# Valve series 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 conditions 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

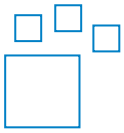
## Heavy-duty

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

## Economical

- One valve, two connection options
- Connection 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



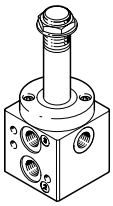
Configurable product
This product and all its product options can be ordered using the configurator.

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

| Part no. | Type |
|---|---|
| 2956784 | VOFD-L35T |
| 3212962 | VOFD-L50T |
| 2964753 | VOFD-L100T |

# Key features

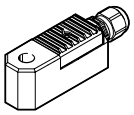
## VOFD – Basic valves



- 3/2-way valves
- Connections G1/4, 1/4 NPT, G1/2, 1/2 NPT
- NAMUR connection pattern, NAMUR connection pattern with P duct

→ Page 16

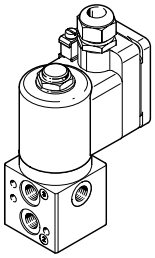
## VACC - Solenoid coils



- EX4ME coil
- EX4D coil
- A1 coil
- U2D coil
- EX4A coil

→ Page 27

## VOFD – Solenoid valves



- Combination of basic valve VOFD and coil VACC-S18 (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

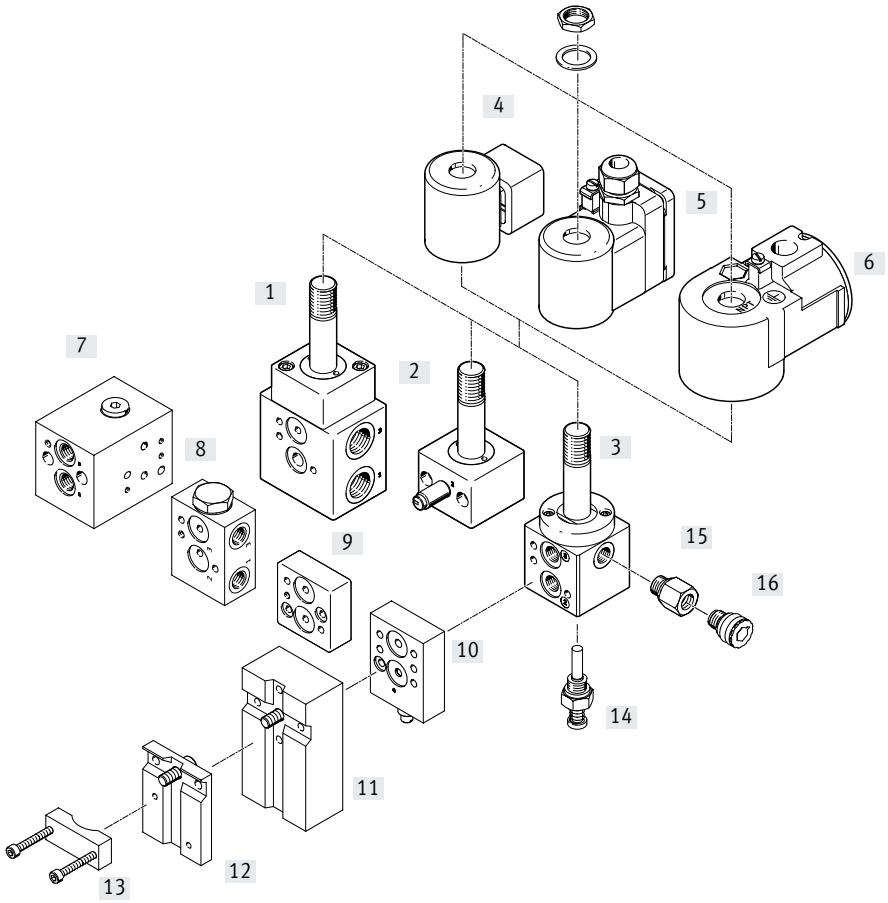
→ Page 2

## VOFD – Accessories

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

→ Page 29

# Peripherals overview

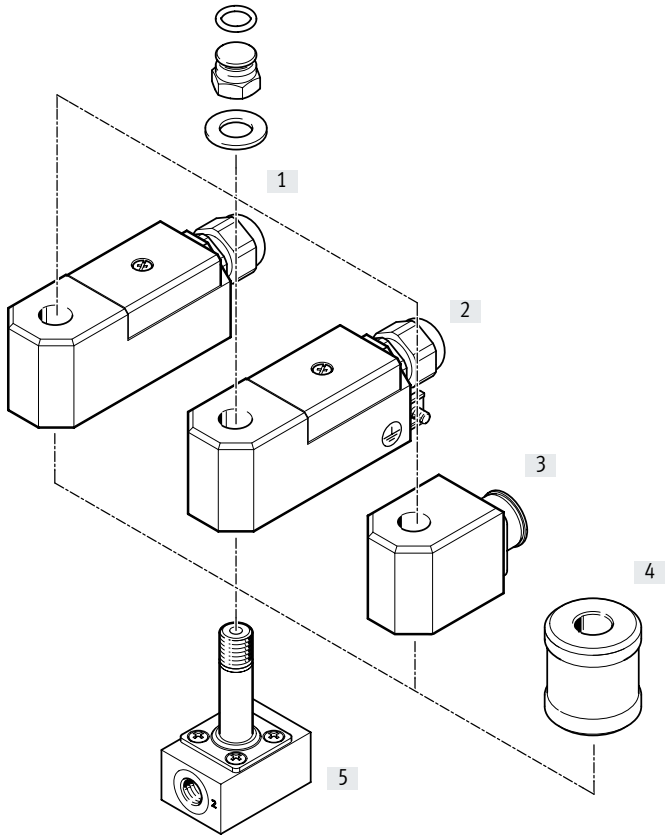



| Mounting components and accessories | | | |
|---|---|---|---|
| | | Brief description | → Page/Internet |
| [1] | Basic valve<br>VOFD-L100T-... | 3/2-way valve, connection G1/2, poppet valve<br>→ modular product system – can be configured using the online configurator | 2 |
| [2] | Basic valve<br>VOFD-L35T-... | 3/2-way valve, connection G1/4, poppet valve<br>→ modular product system – can be configured using the online configurator | 2 |
| [3] | Basic valve<br>VOFD-L50T-... | 3/2-way valve, connection G1/4, poppet valve<br>→ modular product system – can be configured using the online configurator | 2 |
| [4] | Solenoid coil<br>VACC-S18-...-A1-... | A1 standard solenoid | 27 |
| [5] | Solenoid coil<br>VACC-S18-...-ME | Ex-ME solenoid | 27 |
| [6] | Solenoid coil<br>VACC-S18-...-D | Ex-D solenoid | 27 |
| [7] | Sub-base<br>VABS-S7-RB-... | Sub-base for mounting two solenoid valves for redundant circuitry | 29 |
| [8] | Sub-base<br>VABS-S7-BE-... | Sub-base as a pressurisation and exhaust block | 29 |
| [9] | Mounting plate<br>VAME-S7-P-N-V14-A | Mounting plate as a spacer plate for solenoid valves when combined with ATEX solenoid coils | 33 |
| [10] | Throttle plate<br>VABF-S7-F1B5P1-F | Exhaust air throttle plate for NAMUR interface for installation between the solenoid valve and single-acting actuators | 32 |
| [11] | Connection set<br>VABF-S7-S-G14 | Mounting plate for attaching the valve to the NAMUR rib | 33 |
| [12] | Mounting plate<br>VAME-S7-P | Mounting plate for attaching the valve to the NAMUR rib | 32 |

# Peripherals overview

**Mounting components and accessories**

| | | Brief description | → Page/Internet |
|---|---|---|---|
| [13] | Mounting bracket<br>VAME-S7-Y | Alternative (instead of screw) for attaching the valve to the NAMUR rib using a mounting bracket | 33 |
| [14] | Manual override<br>VAOH-S8 | Manual override | 35 |
| [15] | Adapter<br>NPFV-AF-...-MF | Adapter with filter | 34 |
| [16] | Exhaust protection<br>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 | 34 |




**Accessories – Valve pilot control interface for solenoid coil 13 mm**

| | | Brief description | → Page/Internet |
|---|---|---|---|
| [1] | Solenoid coil<br>VACC-S13-...-4A | Ex-4A solenoid | 28 |
| [2] | Solenoid coil<br>VACC-S13-...-ME | Ex-ME solenoid | 28 |
| [3] | Solenoid coil<br>VACC-S13-...-A1-... | A1 standard solenoid | 28 |
| [4] | Manual override<br>VAOH-MB-S7-S13 | Manual override (MO) | 35 |
| [5] | Basic valve<br>VOFD-L12T-... | 3/2-way valve, connection G1/4, poppet valve, valve pilot control interface for solenoid coil 13 mm | 7 |

# Type codes VOFD

| 001 | Series | |
|---|---|---|
| **VOFD** | Solenoid valve, series D | |

| 002 | Directional control valve type | |
|---|---|---|
| **L** | In-line valve | |

| 003 | Nominal width | |
|---|---|---|
| **12** | 1.2 mm | |
| **35** | 3.5 mm | |
| **50** | 5 mm | |
| **100** | 10 mm | |

| 004 | Design principle | |
|---|---|---|
| **T** | Poppet valve | |

| 005 | Valve function | |
|---|---|---|
| **M32** | 3/2-way valve, normally closed or open | |
| **M32A** | 3/2-way valve, normally closed, semi-automatic | |

| 006 | Reset method for monostable/single solenoid valves | |
|---|---|---|
| **M** | Mechanical spring | |

| 007 | Pilot air | |
|---|---|---|
| **N** | None | |

| 008 | Manual override | |
|---|---|---|
| | None | |
| **H** | Non-detenting | |
| **Y** | Detenting | |

| 009 | Pneumatic connection | |
|---|---|---|
| **G12** | G1/2 | |
| **G14** | G1/4 | |
| **N12** | 1/2 NPT | |
| **N14** | 1/4 NPT | |
| **FG12** | Flange G1/4, connections G1/2 | |
| **FG14** | Flange G1/4, connections G1/4 | |
| **FGP14** | Flange G1/4, connections G1/4 and other pneumatic connection | |
| **FNP14** | Flange 1/4 NPT, connections 1/4 NPT and another pneumatic connection | |

| 010 | Supply connection version | |
|---|---|---|
| | Standard | |
| **PF** | With particle filter | |
| **NPF** | With particle filter and connecting thread NPT | |

| 011 | Exhaust | |
|---|---|---|
| | No fitting | |
| **U6** | With exhaust protection | |

| 012 | Pressure range [bar] | |
|---|---|---|
| **8** | 0 ... 8 | |
| **10** | 0 ... 10 | |
| **12** | 0 ... 12 | |

| 013 | Temperature range | |
|---|---|---|
| | Standard | |
| **T6** | -50 ... +60°C | |

| 014 | Corrosion protection | |
|---|---|---|
| | Standard | |
| **R1** | Stainless steel | |

| 015 | 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 | |

| 016 | Power consumption | |
|---|---|---|
| | None | |
| **18** | 1.8 W | |
| **25** | 2.5 W | |
| **35** | 3.5 W | |
| **70** | 7 W | |
| **120** | 12 W | |

| 017 | Nominal operating voltage | |
|---|---|---|
| | None | |
| **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 | |
| **1** | 24 V DC | |
| **3** | 230 V DC | |
| **7** | 48 V DC | |
| **16** | 120 V DC | |
| **27** | 60 V DC | |

| 018 | Electrical connection | |
|---|---|---|
| | None | |
| **A1** | Connection pattern type A, to EN 175 301 | |
| **K4** | Cable connector metric | |
| **K5** | Cable connector NPT | |

| 019 | Circuitry | |
|---|---|---|
| | None | |
| **F** | Fuse | |

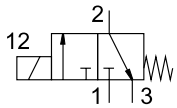
| 020 | EU certification | |
|---|---|---|
| | None | |
| **EX4** | II 2GD | |

| 021 | Certification | |
|---|---|---|
| | None | |
| **U2** | cULus, hazardous environment, USA and Canada (NEC 500) | |

| 022 | Type of ignition protection | |
|---|---|---|
| | None | |
| **A** | Intrinsically safe | |
| **D** | Flameproof encapsulation | |
| **ME** | Encapsulation, enhanced security | |

# Data sheet – 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 | |
| Actuation type | | Electric | |
| Suitable for vacuum | | Yes | |
| Type of control | | Direct | |
| Flow rate Kv for pressurisation | [$m^3$/h] | 0.04 | |
| Flow rate Kv for exhausting | [$m^3$/h] | 0.04 | |
| b value | | 0.2 | 0.53 |
| C value | [l/s bar] | 0.44 | 0.21 |
| Flow direction | | 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 | |

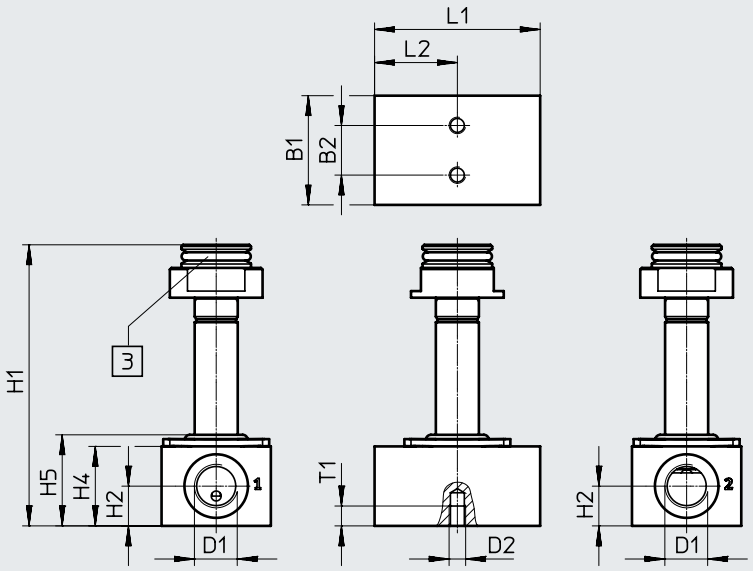
| Operating and environmental conditions | | |
|---|---|---|
| Operating medium | | Compressed air to ISO 8573-1:2010 [7:–:–] |
| Operating pressure range | [bar] | 0 ... 8 |
| Temperature of medium | [°C] | –25 ... 60 |
| Ambient temperature | [°C] | –25 ... 60 |
| Corrosion resistance class CRC[1)] | | 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

| Materials | |
|---|---|
| Housing | Ematal-coated aluminium |
| Seals | NBR |
| Note on materials | Contains paint-wetting impairment substances, RoHS-compliant |

# Data sheet – Basic valve VOFD-L12T-...

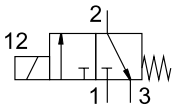
**Dimensions** Download CAD data ➔ www.festo.com




[3] Pneumatic connection 3

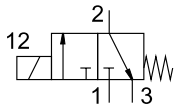
| Type | B1 | B2 | D1 | D2 ø | H1 | H2 | H4 | H5 | L1 | L2 | T1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L12T-M32-MN-G14-F19<br>VOFD-L12T-M32-MN-G14-F19-A | 33 | 15 | G1/4 | M5 | 85 | 12 | 24 | 27.5 | 50 | 25 | 6 |

**Ordering data**

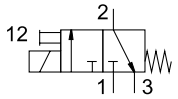
| Circuit symbol | Function | Pneumatic connection | Type of ignition protection | Part no. | Type |
|---|---|---|---|---|---|
| **Directly actuated poppet valve** | | | | | |
|   | 3/2-way closed, single solenoid | G1/4 | None | **3013904** | **VOFD-L12T-M32-MN-G14-F19** |
| | | | Intrinsically safe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

# Data sheet – Modular system NW 3.5 mm

Function
3/2-way valve




-MN-




-MNH-
-MNY-

Flow rate
up to 406 l/min


| General technical data<br>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 |
| Reset method | | | Mechanical spring | | |
| Actuation type | | | Electric | | |
| Suitable for vacuum | | | No | | |
| Type of control | | | Direct | | |
| Flow rate Kv for pressurisation | | [$m^3/h$] | 0.32 | | |
| Flow rate Kv for exhausting | | [$m^3/h$] | 0.32 | | |
| b value | | | 0.15 | | |
| C value | | [l/s bar] | 1.8 | | |
| Flow direction | | | 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

# Data sheet – Modular system NW 3.5 mm

| 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 |

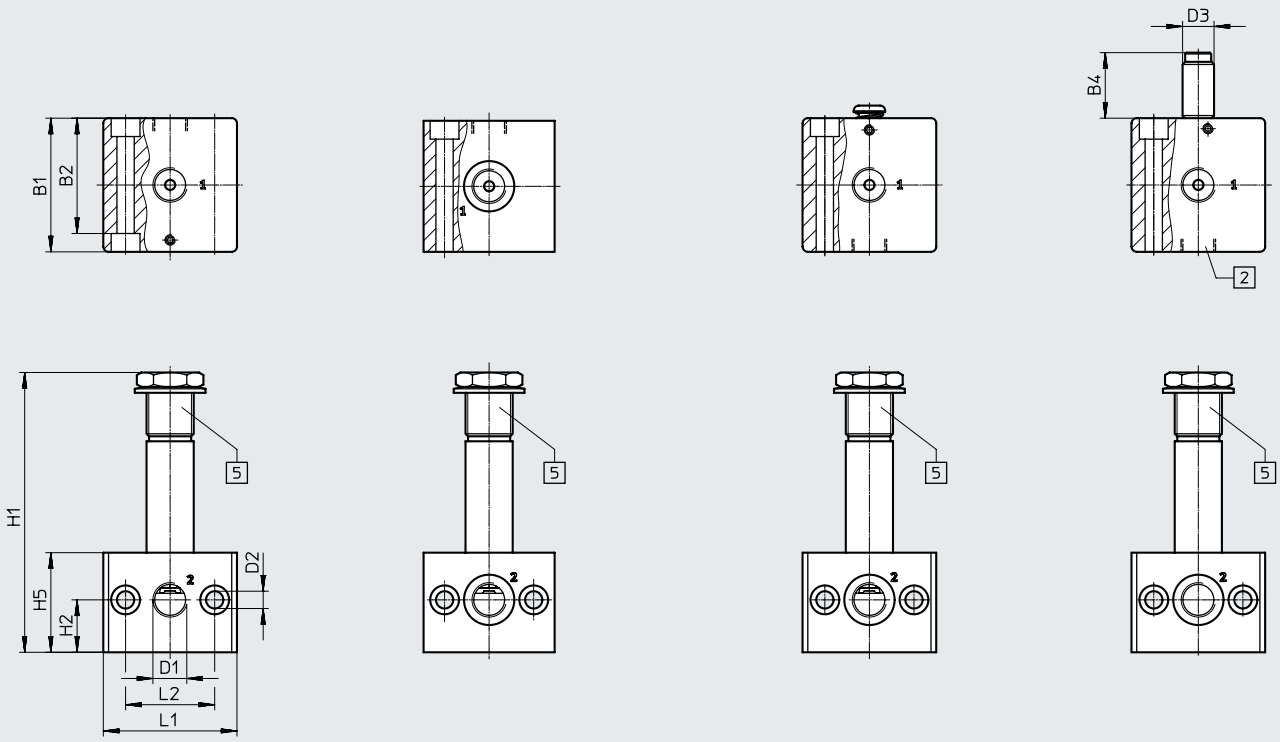
1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN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

| Materials | |
|---|---|
| Housing | Ematal-coated aluminium |
| 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 |

# Data sheet – Modular system NW 3.5 mm

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

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



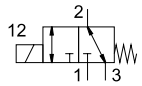

[2] Working port [5] Connection 3

| Type of G thread | B1 | B2 | B4 | D1 | D2 ø | D3 ø | 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 | |

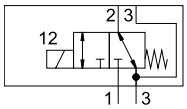
| Type of NPT thread | B1 | B2 | B4 | D1 | D2 ø | D3 ø | H1 | H2 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L35T-M32-MN-N14-...-F10 | 51 | 44 | – | 1/4 NPT | 6.6 | – | 106.5 | 20 | 38 | 51 | 34 |
| VOFD-L35T-M32-MN-N14-...-R1-F10 | 50 | 43 | | | | | | | | 50 | |
| VOFD-L35T-M32-MNH-N14-...-F10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

# Data sheet – Modular system NW 5 mm

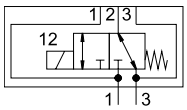
Function
3/2-way valve



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-...<br>VOFD-L50T-...N14-... | VOFD-L50T-...-FG14-...<br>VOFD-L50T-...-FGP14-... | VOFD-L50T-...G14-R1-...<br>VOFD-L50T-...N14-R1-... |
|---|---|---|---|---|---|
| Valve function | | | 3/2-way, single solenoid, closed | | |
| Pneumatic connection VOFD-...-G14 | 1 | | G1/4 | | |
| | 2 | | G1/4 | | |
| | 3 | | G1/4 | | |
| Pneumatic connection VOFD-...-N14 | 1 | | 1/4 NPT | | |
| | 2 | | 1/4 NPT | | |
| | 3 | | 1/4 NPT | | |
| Pneumatic connection VOFD-...-FG14 | 1 | | G1/4 | | |
| | 2 | | Connection pattern to NAMUR, flange 1/4 | | |
| | 3 | | G1/4 | | |
| Pneumatic connection VOFD-...-FGP14 | 1 | | M5 connection pattern to NAMUR | | |
| | 2 | | Connection 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 | | |
| Actuation type | | | Electric | | |
| Suitable for vacuum | | | Yes | | |
| Type of control | | | Direct | | |
| Flow rate Kv for pressurisation | | [$m^3/h$] | 0.36 | | |
| Flow rate Kv for exhausting | | [$m^3/h$] | 0.36 | | |
| b value | | | 0.25 | | |
| C value | | [l/s bar] | 2 | | |
| Flow direction | | | 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 | | |

# Data sheet – Modular system NW 5 mm

## 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

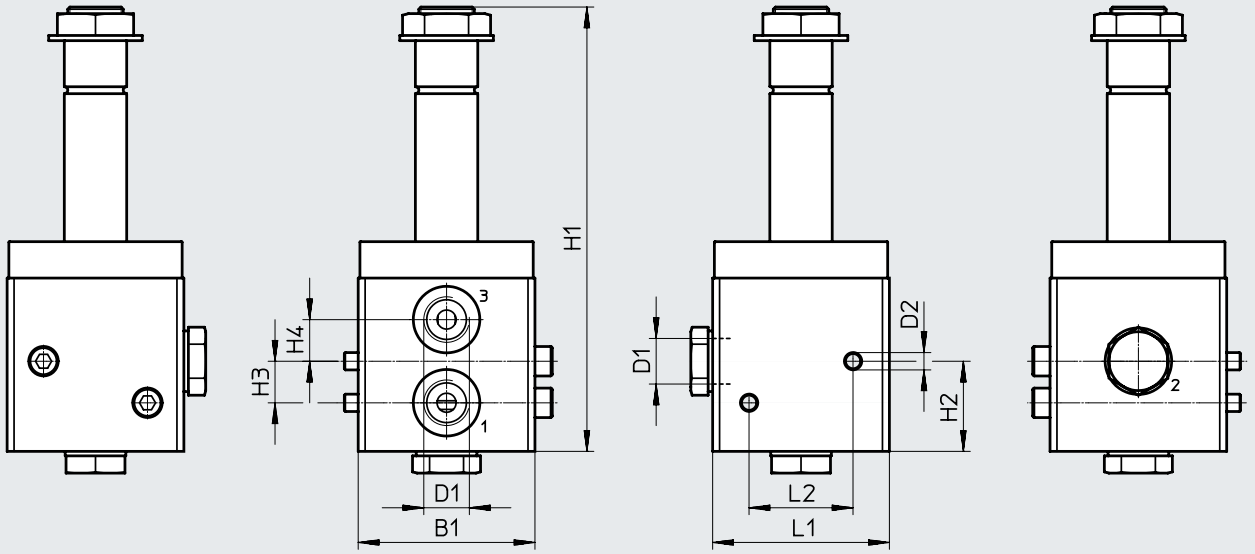
| Operating and environmental conditions | | |
|---|---|---|
| Operating medium | | Compressed air to ISO 8573-1:2010 [7:2:2] |
| Operating pressure range | [bar] | 0 ... 10 |
| Temperature of medium | [°C] | –25 ... 60 |
| Ambient temperature | [°C] | –25 ... 60 |
| Extended ambient temperature, Low Demand mode | [°C] | –25 ... 60 |
| Safety integrity level | [SIL] | 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (➔ also FN 940082), using appropriate media.

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

# Data sheet – Modular system NW 5 mm

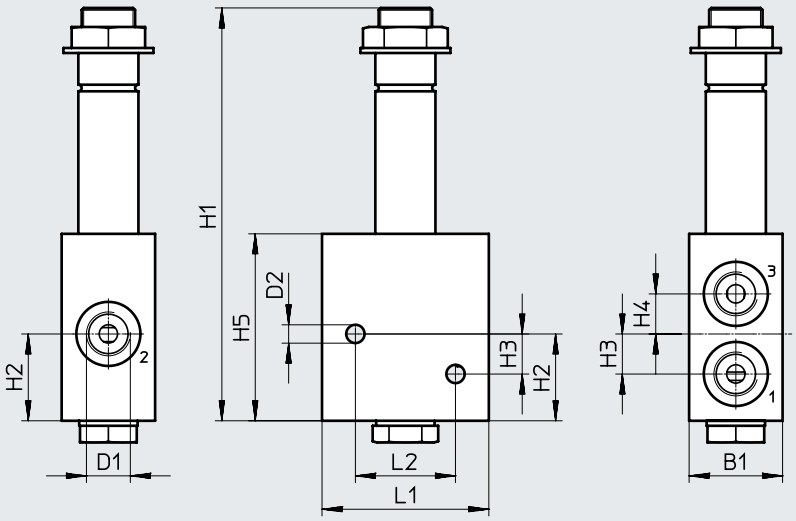
**Dimensions** Download CAD data ➔ www.festo.com




| Type of G thread | B1 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L50T-M32-MN-G14-...-F10 | 51 | G1/4 | 5.5 | 128 | 26 | 12 | 12 | 60.5 | 51 | 30 |

| Type of NPT thread | B1 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L50T-M32-MN-N14-...-F10 | 51 | 1/4 NPT | 5.5 | 128 | 26 | 12 | 12 | 60.5 | 51 | 30 |

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

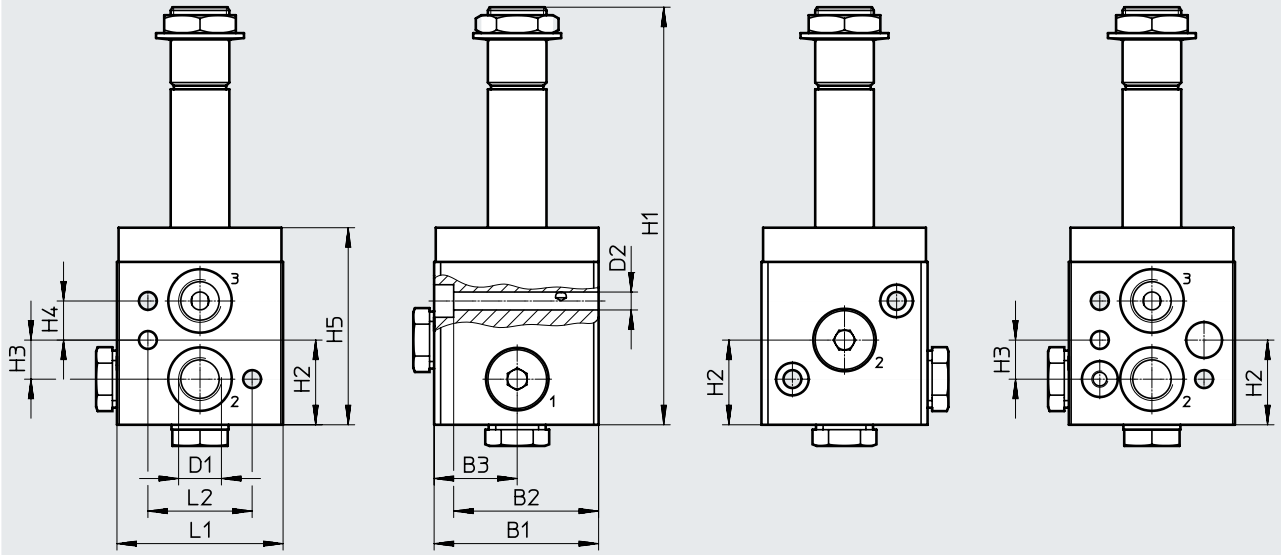



| Type of G thread | B1 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L50T-M32-MN-G14-...-R1-F10 | 28 | G1/4 | 5.5 | 124 | 26 | 12 | 12 | 56 | 50 | 30 |

| Type of NPT thread | B1 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L50T-M32-MN-N14-...-R1-F10 | 28 | 1/4 NPT | 5.5 | 124 | 26 | 12 | 12 | 56 | 50 | 30 |

# Data sheet – Modular system NW 5 mm

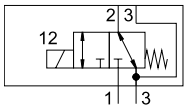
**Dimensions** Download CAD data ➔ www.festo.com



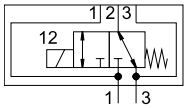

| Type of flange thread | B1 | B2 | B3 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L50T-M32-MN-FG14-F10 | 50.5 | 44.5 | 25.5 | G1/4 | 5.5 | 128 | 26 | 12 | 12 | 60.5 | 51 | 32 |
| VOFD-L50T-M32-MN-FGP14-F10 | | | | | | | | | | | | |

# Data sheet – Basic valve NW 5 mm, G1/4 NAMUR

Function
3/2-way valve




-FG14-




-FGP14-

- - 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 | Connection pattern to NAMUR |
| | 2 | | G1/4 and connection pattern to NAMUR | |
| | 3 | | G1/4 | |
| | 4 | | G1/4 and connection 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 | |
| Actuation type | | | Electric | |
| Suitable for vacuum | | | Yes | |
| Type of control | | | Direct | |
| Flow rate Kv for pressurisation | | [$m^3$/h] | 0.36 | |
| Flow rate Kv for exhausting | | [$m^3$/h] | 0.36 | |
| Flow direction | | | 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 [7:2:2] |
| Degree of protection | | IP65 |
| Operating pressure range | [bar] | 0 ... 10 |
| Temperature of medium | [°C] | –25 ... 60 |
| Ambient temperature | [°C] | –25 ... 60 |
| Extended ambient temperature, Low Demand mode | [°C] | –25 ... 60 |
| Safety integrity level | [SIL] | To SIL 3 Low Demand mode |
| | | 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

| **Materials** | |
|---|---|
| Housing | Hard Ematal-anodised aluminium |
| Seals | NBR |
| Note on materials | Contains paint-wetting impairment substances, RoHS-compliant |

# Data sheet – Basic valve NW 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 connection pattern to NAMUR |
| | 2 | | Flange 1/4 and connection pattern to NAMUR | Flange 1/4 and connection 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 | |
| Actuation type | | | Electric | |
| Suitable for vacuum | | | Yes | |
| Type of control | | | Direct | |
| Flow rate Kv for pressurisation | | [$m^3$/h] | 0.36 | |
| Flow rate Kv for exhausting | | [$m^3$/h] | 0.36 | |
| b value | | | 0.25 | |
| C value | | [l/s bar] | 2 | |
| Flow direction | | | 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 | |

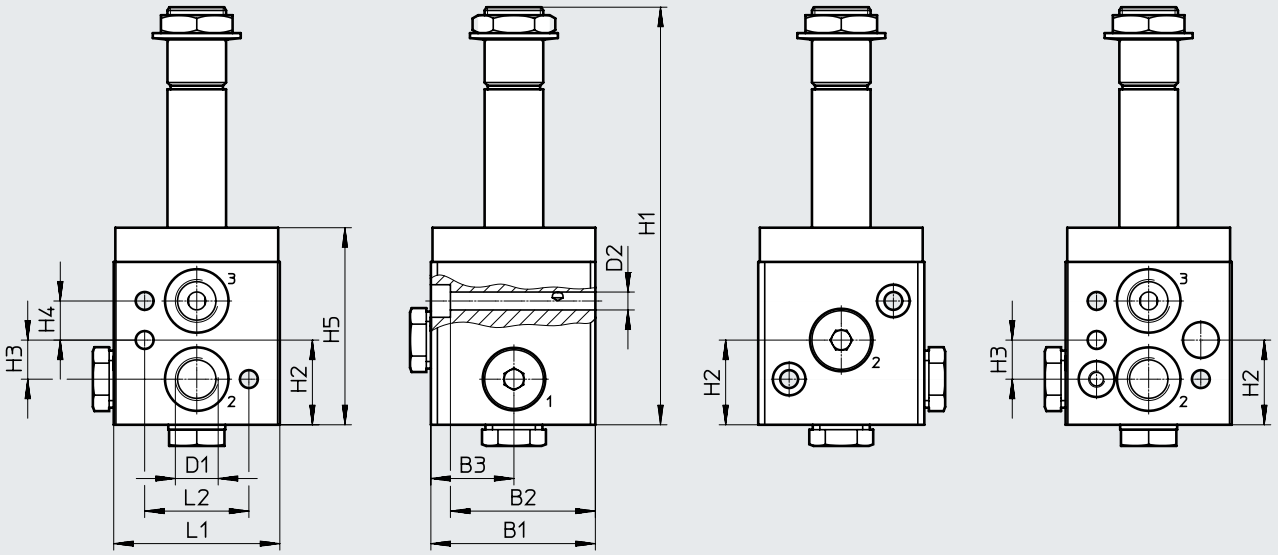
| Operating and environmental conditions | | |
|---|---|---|
| Operating medium | | Compressed air to ISO 8573-1:2010 [7:2:2] |
| Degree of protection | | IP65 |
| Operating pressure range | [bar] | 0 ... 10 |
| Temperature of medium | [°C] | –25 ... 60 |
| Ambient temperature | [°C] | –25 ... 60 |
| Extended ambient temperature, Low Demand mode | [°C] | –25 ... 60 |
| Safety integrity level | [SIL] | To SIL 3 Low Demand mode |
| | | 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

| Materials | |
|---|---|
| Housing | Ematal-coated aluminium |
| Seals | NBR |
| Note on materials | Contains paint-wetting impairment substances, RoHS-compliant |

# Data sheet – Basic valve NW 5 mm, G1/4 NAMUR

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

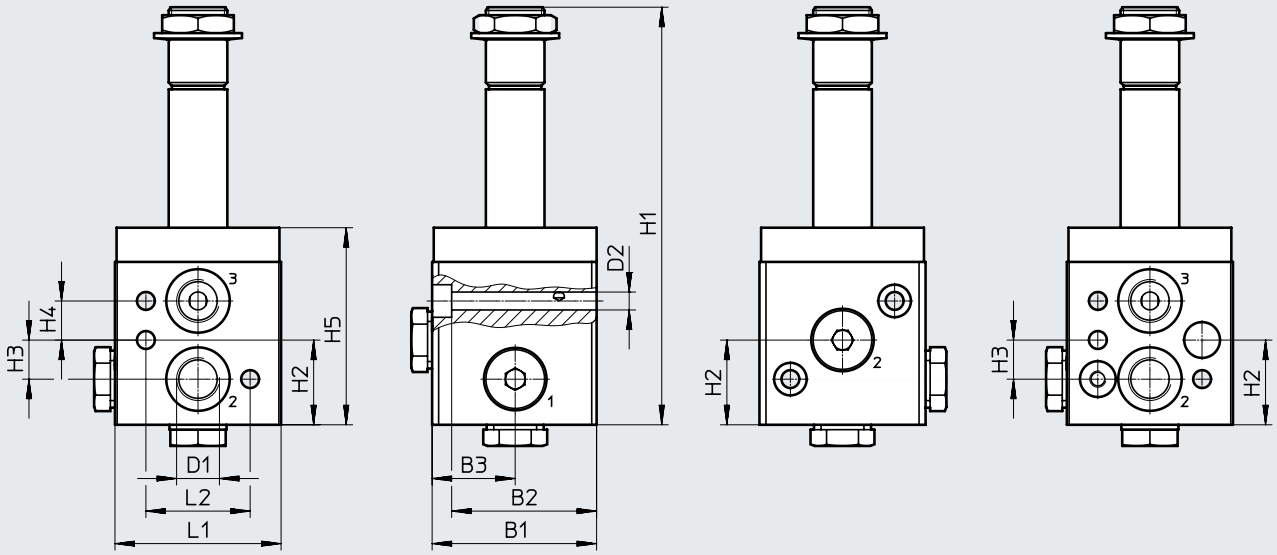



| Type of flange thread | B1 | B2 | B3 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L50T-M32-MN-FG14-F10 | 50.5 | 44.5 | 25.5 | G1/4, NAMUR | 5.5 | 128 | 26 | 12 | 12 | 60.5 | 51 | 32 |
| VOFD-L50T-M32-MN-FGP14-F10 | | | | | | | | | | | | |

# Data sheet – Basic valve NW 5 mm, G1/4 NAMUR

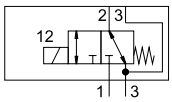
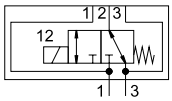
**Dimensions – G1/4 basic valve and NAMUR, supply port**

Download CAD data ➔ www.festo.com



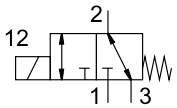

| Type of flange thread | B1 | B2 | B3 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-LT-M32-MN-FGP14-F10<br>VOFD-L50T-M32-MN-FGP14-10-F10 | 51 | 44.5 | 25.5 | G1/4, NAMUR | 5.5 | 128 | 26 | 12 | 12 | 60.5 | 51 | 32 |

**Ordering data**

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

# Data sheet – Basic valve NW 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 | |
| Actuation type | | | Electric | |
| Suitable for vacuum | | | Yes | |
| Type of control | | | Direct | |
| Flow rate Kv for pressurisation | | [m³/h] | 0.36 | |
| Flow rate Kv for exhausting | | [m³/h] | 0.36 | |
| Flow direction | | | 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 [7:2:2] |
| Degree of protection | | | IP65 |
| Operating pressure range | | [bar] | 0 ... 10 |
| Temperature of medium | | [°C] | –25 ... 60 |
| Ambient temperature | | [°C] | –25 ... 60 |
| Extended ambient temperature, Low Demand mode | | [°C] | –25 ... 60 |
| Safety integrity level | | [SIL] | To SIL 3 Low Demand mode |
| | | | 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

| Materials | |
|---|---|
| Housing | Hard Ematal-anodised aluminium |
| Seals | NBR |
| Note on materials | Contains paint-wetting impairment substances, RoHS-compliant |

# Data sheet – Basic valve NW 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 | |
| Actuation type | | | Electric | |
| Suitable for vacuum | | | Yes | |
| Type of control | | | Direct | |
| Flow rate Kv for pressurisation | | [$m^3$/h] | 0.36 | |
| Flow rate Kv for exhausting | | [$m^3$/h] | 0.36 | |
| b value | | | 0.25 | |
| C value | | [l/s bar] | 2 | |
| Flow direction | | | 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 | |

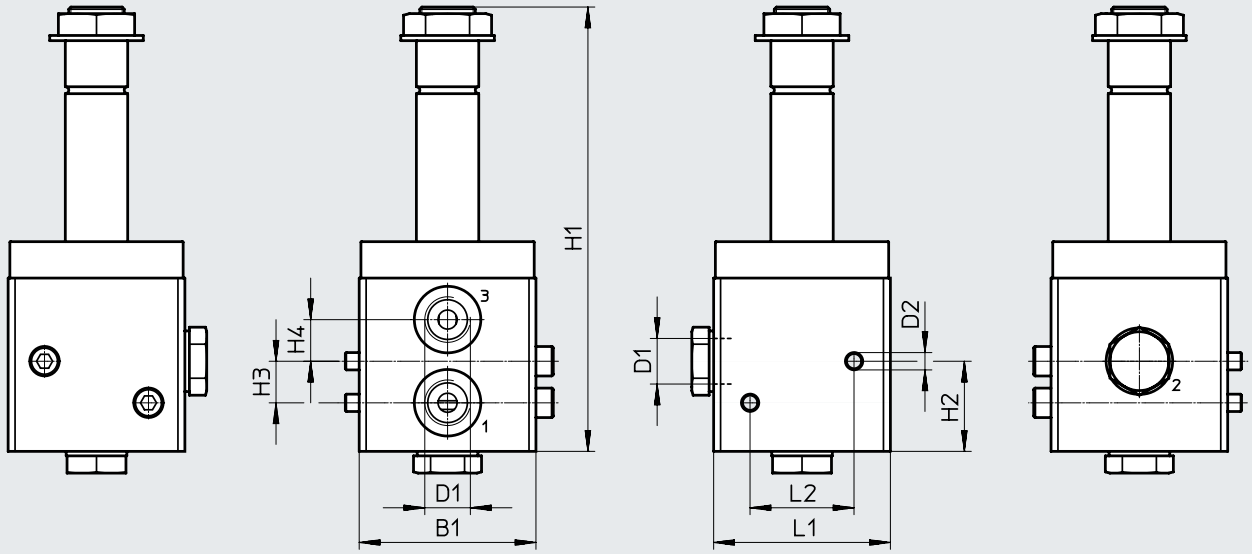
| Operating and environmental conditions | | |
|---|---|---|
| Operating medium | | Compressed air to ISO 8573-1:2010 [7:2:2] |
| Degree of protection | | IP65 |
| Operating pressure range | [bar] | 0 ... 10 |
| Temperature of medium | [°C] | –25 ... 60 |
| Ambient temperature | [°C] | –25 ... 60 |
| Extended ambient temperature, Low Demand mode | [°C] | –25 ... 60 |
| Safety integrity level | [SIL] | To SIL 3 Low Demand mode |
| | | 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

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

# Data sheet – Basic valve NW 5 mm, G/NPT 1/4, in-line

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

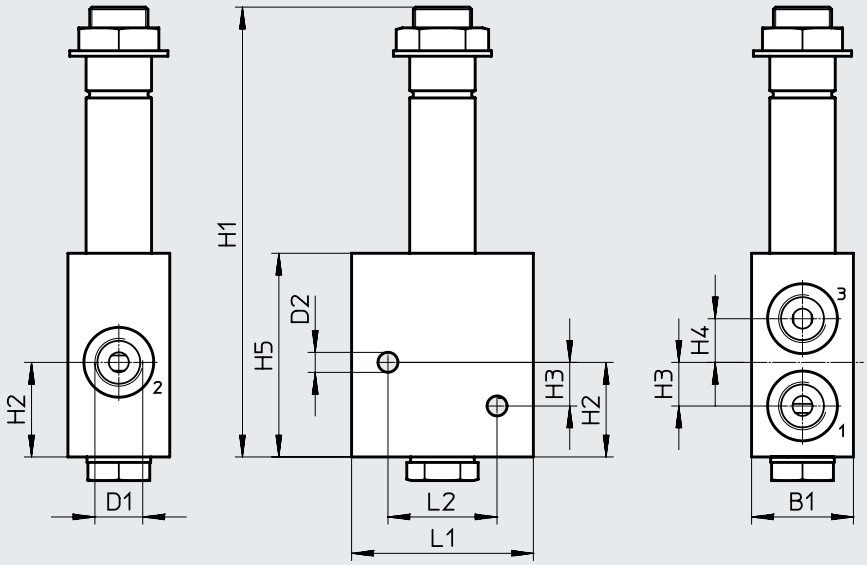



| Type of G thread | B1 | D1 | D2 ⌀ | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-LT-M32-MN-G14-F10<br>VOFD-L50T-M32-MN-G14-...-F10 | 51 | G1/4 | 5.5 | 128 | 26 | 12 | 12 | 60.5 | 51 | 30 |

| Type of NPT thread | B1 | D1 | D2 ⌀ | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-LT-M32-MN-N14-F10<br>VOFD-L50T-M32-MN-N14-...-F10 | 51 | 1/4 NPT | 5.5 | 128 | 26 | 12 | 12 | 60.5 | 51 | 30 |

# Data sheet – Basic valve NW 5 mm, G/NPT 1/4, in-line

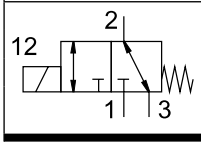
**Dimensions** Download CAD data ➔ www.festo.com




| Type of G thread | B1 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L50T-M32-MN-G14-...-R1-F10 | 28 | G1/4 | 5.5 | 124 | 26 | 12 | 12 | 56 | 50 | 30 |

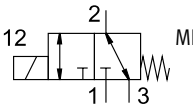
| Type of NPT thread | B1 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L50T-M32-MN-N14-...-R1-F10 | 28 | 1/4 NPT | 5.5 | 124 | 26 | 12 | 12 | 56 | 50 | 30 |

**Ordering data**

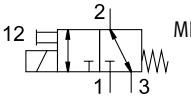
| Circuit symbol | Function | Pneumatic connection | Part no. | Type |
|---|---|---|---|---|
| **Directly actuated poppet valve** | | | | |
|   | 3/2-way, single solenoid, closed | G1/4 | **4514997** | **VOFD-L50T-M32-MN-G14-10-F10** |
| | | | **4515019** | **VOFD-L50T-M32-MN-G14-10-R1-F10** |
| | |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

# Data sheet – Modular system NW 10 mm, G/NPT 1/2, NAMUR, and in-line

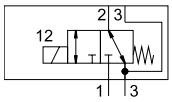
Function
3/2-way valve



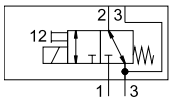
MN-G12/N12



MNH-G12/N12



MN-FG12



MNH-FGP12

- - Flow rate
up to 1900 l/min

| General technical data<br>Basic valve G1/2 | | | VOFD-L100T-M32-MN-... | VOFD-L100T-M32-MNH-... |
|---|---|---|---|---|
| Valve function | | | 3/2-way, single solenoid, closed | |
| Pneumatic connection<br>VOFD-...-G12 | 1 | | G1/2 | |
| | 2 | | G1/2 | |
| | 3 | | G1/2 | |
| Pneumatic connection<br>VOFD-...-N12 | 1 | | 1/2 NPT | |
| | 2 | | 1/2 NPT | |
| | 3 | | 1/2 NPT | |
| Pneumatic connection<br>VOFD-...-FG12 | 1 | | G1/2 | |
| | 2 | | Connection 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 |
| Reset method | | | Mechanical spring | |
| Actuation type | | | Electric | |
| Suitable for vacuum | | | Yes | |
| Type of control | | | Direct | |
| Flow rate Kv for pressurisation | | [$m^3$/h] | 1.68 | |
| Flow rate Kv for exhausting | | [$m^3$/h] | 1.68 | |
| b value | | | 0.22 | |
| C value | | [l/s bar] | 7.6 | |
| Flow direction | | | 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

# Data sheet – Modular system NW 10 mm, G/NPT 1/2, NAMUR, and in-line

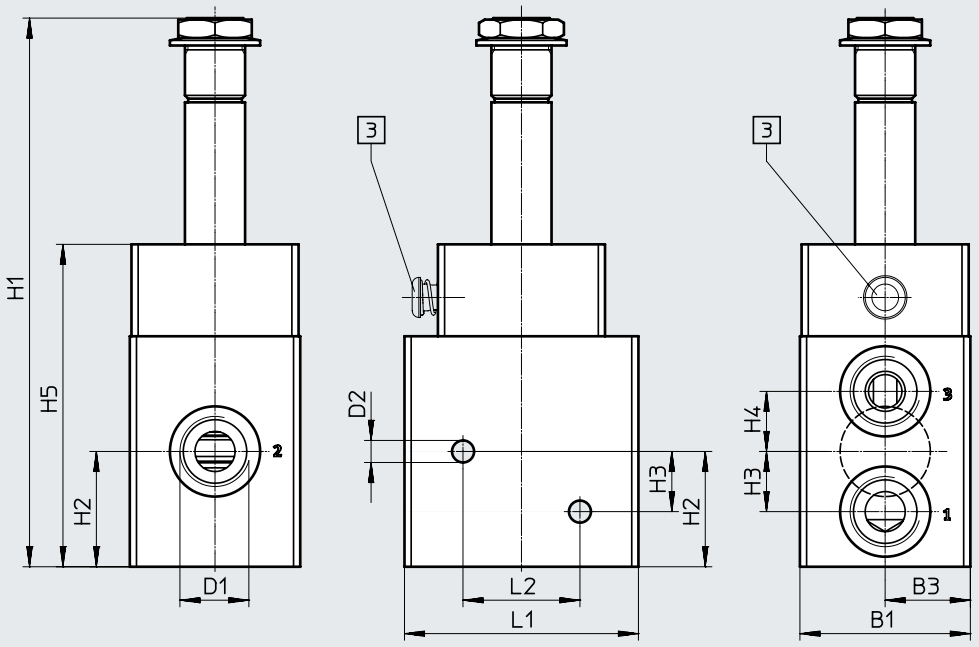
| Operating and environmental conditions | | |
|---|---|---|
| Operating medium | | Compressed air to ISO 8573-1:2010 [7:–:–] |
| Operating pressure range | [bar] | 0 ... 12 |
| Temperature of medium | [°C] | –25 ... 60 |
| Ambient temperature | [°C] | –25 ... 60 |
| Corrosion resistance class CRC[1)] | | 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

| Materials | |
|---|---|
| Housing | Ematal-coated aluminium |
| 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

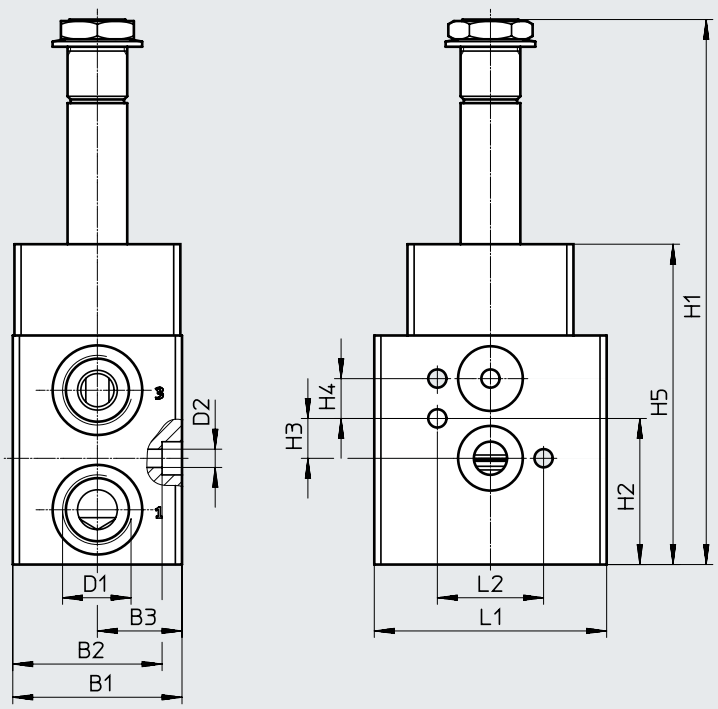
| Type of G thread | B1 | B3 | D1 | D2 ø | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VOFD-L100T-M32-MN-G12-...-F10 | 51 | 25 | G1/2 | 6.6 | 164 | 34.5 | 18 | 18 | 96.5 | 70 | 35 |
| VOFD-L100T-M32-MNH-G12-...-F10 | | | | | | | | | | | |

| Type of NPT thread | B1 | B3 | D1 | D2 ø | 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 | | | | | | | | | | | |

# Data sheet – Modular system NW 10 mm, G/NPT 1/2, NAMUR, and in-line

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

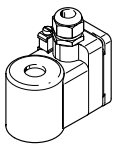
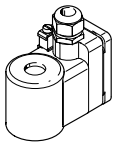
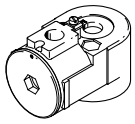
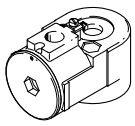
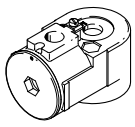
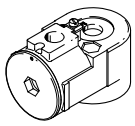
VOFD-L100T-...-FG12-...-F10




| Type of flange thread | B1 | B2 | B3 | D1 | D2 ø | 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 |

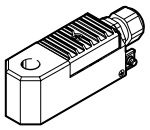
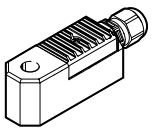
# Accessories

**Ordering data – Solenoid coils**

| | Description | | Part no. | Type |
|---|---|---|---|---|
|  | EX4ME coil,<br>terminal box, cable entry thread metric, M20x1.5 | 24 V AC/DC | **8109389** | **VACC-S18-35-K4-1U-EX4ME** |
| | | 24 V AC/DC | **8109388** | **VACC-S18-35-K4-1UF-EX4ME** |
| | | 110 V AC/DC | **8109387** | **VACC-S18-35-K4-2U-EX4ME** |
| | | 230 V AC/DC | **8109386** | **VACC-S18-35-K4-3U-EX4ME** |
|  | EX4ME coil,<br>terminal box, cable entry thread metric, M20x1.5 | 24 V AC/DC | **8109395** | **VACC-S18-120-K4-1U-EX4ME** |
| | | 24 V AC/DC | **8109394** | **VACC-S18-120-K4-1UF-EX4ME** |
| | | 48 V DC | **8109390** | **VACC-S18-120-K4-7-EX4ME** |
| | | 60 V DC | **8109393** | **VACC-S18-120-K4-27-EX4ME** |
| | | 110 V AC/DC | **8109392** | **VACC-S18-120-K4-2U-EX4ME** |
| | | 230 V AC/DC | **8109391** | **VACC-S18-120-K4-3U-EX4ME** |
|  | EX4D coil,<br>terminal box, cable entry thread metric, M20x1.5 | 24 V AC/DC | **562903** | **VACC-S18-25-K4-1U-EX4D** |
| | | 110 V AC/DC | **562904** | **VACC-S18-25-K4-2U-EX4D** |
| | | 230 V AC/DC | **562905** | **VACC-S18-25-K4-3U-EX4D** |
| | EX4D coil,<br>terminal box, cable entry thread NPT, 1/2 NPT | 24 V AC/DC | **562900** | **VACC-S18-25-K5-1U-EX4D** |
| | | 110 V AC/DC | **562901** | **VACC-S18-25-K5-2U-EX4D** |
| | | 230 V AC/DC | **562902** | **VACC-S18-25-K5-3U-EX4D** |
|  | EX4D coil,<br>terminal box, cable fitting metric, M20x1.5 | 230 V AC | **3504741** | **VACC-S18-18-K4-3A-EX4D** |
| | EX4D coil,<br>terminal box, cable fitting NPT, 1/2 NPT | 230 V AC | **3546734** | **VACC-S18-18-K5-3A-EX4D** |
|  | EX4D coil,<br>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,<br>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** |
|  | A1 coil,<br>plug 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** |
| | | 230 V AC | **562909** | **VACC-S18-35-A1-3A** |
|  | A1 coil,<br>plug 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** |
|  | U2D coil,<br>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** |

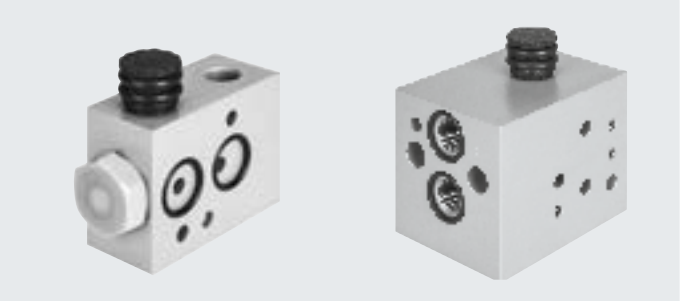
# Accessories

**Ordering data – Solenoid coils**

| | Description | | Part no. | Type |
|---|---|---|---|---|
|  | EX4ME coil,<br>terminal box, cable entry thread metric, M20x1.5 | 24 V AC/DC | **8109396** | **VACC-S13-18-K4-1U-EX4ME** |
| | | 24 V AC/DC | **8109399** | **VACC-S13-18-K4-1UF-EX4ME** |
| | | 60 V AC/DC | **8109400** | **VACC-S13-18-K4-27U-EX4ME** |
| | | 110 V AC/DC | **8109397** | **VACC-S13-18-K4-2U-EX4ME** |
| | | 230 V AC/DC | **8109398** | **VACC-S13-18-K4-3U-EX4ME** |
|  | EX4A coil,<br>terminal box, cable entry thread metric, M20x1.5 | 14 ... 32 V DC | **8109401** | **VACC-S13-11-K4-1-EX4A** |
|  | A1 coil,<br>plug 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** |

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

Connection pattern: NAMUR



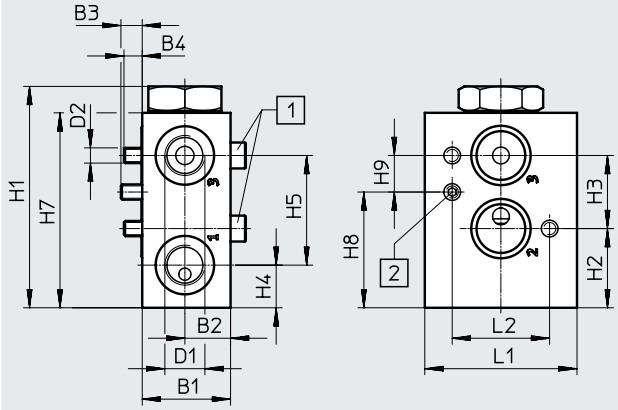
| General technical data | | | | |
|---|---|---|---|---|
| Type | | | Pressurisation and exhaust block VABS-S7-BE-... | Redundancy block VABS-S7-RB-... |
| Type of mounting | | | With through-hole | |
| Mounting position | | | Any | |
| Flow rate Kv for pressurisation | | [m³/h] | 2.2 | – |
| Flow rate Kv for 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, connection pattern to NAMUR | Flange 1/4, connection pattern to NAMUR |
| | 3 | | G1/4, 1/4 NPT | G1/4, 1/4 NPT |
| | 12 | | – | G1/4, 1/4 NPT |

| Operating and environmental conditions | | VABS-S7-BE | VABS-S7-RB |
|---|---|---|---|
| Operating medium | | Compressed air to ISO 8573-1:2010 [–:–:–] | |
| Operating pressure | [bar] | 2 ... 8 | 0 ... 10 |
| Pilot air supply | | Internal | External/internal |
| Degree of protection | | IP65 | |
| 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

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

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

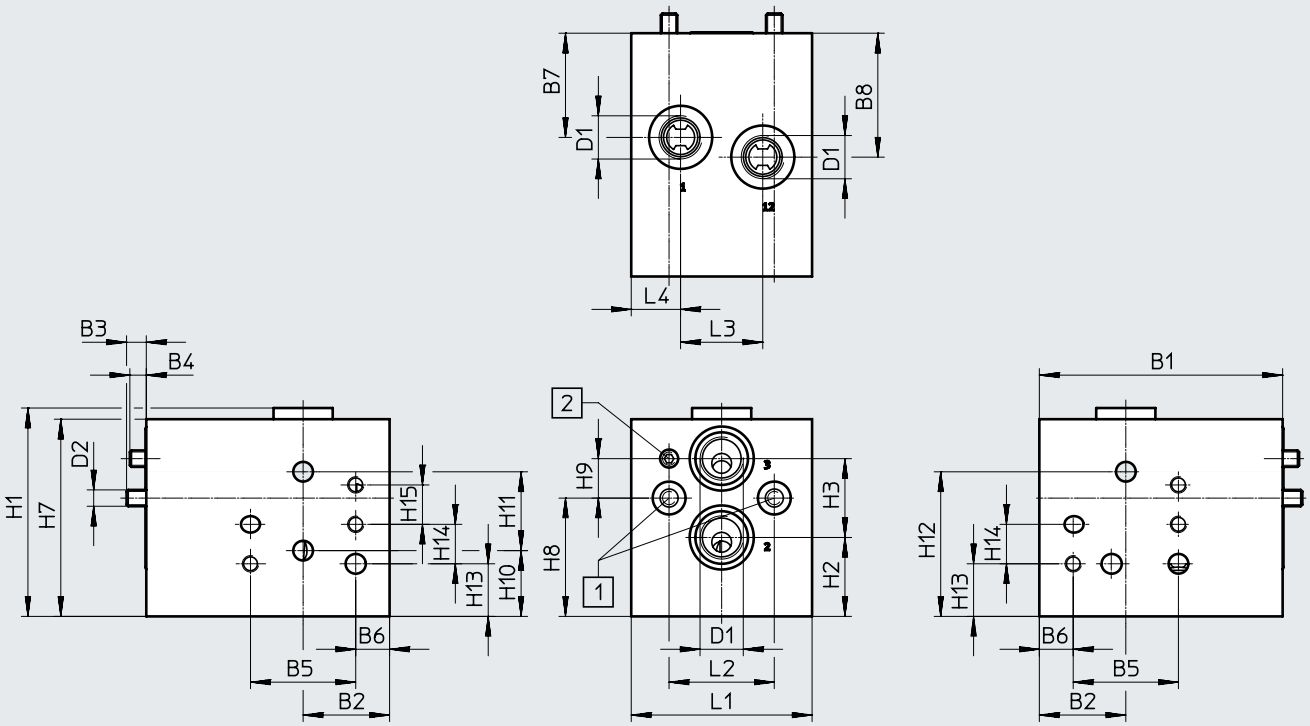



[1] Socket head screw M5x35 [2] Threaded pin M5x10

| 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 | | | | | | | | | | | |

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

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

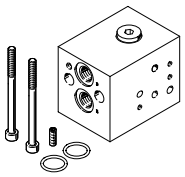
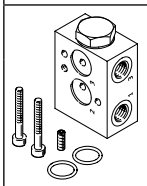



[1] Socket head screw M5x70 [2] Threaded pin M5x10

| 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 | | | | | |

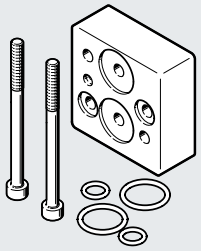
| Type | H1 | H2 | H3 | H7 | H8 | H9 | H10 | H11 | H12 | H13 | H14 | H15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VABS-S7-RB-B-G14-V14-A | 63.4 | 24 | 24 | 60 | 36 | 12 | 20 | 24 | 44 | 16 | 12 | 12 |
| VABS-S7-RB-B-N14-V14-A | | | | | | | | | | | | |

**Ordering data**

| | Description | Part no. | Type |
|---|---|---|---|
|  | Sub-base for mounting two solenoid valves with G-thread connection for redundant circuitry, with flange 1/4, connection pattern to NAMUR<br>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 connection for redundant circuitry, with flange 1/4, connection pattern to NAMUR<br>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 connection, with flange 1/4, connection pattern to NAMUR | **2999476** | **VABS-S7-BE-B-G14-V14-A** |
| | Sub-base as a pressurisation and exhaust block with NPT-thread connection, with flange 1/4, connection pattern to NAMUR | **4727328** | **VABS-S7-BE-B-N14-V14-A** |

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

Connection pattern: NAMUR



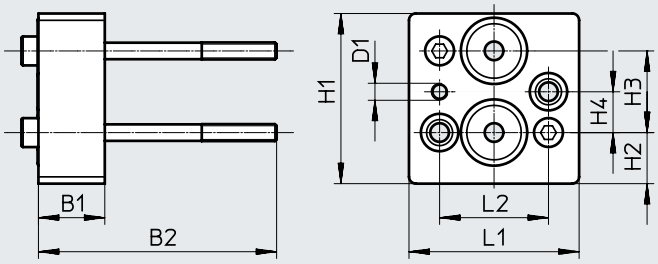
| General technical data | | |
|---|---|---|
| Type of mounting | | With through-hole |
| Mounting position | | Any |
| Pneumatic connection | 1 | M5, connection pattern to NAMUR |
| | 2 | Flange 1/4, connection pattern to NAMUR |
| | 3 | G1/4 |

| 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

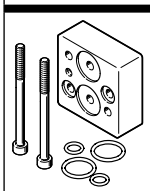
| Materials | |
|---|---|
| Mounting plate | Ematal-coated aluminium |
| Seals | NBR |
| Note on materials | Contains paint-wetting impairment substances, RoHS-compliant |

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



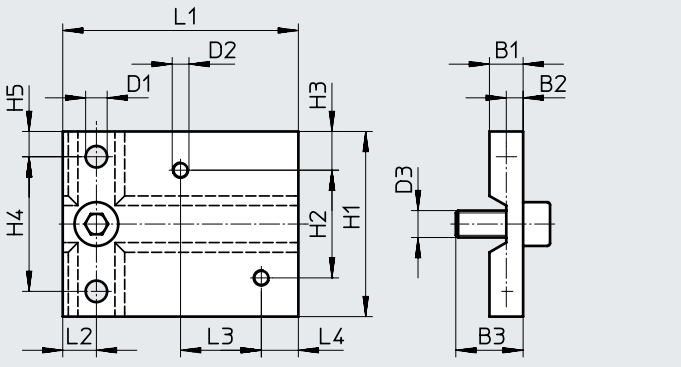

| Type | B1 | B2 | D1 | H1 | H2 | H3 | H4 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|---|
| VAME-S7-P-N-V14-A | 19.5 | 70 | M5 | 50 | 15 | 24 | 12 | 50 | 32 |

**Ordering data**

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

# Accessories

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

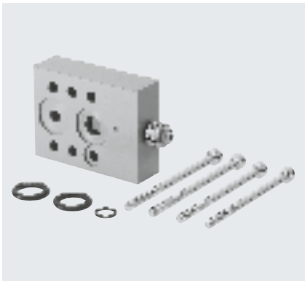



**Dimensions [mm] and ordering data**

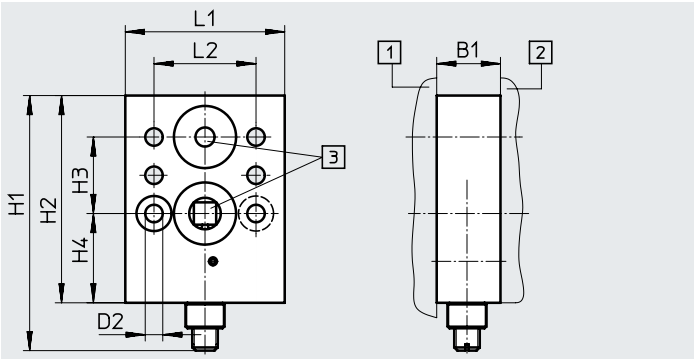
| B1 | B2 | B3 | D1 | D2 | D3 | H1 | H2 | H3 | H4 | H5 | L1 | L2 | L3 | L4 | CRC[1] | Part no. | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 5 | 20 | 6.4 | M5 | M8 | 55 | 32 | 11.5 | 40 | 7.5 | 70 | 10 | 24 | 11 | 4 | **563399** | **VAME-S7-P** |

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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

**Throttle plate for single-acting actuators**
Throttle plate material: Ematal-coated aluminium
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
Mounting position: Any
Mounting: Via through-holes
Degree of protection: IP65



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




[1] Actuator
[2] Valve
[3] Working ports for G1/4 and 1/4 NPT valves

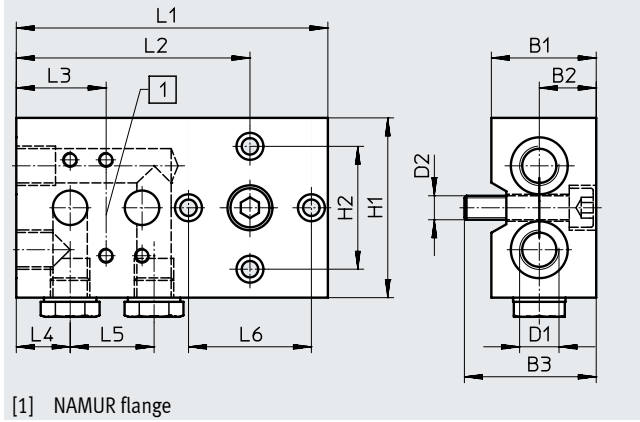
**Dimensions [mm] and ordering data**

| 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

# Accessories

**Sub-base**
Mounting plate material: Ematal-coated aluminium
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
Mounting position: Any
Mounting: Via through-holes
Degree of protection: IP65



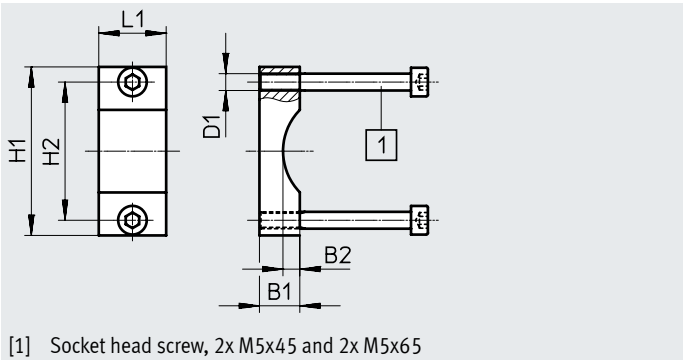

[1] NAMUR flange

**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 | G1/4 | M8 | 60 | 41 | 104 | 78 | 30 | 18 | 28 | 41 | 4 | **563396** | **VABS-S7-S-G14** |

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

**Mounting bracket**
Mounting bracket material: Ematal-coated aluminium
Contains paint-wetting impairment substances, RoHS-compliant




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

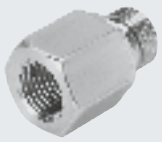
**Dimensions [mm] and ordering data**

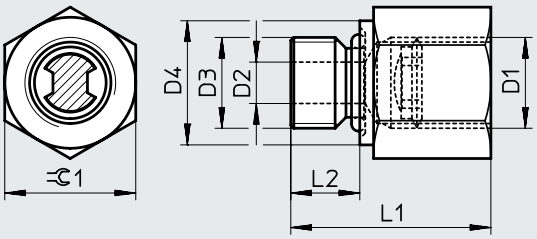
| B1 | B2 | D1 | H1 | H2 | L1 | CRC[1] | Part no. | Type |
|---|---|---|---|---|---|---|---|---|
| 12 | 5 | M5 | 50 | 41 | 20 | 4 | **563403** | **VAME-S7-Y** |

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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

# 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



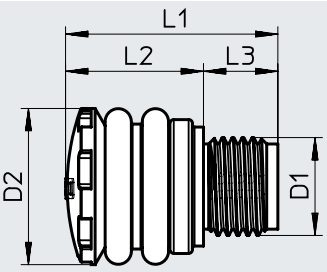



**Dimensions [mm] and ordering data**

| 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. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

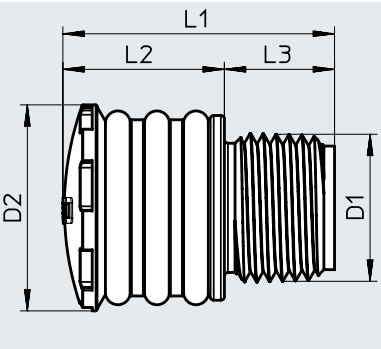
**Exhaust protection G1/4**
Housing material: PA
Seals material: EPDM
Contains paint-wetting impairment substances, RoHS-compliant
Operating medium: Compressed air to ISO 8573-1:2010 [7:–:–]
Operating pressure: 0 ... 10 bar
Ambient temperature: –50 ... 60°C
Type of mounting: Screw-in, with male thread




**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



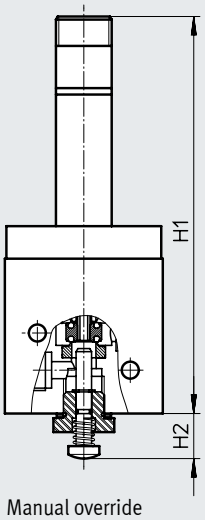

**Dimensions [mm] and ordering data**

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

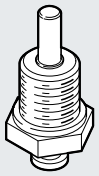
# Accessories

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

Function:
Manual override that can be retrofitted (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

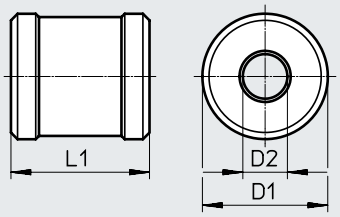

Manual override

**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. Externally visible parts with primarily functional surface requirements 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.

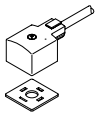



**Dimensions [mm] and ordering data**

| 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 can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

**Ordering data**

| | Description | | Part no. | Type |
|---|---|---|---|---|
| **Connecting cable** | | | | Data sheets → 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** | | | | Data sheets → Internet: mssd |
|  | Cable connection using locking screws | | **34583** | **MSSD-C** |