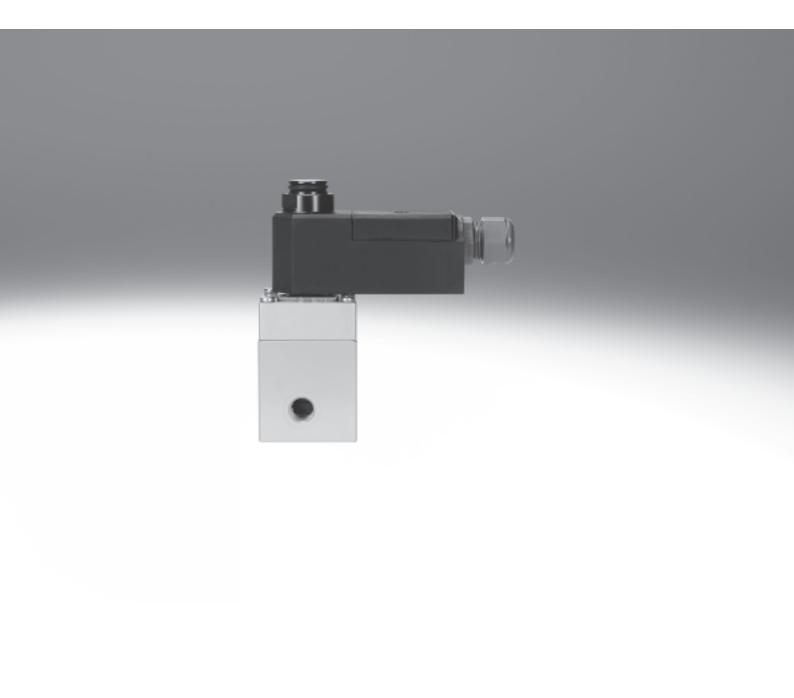
Valve series VOFC

FESTO



Key features

FESTO

General information

 The valves in the VOFC series are special 3/2-way and 5/2-way valves for process automation, for use within chemical and petrochemical systems, where they are frequently used as pilot valves for flaps and drives. Their sturdy design and high resistance to corrosion make these valves suitable for outdoor use under harsh ambient conditions.

- The Namur flange pattern makes the solenoid valves especially suitable for quarter-turn actuators.
 The integrated spring chamber ventilation protects quarter-turn actuators with spring return
- (single-acting cylinders and drives) against contaminated ambient air and weather influences such as rain.
- With German Technical Control Board (TÜV) report up to AK7/SIL-4.

Function, design

- 3/2-way or 5/2-way, single solenoid or double solenoid, depending on type.
- Piloted piston spool and piston poppet valves.

Sturdy

- The surface of the valve housing is treated with hard Ematal. This treatment involves converting the aluminium surface into a very hard aluminium oxide layer with titanium oxide intercalations and gives the valves very high resistance to wear and abrasion as well as 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 in function

- The valve is easily modified for internal or external pilot air using a screw.
- Depending on the required function, the pressure connection is established independently of the working pressure as a pressure or vacuum connection.

Economical

- One type, one part number for two functions.
- Internal and external pilot air function integrated in one valve.
- One valve, two connection options.
- Port pattern to Namur for direct mounting of a drive as well as G and NPT threaded connections.

VOFC - Basic valves



- 3/2-way, 5/2-way valves
- Connections G1/4, NPT1/4, G1/2
- Namur port pattern, optional with P channel

→ 6

VACC-S13 - Solenoid coils



- AC and DC voltage 24V, 110V, 230V
- Type of explosion protection Ex emb II, Ex ia IIC

→ 32

VOFC - Solenoid valves



- Combination of basic valve VOFD and S13 coil VACC
- 3/2-way, 5/2-way valves
- Type of explosion protection Ex emb II

→ 24

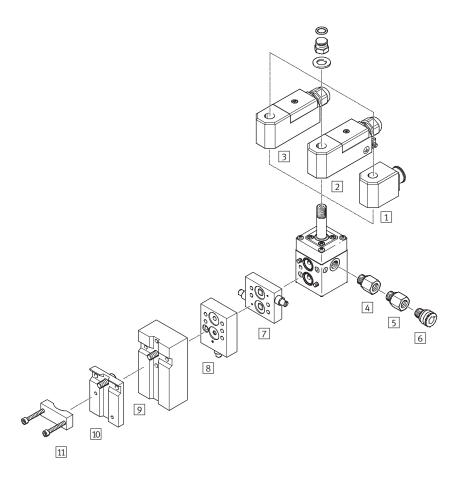
VOFC – Accessories



- Throttle plate
- Mounting plate
- Adapter with filter
- Hand lever

→ 37

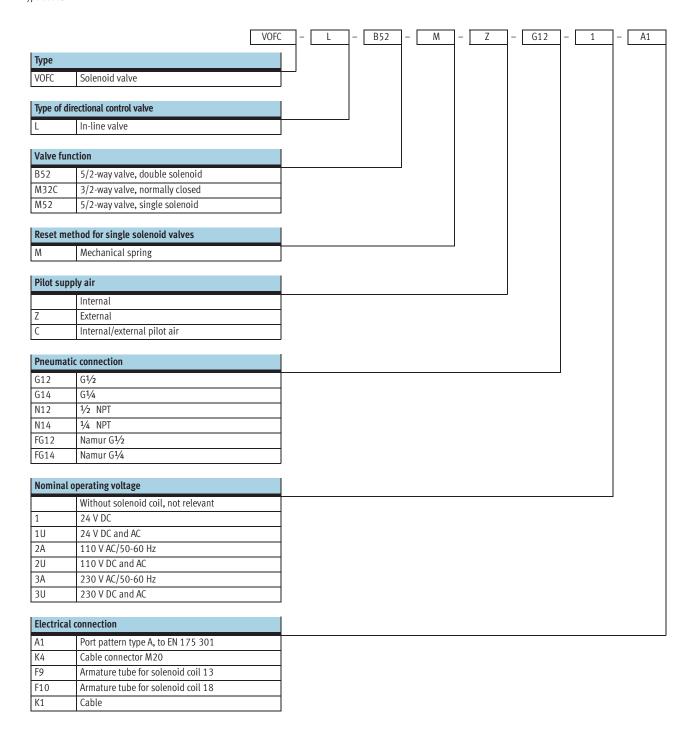
Peripherals overview



Μοι	inting attachments and access	ories	
		Brief description	→ Page/Internet
1	Solenoid coil	Standard magnet	32
	VACC-S13		
2	Solenoid coil	Ex-me magnet	33
	VACC-S13-me		
3	Solenoid coil	Ex-ia magnet	35
	VACC-S13-A		
4	Adapter	Adapter from G½ to NPT ¼, with filter	39
	NPFV-AF-G14-N14-MF		
5	Adapter	Adapter from G1/4 to G1/4, with filter	39
	NPFV-AF-G14-G14-MF		
6	Exhaust protection	Exhaust protection to IP65. The spring chamber of drive 8 solenoid valve is protected against	40
	VABD-D3-SN-G14	the ingress of aggressive ambient air and water by the one-way flow control system	
7	Flow control plate	Exhaust air flow control plate for Namur interface for installation between the solenoid valve	37
	VABF-S7-F1B1P2-F	and double-acting drives	
8	Flow control plate	Exhaust air flow control plate for Namur interface for installation between the solenoid valve	37
	VABF-S7-F1B5P1-F	and single-acting drives	
9	Connection plate kit	Mounting plate for attaching the valve to a Namur rib	38
	VABF-S7-S-G14		
10	Mounting plate	Mounting plate for attaching the valve to a Namur rib	38
	VAME-S7-P		
11	Mounting bracket	Alternative option (instead of screw) of attaching the valve to a Namur rib	39
	VAME-S7-Y	with the help of a mounting bracket	

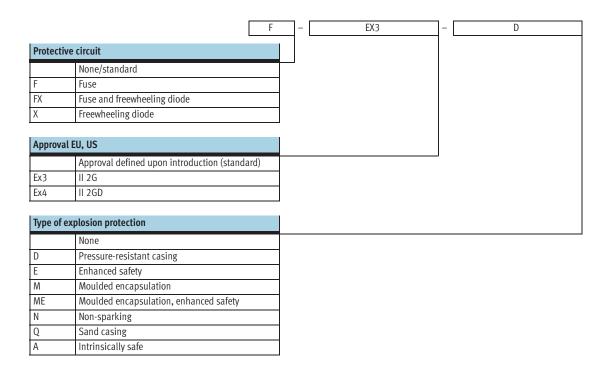
Solenoid valves VOFC FESTO

Type codes



FESTO

Type codes

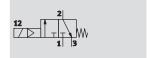


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Technical data – 3/2-way valves, G½ and Namur

Function 3/2-way valve

Temperature range $-25 \dots +60 \, ^{\circ}\text{C}$



Flow rate 600 l/min



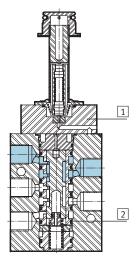
General technical data										
			G½ basic valve,	G½ Exi variant,	G¹⁄4 basic valve,	G¹⁄₄ basic valve,				
			Namur	for low ratings	Namur, P connection	for low ratings				
Valve function			3/2-way closed, single solenoid							
Pneumatic connection	1		G ¹ / ₄ Namur port pattern							
	2		G1/4 and Namur port pattern							
	3		G1/4							
	4		G1/4 and Namur port pa							
Design			Piloted piston poppet v	alve						
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			Piloted							
Pilot air supply			Internal							
Flow rate Kv pressurisation		[m ³ /h]	0.5							
Flow rate Kv exhausting		[m ³ /h]	0.65							
Direction of flow			Non-reversible							
Product weight		[g]	600		550					
Response time off		[ms]	12							
Response time on		[ms]	20							
Nominal size		[mm]	6							
Standard nominal flow rate		[l/min]	600							

Operating and environmental conditions					
		The state of the s	G ¹ / ₄ Exi variant, for low ratings	G ¹ / ₄ basic valve, Namur, P connection	G1/4 basic valve, for low ratings
Operating medium		Compressed air			
Protection class		IP65			
Operating pressure range	[bar]	2 8			
Temperature of medium	[°C]	-25 +60			
Ambient temperature	[°C]	-25 +60			
Safety integrity level	[SIL]	Up to SIL 4 Low Demand	l mode		
		Up to SIL 4 High Deman	d mode		
Corrosion resistance class CRC ¹⁾		4			

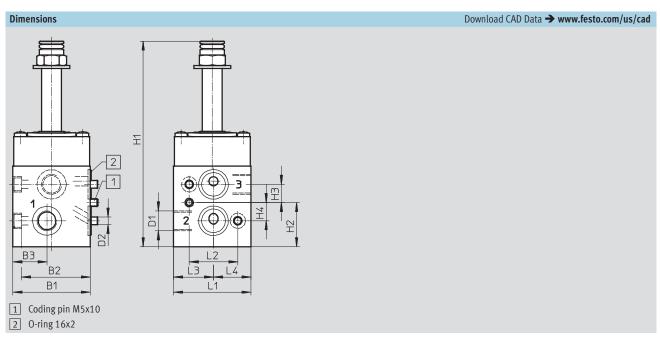
¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

Technical data – 3/2-way valves, G½ and Namur

Materials

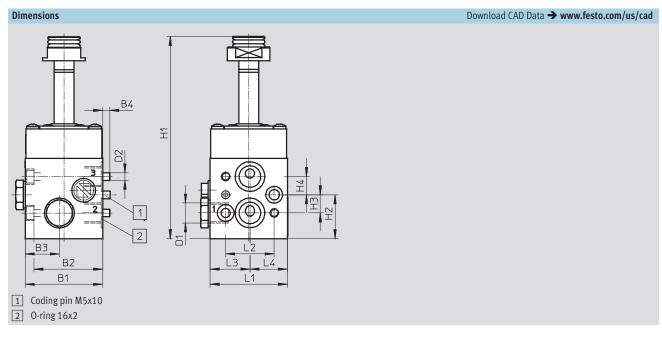


Sole	noid valves			G½ basic valve, Namur, P connection	G½ basic valve, for low ratings					
1	Housing	Hard Ematal-anodised aluminium								
2	Seals	Nitrile rubber	Nitrile rubber							
-	Note on materials	Contains PWIS (paint-wett	ontains PWIS (paint-wetting impairment substances), RoHS-compliant							



Туре	B1	B2	В3	D1	D2	H1	H2	Н3	H4	L1	L2	L3	L4
VOFC-L-M32C-M-FG14-F9 VOFC-L-M32C-M-FG14-F9-A	51	45.3	22.5	G1/4	M5	135.3	29	12	12	51	32	26.3	24.7

FESTO



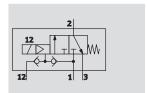
Туре	B1	B2	В3	B4	D1	D2	H1	H2	Н3	H4	L1	L2	L3	L4
VOFC-L-M32C-M-FGP14-F9	Г1	45.5	22.5	4.7	Namur G1⁄4	M5	122 /	20	12	12	Г1	22	26.3	24.7
VOFC-L-M32C-M-FGP14-F9-A	21	45.3	22.5	4./	Namul G-74	IVID	133.4	29	12	12	51	32	20.3	24.7

Technical data – 3/2-way valves, G½

FESTO

Function 3/2-way valve

Temperature range $-25 \dots +60 \, ^{\circ}\text{C}$



Flow rate 600 l/min



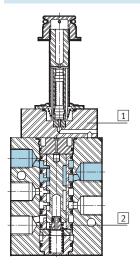
General technical data										
Туре			G1/4 basic valve	G1/4 Exi variant	NPT basic valve	NPT Exi variant				
Valve function			3/2-way closed, sing	gle solenoid						
Pneumatic connection	1		G1/4							
	2		G1/4	G1/4	-	-				
	2		-	-	NPT1/4-18	NPT1/4-18				
	3	3 4		G1/4	NPT1/4-18	NPT1/4-18				
	4			G1/4	-	-				
	4		-	-	NPT1/4-18	NPT1/4-18				
Design			Piloted piston poppe	et valve						
Width [mm]			51							
Mounting position			Any							
Duty cycle	Duty cycle									
Sealing principle			Soft							
Manual override			None							
Reset method			Mechanical spring							
Actuation type			Electrical							
Type of control			Piloted							
Pilot air supply			Internal, external							
Flow rate for piston valve pr	essurisation	[m ³ /h]	0.72							
			1.38							
Direction of flow			Non-reversible							
Product weight	Product weight [g]			550						
Response time off [ms]			12							
Response time on [ms]			20							
Nominal size	Nominal size [mm]			6						
Standard nominal flow rate		[l/min]	900							

Operating and environmental conditions										
Туре		G1/4 basic valve	G1/4 Exi variant	NPT basic valve	NPT Exi variant					
Operating medium		Compressed air								
Protection class		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	[SIL]	Up to SIL 4 Low Der	nand mode							
		Up to SIL 4 High De	mand mode							
Corrosion resistance class CRC ¹⁾		4								

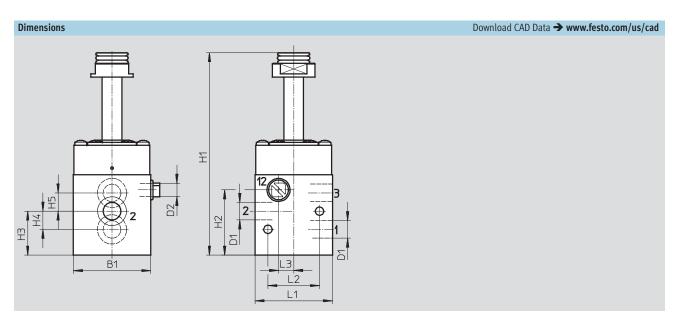
¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

Technical data – 3/2-way valves, G1/4

Materials



Solenoid valves	G1⁄4 basic valve	G1⁄4 Exi variant	NPT basic valve	NPT Exi variant				
1 Housing	lard Ematal-anodised aluminium							
2 Seals	Nitrile rubber							
 Note on materials 	Contains PWIS (paint-wetting impairment substances), RoHS-compliant							



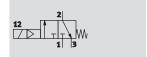
Туре	B1	D1	D2	H1	H2	Н3	H4	H5	L1	L2	L3
VOFC-L-M32C-MC-G14-F9											
VOFC-L-M32C-MC-G14-F9-A	F.1	G1/4	G½8	133	43	29	12	12	F 4	34	10
VOFC-L-M32C-MC-N14-F9	51							12	51		10
VOFC-L-M32C-MC-N14-F9-A											

Basic valves VOFC FESTO

Technical data − 3/2-way valves, G½ and Namur

Function 3/2-way valve

Temperature range $-25 \dots +60 \, ^{\circ}\text{C}$



Flow rate 3,000 l/min



11

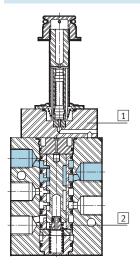
General technical data							
		G½ basic valve	G½ Exi variant				
Valve function		3/2-way closed, single solenoid					
Pneumatic connection 1		G½					
2		G½ and Namur port pattern					
3		G½					
4		G½ and Namur port pattern					
Design		Piloted piston poppet valve					
Width	[mm]	51					
Mounting position		Any					
Duty cycle		100%					
Sealing principle		Soft					
Manual override		None					
Reset method		Mechanical spring					
Actuation type		Electrical					
Type of control		Piloted					
Pilot air supply		Internal					
Flow rate for piston valve pressurisation	[m ³ /h]	3.8					
Direction of flow		Non-reversible					
Product weight	[g]	880					
Response time off	[ms]	14					
Response time on	[ms]	25					
Nominal size	[mm]	12					
Standard nominal flow rate	[l/min]	3,000	<u> </u>				

Operating and environmental conditions				
		G½ basic valve	G½ Exi variant	
Operating medium		Compressed air		
Protection class		IP65		
Operating pressure range	[bar]	2 8		
Temperature of medium	[°C]	-25 +60		
Ambient temperature	[°C]	-25 +60		
Corrosion resistance class CRC ¹⁾		4		

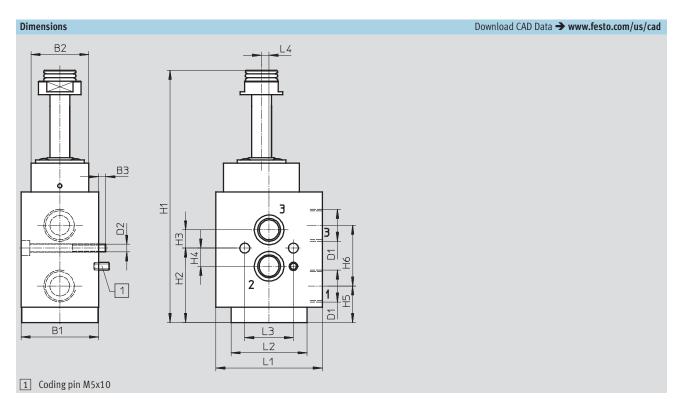
¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

Technical data – 3/2-way valves, G1∕2 and Namur

Materials



Solenoid valves	G1/2 basic valve G1/2 Exi variant					
1 Housing	Hard Ematal-anodised aluminium					
2 Seals	Nitrile rubber					
 Note on materials 	Contains PWIS (paint-wetting impairment substances), RoHS-compliant					



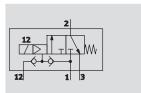
Туре	B1	B2	В3	D1	D2	H1	H2	Н3	H4	H5	Н6	L1	L2	L3	L4
VOFC-L-M32C-M-FG12-F9	F 1	20	4.7	G1/5	M5	166	49	1.2	12	24	4.0	70	Γ0	22	-
VOFC-L-M32C-M-FG12-F9-A	51	38	4.7	U ⁻ ⁄2	IVID	166	49	12	12	24	40	70	50	32)

Technical data – 3/2-way valves, G½

FESTO

Function 3/2-way valve

Temperature range alve -25 ... +60 °C



Flow rate 3,000 l/min



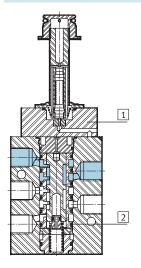
General technical data						
		G½ basic valve	G½ Exi variant			
Valve function		3/2-way closed, single solenoid				
Pneumatic connection 1		G½				
2		G1/2				
3		G½				
4		G1/2				
Design		Piloted piston poppet valve				
Width	[mm]	51				
Mounting position		Any				
Duty cycle		100%				
Sealing principle		Soft				
Manual override		None				
Reset method		Mechanical spring				
Actuation type		Electrical				
Type of control		Piloted				
Pilot air supply		Internal, external				
Flow rate for piston valve pressurisation	[m ³ /h]	3.8				
Direction of flow		Non-reversible				
Product weight	[g]	880				
Response time off	[ms]	14				
Response time on	[ms]	25				
Nominal size	[mm]	12				
Standard nominal flow rate	[l/min]	3,000				

Operating and environmental conditions	, - 2								
		Basic valve	Exi variant						
Operating medium		Compressed air							
Protection class		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							
Corrosion resistance class CRC ¹⁾		4							

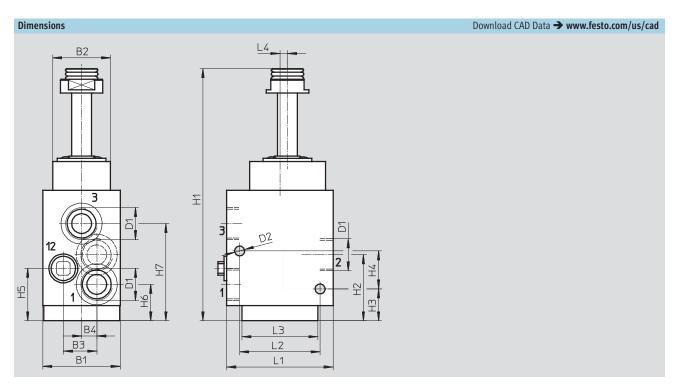
¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

Technical data -3/2-way valves, $G^{1/2}$

Materials



Solenoid valves	G½ basic valve G½ Exi variant					
1 Housing	Hard Ematal-anodised aluminium					
2 Seals	Nitrile rubber					
 Note on materials 	Contains PWIS (paint-wetting impairment substances), RoHS-compliant					



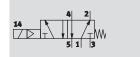
Туре	B1	B2	В3	B4	D1	D2	H1	H2	Н3	H4	H5	L1	L2	L3	L4
VOFC-L-M32C-MC-G12-F9 VOFC-L-M32C-MC-G12-F9-A	51	37	22	10	G ¹ / ₂	6.5	166	43.5	21	25	34.5	70	53	50	5

Basic valves VOFC FESTO

Technical data -5/2-way valves, $G^{1}/4$ and Namur

Function 5/2-way valve

Temperature range $-25 \dots +60 \, ^{\circ}\text{C}$



Flow rate 750 l/min



15

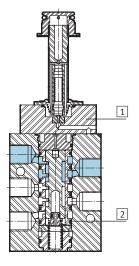
General technical data							
		G½ basic valve	G¹⁄₄ Exi variant				
Valve function		5/2-way, single solenoid					
Pneumatic connection 1		G ¹ / ₄					
2		G1/4 and Namur port pattern					
3		G ¹ / ₄					
4		G1/4 and Namur port pattern					
Design		Hard piston spool valve					
Mounting position		Any					
Width	[mm]	40					
Duty cycle		100%					
Sealing principle		Hard					
Manual override		None					
Reset method		Mechanical spring					
Actuation type		Electrical					
Type of control		Piloted					
Pilot air supply		Internal					
Flow rate for piston valve pressurisation	[m ³ /h]	0.65					
Direction of flow		Non-reversible					
Product weight	[g]	620					
Response time off	[ms]	40					
Response time on	[ms]	24					
Nominal size	[mm]	6					
Standard nominal flow rate	[l/min]	750					

Operating and environmental conditions	Operating and environmental conditions									
		G½ basic valve	G1/4 Exi variant							
Operating medium		Compressed air								
Protection class		IP65								
Operating pressure range	[bar]	2 8								
Temperature of medium	[°C]	-25 +60								
Ambient temperature	[°C]	-25 +60								
Corrosion resistance class CRC ¹⁾		4								

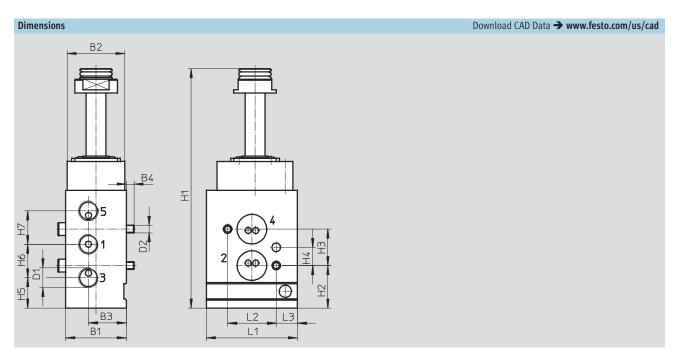
¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

Technical data – 5/2-way valves, G1/4 and Namur

Materials



Solenoid valves	G1/4 basic valve G1/4 Exi variant					
1 Housing	Hard Ematal-anodised aluminium					
2 Seals	Nitrile rubber					
 Note on materials 	Contains PWIS (paint-wetting impairment substances), RoHS-compliant					



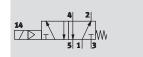
Туре	B1	B2	В3	B4	D1	D2	H1	H2	Н3	H4	H5	Н6	H7	L1	L2	L3
VOFC-L-M52-M-FG14-F9	40	38	25	г	C1/a	M5	158	20	2.6	12	20	22	22	60	22	1.6
VOFC-L-M52-M-FG14-F9-A	40	20	25)	G 1/4	INIO	156	20	24	12	20	22	22	60	32	14

FESTO

Technical data – 5/2-way valves, G1/4

Function 5/2-way valve

Temperature range $-25 \dots +60 \, ^{\circ}\text{C}$



Flow rate 850 l/min



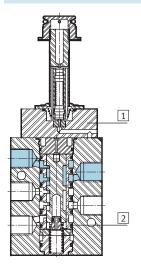
General technical data			
		G1/4 basic valve	G1/4 Exi variant
Valve function		5/2-way single solenoid	
Pneumatic connection 1		G1/4	
2		G1/4	
3		G1/4	
4		G1/4	
Design		Hard piston spool valve	
Mounting position		Any	
Width	[mm]	40	
Duty cycle		100%	
Sealing principle		Hard	
Manual override		None	
Reset method		Mechanical spring	
Actuation type		Electrical	
Type of control		Piloted	
Pilot air supply		Internal	
Flow rate for piston valve pressurisation	[m ³ /h]	0.65	
Direction of flow		Non-reversible	
Product weight	[g]	620	
Response time off	[ms]	40	
Response time on	[ms]	24	
Nominal size	[mm]	6	·
Standard nominal flow rate	[l/min]	850	

Operating and environmental conditions										
		G½ basic valve	G½ Exi variant							
Operating medium		Compressed air								
Protection class		IP65								
Operating pressure range	[bar]	2 8								
Temperature of medium	[°C]	-25 +60								
Ambient temperature	[°C]	-25 +60								
Corrosion resistance class CRC ¹⁾		4								

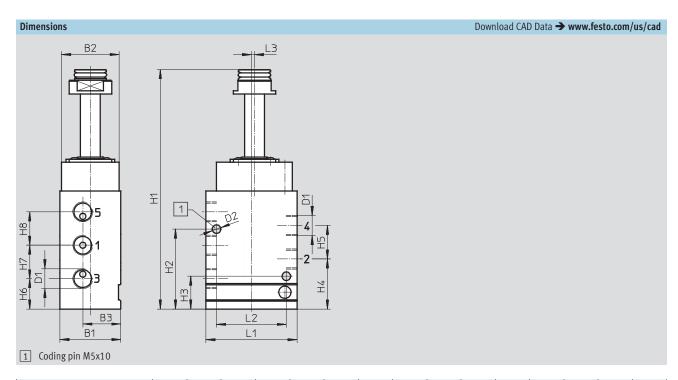
¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

Technical data – 5/2-way valves, G1/4

Materials



Solenoid valves	G1/4 basic valve	G1/4 Exi variant
1 Housing	Hard Ematal-anodised aluminium	
2 Seals	Nitrile rubber	
 Note on materials 	Contains PWIS (paint-wetting impairment substances)), RoHS-compliant



Туре	B1	B2	В3	D1	D2	H1	H2	Н3	H4	H5	Н6	H7	H8	L1	L2
VOFC-L-M52M-G14-F9	40	30	25	G1/4	M5	158	526	21.6	33	22	20	22	22	60	46
VOFC-L-M52M-G14-F9-A	40	70	23	U-74	כואו	170	32.0	21.0))	22	20	22	22	00	40

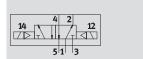


Technical data – 5/2-way valves, G½, NAMUR

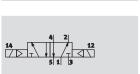
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Function 5/2-way valve

Temperature range −25 ... +60 °C



Flow rate 750, 850 l/min





General technical data					
		G½, NAMUR	G½, NAMUR	G1/4	G1/4
Valve function		5/2-way, double soleno	id		
Pneumatic connection 1		G1/4			
2		NAMUR port pattern		G1/4	
3		G1/4		•	
4		NAMUR port pattern		G1/4	
Design		Hard piston spool valve			
Mounting position		Any			
Width	[mm]	40			
Duty cycle	[%]	100			
Sealing principle		Hard			
Manual override		None			
Actuation type		Electric			
Type of control		Piloted			
Pilot air supply		Internal			
Flow rate for piston valve pressurisation	[m ³ /h]	0.65			
Flow rate for piston valve exhausting	[m ³ /h]	0.65			
Direction of flow		Non-reversible			
Product weight	[g]	790			
Switching time off	[ms]	40		20	
Switching time on	[ms]	24		20	
Max. switching frequency	[Hz]	1			
Nominal size	[mm]	6			
Standard nominal flow rate	[l/min]	750		850	

Operating and environmental conditions	· · · · · · · · · · · · · · · · · · ·												
		G ¹ / ₄ , NAMUR	G½, NAMUR	G1/4	G ¹ / ₄								
Operating medium		Compressed air											
Protection class		IP65											
Operating pressure range	[bar]	2 8											
Temperature of medium	[°C]	-25 +60											
Ambient temperature	[°C]	-25 +60											
Corrosion resistance class CRC ¹⁾		4											

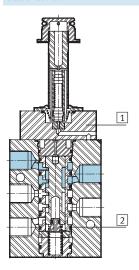
¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components subject to particularly high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.



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Technical data – 5/2-way valves, G1/4, NAMUR

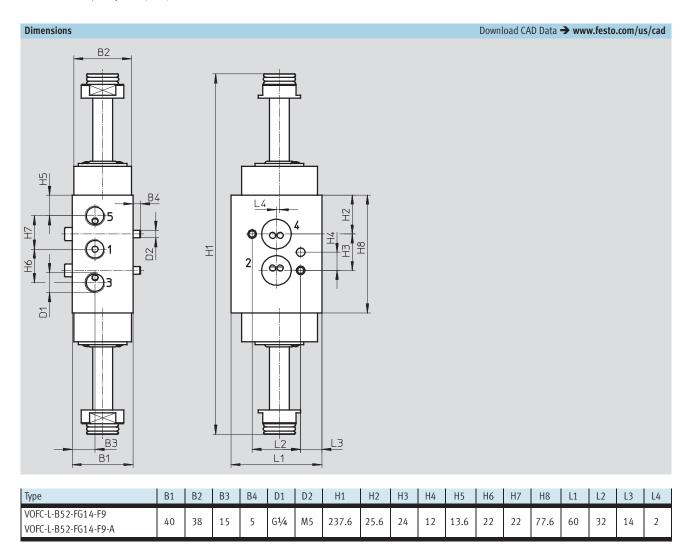
Materials



Solei	noid valves	G½, NAMUR	G½, NAMUR	G ¹ / ₄	G1/4						
1	Housing	Hard Ematal-anodised alumini	ium								
2	Seals	NBR									
-	Note on materials	Contains PWIS (paint-wetting i	ntains PWIS (paint-wetting impairment substances), RoHS-compliant								

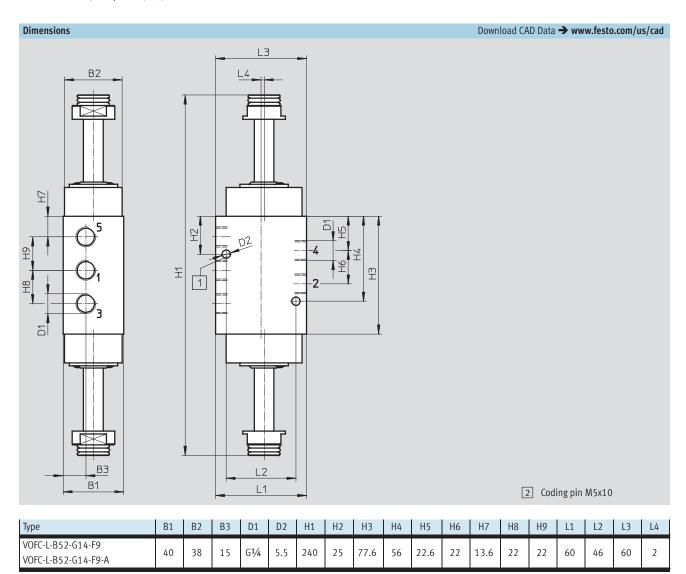
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Technical data – 5/2-way valves, G½, NAMUR



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Technical data – 5/2-way valves, G1/4, NAMUR





Basic valves VOFC FESTO

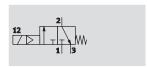
Technical data

Ordering data						
Circuit symbol	Function	Pneumatic connection	Pilot air supply	Part No.	Туре	
In-line valve	<u>'</u>		<u> </u>			
	3/2-way, closed,	G½ and NAMUR	Internal	562 857	VOFC-L-M32C-M-FG14-F9	
12 1	single solenoid			562 858	VOFC-L-M32C-M-FG14-F9-A	
1 3						
		G½ and NAMUR,		570 787	VOFC-L-M32C-M-FGP14-F9	
		P connection				
		G1/4 and NAMUR,		570 788	VOFC-L-M32C-M-FGP14-F9-A	
		P connection				
	3/2-way, closed,	G1/4	Internal, external	562 859	VOFC-L-M32C-MC-G14-F9	
2	single solenoid		Internal, external	562 860	VOFC-L-M32C-MC-G14-F9-A	
12			Internal, external	562 861	VOFC-L-M32C-MC-N14-F9	
			Internal, external	562 862	VOFC-L-M32C-Mc-N14-F9-A	
12 1 3						
	Tata : :	Tarr Internet	T	1-2		
2	3/2-way, closed,	G½ and NAMUR	Internal	562 863	VOFC-L-M32C-M-FG12-F9	
12 T T W	single solenoid			562 864	VOFC-L-M32C-M-FG12-F9-A	
1 3						
	2/2	C1/		F(2.0(F	VOTC I MARC MC CAR TO	
21	3/2-way, closed,	G ¹ / ₂	Internal, external	562 865	VOFC-L-M32C-MC-G12-F9	
12	single solenoid			562 866	VOFC-L-M32C-MC-G12-F9-A	
12 1 3						
	5/2-way, single	G½ and NAMUR	Internal	562 867	VOFC-L-M52-M-FG14-F9	
4 2	solenoid	G74 and NAMOR	Internat	562 868	VOFC-L-M52-M-FG14-F9-A	
14 T T T T T T T T T T T T T T T T T T T	Solellold			302 808	VOIC-L-W32-W-FG14-F3-A	
5 1 3						
	1					
	5/2-way, single	G1/4	Internal	562 871	VOFC-L-M52-M-G14-F9	
4 2	solenoid	. , ,			VOFC-L-M52-M-G14-F9-A	
14 T T W				302072	10.02	
5 1 3						
	1	l	L			
4 2	5/2-way, double	G1/4 and NAMUR	Internal	562 869	VOFC-L-B52-FG14-F9	.0.
14 2 12 12 T T T T T T T T T T T T T T T T	solenoid	G1/4 and NAMUR		562 870	VOFC-L-B52-FG14-F9-A	.0.
51 3		G1/4		562 873		.0.
D:I: 12		G1/4		562 874		.0.
14 12						
5 1 3						
	1	- 1				

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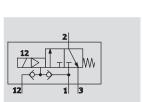
Technical data – 3/2-way valve with ignition protection type Ex-me

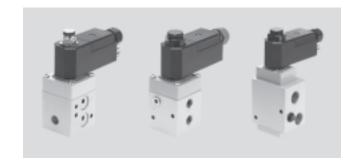
Function 3/2-way valve



Temperature range $-25 \dots +60 \, ^{\circ}\text{C}$ Flow rate $600 \, \text{l/min}$

Voltage 14 ... 32 V DC





General technical data					
		G½ and Namur	G1/4	NPT¹/4	G½
Valve function		3/2-way closed, sing	le solenoid		
Pneumatic connection 1		G1/4		NPT1/4-18	G1/2
2		G1/4		_	G ¹ / ₂
2		Namur port pattern		NPT1/4-18	
3		G1/4	•	NPT1/4-18	G ¹ / ₂
4		Namur port pattern	G1/4	NPT1/4-18	G ¹ / ₂
Width		51 mm	•	<u>'</u>	1
Design		Piloted piston poppe	t valve		
Mounting position		Any			
Duty cycle		100%			
Sealing principle		Soft			
Manual override		None			
Reset method		Mechanical spring			
Actuation type		Electrical			
Type of control		Piloted			
Pilot air supply		Internal	Internal, external	Internal, external	Internal, external
Flow rate for piston valve pressurisation	[m ³ /h]	0.5	0.72	0.72	3.8
		0.65	1.38	1.38	3.8
Direction of flow		Non-reversible	•		
Electrical connection		Terminal box, cable e	entry thread M20x1.5		
Reset method		Mechanical spring			
Product weight	[g]	930	880	880	1,210
Response time off	[ms]	12			
Response time on	[ms]	20			
Nominal size	[mm]	6			12
Standard nominal flow rate	[l/min]	600	900	900	3,000



Technical data – 3/2-way valve with ignition protection type Ex-me

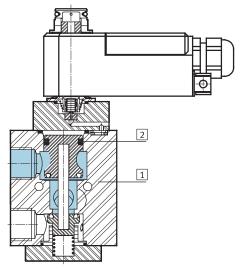
Electrical data			G½ and Namur	G ¹ / ₄	NPT¹/4	G½
Permissible voltage fluctu	ıations	[%]	-15 +10			
Max. input power		[W]	-			
Max. input voltage		[V]	-			
Max. input current		[A]	-			
Required current consum	ption	[mA]	-			
Coil characteristics	DC voltage 24 V	[W]	1.8			
	AC voltage 24 V	[VA]	1.8			

Operating and environmental conditions					
		G½ and Namur	G1/4	NPT ¹ / ₄	G½
Operating medium		Compressed air			
Protection class		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			
Explosion ignition protection type for gas		Ex emb II T6, T5			
Explosion ignition protection type for dust		Ex tD A21 IP65 T80°C	., T95°C		
Explosion-proof temperature rating	T5:	-20°C <= Ta <=+60°C	-		
	T6:	-20°C <= Ta <= +50°C			
	T80°C:	-20°C <= Ta <= +50°C	•		
	T95°C:	-20°C <= Ta <= +60°C			
CE mark (see declaration of conformity)		To EU Explosion Prote	ction Directive (ATEX)		
Safety integrity level	[SIL]	Up to SIL 4 Low Dema	ınd mode		-
		Up to SIL 4 High Dema	and mode		-
Corrosion resistance class CRC ¹⁾		4			<u>.</u>

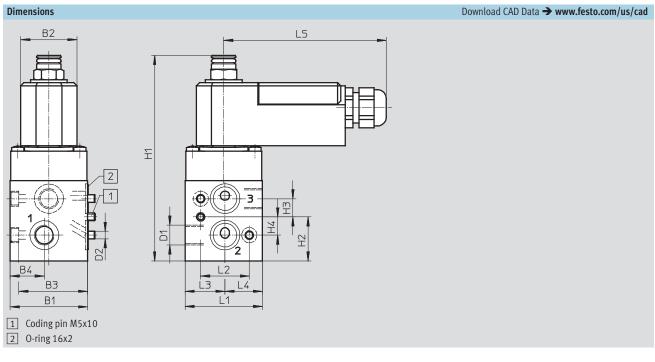
¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

Technical data – 3/2-way valve with ignition protection type Ex-me

Materials



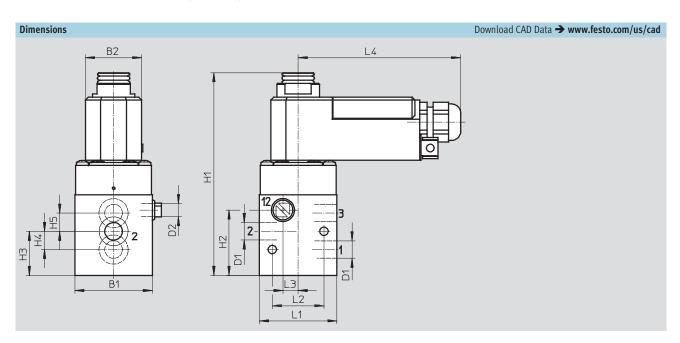
Sole	noid valves	G½ and Namur	G1/4	NPT ¹ / ₄	G½						
1	Housing	Hard Ematal-anodised alumin	Ematal-anodised aluminium								
2	Seals	Nitrile rubber	rubber								
-	Note on materials	Contains PWIS (paint-wetting i	ins PWIS (paint-wetting impairment substances), RoHS-compliant								
-	Certificate issuing authority	PTB 08 ATEX 2042 X	08 ATEX 2042 X								



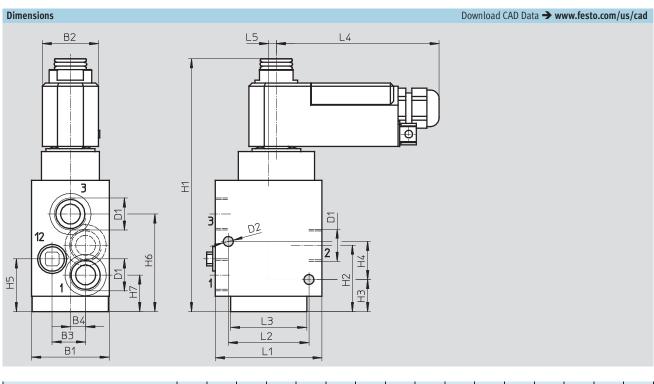
Туре	B1	B2	В3	B4	D1	D2	H1	H2	Н3	H4	L1	L2	L3	L4	L5
VOFC-L-M32C-M-FG14-1UK4-Ex4me	51	37	45.3	22.5	G1/4	M5	135.3	29	12	12	51	32	26.3	24.7	107

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Technical data – 3/2-way valve with ignition protection type Ex-me



Туре	B1	B2	D1	D2	H1	H2	Н3	H4	H5	L1	L2	L3	L4
VOFC-L-M32C-MC-G14-1UK4-Ex4me	E 1	27	G1/4	G ¹ /8	122	4.2	20	12	12	E 1	2/	10	107
VOFC-L-M32C-MC-N14-1UK	51)/	G-74	U-78	133	4)	29	12	12	31	34	10	107

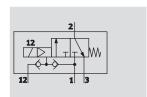


Туре	B1	B2	В3	B4	D1	D2	H1	H2	НЗ	H4	H5	L1	L2	L3	L4	L5
VOFC-L-M32C-MC-G12-1UK4-Ex4me	51	37	22	10	G1/2	6.5	166	43.5	21	25	34.5	70	53	50	107	5

FESTO

Technical data – 3/2-way valve with ignition protection type Ex-ia

Function 3/2-way valve



Temperature range

−25 ... +60 °C

Flow rate

600 ... 900 l/min

Voltage

14 ... 32 V DC



General technical data				
			G ¹ / ₄ and Namur	G1/4
Valve function			3/2-way closed, single solenoid	
Pneumatic connection	1		G¹/4	
	2		G ¹ / ₄	
	2		Namur port pattern	-
	3		G¹/4	
Width		[mm]	51	
Design			Piloted 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			Piloted	
Pilot air supply			Internal	Internal, external
Flow rate for piston valve press	urisation	[m ³ /h]	0.5	0.72
			0.65	1.38
Direction of flow			Non-reversible	
Electrical connection			Terminal box, cable entry thread M20x1.5	
Reset method			Mechanical spring	
Product weight		[g]	930	880
Response time off		[ms]	12	
Response time on		[ms]	20	
Nominal size		[mm]	6	
Standard nominal flow rate		[l/min]	600	900

Electrical data			G ¹ / ₄ and Namur	G ¹ / ₄
Permissible voltage fluctuations		[%]	-15 +10	-
Max. input power		[W]	1.2	
Max. input voltage		[V]	32	
Max. input current		[A]	0.2	
Required current consumption		[mA]	16	
Coil characteristics	DC voltage 24 V	[V]	14 32	

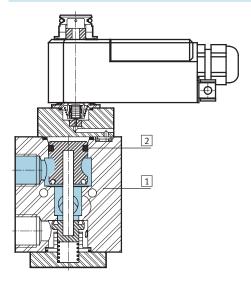


Technical data – 3/2-way valve with ignition protection type Ex-ia

Operating and environmental conditions				
		G ¹ / ₄ and Namur	G ¹ / ₄	
Operating medium		Compressed air		
Protection class		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		
Explosion ignition protection type for gas		Ex ia IIC T6, T5		
Explosion-proof temperature rating	T5:	-30°C <= Ta <= +65°C		
	T6:	-30°C <= Ta <= +50°C		
	T80°C:	-20°C <= Ta <= +50°C		
	T95°C:	-20°C <= Ta <= +60°C		
CE mark (see declaration of conformity)		To EU Explosion Protection Directive (AT	EX)	
Safety integrity level	[SIL]	Up to SIL 4 Low Demand mode		
		Up to SIL 4 High Demand mode		
Corrosion resistance class CRC ¹⁾		4		

¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

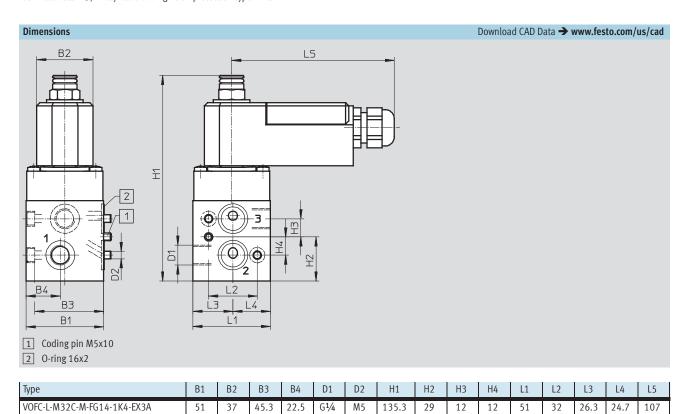
Materials

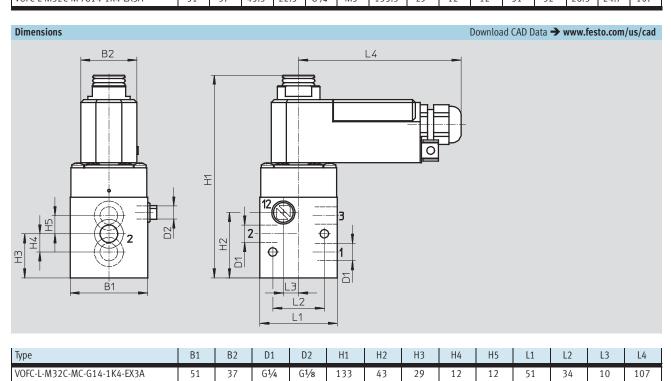


Sole	noid valves	G½ and Namur	G1⁄4				
1	Housing	lard Ematal-anodised aluminium					
2	Seals	Nitrile rubber					
-	Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant					
-	Certificate issuing authority	TB 08 ATEX 2038					

FESTO

Technical data – 3/2-way valve with ignition protection type Ex-ia







Solenoid valves VOFC Technical data – 3/2-way valve with ignition protection type Ex-ia

Ordering data						
Circuit symbol	Function	Size	Explosion ignition protection type for gas	Pilot air supply	Part No.	Туре
2	3/2-way closed, single solenoid	G ¹ / ₄	Ex emb II T6, T5	Internal, external	562 877	VOFC-L-M32C-MC-G14-1UK4-Ex4me
12 W		G ¹ / ₄	Ex ia IIC T6, T5	Internal, external	562 878	VOFC-L-M32C-MC-G14-1K4-Ex3A
12 1 3		NPT1/4	Ex emb II T6, T5	Internal	562 879	VOFC-L-M32C-M-N14-1UK4-Ex4me
12 1 5		G ¹ / ₂	Ex emb II T6, T5		562 880	VOFC-L-M32C-MC-G12-1UK4-Ex4me
	•		•	•		
al al	3/2-way closed,	G1/4 and Namur	Ex emb II T6, T5	Internal	562 875	VOFC-L-M32C-M-FG14-1UK4-Ex4me
12 17 17 18	single solenoid	G ¹ / ₄ and Namur	Ex ia IIC T6, T5		562 876	VOFC-L-M32C-M-FG14-1K4-Ex3A

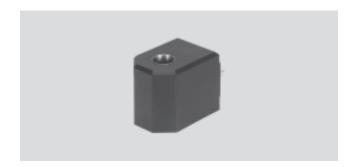
Technical data

Voltage

24 V AC

Temperature range

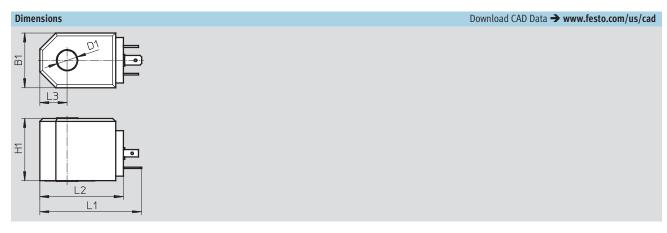
−20 ... +60 °C



General technical data							
Туре			VACC-S13-A1-1	VACC-S13-A1-1U	VACC-S13-A1-2U	VACC-S13-A1-3U	
Actuation type			Electrical				
Mounting position			Any				
Duty cycle		[%]	100				
Electrical connection			Plug design to EN 17	75301-803, type A			
Manual override			None				
Switching position display	1		None				
Product weight		[g]	210				
Note on materials			Contains PWIS (pain	t-wetting impairment s	ubstances), RoHS-comp	liant	
Information on solenoid co	oil materials		Polyamide, polyurethane				
Coil characteristics	DC voltage 24 V	[W]	1.8	1.8	-	-	
	AC voltage 24 V	[VA]	-	3	-	-	
	DC voltage 110 V	[W]	-	-	1.8	-	
	AC voltage 110 V	[VA]	-	-	3	-	
	DC voltage 230 V	[W]	-	-	-	1.8	
	AC voltage 230 V	[VA]	-	-	-	3	

Operating and environmental conditions					
Protection class	IP65				
Permissible voltage fluctuations [%]	-15 +10				
Ambient temperature [°C]	-20 +60				
Corrosion resistance class CRC ¹⁾	4				

¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.



Туре	B1	D1	H1	L1	L2	L3
VACC-S13-A1-1	36	13.1	41	67	55	18

Solenoid coils VACC-S13

FESTO

Technical data – Ignition protection type Ex-me

Voltage

24 V DC/AC

Temperature range

-20 ... +60 °C



General technical data						
Туре			VACC-S13-K4-1U-Ex	VACC-S13-K4-2U-Ex	VACC-S13-K4-3U-Ex	VACC-
			4me	4me	4me	S13-K4-1UF-Ex4me
Actuation type			Electrical			
Mounting position			Any			
Duty cycle		[%]	100			
Electrical connection			Terminal box, cable e	ntry thread M20x1.5		
Internal fuse protection			-			Fuse
Manual override			None			
Switching position displa	ау		None			
Product weight		[g]	330			
Note on materials			Contains PWIS (paint-	wetting impairment sub	stances), RoHS-compli	ant
Information on solenoid	coil materials		Polyamide, polyurethane			
Coil characteristics	DC voltage 24 V	[W]	1.8	-	-	1.8
	AC voltage 24 V	[VA]	1.8	-	-	1.8
	DC voltage 110 V	[W]	-	1.8	-	-
	AC voltage 110 V	[VA]	-	3	-	-
	DC voltage 230 V	[W]	-	-	1.8	-
	AC voltage 230 V	[VA]	-	-	3	-

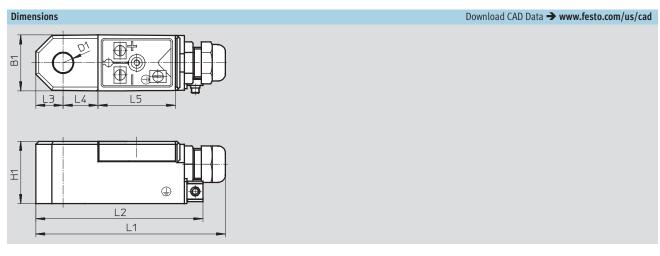
Operating and environmental conditions	
Protection class	IP65
Permissible voltage fluctuations [%]	-15 +10
ATEX category for gas	II 2G
Explosion ignition protection type for gas	Ex emb II T6, T5
ATEX category for dust	II 2D
Explosion ignition protection type for dust	Ex tD A21 IP65 T80°, T95°C
Explosion-proof temperature rating	T5: -20°C <=Ta <=+60°C
	T6: -20°C <=Ta <=+50°C
	T80°C: -20°C <=Ta <=+50°C
	T95°C: -20°C <=Ta <=+60°C
Certificate issuing authority	PTB 08 ATEX 2042 X
CE mark (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)
Ambient temperature [°C]	-20 +60
Corrosion resistance class CRC ¹⁾	4

¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

Solenoid coils VACC-S13

FESTO

Technical data – Ignition protection type Ex-me



34

Solenoid coils VACC-S13

FESTO

Technical data – Ignition protection type Ex-ia

Voltage

24 V DC/AC

Temperature range

-30 ... +60 °C

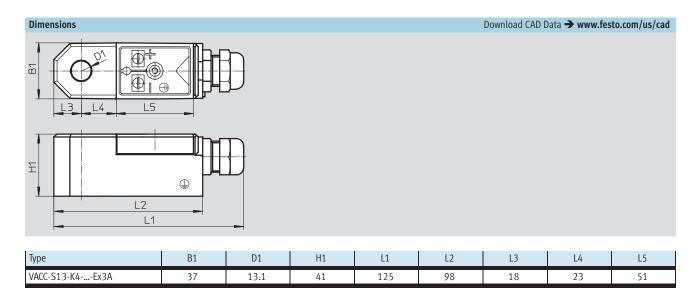


General technical data		
Туре		VACC-S13-K4-Ex3A
Actuation type		Electrical
Mounting position		Any
Duty cycle	[%]	100
Electrical connection		Terminal box, cable entry thread M20x1.5
Manual override		None
Switching position display		None
Product weight	[g]	330
Note on materials		Contains PWIS (paint-wetting impairment substances), RoHS-compliant
Information on solenoid coil materials		Polyamide, polyurethane
Coil characteristics	[V]	14 32
Max. input power	[W]	1.2
Max. input voltage	[V]	32
Max. input current	[A]	0.2
Required current consumption	[mA]	16

Operating and environmental conditions	
Protection class	IP65
ATEX category for gas	II 2G
Explosion ignition protection type for gas	Ex ia IIC T6, T5
Explosion-proof temperature rating	T5: -30°C <=Ta <=+65°C
	T6: -30°C <=Ta <=+50°C
Certificate issuing authority	PTB 08 ATEX 2038
CE mark (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)
Ambient temperature [°C]	-30 +60
Corrosion resistance class CRC ¹⁾	4

¹⁾ Corrosion resistance class 4 according to Festo standard 940 070 Components with very heavy corrosion exposure. Components in contact with aggressive media, e.g. in food or chemical industries. These applications must, if necessary, be verified by special tests with the media concerned.

Technical data – Ignition protection type Ex-ia



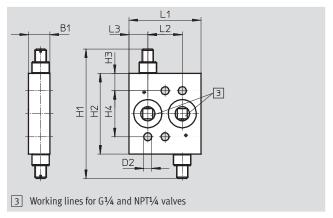
Ordering data		
	Part No.	Туре
Standard		
	562 889	VACC-S13-A1-1
	562 890	VACC-S13-A1-1U
	562 891	VACC-S13-A1-2U
	562 892	VACC-S13-A1-3U
Ex-me coil		
	562 893	VACC-S13-K4-1U-Ex4me
	562 894	VACC-S13-K4-2U-Ex4me
	562 895	VACC-S13-K4-3U-Ex4me
	570 784	VACC-S13-K4-1UF-Ex4me
Ex-ia coil		
	562 896	VACC-S13-K4Ex3A
	562 896	VACC-S13-K4Ex3A

Accessories

Flow control plate

Material: Manifold rail: Wrought aluminium alloy Contains paint-wetting impairment substances, RoHS-compliant



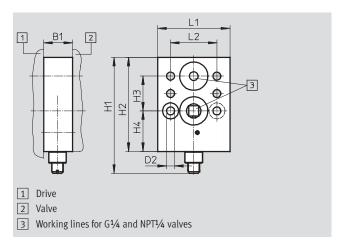


Dimension	Dimensions [mm] and ordering data										
B1	D2	H1	H2	Н3	H4	L1	L2	L3	CRC ¹⁾	Part No.	Туре
15	5.5	90	56	12	32	50	24	13	3	563 395	VABF-S7-F1B1P2-F

¹⁾ Corrosion resistance class 3 according to Festo standard 940 070 Components subject to high corrosion stress. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Flow control plate

Material: Manifold rail: Wrought aluminium alloy Contains paint-wetting impairment substances, RoHS-compliant



Dimension	Dimensions [mm] and ordering data										
B1	D2	H1	H2	Н3	H4	L1	L2	CRC ¹⁾	Part No.	Туре	
20	5.5	80	65	24	28	50	32	3	563 401	VABF-S7-F1B5P1-F	

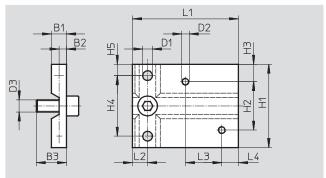
¹⁾ Corrosion resistance class 3 according to Festo standard 940 070 Components subject to high corrosion stress. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Accessories

Mounting plate

Material: Wrought aluminium alloy Contains paint-wetting impairment substances, RoHS-compliant





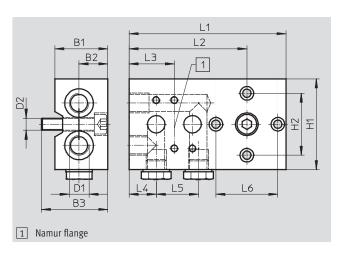
Dimen	Dimensions [mm] and ordering data																
B1	B2	В3	D1	D2	D3	H1	H2	Н3	H4	H5	L1	L2	L3	L4	CRC ¹⁾	Part No.	Туре
10	5	20	6.4	M5	M8	55	32	11.5	40	7.5	70	10	24	11	3	563 399	VAME-S7-P

¹⁾ Corrosion resistance class 3 according to Festo standard 940 070 Components subject to high corrosion stress. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Connection plate kit

Material:

Wrought aluminium alloy Contains paint-wetting impairment substances, RoHS-compliant



Dimensi	Dimensions [mm] and ordering data														
B1	B2	В3	D1	D2	H1	H2	L1	L2	L3	L4	L5	L6	CRC ¹⁾	Part No.	Туре
35	19	44	G1/4	M8	60	41	104	78	30	18	28	41	3	563 396	VABS-S7-S-G14

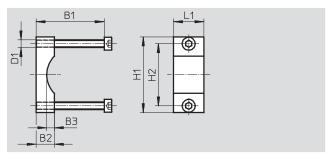
¹⁾ Corrosion resistance class 3 according to Festo standard 940 070 Components subject to high corrosion stress. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the current.

Accessories

Mounting bracket

Material: Wrought aluminium alloy Contains paint-wetting impairment substances, RoHS-compliant





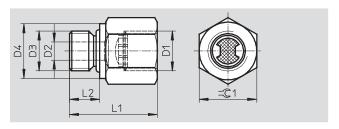
Dimensions	Dimensions [mm] and ordering data										
B1	B2	B3	D1	H1	H2	L1	CRC ¹⁾	Part No.	Туре		
45/65	12	5	M5	50	41	20	3	563 403	VAME-S7-Y		

1) Corrosion resistance class 3 according to Festo standard 940 070 Components subject to high corrosion stress. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Adapter with filter

Note on materials: Contains paint-wetting impairment substances, RoHS-compliant





Dimensions	imensions [mm] and ordering data										
D1	D2	D3	D4	L1	L2	= ©1	CRC ¹⁾	Part No.	Туре		
NPT¹/₄	6	G1/4	18	29	10	19	1	563 397	NPFV-AF-G14-N14-MF		
G1/4	6	G1/4	18	29	10	19	1	563 398	NPFV-AF-G14-G14-MF		

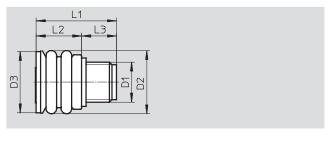
¹⁾ Corrosion resistance class 1 according to Festo standard 940 070 Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Accessories

Exhaust protection

Material: Ethylene propylene rubber Contains paint-wetting impairment substances, RoHS-compliant





Dimensions [m	Dimensions [mm] and ordering data										
D1	D2	D3	L1	L2	L3	CRC ¹⁾	Part No.	Туре			
G1/4	21	20.5	26.5	15	11.5	3	563 400	VABD-D3-SN-G14			

¹⁾ Corrosion resistance class 3 according to Festo standard 940 070 Components subject to high corrosion stress. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Ordering data		
	Part No.	Туре
Cable		Technical data → Internet: kmc
	30 931	KMC-1-24 DC-2,5-LED
	30 932	KMC-1-230 AC-2,5
	30 933	KMC-1-24 DC-5-LED
	30 934	KMC-1-230 AC-5
	30 935	KMC-1-24-10-LED
Plug socket for screw terminal connection		Technical data → Internet: mssd
	34 583	MSSD-C

Product Range and Company Overview

A Complete Suite of Automation Services

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



Custom Automation Components Complete custom engineered solutions



Custom Control Cabinets Comprehensive engineering support and on-site services



Complete Systems Shipment, stocking and storage services

The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



Electromechanical Electromechanical actuators, motors, controllers & drives



Pneumatics Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices PLC's, operator interfaces, sensors and I/O devices

Supporting Advanced Automation... As No One Else Can!

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 12,000 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.



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