Valve series VOFD

FESTO

Solenoid valves VOFD

Key features

General

- The valves from the series VOFD are special 3/2-way valves for process automation, for use in chemical and petrochemical plants. Here 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.
- The NAMUR flange pattern makes the solenoid valves especially 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 influences such as rain.
- With German Technical Control Board (TÜV) approval up to SIL 3.

Function, design

- 3/2-way directly actuated poppet valves

Safety

- Can be used in emergency shutdown (ESD) applications
- Suitable for use in safety-related systems up to and including SIL 3 to IEC 61508

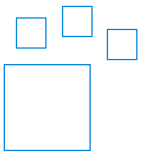
Robust

- 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, 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.

Economical

- One valve, two connection options
- Port patterns to NAMUR for direct installation on the actuator as well as G and NPT threaded connections
- Manual override can be ordered optionally
- Manual override can be retrofitted and removed again – no additional valve version required

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/...**

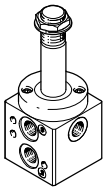
Enter the type (or part number) in the search field:

- VOFD-L35T 2956784
- VOFD-L50T 3212962
- VOFD-L100T 2964753

Solenoid valves VOFD

Key features

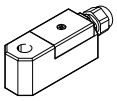
VOFD – Basic valves



- 3/2-way valves
- Ports G¼, ¼ NPT, G½, ½ NPT
- Port pattern to NAMUR, port pattern to NAMUR with P duct

➔ Page 17

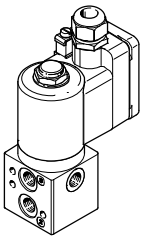
VACC – S18 coils, VACC – S13 coils



- AC and DC voltage 24 V, 48 V, 60 V, 110 V, 120 V, 230 V
- Type of ignition protection EX EMB II, EX tD

➔ Internet: vacc

VOFD – Solenoid valves



- Combination of VOFD basic valve and VACC-S18 coil (in the case of basic valve VOFD-L12T-..., VACC-S13 coil)
- 3/2-way valves
- Type of ignition protection EX EMB II, EX tD

Configurable product

➔ Page 2

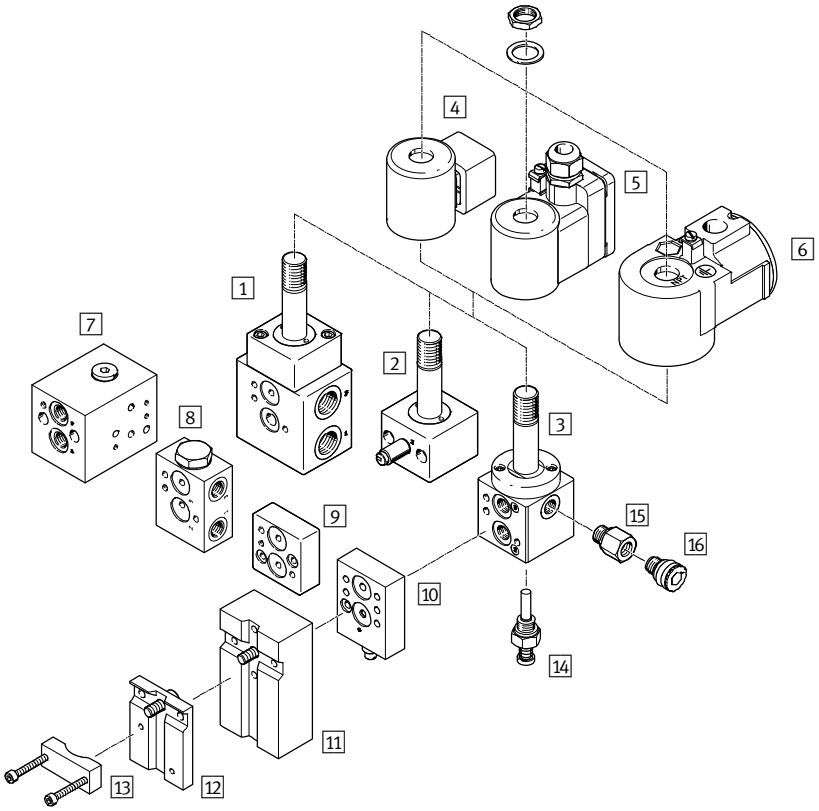
VOFD – Accessories

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

➔ Page 54

Solenoid valves VOFD-L35/50/100T-...-F10

Peripherals overview

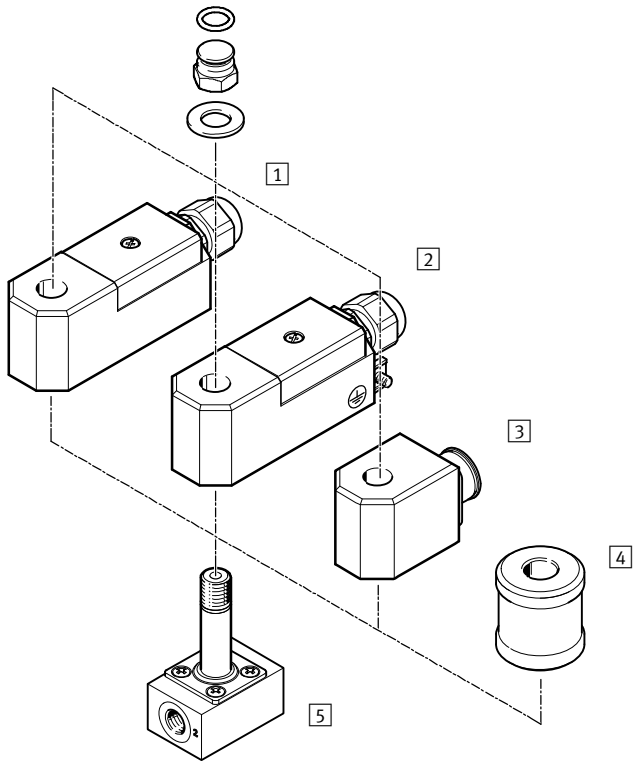


Mounting components and accessories		
Brief description		**➔ Page/Internet**
1 Basic valve VOFD-L100T-...	3/2-way valve, port G1/2, poppet valve ➔ modular product system – can be configured using the online configurator	2
2 Basic valve VOFD-L35T-...	3/2-way valve, port G1/4, poppet valve ➔ modular product system – can be configured using the online configurator	2
3 Basic valve VOFD-L50T-...	3/2-way valve, port G1/4, poppet valve ➔ modular product system – can be configured using the online configurator	2
4 Solenoid coil VACC-S18-...-D	Ex-D solenoid	57
5 Solenoid coil VACC-S18-...-ME	Ex-ME solenoid	44
6 Solenoid coil VACC-S18-...-A1-...	A1 standard solenoid	48
7 Sub-base VABS-S7-RB-...	Sub-base for mounting two solenoid valves for redundant circuitry	54
8 Connecting plate VABS-S7-BE-...	Sub-base as a pressurisation and exhaust block	54
9 Mounting plate VAME-S7-P-N-V14-A	Mounting plate as a spacer plate for solenoid valves when combined with ATEX solenoid coils	60
10 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	57
11 Connection kit VABF-S7-S-G14	Mounting plate for attaching the valve to a NAMUR rib	58
12 Mounting plate VAME-S7-P	Mounting plate for attaching the valve to a NAMUR rib	57

Solenoid valves VOFD-L12T-...-F19/F19A

Peripherals overview

Mounting components and accessories			
		Brief description	→ Page/Internet
13	Mounting bracket VAME-S7-Y	Alternative option (instead of screw) for attaching the valve to a NAMUR rib with the help of a mounting bracket	58
14	Manual override VAOH-S8	Manual override	60
15	Adapter NPFV-AF-...-MF	Adapter with filter	59
16	Exhaust protection VABD-D3-SN-G14	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	59



Accessories: Valve pilot control interface for solenoid coil 13 mm			
		Brief description	→ Page/Internet
1	Solenoid coil VACC-S13-...-4A	EX-4A solenoid	34
2	Solenoid coil VACC-S13-...-ME	Ex-ME solenoid	32
3	Solenoid coil VACC-S13-...-A1-...	A1 standard solenoid	36
4	Manual override VAOH-MB-S7-S13	Manual override (MO)	60
5	Basic valve VOFD-L12T-...	3/2-way valve, port G1/4, poppet valve, valve pilot control interface for solenoid coil 13 mm	9

Solenoid valves VOFD

Type codes VOFD

VOFD	–	L		T	–		–	M	N		–		–		–		–

Type	
VOFD	Solenoid valves, series D

Valve type	
L	In-line valve

Nominal width	
12	1.2 mm
35	3.5 mm
50	5 mm
100	10 mm

Design principle	
T	Poppet valve

Valve function	
M32	3/2-way valve, normally closed or open
M32A	3/2-way valve, normally closed, semi-automatic

Reset method for single solenoid valves	
M	Mechanical spring

Pilot air	
N	None

Manual override	
–	None
H	Non-detenting
Y	Detenting without accessories

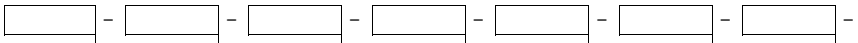
Pneumatic connection	
G12	G1/2
G14	G1/4
N12	1/2 NPT
N14	1/4 NPT
FG12	Flange G1/4, ports G1/2
FG14	Flange G1/4, ports G1/4
FGP14	Flange G1/4, ports G1/4 and additional pn port

Supply port version	
–	Standard
PF	With particle filter
NPF	With particle filter and connecting thread NPT

Exhaust	
–	No fitting
U6	With exhaust protection

Solenoid valves VOFD

Type codes VOFD



Pressure range	
8	0 ... 8 bar
10	0 ... 10 bar
12	0 ... 12 bar

Temperature range	
–	Standard
T6	–50 ... +60 °C

Corrosion protection	
–	Standard
R1	Stainless steel

Valve pilot control interface	
F10	Electric with armature tube for solenoid coil 18 mm
F19	Electric with armature tube for solenoid coil 13 mm
F19A	Electric with armature tube for solenoid coil 13 mm, intrinsically safe

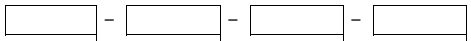
Power consumption	
–	None
18	1.8 W
25	2.5 W
35	3.5 W
70	7 W
120	12 W

Nominal operating voltage	
–	None
1A	24 V AC/50-60 Hz
1U	24 V AC and DC
2A	110 V AC/50-60 Hz
2U	110 V AC and DC
3A	220 VAC/50-60 Hz
3U	220 V AC and DC
7U	48 V AC and DC
16U	120 V AC and DC
1	24 V DC
3	230 V DC
7	48 V DC
16	120 V DC
27	60 V DC

Electrical connection	
–	None
A1	Plug pattern type A, to EN 175301
K4	Cable connector, metric
K5	Cable connector NPT

Solenoid valves VOFD

Type codes VOFD



Circuitry	
–	None
F	Fuse

EU certification	
–	Without certification
EX4	II 2GD

Certification outside the EU	
–	Without certification
U2	cULus, hazardous environment, USA and Canada (NEC 500)

Type of ignition protection	
–	None
A	Intrinsically safe
D	Pressure-resistant encapsulation
ME	Moulded encapsulation, enhanced safety

Basic valves VOFD-L12T-...-F19/F19A

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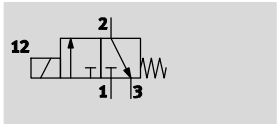
Technical data – Basic valve VOFD-L12T-...

Function
3/2-way valve



Flow rate
Up to 52 l/min

General technical data			
Basic valve G1/4		VOFD- ... -F19	VOFD- ... -F19-A
Valve function		3/2-way, single solenoid, closed	
Pneumatic connection	1	G1/4	
	2	G1/4	
	3	G1/4	
Design		Directly actuated poppet valve	
Width	[mm]	50	
Mounting position		Any	
Sealing principle		Soft	
Manual override		None	
Reset method		Mechanical spring	
Type of actuation		Electrical	
Suitability for vacuum		Yes	
Type of control		Direct	
Flow rate for piston valve pressurisation	[m^3/h]	0.04	
Flow rate for piston valve exhausting	[m^3/h]	0.04	
b value		0.2	0.53
C value	[l/s bar]	0.44	0.21
Direction of flow		Non-reversible	
Product weight	[g]	170	
Switching time off	[ms]	60	
Switching time on	[ms]	40	
Nominal width	[mm]	1.2	
Standard nominal flow rate	[l/min]	52	
Standard nominal flow rate 2→3	[l/min]	49	

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:–:–]
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 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 VOFD-L12T-...-F19/F19A

Technical data – Basic valve VOFD-L12T-...

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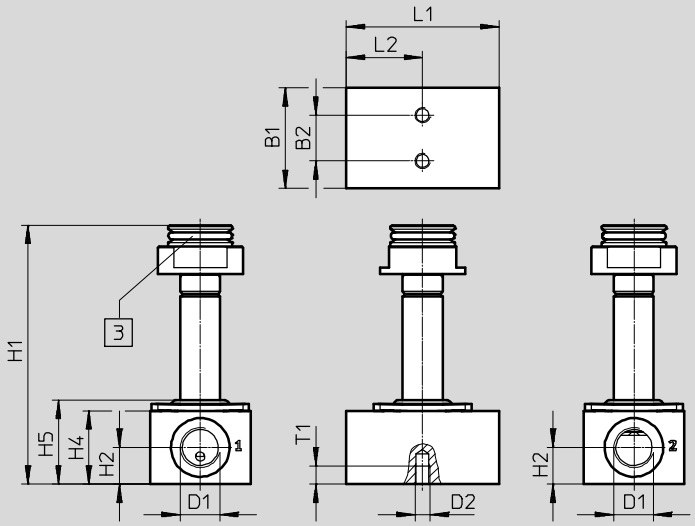
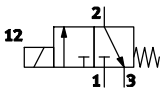
Dimensions Download CAD data ➔ **www.festo.com**



3 Pneumatic connection 3

Type	B1	B2	D1	D2	H1	H2	H4	H5	L1	L2	T1
VOFD-L12T-M32-MN-G14-F19	33	15	G1/4	M5	85	12	24	27.5	50	25	6
VOFD-L12T-M32-MN-G14-F19-A											

Ordering data

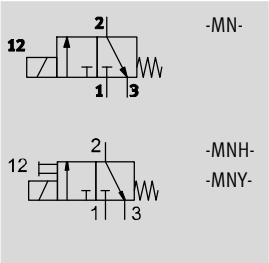
Circuit symbol	Function	Pneumatic connection	Type of ignition protection	Part No.	Type
Directly actuated poppet valve					
	3/2-way, single solenoid, closed	G1/4	None	**3013904**	**VOFD-L12T-M32-MN-G14-F19**
			Intrinsically safe	**3014556**	**VOFD-L12T-M32-MN-G14-F19A**

Basic valves VOFD-L35T-...-F10

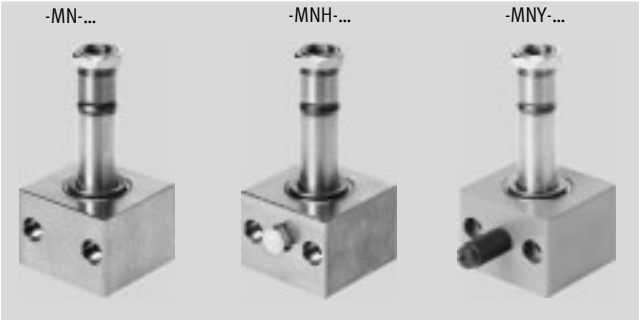
Technical data – Modular system NW 3.5 mm

FESTO

Function
3/2-way valve



Flow rate
Up to 406 l/min



General technical data				
Basic valve G1/4		VOFD-L35T-...-MN-...	VOFD-L35T-...-MNH-...	VOFD-L35T-...-MNY-...-
Valve function		3/2-way, single solenoid, closed (M32)		
		3/2-way, single solenoid, closed, semi-automatic (M32A)		
Pneumatic connection	1	G1/4		
VOFD-...-G14	2	G1/4		
	3	G1/4		
Pneumatic connection	1	1/4 NPT		
VOFD-...-N14	2	1/4 NPT		
	3	1/4 NPT		
Design		Directly actuated poppet valve		
Width	[mm]	51 (50 stainless steel design)		
Mounting position		Any		
Sealing principle		Soft		
Manual override		None	Non-detenting	Detenting
Type of reset		Mechanical spring		
Type of actuation		Electrical		
Suitability for vacuum		No		
Type of control		Direct		
Flow rate for piston valve pressurisation	[m^3/h]	0.32		
Flow rate for piston valve exhausting	[m^3/h]	0.32		
b value		0.15		
C value	[l/s bar]	1.8		
Direction of flow		Non-reversible		
Product weight	[g]	390		
Switching time off	[ms]	60		
Switching time on	[ms]	40		
Nominal width	[mm]	3.5		
Standard nominal flow rate 1 ⟶ 2	[l/min]	406		
Standard nominal flow rate 2 ⟶ 3	[l/min]	440		

Selection of solenoid coils

Suitable solenoid coils for the basic valves are available in the section on accessories.

The following solenoid coils can be selected:
- S18-18, nominal power 3 watt at 230 V AC (Ex-D)
- S18-70, nominal power 7 watt at 24 V DC (Ex-D)
- S18-120, nominal power 12 watt at 24 V DC (Ex-ME)

Note

Additional information and solenoid coils to fit basic valves can be found in the Festo online configurator.

➔ Internet: VACC
➔ www.festo.com/sp

New

Basic valves VOFD-L35T-...-F10

Technical data – Modular system NW 3.5 mm

FESTO

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:–:–]
Operating pressure range	[bar]	0 ... 8
Temperature of medium	[°C]	–25 ... +60
Temperature of medium, low temperature	[°C]	–50 ... +60
Ambient temperature	[°C]	–25 ... +60
Ambient temperature, low temperature	[°C]	–50 ... +60
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)
Stainless steel housing	High-alloy stainless steel
Seals	NBR
Low temperature seals, stainless steel	VMQ
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

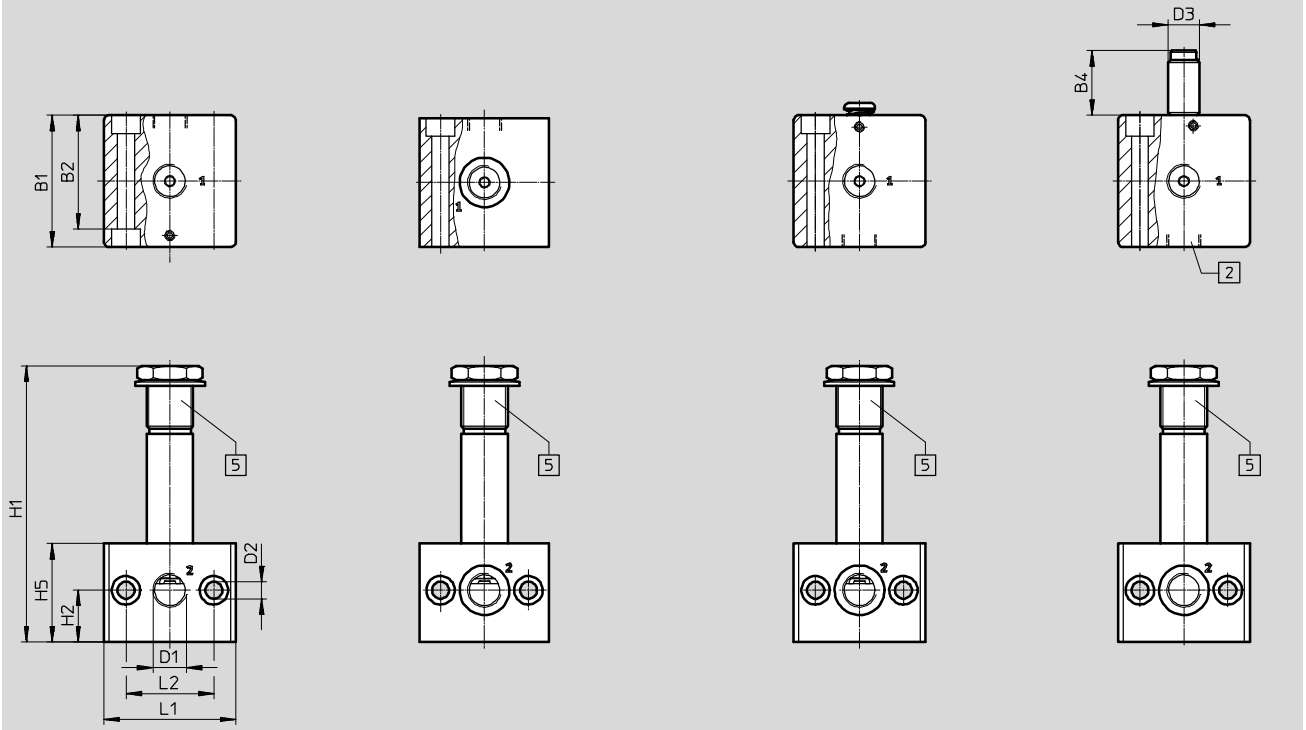
Basic valves VOFD-L35T-...-F10

Technical data – Modular system NW 3.5 mm

FESTO

Dimensions Download CAD data ➔ **www.festo.com**

VOFD-L35T-M32-MN-...-R1 | VOFD-L35T-M32-MNH-... | VOFD-L35T-M32-MNY-...



2 Working port

5 Port 3

Type of G thread	B1	B2	B4	D1	D2 ∅	D3 ∅	H1	H2	H5	L1	L2
VOFD-L35T-M32-MN-G14-...-F10	51	44	–	G1/4	6.6	–	106.5	20	38	51	34
VOFD-L35T-M32-MN-G14-...-R1-F10	50	43	–			–				50	
VOFD-L35T-M32-MNH-G14-...-F10	51	44	–			–				51	
VOFD-L35T-M32-MNY-G14-...-F10	51	44	25			12				51	

Type of NPT thread	B1	B2	B4	D1	D2 ∅	D3 ∅	H1	H2	H5	L1	L2
VOFD-L35T-M32-MN-N14-...-F10	51	44	–	1/4 NPT	6.6	–	106.5	20	38	51	34
VOFD-L35T-M32-MN-N14-...-R1-F10	50	43								50	
VOFD-L35T-M32-MNH-N14-...-F10	51	44								51	
VOFD-L35T-M32A-MNH-N14-...-F10	51	44								51	
VOFD-L35T-M32A-MNH-N14-...-R1-F10	50	43								50	

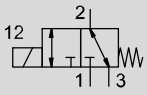
New

Basic valves VOFD-L50T-...-F10

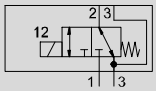
Technical data – Modular system NW 5 mm

FESTO

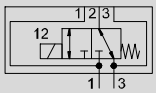
Function
3/2-way valve



G14/N14



FG14



FGP14

Flow rate
Up to 493 l/min

VOFD-L50T-...

VOFD-L50T-...-R1-...

General technical data				
Basic valve G1/4		VOFD-L50T-...G14-... VOFD-L50T-...N14-...	VOFD-L50T-...-FG14-... VOFD-L50T-...-FGP14-...	VOFD-L50T-...G14-R1-... VOFD-L50T-...N14-R1-...
Valve function		3/2-way, single solenoid, closed		
Pneumatic connection	1	G1/4		
VOFD-...-G14	2	G1/4		
	3	G1/4		
Pneumatic connection	1	1/4 NPT		
VOFD-...-N14	2	1/4 NPT		
	3	1/4 NPT		
Pneumatic connection	1	G1/4		
VOFD-...-FG14	2	Port pattern to NAMUR, flange 1/4		
	3	G1/4		
Pneumatic connection	1	M5 port pattern to NAMUR		
VOFD-...-FGP14	2	Port pattern to NAMUR, flange 1/4		
	3	G1/4		
Design		Directly actuated poppet valve		
Width	[mm]	51	50.5 (flange thread)	28 (stainless steel design)
Mounting position		Any		
Sealing principle		Soft		
Manual override		None		
Reset method		Mechanical spring		
Type of actuation		Electrical		
Suitability for vacuum		Yes		
Type of control		Direct		
Flow rate for piston valve pressurisation	[m^3/h]	0.36		
Flow rate for piston valve exhausting	[m^3/h]	0.36		
b value		0.25		
C value	[l/s bar]	2		
Direction of flow		Reversible		
Product weight	[g]	560		
Switching time off	[ms]	60		
Switching time on	[ms]	40		
Nominal width	[mm]	5		
Standard nominal flow rate	[l/min]	493		
Standard nominal flow rate 2⟶3	[l/min]	429		

Basic valves VOFD-L50T-...-F10

Technical data – Modular system NW 5 mm

FESTO

Selection of solenoid coils

Suitable solenoid coils for the basic valves are available in the section on accessories.

The following solenoid coils can be selected:
- S18-25, nominal power 2.5 watt at 24 V DC (Ex-D)
- S18-35, nominal power 3.5 watt at 24 V DC (Ex-ME)

Note

Additional information and solenoid coils to fit basic valves can be found in the Festo online configurator.

➔ Internet: VACC
➔ www.festo.com/sp

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:–:–]
Operating pressure range	[bar]	0 ... 10
Temperature of medium	[°C]	–10 ... +60
Ambient temperature	[°C]	–10 ... +60
Extended ambient temperature, Low Demand mode	[°C]	–25 ... +60
Safety integrity level	[SIL]	Up to SIL 3 Low 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)
Stainless steel housing	High-alloy stainless steel
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

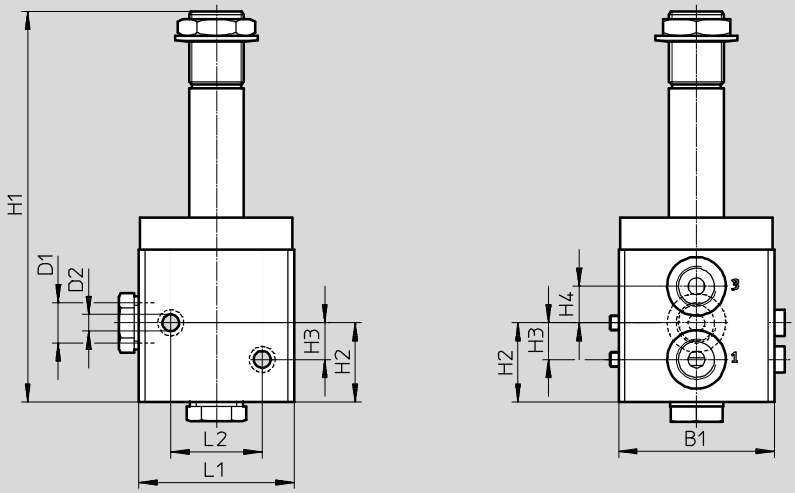
New

Basic valves VOFD-L50T-...-F10

Technical data – Modular system NW 5 mm

FESTO

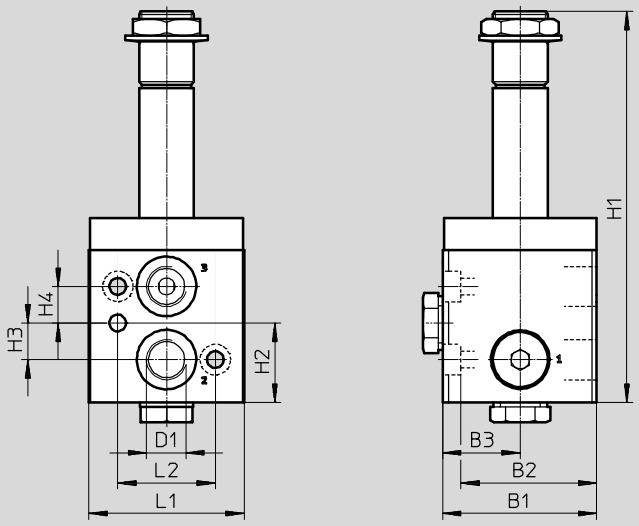
Dimensions Download CAD data ➔ **www.festo.com**



Type of G thread	B1	D1	D2 ∅	H1	H2	H3	H4	L1	L2
VOFD-L50T-M32-MN-G14-...-F10	51	G1/4	5.5	128	26	12	12	51	30
VOFD-L50T-M32-MN-G14-...-R1-F10	28			124				50	

Type of NPT thread	B1	D1	D2 ∅	H1	H2	H3	H4	L1	L2
VOFD-L50T-M32-MN-N14-...-F10	51	1/4 NPT	5.5	128	26	12	12	51	30
VOFD-L50T-M32-MN-N14-...-R1-F10	28			124				50	

Dimensions Download CAD data ➔ **www.festo.com**

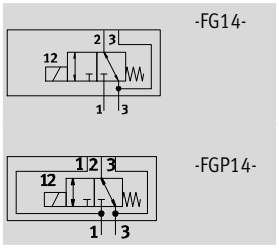


Type of flange thread	B1	B2	B3	D1	H1	H2	H3	H4	L1	L2
VOFD-L50T-M32-MN-FG14-F10	50.5	44.5	25.5	G1/4	128	26	12	12	51	32
VOFD-L50T-M32-MN-FGP14-F10										

Basic valves VOFD-L50T-...-F10

Technical data – Basic valve NW 3.5 mm, G1/4 NAMUR

Function
3/2-way valve



Flow rate
450 l/min (-LT-M32-)
493 l/min (-L50T-M32-)

General technical data			
Type VOFD-LT-M32-...		G1/4 basic valve and NAMUR	G1/4 basic valve and NAMUR, supply port
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		Directly actuated poppet valve	
Width	[mm]	51	
Mounting position		Any	
Duty cycle		100%	
Sealing principle		Soft	
Manual override		None	
Reset method		Mechanical spring	
Type of actuation		Electrical	
Suitability for vacuum		Yes	
Type of control		Direct	
Flow rate for piston valve pressurisation	[m^3/h]	0.36	
Flow rate for piston valve exhausting	[m^3/h]	0.36	
Direction of flow		Non-reversible	
Product weight	[g]	560	
Switching time off	[ms]	9	
Switching time on	[ms]	45	
Nominal width	[mm]	5	
Standard nominal flow rate	[l/min]	450	

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection		IP65
Operating pressure range	[bar]	0 ... 10
Temperature of medium	[°C]	–10 ... +60
Ambient temperature	[°C]	–10 ... +60
Extended ambient temperature, Low Demand mode	[°C]	–25 ... +60
Safety integrity level	[SIL]	Up to SIL 3 Low Demand mode
		Up to SIL 3 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 (hard Ematal-coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFD-L50T-...-F10

Technical data – Basic valve NW 3.5 mm, G1/4 NAMUR

General technical data				
Type VOFD-L50T-M32-...			G1/4 basic valve and NAMUR	G1/4 basic valve and NAMUR, supply port
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	Flange 1/4 and port pattern to NAMUR
	3		G1/4	G1/4
Design			Directly actuated poppet valve	
Width		[mm]	50.5	
Mounting position			Any	
Sealing principle			Soft	
Manual override			None	
Reset method			Mechanical spring	
Type of actuation			Electrical	
Suitability for vacuum			Yes	
Type of control			Direct	
Flow rate for piston valve pressurisation		[m^3/h]	0.36	
Flow rate for piston valve exhausting		[m^3/h]	0.36	
b value			0.25	
C value		[l/s bar]	2	
Direction of flow			Reversible	
Product weight		[g]	560	
Switching time off		[ms]	60	
Switching time on		[ms]	40	
Nominal width		[mm]	5	
Standard nominal flow rate		[l/min]	493	
Standard nominal flow rate 2→3		[l/min]	429	

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:–:–]
Degree of protection		IP65
Operating pressure range	[bar]	0 ... 10
Temperature of medium	[°C]	–10 ... +60
Ambient temperature	[°C]	–10 ... +60
Extended ambient temperature, Low Demand mode	[°C]	–25 ... +60
Safety integrity level	[SIL]	Up to SIL 3 Low Demand mode
		Up to SIL 3 High Demand mode
Corrosion resistance class CRC[1)]		4

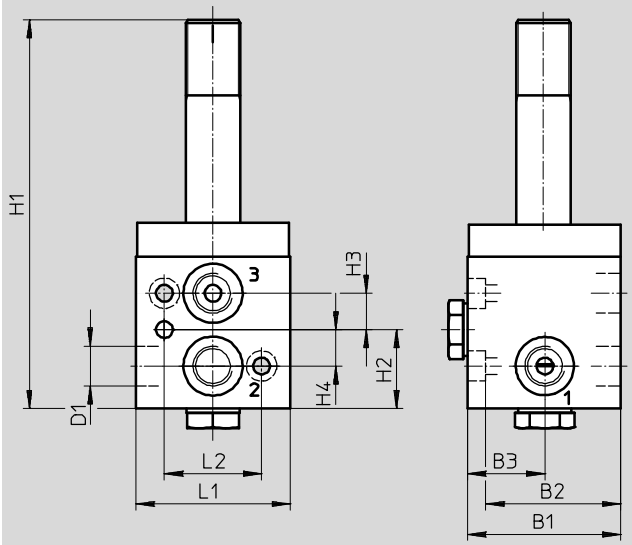
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ 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 VOFD-L50T-...-F10

Technical data – Basic valve NW 3.5 mm, G1/4 NAMUR

Dimensions G1/4 basic valve and NAMUR Download CAD data ➔ **www.festo.com**



Type of flange thread	B1	B2	B3	D1	H1	H2	H3	H4	L1	L2
VOFD-LT-M32-MN-FG14-F10 VOFD-L50T-M32-MN-FG14-10-F10	50.5	25.5	25.5	G1/4, NAMUR	128.2	26	12	12	51	32

- Type to be discontinued
Available until 03/2017

Basic valves VOFD-L50T-...-F10

Technical data – Basic valve NW 3.5 mm, G1/4 NAMUR

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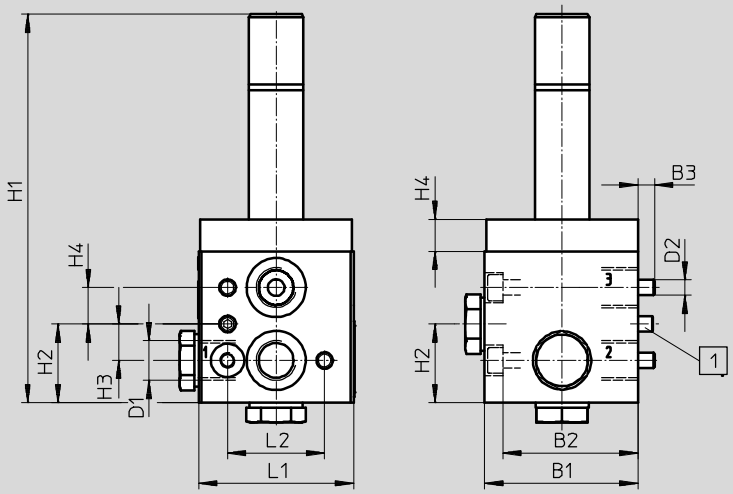
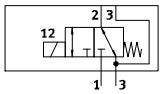
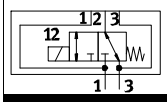
Dimensions – G1/4 basic valve and NAMUR, supply port Download CAD data ➔ **www.festo.com**



1 Coding pin M5x10

Type of flange thread	B1	B2	B3	D1	D2	H1	H2	H3	H4	L1	L2
VOFD-LT-M32-MN-FGP14-F10	50.5	44.5	5.5	G1/4, NAMUR	M5	128.2	26	10.5	12	51	32
VOFD-L50T-M32-MN-FGP14-10-F10											

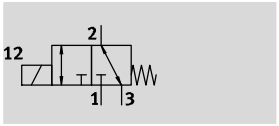
Ordering data

Circuit symbol	Function	Pneumatic connection	Part No.	Type
Directly actuated poppet valve				
	3/2-way, single solenoid, closed	G1/4 and NAMUR	**562883**	**VOFD-LT-M32-MN-FG14-F10** -
			4514999	**VOFD-L50T-M32-MN-FG14-10-F10**
	3/2-way, single solenoid, closed	NAMUR with supply port	**570786**	**VOFD-LT-M32-MN-FGP14-F10** -
			4515000	**VOFD-L50T-M32-MN-FGP14-10-F10**

Basic valves VOFD-L50T-...-F10

Technical data – Basic valve NW 3.5 mm, G/NPT 1/4, in-line

Function
3/2-way valve



Flow rate
450 l/min (-LT-M32-)
493 l/min (-L50T-M32-)

General technical data			
Type VOFD-LT-M32-...		G1/4 basic valve	1/4 NPT basic valve
Valve function		3/2-way, single solenoid, closed	
Pneumatic connection	1	G1/4	1/4 NPT
	2	G1/4	1/4 NPT
	3	G1/4	1/4 NPT
Design		Directly actuated poppet valve	
Width	[mm]	51	
Mounting position		Any	
Duty cycle		100%	
Sealing principle		Soft	
Manual override		None	
Reset method		Mechanical spring	
Type of actuation		Electrical	
Suitability for vacuum		Yes	
Type of control		Direct	
Flow rate for piston valve pressurisation	[m^3/h]	0.36	
Flow rate for piston valve exhausting	[m^3/h]	0.36	
Direction of flow		Reversible	
Product weight	[g]	560	
Switching time off	[ms]	9	
Switching time on	[ms]	45	
Nominal width	[mm]	5	
Standard nominal flow rate	[l/min]	450	

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection		IP65
Operating pressure range	[bar]	0 ... 10
Temperature of medium	[°C]	–10 ... +60
Ambient temperature	[°C]	–10 ... +60
Extended ambient temperature, Low Demand mode	[°C]	–25 ... +60
Safety integrity level	[SIL]	Up to SIL 3 Low Demand mode
		Up to SIL 3 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 (hard Ematal-coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFD-L50T-...-F10

Technical data – Basic valve NW 3.5 mm, G/NPT 1/4, in-line

General technical data				
Type VOFD-L50T-M32-...			G1/4 basic valve	1/4 NPT basic valve
Valve function			3/2-way, single solenoid, closed	
Pneumatic connection	1		G1/4	1/4 NPT
	2		G1/4	1/4 NPT
	3		G1/4	1/4 NPT
Design			Directly actuated poppet valve	
Width		[mm]	51, 28 (stainless steel design)	
Mounting position			Any	
Sealing principle			Soft	
Manual override			None	
Reset method			Mechanical spring	
Type of actuation			Electrical	
Suitability for vacuum			Yes	
Type of control			Direct	
Flow rate for piston valve pressurisation		[m^3/h]	0.36	
Flow rate for piston valve exhausting		[m^3/h]	0.36	
b value			0.25	
C value		[l/s bar]	2	
Direction of flow			Reversible	
Product weight		[g]	560	
Switching time off		[ms]	60	
Switching time on		[ms]	40	
Nominal width		[mm]	5	
Standard nominal flow rate		[l/min]	493	
Standard nominal flow rate 2→3		[l/min]	429	

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:–:–]
Degree of protection		IP65
Operating pressure range	[bar]	0 ... 10
Temperature of medium	[°C]	–10 ... +60
Ambient temperature	[°C]	–10 ... +60
Extended ambient temperature, Low Demand mode	[°C]	–25 ... +60
Safety integrity level	[SIL]	Up to SIL 3 Low Demand mode
		Up to SIL 3 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.

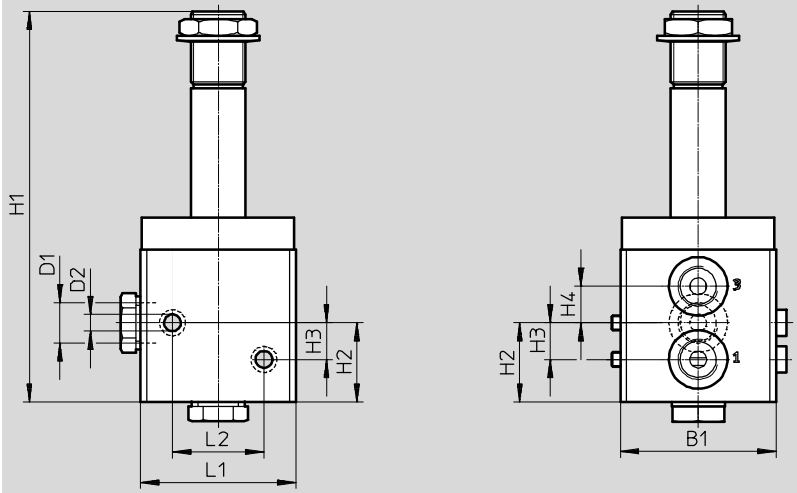
Materials	
Housing	Aluminium (Ematal coated)
Stainless steel housing	High-alloy stainless steel
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Basic valves VOFD-L50T-...-F10

Technical data – Basic valve NW 3.5 mm, G/NPT 1/4, in-line

FESTO

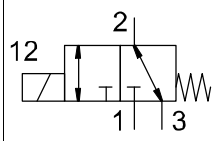
Dimensions Download CAD data ➔ **www.festo.com**



Type of G thread	B1	D1	D2 ∅	H1	H2	H3	H4	L1	L2
VOFD-LT-M32-MN-G14-F10	51	G1/4	5.5	128	26	12	12	51	30
VOFD-L50T-M32-MN-G14-...-F10									
VOFD-L50T-M32-MN-G14-...-R1-F10	28			124				50	

Type of NPT thread	B1	D1	D2 ∅	H1	H2	H3	H4	L1	L2
VOFD-LT-M32-MN-N14-F10	51	1/4 NPT	5.5	128	26	12	12	51	30
VOFD-L50T-M32-MN-N14-...-F10									
VOFD-L50T-M32-MN-N14-...-R1-F10	28			124				50	

Ordering data

Circuit symbol	Function	Pneumatic connection	Part No.	Type
Directly actuated poppet valve				
	3/2-way, single solenoid, closed	G1/4	**562881**	**VOFD-LT-M32-MN-G14-F10**
			4514997	**VOFD-L50T-M32-MN-G14-10-F10**
			4515019	**VOFD-L50T-M32-MN-G14-10-R1-F10**
		1/4 NPT	**562882**	**VOFD-LT-M32-MN-N14-F10**
			4514998	**VOFD-L50T-M32-MN-N14-10-F10**
			4515018	**VOFD-L50T-M32-MN-N14-10-R1-F10**

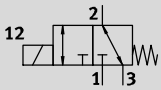
Type to be discontinued
Available until 03/2017

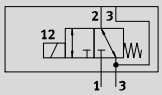
Basic valves VOFD-L50T-...-F10

Technical data – Solenoid valve NW 5 mm, G/NPT 1/4, in-line, and NAMUR

FESTO

Function
3/2-way valve





Flow rate
450 l/min

Voltage
24 V DC / AC

General technical data					
			G1/4 solenoid valve	1/4 NPT solenoid valve	G1/4 solenoid valve and NAMUR
Valve function			3/2-way, single solenoid, closed		
Pneumatic connection		1	G1/4	1/4 NPT	G1/4
		2	G1/4	1/4 NPT	G1/4 and port pattern to NAMUR
		3	G1/4	1/4 NPT	G1/4
		4	–	–	G1/4 and port pattern to NAMUR
Design			Directly actuated poppet valve		
Width		[mm]	51		
Mounting position			Any		
Duty cycle			100%		
Sealing principle			Soft		
Manual override			None		
Reset method			Mechanical spring		
Type of actuation			Electrical		
Electrical connection			Terminal box, cable entry thread M20x1.5		
Permissible voltage fluctuations			-15% / +10%		
Characteristic coil data	DC voltage 24 V	[W]	3.5		
	AC voltage 24 V	[VA]	3.5		
Suitability for vacuum			Yes		
Type of control			Direct		
Flow rate for piston valve pressurisation		[m^3/h]	0.36		
Flow rate for piston valve exhausting		[m^3/h]	0.36		
Direction of flow			Reversible		G1/4 + NPT reversible, G1/4 + NAMUR non-reversible
Product weight		[g]	1140		
Switching time off		[ms]	9		
Switching time on		[ms]	45		
Nominal width		[mm]	5		
Standard nominal flow rate		[l/min]	450		

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

Type to be discontinued
Available until 03/2017

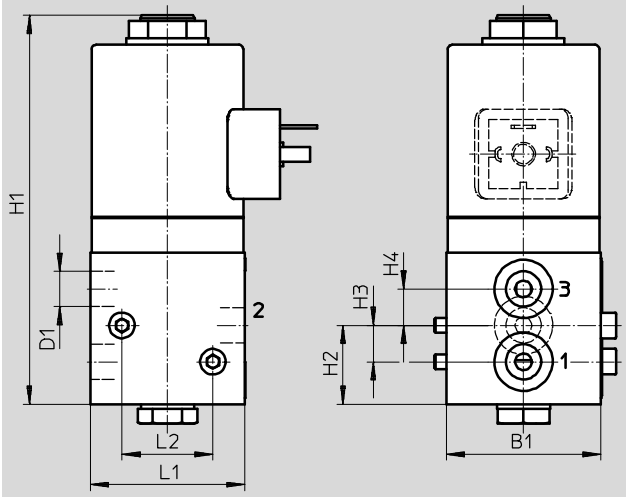
Basic valves VOFD-L50T-...-F10

Technical data – Solenoid valve NW 5 mm, G/NPT 1/4, in-line, and NAMUR

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [–:–:–]
Degree of protection		IP65
Operating pressure range	[bar]	0 ... 10
Temperature of medium	[°C]	–10 ... +60
Ambient temperature	[°C]	–10 ... +60
Extended ambient temperature, Low Demand mode	[°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]	T80: –20 ≤ Ta ≤ +50
		T95: –20 ≤ Ta ≤ +60
Certificate issuing authority		PTB 08 ATEX 2033 X
CE marking (see declaration of conformity)		To EU Explosion Protection Directive (ATEX)
Safety integrity level	[SIL]	Up to SIL 3 Low Demand mode
		Up to SIL 3 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.

Dimensions G1/4, 1/4 NPT solenoid valve Download CAD data ➔ **www.festo.com**



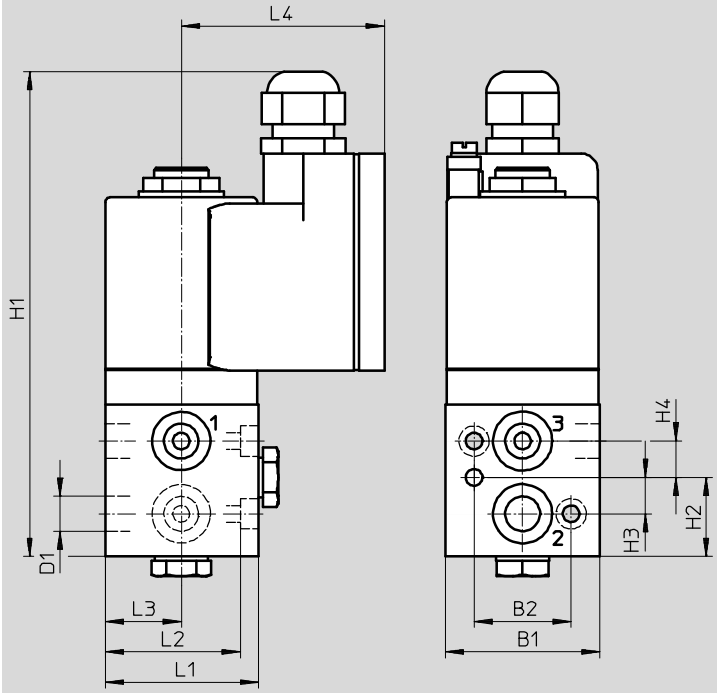
Type	B1	B2	D1	H1	H2	H3	H4	H5	H6	L1	L2
VOFD-LT-M32-MN-G14-1UK4-EX4ME	51	30	G1/4	159.8	38	26	14	14	12	51	67
VOFD-LT-M32-MN-N14-1UK4-EX4ME	51	30	1/4 NPT	159.8	38	26	14	14	12	51	67

- Type to be discontinued
Available until 03/2017

Basic valves VOFD-L50T-...-F10

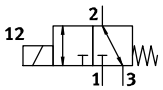
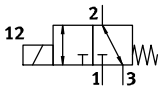
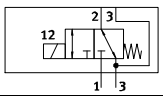
Technical data – Solenoid valve NW 5 mm, G/NPT 1/4, in-line, and NAMUR

Dimensions G1/4 solenoid valve and NAMUR Download CAD data ➔ **www.festo.com**



Type	B1	B2	D1	H1	H2	H3	H4	L1	L2	L3	L4
VOFD-LT-M32-MN-FG14-1UK4-EX4ME	51	32	NAMUR G1/4	159.8	26	12	12	50.5	44.5	25	67

Ordering data

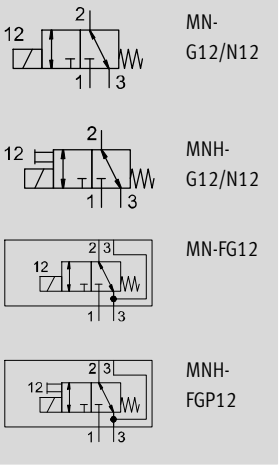
Circuit symbol	Function	Pneumatic connection	Ex ignition protection type	Part No.	Type
Directly actuated poppet valve					
	3/2-way, single solenoid, closed	G1/4	Ex emb II T6, T5	**562884**	**VOFD-LT-M32-MN-G14-1UK4-EX4ME**
	3/2-way, single solenoid, closed	1/4 NPT	Ex emb II T6, T5	**562885**	**VOFD-LT-M32-MN-N14-1UK4-EX4ME**
	3/2-way, single solenoid, closed	G1/4 and NAMUR	Ex emb II T6, T5	**562886**	**VOFD-LT-M32-MN-FG14-1UK4-EX4ME**

Basic valves VOFD-L100T-...-F10

FESTO

Technical data – Modular system NW 10 mm, G/NPT 1/2, NAMUR, and in-line

Function
3/2-way valve



Flow rate
Up to 1900 l/min

General technical data			
Basic valve G1/2		VOFD-L100T-M32-MN-...	VOFD-L100T-M32-MNH-...
Valve function		3/2-way, single solenoid, closed	
Pneumatic connection VOFD-...-G12	1	G1/2	
	2	G1/2	
	3	G1/2	
Pneumatic connection VOFD-...-N12	1	1/2 NPT	
	2	1/2 NPT	
	3	1/2 NPT	
Pneumatic connection VOFD-...-FG12	1	G1/2	
	2	Port pattern to NAMUR, flange 1/2	
	3	G1/2	
Design		Directly actuated poppet valve	
Width	[mm]	51	
Mounting position		Any	
Sealing principle		Soft	
Manual override		None	Non-detenting
Type of reset		Mechanical spring	
Type of actuation		Electrical	
Suitability for vacuum		Yes	
Type of control		Direct	
Flow rate for piston valve pressurisation	[m^3/h]	1.68	
Flow rate for piston valve exhausting	[m^3/h]	1.68	
b value		0.22	
C value	[l/s bar]	7.6	
Direction of flow		Reversible	
Product weight	[g]	950	
Switching time off	[ms]	60	
Switching time on	[ms]	40	
Nominal width	[mm]	10	
Standard nominal flow rate 1 ⟶ 2	[l/min.]	1900	
Standard nominal flow rate 2 ⟶ 3	[l/min.]	1888	

Selection of solenoid coils

Suitable solenoid coils for the basic valves are available in the section on accessories.

The following solenoid coils can be selected:
- S18-70, nominal power 7 watt at 24 V DC (Ex-D)
- S18-120, nominal power 12 watt at 24 V DC (Ex-ME)

Note

Additional information and solenoid coils to fit basic valves can be found in the Festo online configurator.

➔ Internet: VACC
➔ www.festo.com/sp

Basic valves VOFD-L100T-...-F10

Technical data – Modular system NW 10 mm, G/NPT 1/2, NAMUR, and in-line

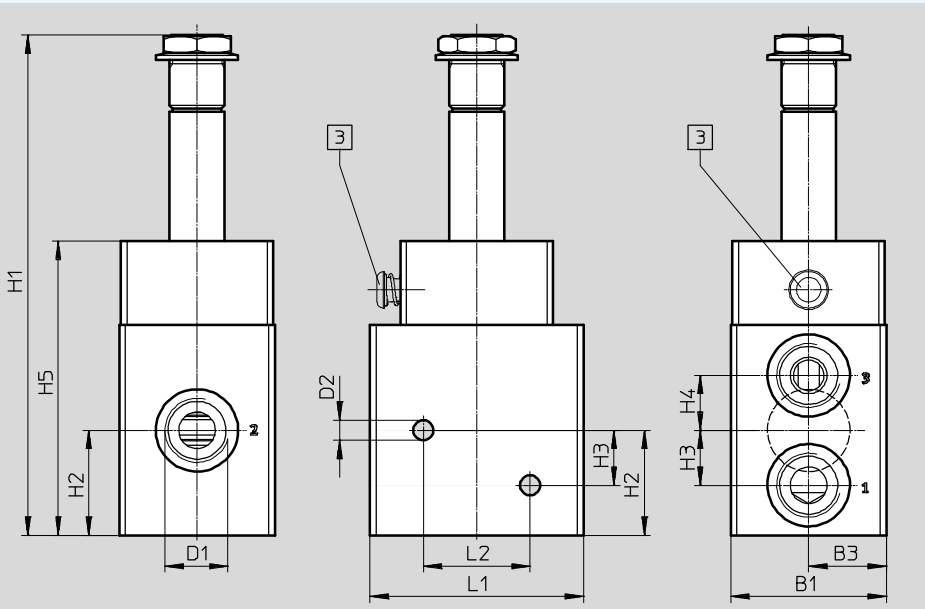
Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:–:–]
Operating pressure range	[bar]	0 ... 12
Temperature of medium	[°C]	–25 ... +60
Ambient temperature	[°C]	–25 ... +60
Corrosion resistance class CRC[1)]		4

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**

VOFD-L100T-M32-MN...



3 MO manual override, non-detenting

Type of G thread	B1	B3	D1	D2 ∅	H1	H2	H3	H4	H5	L1	L2
VOFD-L100T-M32-MN-G12-...-F10	51	25	G1/2	6.6	164	34.5	18	18	96.5	70	35
VOFD-L100T-M32-MNH-G12-...-F10											

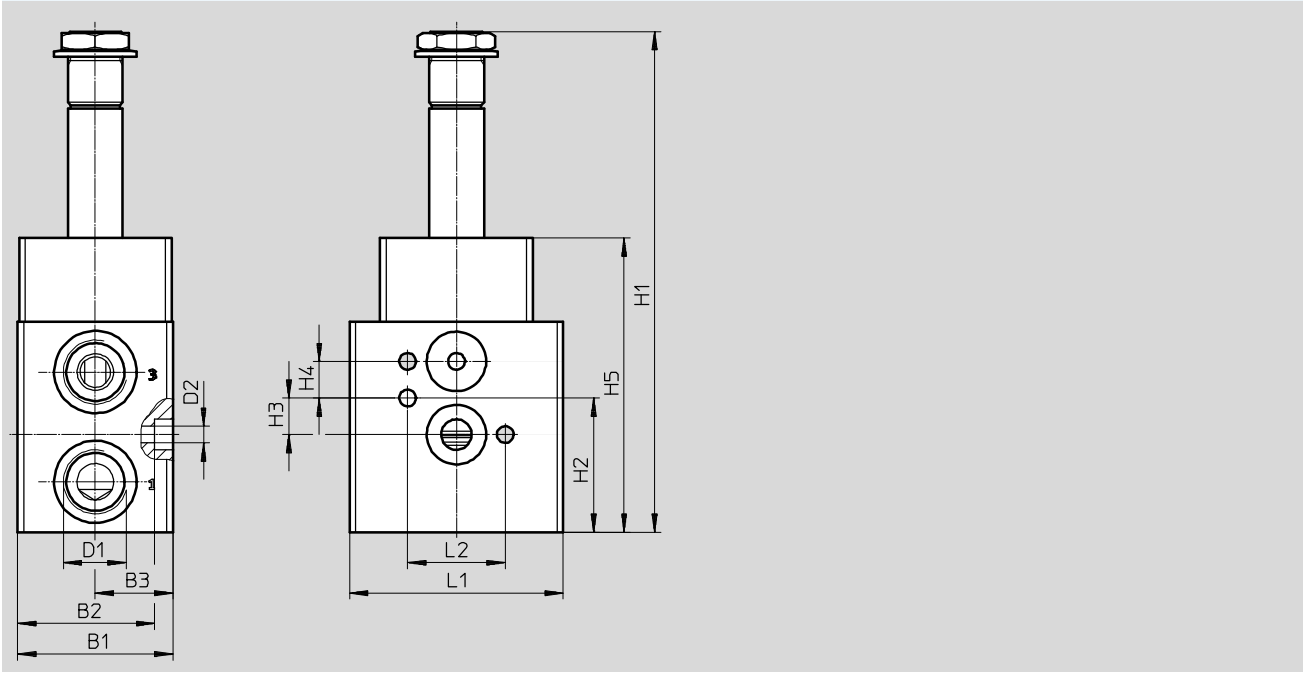
Type of NPT thread	B1	B3	D1	D2 ∅	H1	H2	H3	H4	H5	L1	L2
VOFD-L100T-M32-MN-N12-...-F10	51	25	1/2 NPT	6.6	164	34.5	18	18	96.5	70	35
VOFD-L100T-M32-MNH-N12-...-F10											

Basic valves VOFD-L100T-...-F10

Technical data – Modular system NW 10 mm, G/NPT 1/2, NAMUR, and in-line

Dimensions Download CAD data ➔ **www.festo.com**

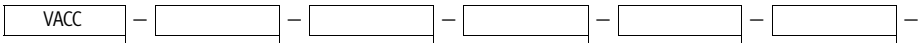
VOFD-L100T-...-FG12-...-F10



Type of flange thread	B1	B2	B3	D1	D2 ∅	H1	H2	H3	H4	H5	L1	L2
VOFD-L100T-...-FG12-...-F10	51	45	25.5	G1/2	5.5	164	44	12	12	96.5	70	32

Solenoid coils VACC-C

Type codes VACC



Type	
VACC	Solenoid coil, C series

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

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

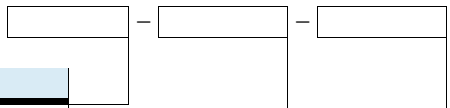
Electrical connection	
A1	Connection pattern type A, to EN 175301
K4	Cable connector, metric
K5	Cable connector NPT

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	
–	None
F	With fuse

Solenoid coils VACC-C

Type codes VACC



ATEX certification EU	
–	Without certification
EX3	ATEX category II 2G
EX4	ATEX category II 2GD

Additional certifications	
–	Without certification
U2	Hazardous environment for USA and Canada (to NEC 500)

Type of ignition protection	
–	None
A	Intrinsically safe
D	Pressure-resistant encapsulation
ME	Encapsulation, enhanced safety

New

Solenoid coils VACC

Accessories – Solenoid coils S13-18, EX4ME

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

Nominal power
2.0 watt at 24 V DC

General technical data											
Type VACC-S13-18-...-EX4ME		-K4-1U-		-K4-1UF-		-K4-27U-		-K4-2U-		-K4-3U-	
Type of actuation		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	–	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		ExtbIIICT85°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.

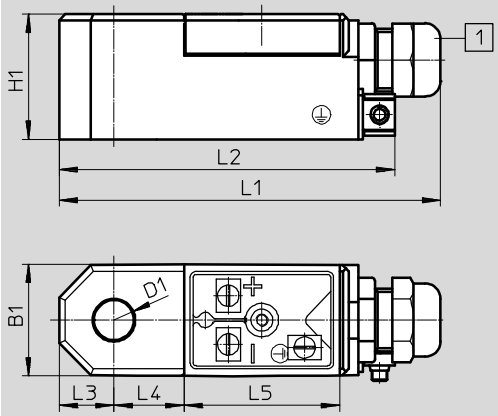
Materials	
Housing	PA, UP
Note on materials	RoHS-compliant, contains paint-wetting impairment substances

Solenoid coils VACC

Accessories – Solenoid coils S13-18, EX4ME

FESTO

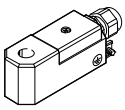
Dimensions Download CAD data ➔ **www.festo.com**



1 Terminal box, cable entry thread M20x1.5

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

Ordering data

	Description		Part No.	Type
	EX4ME 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 watt at 24 V DC

General technical data		
Type of control		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, Pi	[W]	1.2
Maximum input voltage, Ui	[V]	32
Maximum input current, Ii	[A]	0.2
Required current consumption, Imin	[mA]	16
Effective internal capacitance, Ci		Negligibly low
Effective internal inductance, Li		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 temperature	[°C]	T5,T95: –30 ≤ Ta ≤ +65
		T6,T80: –30 ≤ Ta ≤ +50
Certificate issuing authority		BVS15 ATEXE030X
		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

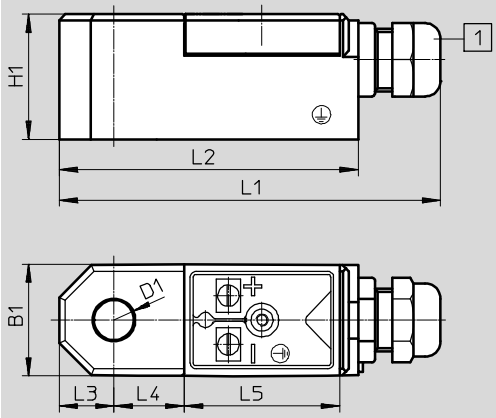
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔ 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, EX3A

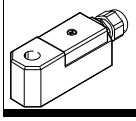
Dimensions Download CAD data ➔ **www.festo.com**



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

- Temperature range
  –20 … +60 °C

Nominal power
2.0 watt at 24 V DC

General technical data								
Type VACC-S13-18…		-A1-1	-A1-1U		-A1-2U		-A1-3U	
Type of control		Electrical						
Mounting position		Any						
Duty cycle	[%]	100						
Electrical connection		Plug connector to EN 175301-803, type 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			

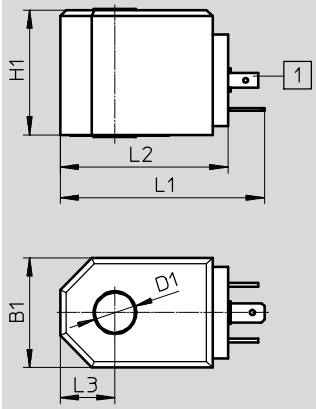
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔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

Dimensions Download CAD data ➔ **www.festo.com**



1 Plug pattern to EN 175301-803, type 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 connector to EN 175301-803, type 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**

New

Solenoid coils VACC

Accessories – Solenoid coils S18-18, EX4D

FESTO

Voltage
230 V AC

Temperature range
–20 ... +90 °C

Nominal power
3.0 watt at 230 V AC

General technical data		
Type VACC-S18...EX4D		-18-K4-3A- -18-K5-3A-
Type of control		Electrical
Mounting position		Any
Duty cycle	[%]	100
Electrical connection		Terminal box, cable fitting metric, M20x1.5 (K4)
		Terminal box, cable fitting NPT, 1/2 NPT (K5)
Switching position indication		No
Product weight	[g]	1700
Operating voltage	[V]	230
Power	[VA]	3.0

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 d IIC T6, T5, T4 Gb
Type of ignition protection for dust		Ex tb IIIC T80°C,T95°C,T130°C Db
Explosion-proof temperature	[°C]	T4,T130: –50 ≤ Ta ≤ +90
		T5,T95: –50 ≤ Ta ≤ +55
		T6,T80: –50 ≤ Ta ≤ +40
Certificate issuing authority		NEPSI GYJ111107
		PTB 08 ATEX 1086
		TÜV 12.1948
Explosion protection certification outside the EU		EPL Gb (BR), EPL Gb (CN)
CE marking (see declaration of conformity)		To EU Explosion Protection Directive (ATEX)
Insulation class		H
Corrosion resistance class CRC[1)]		4

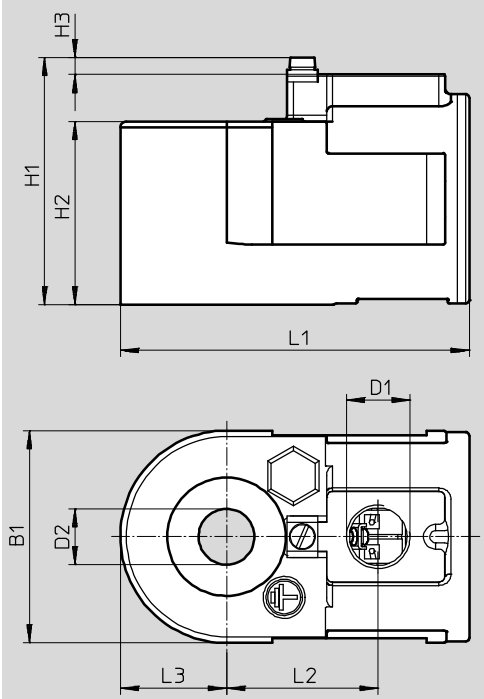
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔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

Materials	
Housing	Grey cast iron, wrought aluminium alloy
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Solenoid coils VACC

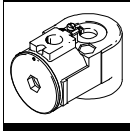
Accessories – Solenoid coils S18-18, EX4D

Dimensions Download CAD data ➔ **www.festo.com**



Type	B1	D1	D2 ∅	H1	H2	H3	L1	L2	L3
VACC-S18-18-K4-3A-EX4D	70	M20x1.5	18.2	82	60.5	6	115	50	35
VACC-S18-18-K5-3A-EX4D		1/2 NPT							

Ordering data

	Description		Part No.	Type
	EX4D coil, terminal box, cable fitting metric, M20x1.5	230 V AC	**3504741**	**VACC-S18-18-K4-3A-EX4D**
	EX4D coil, terminal box, cable fitting NPT, 1/2 NPT	230 V AC	**3546734**	**VACC-S18-18-K5-3A-EX4D**

Solenoid coils VACC

Accessories – Solenoid coils S18-25, EX3D

FESTO

- Voltage
  24 V AC/DC
  110 V AC/DC
  230 V AC/DC
- Temperature range
  –20 … +60 °C

Nominal power
2.5 watt at 24 V DC

General technical data							
Type VACC-S18-25…EX3D		-K4-1U- -K5-1U-		-K4-2U- -K5-2U-		-K4-3U- -K5-3U-	
Type of actuation		Electrical					
Mounting position		Any					
Duty cycle	[%]	100					
Electrical connection		Terminal box, cable entry thread metric, M20x1.5 (K4)					
		Terminal box, cable entry thread NPT, 1/2 NPT (K5)					
Switching position indication		No					
Product weight	[g]	1700					
Operating voltage	[V]	24	24	110	110	230	230
Power	[W]	–	2.5	–	2.7	–	2.5
	[VA]	2.1	–	2.4	–	2.3	–

Operating and environmental conditions		
Degree of protection		IP65
Permissible voltage fluctuations		–15 % / +10 %
Ambient temperature	[°C]	–20 … +60
Operating pressure range	[bar]	0 … 10
ATEX category for gas		II 2G
ATEX category for dust		II 2D
Type of ignition protection for gas		Ex d IIC T6, T5, T4 Gb
Type of ignition protection for dust		Ex tb IIIC T80°C,T95°C,T130°C Db
Explosion-proof temperature	[°C]	T4,T130: –50 ≤ Ta ≤ +90
		T5,T95: –50 ≤ Ta ≤ +55
		T6,T80: –50 ≤ Ta ≤ +40
Certificate issuing authority		NEPSI GYJ111107
		PTB 08 ATEX 1086
		TÜV 12.1948
Explosion protection certification outside the EU		EPL Gb (BR), EPL Gb (CN)
CE marking (see declaration of conformity)		To EU Explosion Protection Directive (ATEX)
Corrosion resistance class CRC[1)]		4

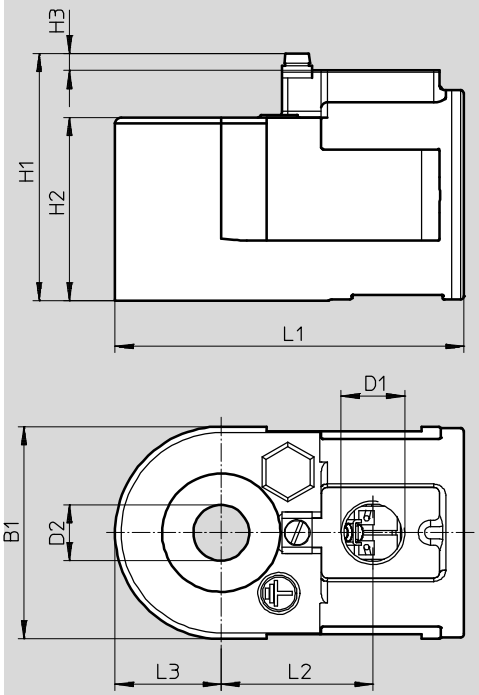
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔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

Materials	
Housing	Grey cast iron, wrought aluminium alloy
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Solenoid coils VACC

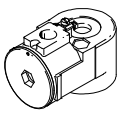
Accessories – Solenoid coils S18-25, EX3D

Dimensions Download CAD data ➔ **www.festo.com**



Type	B1	D1	D2 ∅	H1	H2	H3	L1	L2	L3
VACC-S18-25-K4-1U-EX3D	70	M20x1.5	18.2	82	60.5	6	115	50	35
VACC-S18-25-K4-2U-EX3D									
VACC-S18-25-K4-3U-EX3D									
VACC-S18-25-K5-1U-EX3D		1/2 NPT							
VACC-S18-25-K5-2U-EX3D									
VACC-S18-25-K5-3U-EX3D									

Ordering data

	Description		Part No.	Type
	EX3D coil, terminal box, cable entry thread metric, M20x1.5	24 V AC/DC	**562903**	**VACC-S18-25-K4-1U-EX3D**
		110 V AC/DC	**562904**	**VACC-S18-25-K4-2U-EX3D**
		230 V AC/DC	**562905**	**VACC-S18-25-K4-3U-EX3D**
	EX3D coil, terminal box, cable entry thread NPT, 1/2 NPT	24 V AC/DC	**562900**	**VACC-S18-25-K5-1U-EX3D**
		110 V AC/DC	**562901**	**VACC-S18-25-K5-2U-EX3D**
		230 V AC/DC	**562902**	**VACC-S18-25-K5-3U-EX3D**

New

Solenoid coils VACC

Accessories – Solenoid coils S18-70, EX4D

FESTO

Voltage
24 V AC/DC
48 V AC/DC
120 V AC/DC
230 V AC/DC
230 V AC

Temperature range
–20 ... +90 °C

Nominal power
7.0 watt at 24 V DC

General technical data											
Type VACC-S18...EX4D		-70-K4-1U- -70-K5-1U-		-70-K4-7U- -70-K5-7U-		– -70-K5-2U-		-70-K4-16U- –		-70-K4-3U- -70-K5-3U-	
Type of actuation		Electrical									
Mounting position		Any									
Duty cycle	[%]	100									
Electrical connection		Terminal box, cable fitting metric, M20x1.5 (K4)									
		Terminal box, cable fitting NPT, 1/2 NPT (K5)									
Switching position indication		No									
Product weight	[g]	1700									
Operating voltage	[V]	24	24	48	48	110	110	120	120	230	230
Power	[W]	–	7.0	–	7.0	–	7.0	–	7.0	–	7.0
	[VA]	7.0	–	7.0	–	7.0	–	7.0	–	7.0	–

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 d IIC T6, T5, T4 Gb
Type of ignition protection for dust		Ex tb IIIC T80°C,T95°C,T130°C Db
Explosion-proof temperature	[°C]	T4,T130: –50 ≤ Ta ≤ +90
		T5,T95: –50 ≤ Ta ≤ +55
		T6,T80: –50 ≤ Ta ≤ +40
Certificate issuing authority		NEPSI GYJ111107
		PTB 08 ATEX 1086
		TÜV 12.1948
Explosion protection certification outside the EU		EPL Gb (BR), EPL Gb (CN)
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.

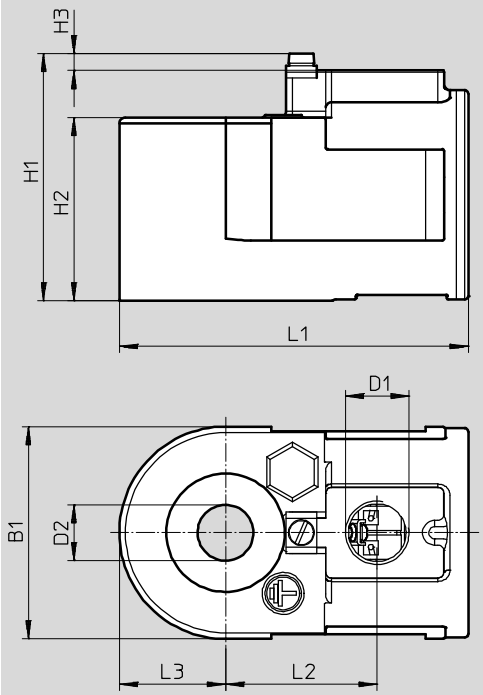
Materials	
Housing	Grey cast iron, wrought aluminium alloy
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Solenoid coils VACC

Accessories – Solenoid coils S18-70, EX4D

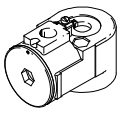
FESTO

Dimensions Download CAD data ➔ **www.festo.com**



Type	B1	D1	D2 ∅	H1	H2	H3	L1	L2	L3
VACC-S18-70-K4-1U-EX4D	70	M20x1.5	18.2	82	60.5	6	115	50	35
VACC-S18-70-K4-7U-EX4D									
VACC-S18-70-K4-16U-EX4D									
VACC-S18-70-K4-3U-EX4D									
VACC-S18-70-K5-1U-EX4D	70	1/2 NPT	18.2	82	60.5	6	115	50	35
VACC-S18-70-K5-7U-EX4D									
VACC-S18-70-K5-2U-EX4D									
VACC-S18-70-K5-3U-EX4D									

Ordering data

	Description		Part No.	Type
	EX4D coil, terminal box, cable fitting metric, M20x1.5	24 V AC/DC	**3504563**	**VACC-S18-70-K4-1U-EX4D**
		48 V AC/DC	**3504574**	**VACC-S18-70-K4-7U-EX4D**
		120 V AC/DC	**3504609**	**VACC-S18-70-K4-16U-EX4D**
		230 V AC/DC	**3504639**	**VACC-S18-70-K4-3U-EX4D**
	EX4D coil, terminal box, cable fitting NPT, 1/2 NPT	24 V AC/DC	**3546549**	**VACC-S18-70-K5-1U-EX4D**
		48 V AC/DC	**3546588**	**VACC-S18-70-K5-7U-EX4D**
		110 V AC/DC	**3546625**	**VACC-S18-70-K5-2U-EX4D**
		230 V AC/DC	**3546662**	**VACC-S18-70-K5-3U-EX4D**

Solenoid coils VACC

Accessories – Solenoid coils S18-35, EX4ME

FESTO

-4- Voltage
24 V AC/DC
110 V AC/DC
230 V AC/DC

Nominal power
3.5 watt at 24 V DC

General technical data									
Type VACC-S18-...-EX4ME		-35-K4-1U-		-35-K4-2U-		-35-K4-3U-		-35-K4-1UF-	
Type of actuation		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]	580							
Operating voltage	[V]	24	24	110	110	230	230	24	24
Power	[W]	–	3.5	–	3.5	–	3.5	–	3.5
	[VA]	3.5	–	3.5	–	3.5	–	3.5	–

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 e mb IIC T6, T5 Gb
Type of ignition protection for dust		Ex tb IIIC T80°C,T95°C Db
Explosion-proof temperature	[°C]	T5, T95: –20 ≤ Ta ≤ +60
		T6, T80: –20 ≤ Ta ≤ +50
Certificate issuing authority		NEPSI GYJ111106X
		PTB 08 ATEX 2033 X
		TÜV 12.1946 X
CE marking (see declaration of conformity)		To EU Explosion Protection Directive (ATEX)
Explosion protection certification outside the EU		EPL Db (BR), EPL Db (CN), EPL Gb (BR), EPL Gb (CN)
Insulation class		H
Corrosion resistance class CRC[1)]		4

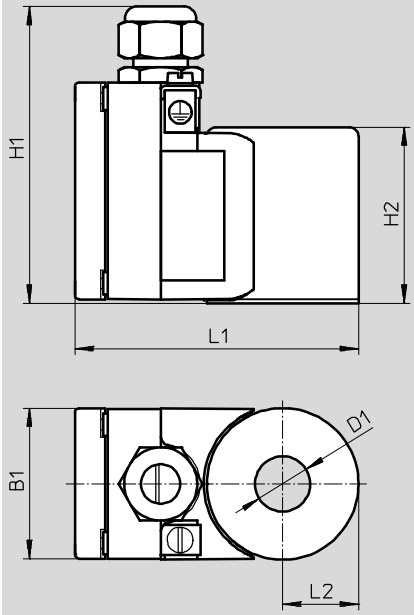
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→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

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

Solenoid coils VACC

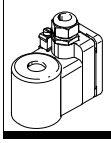
Accessories – Solenoid coils S18-35, EX4ME

Dimensions Download CAD data ➔ **www.festo.com**



Type	B1	D1 ∅	H1	H2	L1	L2
VACC-S18-35-K4-1U-EX4ME	50	18.2	100	58	95	25
VACC-S18-35-K4-2U-EX4ME						
VACC-S18-35-K4-3U-EX4ME						
VACC-S18-35-K4-1UF-EX4ME						

Ordering data

	Description		Part No.	Type
	EX4ME coil, terminal box, cable entry thread metric, M20x1.5	24 V AC/DC	**562897**	**VACC-S18-35-K4-1U-EX4ME**
		24 V AC/DC	**570785**	**VACC-S18-35-K4-1UF-EX4ME**
		110 V AC/DC	**562898**	**VACC-S18-35-K4-2U-EX4ME**
		230 V AC/DC	**562899**	**VACC-S18-35-K4-3U-EX4ME**

New

Solenoid coils VACC

Accessories – Solenoid coils S18-120, EX4ME

FESTO

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

Nominal power
12.0 watt at 24 V DC

General technical data											
Type VACC-S18-...-EX4ME		-120-K4-1U-		-120-K4-1UF-		-120-K4-7-	-120-K4-27-	-120-K4-2U-		-120-K4-3U-	
Type of actuation		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]	580									
Operating voltage	[V]	24	24	24	24	48	60	110	110	230	230
Power	[W]	–	12.0	–	12.0	12.0	12.0	–	12.0	–	12.0
	[VA]	12.0	–	12.0	–	–	–	12.0	–	12.0	–

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 e mb IIC T6, T5 Gb
Type of ignition protection for dust		Ex tb IIIC T80°C,T95°C Db
Explosion-proof temperature	[°C]	T5, T95: –20 ≤ Ta ≤ +60
		T6, T80: –20 ≤ Ta ≤ +50
Certificate issuing authority		NEPSI GYJ111106X
		PTB 08 ATEX 2033 X
		TÜV 12.1946 X
Explosion protection certification outside the EU		EPL Db (BR), EPL Db (CN), EPL Gb (BR), EPL Gb (CN) (without internal fuse)
Explosion protection certification outside the EU		EPL Dc (BR), EPL Db (BR), EPL Db (CN), EPL Dc (CN), EPL Gb (BR), EPL Gb (CN), EPL Gc (BR), EPL Gc (CN) (with internal fuse)
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.

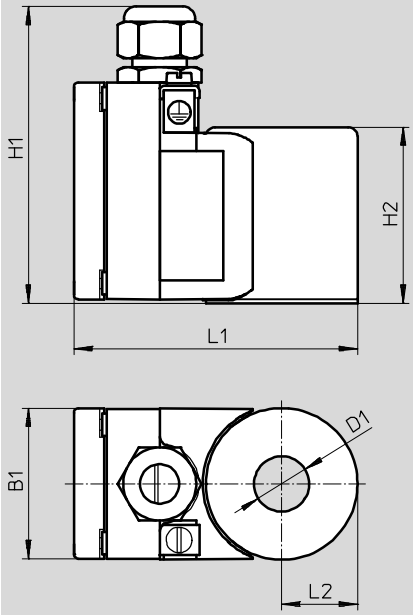
Materials	
Housing	Steel, PA
Note on materials	RoHS-compliant, contains paint-wetting impairment substances

Solenoid coils VACC

Accessories – Solenoid coils S18-120, EX4ME

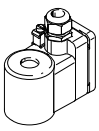
FESTO

Dimensions Download CAD data ➔ **www.festo.com**



Type	B1	D1 ∅	H1	H2	L1	L2
VACC-S18-120-K4-1U-EX4ME	50	18.2	100	58	95	25
VACC-S18-120-K4-1UF-EX4ME						
VACC-S18-120-K4-7-EX4ME						
VACC-S18-120-K4-27-EX4ME						
VACC-S18-120-K4-2U-EX4ME						
VACC-S18-120-K4-3U-EX4ME						

Ordering data

	Description		Part No.	Type
	EX4ME coil, terminal box, cable entry thread metric, M20x1.5	24 V AC/DC	**3536527**	**VACC-S18-120-K4-1U-EX4ME**
		24 V AC/DC	**3535840**	**VACC-S18-120-K4-1UF-EX4ME**
		48 V DC	**3536573**	**VACC-S18-120-K4-7-EX4ME**
		60 V DC	**3536569**	**VACC-S18-120-K4-27-EX4ME**
		110 V AC/DC	**3536565**	**VACC-S18-120-K4-2U-EX4ME**
		230 V AC/DC	**3536568**	**VACC-S18-120-K4-3U-EX4ME**

New

Solenoid coils VACC

Accessories – Solenoid coils S18-35, A1

FESTO

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

Temperature range
–20 … +60 °C

Nominal power
3.6 watt at 24 V DC

General technical data					
Type VACC-S18-35…		-A1-1	-A1-1A	-A1-2A	-A1-3A
Type of actuation		Electrical			
Mounting position		Any			
Duty cycle	[%]	100			
Electrical connection		Plug connector to EN 175301-803, type A			
Switching position indication		No			
Product weight	[g]	530			580
Operating voltage	[V]	24	24	110	230
Power	[W]	3.5	–	–	–
	[VA]	–	3.5	3.5	3.5

Operating and environmental conditions					
Type VACC-S18-35…		-A1-1	-A1-1A	-A1-2A	-A1-3A
Degree of protection		IP65			
CE marking (see declaration of conformity)		–		To EU Low Voltage Directive	
Permissible voltage fluctuations		–15 % / +10 %			
Ambient temperature	[°C]	–20 … +60			
Operating pressure range	[bar]	0 … 10			
Insulation class		H			
Corrosion resistance class CRC[1)]		4			

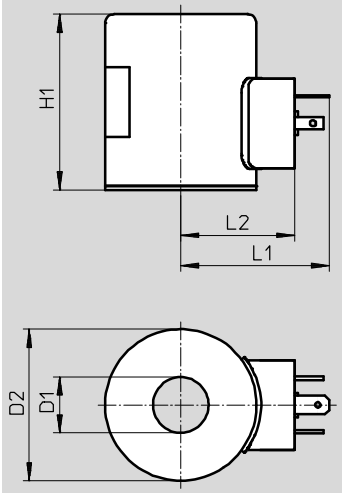
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔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

Materials	
Solenoid coil	Steel, PA
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Solenoid coils VACC

Accessories – Solenoid coils S18-35, A1

Dimensions Download CAD data ➔ **www.festo.com**



Type	D1 ∅	D2 ∅	H1	L1	L2
VACC-S18-35-A1-1	18.2	50	58	50	38
VACC-S18-35-A1-1A					
VACC-S18-35-A1-2A					
VACC-S18-35-A1-3A					

Ordering data

	Description		Part No.	Type	
	A1 coil, plug connector to EN 175301-803, type A	24 V DC	**562906**	**VACC-S18-35-A1-1**	
		24 V AC	**562907**	**VACC-S18-35-A1-1A**	
		110 V AC	**562908**	**VACC-S18-35-A1-2A**	New
		230 V AC	**562909**	**VACC-S18-35-A1-3A**	New

New

Solenoid coils VACC

Accessories – Solenoid coils S18-120, A1

FESTO

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

Temperature range
–20 ... +60 °C

Nominal power
12.0 watt at 24 V DC

General technical data					
Type VACC-S18-120...		-A1-1	-A1-1A	-A1-2A	-A1-3A
Type of actuation		Electrical			
Mounting position		Any			
Duty cycle	[%]	100			
Electrical connection		Plug connector to EN 175301-803, type A			
Switching position indication		No			
Product weight	[g]	530			
Operating voltage	[V]	24	24	110	230
Power	[W]	12.0	–	–	–
	[VA]	–	12.0	12.0	12.0

Operating and environmental conditions					
Type VACC-S18-120...		-A1-1	-A1-1A	-A1-2A	-A1-3A
Degree of protection		IP65			
CE marking (see declaration of conformity)		–		To EU Low Voltage Directive	
Permissible voltage fluctuations		–15 % / +10 %			
Ambient temperature	[°C]	–20 ... +60			
Insulation class		H			
Corrosion resistance class CRC[1)]		4			

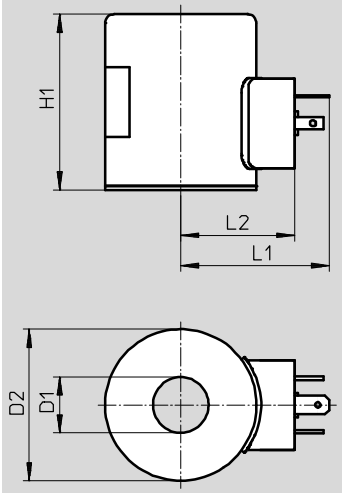
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔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

Materials	
Solenoid coil	Steel, PA
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Solenoid coils VACC

Accessories – Solenoid coils S18-120, A1

Dimensions Download CAD data ➔ **www.festo.com**



Type	D1 ∅	D2 ∅	H1	L1	L2
VACC-S18-120-A1-1	18.2	50	58	50	38
VACC-S18-120-A1-1A					
VACC-S18-120-A1-2A					
VACC-S18-120-A1-3A					

Ordering data

	Description		Part No.	Type
	A1 coil, plug connector to EN 175301-803, type A	24 V DC	**8040580**	**VACC-S18-120-A1-1**
		24 V AC	**8040890**	**VACC-S18-120-A1-1A**
		110 V AC	**8040582**	**VACC-S18-120-A1-2A**
		230 V AC	**8040584**	**VACC-S18-120-A1-3A**

New

Solenoid coils VACC

Accessories – Solenoid coils S18-70, U2D

FESTO

Voltage
24 V DC
48 V DC
125 V DC
220 V DC

Nominal power
7.0 watt at 24 V DC

General technical data					
Type VACC-S18-70-...-U2D		-K5-1	-K5-7	-K5-16	-K5-3
Type of actuation		Electrical			
Mounting position		Any			
Duty cycle	[%]	100			
Electrical connection		Terminal box, cable fitting NPT, 1/2 NPT (K5)			
Switching position indication		No			
Product weight	[g]	1700			
Operating voltage	[V]	24	48	125	220
Power	[W]	7.0	7.0	7.0	7.0

Operating and environmental conditions					
Type VACC-S18-70-...-U2D		-K5-1	-K5-7	-K5-16	-K5-3
Degree of protection		IP65			
CE marking (see declaration of conformity)		–		To EU Low Voltage Directive	
Permissible voltage fluctuations		–15 % / +10 %			
Explosion-proof temperature	[°C]	T4A, 120: –25 ≤ Ta ≤ +80			
Explosion protection certification outside the EU		Class I, Div. 2 (CA), Class I, Div. 2 (US)			
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.

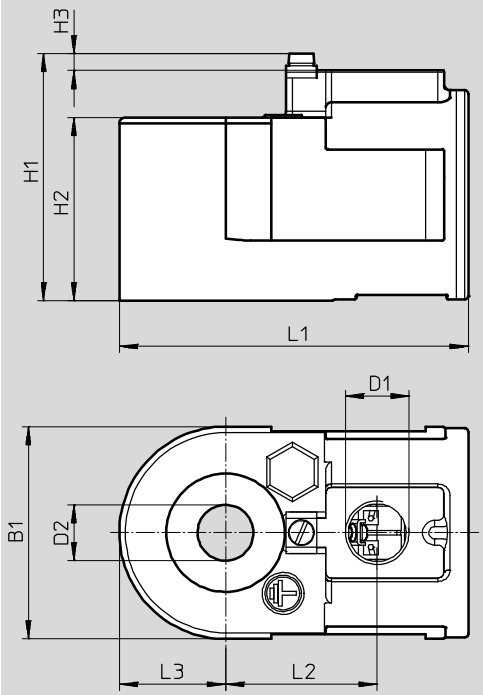
Materials	
Housing	Grey cast iron, wrought aluminium alloy
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Solenoid coils VACC

Accessories – Solenoid coils S18-70, U2D

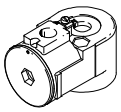
FESTO

Dimensions Download CAD data ➔ **www.festo.com**



Type	B1	D1	D2 ∅	H1	H2	H3	L1	L2	L3
VACC-S18-70-K5-1-U2D	70	1/2 NPT	18.2	82	60.5	6	115	50	35
VACC-S18-70-K5-7-U2D									
VACC-S18-70-K5-16-U2D									
VACC-S18-70-K5-3-U2D									

Ordering data

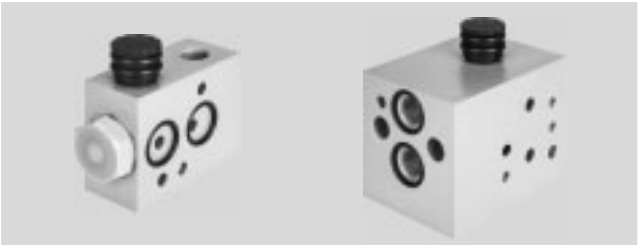
	Description		Part No.	Type
	U2D coil, terminal box, cable entry thread 1/2 NPT	24 V DC	**3546816**	**VACC-S18-70-K5-1-U2D**
		48 V DC	**3546876**	**VACC-S18-70-K5-7-U2D**
		125 V DC	**3546913**	**VACC-S18-70-K5-16-U2D**
		220 V DC	**3546949**	**VACC-S18-70-K5-3-U2D**

New
1/4 NPT port

Sub-bases

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

Port pattern: NAMUR



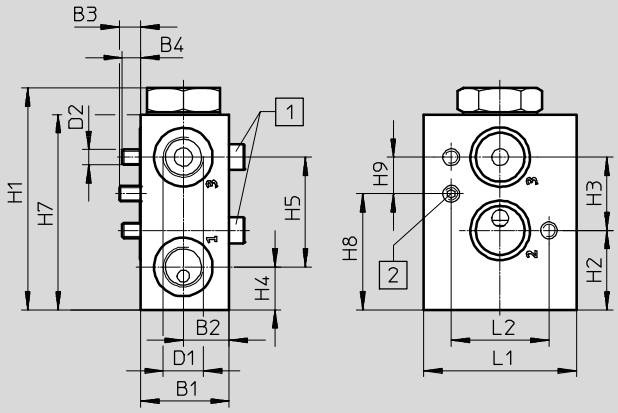
General technical data				
Type			Pressurisation and exhaust block VABS-S7-BE-...	Redundancy block VABS-S7-RB-...
Type of mounting			With through-hole	
Mounting position			Any	
Flow rate for piston valve pressurisation		[m³/h]	2.2	–
Flow rate for piston valve exhausting		[m³/h]	8.6	–
Product weight		[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 port		Internal	External/internal
Degree of protection		IP65	
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**



1 Socket head screw M5x35

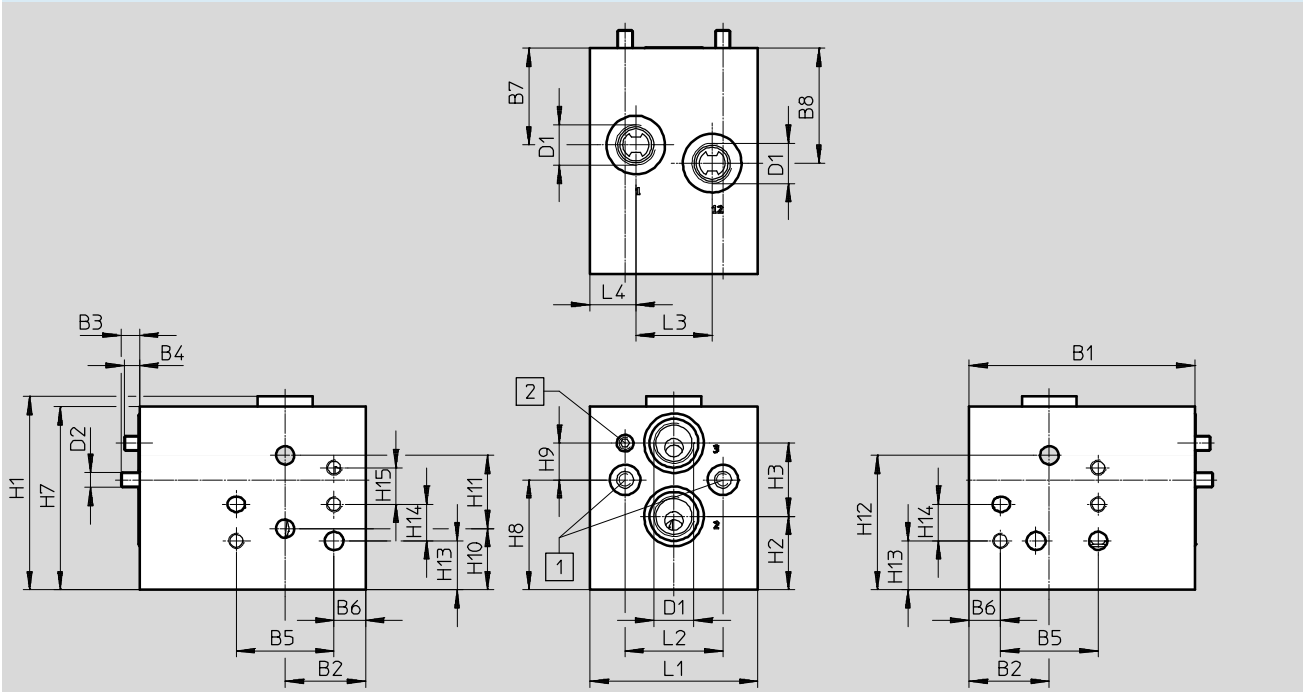
2 Threaded pin M5x10

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**

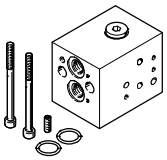
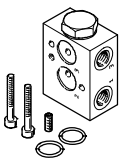


1 Socket head screw M5x70 2 Threaded pin M5x10

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

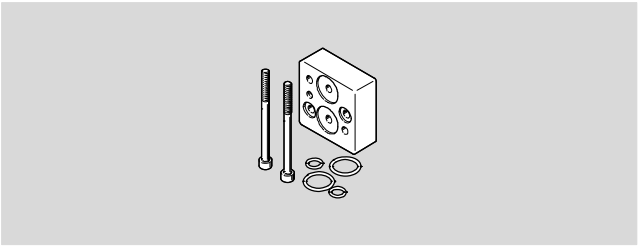
	Description	Part No.	Type
	Sub-base for mounting two solenoid valves with G-thread port for redundant circuitry, with 1/4 flange, port pattern to NAMUR Using the additional auxiliary power terminal, the intermediate plate can also be used with pilot-controlled solenoid valves on actuators that have a positioner for fail-safe functions.	**3580505**	**VABS-S7-RB-B-G14-V14-A**
	Sub-base for mounting two solenoid valves with NPT-thread port for redundant circuitry, with 1/4 flange, port pattern to NAMUR Using the additional auxiliary power terminal, the intermediate plate can also be used with pilot-controlled solenoid valves on actuators that have a positioner for fail-safe functions.	**4727331**	**VABS-S7-RB-B-N14-V14-A**
	Sub-base as a pressurisation and exhaust block with G-thread port, with 1/4 flange, port pattern to NAMUR	**2999476**	**VABS-S7-BE-B-G14-V14-A**
	Sub-base as a pressurisation and exhaust block with NPT-thread port, with 1/4 flange, port pattern to NAMUR	**4727328**	**VABS-S7-BE-B-N14-V14-A**

New

Mounting plates

Accessories – Mounting plate VAME-S7-P-N-...

Port pattern: NAMUR



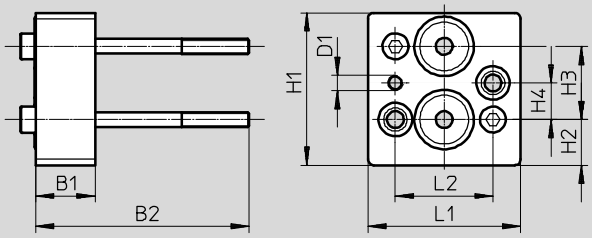
General technical data		
Type of mounting		With through-hole
Mounting position		Any
Pneumatic connection	1	M5, port pattern to NAMUR
	2	Flange 1/4, port pattern to NAMUR
	3	G1/4

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [–:–:–]
Operating pressure range	[bar]	0 ... 10
Operating pressure range	[psi]	0 ... 145
Degree of protection		IP65 (in the installed state)
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.

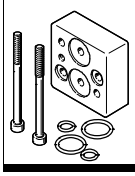
Materials	
Mounting plate	Aluminium (Ematal coated)
Seals	NBR
Note on materials	Contains paint-wetting impairment substances, RoHS-compliant

Dimensions Download CAD data ➔ **www.festo.com**

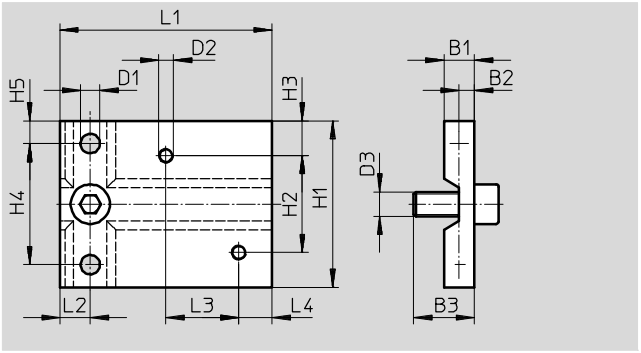


Type	B1	B2	D1	H1	H2	H3	H4	L1	L2
VAME-S7-P-N-V14-A	19.5	70	M5	50	15	24	12	50	32

Ordering data

	Description	Part No.	Type
	Mounting/spacer plate for solenoid valves when combined with ATEX solenoid coils, with 1/4 flange, port pattern to NAMUR	**3581412**	**VAME-S7-P-N-V14-A**

Mounting plate VAME-S7-P
Mounting plate material: Aluminium (Ematal-coated)
Seals material: NBR
Contains paint-wetting impairment substances, RoHS-compliant
Mounting: Via through-holes



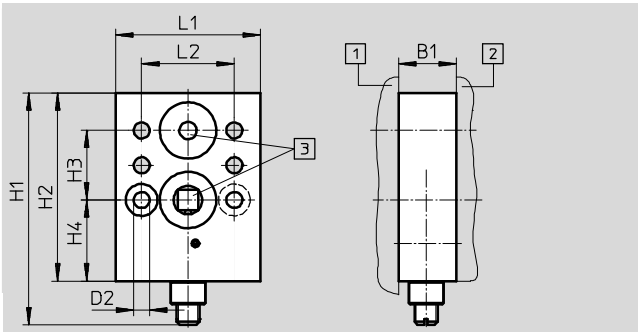
Dimensions [mm] and ordering data

B1	B2	B3	D1	D2	D3	H1	H2	H3	H4	H5	L1	L2	L3	L4	CRC[1)]	Part No.	Type
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)
Seals material: 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: Via through-holes
Degree of protection: IP65

Function:
Flow control for supply air and/or exhaust air for a drive with NAMUR interface for valves VOFC/VOFD



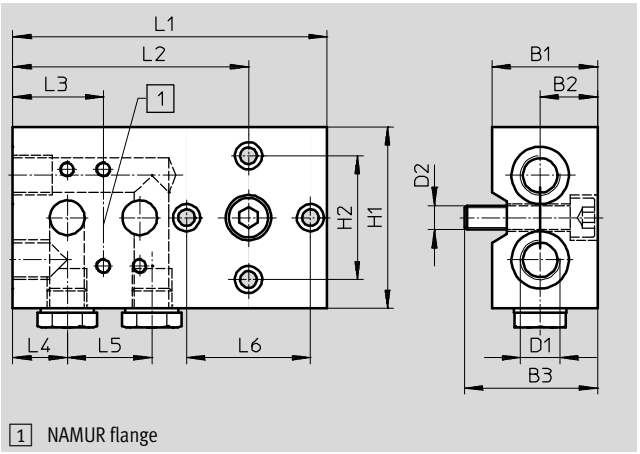
1 Actuator
2 Valve
3 Working ports for G¼ and ¼ NPT valves

Dimensions [mm] and ordering data

B1	D2	H1	H2	H3	H4	L1	L2	CRC[1)]	Part No.	Type
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.

Mounting plate
Mounting plate material: Aluminium (Ematal-coated)
Seals material: 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: Via through-holes
Degree of protection: IP65



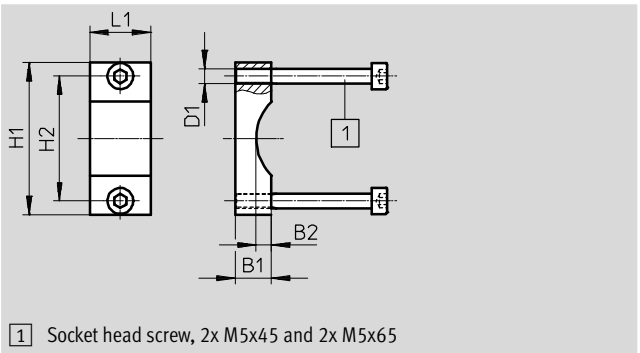
1 NAMUR flange

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	G¼	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.

Mounting bracket
Mounting bracket material: Aluminium (Ematal-coated)
Contains paint-wetting impairment substances, RoHS-compliant



1 Socket head screw, 2x M5x45 and 2x M5x65

Dimensions [mm] and ordering data

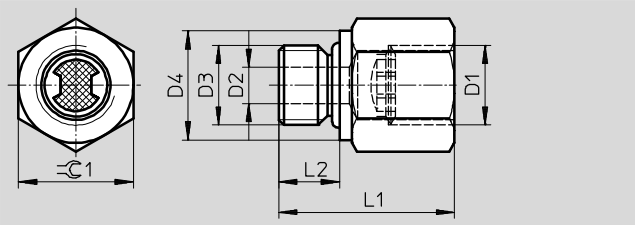
B1	B2	D1	H1	H2	L1	CRC[1]	Part No.	Type
12	5	M5	50	41	20	4	**563403**	**VAME-S7-Y**

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.

Solenoid valves

Accessories

Adapter with filter
Adapter material: High-alloy stainless steel
Seals material: NBR
Note on materials:
Contains paint-wetting impairment substances, RoHS-compliant
Operating pressure: 2 ... 8 bar

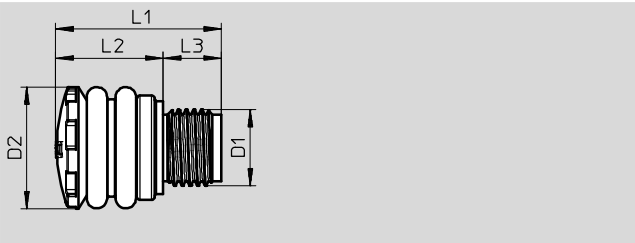


Dimensions [mm] and ordering data

D1	D2	D3	D4	L1	L2	⌀1	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).

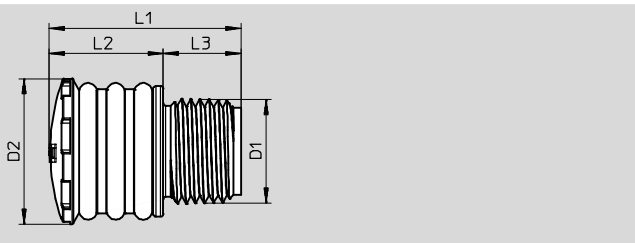
Exhaust protection G1/4
Housing material: PA
Seals material: EPDM
Contains paint-wetting impairment substances, RoHS-compliant
Operating medium: Compressed air to ISO 8573-1:2010 [7:–:–]
Operating pressure 0 ... 10 bar
Ambient temperature: –50 ... +60 °C
Type of mounting: Screw-in, with male thread



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**

Exhaust protection 1/2 NPT
Housing material: PA
Seals material: 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: Screw-in, with male thread



Dimensions [mm] and ordering data

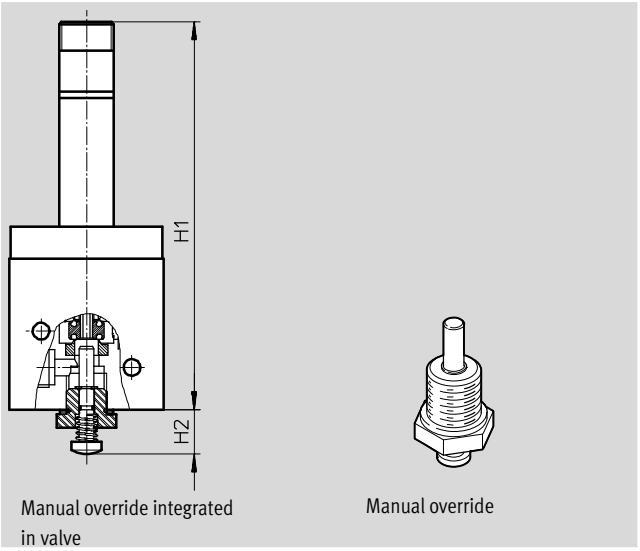
D1	D2	L1	L2	L3	Part No.	Type
G1/2, 1/2 NPT	29	38	23	15	**3535104**	**VABD-D3-SN-N12**

Solenoid valves

Accessories

Manual override
Housing material: Anodised aluminium
Contains paint-wetting impairment substances, RoHS-compliant
Actuation: Manual
Mounting position: Any

Function:
Can be retrofitted with manual override (VOFD-50T only) in version with spring return, acting directly on the valve seat.
The manual override can also be used only temporarily, e.g. during commissioning or inspections.



Manual override integrated in valve

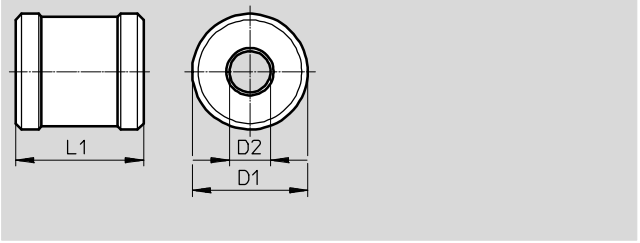
Manual override

Dimensions [mm] and ordering data

H1	H2	CRC[1]	Part No.	Type
128	14	3	**563402**	**VAOH-S8**

1) Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Manual override
Material: Anodised aluminium
Contains paint-wetting impairment substances, RoHS-compliant
Function:
For manual override of basic valves in place 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**