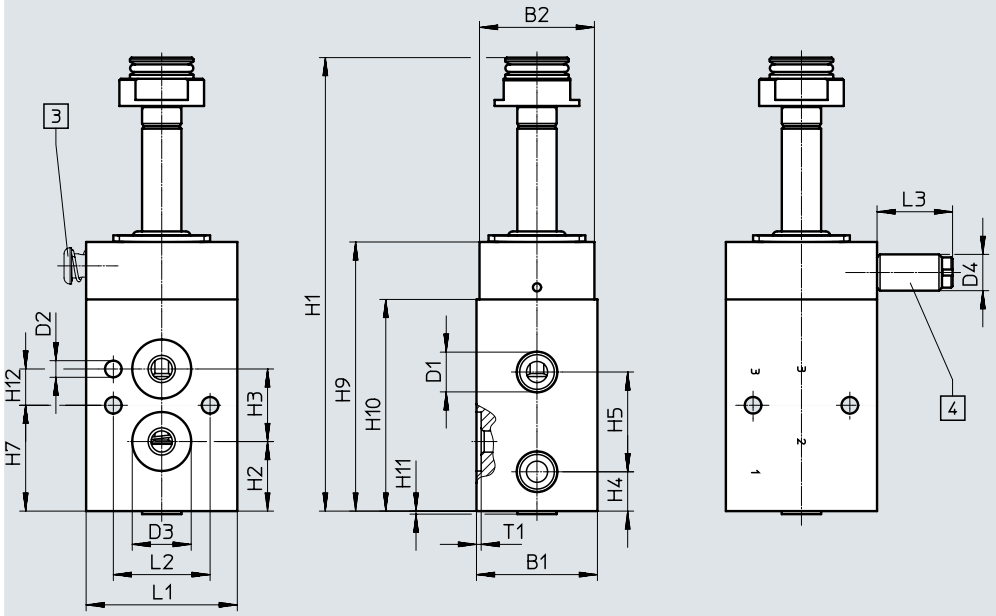
Type	B1	B2	D1	D2 ø	D3 ø	H2	H3	H4	H5	H6	H7	H9	H10	H11	H12	L1	L2	T1
VOFC-L-M32-MZ-FG14-SG14-...	40	38	G1/4	5.5	19.5	23	24	13	33	–	35	89	70	1	12	50	32	1.6
VOFC-L-M32-MZ-FN14-SN14-...			1/4 NPT															
VOFC-L-M52-MZ-FG14-SG14-...			G1/4						22	22	47							
VOFC-L-M52-MZ-FN14-SN14-...			1/4 NPT															

Data sheet – Modular system, piston spool valves

Dimensions Download CAD data ➔ www.festo.com

3/2-way valves, basic valve

VOFC-L-M32-MY-FG14-...



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

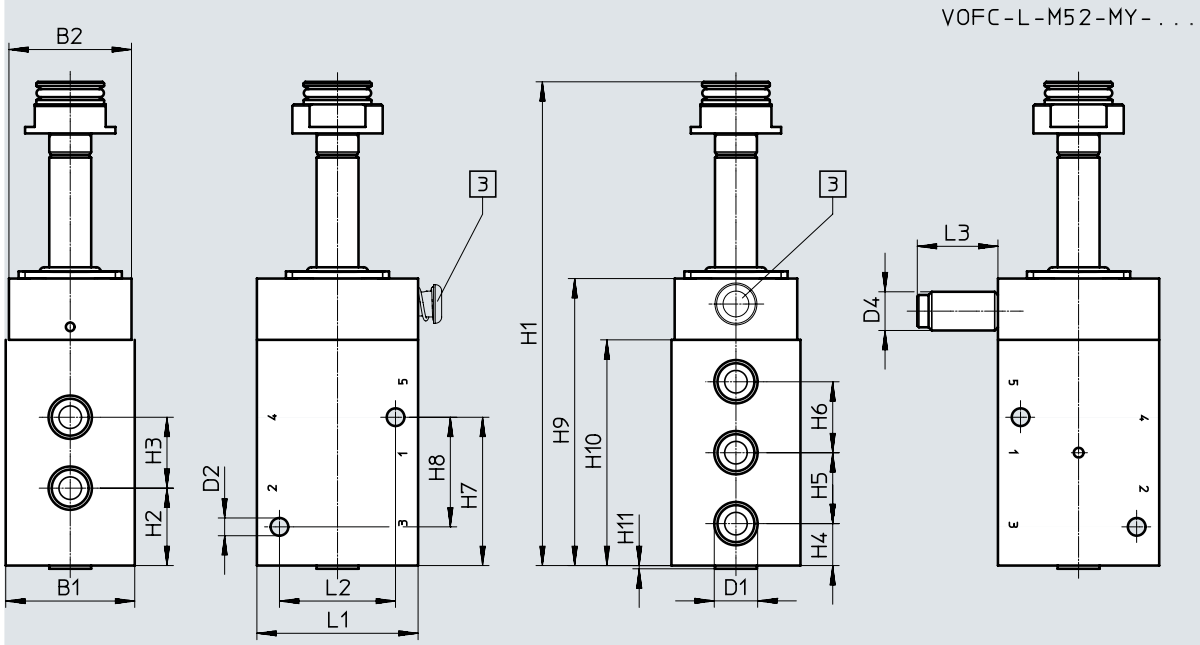
[4] Manual override detenting (VOFC-L-M32-MY- ...)

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	

Data sheet – Modular system, piston spool valves

Dimensions Download CAD data ➔ www.festo.com

5/2-way valves, basic valve, connection -G14/-N14



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

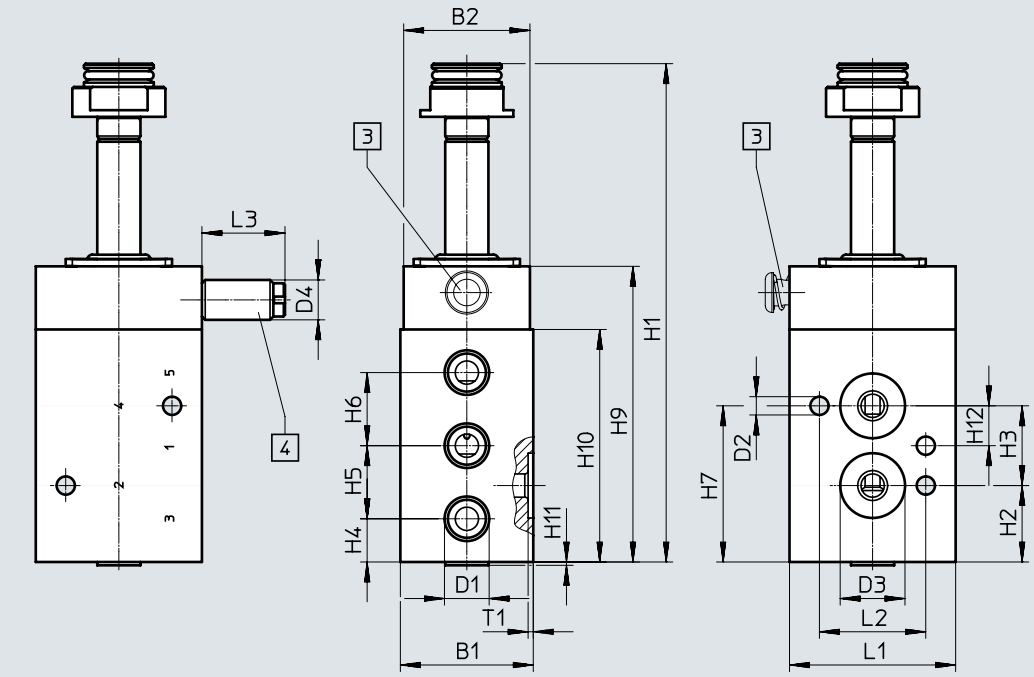
[4] Manual override detenting (VOFC-L-M52-MY- ...)

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-...			1/4 NPT																
VOFC-L-M52-MH-N14-...																			
VOFC-L-M52-MY-G14-...			G1/4		12														25

Data sheet – Modular system, piston spool valves

Dimensions Download CAD data ➔ www.festo.com

5/2-way valves, basic valve, connection -FG14



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

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

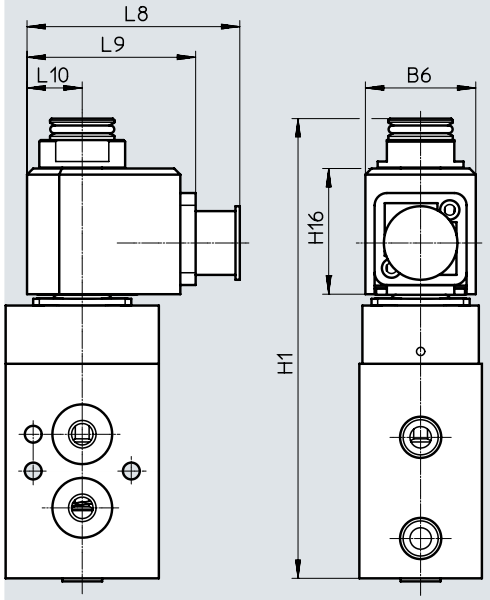
Type	B1	B2	D1	D2 ø	D3 ø	D4 ø	H1	H2	H3	H4	H5	H6	H7	H9	H10	H11	H12	L1	L2	L3	T1
VOFC-L-M52-M-FG14-...	40	38	G1/4	5.5	19.5	–	150	23	24	13	22	22	47	89	70	1	12	50	32	–	1.6
VOFC-L-M52-MH-FG14-...																					
VOFC-L-M52-MY-FG14-...						12														25	

Data sheet – Modular system, piston spool valves

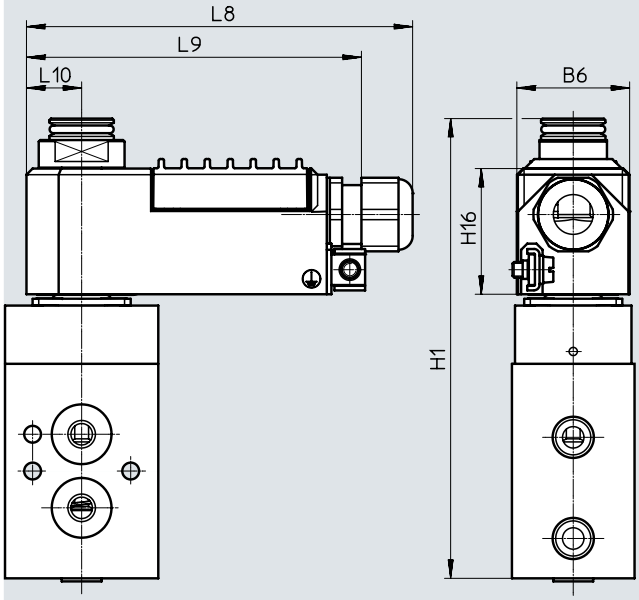
Dimensions Download CAD data ➔ www.festo.com

Single solenoid valves with solenoid coil

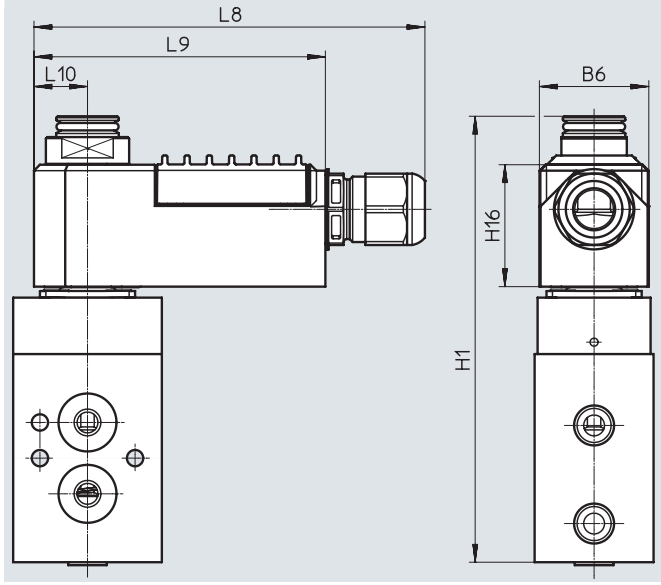
VOFC-...-18-A1-...



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



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

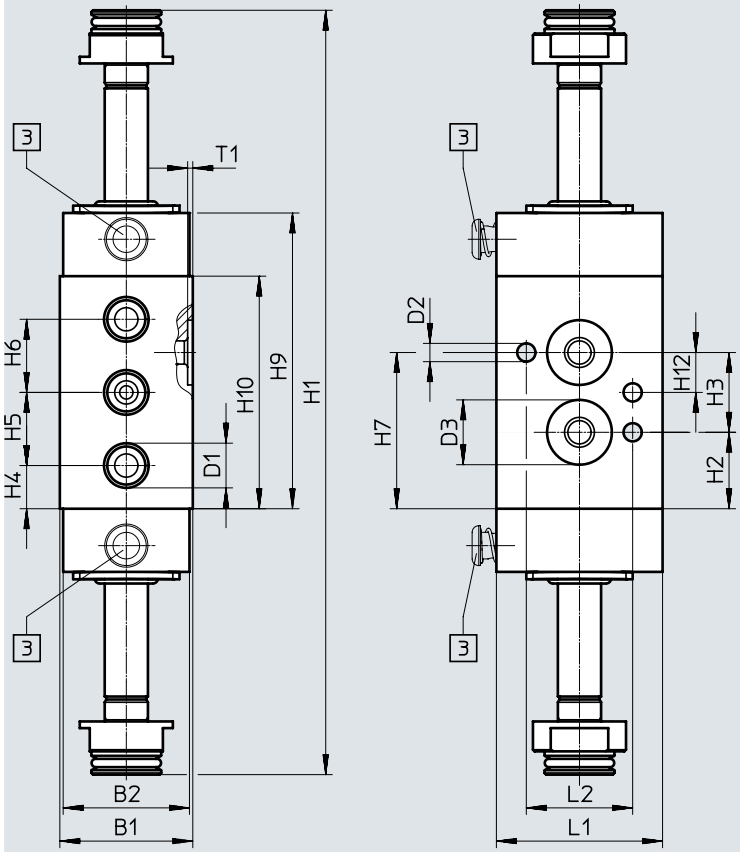


Type	B6	H1	H16	L8	L9	L10
VOFC-...-18-A1-...	36	150	41	69.4	55	18
VOFC-...-18-K4-...-EX4ME	37	150	41	125	111	18
VOFC-...-11-K4-1-EX4A	37	150	41	125	98	18

Data sheet – Modular system, piston spool valves

Dimensions Download CAD data ➔ www.festo.com

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



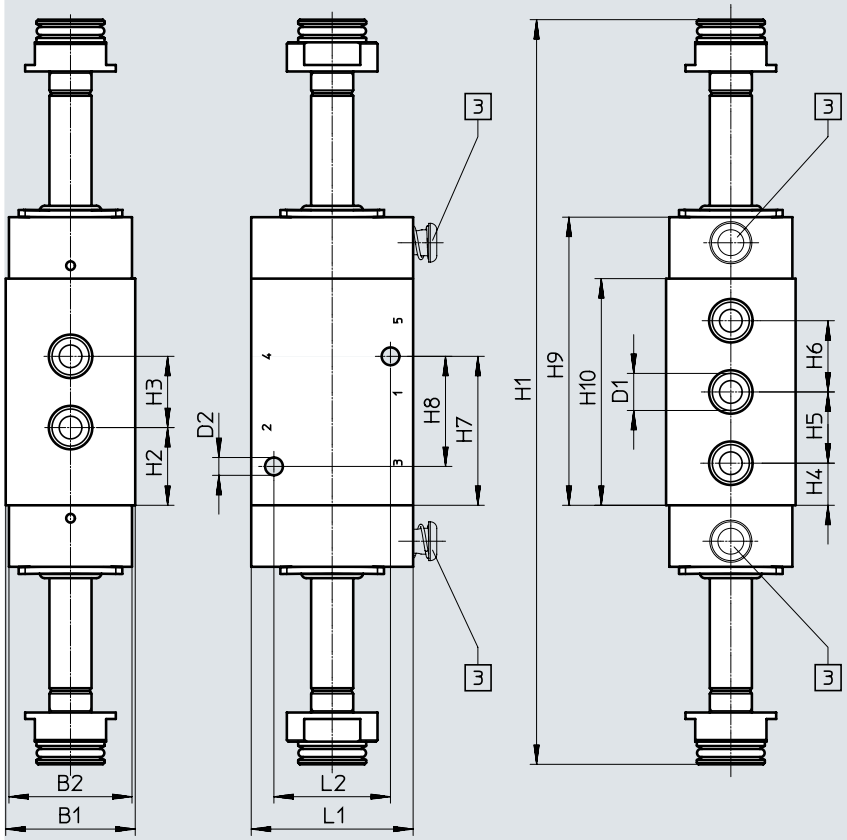
[3] Manual override non-detenting (VOFC-L-B52-H- ...)

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-...																		

Data sheet – Modular system, piston spool valves

Dimensions Download CAD data ➔ www.festo.com

5/2-way valves, double solenoid, basic valve
Connection -G14/-N14



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

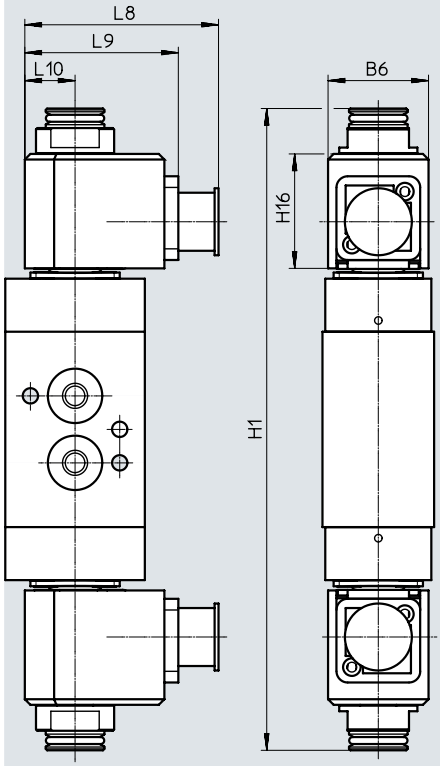
Type	B1	B2	D1	D2 ⌀	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	L1	L2
VOFC-L-B52-...-G14-...	40	38	G1/4	5.5	230	24	22	13	22	22	46	34	89	70	50	36
VOFC-L-B52-H-G14-...																
VOFC-L-B52-...-N14-...			1/4 NPT													
VOFC-L-B52-H-N14-...																

Data sheet – Modular system, piston spool valves

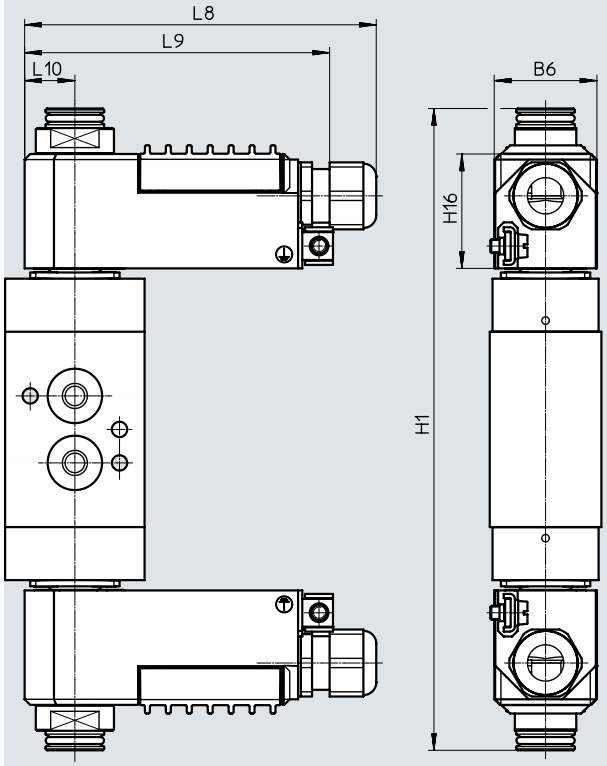
Dimensions Download CAD data ➔ www.festo.com

Double solenoid valves with solenoid coil

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



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

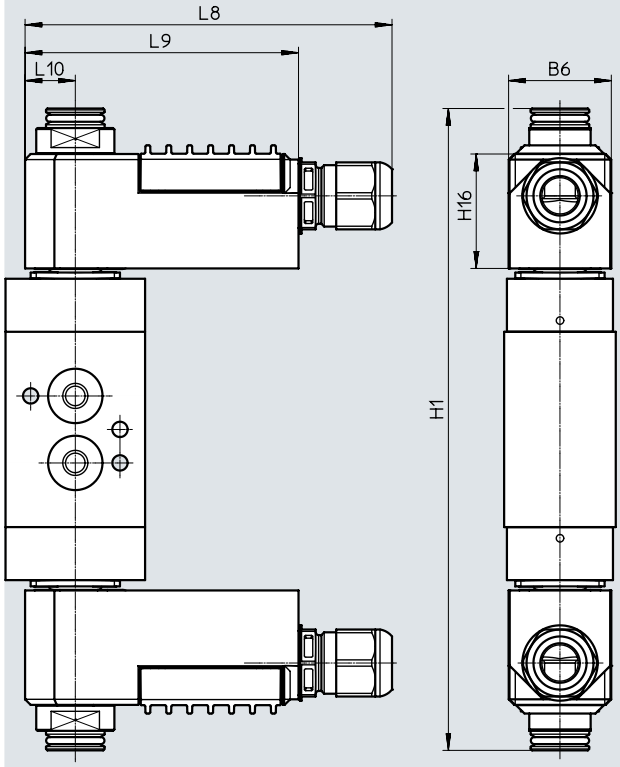


Type	B6	H1	H16	L8	L9	L10
VOFC-...-18-A1-...	36	230	41	69.4	55	18
VOFC-...-18-K4-...-EX4ME	37	230	41	125	111	18

Data sheet – Modular system, piston spool valves

Dimensions Download CAD data ➔ www.festo.com

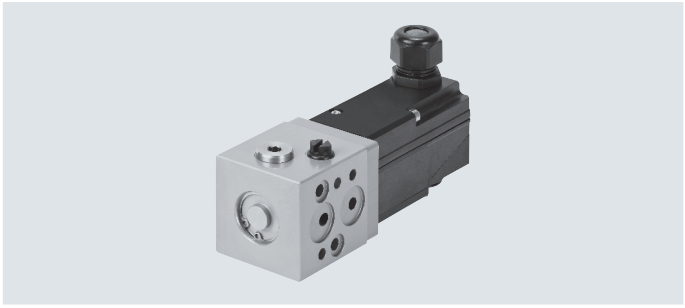
Double solenoid valves with solenoid coil
VOFC-...-11-K4-1-EX4A



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

Data sheet – Modular system, piston spool valves

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



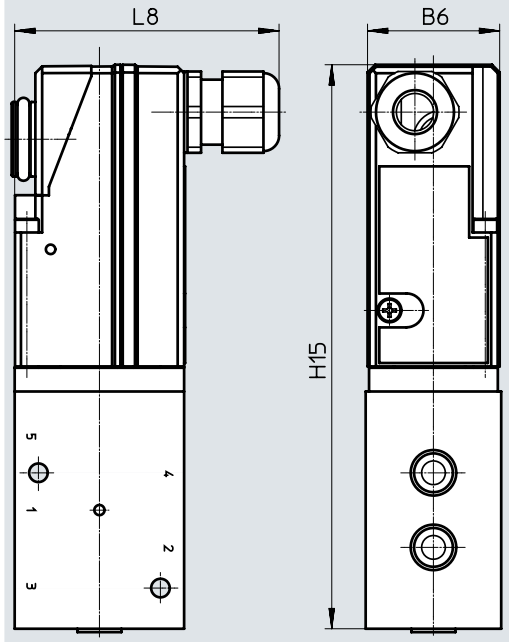
Technical data, solenoid valve, nozzle/baffle plate			
Type		VOFC-...-P3-...-0.09-...-EX4A	VOFC-...-P3-...-0.4-...-EX4A
With pilot control unit		**VACC-P3-0.09-K4-1-EX4A**	**VACC-P3-0.4-K4-1-EX4A**
Design		Nozzle/baffle plate pilot control	
Operating voltage range	[V DC]	6.4 ... 40	16 ... 40
Degree of protection		IP50	
Reverse polarity protection		Bipolar	
Duty cycle	[%]	100	
Max. input power Pi	[mW]	650	
Max. input voltage Ui	[V]	40	
Max. input current Ii	[mA]	200	
Effective internal capacitance Ci		Negligibly low	
Effective internal inductance Li		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 š Ta š +70	
		T6, T85: –40 š Ta š +30	
Certificate issuing authority		BVS14ATEXE098X	
		IECEx BVS14.0063X	
		KGS15-GA4BO-0565X	
Notified body for quality testing		0344	
Explosion protection certification outside the EU		EPL Gb (IECEx)	
		EPL Db (IECEx)	
		EPL Gb (KR)	
		EPL Db (KR)	
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	

Data sheet – Modular system, piston spool valves

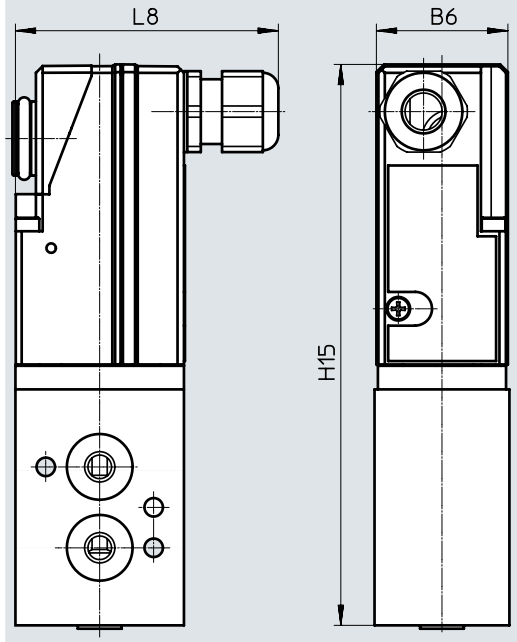
Dimensions Download CAD data ➔ www.festo.com

Solenoid valve with pilot nozzle/baffle plate

Connection -G14/-N14



Connection -FG14

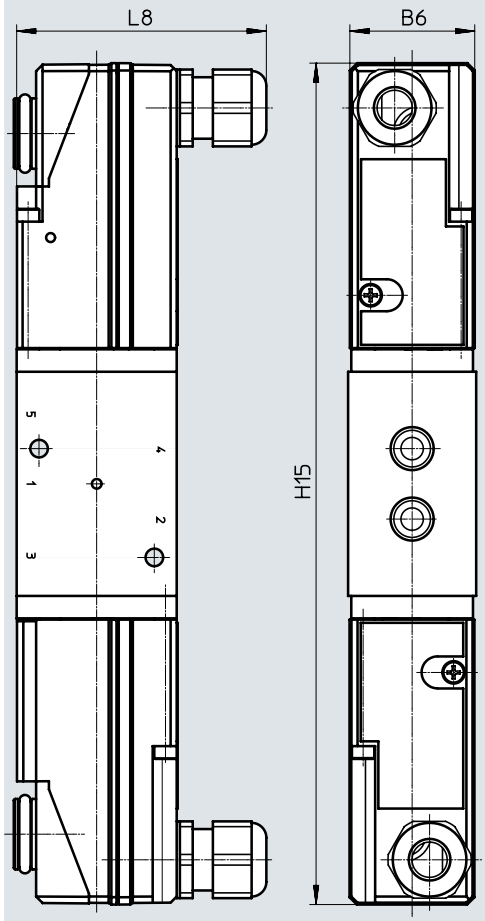


Type	B6	H15	L8
VOFC-L-M52-M...-G14-P3-0.4-1-K4-EX4A	39	167	76
VOFC-L-M52-M...-N14-P3-0.4-1-K4-EX4A			
VOFC-L-M52-M...-FG14-P3-0.4-1-K4-EX4A			
VOFC-L-M52-M...-G14-P3-0.09-1-K4-EX4A			
VOFC-L-M52-M...-N14-P3-0.09-1-K4-EX4A			
VOFC-L-M52-M...-FG14-P3-0.09-1-K4-EX4A			

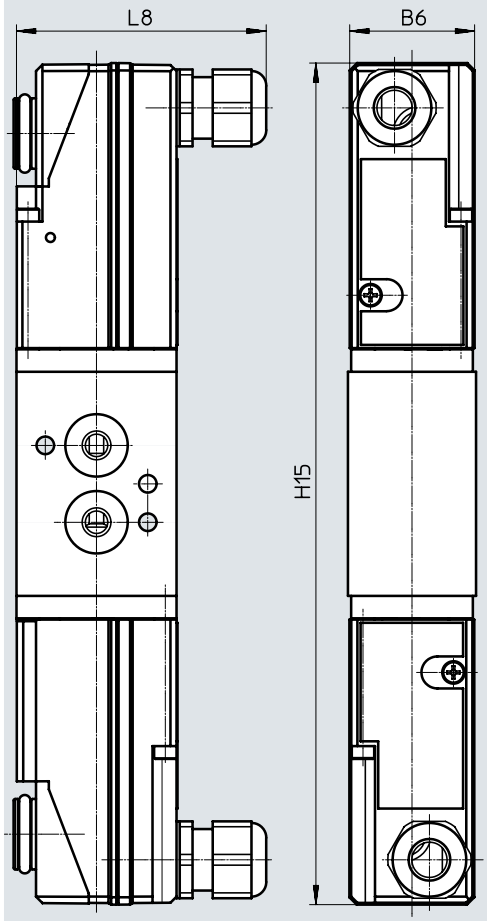
Data sheet – Modular system, piston spool valves

Dimensions Download CAD data ➔ www.festo.com

Double solenoid valve with pilot nozzle/baffle plate
Connection -G14/-N14



Connection -FG14



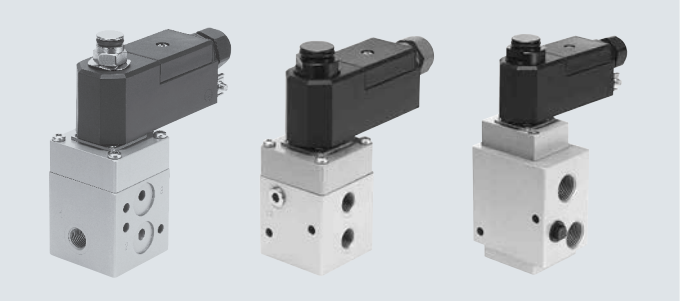
Type	B6	H15	L8
VOFC-L-B52-...-G14-P3-0.4-1-K4-EX4A	39	263	76
VOFC-L-B52-...-N14-P3-0.4-1-K4-EX4A			
VOFC-L-B52-...-FG14-P3-0.4-1-K4-EX4A			
VOFC-L-B52-...-G14-P3-0.09-1-K4-EX4A			
VOFC-L-B52-...-N14-P3-0.09-1-K4-EX4A			
VOFC-L-B52-...-FG14-P3-0.09-1-K4-EX4A			

Data sheet – Modular system, poppet valves

Function
- 3/2-way solenoid valve

Temperature range
–25 ... 60°C

Flow rate
766 ... 2686 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 closed, single solenoid	
Design		Poppet valve	
Sealing principle		Hard	
Width	[mm]	51	
Mounting position		Any	
Manual override		None	
Reset method		Mechanical spring	
Actuation type		Electric	
Type of control		Piloted	
Pilot air supply		Internal	
		Internal/external	
Flow rate Kv for pressurisation	[m^3/h]	0.5 ... 2.4	
Flow rate Kv for exhausting	[m^3/h]	0.65 ... 3.3	
Switching time off	[ms]	14	18
Switching time on	[ms]	25	24
Flow direction		Non-reversible	
Nominal width	[mm]	6 ... 12	
Standard nominal flow rate 1 → 2	[l/min]	766 ... 2686	
Standard nominal flow rate 2 → 3	[l/min]	1467 ... 3462	

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	Connection pattern to NAMUR, flange 1/4
	3	G1/4
VOFC-LT-M32C-...-FGP14-...	1	Connection pattern to M 5 NAMUR
	2	Connection pattern to NAMUR, flange 1/4
	3	G1/4
VOFC-LT-M32C-...-FNP14-...	1	Connection pattern to M 5 NAMUR
	2	Connection pattern to NAMUR, flange 1/4
	3	1/4 NPT
VOFC-LT-M32C-...-FN14-...	1	1/4 NPT
	2	Connection pattern to NAMUR, flange 1/4
	3	1/4 NPT

Data sheet – 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	Connection pattern to NAMUR, flange 1/4
	3	G1/2
VOFC-LT-M32C-...-FN12-...	1	1/2 NPT
	2	Connection pattern to NAMUR, flange 1/4
	3	1/2 NPT
VOFC-LT-M32C-...-FG13-...	1	G1/2
	2	Connection pattern to NAMUR, flange 1/2
	3	G1/2
VOFC-LT-M32C-...-FN13-...	1	1/2 NPT
	2	Connection 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, IP65				
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 (with 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				

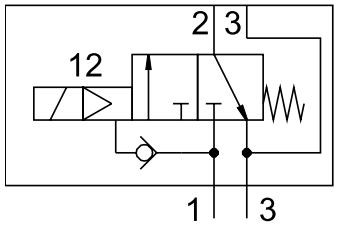
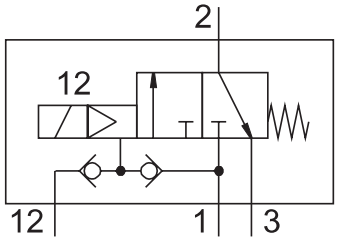
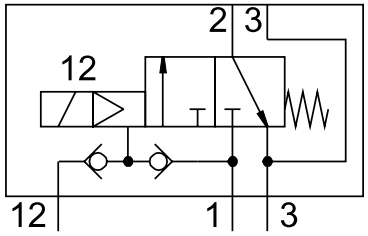
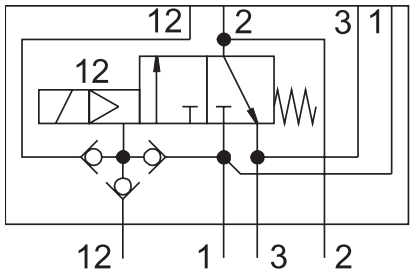
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN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

Materials

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

Data sheet – Modular system, poppet valves

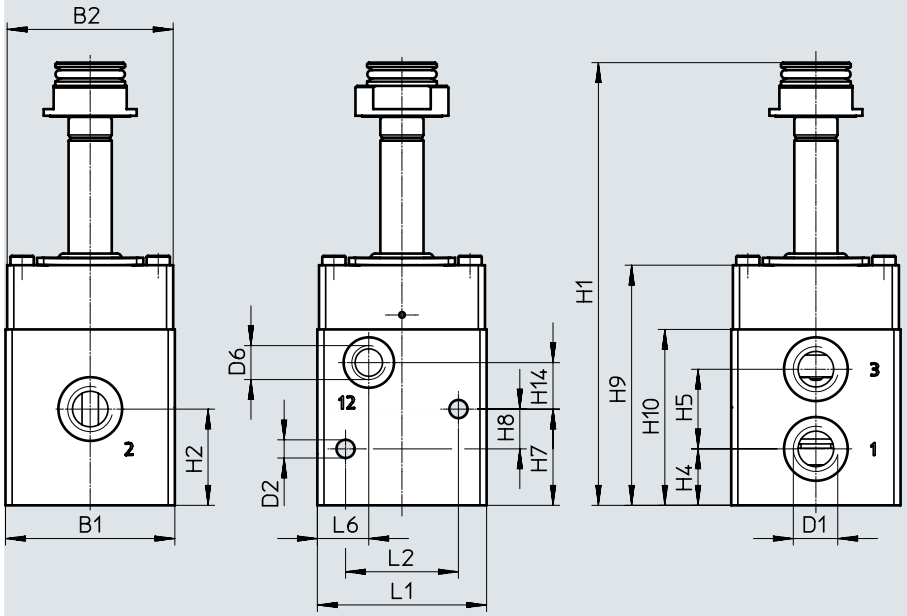
Valve functions

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 piloted • Non-reversible • With spring return • Internal pilot air supply • With NAMUR connection • 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 piloted • 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 piloted • Non-reversible • With spring return • Pilot air supply, internal/external • With NAMUR connection • 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 piloted • Non-reversible • With spring return • Pilot air supply, internal/external • With NAMUR connection with additional P connection • Without manual override • One-way flow control valve

Data sheet – Modular system, poppet valves

Dimensions Download CAD data ➔ www.festo.com

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



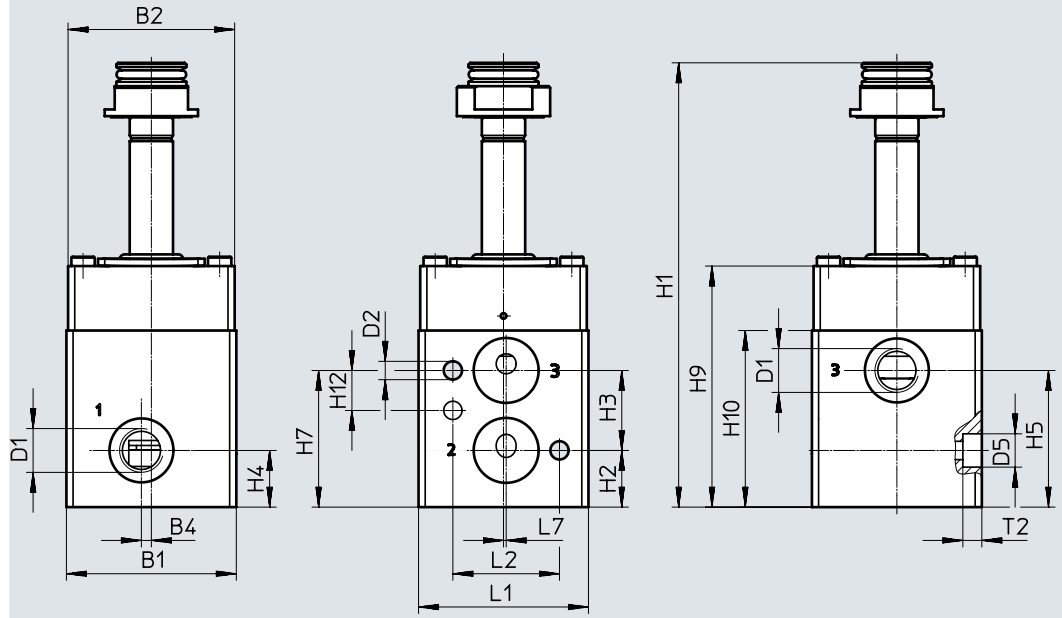
Type	B1	B2	D1	D2 ⌀	H1	H2	H4	H5
VOFC-LT-M32C-MC-G14-...	51	50	G1/4	5.5	133	29	17	24
VOFC-LT-M32C-MC-N14-...			1/4 NPT					

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-...								

Data sheet – Modular system, poppet valves

Dimensions Download CAD data ➔ www.festo.com

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

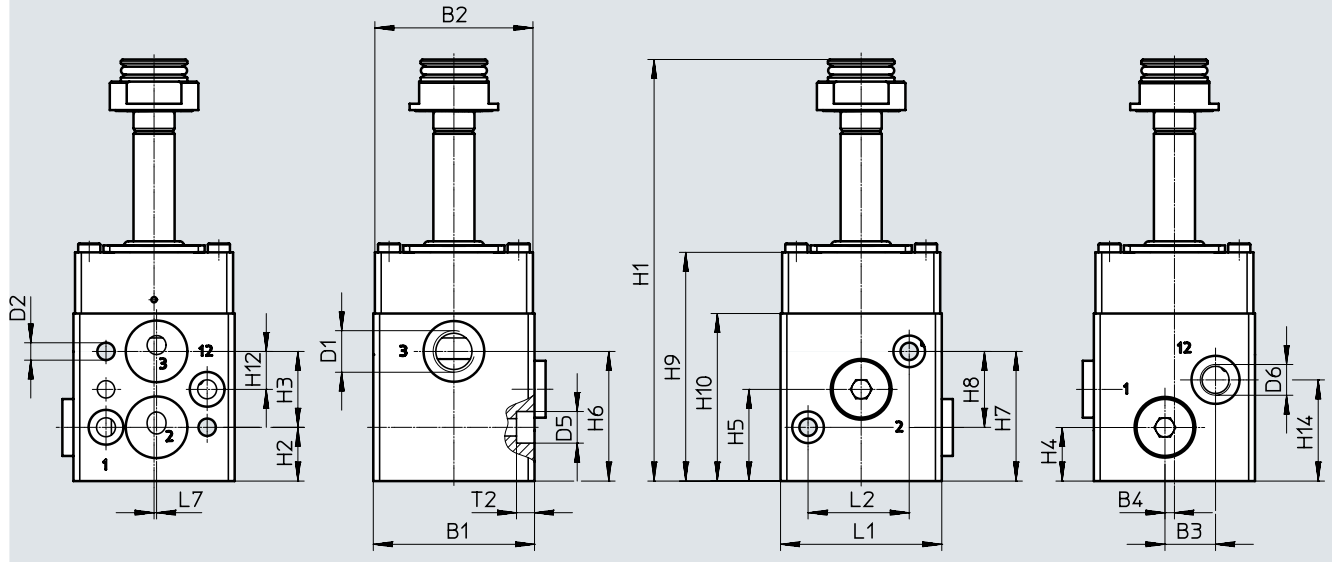


Type	B1	B2	B4	D1	D2 ⌀	D5 ⌀	H1	H2	H3	H4
VOFC-LT-M32C-M-FG14-...	51	50	3	G1/4	5.5	10	133	17	24	17

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, connection -FGP14



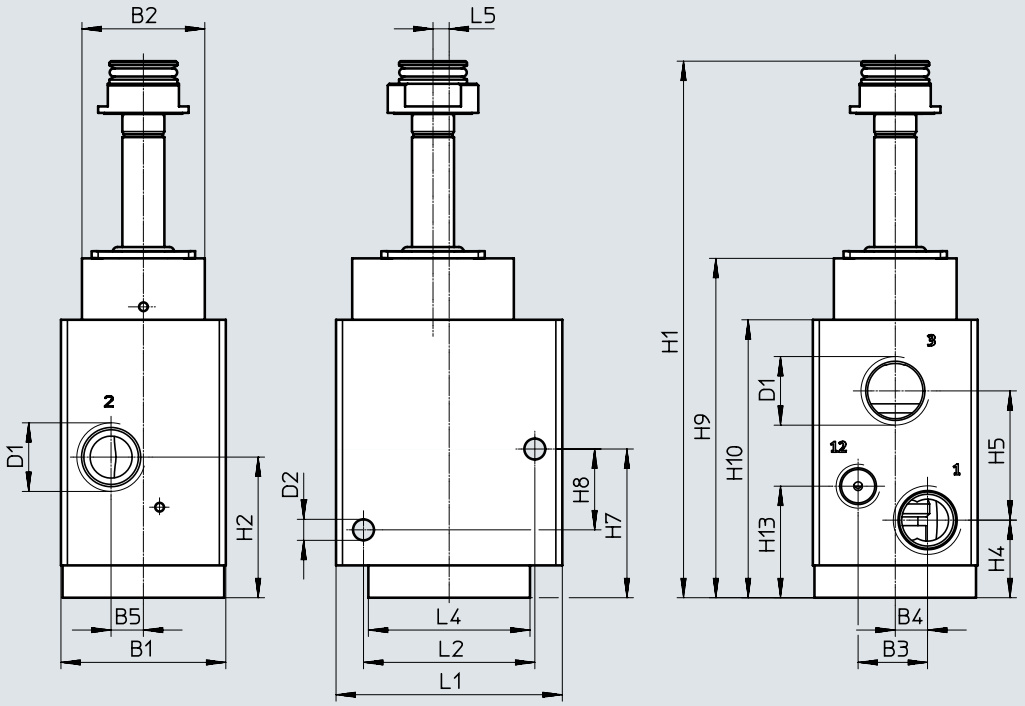
Type	B1	B2	B3	B4	D1	D2 ⌀	D5 ⌀	D6	H1	H2	H3	H4
VOFC-LT-M32C-M-FGP14-...	51	50	16	3	G1/4	5.5	10	G1/8	133	17	24	17

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

Data sheet – Modular system, poppet valves

Dimensions Download CAD data ➔ www.festo.com

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



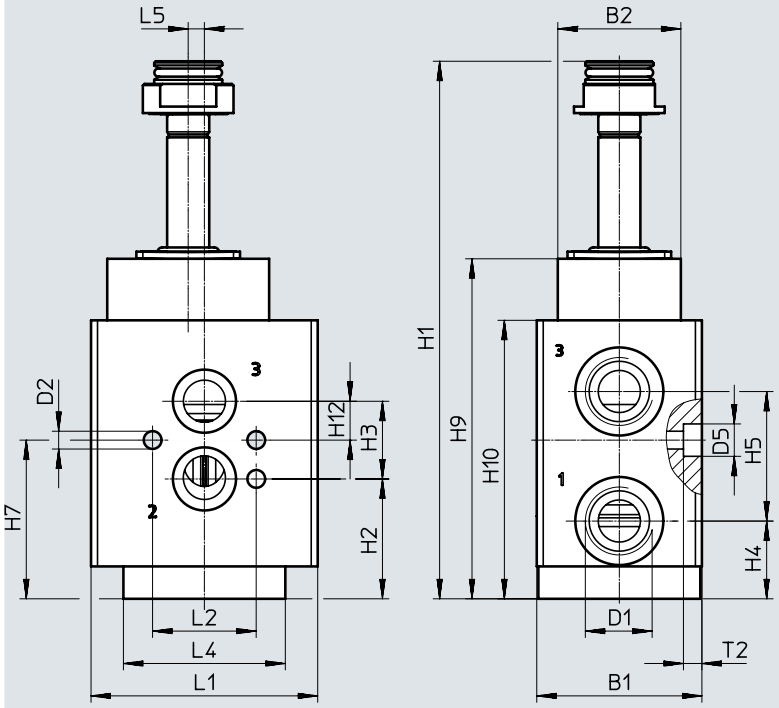
Type	B1	B2	B3	B4	B5	D1	D2 ø	H1	H2	H4
VOFC-LT-M32C-MC-G12-...	51	38	22	10	10	G1/2	5.5	166	43.5	24
VOFC-LT-M32C-MC-N12-...			21.5			1/2 NPT				

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-...										

Data sheet – Modular system, poppet valves

Dimensions Download CAD data ➔ www.festo.com

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



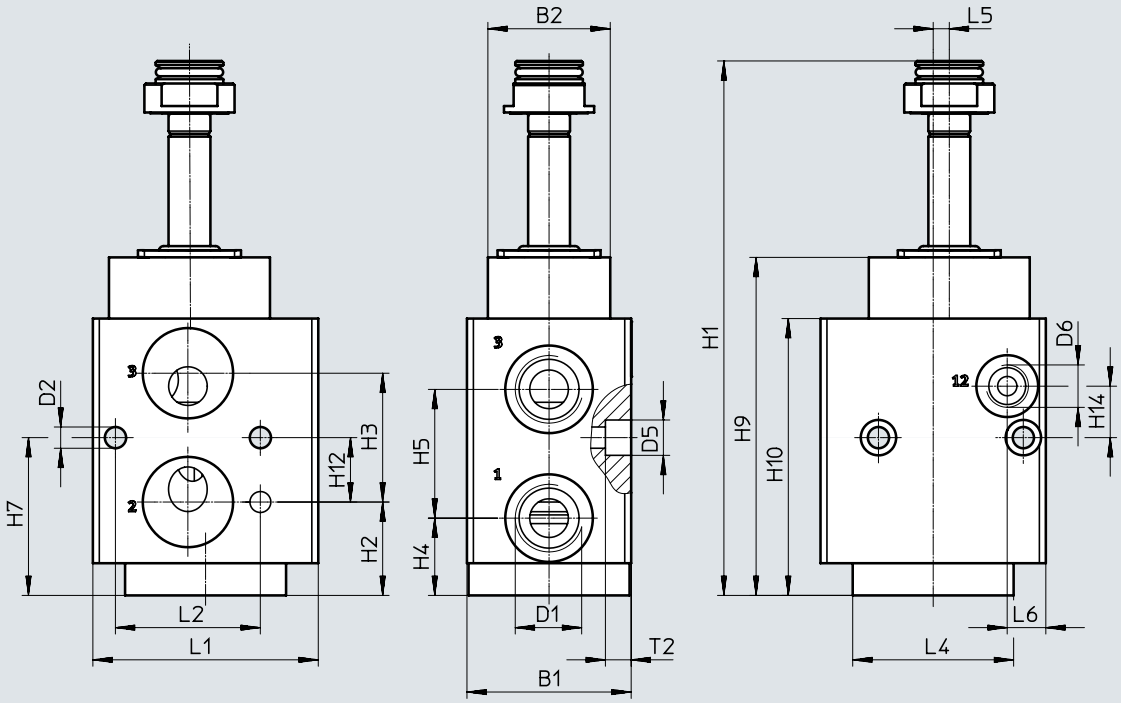
Type	B1	B2	D1	D2 ø	D5 ø	H1	H2	H3	H4	H5
VOFC-LT-M32C-MC-FG12-...	51	38	G1/2	5.5	10	166	37	24	24	40

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

Data sheet – Modular system, poppet valves

Dimensions Download CAD data ➔ www.festo.com

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



Type	B1	B2	D1	D2 ⌀	D5 ⌀	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