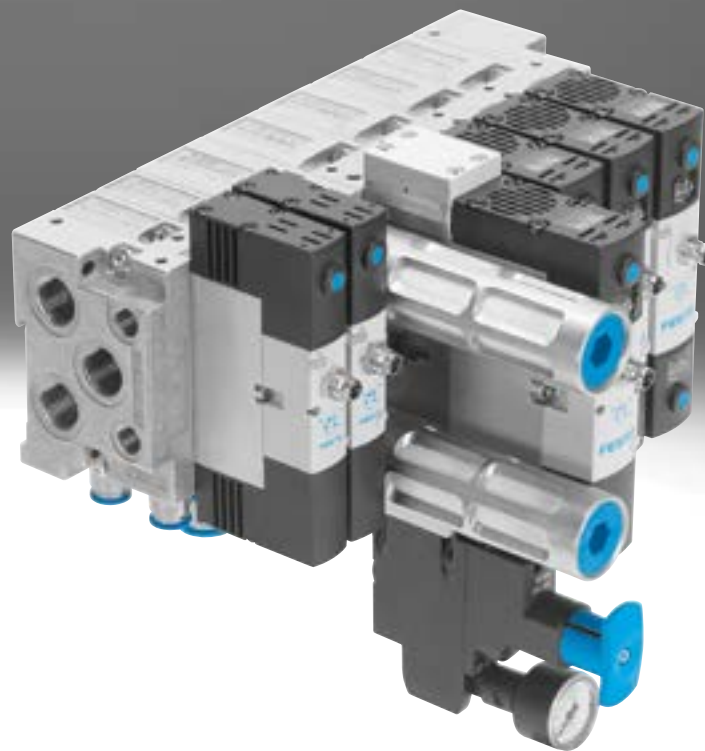


Solenoid/pneumatic valves, ISO 15407-1

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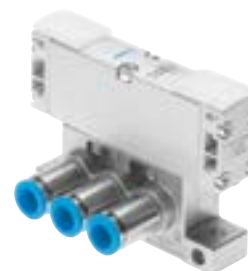
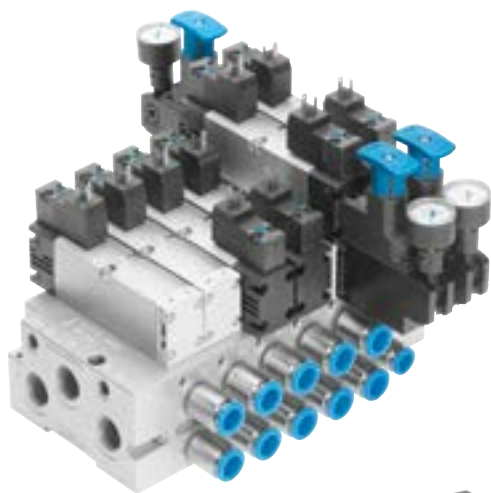
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★ Generally ready for shipping ex works in 24 hours
In stock at 13 Service Centres worldwide
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Assembled for you at 4 Service Centres worldwide
Up to 6×10^{12} variants per product family

Just look
for the
star!

Key features



Innovative

- High-performance valves in a sturdy metal housing
- Individual electrical connection via square or round plug sockets
- Valve replacement under pressure possible using vertical pressure shut-off plate
- Reverse operation
- Vacuum operation

Versatile

- Modular system offering a range of configuration options
- Conversions and extensions are possible at any time
- Integration of innovative function modules possible
 - Regulator plate
 - Throttle plate
 - Vertical pressure shut-off plate
 - Vertical supply plate
- Vertical supply plates permit a flexible air supply and variable pressure zones
- Wide range of valve functions
- Extensive operating voltage range from 12 V DC to 230 V AC

Reliable

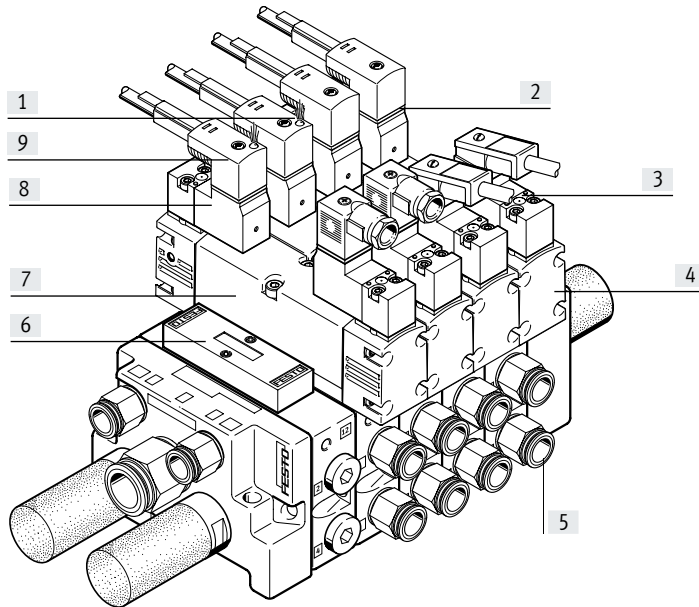
- Sturdy and durable metal components
 - Valves
 - Horizontally linked sub-bases
 - Vertically stacked sub-bases
- Fast troubleshooting thanks to LEDs:
 - in the plug socket, or
 - in the illuminating seal, or
 - in the valve
- Reliable servicing thanks to valves that can be replaced quickly and easily
- Manual override
- Durable thanks to tried-and-tested piston spool valves

Easy to mount

- Secure wall mounting or H-rail mounting
- Combi manifold assemblies of valve size 18 mm and 26 mm
- Plug-in pressure gauges on the regulator plate

Key features

Single valve manifold assembly VTIA



- [1] Signal status display via LED
- [2] Signal status display via illuminating seal
- [3] Manual override
- [4] One valve series for different flow rates
- [5] Fittings with external hex
- [6] Cover plate for vacant and expansion positions
- [7] Various valve functions
- [8] Various voltages
- [9] Pilot valve with port pattern to ISO 15218

Equipment options

5/2-way valve

- Single solenoid, pneumatic or spring return
- Double solenoid valve
- Double solenoid valve with dominance at 14

2x 3/2-way valve, single solenoid

- Normally open
- Normally open, reversible (on request)
- Normally closed
- Normally closed, reversible (on request)

- 1x normally open, 1x normally closed
- 1x normally open, 1x normally closed, reversible (on request)

5/3-way valve, single solenoid

- Mid-position valve
 - Normally open
 - Normally closed
 - Normally exhausted

2x 2/2-way valve, single solenoid

- Normally closed

Special features

Operation with external pilot air supply

- For vacuum applications
- For operating pressure of less than 3 bar
- For significant pressure fluctuations in the power unit. Power unit and pneumatic control unit are isolated
- For heavily lubricated air in the power unit
- For manifolds if the pressure zones are created via ducts 3 and 5 (not possible with 2x 3/2)
- For manifolds or pressure zones that are equipped with reversible 2x 3/2-way valves (valves on request)

Operation with internal pilot air supply

- For small pressure fluctuations in the power section
- For using regulator plates with vertical stacking, also in reverse operation
- As a low-cost solution

Reverse operation with compressed air supply via ducts 3 and 5

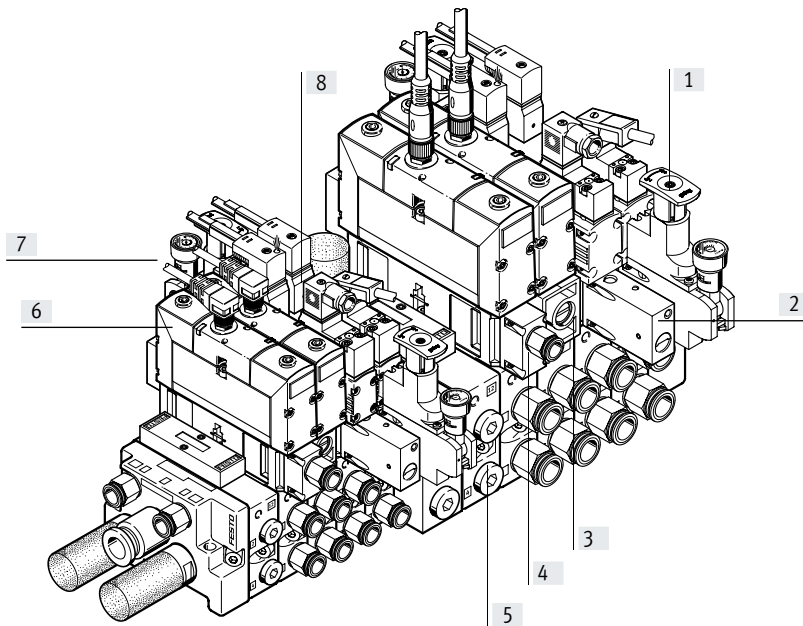
- Pressure zone separation via ducts 3 and 5
 - Example: duct 3 vacuum, duct 5 ejector pulse
 - Example: duct 3 high pressure for advancing the piston rod of a double-acting cylinder. Duct 5 low pressure for retracting the piston rod with low energy consumption
- 2x 3/2-way valves used as 5/4-way valve with controllable overlap and pressure zone separation with the reversible variant

Reverse operation with a regulator plate, compressed air supply via duct 1

- Reversible pressure regulator combined with a reversible 2x 3/2-way valve regulates outputs 2 and 4
 - AB regulator for each of outputs 2 and 4
 - A regulator for output 4
 - B regulator for output 2
- Reversible pressure regulators are in the control position immediately after the power supply is switched on
 - Adjustment possible at all times
 - Dynamic response characteristics
 - Reduced regulator load because the supply pressure is maintained when the valve is switched
 - Not exhausted via the regulator

Key features

Valve manifold assembly VTIA with a combination of sizes and vertical stacking



- [1] Pressure regulator for adjusting the force of the actuated drive
- [2] Pressure shut-off plate for replacing valves during operation
- [3] Throttle plate for adjusting the speed of the drive
- [4] Supply plate for compressed air supply of a control chain as a separate pressure zone
- [5] Intermediate plate as interface between valve size 18 mm and 26 mm
- [6] Solenoid valve with central round plug
- [7] Valve size 18 mm and 26 mm in combination
- [8] Solenoid valve with individual pilot valves and port pattern to ISO 15218, can be connected using square plug sockets or round plug

Vertical stacking function

Pressure regulator

- Single variant to regulate the pressure at output 4(A) or 2(B) or at input 1(P)
- Dual variant to regulate the pressure at output 4(A) and 2(B) individually
- Reverse variant for the outputs so that the regulator is in the control position
- With pressure gauge connection

Throttle plate

- Designed with two flow control valves for adjusting the exhaust air flow rate at exhausts 5 or 3. This allows the drive to be set in motion and the required speed to be set at the manifold using the manual override.

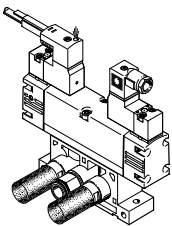
Vertical pressure shut-off plate

- Equipped with a switch via which the compressed air supply can be shut off. A directional control valve or downstream vertical stacking plate can thus be replaced without switching off the overall air supply.
- If the control chain has a redundant design, the cycle can continue even with cyclical control.

Vertical supply plate

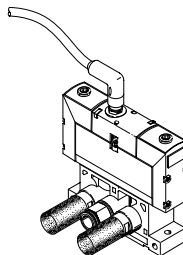
- As additional air supply for a valve
- To supply a third pressure zone

Individual connection with square plug, type C



The directional control valve has a pilot control to ISO 15218 and a plug pattern to EN 175301-803, type C.

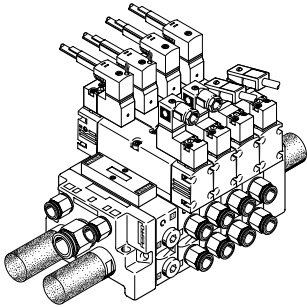
Individual connection with central round plug



The electrical connection is established using a standardised M12 or M8 plug socket 24 V DC (EN 61076-2-101).

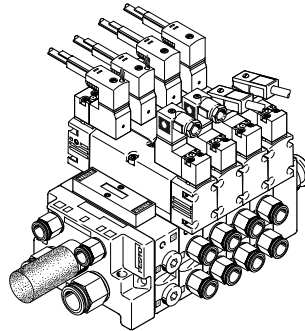
Key features

Single valve manifold assembly VTIA, directional control valves with square plug, type C



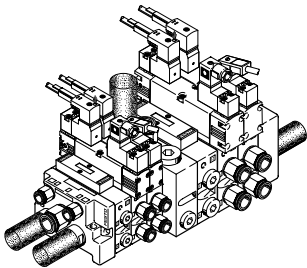
- Valve size 26 mm
- Vacant position
- Compressed air supply via duct 1
- External pilot air supply
- With fittings
- Venting via silencer for ducts 3 and 5

Single valve manifold assembly VTIA, pressure zones via duct 3 and 5



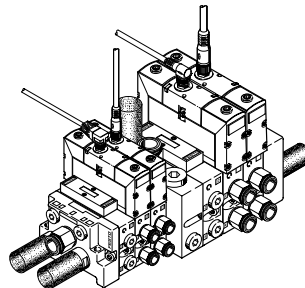
- Valve size 26 mm
- Vacant position
- Compressed air supply via ducts 3 and 5
- External pilot air supply
- With fittings
- Venting via silencer

Valve manifold assembly VTIA fitted with valve size 18 mm and 26 mm, directional control valves with square plug, type C



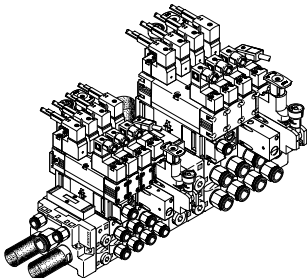
- Valve sizes 18 mm and 26 mm combined via intermediate plate
- Vacant position
- Compressed air supply via duct 1
- External pilot air supply
- With fittings
- Venting via silencer for ducts 3 and 5 on the end plates and for duct 3 also on the intermediate plate

Valve manifold assembly VTIA fitted with valve size 18 mm and 26 mm, directional control valves with central round plug



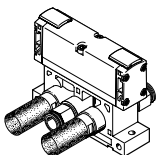
- Valve sizes 18 mm and 26 mm combined via intermediate plate
- Vacant position
- Compressed air supply via duct 1
- Internal pilot air supply
- With fittings
- Venting via silencer for ducts 3 and 5 on the end plates and for duct 3 also on the intermediate plate

Valve manifold assembly VTIA with maximum expansion with vertical stacking modules



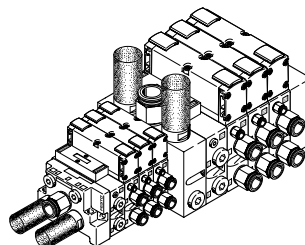
- Valve sizes 18 mm and 26 mm combined via intermediate plate
- Directional control valves with square plug
- Pressure regulators
- Throttle plates
- Shut-off plates
- Supply plates with vacant position

Pneumatically actuated directional control valve on individual sub-base



Directional control valves on an individual sub-base can be used for drives that are further away from a valve manifold assembly or when there is only one drive.

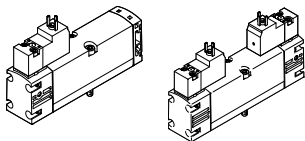
Valve manifold assembly VTIA with valve size 18 mm and 26 mm, with pneumatically actuated directional control valves



- Valve sizes 18 mm and 26 mm combined via intermediate plate
- Vacant position
- Compressed air supply via duct 1
- With fittings
- Venting via silencer for ducts 3 and 5 on the end plates and for ducts 3 and 5 also on the intermediate plate

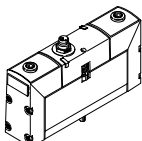
Key features

Solenoid valves with square plug, type C



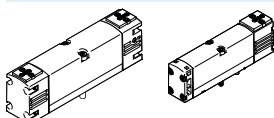
- Valve size 18 mm and 26 mm
- 2x 2/2-way, 2x 3/2-way, 5/2-way and 5/3-way valves
- 2x 3/2-way valves for reverse operation
- Internal or external pilot air supply available
- 12, 24 V DC, 24, 110 or 220 V AC

Solenoid valves with central round plug



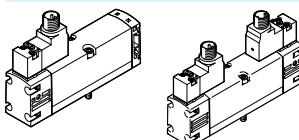
- Valve size 18 mm and 26 mm
- 2x 3/2-way, 5/2-way and 5/3-way valves
- Internal or external pilot air supply available
- 24 V DC

Basic valves with interface to ISO 15218



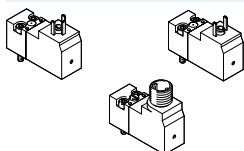
- Valve size 18 mm and 26 mm
- 2x 2/2-way, 2x 3/2-way, 5/2-way and 5/3-way valves
- Internal or external pilot air supply available

Solenoid valves with M12 round plug



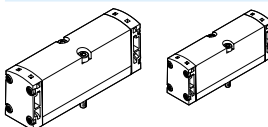
- Valve size 18 mm and 26 mm
- 2x 2/2-way, 2x 3/2-way, 5/2-way and 5/3-way valves
- 2x 3/2-way valves for reverse operation
- Internal or external pilot air supply available
- 24 V DC

Pilot valve with interface to ISO 15218



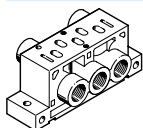
- With square plug, type C or M12 round plug
- For 12, 24 V DC and 24 V AC without PE conductor
- For 110 and 220 V AC with PE conductor
- 3/2-way valve
- Manual override non-detenting or non-detenting/detenting

Pneumatically actuated directional control valves



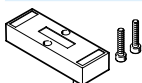
- Valve size 18 mm and 26 mm
- 2x 3/2-way, 5/2-way and 5/3-way valves
- Signal inputs 12 and 14 via the sub-base

Individual sub-base



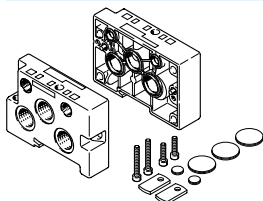
- Valve size 18 mm and 26 mm
- Ports 12 and 14 for external pilot air supply for solenoid valves and
- Signal inputs for ports 12 and 14 for pneumatically actuated valves are the same

Cover plate for vacant position



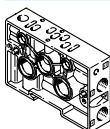
- Valve size 18 mm and 26 mm

End plate kit



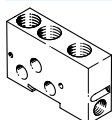
- Valve size 18 mm and 26 mm
- Ports 12 and 14 for external pilot air supply for solenoid valves
- The signal inputs for pneumatically actuated valves are only on suitable manifold sub-bases

Manifold sub-base/series sub-base



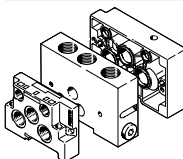
- Valve size 18 mm and 26 mm
- For solenoid valves
- For pneumatically actuated valves with additional ports for the signal inputs

Intermediate plate



- Adapter between valve size 18 mm and 26 mm
- With additional air supply and exhaust ports

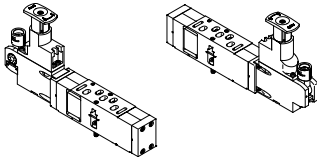
Intermediate plate kit



- Intermediate plate as adapter between valve sizes 18 mm and 26 mm
- One 18 mm and one 26 mm end plate

Key features

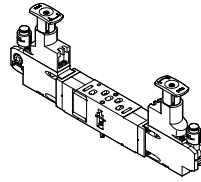
Pressure regulator plate with one pressure regulator



Versions

- Valve size 18 mm and 26 mm
- For pressure regulation at supply input 1 (P). Set pressure is the same for outputs 2 and 4
- For pressure regulation at working port 4 (A)
 - The pressure regulator for reverse operation is supplied via port 1 of the sub-base and supplies port 5 on the directional control valve
 - The directional control valve vents via port 1 to ports 3 and 5 of the sub-base.
- For pressure regulation at working port 2 (B)
 - Input 3 is supplied in reverse operation

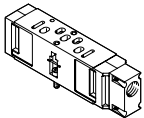
Regulator plate with 2 pressure regulators



Versions

- Valve size 18 mm and 26 mm
- For pressure regulation at working ports 4 (A) and 2 (B)
 - The pressure regulators for reverse operation are supplied via port 1 in the sub-base and feed inputs 5 and 3 on the directional control valve
 - The directional control valve vents via port 1 to ports 3 and 5 of the sub-base.

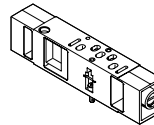
Vertical supply plate



Versions

- Valve size 18 mm and 26 mm
- As intermediate supply
 - For one valve
 - To supply a third pressure zone
- Can be equipped with a directional control valve

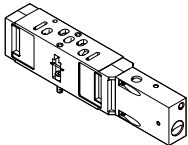
Throttle plate



Versions

- Valve size 18 mm and 26 mm
- Exhaust air flow control in ducts 3 and 5
 - In the case of pressure zones that are formed by ducts 3 and 5, the throttle plates act as supply air flow control

Vertical pressure shut-off plate



Versions

- Valve size 18 mm and 26 mm
- A switch activated with a slotted head screwdriver shuts off duct 1
 - The throttle plates, pressure regulator plates or directional control valves above it can be replaced
 - Other components in the control chain such as drives, for example, can be replaced once the air has been exhausted via the directional control valve

Pressure gauge

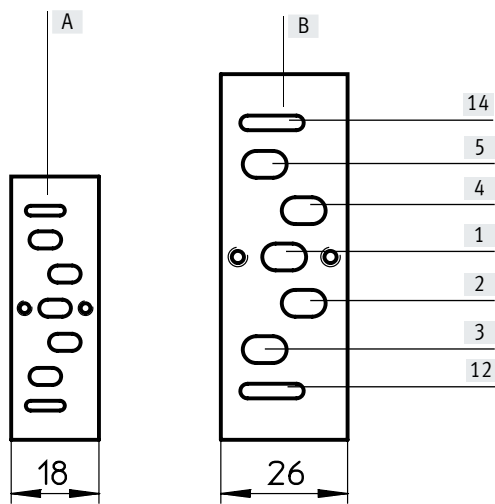


Design

- Can be connected to the regulator plates

Key features

Port pattern on sub-base to ISO 15407-1



- [A] Valve size 18 mm
- [B] Valve size 26 mm

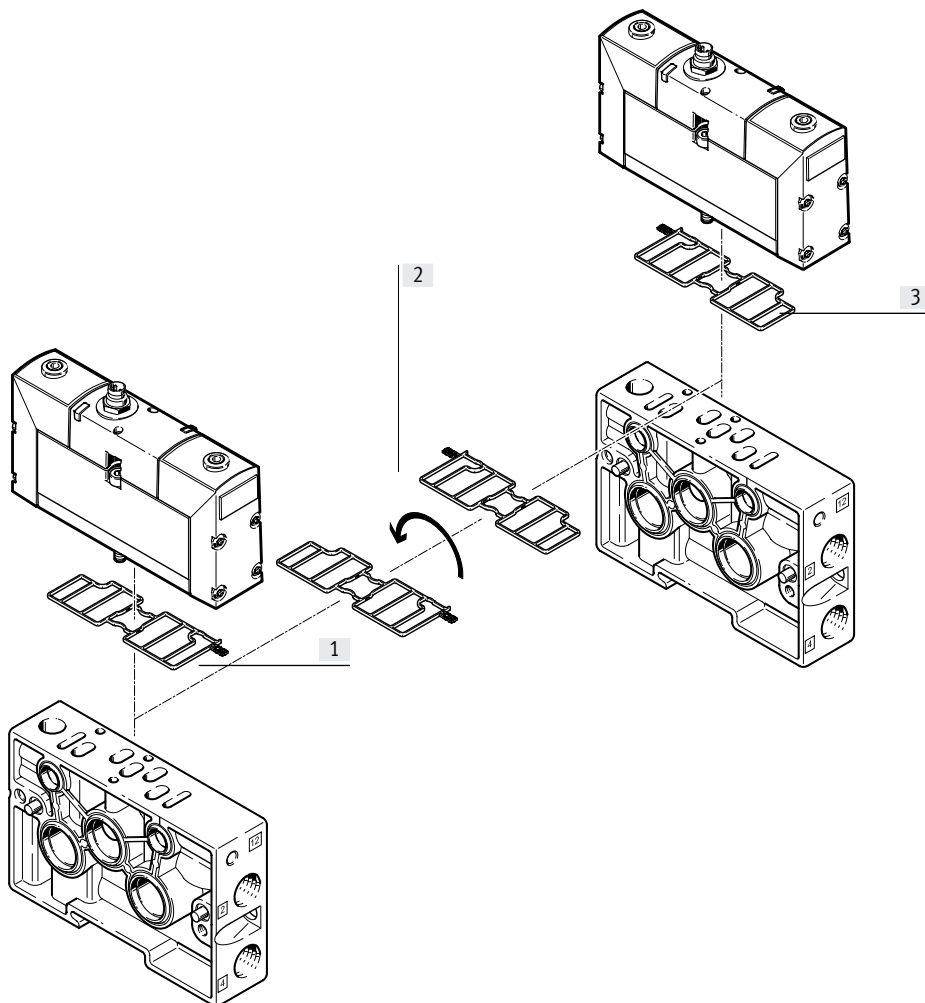
VSVA

Changing the pilot air exhaust

The valve manifold assembly VTIA is supplied with unducted pilot air exhaust. By turning the seal between the

valve and manifold block, exhaust air (pilot air) can be diverted to pilot duct

12 and can thus be ducted and silenced (see illustration).



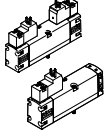


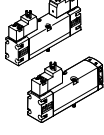
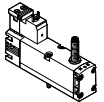


- [1] Ducted pilot air exhaust
- [2] Turning the seal by 180°
- [3] Unducted pilot air exhaust (as supplied)

Key features

Use of 2x 3/2-way valve as 5/4-way valve

Code	Circuit symbol	Table of values	Equivalent circuit symbol	Function															
K		<table border="1"> <thead> <tr> <th>Y1</th> <th>Y2</th> <th>A</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>0</td> <td>1</td> <td></td> </tr> <tr> <td>1</td> <td>0</td> <td></td> </tr> <tr> <td>1</td> <td>1</td> <td></td> </tr> </tbody> </table>	Y1	Y2	A	0	0		0	1		1	0		1	1			<ul style="list-style-type: none"> • Normally exhausted • The double-acting drive connected to outputs 2 and 4 is unpressurised when the valve is in the normal position and can be moved by an external force • If there is a signal at Y1(14) and Y2(12), there is pressure at outputs 2 and 4
Y1	Y2	A																	
0	0																		
0	1																		
1	0																		
1	1																		
		<table border="1"> <thead> <tr> <th>Y1</th> <th>Y2</th> <th>A</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>0</td> <td>1</td> <td></td> </tr> <tr> <td>1</td> <td>0</td> <td></td> </tr> <tr> <td>1</td> <td>1</td> <td></td> </tr> </tbody> </table>	Y1	Y2	A	0	0		0	1		1	0		1	1			<ul style="list-style-type: none"> • Normally closed (by combining directional control valve code K and two piloted check valves) • The piloted check valves connected to outputs 2 and 4 are unpressurised when the valve is in the normal position and the pressures in the drive close the check valves so they are leak-tight • The drive remains stationary when the forces are in equilibrium • Leakages can only occur via the drive seals • If there is a signal at Y1(14) and Y2(12), the same pressure is present at outputs 2 and 4
Y1	Y2	A																	
0	0																		
0	1																		
1	0																		
1	1																		
N		<table border="1"> <thead> <tr> <th>Y1</th> <th>Y2</th> <th>A</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>0</td> <td>1</td> <td></td> </tr> <tr> <td>1</td> <td>0</td> <td></td> </tr> <tr> <td>1</td> <td>1</td> <td></td> </tr> </tbody> </table>	Y1	Y2	A	0	0		0	1		1	0		1	1			<ul style="list-style-type: none"> • Normally open • The double-acting drive connected to outputs 2 and 4 is supplied with the same compressed air at both ends when the valve is in the normal position and stops when the forces are in equilibrium • If there is a signal at Y1(10) and Y2(10), outputs 2 and 4 are exhausted, the drive is unpressurised and can be moved by an external force
Y1	Y2	A																	
0	0																		
0	1																		
1	0																		
1	1																		
H		<table border="1"> <thead> <tr> <th>Y1</th> <th>Y2</th> <th>A</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>0</td> <td>1</td> <td></td> </tr> <tr> <td>1</td> <td>0</td> <td></td> </tr> <tr> <td>1</td> <td>1</td> <td></td> </tr> </tbody> </table>	Y1	Y2	A	0	0		0	1		1	0		1	1			<ul style="list-style-type: none"> • Normally open after output 2 • The double-acting drive connected to outputs 2 and 4 is supplied with compressed air via output 2 when the valve is in the normal position. Output 4 is exhausted. When the system is in its initial position, the drive is thus in a clearly defined position, as would also be the case with a 5/2-way single solenoid valve • If there is a signal at Y1(14) and Y2(10), output 2 is exhausted and there is pressure at output 4. The drive leaves the initial position • A closed circuit can be created with this 2x 3/2-way valve by combining it with piloted check valves. However, this is then selected by an active signal at Y2(10).
Y1	Y2	A																	
0	0																		
0	1																		
1	0																		
1	1																		

Product range overview

Function	Type	Valve function	Flow rate Valve [l/min]	Working line on the sub-base		Operating voltage					
				G1/8	G1/4	[V DC]		[V AC]			
						12	24	24	110	230	
Valve size 18 mm	Valve with pilot interface to ISO 15218										
		VSVA-B-T22...A2	2x 2/2-way valve, single solenoid	700	■	-	■	■	■	■	■
		VSVA-B-T32...A2	2x 3/2-way valve, single solenoid	600	■	-	■	■	■	■	■
		VSVA-B-M52...A2	5/2-way valve, single solenoid	750	■	-	■	■	■	■	■
		VSVA-B-B52...A2	5/2-way valve, double solenoid	750	■	-	■	■	■	■	■
		VSVA-B-P53...A2	5/3-way valve, mid-position valve	650	■	-	■	■	■	■	■
	Valve with central plug										
		VSVA-B-T32...A2	2x 3/2-way valve, single solenoid	600	■	-	-	■	-	-	-
		VSVA-B-M52...A2	5/2-way valve, single solenoid	750	■	-	-	■	-	-	-
		VSVA-B-B52...A2	5/2-way valve, double solenoid	750	■	-	-	■	-	-	-
		VSVA-B-P53...A2	5/3-way valve, mid-position valve	650	■	-	-	■	-	-	-
	Pneumatic valve										
		VSPA-B-T32...A2	2x 3/2-way valve, single solenoid	550	■	-	-	-	-	-	-
		VSPA-B-M52...A2	5/2-way valve, single solenoid	700	■	-	-	-	-	-	-
		VSPA-B-B52...A2	5/2-way valve, double solenoid	700	■	-	-	-	-	-	-
		VSPA-B-P53...A2	5/3-way valve, mid-position valve	650	■	-	-	-	-	-	-
Valve size 26 mm	Valve with pilot interface to ISO 15218										
		VSVA-B-T22...A1	2x 2/2-way valve, single solenoid	1350	-	■	■	■	■	■	■
		VSVA-B-T32...A1	2x 3/2-way valve, single solenoid	1250	-	■	■	■	■	■	■
		VSVA-B-M52...A1	5/2-way valve, single solenoid	1400	-	■	■	■	■	■	■
		VSVA-B-B52...A1	5/2-way valve, double solenoid	1400	-	■	■	■	■	■	■
		VSVA-B-P53...A1	5/3-way valve, mid-position valve	1400	-	■	■	■	■	■	■
	Valve with pilot interface to ISO 15218, with position detection										
		VSVA-B-M52...A1	5/2-way valve, single solenoid	1400	-	■	-	■	-	-	-
	Valve with central plug										
		VSVA-B-T32...A1	2x 3/2-way valve, single solenoid	1250	-	■	-	■	-	-	-
		VSVA-B-M52...A1	5/2-way valve, single solenoid	1400	-	■	-	■	-	-	-
		VSVA-B-B52...A1	5/2-way valve, double solenoid	1400	-	■	-	■	-	-	-
		VSVA-B-P53...A1	5/3-way valve, mid-position valve	1400	-	■	-	■	-	-	-
	Pneumatic valve										
		VSPA-B-T32...A1	2x 3/2-way valve, single solenoid	1250	-	■	-	-	-	-	-
		VSPA-B-M52...A1	5/2-way valve, single solenoid	1400	-	■	-	-	-	-	-
VSPA-B-B52...A1		5/2-way valve, double solenoid	1400	-	■	-	-	-	-	-	
VSPA-B-P53...A1		5/3-way valve, mid-position valve	1400	-	■	-	-	-	-	-	

Product range overview

Plug			Pilot air			→ Page/ Internet
Square	Round plug		Internal	External		
MEB	M8x1	M12x1				
Valve with pilot interface to ISO 15218						
■	-	■	■	■	Pneumatic spring return, normally closed	20
■	-	■	■	■	Pneumatic spring return, normally closed, open, 1x open/1x closed	20
■	-	■	■	■	Pneumatic or mechanical spring return	20
■	-	■	■	■	Dominance: 1st signal or at 14	20
■	-	■	■	■	Normally closed, exhausted, open	20
Valve with central plug						
-	■	■	■	■	Pneumatic spring return, normally closed, open, 1x open/1x closed	44
-	■	■	■	■	Pneumatic or mechanical spring return	44
-	■	■	■	■	Dominance: 1st signal or at 14	44
-	■	■	■	■	Normally closed, exhausted, open	44
Pneumatic valve						
-	■	■	■	■	Pneumatic spring return, normally closed, open, 1x open/1x closed	44
-	■	■	■	■	Pneumatic or mechanical spring return	44
-	■	■	■	■	Dominance: 1st signal or at 14	44
-	■	■	■	■	Normally closed, exhausted, open	44
Valve with pilot interface to ISO 15218						
■	-	■	■	■	Pneumatic spring return, normally closed	30
■	-	■	■	■	Pneumatic spring return, normally closed, open, 1x open/1x closed	30
■	-	■	■	■	Dominance: 1st signal or at 14	30
■	-	■	■	■	Normally closed, exhausted, open	30
■	-	■	■	■	Normally closed, exhausted, open	30
Valve with pilot interface to ISO 15218, with position detection						
■	-	-	-	■	Inductive sensor for monitoring normal position of piston spool valve	40
Valve with central plug						
-	■	■	■	■	Pneumatic spring return, normally closed, open, 1x open/1x closed	50
-	■	■	■	■	Dominance: 1st signal or at 14	50
-	■	■	■	■	Normally closed, exhausted, open	50
-	■	■	■	■	Normally closed, exhausted, open	50
Pneumatic valve						
-	■	■	■	■	Pneumatic spring return, normally closed, open, 1x open/1x closed	59
-	■	■	■	■	Dominance: 1st signal or at 14	59
-	■	■	■	■	Normally closed, exhausted, open	59
-	■	■	■	■	Normally closed, exhausted, open	59

Type codes

001	Series	
VSVA	Standards-based valve to ISO 5599-1	
002	Directional control valve type	
B	Sub-base valve	
003	Valve function	
T22C	2x2/2-way valve, normally closed	
T32U	2x3/2-way valve, normally open	
T32F	2x3/2-way valve, normally open, reversible	
T32C	2x3/2-way valve, normally closed	
T32N	2x3/2-way valve, normally closed, reversible	
T32H	2x3/2-way valve, 1x normally closed, 1x normally open	
T32W	2x3/2-way valve, 1x normally closed, 1x normally open, reversible	
M52	5/2-way valve, single solenoid/monostable	
B52	5/2-way valve, double solenoid/bistable	
D52	5/2-way valve, double solenoid/bistable, dominant signal	
P53U	5/3-way valve, mid-position pressurised	
P53E	5/3-way valve, mid-position exhausted	
P53C	5/3-way valve, mid-position closed	
004	Reset method for monostable/single solenoid valves	
	None	
A	Pneumatic spring	
M	Mechanical spring	

005	Pilot air	
	Internal	
Z	External	
006	Manual override	
D	Non-detenting, detenting	
H	Non-detenting	
007	Pneumatic connection	
A2	18 mm (02) ISO 15407-1/-2	
A1	26 mm (01) ISO 15407-1/-2	
D1	42 mm (1) ISO 5599-1/-2	
D2	52 mm (2) ISO 5599-1/-2	
008	Nominal operating voltage	
1	24 V DC	
009	Electrical connection	
R2	Central connector M8	
R5	Central plug M12	
010	Display	
L	LED	

Type codes

001	Series
VSVA	Standards-based valve to ISO 5599-1
002	Directional control valve type
B	Sub-base valve
003	Valve function
T22C	2x2/2-way valve, normally closed
T32U	2x3/2-way valve, normally open
T32F	2x3/2-way valve, normally open, reversible
T32C	2x3/2-way valve, normally closed
T32N	2x3/2-way valve, normally closed, reversible
T32H	2x3/2-way valve, 1x normally closed, 1x normally open
T32W	2x3/2-way valve, 1x normally closed, 1x normally open, reversible
M52	5/2-way valve, single solenoid/monostable
B52	5/2-way valve, double solenoid/bistable
D52	5/2-way valve, double solenoid/bistable, dominant signal
P53U	5/3-way valve, mid-position pressurised
P53E	5/3-way valve, mid-position exhausted
P53C	5/3-way valve, mid-position closed
004	Reset method for monostable/single solenoid valves
	None
A	Pneumatic spring
M	Mechanical spring
005	Pilot air
	Internal
Z	External

006	Manual override
	None
D	Non-detenting, detenting
H	Non-detenting
007	Pneumatic connection
A2	18 mm (02) ISO 15407-1/-2
A1	26 mm (01) ISO 15407-1/-2
008	Nominal operating voltage
	None
5	12 V DC
1	24 V DC
1A	24 V AC/50-60 Hz
2A	110 V AC/50-60 Hz
3A	230 V AC/50-60 Hz
009	Electrical connection
R3	Individual connector M12
P1	Interface for pilot valve (CNOMO small)
C1	Connection pattern type C, to EN 175 301
010	Position sensing
	None
APC	Proximity sensor, PNP with open cable ends
APP	Proximity sensor, PNP with M8 plug
APX	Proximity sensor, PNP with cable and plug M12
ANC	Proximity sensor, NPN with open cable end
ANP	Proximity sensor, NPN with plug M8

Type codes

001	Series
VSPA	Standards-based valve to ISO 15407-1/-2

002	Directional control valve type
B	Sub-base valve

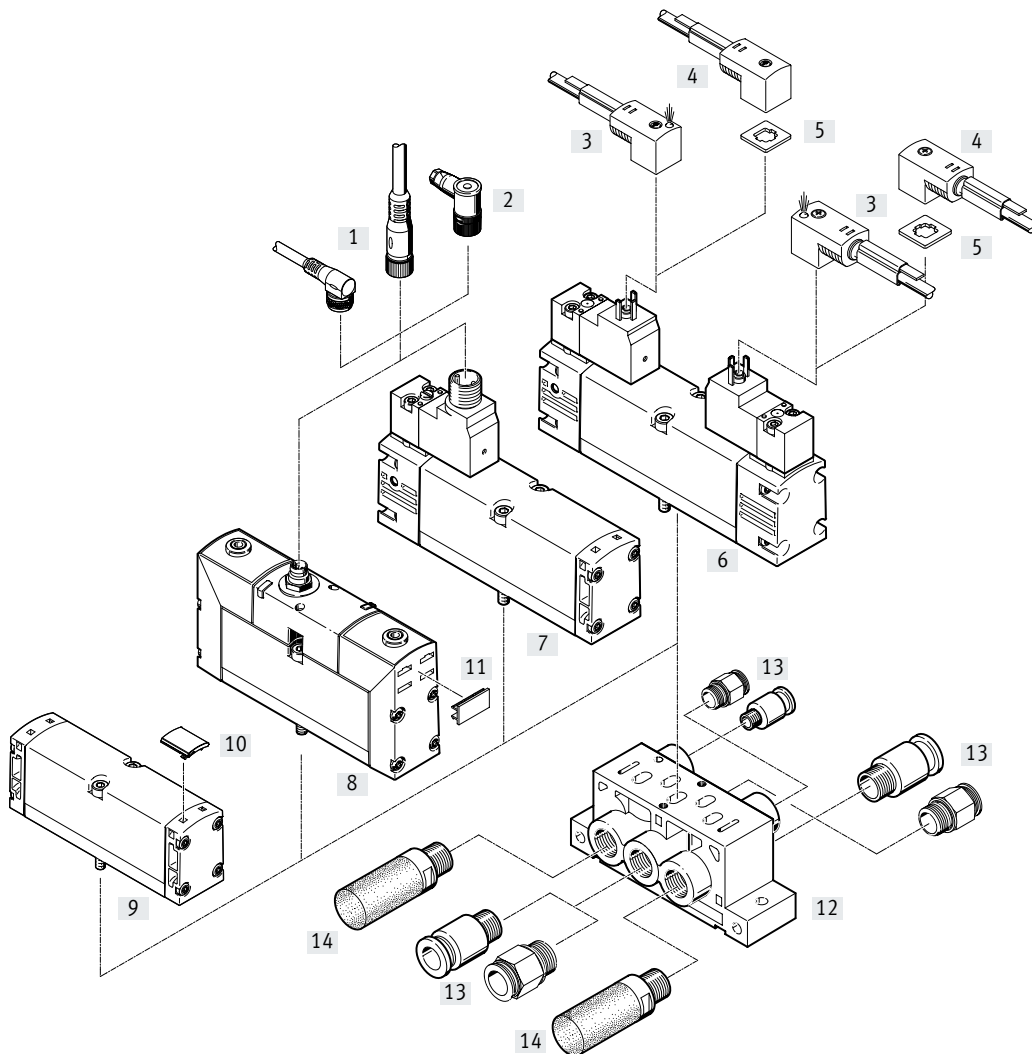
003	Valve function
T32U	2x3/2-way valve, normally open
T32C	2x3/2-way valve, normally closed
T32H	2x3/2-way valve, 1x normally closed, 1x normally open
M52	5/2-way valve, single solenoid/monostable
B52	5/2-way valve, double solenoid/bistable
D52	5/2-way valve, double solenoid/bistable, dominant signal
P53U	5/3-way valve, mid-position pressurised
P53E	5/3-way valve, mid-position exhausted
P53C	5/3-way valve, mid-position closed

004	Reset method for monostable/single solenoid valves
	None
A	Pneumatic spring
M	Mechanical spring

005	Pneumatic connection
A2	18 mm (02) ISO 15407-1/-2
A1	26 mm (01) ISO 15407-1/-2

Peripherals overview

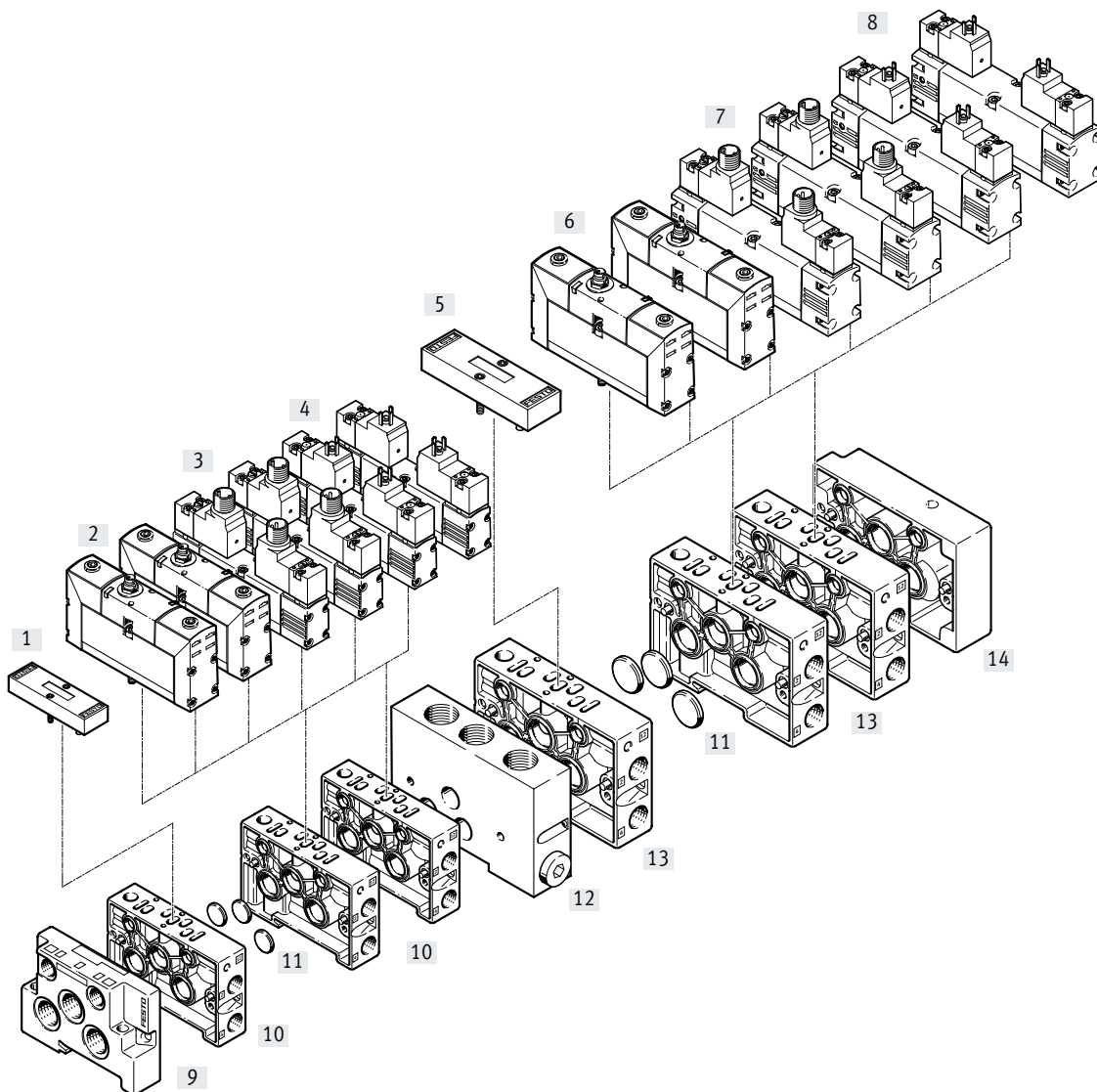
Individual mounting



	Type	Brief description	→ Page/Internet	
[1]	Connecting cable	NEBU	For valves with round plug	80
[2]	Plug socket	SIE-WD-TR	Angled	80
[3]	Connecting cable	KMEB...-LED	With PVC casing and LED	80
[4]	Connecting cable	KMEB	With PVC casing	80
[5]	Illuminating seal	MEB-LD	For displaying the signal status	80
[6]	Solenoid valve	VSVA-...C	With interface to ISO 15218 and plug pattern type C	20
[7]	Solenoid valve	VSVA-...R3	With interface to ISO 15218 and round plug	20
[8]	Solenoid valve	VSVA-...R	With round plug	44
[9]	Pneumatic valve	VSPA	Port pattern to ISO 15407-1	56
[10]	Inscription label holder	ASCF	For identifying the VSPA pneumatic valves	79
[11]	Inscription labels	IBS-9x20	For identifying the VSVA valves with round plug	79
[12]	Individual sub-base	NAS	With lateral ports	67
[13]	Push-in fitting	QS	For standard O.D. tubing	79
[14]	Silencer	U	For mounting in exhaust ports	79

Peripherals overview

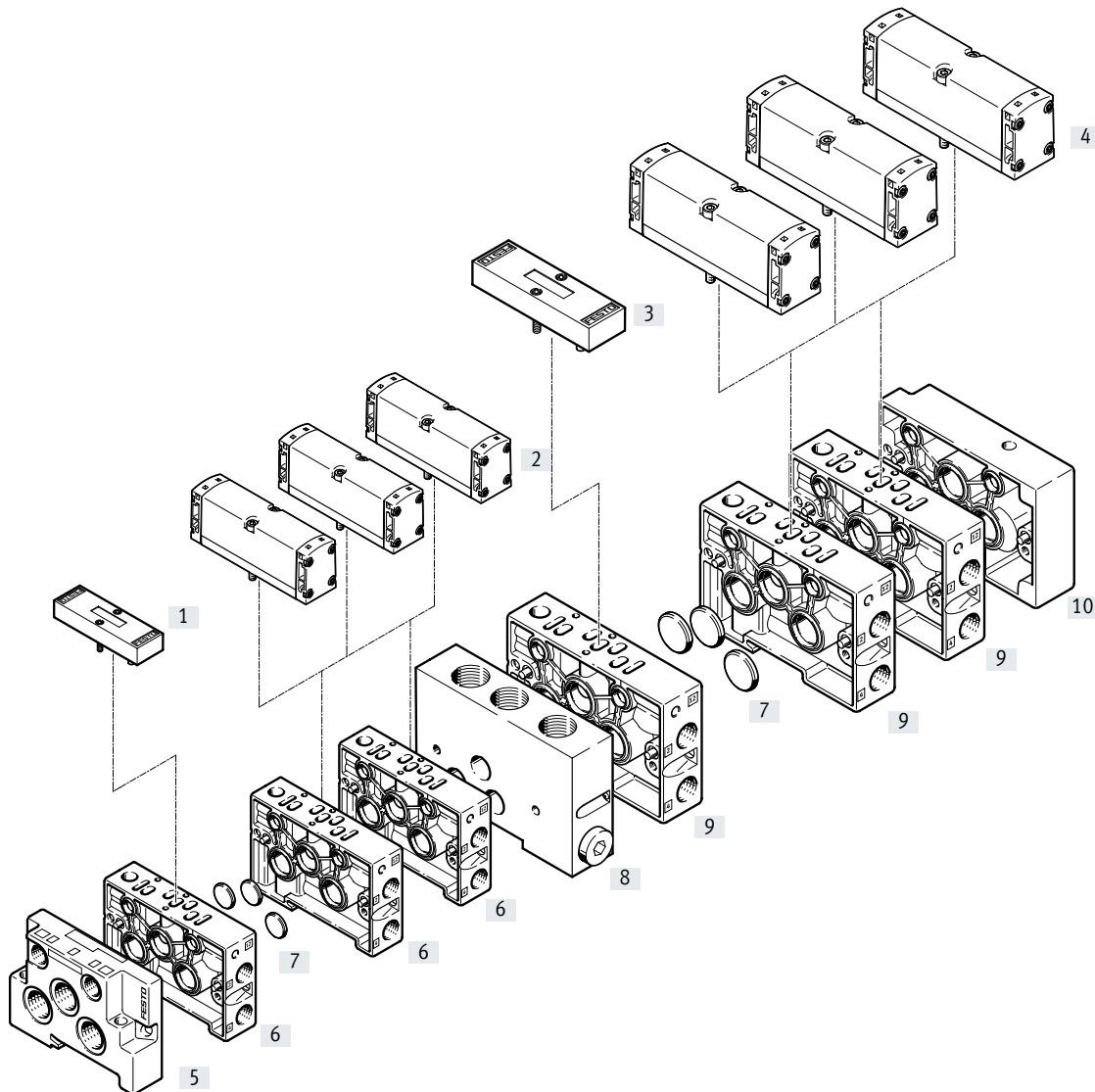
Manifold assembly – Solenoid valves



	Type	Brief description	→ Page/Internet	
[1]	Cover plate	NDV-02-VDMA	For valve size 18 mm, vacant or spare position	77
[2]	Solenoid valve	VSVA...A2...R	Valve size 18 mm with round plug	44
[3]	Solenoid valve	VSVA...A2...R3	Valve size 18 mm, interface to ISO 15218 with round plug	20
[4]	Solenoid valve	VSVA...A2...C	Valve size 18 mm, interface to ISO 15218 with plug pattern type C	20
[5]	Cover plate	NDV-01-VDMA	For valve size 26 mm, vacant or spare position	77
[6]	Solenoid valve	VSVA...A1...R	Valve size 26 mm with round plug	50
[7]	Solenoid valve	VSVA...A1...R3	Valve size 26 mm, interface to ISO 15218 with round plug	30
[8]	Solenoid valve	VSVA...A1...C	Valve size 26 mm, interface to ISO 15218 with plug pattern type C	30
[9]	End plate	NEV	For sealing the manifold sub-bases valve size 18 mm	68
[10]	Manifold sub-base	NAW-1/8-02-VDMA	Valve size 18 mm with lateral ports 2 and 4	68
[11]	Isolating disc	NSC	For creating pressure zones or for sealing ports on the end plates	77
[12]	Intermediate plate	NZV-01/02-VDMA	For connecting valve size 18 mm with valve size 26 mm	69
[13]	Manifold sub-base	NAW-1/4-01-VDMA	Valve size 26 mm with lateral ports 2 and 4	68
[14]	End plate	NEV	For sealing the manifold sub-bases valve size 26 mm	68

Peripherals overview

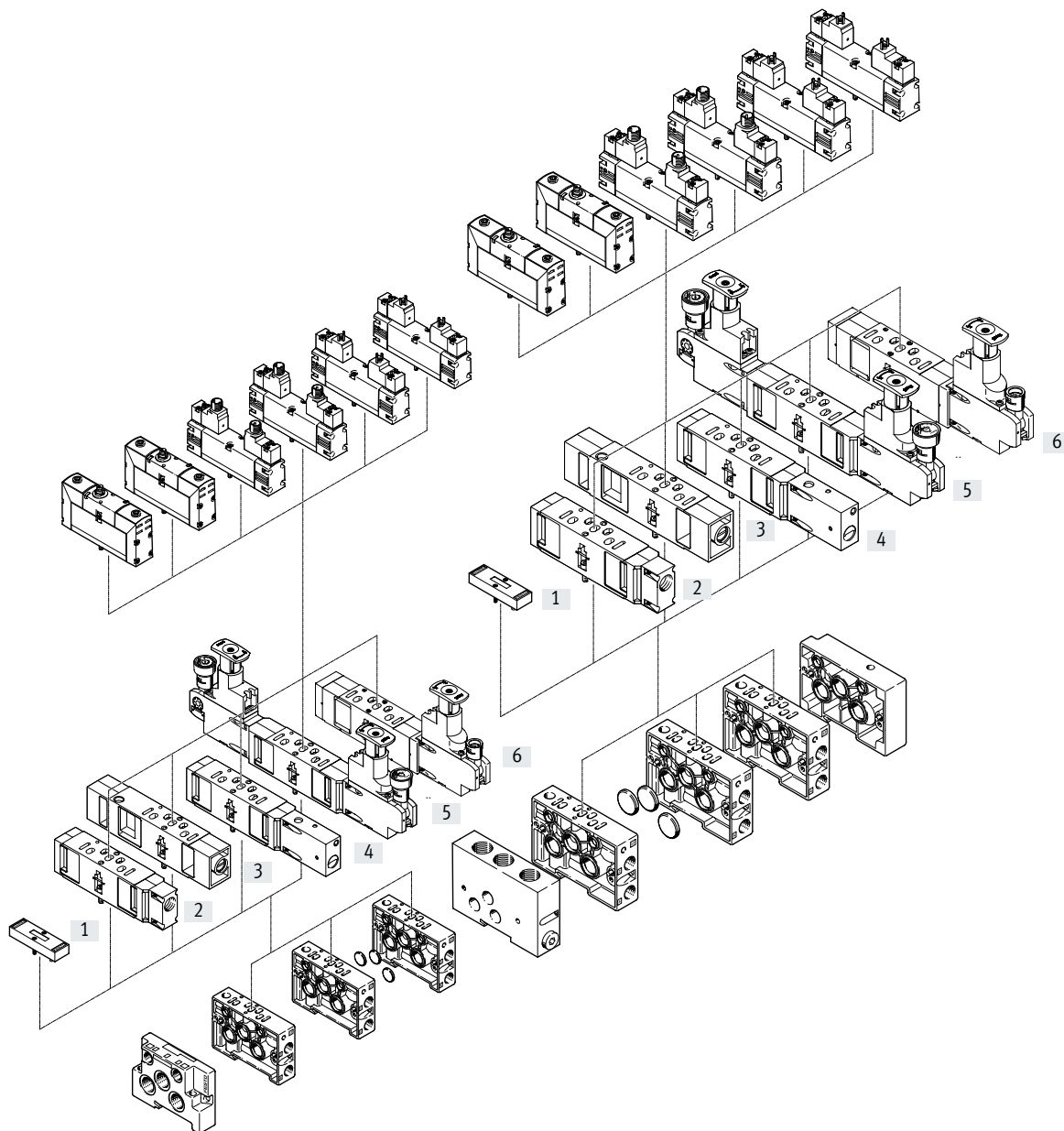
Manifold assembly – Pneumatic valves



	Type	Brief description	→ Page/Internet	
[1]	Cover plate	NDV-02-VDMA	For valve size 18, vacant or spare position	77
[2]	Pneumatic valve	VSPA...A2	Valve size 18	56
[3]	Cover plate	NDV-01-VDMA	For valve size 26, vacant or spare position	77
[4]	Pneumatic valve	VSPA...A1	Valve size 26	59
[5]	End plate	NEV	For sealing the manifold sub-bases valve size 18 mm	68
[6]	Manifold sub-base	NAW-1/8-02-VDMA	Valve size 18 with lateral ports 2 and 4	68
[7]	Isolating disc	NSC	For creating pressure zones or for sealing ports on the end plates	77
[8]	Intermediate plate	NZV-01/02-VDMA	For connecting valve size 18 mm with valve size 26 mm	69
[9]	Manifold sub-base	NAW-1/4-01-VDMA	Valve size 26 with lateral ports 2 and 4	68
[10]	End plate	NEV	For sealing the manifold sub-bases valve size 26 mm	68

Peripherals overview

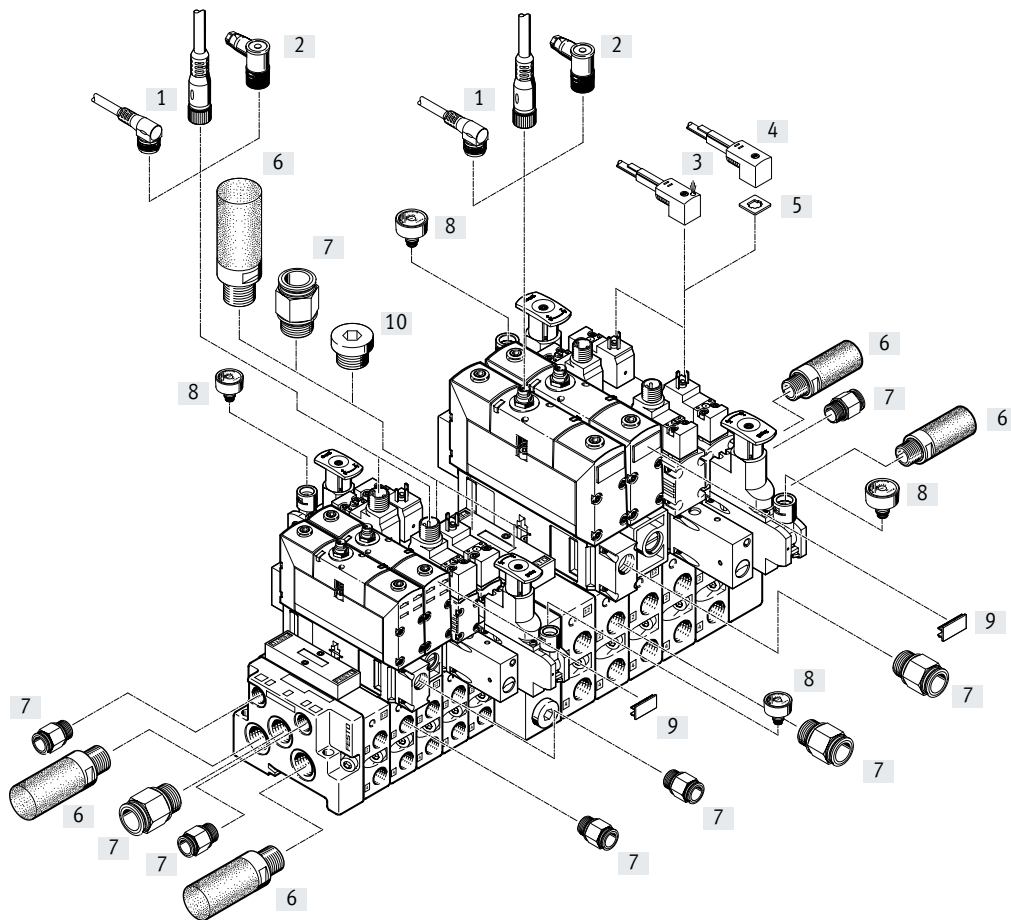
Manifold assembly with vertical stacking



		Type	Brief description	→ Page/Internet
[1]	Cover plate	NDV	For vacant or spare position	77
[2]	Vertical supply plate	VABF...P1-A3	For intermediate air supply	65
[3]	Throttle plate	VABF...F1-B1	For flow control in ducts 3 and 5	64
[4]	Vertical pressure shut-off plate	VABF...L1-D1	With switch for manual shut-off of duct 1	66
[5]	Regulator plate	VABF...R...-C2	With 2 pressure regulators for working ports 2 and 4	62
[6]	Regulator plate	VABF...R...-C2	With one pressure regulator for working ports 2 or 4 or for duct 1	62


Peripherals overview


Manifold assembly

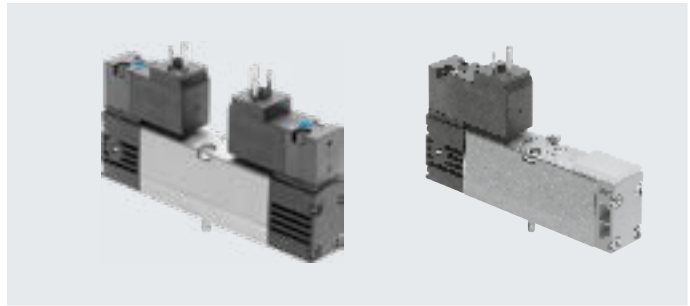


	Type	Brief description	→ Page/Internet	
[1]	Connecting cable	NEBU	For valves with round plug	80
[2]	Plug socket	SIE-WD-TR	Angled	80
[3]	Connecting cable	KMEB...-LED	With PVC casing and LED	80
[4]	Connecting cable	KMEB	With PVC casing	80
[5]	Illuminating seal	MEB-LD	For displaying the signal status	80
[6]	Silencer	U	For mounting in exhaust ports	79
[7]	Push-in fitting	QS	For standard O.D. tubing	79
[8]	Pressure gauge	PAGN-26-10-P10	Can be connected to the pressure regulator plate	79
[9]	Inscription labels	IBS-9x20	For identifying the VSVA valves with round plug	79
[10]	Blanking plug	B	For sealing unused connections	79

Data sheet – Valve size 18 mm

-  - Flow rate
max. 750 l/min

-  - Voltage
12, 24 V DC
24, 110, 230 V AC



General technical data							
Valve function		2x 2/2-way valve	2x 3/2-way valve	5/2-way valve	5/3-way valve		
Normal position		C ¹⁾	C ¹⁾ , U ²⁾ , H ⁴⁾ , N ⁵⁾ , F ⁶⁾ , W ⁷⁾	–	–	C ¹⁾ , U ²⁾ , E ³⁾	
Stable position		Monostable	Monostable	Monostable	Bistable	Monostable	
Pneumatic spring reset method		Yes	Yes	Yes	–	No	
Mechanical spring reset method		No	No	Yes	–	Yes	
Design		Piston spool					
Overlap		Positive overlap					
Sealing principle		Soft					
Actuation type		Electrical					
Type of control		Piloted					
Pilot interface		To ISO 15218					
Pilot air supply		Internal or external					
Pilot air supply, exhaust air		Not ducted as per standard, or ducted					
Flow direction		Non-reversible or reversible	Non-reversible or reversible only	Reversible with external pilot air supply			
Exhaust air function		Can be throttled					
Manual override		Non-detenting, non-detenting/detenting					
Type of mounting		On sub-base					
Mounting position		Any					
Nominal width	[mm]	5					
Valve size	[mm]	18					
Ports on the sub-base	1, 2, 3, 4, 5	G1/8					
	12, 14	M5					
Tightening torque for valve mounting	[Nm]	0.9 ... 1.1					
Product weight	Without pilot valve	[g]	98	98	89	98	98
	Solenoid valve	[g]	174	174	127	174	174
Sound pressure level	[dB (A)]	85					
Conforms to standard		ISO 15407-1, VDMA 24563 and for pilot valve interface ISO 15218					

- 1) C = normally closed
- 2) U = normally open
- 3) E = normally exhausted
- 4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open
- 5) N=Normally closed, reverse operation, i.e. the pressure supply ports are 3 and 5, venting is via port 1
- 6) F=Normally open, reverse operation, i.e. the pressure supply ports are 3 and 5, venting is via port 1
- 7) W=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open, reverse operation, i.e. the pressure supply ports are 3 and 5, venting is via port 1

Flow rates					
Valve function		2x 2/2-way valve	2x 3/2-way valve	5/2-way valve	5/3-way valve
Flow rate of valve	[l/min]	700	600	750	650
Flow rate of valve on individual sub-base	[l/min]	450	450	550	500
Flow rate of pneumatically linked valve	[l/min]	500	400	550	450
Standard nominal flow rate	[l/min]	500	400	550	450

Data sheet – Valve size 18 mm

Switching times [ms]		Switching time on	Switching time off	Switching time changeover	Switching time changeover (dominant)
2x 2/2-way valve		13	21	–	–
2x 3/2-way valve		13	21	–	–
2x 3/2-way valve, reversible		21	13	–	–
5/2-way valve, single solenoid	Pneumatic spring	21	19	–	–
	Mechanical spring	17	35	–	–
5/2-way valve, double solenoid		–	–	18	25
5/3-way valve		18	30	20	–

Safety characteristics		VSVA-...-1C1	VSVA-...-P1 VSVA-...-5C1 VSVA-...-1AC1	VSVA-...-2AC1 VSVA-...-3AC1
Type				
CE marking (see declaration of conformity)		–	–	To EU Low Voltage Directive
Max. positive test pulse with 0 signal	[μ s]	1000	–	–
Max. negative test pulse with 1 signal	[μ s]	800	–	–
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27		
Vibration resistance		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6		

Operating and environmental conditions			2x 2/2-way valve	2x 3/2-way valve	5/2-way valve	5/3-way valve
Valve function						
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]			
Pilot medium			Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)			
Operating pressure	Internal pilot air supply	[bar]	2 ... 10	2 ... 10	2 ... 10, 3 ... 10 with mechanical spring	3 ... 10
	External pilot air supply	[bar]	2 ... 10	2 ... 10	–0.9 ... 10	–0.9 ... 10
Pilot pressure with pneumatic spring		[bar]	3 ... 10 ¹⁾	3 ... 10 ¹⁾	3 ... 10	–
Pilot pressure with mechanical spring		[bar]	–	–	3 ... 10	3 ... 10
Ambient temperature		[°C]	–5 ... +50			
Temperature of medium		[°C]	–5 ... +50			
Relative humidity		[%]	0 ... 90			
Certification ²⁾	VSVA-...-5C1		–			
	VSVA-...-3AC1		–			
	VSVA-...-2AC1		–			
	VSVA-...-1AC1		–			
	VSVA-...-1C1		c UL us - Recognized (OL)			
	VSVA-...-P1		c UL us - Recognized (OL)			

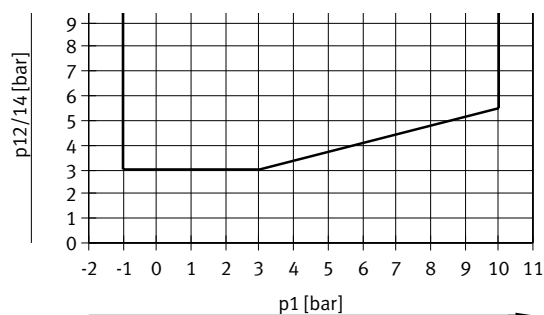
1) Pilot pressure dependent on operating pressure → graph

2) Additional information is available at www.festo.com/sp → Certificates.

Minimum pilot pressure p₁₂, p₁₄ as a function of operating pressure p₁ (external pilot air supply)

2x 3/2-way valve and 2/2-way valve

5/2-way valve and 5/3-way valve



Data sheet – Valve size 18 mm

Electrical data			
Electrical connection	Plug, square design to EN 175301-803, type C, 110 V/230 V AC with protective earth conductor		M12 plug, round design
Operating voltage	Direct voltage	[V DC]	12, 24 +10%/-15%
	Alternating voltage	[V AC]	24, 110, 230 +10%/-15%
Characteristic coil data	Direct voltage	[W]	1.8
	Alternating voltage	[VA]	At 24 V AC: • 3.1 pick-up power • 2.3 holding power
			At 110 V AC and 230 V AC: • 2.9 pick-up power • 2.1 holding power
Duty cycle ED	[%]	100	
Degree of protection to EN 60529	IP65, Nema 4 (in combination with plug socket)		

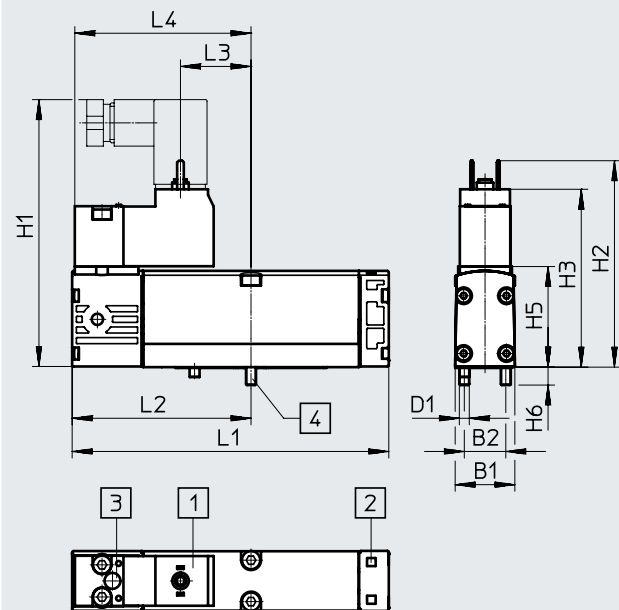
Materials	
Housing	Die-cast aluminium
Seals	HNBR, NBR
Screws	Galvanised steel
Note on materials	RoHS-compliant

Data sheet – Valve size 18 mm

Dimensions

Download CAD data → www.festo.com

5/2-way valve, single solenoid with plug type C



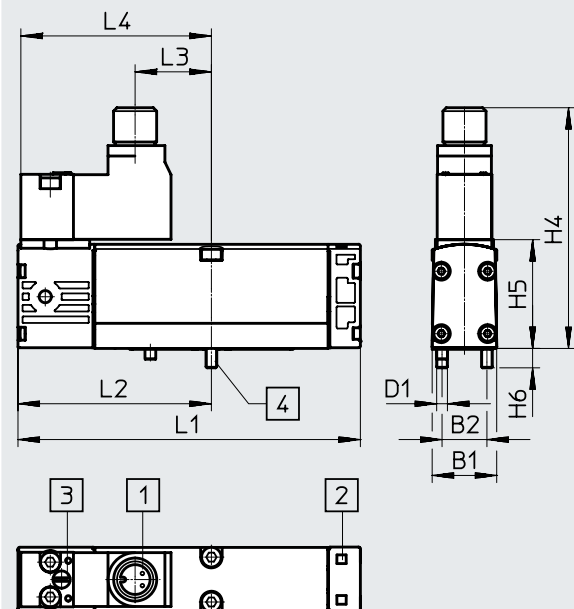
- [1] Connection dimensions and connection for power supply to EN 175301-803, type C
- [2] Slot for inscription label
- [3] Manual override
- [4] Captive retaining screws

Type	B1	B2	D1	H1	H2	H3	H5	H6	L1	L2	L3	L4
VSVA-B-M52...C1	18	12.5	M3	80.6	62.2	53.6	30.3	5.4	95.4	53.9	21.3	53.1

Dimensions

Download CAD data → www.festo.com

5/2-way valve, single solenoid with M12 plug



- [1] Connection dimensions and connection for power supply, M12 plug
- [2] Slot for inscription label
- [3] Manual override
- [4] Captive retaining screws

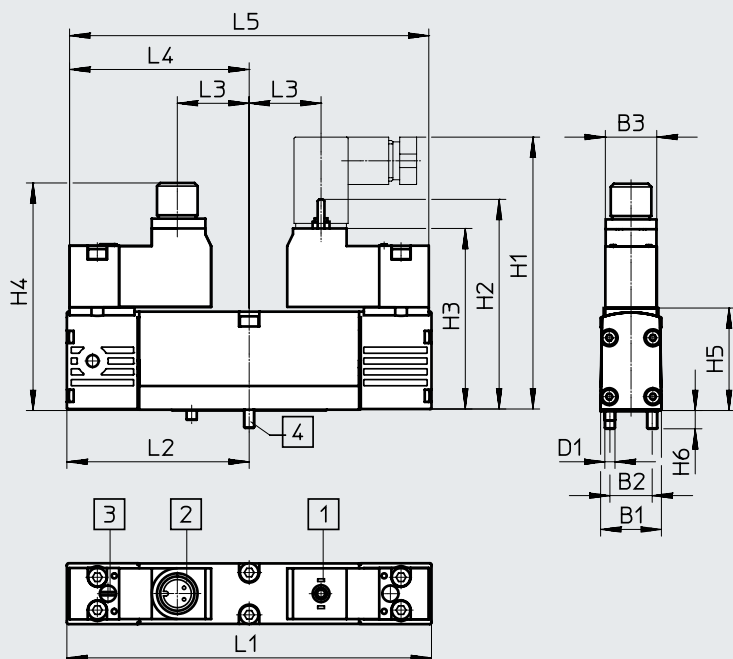
Type	B1	B2	D1	H4	H5	H6	L1	L2	L3	L4
VSVA-B-M52...R3	18	12.5	M3	67	30.3	5.4	95.4	53.9	21.3	53.1

Data sheet – Valve size 18 mm

Dimensions

Download CAD data → www.festo.com

2x 2/2-way valve, 2x 3/2-way valve, 5/2-way valve, double solenoid, 5/3-way valve



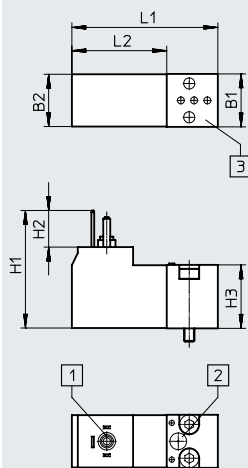
- [1] Connection dimensions and connection for power supply to EN 175301-803, type C
- [2] Connection dimensions and connection for power supply, M12 plug
- [3] Manual override
- [4] Captive retaining screws

Type	B1	B2	B3	D1	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5
VSVA-B-T22C	18	12.5	15.2	M3	80.6	62.2	53.6	67	30.3	5.4	107.8	53.9	21.3	53.1	102.2
VSVA-B-T32															
VSVA-B-B52															
VSVA-B-D52															
VSVA-B-P53															

Dimensions

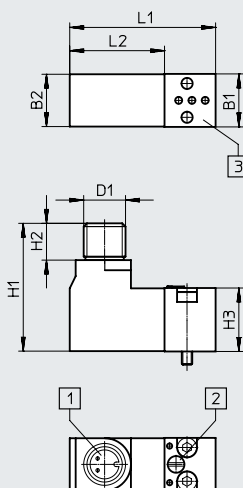
Download CAD data → www.festo.com

Pilot valve with plug type C, VSCS-...C1



- [1] Connection dimensions and connection for power supply to EN 175301-803, type C
- [2] Manual override
- [3] Pneumatic port pattern to ISO 15218

Pilot valve with M12 plug, VSCS-...R3

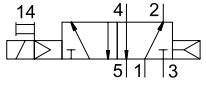
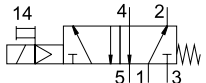
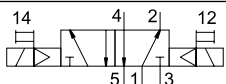


- [1] Connection dimensions and connection for power supply, M12 plug
- [2] Manual override
- [3] Pneumatic port pattern to ISO 15218

Type	B1	B2	D1	H1	H2	H3	L1	L2
VSCS-...C1	15.2	15	-	33.7	10.5	18.2	41.9	14.7
VSCS-...R3	15.2	15	M12	36.7	10.6	18.2	41.9	27.2

Data sheet – Valve size 18 mm

★ Core product range

Ordering data – Pilot control fitted						
Code	Circuit symbol			Part no.	Type	
5/2-way valve, single solenoid, with pilot control with square plug, type C to EN 175301-803						
M		Pneumatic spring	Internal pilot air supply	24 V DC	★ 546701	VSVA-B-M52-AH-A2-1C1
O		Mechanical spring	Internal pilot air supply	24 V DC	★ 546703	VSVA-B-M52-MH-A2-1C1
5/2-way valve, double solenoid, with pilot control with square plug, type C to EN 175301-803						
J		Dominant 1st signal	Internal pilot air supply	24 V DC	★ 546697	VSVA-B-B52-H-A2-1C1

Festo core product range



Generally ready for shipping ex works in 24 hours



Generally ready for shipping ex works in 5 days

Data sheet – Valve size 18 mm

Ordering data – Pilot control fitted						
Code	Circuit symbol		Part no.	Type		
2x 2/2-way solenoid valve						
T22C	–	Order via online configurator	–	–		
2x 3/2-way solenoid valve, with pilot control with square plug, type C to EN 175301-803						
K		Normal position: 2x closed	Internal pilot air supply	24 V DC	546693	VSVA-B-T32C-AH-A2-1C1
				12 V DC	547129	VSVA-B-T32C-AH-A2-5C1
				230 V AC	547209	VSVA-B-T32C-AH-A2-3AC1
				110 V AC	547169	VSVA-B-T32C-AH-A2-2AC1
				24 V AC	547089	VSVA-B-T32C-AH-A2-1AC1
N		Normal position: 2x open	Internal pilot air supply	24 V DC	546695	VSVA-B-T32U-AH-A2-1C1
				12 V DC	547131	VSVA-B-T32U-AH-A2-5C1
				230 V AC	547211	VSVA-B-T32U-AH-A2-3AC1
				110 V AC	547171	VSVA-B-T32U-AH-A2-2AC1
				24 V AC	547091	VSVA-B-T32U-AH-A2-1AC1
H		Normal position: 1x closed 1x open	Internal pilot air supply	24 V DC	547067	VSVA-B-T32H-AH-A2-1C1
				12 V DC	547133	VSVA-B-T32H-AH-A2-5C1
				230 V AC	547213	VSVA-B-T32H-AH-A2-3AC1
				110 V AC	547173	VSVA-B-T32H-AH-A2-2AC1
				24 V AC	547093	VSVA-B-T32H-AH-A2-1AC1
K		Normal position: 2x closed	External pilot air supply	24 V DC	547069	VSVA-B-T32C-AZH-A2-1C1
				12 V DC	547149	VSVA-B-T32C-AZH-A2-5C1
				230 V AC	547229	VSVA-B-T32C-AZH-A2-3AC1
				110 V AC	547189	VSVA-B-T32C-AZH-A2-2AC1
				24 V AC	547109	VSVA-B-T32C-AZH-A2-1AC1
N		Normal position: 2x open	External pilot air supply	24 V DC	547071	VSVA-B-T32U-AZH-A2-1C1
				12 V DC	547151	VSVA-B-T32U-AZH-A2-5C1
				230 V AC	547231	VSVA-B-T32U-AZH-A2-3AC1
				110 V AC	547191	VSVA-B-T32U-AZH-A2-2AC1
				24 V AC	547111	VSVA-B-T32U-AZH-A2-1AC1
H		Normal position: 1x closed 1x open	External pilot air supply	24 V DC	547073	VSVA-B-T32H-AZH-A2-1C1
				12 V DC	547153	VSVA-B-T32H-AZH-A2-5C1
				230 V AC	547233	VSVA-B-T32H-AZH-A2-3AC1
				110 V AC	547193	VSVA-B-T32H-AZH-A2-2AC1
				24 V AC	547113	VSVA-B-T32H-AZH-A2-1AC1





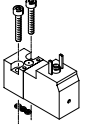
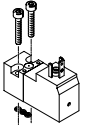
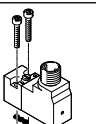
Data sheet – Valve size 18 mm

Ordering data – Pilot control fitted										
Code	Circuit symbol			Part no.	Type					
5/2-way valve, single solenoid, with pilot control with square plug, type C to EN 175301-803										
M		Pneumatic spring	Internal pilot air supply	12 V DC	547139	VSVA-B-M52-AH-A2-5C1				
				230 V AC	547219	VSVA-B-M52-AH-A2-3AC1				
				110 V AC	547179	VSVA-B-M52-AH-A2-2AC1				
				24 V AC	547099	VSVA-B-M52-AH-A2-1AC1				
O		Mechanical spring	Internal pilot air supply	12 V DC	547141	VSVA-B-M52-MH-A2-5C1				
				230 V AC	547221	VSVA-B-M52-MH-A2-3AC1				
				110 V AC	547181	VSVA-B-M52-MH-A2-2AC1				
				24 V AC	547101	VSVA-B-M52-MH-A2-1AC1				
M		Pneumatic spring	External pilot air supply	24 V DC	547079	VSVA-B-M52-AZH-A2-1C1				
				12 V DC	547159	VSVA-B-M52-AZH-A2-5C1				
				230 V AC	547239	VSVA-B-M52-AZH-A2-3AC1				
				110 V AC	547199	VSVA-B-M52-AZH-A2-2AC1				
O		Mechanical spring	External pilot air supply	24 V DC	547081	VSVA-B-M52-MZH-A2-1C1				
				12 V DC	547161	VSVA-B-M52-MZH-A2-5C1				
				230 V AC	547241	VSVA-B-M52-MZH-A2-3AC1				
				110 V AC	547201	VSVA-B-M52-MZH-A2-2AC1				
				24 V AC	547121	VSVA-B-M52-MZH-A2-1AC1				
				5/2-way valve, double solenoid, with pilot control with square plug, type C to EN 175301-803						
				J		Dominant 1st signal	Internal pilot air supply	12 V DC	547135	VSVA-B-B52-H-A2-5C1
								230 V AC	547215	VSVA-B-B52-H-A2-3AC1
110 V AC	547175	VSVA-B-B52-H-A2-2AC1								
24 V AC	547095	VSVA-B-B52-H-A2-1AC1								
D		Dominant at 14	Internal pilot air supply	24 V DC	546699	VSVA-B-D52-H-A2-1C1				
				12 V DC	547137	VSVA-B-D52-H-A2-5C1				
				230 V AC	547217	VSVA-B-D52-H-A2-3AC1				
				110 V AC	547177	VSVA-B-D52-H-A2-2AC1				
				24 V AC	547097	VSVA-B-D52-H-A2-1AC1				
				J	Dominant 1st signal	External pilot air supply	24 V DC	547075	VSVA-B-B52-ZH-A2-1C1	
							12 V DC	547155	VSVA-B-B52-ZH-A2-5C1	
							230 V AC	547235	VSVA-B-B52-ZH-A2-3AC1	
110 V AC	547195	VSVA-B-B52-ZH-A2-2AC1								
				24 V AC	547115	VSVA-B-B52-ZH-A2-1AC1				
				D	Dominant at 14	External pilot air supply	24 V DC	547077	VSVA-B-D52-ZH-A2-1C1	
							12 V DC	547157	VSVA-B-D52-ZH-A2-5C1	
							230 V AC	547237	VSVA-B-D52-ZH-A2-3AC1	
110 V AC	547197	VSVA-B-D52-ZH-A2-2AC1								
				24 V AC	547117	VSVA-B-D52-ZH-A2-1AC1				

Data sheet – Valve size 18 mm


Ordering data – Pilot control fitted			Part no.	Type		
Code	Circuit symbol					
5/3-way solenoid valve, with pilot control with square plug, type C to EN 175301-803						
G		Normal position: Closed	Internal pilot air supply	24 V DC	546709	VSVA-B-P53C-H-A2-1C1
				12 V DC	547147	VSVA-B-P53C-H-A2-5C1
				230 V AC	547227	VSVA-B-P53C-H-A2-3AC1
				110 V AC	547187	VSVA-B-P53C-H-A2-2AC1
				24 V AC	547107	VSVA-B-P53C-H-A2-1AC1
B		Normal position: Open	Internal pilot air supply	24 V DC	546705	VSVA-B-P53U-H-A2-1C1
				12 V DC	547143	VSVA-B-P53U-H-A2-5C1
				230 V AC	547223	VSVA-B-P53U-H-A2-3AC1
				110 V AC	547183	VSVA-B-P53U-H-A2-2AC1
				24 V AC	547103	VSVA-B-P53U-H-A2-1AC1
E		Normal position: Exhausted	Internal pilot air supply	24 V DC	546707	VSVA-B-P53E-H-A2-1C1
				12 V DC	547145	VSVA-B-P53E-H-A2-5C1
				230 V AC	547225	VSVA-B-P53E-H-A2-3AC1
				110 V AC	547185	VSVA-B-P53E-H-A2-2AC1
				24 V AC	547105	VSVA-B-P53E-H-A2-1AC1
G		Normal position: Closed	External pilot air supply	24 V DC	547087	VSVA-B-P53C-ZH-A2-1C1
				12 V DC	547167	VSVA-B-P53C-ZH-A2-5C1
				230 V AC	547247	VSVA-B-P53C-ZH-A2-3AC1
				110 V AC	547207	VSVA-B-P53C-ZH-A2-2AC1
				24 V AC	547127	VSVA-B-P53C-ZH-A2-1AC1
B		Normal position: Open	External pilot air supply	24 V DC	547083	VSVA-B-P53U-ZH-A2-1C1
				12 V DC	547163	VSVA-B-P53U-ZH-A2-5C1
				230 V AC	547243	VSVA-B-P53U-ZH-A2-3AC1
				110 V AC	547203	VSVA-B-P53U-ZH-A2-2AC1
				24 V AC	547123	VSVA-B-P53U-ZH-A2-1AC1
E		Normal position: Exhausted	External pilot air supply	24 V DC	547085	VSVA-B-P53E-ZH-A2-1C1
				12 V DC	547165	VSVA-B-P53E-ZH-A2-5C1
				230 V AC	547245	VSVA-B-P53E-ZH-A2-3AC1
				110 V AC	547205	VSVA-B-P53E-ZH-A2-2AC1
				24 V AC	547125	VSVA-B-P53E-ZH-A2-1AC1


Data sheet – Valve size 18 mm

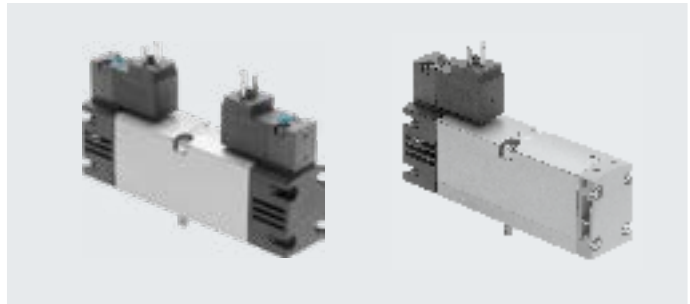
Ordering data – Pilot control separate				Part no.	Type
2x 3/2-way valve without pilot valves					
	Internal pilot air supply	2x normally closed		546732	VSVA-B-T32C-A-A2-P1
		2x normally open		546734	VSVA-B-T32U-A-A2-P1
5/2-way single solenoid valve without pilot valve					
	Internal pilot air supply	Pneumatic spring		546740	VSVA-B-M52-A-A2-P1
		Mechanical spring		546742	VSVA-B-M52-M-A2-P1
5/2-way double solenoid valve without pilot valve					
	Internal pilot air supply	Dominant 1st signal		546736	VSVA-B-B52-A2-P1
		Dominant at 14		546738	VSVA-B-D52-A2-P1
5/3-way mid-position valve without pilot valves					
	Internal pilot air supply	Normally closed		546748	VSVA-B-P53C-A2-P1
		Normally open		546744	VSVA-B-P53U-A2-P1
		Normally exhausted		546746	VSVA-B-P53E-A2-P1
Pilot valve to ISO 15218					
	Square plug, type C to EN 175301-803	12 V DC	MO non-detenting	546257	VSCS-B-M32-MH-WA-5C1
			MO, detenting/ non-detenting	571062	VSCS-B-M32-MD-WA-5C1
		24 V DC	MO non-detenting	546256	VSCS-B-M32-MH-WA-1C1
			MO, detenting/ non-detenting	571061	VSCS-B-M32-MD-WA-1C1
		24 V AC	MO non-detenting	546258	VSCS-B-M32-MH-WA-1AC1
			MO, detenting/ non-detenting	571063	VSCS-B-M32-MD-WA-1AC1
	Square plug, type C to EN 175301-803, with PE conductor	110 V AC	MO non-detenting	546259	VSCS-B-M32-MH-WA-2AC1
			MO, detenting/ non-detenting	571064	VSCS-B-M32-MD-WA-2AC1
		230 V AC	MO non-detenting	546260	VSCS-B-M32-MH-WA-3AC1
			MO, detenting/ non-detenting	571065	VSCS-B-M32-MD-WA-3AC1
	M12 round plug to IEC 61076-2-101	24 V DC	MO non-detenting	573214	VSCS-B-M32-MH-WA-1R3
			MO, detenting/ non-detenting	573215	VSCS-B-M32-MD-WA-1R3

MO Manual override

Data sheet – Valve size 26 mm

-  - Flow rate
max. 1400 l/min

-  - Voltage
12, 24 V DC
24, 110, 230 V AC



General technical data		2x 2/2-way valve	2x 3/2-way valve	5/2-way valve	5/3-way valve	
Valve function						
Normal position		C ¹⁾	C ¹⁾ , U ²⁾ , H ⁴⁾ , N ⁵⁾ , F ⁶⁾ , W ⁷⁾	–	–	C ¹⁾ , U ²⁾ , E ³⁾
Stable position		Monostable	Monostable	Monostable	Bistable	Monostable
Pneumatic spring reset method		Yes	Yes	Yes	–	No
Mechanical spring reset method		No	No	Yes	–	Yes
Design		Piston spool				
Overlap		Positive overlap				
Sealing principle		Soft				
Actuation type		Electrical				
Type of control		Piloted				
Pilot interface		To ISO 15218				
Pilot air supply		Internal or external				
Pilot air supply, exhaust air		Not ducted as per standard, or ducted				
Flow direction		Non-reversible or reversible	Non-reversible or reversible only	Reversible with external pilot air supply		
Exhaust air function		Can be throttled				
Manual override		Non-detenting, non-detenting/detenting				
Type of mounting		On sub-base				
Mounting position		Any				
Nominal width	[mm]	9				
Valve size	[mm]	26				
Ports on the sub-base	1, 2, 3, 4, 5 12, 14	G1/4 M5				
Tightening torque for valve mounting	[Nm]	1.8 ... 2.2				
Product weight	Without pilot valve Solenoid valve	[g]	[g]	[g]	[g]	[g]
Sound pressure level		[dB (A)]	85			
Conforms to standard		ISO 15407-1, VDMA 24563 and for pilot valve interface ISO 15218				

- 1) C = normally closed
- 2) U = normally open
- 3) E = normally exhausted
- 4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open
- 5) N=Normally closed, reverse operation, i.e. the pressure supply ports are 3 and 5, venting is via port 1
- 6) F=Normally open, reverse operation, i.e. the pressure supply ports are 3 and 5, venting is via port 1
- 7) W=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open, reverse operation, i.e. the pressure supply ports are 3 and 5, venting is via port 1

Flow rates		2x 2/2-way valve	2x 3/2-way valve	5/2-way valve	5/3-way valve
Valve function					
Flow rate of valve	[l/min]	1350	1250	1400	1400
Flow rate of valve on individual sub-base	[l/min]	1000	1000	1100	1100
Flow rate of pneumatically linked valve	[l/min]	1000	900	1100	1000
Standard nominal flow rate	[l/min]	1000	900	1100	1000

Data sheet – Valve size 26 mm

Switching times [ms]		Switching time on	Switching time off	Switching time changeover	Switching time changeover (dominant)
2x 2/2-way valve		20	28	–	–
2x 3/2-way valve		20	28	–	–
2x 3/2-way valve, reversible		28	20	–	–
5/2-way valve, single solenoid	Pneumatic spring	35	43	–	–
	Mechanical spring	26	56	–	–
5/2-way valve, double solenoid		–	–	18	18
5/3-way valve		23	58	35	–

Safety characteristics		VSVA-...-1C1	VSVA-...-P1 VSVA-...-5C1 VSVA-...-1AC1	VSVA-...-2AC1 VSVA-...-3AC1
Type				
CE marking (see declaration of conformity)		–	–	To EU Low Voltage Directive
Max. positive test pulse with 0 signal	[μs]	1000	–	–
Max. negative test pulse with 1 signal	[μs]	800	–	–
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27		
Vibration resistance		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6		

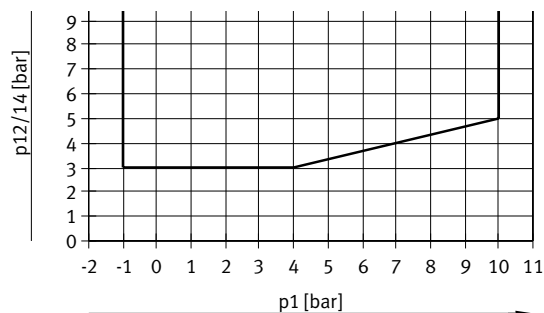
Operating and environmental conditions			2x 2/2-way valve	2x 3/2-way valve	5/2-way valve	5/3-way valve
Valve function						
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]			
Pilot medium			Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)			
Operating pressure	Internal pilot air supply	[bar]	2 ... 10	2 ... 10	2 ... 10, 3 ... 10 with mechanical spring	3 ... 10
	External pilot air supply	[bar]	2 ... 10	2 ... 10	–0.9 ... 16	–0.9 ... 16
Pilot pressure with pneumatic spring		[bar]	3 ... 10 ¹⁾	3 ... 10 ¹⁾	3 ... 10	–
Pilot pressure with mechanical spring		[bar]	–	–	3 ... 10	3 ... 10
Ambient temperature		[°C]	–5 ... +50			
Temperature of medium		[°C]	–5 ... +50			
Relative humidity		[%]	0 ... 90			
Certification ²⁾	VSVA-...-5C1		–			
	VSVA-...-3AC1		–			
	VSVA-...-2AC1		–			
	VSVA-...-1AC1		–			
	VSVA-...-1C1		c UL us - Recognized (OL)			
	VSVA-...-P1		c UL us - Recognized (OL)			

1) Pilot pressure dependent on operating pressure → graph

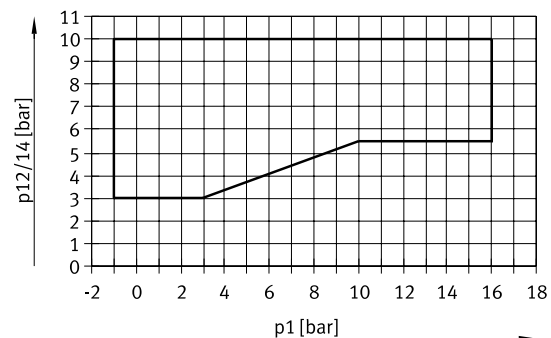
2) Additional information is available at www.festo.com/sp → Certificates.

Minimum pilot pressure p_{12} , p_{14} as a function of operating pressure p_1 (external pilot air supply)

2x 3/2-way solenoid valve and 2/2-way solenoid valve



5/2-way solenoid valve and 5/3-way solenoid valve



Data sheet – Valve size 26 mm

Electrical data			
Electrical connection	Plug, square design to EN 175301-803, type C, 110 V/230 V AC with protective earth conductor		M12 plug, round design
Operating voltage	Direct voltage	[V DC]	12, 24 +10%/-15%
	Alternating voltage	[V AC]	24, 110, 230 +10%/-15%
Characteristic coil data	Direct voltage	[W]	1.8
	Alternating voltage	[VA]	At 24 V AC: • 3.1 pick-up power • 2.3 holding power
			At 110 V AC and 230 V AC: • 2.9 pick-up power • 2.1 holding power
Duty cycle ED	[%]	100	
Degree of protection to EN 60529	IP65, Nema 4 (in combination with plug socket)		

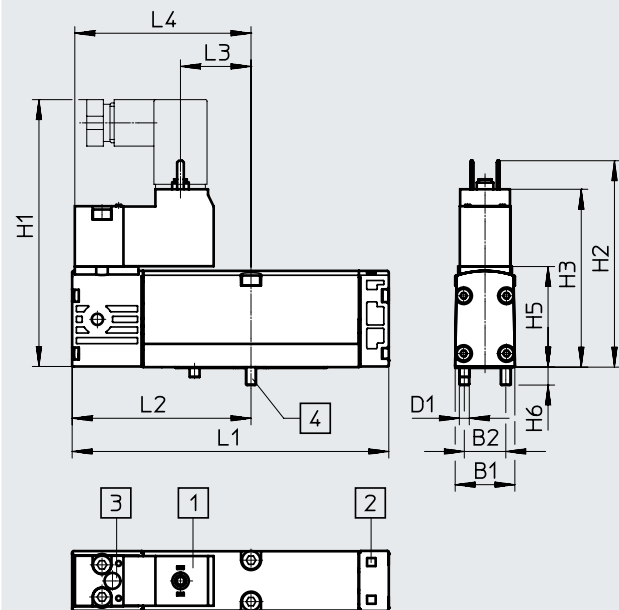
Materials	
Housing	Die-cast aluminium
Seals	HNBR, NBR
Screws	Galvanised steel
Note on materials	RoHS-compliant

Data sheet – Valve size 26 mm

Dimensions

Download CAD data → www.festo.com

5/2-way valve, single solenoid with plug type C



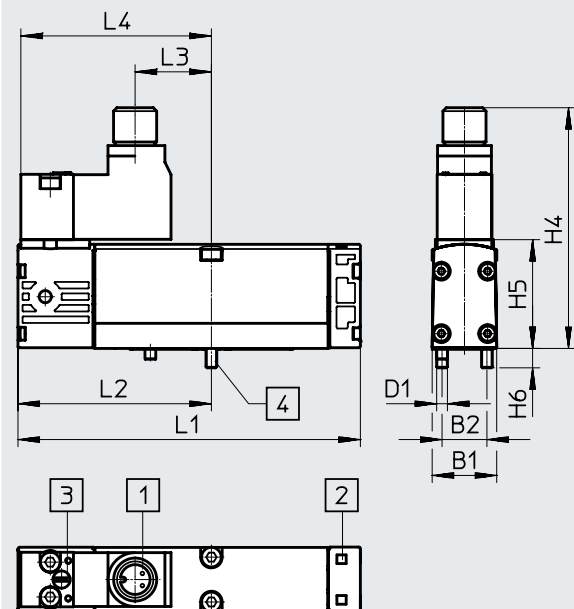
- [1] Connection dimensions and connection for power supply to EN 175301-803, type C
- [2] Slot for inscription label
- [3] Manual override
- [4] Captive retaining screws

Type	B1	B2	D1	H1	H2	H3	H5	H6	L1	L2	L3	L4
VSVA-B-M52...C1	26.3	19	M4	89.2	71.2	62.6	39.3	7	113.1	63.1	29.8	61.6

Dimensions

Download CAD data → www.festo.com

5/2-way valve, single solenoid with M12 plug



- [1] Connection dimensions and connection for power supply, M12 plug
- [2] Slot for inscription label
- [3] Manual override
- [4] Captive retaining screws

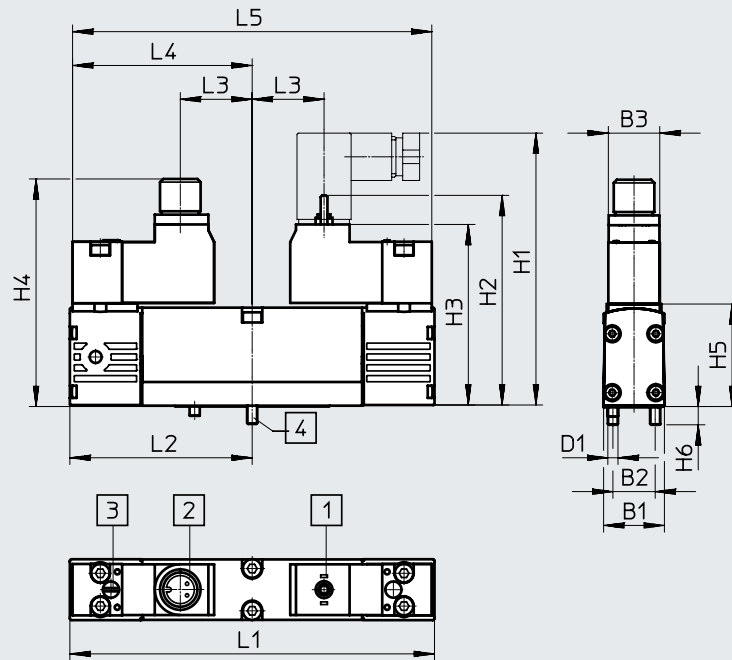
Type	B1	B2	D1	H4	H5	H6	L1	L2	L3	L4
VSVA-B-M52...R3	26.3	19	M4	76.1	39.3	7	113.1	63.1	29.8	61.6

Data sheet – Valve size 26 mm

Dimensions

Download CAD data → www.festo.com

2x 2/2-way valve, 2x 3/2-way valve, 5/2-way valve, double solenoid, 5/3-way valve



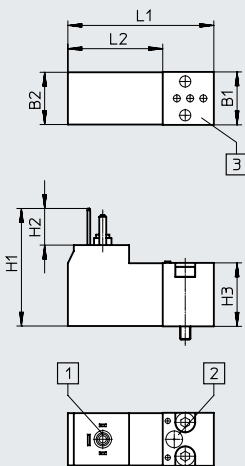
- [1] Connection dimensions and connection for power supply to EN 175301-803, type C
- [2] Connection dimensions and connection for power supply, M12 plug
- [3] Manual override
- [4] Captive retaining screws

Type	B1	B2	B3	D1	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5
VSVA-B-T22C	26.3	19	15.2	M4	89.2	71.2	62.6	76.1	39.3	7	126.2	63.1	29.8	61.6	123.2
VSVA-B-T32															
VSVA-B-B52															
VSVA-B-D52															
VSVA-B-P53															

Dimensions

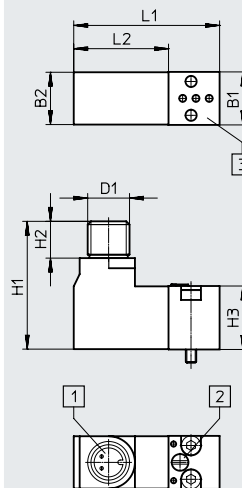
Download CAD data → www.festo.com

Pilot valve with plug type C, VSCS-...C1



- [1] Connection dimensions and connection for power supply to EN 175301-803, type C
- [2] Manual override
- [3] Pneumatic port pattern to ISO 15218

Pilot valve with M12 plug, VSCS-...R3

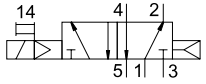
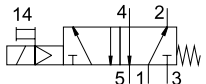
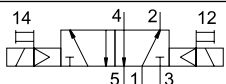
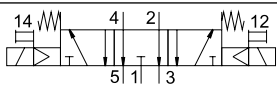


- [1] Connection dimensions and connection for power supply, M12 plug
- [2] Manual override
- [3] Pneumatic port pattern to ISO 15218

Type	B1	B2	D1	H1	H2	H3	L1	L2
VSCS-...C1	15.2	15	-	33.7	10.5	18.2	41.9	14.7
VSCS-...R3	15.2	15	M12	36.7	10.6	18.2	41.9	27.2

Data sheet – Valve size 26 mm

★ Core product range

Ordering data – Pilot control fitted						
Code	Circuit symbol			Part no.	Type	
5/2-way valve, single solenoid, with pilot control with square plug, type C to EN 175301-803						
M		Pneumatic spring	Internal pilot air supply	24 V DC	★ 546700	VSVA-B-M52-AH-A1-1C1
O		Mechanical spring	Internal pilot air supply	24 V DC	★ 546702	VSVA-B-M52-MH-A1-1C1
5/2-way valve, double solenoid, with pilot control with square plug, type C to EN 175301-803						
J		Dominant 1st signal	Internal pilot air supply	24 V DC	★ 546696	VSVA-B-B52-H-A1-1C1
5/3-way solenoid valve, with pilot control with square plug, type C to EN 175301-803						
E		Normal position: Exhausted	Internal pilot air supply	24 V DC	★ 546706	VSVA-B-P53E-H-A1-1C1

Festo core product range



Generally ready for shipping ex works in 24 hours

Generally ready for shipping ex works in 5 days

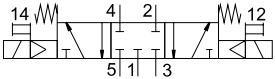
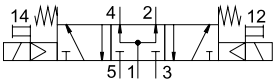

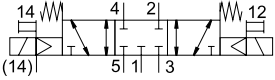
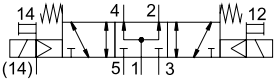
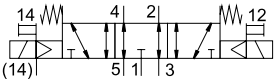
Data sheet – Valve size 26 mm

Ordering data – Pilot control fitted			Part no.	Type		
Code	Circuit symbol					
2x 2/2-way solenoid valve						
T22C	–	Order via online configurator	–	–		
2x 3/2-way solenoid valve, with pilot control with square plug, type C to EN 175301-803						
K		Normal position: 2x closed	Internal pilot air supply	24 V DC	546692	VSVA-B-T32C-AH-A1-1C1
				12 V DC	547128	VSVA-B-T32C-AH-A1-5C1
				230 V AC	547208	VSVA-B-T32C-AH-A1-3AC1
				110 V AC	547168	VSVA-B-T32C-AH-A1-2AC1
				24 V AC	547088	VSVA-B-T32C-AH-A1-1AC1
N		Normal position: 2x open	Internal pilot air supply	24 V DC	546694	VSVA-B-T32U-AH-A1-1C1
				12 V DC	547130	VSVA-B-T32U-AH-A1-5C1
				230 V AC	547210	VSVA-B-T32U-AH-A1-3AC1
				110 V AC	547170	VSVA-B-T32U-AH-A1-2AC1
				24 V AC	547090	VSVA-B-T32U-AH-A1-1AC1
H		Normal position: 1x closed 1x open	Internal pilot air supply	24 V DC	547066	VSVA-B-T32H-AH-A1-1C1
				12 V DC	547132	VSVA-B-T32H-AH-A1-5C1
				230 V AC	547212	VSVA-B-T32H-AH-A1-3AC1
				110 V AC	547172	VSVA-B-T32H-AH-A1-2AC1
				24 V AC	547092	VSVA-B-T32H-AH-A1-1AC1
K		Normal position: 2x closed	External pilot air supply	24 V DC	547068	VSVA-B-T32C-AZH-A1-1C1
				12 V DC	547148	VSVA-B-T32C-AZH-A1-5C1
				230 V AC	547228	VSVA-B-T32C-AZH-A1-3AC1
				110 V AC	547188	VSVA-B-T32C-AZH-A1-2AC1
				24 V AC	547108	VSVA-B-T32C-AZH-A1-1AC1
N		Normal position: 2x open	External pilot air supply	24 V DC	547070	VSVA-B-T32U-AZH-A1-1C1
				12 V DC	547150	VSVA-B-T32U-AZH-A1-5C1
				230 V AC	547230	VSVA-B-T32U-AZH-A1-3AC1
				110 V AC	547190	VSVA-B-T32U-AZH-A1-2AC1
				24 V AC	547110	VSVA-B-T32U-AZH-A1-1AC1
H		Normal position: 1x closed 1x open	External pilot air supply	24 V DC	547072	VSVA-B-T32H-AZH-A1-1C1
				12 V AC	547152	VSVA-B-T32H-AZH-A1-5C1
				230 V AC	547232	VSVA-B-T32H-AZH-A1-3AC1
				110 V AC	547192	VSVA-B-T32H-AZH-A1-2AC1
				24 V AC	547112	VSVA-B-T32H-AZH-A1-1AC1





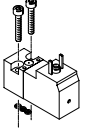
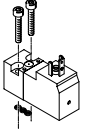
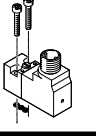
Data sheet – Valve size 26 mm

Ordering data – Pilot control fitted										
Code	Circuit symbol			Part no.	Type					
5/2-way valve, single solenoid, with pilot control with square plug, type C to EN 175301-803										
M		Pneumatic spring	Internal pilot air supply	12 V DC	547138	VSVA-B-M52-AH-A1-5C1				
				230 V AC	547218	VSVA-B-M52-AH-A1-3AC1				
				110 V AC	547178	VSVA-B-M52-AH-A1-2AC1				
				24 V AC	547098	VSVA-B-M52-AH-A1-1AC1				
O		Mechanical spring	Internal pilot air supply	12 V DC	547140	VSVA-B-M52-MH-A1-5C1				
				230 V AC	547220	VSVA-B-M52-MH-A1-3AC1				
				110 V AC	547180	VSVA-B-M52-MH-A1-2AC1				
				24 V AC	547100	VSVA-B-M52-MH-A1-1AC1				
M		Pneumatic spring	External pilot air supply	24 V DC	547078	VSVA-B-M52-AZH-A1-1C1				
				12 V DC	547158	VSVA-B-M52-AZH-A1-5C1				
				230 V AC	547238	VSVA-B-M52-AZH-A1-3AC1				
				110 V AC	547198	VSVA-B-M52-AZH-A1-2AC1				
O		Mechanical spring	External pilot air supply	24 V DC	547080	VSVA-B-M52-MZH-A1-1C1				
				12 V DC	547160	VSVA-B-M52-MZH-A1-5C1				
				230 V AC	547240	VSVA-B-M52-MZH-A1-3AC1				
				110 V AC	547200	VSVA-B-M52-MZH-A1-2AC1				
				24 V AC	547120	VSVA-B-M52-MZH-A1-1AC1				
				5/2-way valve, double solenoid, with pilot control with square plug, type C to EN 175301-803						
				J		Dominant 1st signal	Internal pilot air supply	12 V DC	547134	VSVA-B-B52-H-A1-5C1
								230 V AC	547214	VSVA-B-B52-H-A1-3AC1
110 V AC	547174	VSVA-B-B52-H-A1-2AC1								
24 V AC	547094	VSVA-B-B52-H-A1-1AC1								
D		Dominant at 14	Internal pilot air supply	24 V DC	546698	VSVA-B-D52-H-A1-1C1				
				12 V DC	547136	VSVA-B-D52-H-A1-5C1				
				230 V AC	547216	VSVA-B-D52-H-A1-3AC1				
				110 V AC	547176	VSVA-B-D52-H-A1-2AC1				
				24 V AC	547096	VSVA-B-D52-H-A1-1AC1				
				J		Dominant 1st signal	External pilot air supply	24 V DC	547074	VSVA-B-B52-ZH-A1-1C1
								12 V DC	547154	VSVA-B-B52-ZH-A1-5C1
								230 V AC	547234	VSVA-B-B52-ZH-A1-3AC1
110 V AC	547194	VSVA-B-B52-ZH-A1-2AC1								
				24 V AC	547114	VSVA-B-B52-ZH-A1-1AC1				
				D		Dominant at 14	External pilot air supply	24 V DC	547076	VSVA-B-D52-ZH-A1-1C1
								12 V DC	547156	VSVA-B-D52-ZH-A1-5C1
								230 V AC	547236	VSVA-B-D52-ZH-A1-3AC1
110 V AC	547196	VSVA-B-D52-ZH-A1-2AC1								
				24 V AC	547116	VSVA-B-D52-ZH-A1-1AC1				

Data sheet – Valve size 26 mm


Ordering data – Pilot control fitted			Part no.	Type		
Code	Circuit symbol					
5/3-way solenoid valve, with pilot control with square plug, type C to EN 175301-803						
G		Normal position: Closed	Internal pilot air supply	24 V DC	546708	VSVA-B-P53C-H-A1-1C1
				12 V DC	547146	VSVA-B-P53C-H-A1-5C1
				230 V AC	547226	VSVA-B-P53C-H-A1-3AC1
				110 V AC	547186	VSVA-B-P53C-H-A1-2AC1
				24 V AC	547106	VSVA-B-P53C-H-A1-1AC1
B		Normal position: Open	Internal pilot air supply	24 V DC	546704	VSVA-B-P53U-H-A1-1C1
				12 V DC	547142	VSVA-B-P53U-H-A1-5C1
				230 V AC	547222	VSVA-B-P53U-H-A1-3AC1
				110 V AC	547182	VSVA-B-P53U-H-A1-2AC1
				24 V AC	547102	VSVA-B-P53U-H-A1-1AC1
E		Normal position: Exhausted	Internal pilot air supply	12 V DC	547144	VSVA-B-P53E-H-A1-5C1
				230 V AC	547224	VSVA-B-P53E-H-A1-3AC1
				110 V AC	547184	VSVA-B-P53E-H-A1-2AC1
				24 V AC	547104	VSVA-B-P53E-H-A1-1AC1
G		Normal position: Closed	External pilot air supply	24 V DC	547086	VSVA-B-P53C-ZH-A1-1C1
				12 V DC	547166	VSVA-B-P53C-ZH-A1-5C1
				230 V AC	547246	VSVA-B-P53C-ZH-A1-3AC1
				110 V AC	547206	VSVA-B-P53C-ZH-A1-2AC1
B		Normal position: Open	External pilot air supply	24 V DC	547082	VSVA-B-P53U-ZH-A1-1C1
				12 V DC	547162	VSVA-B-P53U-ZH-A1-5C1
				230 V AC	547242	VSVA-B-P53U-ZH-A1-3AC1
				110 V AC	547202	VSVA-B-P53U-ZH-A1-2AC1
E		Normal position: Exhausted	External pilot air supply	24 V DC	547084	VSVA-B-P53E-ZH-A1-1C1
				12 V DC	547164	VSVA-B-P53E-ZH-A1-5C1
				230 V AC	547244	VSVA-B-P53E-ZH-A1-3AC1
				110 V AC	547204	VSVA-B-P53E-ZH-A1-2AC1
			24 V AC	547124	VSVA-B-P53E-ZH-A1-1AC1	

Data sheet – Valve size 26 mm

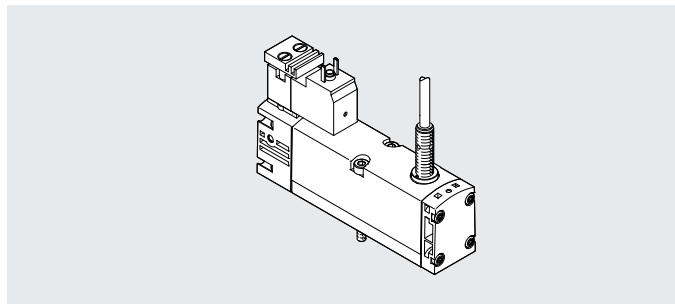
Ordering data – Pilot control separate				Part no.	Type
2x 3/2-way valve without pilot valves					
	Internal pilot air supply	2x normally closed		546731	VSVA-B-T32C-A-A1-P1
		2x normally open		546733	VSVA-B-T32U-A-A1-P1
5/2-way single solenoid valve without pilot valve					
	Internal pilot air supply	Pneumatic		546739	VSVA-B-M52-A-A1-P1
		Mechanical spring		546741	VSVA-B-M52-M-A1-P1
5/2-way double solenoid valve without pilot valve					
	Internal pilot air supply	Dominant 1st signal		546735	VSVA-B-B52-A1-P1
		Dominant at 14		546737	VSVA-B-D52-A1-P1
5/3-way mid-position valve without pilot valves					
	Internal pilot air supply	Normally closed		546747	VSVA-B-P53C-A1-P1
		Normally open		546743	VSVA-B-P53U-A1-P1
		Normally exhausted		546745	VSVA-B-P53E-A1-P1
Pilot valve to ISO 15218					
	Square plug, type C to EN 175301-803	12 V DC	MO non-detenting	546257	VSCS-B-M32-MH-WA-5C1
			MO detenting	571062	VSCS-B-M32-MD-WA-5C1
		24 V DC	MO non-detenting	546256	VSCS-B-M32-MH-WA-1C1
			MO detenting	571061	VSCS-B-M32-MD-WA-1C1
		24 V AC	MO non-detenting	546258	VSCS-B-M32-MH-WA-1AC1
			MO detenting	571063	VSCS-B-M32-MD-WA-1AC1
	Square plug, type C to EN 175301-803, with PE conductor	110 V AC	MO non-detenting	546259	VSCS-B-M32-MH-WA-2AC1
			MO detenting	571064	VSCS-B-M32-MD-WA-2AC1
		230 V AC	MO non-detenting	546260	VSCS-B-M32-MH-WA-3AC1
			MO detenting	571065	VSCS-B-M32-MD-WA-3AC1
	M12 round plug to IEC 61076-2-101	24 V DC	MO non-detenting	573214	VSCS-B-M32-MH-WA-1R3
			MO detenting	573215	VSCS-B-M32-MD-WA-1R3

MO Manual override

Data sheet – Valve size 26 mm, valve with position detection

-  - Flow rate
max. 1400 l/min

-  - Voltage
24 V DC



ISO valves with switching position sensing for safety-oriented pneumatic components

The 5/2-way single solenoid valve with spring return contains an inductive sensor that monitors the normal position of the piston spool valve. This valve is not a safety device in accordance with the Machinery Directive 2006/42/EC.

For use in higher categories, the sensor signal from the valve must be evaluated by a control unit.

This valve is suitable for use in safety-related parts of control systems to EN ISO 13849-1. This valve is designed for installation in machines and automation systems and must only be used in industrial applications (high-demand mode).

The circuit symbol represents a valve with a proximity switch with a N/O switching output signal. In accordance with ISO 1219-1, this symbol is used both for normally open contacts and for normally closed contacts. The switching element function of the sensors used here is designed as an N/C contact.

General technical data

Valve function			5/2
Piston position sensing			Normal position via sensor
Stable position			Monostable
Reset method			Mechanical spring
Design			Piston spool
Overlap			Positive overlap
Sealing principle			Soft
Actuation type			Electrical
Type of control			Piloted
Pilot interface			To ISO 15218
Pilot air supply			External
Pilot air supply, exhaust air			Optionally ducted/not ducted
Flow direction			Any
Exhaust air function			Can be throttled, via throttle plate, via individual sub-base
Manual override			Covered
Type of mounting			On sub-base
Mounting position			Any
Nominal width	[mm]		9
Valve size	[mm]		26
Ports on the sub-base	1, 2, 3, 4, 5		G1/4
	12, 14		M5
Tightening torque for valve mounting		[Nm]	1.8 ... 2.2
Product weight	With plug M8x1	[g]	289
	With open cable end	[g]	332
Sound pressure level		[dB (A)]	85
Conforms to standard			ISO 15407-1, VDMA 24563

Flow rates

Flow rate of valve	[l/min]	1400
Flow rate of valve on individual sub-base	[l/min]	1100
Flow rate of pneumatically linked valve	[l/min]	1100
Standard nominal flow rate	[l/min]	1100

Switching times [ms]

		Switching time on	Switching time off
5/2-way valve, single solenoid	Mechanical spring	21	41

Data sheet – Valve size 26 mm, valve with position detection

Safety characteristics		
CE marking (see declaration of conformity)		To EU EMC Directive ¹⁾
KC mark		KC EMC
Max. positive test pulse with 0 signal	[μs]	1000
Max. negative test pulse with 1 signal	[μs]	800
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistance		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

- 1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/sp → Certificates.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure	[bar]	-0.9 ... 16
Pilot pressure	[bar]	3 ... 10
Ambient temperature	[°C]	-5 ... +50
Temperature of medium	[°C]	-5 ... +50
Relative humidity	[%]	0 ... 90
Certification		c UL us - Recognized (OL) C-Tick
Certificate issuing authority		UL MH19482

Electrical data		
Electrical connection		Plug, square design according to EN 175301-803, type C, without PE conductor
Operating voltage	[V DC]	24 +10%/-15%
Characteristic coil data	[W]	1.8
Duty cycle ED	[%]	100
Signal status indication		With accessories
Degree of protection to EN 60529		IP65, Nema 4 (in combination with plug socket)

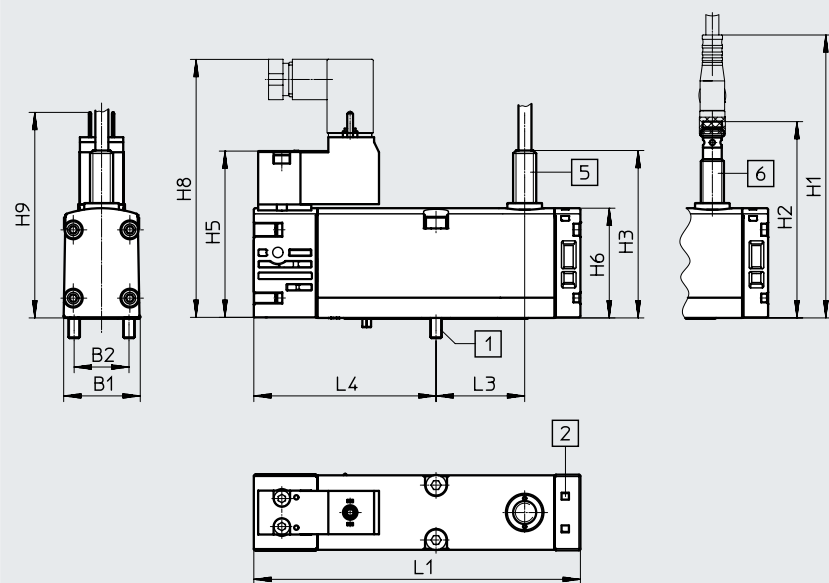
Data sheet – Valve size 26 mm, valve with position detection

Electrical data – Sensor			VSVA-B-...P	VSVA-B-...C
Type			Plug, M8x1, 3-pin	Open cable end, 2.5 m
Electrical connection			Plug, M8x1, 3-pin	Open cable end, 2.5 m
Operating voltage	[V DC]		10 ... 30	10 ... 30
Switching element function			N/C contact	N/C contact
Measuring principle			Inductive	Inductive
Switching status indication sensor			LED	LED
Reverse polarity protection			For all electrical connections	For all electrical connections
Short circuit current rating			Pulsed	Pulsed
No-load supply current	[mA]		Max. 10	Max. 10
Output current	[mA]		Max. 200	Max. 200
Switching frequency	[kHz]		Max. 5	Max. 5
Residual ripple	[%]		±10	±10
Voltage drop	[V]		Max. 2	Max. 2
Valve – Sensor switching time	On	[ms]	60	60
	Off	[ms]	11	11

Materials	
Housing	Die-cast aluminium, PA
Seals	FPM, NBR
Screws	Galvanised steel
Note on materials	RoHS-compliant

Dimensions

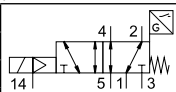



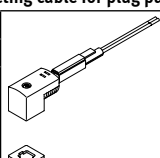
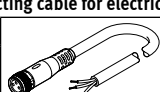
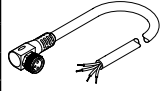
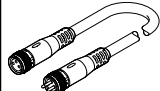
Download CAD data → www.festo.com




- [1] Captive screws
- [2] Slot for inscription label
- [5] Sensor with cable
- [6] Sensor with plug

	B1	B2	H1	H2	H3	H5	H6	H8	H9	L1	L3	L4
VSVA-B-M52-MZ-A1-1C1-A...	26.2	19	98	68.2	58	57.8	38	89.6	71.2	113.1	30.7	63.1

Data sheet – Valve size 26 mm, valve with position detection

Ordering data – Pilot control fitted							
Code	Circuit symbol		Electrical connection for sensor	Part no.	Type		
5/2-way valve, single solenoid, with pilot control with square plug, type C to EN 175301-803							
SO		Inductive sensor with PNP output	Plug, M8x1, 3-pin	560726	VSVA-B-M52-MZ-A1-1C1-APP		
–			Open cable end, 2.5 m	560725	VSVA-B-M52-MZ-A1-1C1-APC		
SQ		Inductive sensor with NPN output	Plug, M8x1, 3-pin	560745	VSVA-B-M52-MZ-A1-1C1-ANP		
–			Open cable end, 2.5 m	560744	VSVA-B-M52-MZ-A1-1C1-ANC		
Ordering data – Accessories							
Code		Description		Part no.	Type		
Plug socket for plug pattern to EN 175301-803, type C							
–		Angled socket, type C, 3-pin, screw terminal	Cable connector PG7	151687	MSSD-EB		
			Cable connector M12	539712	MSSD-EB-M12		
Illuminating seal for connection pattern to EN 175301-803, type C				Data sheets → Internet: meb-ld			
–		For plug socket MSSD, 12 ... 24 V DC		151717	MEB-LD-12-24DC		
Connecting cable for plug pattern to EN 175301-803, type C							
GG		Angled socket, type C, with LED Open end, 3-wire	3-pin, cable sheath PVC	2.5 m	151688	KMEB-1-24-2.5-LED	
GH				5 m	151689	KMEB-1-24-5-LED	
GJ				10 m	193457	KMEB-1-24-10-LED	
Connecting cable for electrical connection of the position detection sensor							
GM		Straight socket, M8x1, 3-pin Open end, 3-wire		2.5 m	541333	NEBU-M8G3-K-2.5-LE3	
GN				5 m	541334	NEBU-M8G3-K-5-LE3	
GO		Angled socket, M8x1, 3-pin Open end, 3-wire	–	2.5 m	541338	NEBU-M8W3-K-2.5-LE3	
GP				5 m	541341	NEBU-M8W3-K-5-LE3	
–				Rotatable socket	2.5 m	8001660	NEBU-M8R3-K-2.5-LE3
–					5 m	8001661	NEBU-M8R3-K-5-LE3
GQ		Straight socket, M8x1, 3-pin Straight plug, M8x1, 4-pin		2.5 m	554037	NEBU-M8G3-K-2.5-M8G4	

Data sheet – Valve size 18 mm

-  - Flow rate
max. 750 l/min

-  - Voltage
24 V DC



General technical data

Valve function	2x 3/2-way valve	5/2-way valve		5/3-way valve
Normal position	C ¹⁾ , U ²⁾ , H ⁴⁾	–	–	C ¹⁾ , U ²⁾ , E ³⁾
Stable position	Monostable		Bistable	Monostable
Pneumatic spring reset method	Yes	Yes	–	No
Mechanical spring reset method	No	Yes	–	Yes
Design	Piston spool			
Overlap	Positive overlap			
Sealing principle	Soft			
Actuation type	Electrical			
Type of control	Piloted			
Pilot air supply	Internal or external			
Flow direction	Non-reversible	Reversible with external pilot air supply		
Exhaust air function	Can be throttled			
Manual override	Non-detenting			
Type of mounting	On sub-base			
Mounting position	Any			
Nominal width	[mm]	5		
Valve size	[mm]	18		
Ports on the sub-base	1, 2, 3, 4, 5 12, 14	G1/8 M5		
Tightening torque for valve mounting	[Nm]	0.9 ... 1.1		
Product weight	[g]	140		
Sound pressure level	[dB (A)]	85		
Conforms to standard		ISO 15407-1, VDMA 24563		

- 1) C = normally closed
- 2) U = normally open
- 3) E = normally exhausted
- 4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open

Flow rates

Valve function	2x 3/2-way valve	5/2-way valve	5/3-way valve
Flow rate of valve	[l/min] 600	750	650
Flow rate of valve on individual sub-base	[l/min] 450	550	500
Flow rate of pneumatically linked valve	[l/min] 400	550	450
Standard nominal flow rate	[l/min] 400	550	450

Switching times [ms]

	Switching time on	Switching time off	Switching time changeover	Switching time changeover (dominant)
2x 3/2-way valve	10	22	–	–
5/2-way valve, single solenoid	Pneumatic spring	20	25	–
	Mechanical spring	12	34	–
5/2-way valve, double solenoid	–	–	10	10
5/3-way valve	15	36	–	–

Data sheet – Valve size 18 mm

Safety characteristics		
CE marking (see declaration of conformity)		To EU EMC Directive ¹⁾
Max. positive test pulse with 0 signal	[μs]	500
Max. negative test pulse with 1 signal	[μs]	500
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistance		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

- 1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/sp → Certificates.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

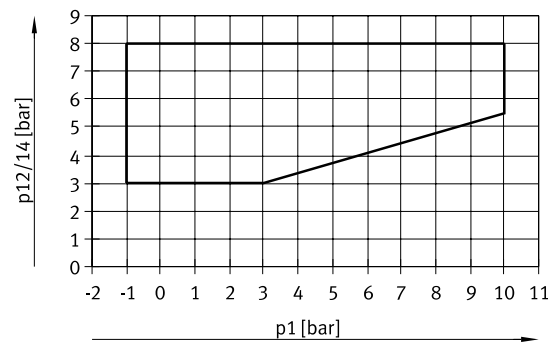
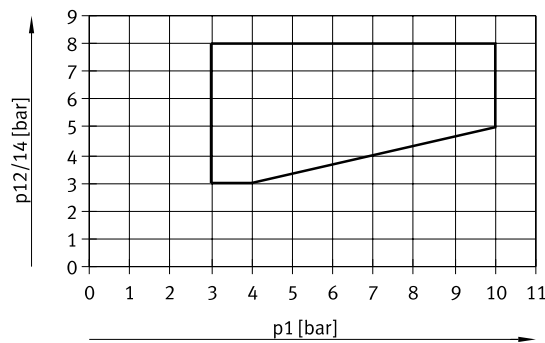
Operating and environmental conditions			2x 3/2-way valve	5/2-way valve	5/3-way valve
Valve function					
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]		
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)		
Operating pressure	Internal pilot air supply	[bar]	3 ... 8	3 ... 8	3 ... 8
	External pilot air supply	[bar]	3 ... 10	-0.9 ... 10	-0.9 ... 10
Pilot pressure		[bar]	3 ... 8 ¹⁾	3 ... 8	3 ... 8
Ambient temperature		[°C]	-5 ... +50		
Temperature of medium		[°C]	-5 ... +50		
Relative humidity		[%]	0 ... 90		
Corrosion resistance class CRC ²⁾			2		
Certification			c CSA us (OL)		
			c UL us - Recognized (OL)		
			C-Tick		

- 1) Pilot pressure dependent on operating pressure → graph
2) 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.

Minimum pilot pressure p₁₂, p₁₄ as a function of operating pressure p₁ (external pilot air supply)

2x 3/2-way valve

5/2-way valve and 5/3-way valve



Electrical data		
Electrical connection		Central plug, round design, M8x1 4-pin or M12x1 3-pin
Characteristic coil data	Voltage	[V DC] 24±10% = 21.6 ... 26.4
	Power	[W] High-current phase: 2.4 Low-current phase: 1 ¹⁾
Duty cycle ED	%	100
Degree of protection to EN 60529		IP65 (in combination with plug socket)
Signal status indication		LED

- 1) Controlled by integrated current reduction

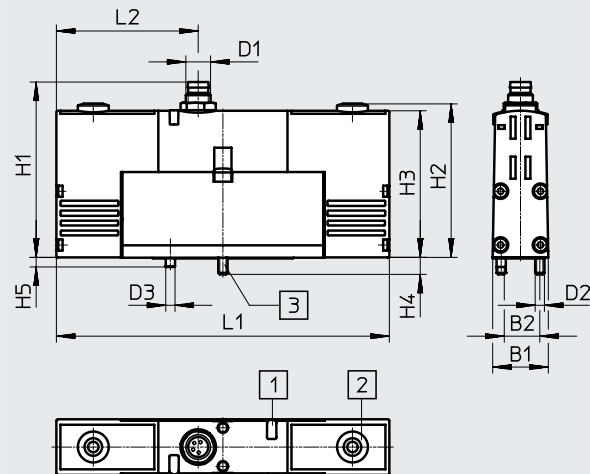
Data sheet – Valve size 18 mm

Materials	
Housing	Die-cast aluminium, POM
Seals	NBR
Note on materials	RoHS-compliant

Dimensions

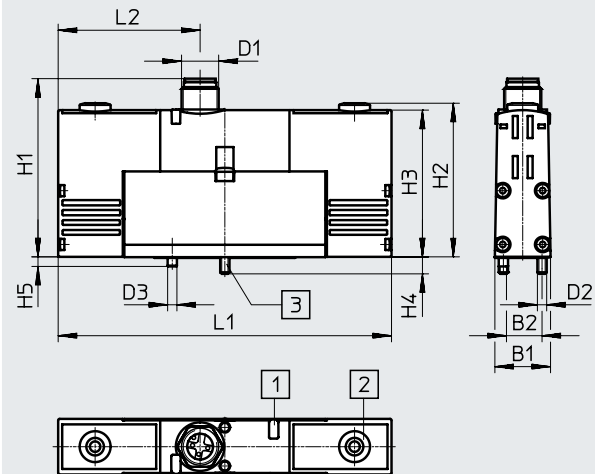
Download CAD data → www.festo.com

Valve with central plug M8x1, VSVA-B-...-1R2L



- [1] Light emitting diode
- [2] Manual override
- [3] Captive retaining screws

Valve with central plug M12x1, VSVA-B-...-1R5L



- [1] Light emitting diode
- [2] Manual override
- [3] Captive retaining screws

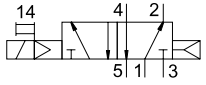
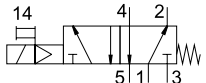
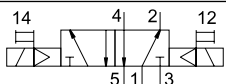
Type	B1	B2	D1	D2	D3	H1	H2	H3	H4	H5	L1	L2
VSVA-B-...-1R2L	18	12.5	M8x1	M3	3	54.4	49.8	47.6	5.4	3	107.8	46.9
VSVA-B-...-1R5L			M12x1			58.2						

Terminal allocation

<p>M8x1</p>	<ul style="list-style-type: none"> 1 Unused 2 Signal (+) solenoid 12/10 3 com (-) 4 Signal (+) Solenoid 14/10 	<p>M12x1</p>	<ul style="list-style-type: none"> 2 Signal (+) Solenoid 12 3 com (-) 4 Signal (+) Solenoid 14
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Data sheet – Valve size 18 mm

★ Core product range

Ordering data						
Code	Circuit symbol			Part no.	Type	
5/2-way valve, single solenoid						
M		Pneumatic spring	Internal pilot air supply	M12x1	★ 546767	VSVA-B-M52-AH-A2-1R5L
O		Mechanical spring	Internal pilot air supply	M12x1	★ 546768	VSVA-B-M52-MH-A2-1R5L
5/2-way valve, double solenoid						
J		Dominant 1st signal	Internal pilot air supply	M12x1	★ 546769	VSVA-B-B52-H-A2-1R5L

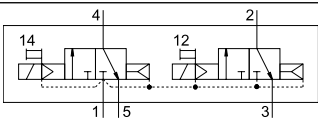
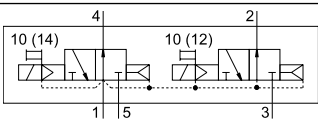
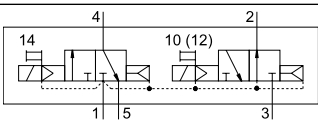
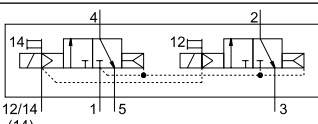
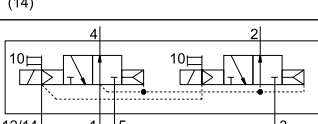
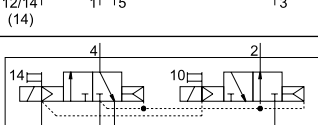
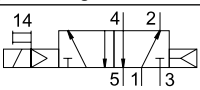
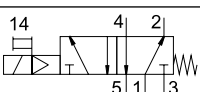

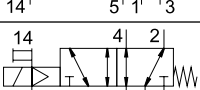
Festo core product range



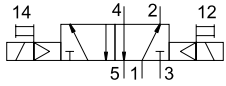
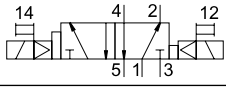
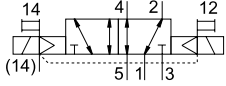
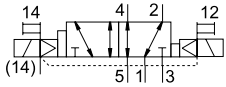
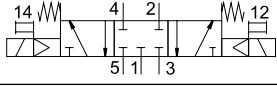
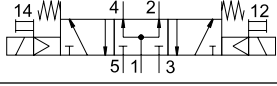
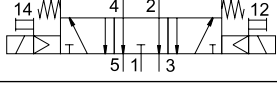
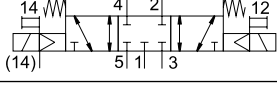
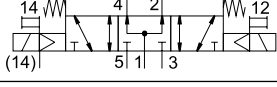
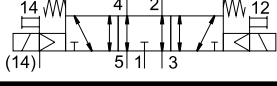
Generally ready for shipping ex works in 24 hours

Generally ready for shipping ex works in 5 days

Data sheet – Valve size 18 mm


Ordering data				Part no.	Type	
Code	Circuit symbol					
2x 3/2-way solenoid valve						
K		Normal position: 2x closed	Internal pilot air supply	M8x1	534771	VSVA-B-T32C-AH-A2-1R2L
				M12x1	546764	VSVA-B-T32C-AH-A2-1R5L
N		Normal position: 2x open	Internal pilot air supply	M8x1	534772	VSVA-B-T32U-AH-A2-1R2L
				M12x1	546765	VSVA-B-T32U-AH-A2-1R5L
H		Normal position: 1x closed 1x open	Internal pilot air supply	M8x1	534773	VSVA-B-T32H-AH-A2-1R2L
				M12x1	546766	VSVA-B-T32H-AH-A2-1R5L
K		Normal position: 2x closed	External pilot air supply	M8x1	534781	VSVA-B-T32C-AZH-A2-1R2L
				M12x1	546774	VSVA-B-T32C-AZH-A2-1R5L
N		Normal position: 2x open	External pilot air supply	M8x1	534782	VSVA-B-T32U-AZH-A2-1R2L
				M12x1	546775	VSVA-B-T32U-AZH-A2-1R5L
H		Normal position: 1x closed 1x open	External pilot air supply	M8x1	534783	VSVA-B-T32H-AZH-A2-1R2L
				M12x1	546776	VSVA-B-T32H-AZH-A2-1R5L
5/2-way valve, single solenoid						
M		Pneumatic spring	Internal pilot air supply	M8x1	534774	VSVA-B-M52-AH-A2-1R2L
O		Mechanical spring	Internal pilot air supply	M8x1	534775	VSVA-B-M52-MH-A2-1R2L
M		Pneumatic spring	External pilot air supply	M8x1	534784	VSVA-B-M52-AZH-A2-1R2L
				M12x1	546777	VSVA-B-M52-AZH-A2-1R5L
O		Mechanical spring	External pilot air supply	M8x1	534785	VSVA-B-M52-MZH-A2-1R2L
				M12x1	546778	VSVA-B-M52-MZH-A2-1R5L

Data sheet – Valve size 18 mm

Ordering data						
Code	Circuit symbol			Part no.	Type	
5/2-way valve, double solenoid						
J		Dominant 1st signal	Internal pilot air supply	M8x1	534776	VSVA-B-B52-H-A2-1R2L
D		Dominant at 14	Internal pilot air supply	M8x1	534777	VSVA-B-D52-H-A2-1R2L
				M12x1	546770	VSVA-B-D52-H-A2-1R5L
J		Dominant 1st signal	External pilot air supply	M8x1	534786	VSVA-B-B52-ZH-A2-1R2L
				M12x1	546779	VSVA-B-B52-ZH-A2-1R5L
D		Dominant at 14	External pilot air supply	M8x1	534787	VSVA-B-D52-ZH-A2-1R2L
				M12x1	546780	VSVA-B-D52-ZH-A2-1R5L
5/3-way solenoid valve						
G		Normally closed	Internal pilot air supply	M8x1	534778	VSVA-B-P53C-H-A2-1R2L
				M12x1	546771	VSVA-B-P53C-H-A2-1R5L
B		Normally open	Internal pilot air supply	M8x1	534780	VSVA-B-P53U-H-A2-1R2L
				M12x1	546773	VSVA-B-P53U-H-A2-1R5L
E		Normally exhausted	Internal pilot air supply	M8x1	534779	VSVA-B-P53E-H-A2-1R2L
				M12x1	546772	VSVA-B-P53E-H-A2-1R5L
G		Normally closed	External pilot air supply	M8x1	534788	VSVA-B-P53C-ZH-A2-1R2L
				M12x1	546781	VSVA-B-P53C-ZH-A2-1R5L
B		Normally open	External pilot air supply	M8x1	534790	VSVA-B-P53U-ZH-A2-1R2L
				M12x1	546783	VSVA-B-P53C-ZH-A2-1R5L
E		Normally exhausted	External pilot air supply	M8x1	534789	VSVA-B-P53E-ZH-A2-1R2L
				M12x1	546782	VSVA-B-P53E-ZH-A2-1R5L

Solenoid valves VSVA, with central plug M8x1, M12x1

Data sheet – Valve size 26 mm

-  - Flow rate
max. 1400 l/min

-  - Voltage
24 V DC



General technical data

Valve function	2x 3/2-way valve			5/2-way valve		5/3-way valve			
	C ¹⁾	U ²⁾	H ⁴⁾	–	–	C ¹⁾	U ²⁾	E ³⁾	
Normal position	C ¹⁾	U ²⁾	H ⁴⁾	–	–	C ¹⁾	U ²⁾	E ³⁾	
Stable position	Monostable			Monostable	Bistable	Monostable			
Pneumatic spring reset method	Yes			Yes	–	No			
Mechanical spring reset method	No			Yes	–	Yes			
Design	Piston spool								
Overlap	Positive overlap								
Sealing principle	Soft								
Actuation type	Electrical								
Type of control	Piloted								
Pilot air supply	Internal or external								
Flow direction	Non-reversible			Reversible with external pilot air supply					
Exhaust air function	Can be throttled, via throttle plate, via individual sub-base								
Manual override	Non-detenting								
Type of mounting	On sub-base								
Mounting position	Any								
Nominal width	[mm]	9							
Valve size	[mm]	26							
Ports on the sub-base	1, 2, 3, 4, 5 12, 14	G1/4 M5							
b value		0.25	–	–	0.25	–	0.24	–	0.3
c value	[l/sbar]	4	–	–	4.5	–	4.35	–	2.9
Tightening torque for valve mounting	[Nm]	1.8 ... 2.2							
Product weight	[g]	270							
Conforms to standard		ISO 15407-1							

1) C = normally closed

2) U = normally open

3) E = normally exhausted

4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open

Flow rates

Valve function	2x 3/2-way valve	5/2-way valve	5/3-way valve
Flow rate of valve	[l/min] 1250	1400	1400
Flow rate of valve on individual sub-base	[l/min] 1000	1100	1100
Flow rate of pneumatically linked valve	[l/min] 900	1100	1000
Standard nominal flow rate	[l/min] 900	1100	1000

Switching times [ms]

	Switching time on	Switching time off	Switching time changeover	Switching time changeover (dominant)
2x 3/2-way valve	20	33	–	–
5/2-way valve, single solenoid	Pneumatic spring	25	40	–
	Mechanical spring	20	52	–
5/2-way valve, double solenoid	–	–	15	25
5/3-way valve	20	52	–	–

Data sheet – Valve size 26 mm

Safety characteristics		
CE marking (see declaration of conformity)		To EU EMC Directive ¹⁾
Max. positive test pulse with 0 signal	[μs]	500
Max. negative test pulse with 1 signal	[μs]	500
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistance		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6

- 1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/sp → Certificates.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

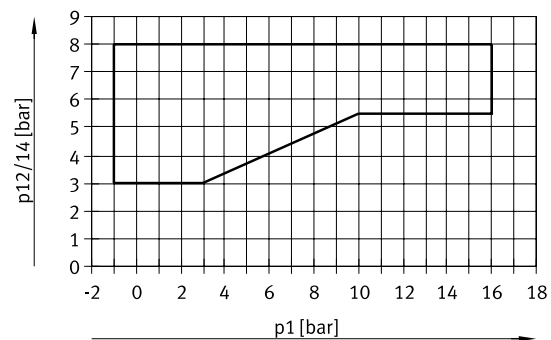
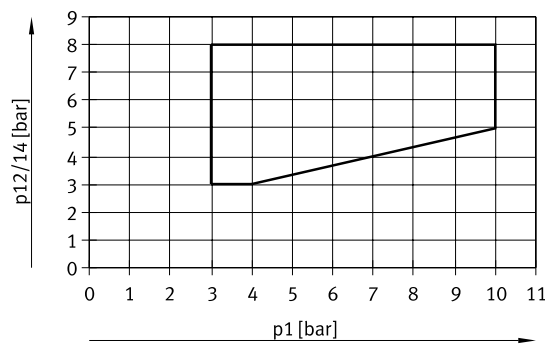
Operating and environmental conditions			2x 3/2-way valve	5/2-way valve	5/3-way valve
Valve function					
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]		
Pilot medium			Compressed air to ISO 8573-1:2010 [7:4:4]		
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)		
Operating pressure	Internal pilot air supply	[bar]	3 ... 8	3 ... 8	3 ... 8
	External pilot air supply	[bar]	3 ... 10	-0.9 ... 16	-0.9 ... 16
Pilot pressure		[bar]	3 ... 8 ¹⁾	3 ... 8	3 ... 8
Ambient temperature		[°C]	-5 ... +50		
Temperature of medium		[°C]	-5 ... +50		
Relative humidity		[%]	0 ... 90		
Corrosion resistance class CRC ²⁾			2		
Certification			c CSA us (OL)		
			c UL us - Recognized (OL)		
			C-Tick		

- 1) Pilot pressure dependent on operating pressure → graph
2) 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.

Minimum pilot pressure p₁₂, p₁₄ as a function of operating pressure p₁ (external pilot air supply)

2x 3/2-way valve

5/2-way valve and 5/3-way valve



Electrical data		
Electrical connection		Central plug, round design, M8x1 4-pin or M12x1 3-pin
Characteristic coil data	Voltage	[V DC] 24±10% = 21.6 ... 26.4
	Power	[W] High-current phase: 2.4 Low-current phase: 1 ¹⁾
Nominal pick-up current per solenoid coil	[mA]	110 to 20 ms
Nominal current with current reduction	[mA]	30 after 20 ms
Duty cycle ED	%	100
Degree of protection to EN 60529		IP65, Nema 4 (in combination with plug socket)
Signal status indication		LED

- 1) Controlled by integrated current reduction

Data sheet – Valve size 26 mm

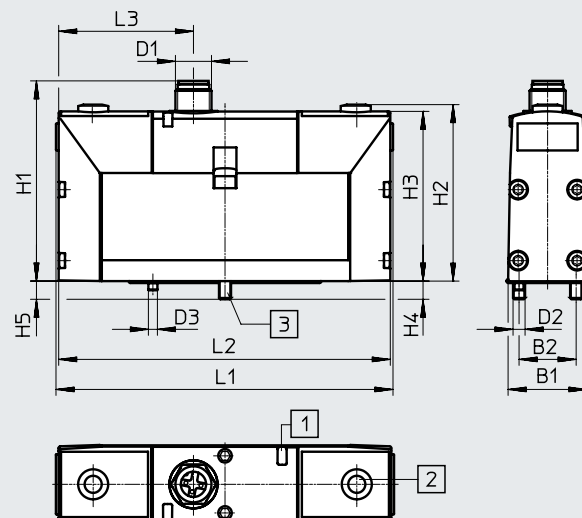
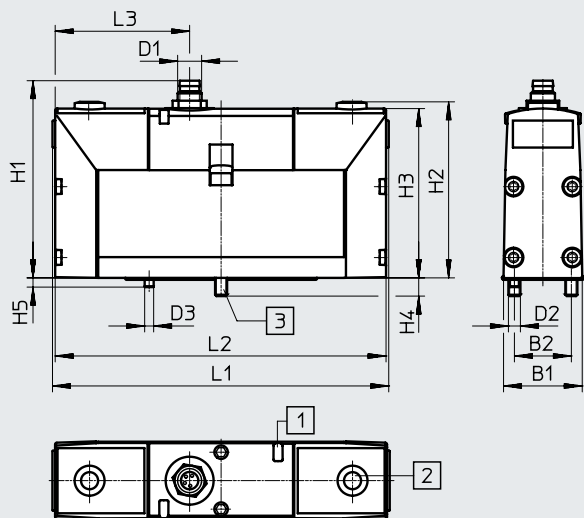
Materials	
Housing	Die-cast aluminium, POM
Seals	HNBR, NBR, FPM
Note on materials	RoHS-compliant

Dimensions

Download CAD data → www.festo.com

Valve with central plug M8x1, VSVA-B-...-1R2L

Valve with central plug M12x1, VSVA-B-...-1R5L



- [1] Light emitting diode
- [2] Manual override
- [3] Captive retaining screws

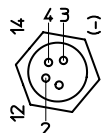
- [1] Light emitting diode
- [2] Manual override
- [3] Captive retaining screws

Type	B1	B2	D1	D2	D3	H1	H2	H3	H4	H5	L1	L2	L3
VSVA-B-...-1R2L	26.3	19	M8x1	M4	3	63.3	59.2	56.6	6	3	112.5	110.7	46.5
VSVA-B-...-1R5L			M12x1			66.6							

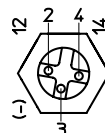
Terminal allocation

M8x1

M12x1



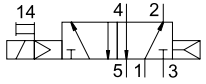
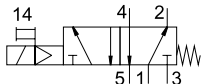
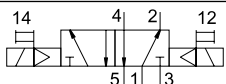
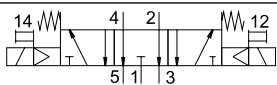
- 1 Unused
- 2 Signal (+) solenoid 12/10
- 3 com (-)
- 4 Signal (+) Solenoid 14/10



- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14

Data sheet – Valve size 26 mm

★ Core product range

Ordering data						
Code	Circuit symbol			Part no.	Type	
5/2-way valve, single solenoid						
M		Pneumatic spring	Internal pilot air supply	M12x1	★ 534555	VSVA-B-M52-AH-A1-1R5L
O		Mechanical spring	Internal pilot air supply	M12x1	★ 534556	VSVA-B-M52-MH-A1-1R5L
5/2-way valve, double solenoid						
J		Dominant 1st signal	Internal pilot air supply	M12x1	★ 534557	VSVA-B-B52-H-A1-1R5L
5/3-way solenoid valve						
E		Normally exhausted	Internal pilot air supply	M12x1	★ 534560	VSVA-B-P53E-H-A1-1R5L

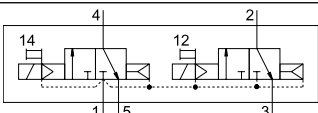
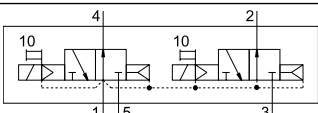
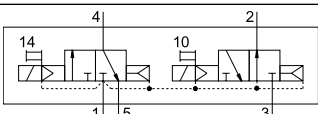
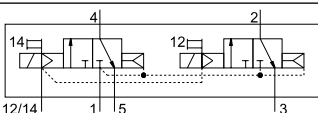
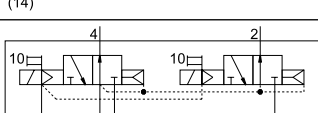
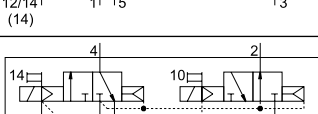
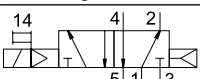
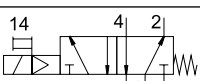
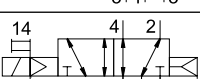
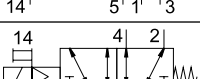
Festo core product range



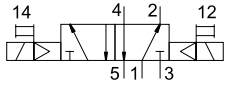
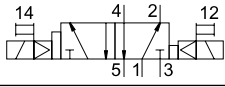
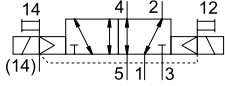
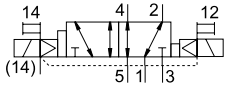
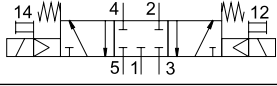
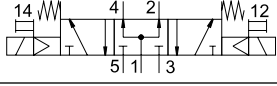
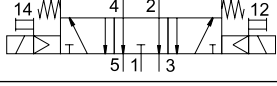
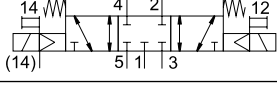
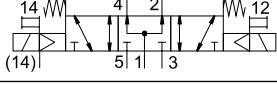
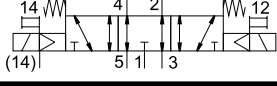
Generally ready for shipping ex works in 24 hours

Generally ready for shipping ex works in 5 days


Data sheet – Valve size 26 mm

Ordering data				Part no.	Type	
Code	Circuit symbol					
2x 3/2-way solenoid valve						
K		Normal position: 2x closed	Internal pilot air supply	M8x1	534532	VSVA-B-T32C-AH-A1-1R2L
				M12x1	534552	VSVA-B-T32C-AH-A1-1R5L
N		Normal position: 2x open	Internal pilot air supply	M8x1	534533	VSVA-B-T32U-AH-A1-1R2L
				M12x1	534553	VSVA-B-T32U-AH-A1-1R5L
H		Normal position: 1x closed 1x open	Internal pilot air supply	M8x1	534534	VSVA-B-T32H-AH-A1-1R2L
				M12x1	534554	VSVA-B-T32H-AH-A1-1R5L
K		Normal position: 2x closed	External pilot air supply	M8x1	534522	VSVA-B-T32C-AZH-A1-1R2L
				M12x1	534542	VSVA-B-T32C-AZH-A1-1R5L
N		Normal position: 2x open	External pilot air supply	M8x1	534523	VSVA-B-T32U-AZH-A1-1R2L
				M12x1	534543	VSVA-B-T32U-AZH-A1-1R5L
H		Normal position: 1x closed 1x open	External pilot air supply	M8x1	534524	VSVA-B-T32H-AZH-A1-1R2L
				M12x1	534544	VSVA-B-T32H-AZH-A1-1R5L
5/2-way valve, single solenoid						
M		Pneumatic spring	Internal pilot air supply	M8x1	534535	VSVA-B-M52-AH-A1-1R2L
O		Mechanical spring	Internal pilot air supply	M8x1	534536	VSVA-B-M52-MH-A1-1R2L
M		Pneumatic spring	External pilot air supply	M8x1	534525	VSVA-B-M52-AZH-A1-1R2L
				M12x1	534545	VSVA-B-M52-AZH-A1-1R5L
O		Mechanical spring	External pilot air supply	M8x1	534526	VSVA-B-M52-MZH-A1-1R2L
				M12x1	534546	VSVA-B-M52-MZH-A1-1R5L

Data sheet – Valve size 26 mm

Ordering data						
Code	Circuit symbol			Part no.	Type	
5/2-way valve, double solenoid						
J		Dominant 1st signal	Internal pilot air supply	M8x1	534537	VSVA-B-B52-H-A1-1R2L
D		Dominant at 14	Internal pilot air supply	M8x1	534538	VSVA-B-D52-H-A1-1R2L
				M12x1	534558	VSVA-B-D52-H-A1-1R5L
J		Dominant 1st signal	External pilot air supply	M8x1	534527	VSVA-B-B52-ZH-A1-1R2L
				M12x1	534547	VSVA-B-B52-ZH-A1-1R5L
D		Dominant at 14	External pilot air supply	M8x1	534528	VSVA-B-D52-ZH-A1-1R2L
				M12x1	534548	VSVA-B-D52-ZH-A1-1R5L
5/3-way solenoid valve						
G		Normally closed	Internal pilot air supply	M8x1	534539	VSVA-B-P53C-H-A1-1R2L
				M12x1	534559	VSVA-B-P53C-H-A1-1R5L
B		Normally open	Internal pilot air supply	M8x1	534541	VSVA-B-P53U-H-A1-1R2L
				M12x1	534561	VSVA-B-P53U-H-A1-1R5L
E		Normally exhausted	Internal pilot air supply	M8x1	534540	VSVA-B-P53E-H-A1-1R2L
G		Normally closed	External pilot air supply	M8x1	534529	VSVA-B-P53C-ZH-A1-1R2L
				M12x1	534549	VSVA-B-P53C-ZH-A1-1R5L
B		Normally open	External pilot air supply	M8x1	534531	VSVA-B-P53C-ZH-A1-1R2L
				M12x1	534551	VSVA-B-P53C-ZH-A1-1R5L
E		Normally exhausted	External pilot air supply	M8x1	534530	VSVA-B-P53E-ZH-A1-1R2L
				M12x1	534550	VSVA-B-P53E-ZH-A1-1R5L

Data sheet – Valve size 18 mm

 Flow rate
 550 ... 750 l/min



General technical data

Valve function	2x 3/2-way valve	5/2-way valve		5/3-way valve
		Monostable	Bistable	
Normal position	C ¹⁾ , U ²⁾ , H ⁴⁾	–		C ¹⁾ , U ²⁾ , E ³⁾
Stable position	Monostable	Monostable	Bistable	Monostable
Pneumatic spring reset method	Yes	Yes	–	No
Mechanical spring reset method	No	Yes	–	Yes
Design	Piston spool			
Overlap	Positive overlap			
Sealing principle	Soft			
Actuation type	Pneumatic			
Type of control	Direct			
Flow direction	Non-reversible	Reversible	Reversible	Reversible
Exhaust air function	Can be throttled			
Type of mounting	On sub-base			
Mounting position	Any			
Nominal width [mm]	5			
Valve size [mm]	18			
Ports on the sub-base	1, 2, 3, 4, 5		G1/8	
	12, 14		M5	
Tightening torque for valve mounting [Nm]	0.9 ... 1.1			
Product weight [g]	80			
Conforms to standard	ISO 15407-1, VDMA 24563			

- 1) C = normally closed
- 2) U = normally open
- 3) E = normally exhausted
- 4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open

Flow rates

Valve function	2x 3/2-way valve	5/2-way valve		5/3-way valve
		Monostable	Bistable	
Flow rate of valve [l/min]	600	750	750	650
Flow rate of valve on individual sub-base [l/min]	450	550	550	500
Flow rate of pneumatically linked valve [l/min]	400	550	550	450
Standard nominal flow rate [l/min]	400	550	550	450

Switching times [ms]

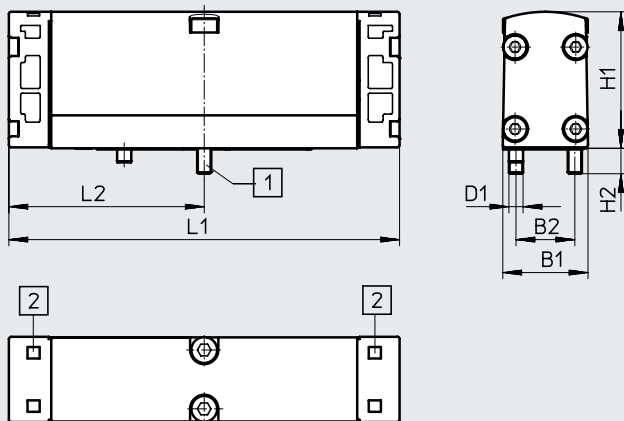
	Switching time on	Switching time off	Switching time changeover	Switching time changeover (dominant)	
					2x 3/2-way valve
5/2-way valve, single solenoid	Pneumatic spring	11	20	–	–
	Mechanical spring	8	18	–	–
5/2-way valve, double solenoid	–	–	6	6	
5/3-way valve	9	18	–	–	

Data sheet – Valve size 18 mm

Operating and environmental conditions			2x 3/2-way valve	5/2-way valve Monostable	5/2-way valve Bistable	5/3-way valve
Valve function						
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]			
Pilot medium			Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)			
Operating pressure	With pneumatic spring	[bar]	2 ... 10	2 ... 10	-0.9 ... 10	-
	With mechanical spring	[bar]	-	-0.9 ... 10	-	-0.9 ... 10
Pilot pressure	With pneumatic spring	[bar]	2 ... 10	2 ... 10	2 ... 10	-
	With mechanical spring	[bar]	-	3 ... 10	-	3 ... 10
Ambient temperature		[°C]	-10 ... +60			
Temperature of medium		[°C]	-10 ... +60			
Relative humidity		[%]	0 ... 90			

Materials	
Housing	Die-cast aluminium
Seals	NBR
Screws	Galvanised steel
Note on materials	RoHS-compliant

Dimensions

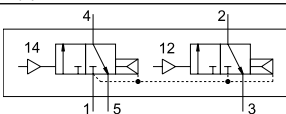
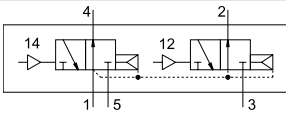
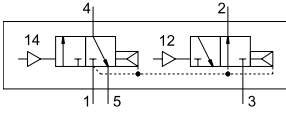
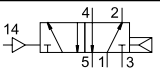
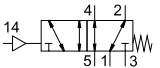
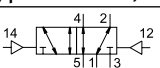
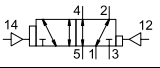
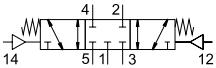
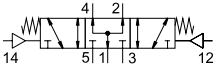
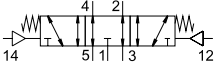
Download CAD data → www.festo.com

[1] Captive screws


[2] Slot for inscription label

Type	B1	B2	D1	H1	H2	L1	L2
VSPA-B	18	12.5	M3	29	5.4	83	41.5

Data sheet – Valve size 18 mm

Ordering data		Part no.	Type
Code	Circuit symbol		
2x 3/2-way pneumatic valve			
K		2x normally closed	546721 VSPA-B-T32C-A2
N		2x normally open	546722 VSPA-B-T32U-A2
H		Normal position: 1x closed 1x open	546723 VSPA-B-T32H-A2
5/2-way pneumatic valve, monostable			
M		Pneumatic spring	546726 VSPA-B-M52-A-A2
O		Mechanical spring	546727 VSPA-B-M52-M-A2
5/2-way pneumatic valve, bistable			
J		Dominant 1st signal	546724 VSPA-B-B52-A2
D		Dominant at 14	546725 VSPA-B-D52-A2
5/3-way pneumatic valve			
G		Normally closed	546730 VSPA-B-P53C-A2
B		Normally open	546728 VSPA-B-P53U-A2
E		Normally exhausted	546729 VSPA-B-P53E-A2

Data sheet – Valve size 26 mm

-  - Flow rate
1250 ... 1400 l/min

**General technical data**

Valve function	2x 3/2-way valve	5/2-way valve		5/3-way valve
Normal position	C ¹⁾ , U ²⁾ , H ⁴⁾	–	–	C ¹⁾ , U ²⁾ , E ³⁾
Stable position	Monostable	Monostable	Bistable	Monostable
Pneumatic spring reset method	Yes	Yes	–	No
Mechanical spring reset method	No	Yes	–	Yes
Design	Piston spool			
Overlap	Positive overlap			
Sealing principle	Soft			
Actuation type	Pneumatic			
Type of control	Direct			
Flow direction	Non-reversible	Reversible	Reversible	Reversible
Exhaust air function	Can be throttled			
Type of mounting	On sub-base			
Mounting position	Any			
Nominal width [mm]	9			
Valve size [mm]	26			
Ports on the sub-base	1, 2, 3, 4, 5	G1/4		
	12, 14	M5		
Tightening torque for valve mounting [Nm]	1.8 ... 2.2			
Product weight [g]	180			
Conforms to standard	ISO 15407-1, VDMA 24563			

- 1) C = normally closed
 2) U = normally open
 3) E = normally exhausted
 4) H=2x 3/2-way valve in one housing with 1x normally closed and 1x normally open

Flow rates

Valve function	2x 3/2-way valve	5/2-way valve		5/3-way valve
		Monostable	Bistable	
Flow rate of valve [l/min]	1250	1400	1400	1400
Flow rate of valve on individual sub-base [l/min]	1000	1100	1100	1100
Flow rate of pneumatically linked valve [l/min]	900	1100	1100	1000
Standard nominal flow rate [l/min]	900	1100	1100	1000

Switching times [ms]

	Switching time on	Switching time off	Switching time changeover	Switching time changeover (dominant)
2x 3/2-way valve	15	28	–	–
5/2-way valve, single solenoid	Pneumatic spring	18	30	–
	Mechanical spring	10	35	–
5/2-way valve, double solenoid	–	–	10	10
5/3-way valve	13	32	–	–

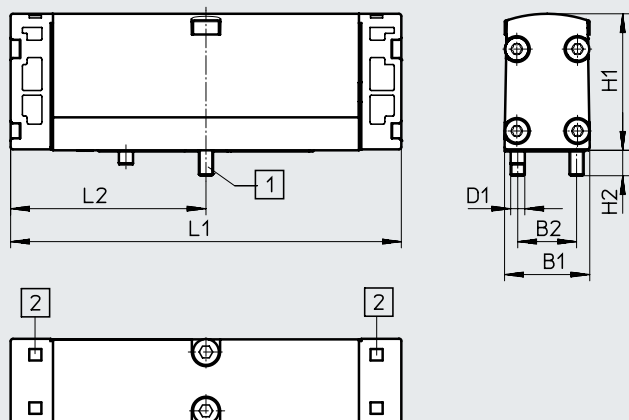
Data sheet – Valve size 26 mm

Operating and environmental conditions			2x 3/2-way valve	5/2-way valve Monostable	5/2-way valve Bistable	5/3-way valve
Valve function						
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]			
Pilot medium			Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)			
Operating pressure	With pneumatic spring	[bar]	2 ... 10	2 ... 10	-0.9 ... 16	-
	With mechanical spring	[bar]	-	-0.9 ... 16	-	-0.9 ... 16
Pilot pressure	With pneumatic spring	[bar]	2 ... 10	2 ... 10	2 ... 10	-
	With mechanical spring	[bar]	-	3 ... 10	-	3 ... 10
Ambient temperature		[°C]	-10 ... +60			
Temperature of medium		[°C]	-10 ... +60			
Relative humidity		[%]	0 ... 90			

Materials	
Housing	Die-cast aluminium
Seals	NBR
Screws	Galvanised steel
Note on materials	RoHS-compliant

Dimensions

Download CAD data → www.festo.com

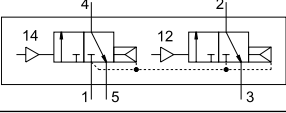
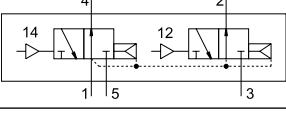
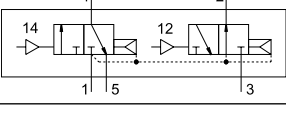
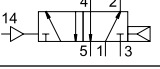
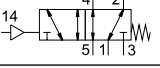
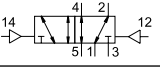
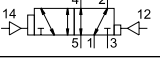
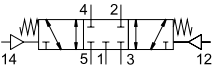
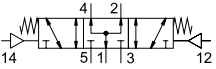
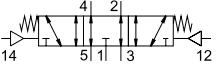


[1] Captive screws

[2] Slot for inscription label

	B1	B2	D1	H1	H2	L1	L2
VSPA-B	26.2	19	M4	38	7	100	50

Data sheet – Valve size 26 mm

Ordering data		Part no.	Type
Code	Circuit symbol		
2x 3/2-way pneumatic valve			
K		2x normally closed	546711 VSPA-B-T32C-A1
N		2x normally open	546712 VSPA-B-T32U-A1
H		Normal position: 1x closed 1x open	546713 VSPA-B-T32H-A1
5/2-way pneumatic valve, monostable			
M		Pneumatic spring	546716 VSPA-B-M52-A-A1
O		Mechanical spring	546717 VSPA-B-M52-M-A1
5/2-way pneumatic valve, bistable			
J		Dominant 1st signal	546714 VSPA-B-B52-A1
D		Dominant at 14	546715 VSPA-B-D52-A1
5/3-way pneumatic valve			
G		Normally closed	546720 VSPA-B-P53C-A1
B		Normally open	546718 VSPA-B-P53U-A1
E		Normally exhausted	546719 VSPA-B-P53E-A1

Vertical stacking

Regulator plate

VABF-S3-2-R


VABF-S3-1-R


Pressure regulation ranges:

0.5 ... 6 bar, 0.5 ... 8.5 bar,

2 ... 6 bar, 2 ... 8.5 bar

Output pressure constant with secondary venting

 Temperature range
-5 ... +50°C

 Input pressure
0.5 ... 10 bar

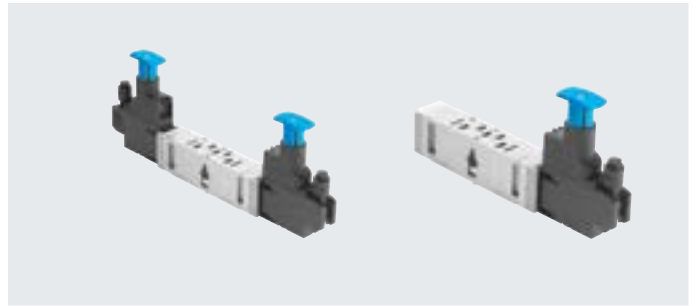
Material:

Housing: Die-cast aluminium

Control section: PA

Note on materials:

RoHS-compliant

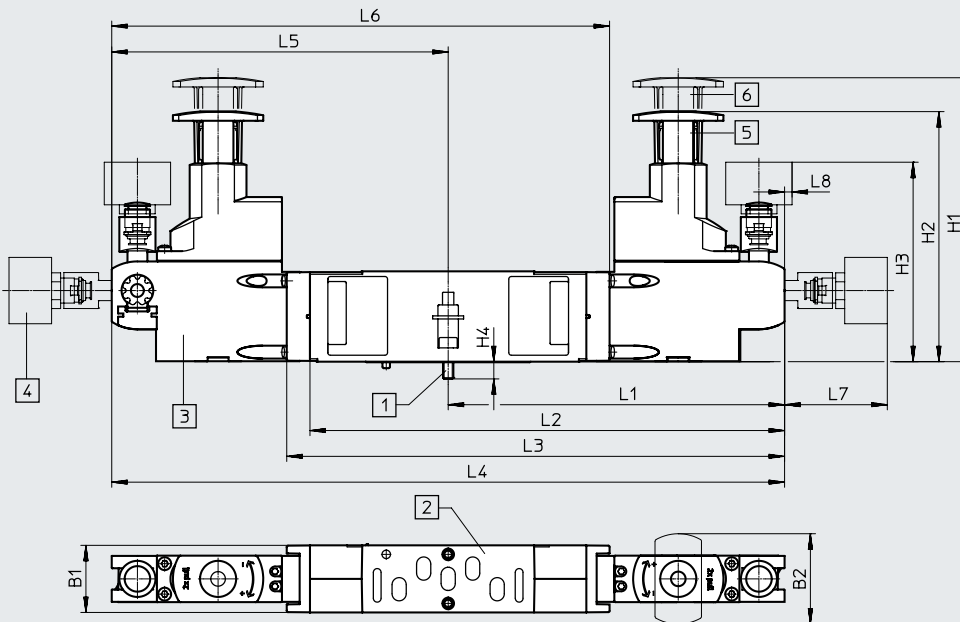


Operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

Dimensions

Download CAD data → www.festo.com



- [1] Captive screws
- [2] Port pattern to ISO 15407-1
- [3] Regulator
- [4] Pressure gauge
- [5] Regulator head in the locked state
- [6] Regulator head with pressure adjustment

Dimensions when mounted → 73

Type	B1	B2	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	L7	L8
VABF-S3-2-R1	18	35	110	97	77.3	5.6	126.7	180.6	-	-	-	-	39.8	2.9
VABF-S3-2-R2							126.7	-	187.7	-	-	-		
VABF-S3-2-R3							-	-	-	-	126.7	187.7		
VABF-S3-2-R4							126.7	-	-	253.4	-	-		
VABF-S3-2-R5							126.7	-	-	253.4	-	-		
VABF-S3-2-R6							126.7	-	-	187.7	-	-		
VABF-S3-2-R7							-	-	-	-	126.7	187.7		
VABF-S3-1-R1	26	35	110	97	77.3	5.6	130.4	183.9	183.9	-	-	-	39.8	2.9
VABF-S3-1-R2							130.4	-	192.9	-	-	-		
VABF-S3-1-R3							-	-	-	-	130.4	192.9		
VABF-S3-1-R4							130.4	-	-	260.7	-	-		
VABF-S3-1-R5							130.4	-	-	260.7	-	-		
VABF-S3-1-R6							130.4	195	195	-	-	-		
VABF-S3-1-R7							-	-	-	-	130.4	192.9		

Vertical stacking

Ordering data								
Code	Circuit symbol	For port	Regulator	Control range	Valve size [mm]	Weight [g]	Part no.	Type
ZA		1	P	0.5 ... 8.5 bar	18	380	543526	VABF-S3-2-R1C2-C-10
ZF					26	439	543527	VABF-S3-1-R1C2-C-10
				0.5 ... 6 bar	18	380	543524	VABF-S3-2-R1C2-C-6
					26	439	543525	VABF-S3-1-R1C2-C-6
ZC		2	B	2 ... 8.5 bar	18	390	543534	VABF-S3-2-R2C2-C-10
ZH					26	452	543535	VABF-S3-1-R2C2-C-10
				2 ... 6 bar	18	390	543532	VABF-S3-2-R2C2-C-6
					26	452	543533	VABF-S3-1-R2C2-C-6
ZB		4	A	2 ... 8.5 bar	18	390	543530	VABF-S3-2-R3C2-C-10
ZG					26	452	543531	VABF-S3-1-R3C2-C-10
				2 ... 6 bar	18	390	543528	VABF-S3-2-R3C2-C-6
					26	452	543529	VABF-S3-1-R3C2-C-6
ZD		2 and 4	AB	2 ... 8.5 bar	18	650	543538	VABF-S3-2-R4C2-C-10
ZI					26	712	543539	VABF-S3-1-R4C2-C-10
				2 ... 6 bar	18	650	543536	VABF-S3-2-R4C2-C-6
					26	712	543537	VABF-S3-1-R4C2-C-6
ZE		2 and 4, reversible	AB	0.5 ... 8.5 bar	18	650	543542	VABF-S3-2-R5C2-C-10
ZJ					26	712	543543	VABF-S3-1-R5C2-C-10
				0.5 ... 6 bar	18	650	543540	VABF-S3-2-R5C2-C-6
					26	712	543541	VABF-S3-1-R5C2-C-6
ZL		2, reversible	B	0.5 ... 8.5 bar	18	390	546788	VABF-S3-2-R6C2-C-10
ZN					26	452	546789	VABF-S3-1-R6C2-C-10
				0.5 ... 6 bar	18	390	546786	VABF-S3-2-R6C2-C-6
					26	452	546787	VABF-S3-1-R6C2-C-6
ZK		4, reversible	A	0.5 ... 8.5 bar	18	390	546792	VABF-S3-2-R7C2-C-10
ZM					26	452	546793	VABF-S3-1-R7C2-C-10
				0.5 ... 6 bar	18	390	546790	VABF-S3-2-R7C2-C-6
					26	452	546791	VABF-S3-1-R7C2-C-6

Vertical stacking

Throttle plate

VABF-S3-2-F

VABF-S3-1-F



Material:

Housing: Die-cast aluminium

Note on materials:

RoHS-compliant



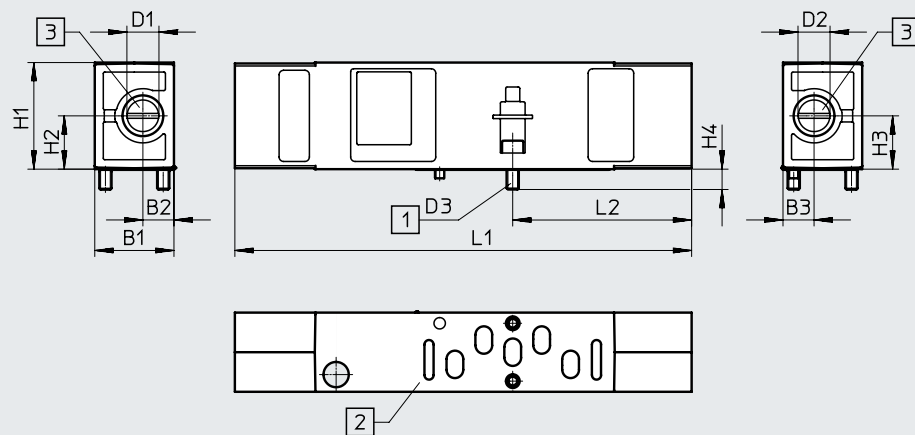
-  Temperature range
-5 ... +50°C
-  Input pressure
-0.9 ... 10 bar

Operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

Dimensions

Download CAD data → www.festo.com




- [1] Captive screws
- [2] Port pattern to ISO 15407-1
- [3] Adjusting screws

Dimensions when mounted → 74

Type	B1	B2	B3	D1	D2	D3	H1	H2	H3	H4	L1	L2
VABF-S3-2-F1B1-C	18	6.5	6.5	9.3	9.3	M3x 12	35	12	12	5.6	130	43.3
VABF-S3-1-F1B1-C	26	10.2	10.2	11.2	11.2	M4x 12	35	17.5	17.5	6.7	150	58.8

Ordering data



Code	Circuit symbol	Description	Valve size [mm]	Weight [g]	Part no.	Type
X		For exhaust air flow control in ducts 3 and 5 on the valve	18	228	543603	VABF-S3-2-F1B1-C
			26	320	543604	VABF-S3-1-F1B1-C

Vertical stacking

Vertical supply plate
VABF-S3-2-P
VABF-S3-1-P

Material:
 Housing: Die-cast aluminium

Note on materials:
 RoHS-compliant

-  Temperature range
 -5 ... +50°C
-  Operating pressure
 -0.9 ... +10 bar



Operating and environmental conditions

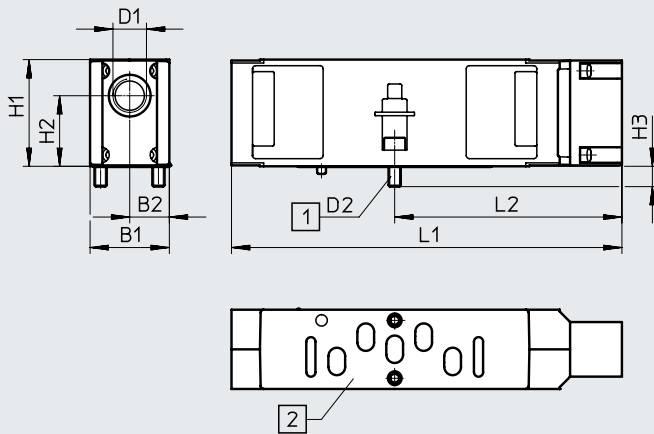
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

Dimensions

Download CAD data → www.festo.com

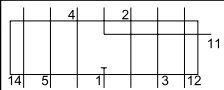
- [1] Captive screws
- [2] Port pattern to ISO 15407-1

Dimensions when mounted → 75



Type	B1	B2	D1	D2	H1	H2	H3	L1	L2
VABF-S3-2-P1A3-G18	18	9	G1/8	M3x 12	35	23.4	5.6	121.6	67.7
VABF-S3-1-P1A3-G14	26	13	G1/4	M4x 12	35	23.2	6.7	128.1	74.6

Ordering data

Code	Circuit symbol	Description	Valve size [mm]	Flow rate [l/min]	Weight [g]	Part no.	Type
ZU		For the independent supply of a valve	18	500	146	544435	VABF-S3-2-P1A3-G18
			26	1000	201	544434	VABF-S3-1-P1A3-G14

Vertical stacking

Vertical pressure shut-off plate

VABF-S3-2-L




VABF-S3-1-L

Material:

Housing: Die-cast aluminium

Note on materials:

RoHS-compliant

-  Temperature range
-5 ... +50°C
-  Input pressure
-0.9 ... +10 bar
-  Flow rate
800 l/min

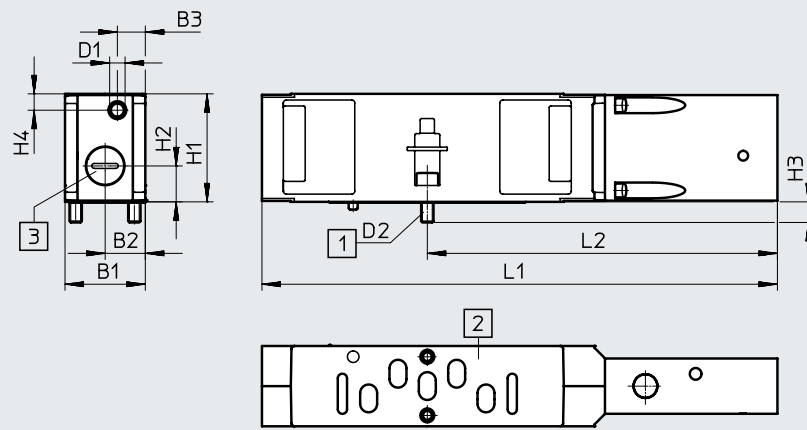


Operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

Dimensions

Download CAD data → www.festo.com

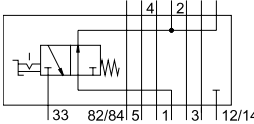


- [1] Captive screws
- [2] Port pattern to ISO 15407-1
- [3] Plug screw

Dimensions when mounted → 76

Type	B1	B2	B3	D1	D2	H1	H2	H3	H4	L1	L2
VABF-S3-2-L1D1-C	18	9	5.1	M5	M3x 12	35	11.7	5.6	5.3	163.7	109.8
VABF-S3-1-L1D1-C	26	13	9.1	M5	M4x 12	35	11.6	6.7	5.3	167	113.4

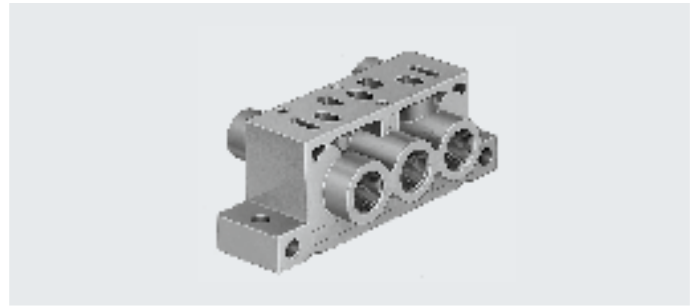
Ordering data

Code	Circuit symbol	Description	Valve size [mm]	Flow rate [l/min]	Weight [g]	Part no.	Type
ZT		For shutting off a valve from the supply pressure	18 26	400 800	212 286	543601 543602	VABF-S3-2-L1D1-C VABF-S3-1-L1D1-C

Individual linking

Individual sub-base NAS

Materials:
Die-cast aluminium

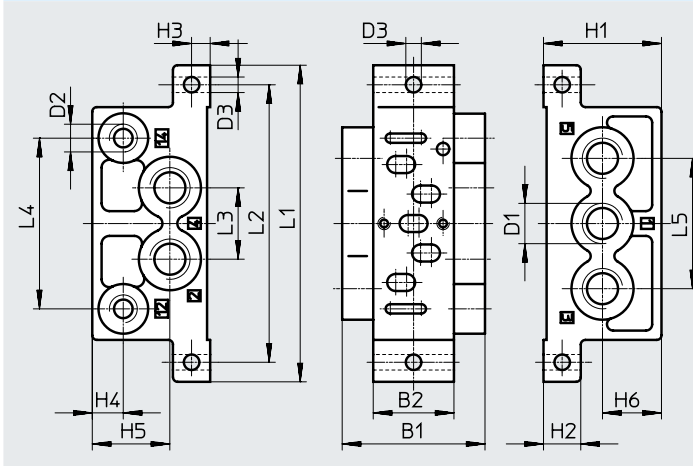


Operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

Dimensions

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Type	B1	B2	D1	D2	D3	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5
NAS-1/8-02-VDMA	28.5	18	G1/8	M5	5.5	31	10	5	7	20	14.5	79	66.5	17	40	32
NAS-1/4-01-VDMA	46	26	G1/4	G1/8	5	38	12	6	10	25	19	102	89.4	23	55	42

Ordering data

Type of mounting	Valve size [mm]	Pneumatic connection		Weight [g]	Part no.	Type
		1, 2, 3, 4, 5	12, 14			
2 through-holes in the housing	18	G1/8	M5	67	★ 161115	NAS-1/8-02-VDMA
	26	G1/4	G1/8	160	★ 161109	NAS-1/4-01-VDMA

Festo core product range



Generally ready for shipping ex works in 24 hours

Generally ready for shipping ex works in 5 days

Horizontal stacking

Manifold sub-base NAW

Materials:
Die-cast aluminium



Operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

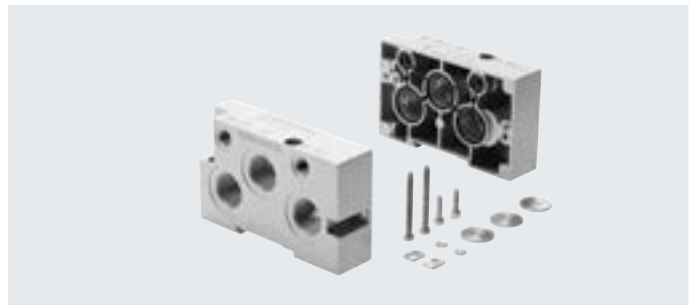
Ordering data

Manifold sub-base	Valve size [mm]	Pneumatic connection		Weight [g]	Part no.	Type
		2, 4	12, 14			
For solenoid valves	18	G1/8	–	130	★ 161110	NAW-1/8-02-VDMA
	26	G1/4	–	225	★ 161102	NAW-1/4-01-VDMA
For pneumatic valves	18	G1/8	M5	130	161111	NAW-1/8-02-VDMA-VL
	26	G1/4	M5	225	161103	NAW-1/4-01-VDMA-VL

Dimensions → 70

End plate kit NEV

Materials:
Die-cast aluminium



Operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

Ordering data

Scope of delivery	Valve size [mm]	Pneumatic connection		Weight [g]	Part no.	Type
		1, 3, 5	12, 14			
End plate left and right, screws, H-rail mounting, one isolating disc each for ports 1, 3, 5, 12 and 14	18	G3/8	G1/8	280	★ 161112	NEV-02-VDMA
	26	G1/2	G1/8	445	★ 161104	NEV-01-VDMA
End plate left 18 mm and right 26 mm, screws, H-rail mounting	18, 26	G3/8, G1/2	G1/8	372	191405	NEV-02-01-VDMA

Dimensions → 70

Festo core product range



Generally ready for shipping ex works in 24 hours

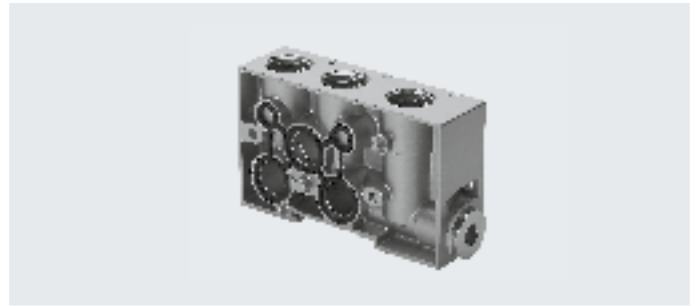
Generally ready for shipping ex works in 5 days

Horizontal stacking

Intermediate plate NZV

For combining manifold with valve sizes 18 mm and 26 mm

Materials:
Die-cast aluminium

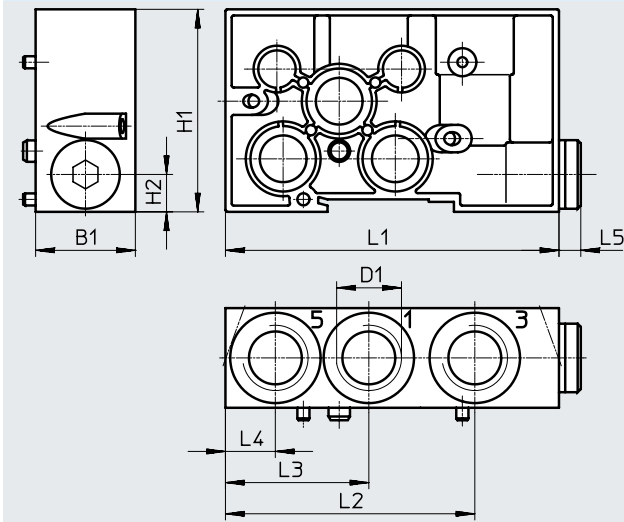


Operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

Dimensions

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Type	B1	D1	H1	H2	L1	L2	L3	L4	L5
NZV-01/02-VDMA	32	G1/2	65	12	107	80	46	16	7

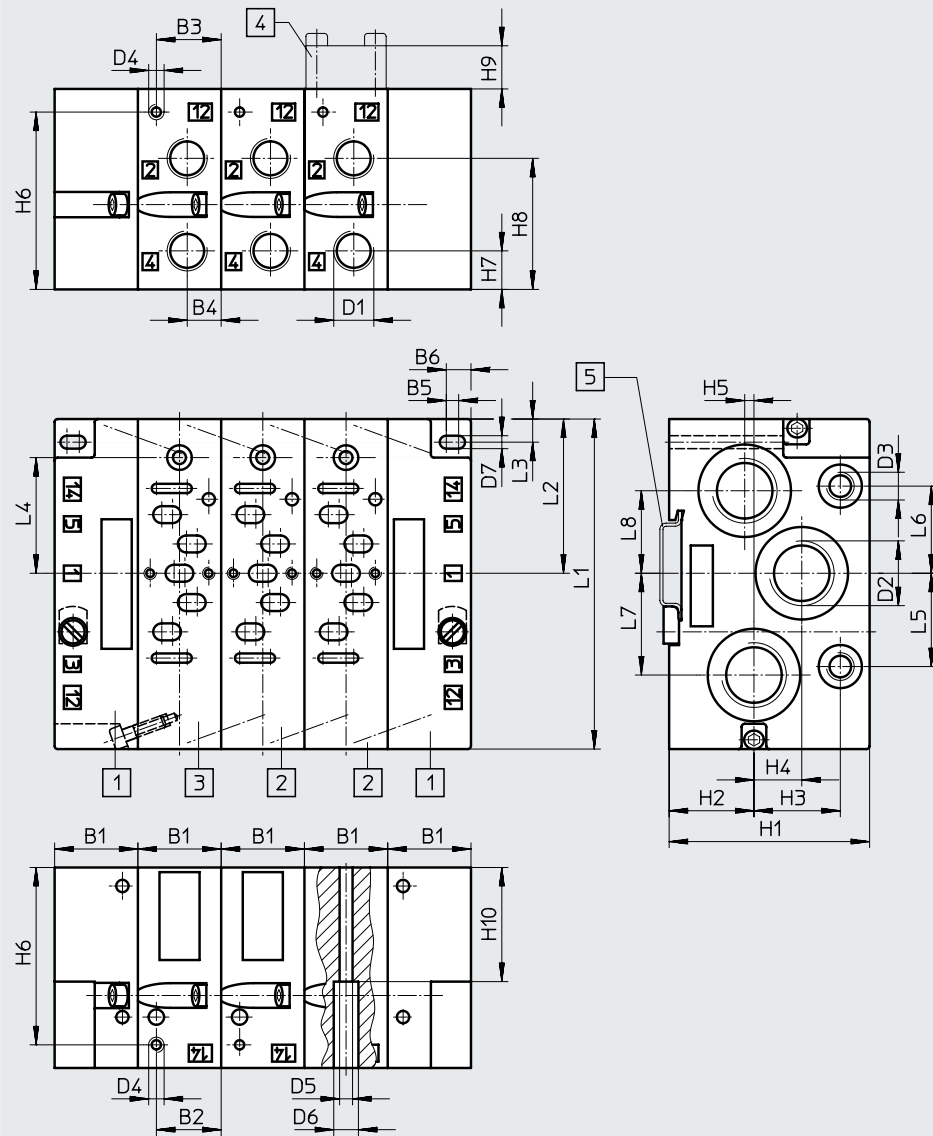
Ordering data

Description	Valve size [mm]	Pneumatic connection		Weight [g]	Part no.	Type
		1, 3, 5	12, 14			
Intermediate plate to combine manifold sub-bases of valve size 18 mm and 26 mm	18 and 26	G1/2	–	270	161108	NZV-01/02-VDMA

Data sheet

Dimensions – Manifold sub-bases without valves

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- [1] End plate kit
NEV-...VDMA
→ 68
- [2] Manifold sub-base
NAW-...-VDMA
→ 68
- [3] Manifold sub-base
NAW-...-VDMA-VL
→ 68
- [4] Cover plate
NDV-...-VDMA
→ 77
- [5] DIN mounting rail
NRH-35-2000
→ www.festo.com

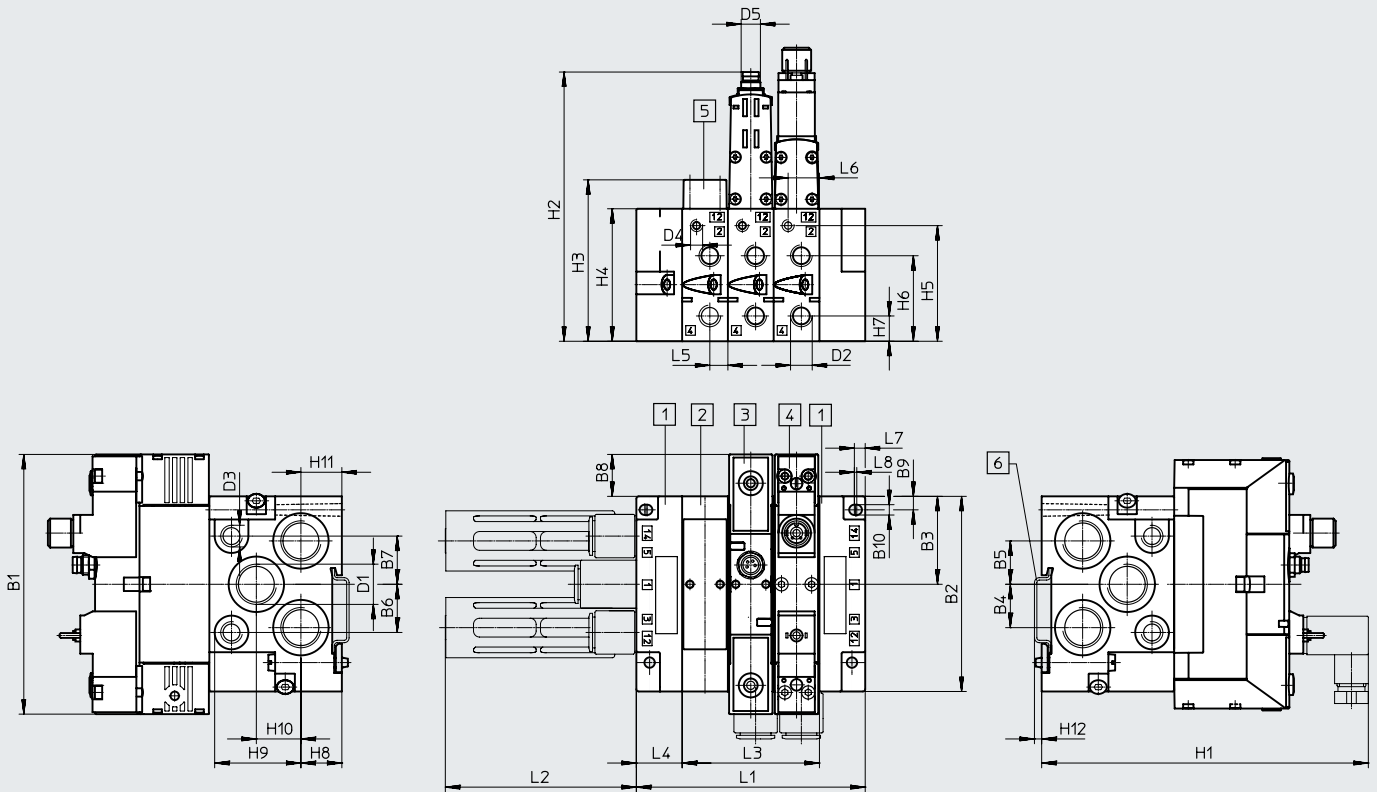
Valve size [mm]	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4	D5	D6	D7
18	19	6	13	7.5	1	4.5	G1/8	G3/8	G1/8	M5	3.3	6.3	4.3
26	27	21	21	11	4	8	G1/4	G1/2	G1/8	M5	4.2	8	4.2

Valve size [mm]	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	L1	L2	L3	L4	L5	L6	L7	L8
18	55	17	28.8	18.5	–	48	10.5	35.5	12	40	81	36.5	5.6	30.9	20	20	18	18
26	65	27.5	28	15.5	3	57.5	12.5	42.5	14	37	107	50	7.5	37.5	30.3	28.3	33	26.8

Data sheet

Dimensions – Manifold assembly, valve size 18 mm

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- [1] End plate kit type NEV-02-VDMA
- [2] Manifold sub-bases type NAW-1/8-02-VDMA
- [3] Solenoid valve with central plug
- [4] Solenoid valve with pilot interface to ISO 15218
- [5] Cover plate NDV-02-VDMA
- [6] DIN mounting rail NRH-35-2000

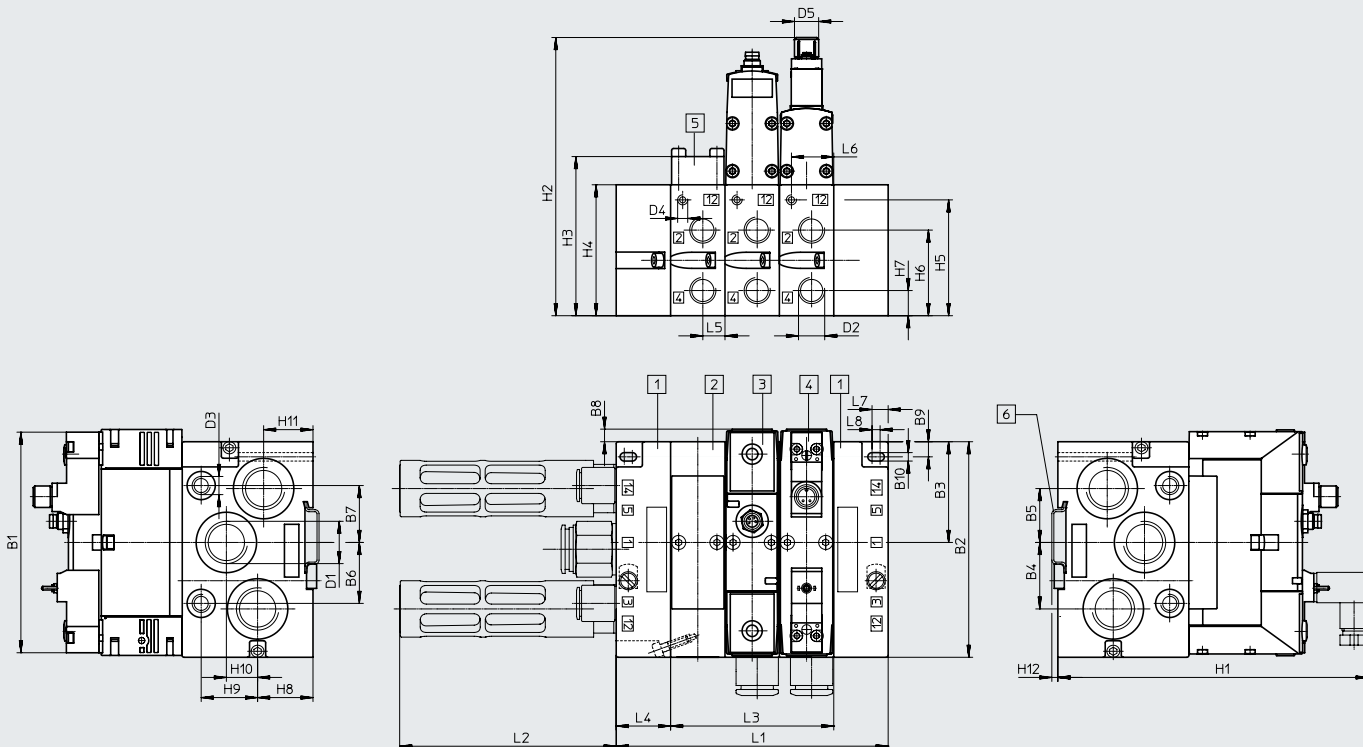
Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4	D5	H1	H2	H3
VSVA-B-...A2	107.8	81	36.5	18	18	20	20	17.4	5.6	4.3	G3/8	G1/8	G1/8	M5	-	135.6	55	67
VSVA-B-M52-...A2	95.4	81	36.5	18	18	20	20	5	5.6	4.3	G3/8	G1/8	G1/8	M5	-	135.6	55	67
VSVA-B-...A2-R2L	107.8	81	36.5	18	18	20	20	17.4	5.6	4.3	G3/8	G1/8	G1/8	M5	M8	121.8	111.8	67
VSVA-B-...A2-R5L	107.8	81	36.5	18	18	20	20	17.4	5.6	4.3	G3/8	G1/8	G1/8	M5	M12	121.8	111.8	67

Type	H4	H5	H6	H7	H8	H9	H10	H11	H12	L1	L2	L3	L4	L5	L6	L7	L8
VSVA-B-...A2	55	48	35.5	10.5	17	35.9	18.5	17	3.5	38 + nx 19	79.1	nx 19	19	7.5	13	4.5	1
VSVA-B-M52-...A2	55	48	35.5	10.5	17	35.9	18.5	17	3.5	38 + nx 19	79.1	nx 19	19	7.5	13	4.5	1
VSVA-B-...A2-R2L	55	48	35.5	10.5	17	35.8	18.5	17	3.5	38 + nx 19	79.1	nx 19	19	7.5	13	4.5	1
VSVA-B-...A2-R5L	55	48	35.5	10.5	17	35.8	18.5	17	3.5	38 + nx 19	79.1	nx 19	19	7.5	13	4.5	1

Data sheet

Dimensions – Manifold assembly, valve size 26 mm

Download CAD data → www.festo.com



- [1] End plate kit type NEV-01-VDMA
- [2] Manifold sub-bases type NAW-1/4-01-VDMA
- [3] Solenoid valve with central plug
- [4] Solenoid valve with pilot interface to ISO 15218
- [5] Cover plate NDV-01-VDMA
- [6] DIN mounting rail NRH-35-2000

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4	D5	H1	H2
VSVA-B-...A1	113.1	107	50	33	26.8	30.3	28.3	13.1	7.5	4.2	G1/2	G1/4	G1/8	M5	-	154.2	65
VSVA-B-M52-...A1	126.2	107	50	33	26.8	30.3	28.3	13.1	7.5	4.2	G1/2	G1/4	G1/8	M5	-	154.2	65
VSVA-B-...A1-R2L	112.5	107	50	33	26.8	30.3	28.3	6.3	7.5	4.2	G1/2	G1/4	G1/8	M5	M8x 1	157	128.3
VSVA-B-...A1-R5L	112.5	107	50	33	26.8	30.3	28.3	6.3	7.5	4.2	G1/2	G1/4	G1/8	M5	M12x 1	157	131.6

Type	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	L1	L2	L3	L4	L5	L6	L7	L8
VSVA-B-...A1	79	65	57.5	42.5	12.5	27.5	28	15.5	24.5	3.5	54 + nx 27	107.5	nx 27	27	11	21	8	4
VSVA-B-M52-...A1	79	65	57.5	42.5	12.5	27.5	28	15.5	24.5	3.5	54 + nx 27	107.5	nx 27	27	11	21	8	4
VSVA-B-...A1-R2L	79	65	57.5	42.5	12.5	27.5	28	15.5	24.5	3.5	54 + nx 27	107.5	nx 27	27	11	21	8	4
VSVA-B-...A1-R5L	79	65	57.5	42.5	12.5	27.5	28	15.5	24.5	3.5	54 + nx 27	107.5	nx 27	27	11	21	8	4

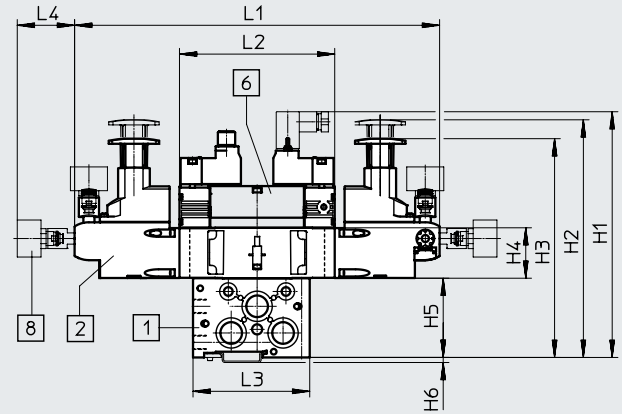
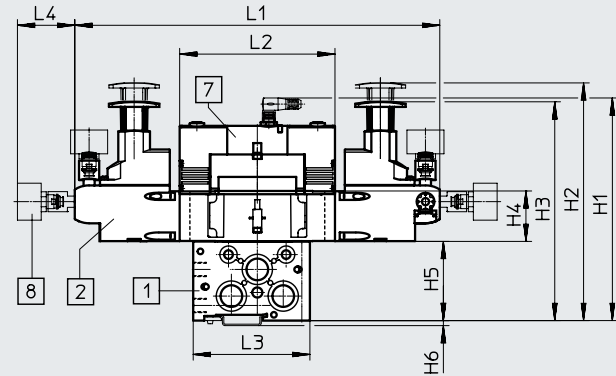
Data sheet

Dimensions - Pressure regulator

Download CAD data → www.festo.com

Valve size 18 mm with manifold sub-base and solenoid valve with central plug

Valve size 18 mm with manifold sub-base and solenoid valve with central plug to ISO 15218

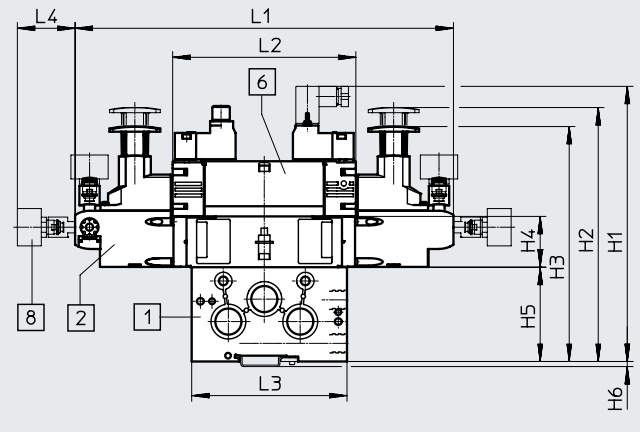
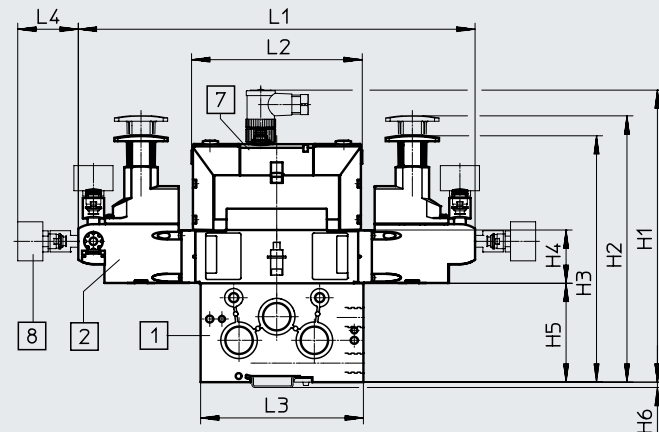


- [1] Manifold sub-base NAW
- [2] Regulator plate
- [7] Solenoid valve VSVA
- [8] Pressure gauge, freely positionable

- [1] Manifold sub-base NAW
- [2] Regulator plate
- [6] Solenoid valve VSVA
- [8] Pressure gauge, freely positionable

Valve size 26 mm with manifold sub-base and solenoid valve with central plug

Valve size 26 mm with manifold sub-base and solenoid valve with central plug to ISO 15218



- [1] Manifold sub-base NAW
- [2] Regulator plate
- [7] Solenoid valve VSVA
- [8] Pressure gauge, freely positionable

- [1] Manifold sub-base NAW
- [2] Regulator plate
- [6] Solenoid valve VSVA
- [8] Pressure gauge, freely positionable

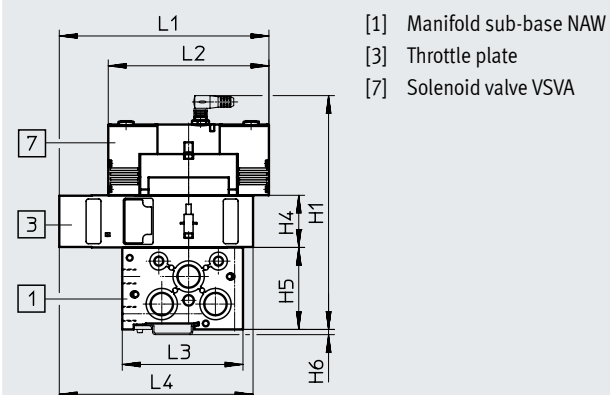
Valve size [mm]	Solenoid valve	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4
18	With central plug	156.8	165	152	35	55	3.5	253.4	107.8	81	39.8
	With pilot interface to ISO 15218	170.6									
26	With central plug	192	175	162	35	65	3.5	260.7	112.5	107	39.8
	With pilot interface to ISO 15218	189.6							126.2		

Data sheet

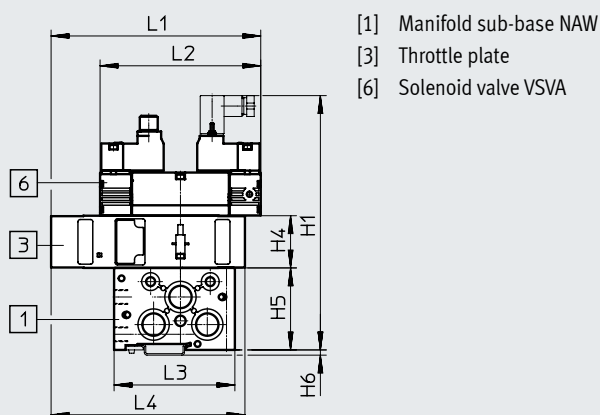
Dimensions – Throttle plate

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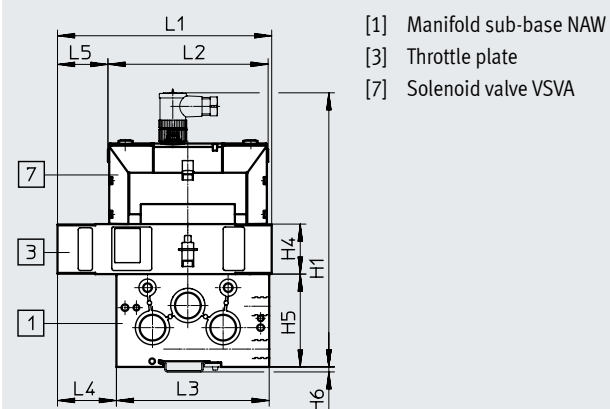
Valve size 18 mm with manifold sub-base and solenoid valve with central plug



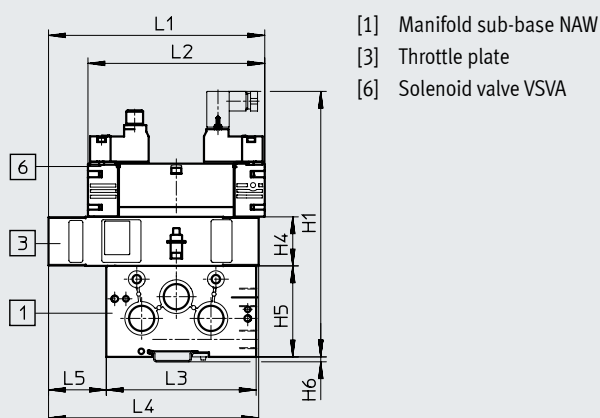
Valve size 18 mm with manifold sub-base and solenoid valve with central plug to ISO 15218



Valve size 26 mm with manifold sub-base and solenoid valve with central plug



Valve size 26 mm with manifold sub-base and solenoid valve with central plug to ISO 15218



Valve size [mm]	Solenoid valve	H1	H4	H5	H6	L1	L2	L3	L4	L5
18	With central plug	156.8	35	55	3.5	140.8	107.8	81	130	-
	With pilot interface to ISO 15218	170.6								
26	With central plug	192	35	65	3.5	150	112.5	107	41.3	35
	With pilot interface to ISO 15218	189.6								

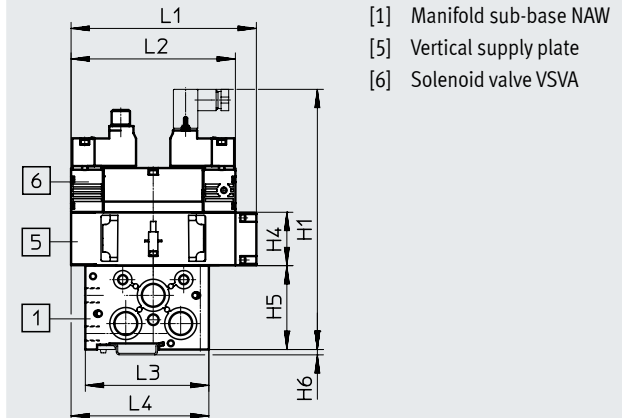
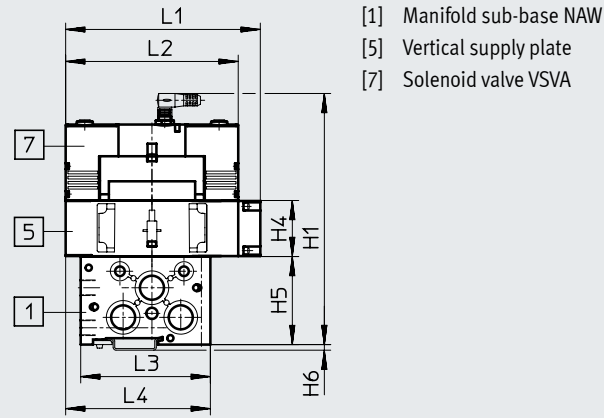
Data sheet

Dimensions – Vertical supply plate

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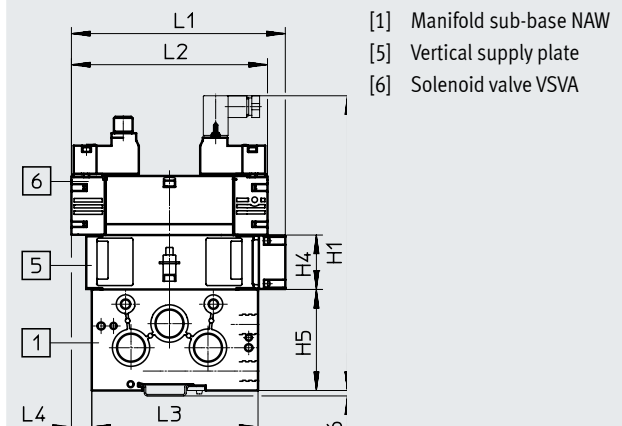
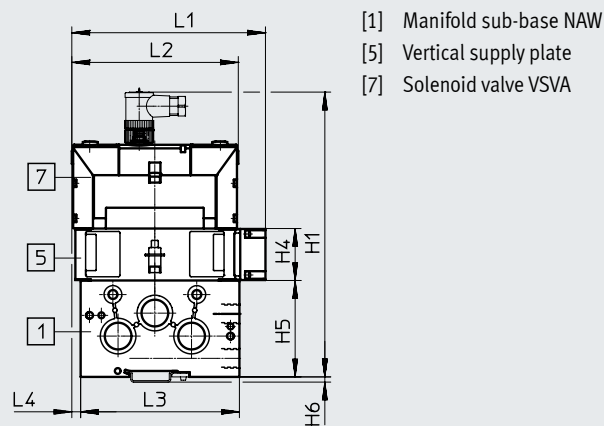
Valve size 18 mm with manifold sub-base and solenoid valve with central plug

Valve size 18 mm with manifold sub-base and solenoid valve with central plug to ISO 15218



Valve size 26 mm with manifold sub-base and solenoid valve with central plug

Valve size 26 mm with manifold sub-base and solenoid valve with central plug to ISO 15218



Valve size [mm]	Solenoid valve	H1	H4	H5	H6	L1	L2	L3	L4
18	With central plug	156.8	35	55	3.5	121.55	107.8	81	90.4
	With pilot interface to ISO 15218	170.6							
26	With central plug	192	35	65	3.5	130.8	112.5	107	6.3
	With pilot interface to ISO 15218	189.6				137.7	126.2		13.1

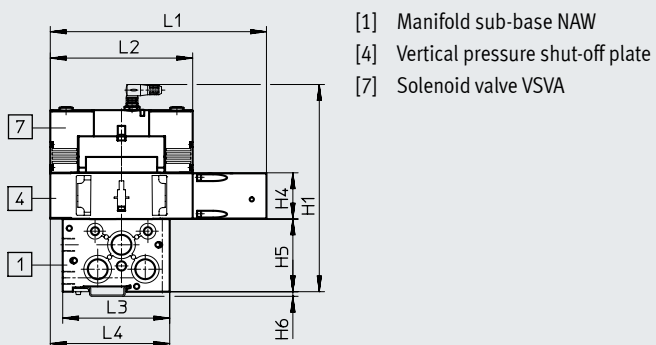
Data sheet

Dimensions – Vertical pressure shut-off plate

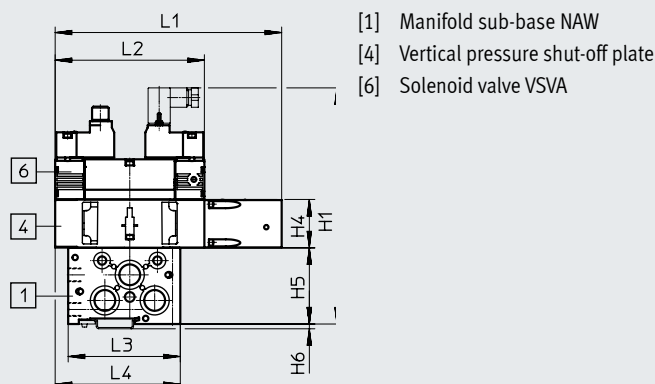
Download CAD data → www.festo.com

Valve size 18 mm with manifold sub-base and solenoid valve with central plug

Valve size 18 mm with manifold sub-base and solenoid valve with central plug to ISO 15218



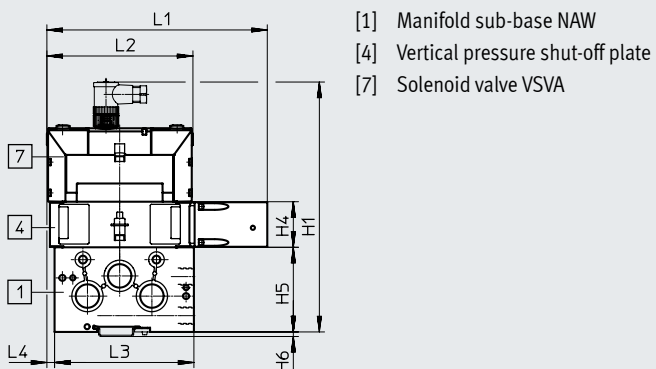
- [1] Manifold sub-base NAW
- [4] Vertical pressure shut-off plate
- [7] Solenoid valve VSVA



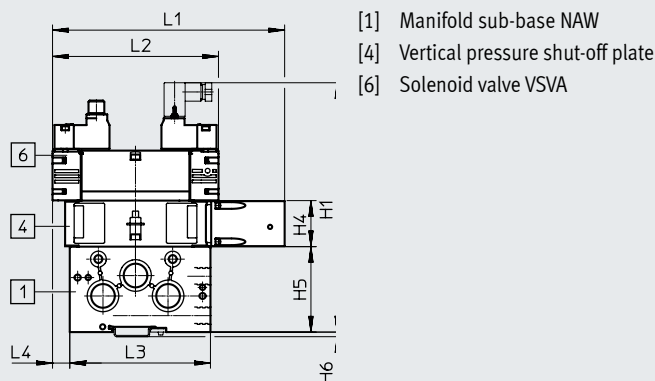
- [1] Manifold sub-base NAW
- [4] Vertical pressure shut-off plate
- [6] Solenoid valve VSVA

Valve size 26 mm with manifold sub-base and solenoid valve with central plug

Valve size 26 mm with manifold sub-base and solenoid valve with central plug to ISO 15218



- [1] Manifold sub-base NAW
- [4] Vertical pressure shut-off plate
- [7] Solenoid valve VSVA



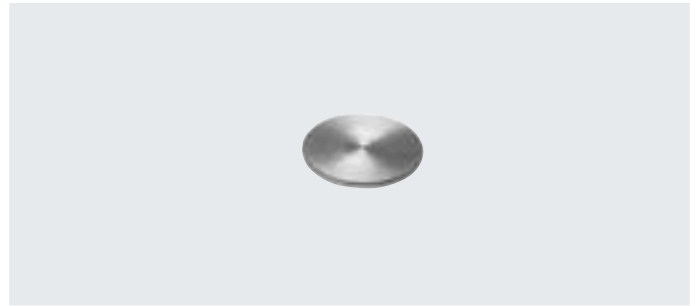
- [1] Manifold sub-base NAW
- [4] Vertical pressure shut-off plate
- [6] Solenoid valve VSVA

Valve size [mm]	Solenoid valve	H1	H4	H5	H6	L1	L2	L3	L4
18	With central plug	156.8	35	55	3.5	163.8	107.8	81	90.4
	With pilot interface to ISO 15218	170.6							
26	With central plug	192	35	65	3.5	169.7	112.5	107	6.3
	With pilot interface to ISO 15218	189.6							

Accessories

Isolating disc NSC

Materials:
Aluminium



Operating and environmental conditions

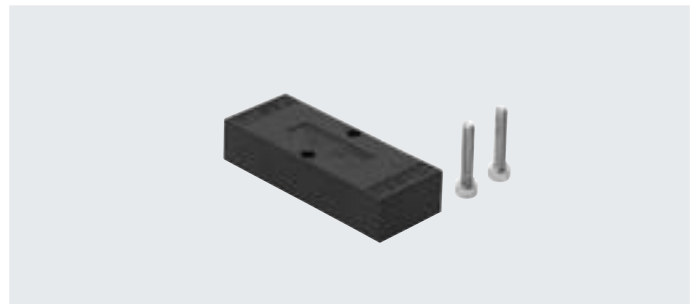
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

Ordering data

Description	Valve size [mm]	Weight [g]	Part no.	Type
Isolating disc for ports 1, 3, 5 (solenoid/pneumatic valves)	18	2	161113	NSC-3/8-02-VDMA
	26	2	161105	NSC-1/2-01-VDMA
Isolating disc for ports 12, 14 (pneumatic valves)	18	2	161106	NSC-1/8-01-VDMA
	26	2	161106	NSC-1/8-01-VDMA

Cover plate NDV

Materials:
Polymer
Free of copper and PTFE



Operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)

Ordering data

Description	Valve size [mm]	Weight [g]	Part no.	Type
Cover plate to seal spare or vacant valve positions	18	22	★ 161114	NDV-02-VDMA
	26	36	★ 161107	NDV-01-VDMA

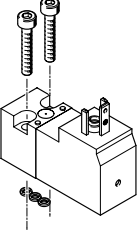
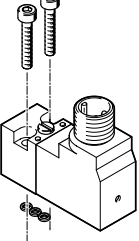

Festo core product range







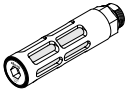
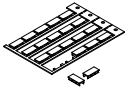

Generally ready for shipping ex works in 24 hours

Generally ready for shipping ex works in 5 days



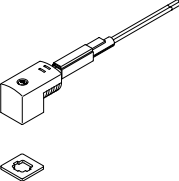


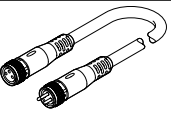
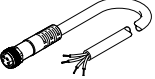
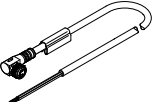
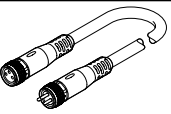
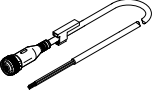
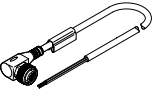
Accessories

Ordering data – Pilot valve to ISO 15218		Power		Voltage		Part no.	Type
		[W]	[VA]	[V DC]	[V AC]		
Plug, square design, type C EN 175301-803							
	Manual override non-detenting	1.8	–	12	–	546257	VSCS-B-M32-MH-WA-5C1
				24		546256	VSCS-B-M32-MH-WA-1C1
		–	3.1/2.3	–	24	546258	VSCS-B-M32-MH-WA-1AC1
			2.9/2.1		110	546259	VSCS-B-M32-MH-WA-2AC1
			2.9/2.1		230	546260	VSCS-B-M32-MH-WA-3AC1
	Non-detenting/detenting manual override	1.8	–	12	–	571062	VSCS-B-M32-MD-WA-5C1
				24		571061	VSCS-B-M32-MD-WA-1C1
		–	3.1/2.3	–	24	571063	VSCS-B-M32-MD-WA-1AC1
			2.9/2.1		230	571065	VSCS-B-M32-MD-WA-3AC1
			2.9/2.1		110	571064	VSCS-B-M32-MD-WA-2AC1
M12 plug IEC 61076-2-101							
	Non-detenting/detenting manual override	1.8	–	24	–	573215	VSCS-B-M32-MD-WA-1R3
	Manual override, detenting	1.8	–	24	–	573214	VSCS-B-M32-MH-WA-1R3
Tool for manual override							
	For manual override, detenting, with pilot valve VSCS-B-M32-MT					157601	AHB-MEB

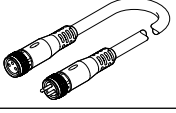
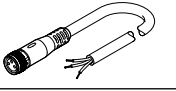
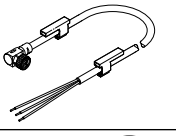
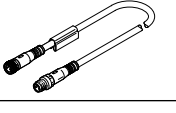
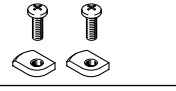
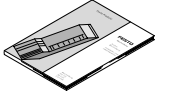
Accessories

Ordering data		Part no.	Type
Pressure gauge		Data sheets → Internet: pagn	
	With cartridge connection for regulator	0 ... 16 bar	543487 PAGN-26-16-P10
		0 ... 10 bar	543488 PAGN-26-10-P10
Cartridge for regulator plate		Data sheets → Internet: qsn	
	For tubing O.D.	4 mm	10 pieces 172972 QSP10-4
Push-in fitting		Data sheets → Internet: qsn	
	Connecting thread M5 for tubing O.D.	4 mm	10 pieces 153315 QSM-M5-4-I
		6 mm	10 pieces 153317 QSM-M5-6-I
	Connecting thread G1/8 for tubing O.D.	6 mm	10 pieces 186096 QS-G1/8-6
		8 mm	10 pieces 186098 QS-G1/8-8
	Connecting thread G1/4 for tubing O.D.	8 mm	10 pieces 186099 QS-G1/4-8
		10 mm	10 pieces 186101 QS-G1/4-10
	Connecting thread G3/8 for tubing O.D.	12 mm	10 pieces 186103 QS-G3/8-12
		16 mm	1 piece 186347 QS-G3/8-16
Connecting thread G1/2 for tubing O.D.	12 mm	1 piece 186104 QS-G1/2-12	
	16 mm	1 piece 186105 QS-G1/2-16	
Blanking plug		Data sheets → Internet: b	
	For sealing unused connections	For thread M5	10 pieces 3843 B-M5
		For thread G1/8	10 pieces 3568 B-1/8
		For thread G1/4	10 pieces 3569 B-1/4
		For thread G3/8	10 pieces 3570 B-3/8
		For thread G1/2	10 pieces 3571 B-1/2
Silencer		Data sheets → Internet: u	
	For reducing noise at exhaust ports	For thread G1/8	6841 U-1/8-B
		For thread G1/4	6842 U-1/4-B
		For thread G3/8	6843 U-3/8-B
		For thread G1/2	6844 U-1/2-B
Inscription label		Data sheets → Internet: ibs	
	Inscription label, 9x20 mm, for valves	In frames	24 pieces 18182 IBS-9x20
Inscription label holder		Data sheets → Internet: ascf	
	Clip-on inscription label holder for valve cap, for pneumatic valves VSPA	5 pieces	540888 ASCF-T-S6

Accessories

Ordering data		Part no.	Type
Plug socket for plug pattern to EN 175301-803, type C		Data sheets → Internet: mssd	
	Via screw terminals	Cable connector Pg7	151687 MSSD-EB
		Cable connector M12	539712 MSSD-EB-M12
	With insulation displacement connection	Cable connector M14	192745 MSSD-EB-S-M14
Connecting cable for plug pattern to EN 175301-803, type C		Data sheets → Internet: kmeb	
	With LED signal status display	24 V DC 2.5 m	151688 KMEB-1-24-2.5-LED
		24 V DC 5 m	151689 KMEB-1-24-5-LED
		24 V DC 10 m	193457 KMEB-1-24-10-LED
	Without signal status display	Up to 240 V 2.5 m	151690 KMEB-1-230AC-2.5
		Up to 240 V 5 m	151691 KMEB-1-230AC-5
Illuminating seal for connection pattern to EN 175301-803, type C		Data sheets → Internet: mebl-d	
	For displaying the signal status	12 ... 24 V DC	151717 MEB-LD-12-24DC
		230 V AC	151718 MEB-LD-230AC
Plug sockets for valves, round plug M12x1		Data sheets → Internet: necu	
	Angled socket, 4-pin, type A, screw terminal	Cable connector Pg7	12956 SIE-WD-TR
Connecting cable for valves with round plug M8x1		Data sheets → Internet: nebu	
	Modular system for a choice of connecting cables → Internet: nebu	0.1 ... 30 m	– NEBU-...
	Straight socket, 4-pin Open cable end, 4-pin	2.5 m	541342 NEBU-M8G4-K-2.5-LE4
		5 m	541343 NEBU-M8G4-K-5-LE4
	Angled socket, 4-pin Open cable end, 4-pin	2.5 m	541344 NEBU-M8W4-K-2.5-LE4
		5 m	541345 NEBU-M8W4-K-5-LE4
Connecting cable for valves with round plug M12x1		Data sheets → Internet: nebu	
	Modular system for a choice of connecting cables → Internet: nebu	0.1 ... 30 m	– NEBU-...
	Straight socket, 5-pin Open cable end, 4-wire	2.5 m	550326 NEBU-M12G5-K-2.5-LE4
		5 m	541328 NEBU-M12G5-K-5-LE4
	Angled socket, 5-pin Open cable end, 4-wire	2.5 m	550325 NEBU-M12W5-K-2.5-LE4
		5 m	541329 NEBU-M12W5-K-5-LE4

Accessories

Ordering data		Part no.	Type	
Connecting cable for electrical connection of the switching status sensor				
	Modular system for a choice of connecting cables → Internet: nebu	0.1 ... 30 m	– NEBU-...	
	Straight socket, M8x1, 3-pin Open end, 3-wire	2.5 m	541333 NEBU-M8G3-K-2.5-LE3	
		5 m	541334 NEBU-M8G3-K-5-LE3	
	Angled socket, M8x1, 3-pin Open end, 3-wire	–	2.5 m	541338 NEBU-M8W3-K-2.5-LE3
			5 m	541341 NEBU-M8W3-K-5-LE3
		Rotatable socket	2.5 m	8001660 NEBU-M8R3-K-2.5-LE3
			5 m	8001661 NEBU-M8R3-K-5-LE3
	Straight socket, M8x1, 3-pin Straight plug M8x1, 4-pin	2.5 m	554037 NEBU-M8G3-K-2.5-M8G4	
H-rail mounting				
	For end plate, valve size 18 mm	2 pieces	553996 VAME-S3-2-H	
	For end plate, valve size 26 mm	2 pieces	553995 VAME-S3-1-H	
User documentation				
	Valve manifold assembly VTIA	German	538928 P.BE-VTIA-EN	
		English	538929 P.BE-VTIA-EN	
		French	538931 P.BE-VTIA-FR	
		Spanish	538930 P.BE-VTIA-ES	
		Italian	538932 P.BE-VTIA-IT	