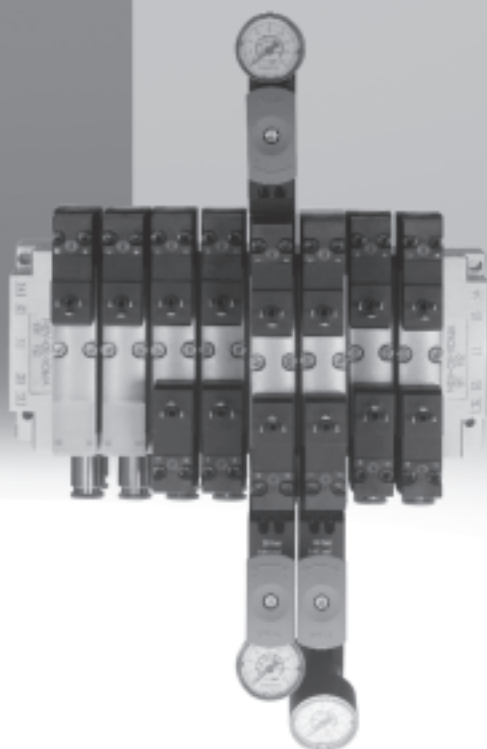


Solenoid/pneumatic valves, ISO 15407-1

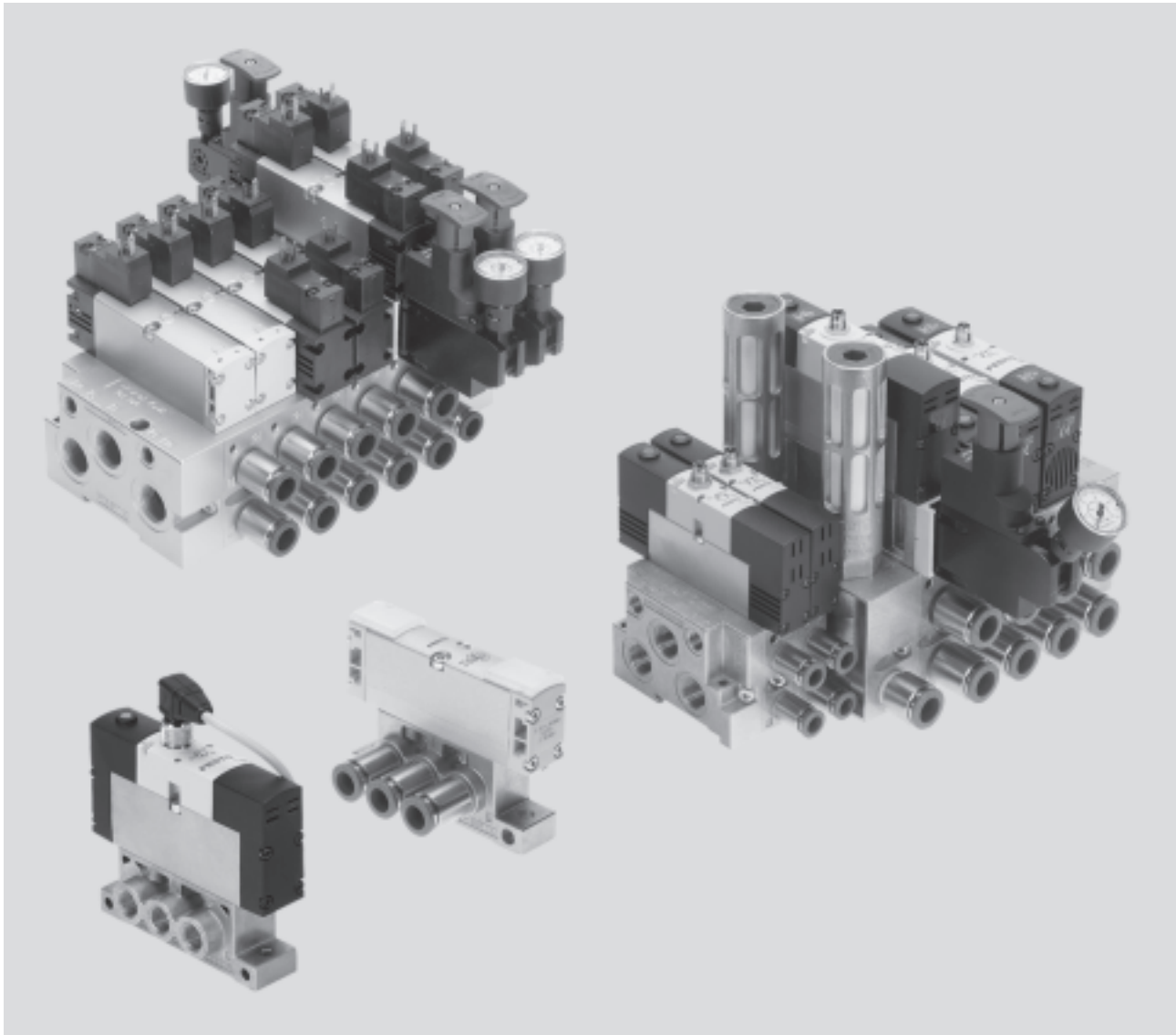
FESTO



Solenoid valves VSVA, ISO 15407-1

Key features

FESTO



Innovative

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

Flexible

- Modular system offering a range of configuration options
- Conversions and extensions are possible at any time
- Integration of innovative function modules possible
 - Pressure regulator plate
 - Flow control plate
 - Vertical 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
 - Horizontal stacking plates
 - Vertical stacking plates
- Fast troubleshooting thanks to LED in the plug socket or illuminating seal
- LED integrated in the valve with the round plug variant
- Reliability of service thanks to valves that can be replaced easily and quickly
- Manual override
- Durable thanks to the use of tried-and-tested piston spool valves

Easy to assemble

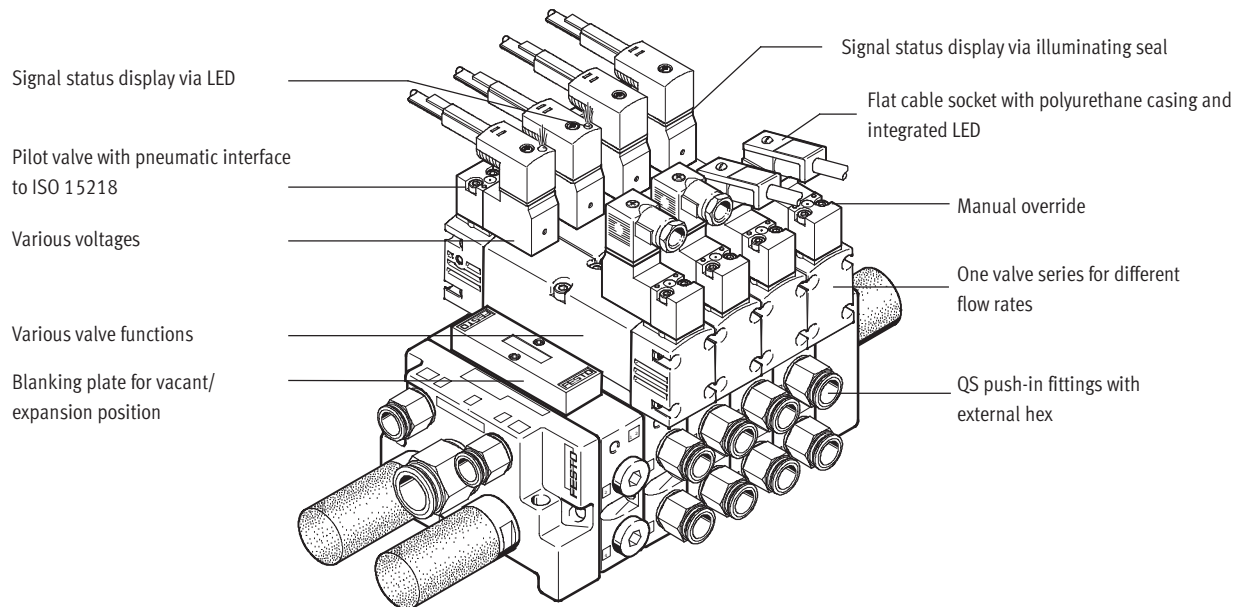
- Secure wall mounting or H-rail mounting
- Combi manifolds of width 18 mm and 26 mm
- Plug-in pressure gauges on the pressure regulator

Solenoid valves VSVA, ISO 15407-1

Key features

FESTO

Individual valve manifold



Equipment options

5/2-way valve

- Single solenoid, pneumatic or spring return
- Bistable, double solenoid valve
- Bistable, 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, double solenoid

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

Special features

Operation with external pilot air

- For vacuum applications
- For working pressures lower than 3 bar
- For pressure fluctuations in the power section. Power section and pneumatic control section are decoupled
- For strongly lubricated air in the power section
- 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

Operation with internal pilot air

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

Reverse operation with pressure 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 overlapping with the reversible variant

Reverse operation with a pressure 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 outputs 2 and 4
 - A regulator for output A
 - 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
 - Venting not via the regulator

Solenoid valves VSVA, ISO 15407-1

Key features

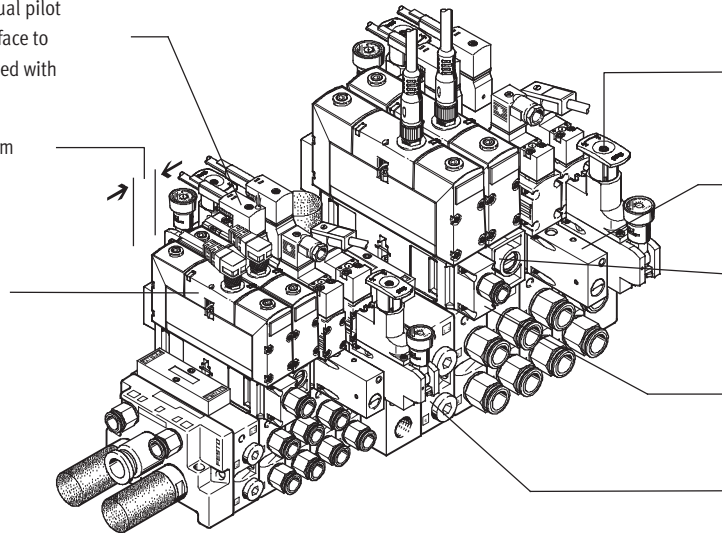
FESTO

Valve manifold with combination of sizes and vertical stacking

Solenoid valve with individual pilot valves and pneumatic interface to ISO 15218. Can be connected with square plug sockets

Widths of 18 mm and 26 mm can be combined

Solenoid valve with central round plug



Pressure regulator for adjusting the force of the actuated drive

Pressure shut-off plate for solenoid valve replacement during operation

Flow control plate in the valve manifold for adjusting the speed of the drive

Supply plate for compressed air supply of a control chain as a separate pressure zone

Intermediate plate as interface between width 18 mm and width 26 mm

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

Flow control plate

- Designed with two flow control valves, on which the exhaust air flow rate at exhausts 5 or 3 can be adjusted. The movement of the drive can thus be initiated and the desired speed set on the manifold using the manual override

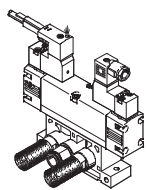
Vertical shut-off plate

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

Vertical supply plate

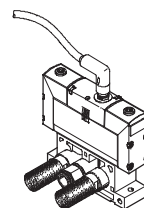
- As additional air supply for one valve
- To supply a third pressure zone

Individual connection with square plug, type C



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

Individual connection with central round plug

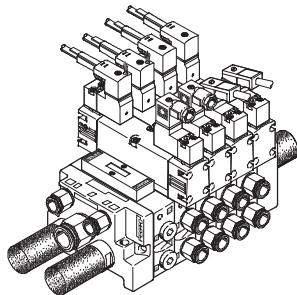


The electrical connection is established using a standardised M12 or M8 socket 24 V DC (EN 61076-2-101).

Solenoid valves VSVA, ISO 15407-1

Key features

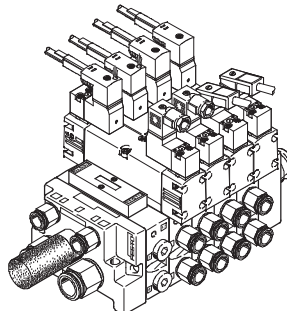
Individual valve manifold, directional control valves with square plug, type C



Variant

- Width 26 mm
- Vacant position
- Compressed air supply via duct 1
- External pilot air supply
- QS push-in fittings
- Venting via silencer for ducts 3 and 5

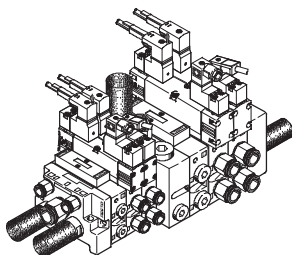
Individual valve manifold, pressure zones via ducts 3 and 5



Variant

- Width 26 mm
- Vacant position
- Compressed air supply via ducts 3 and 5
- External pilot air supply
- QS push-in fittings
- Venting via silencer

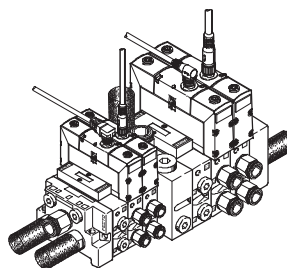
Valve manifold equipped with width 18 mm and 26 mm, directional control valves with square plug, type C



Variant

- Width 18 mm and 26 mm combined via intermediate plate
- Vacant positions
- Compressed air supply via duct 1
- External pilot air supply
- QS push-in fittings
- Venting via silencer for ducts 3 and 5 on the end plates and for duct 3 also on the intermediate plate

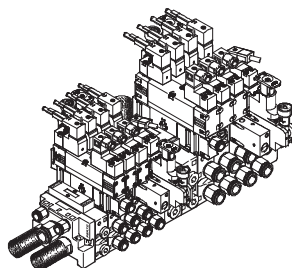
Valve manifold equipped with width 18 mm and 26 mm, directional control valves with central round plug



Variant

- Width 18 mm and 26 mm combined via intermediate plate
- Vacant positions
- Compressed air supply via duct 1
- Internal pilot air supply
- QS push-in fittings
- Venting via silencer for ducts 3 and 5 on the end plates and for duct 3 also on the intermediate plate

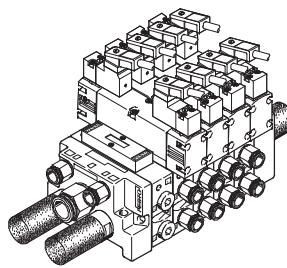
Maximum valve manifold expansion with all vertical stacking components



Variant

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

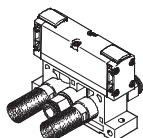
Individual valve manifold with cable routing in one direction



Variant

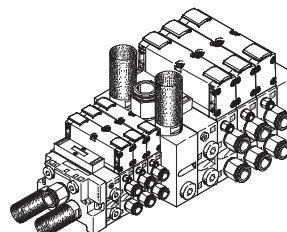
- Width 26 mm
- Solenoid coils 220 V DC
- Plug socket with cable KMEB-2
 - With plug socket with cable KMEB-1 the outgoing direction of the cable cannot be chosen with AC coils

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 or when there is only one drive available.

Valve manifold equipped with width 18 mm and 26 mm with pneumatically actuated directional control valves



Variant

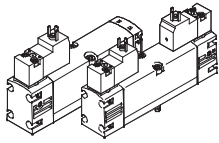
- Width 18 mm and 26 mm combined via intermediate plate
- Vacant positions
- Compressed air supply via duct 1
- QS push-in fittings
- Venting via silencer for ducts 3 and 5 on the end plates and for ducts 3 and 5 also on the intermediate plate

Solenoid valves VSVA, ISO 15407-1

Key features

FESTO

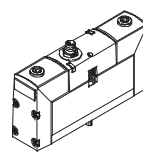
Solenoid valves with square plug, type C



Designs

- Width 18 and 26 mm
- 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

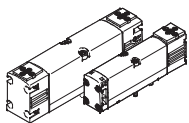
Solenoid valves with central round plug



Variants

- Width 18 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

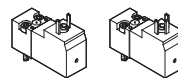
Basic valves with interface to ISO 15218



Variants

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

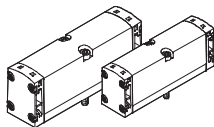
Pilot valve with interface to ISO 15218



Variants

- For 12, 24 V DC and 24 V AC without protective earth conductor
- For 110 and 220 V AC with protective earth conductor
- 3/2-way valve
- Manual override, non-detenting

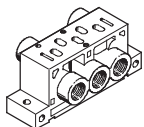
Pneumatically actuated directional control valves



Variants

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

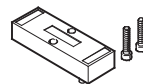
Individual sub-base



Variants

- Width 18 and 26 mm
- Ports 12 and 14 for external pilot air supply for solenoid valves and
- Ports signal inputs 12 and 14 for pneumatically actuated valves are the same

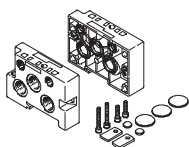
Blanking plate for vacant positions



Variants

- Width 18 and 26 mm

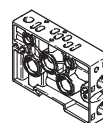
End plate kit



Variants

- Width 18 mm and 26 mm
- Ports 12 and 14 for external pilot air supply for solenoid valves
- For pneumatically actuated valves the signal inputs are only on the manifold sub-base suitable for this purpose

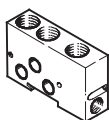
Manifold sub-base/series sub-base



Variants

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

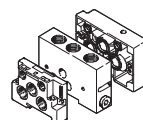
Intermediate plate



Variant

- Adapter between width 18 mm and 26 mm
- With additional air supply port and exhaust ports

Intermediate plate kit



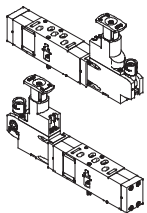
Variant

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

Solenoid valves VSVA, ISO 15407-1

Key features

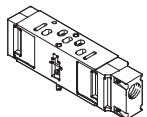
Pressure regulator plate with one pressure regulator



Variants

- Width 18 mm and 26 mm
- For pressure regulation on the supply input 1(P). Set pressure is the same for output 2 and 4
- For pressure regulation on the working port 4 (A)
 - The pressure regulators for reverse operation are supplied via port 1 of the sub-base and supply port 5 on the directional control valve
 - The directional control valve vents via port 1 to port 3 and 5 of the sub-base.
- For pressure regulation on the working port 2 (B)
 - In reverse operation input 3 is supplied here

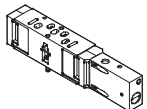
Vertical supply plate



Variants

- Width 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

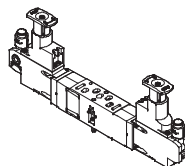
Vertical shut-off plate



Variants

- Width 18 mm and 26 mm
- A switch activated with a slotted head screwdriver shuts off duct 1.
 - The overlying flow control plates, pressure regulator plates or directional control valves can be replaced
 - Other components of the control chain such as drives, for example, can be replaced following venting via the directional control valve

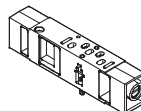
Pressure regulator plate with two pressure regulators



Variants

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

Flow control plate



Variants

- Width 18 mm and 26 mm
- Exhaust air restriction in ducts 3 and 5
 - For pressure zones that are formed via ducts 3 and 5 the flow control plates function as supply air restrictors

Pressure gauge



Variant

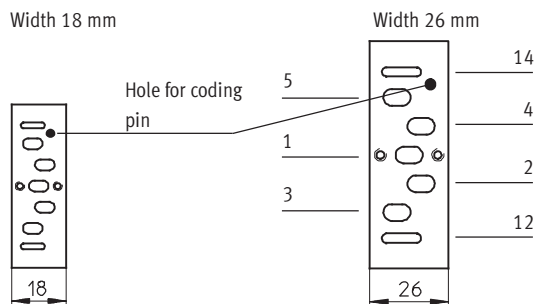
- Can be connected to the pressure regulator plates

Solenoid valves VSVA, ISO 15407-1

Key features

FESTO

Port pattern on sub-base to ISO 15407-1



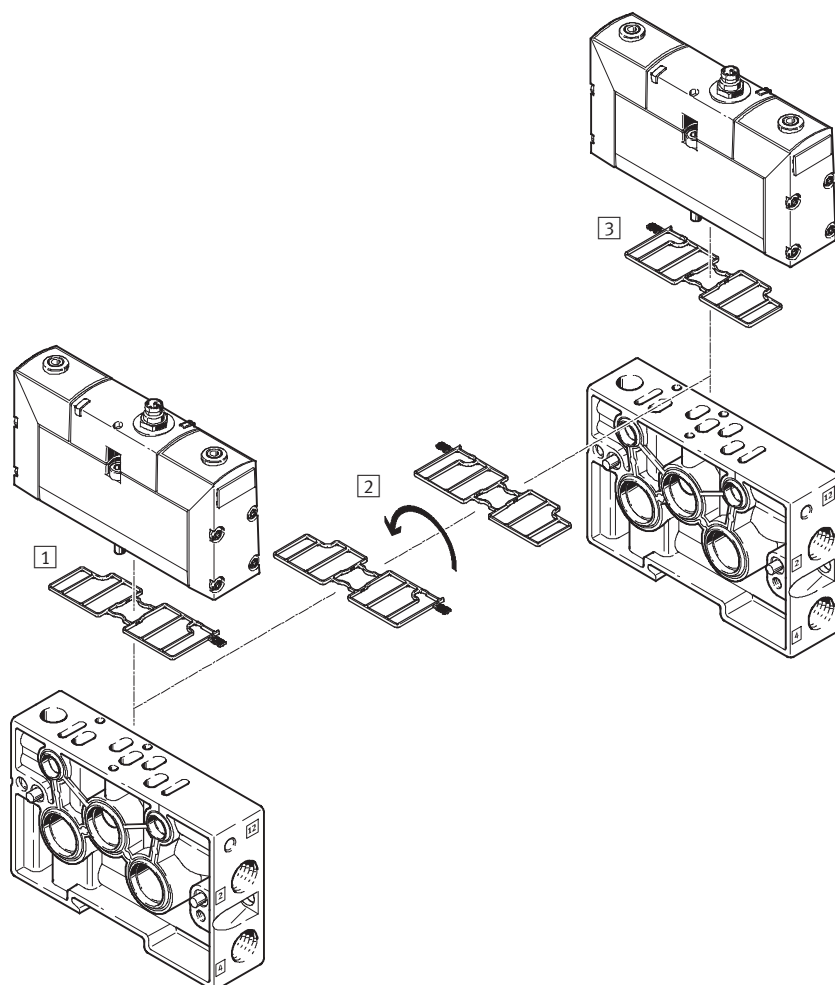
VSVA

Conversion of pilot air venting

VSVA valve manifolds are supplied with unducted ventilation of the pilot air. By turning the seal between the

valve and manifold block, ventilation (pilot air) can be diverted into the

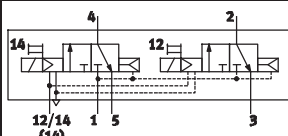
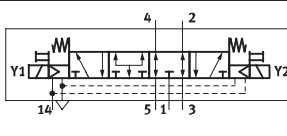
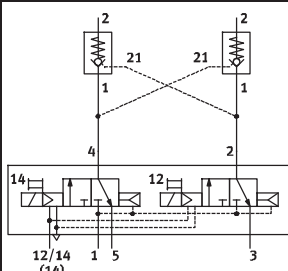
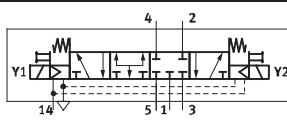
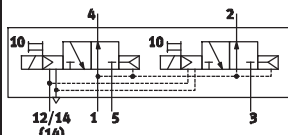
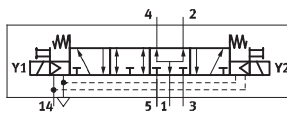
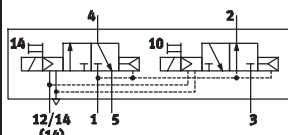
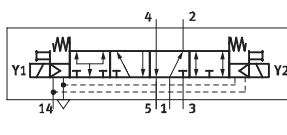
pilot duct 12 and it can thus be contained and silenced (see Figure).



- 1 Ducted pilot air venting
- 2 Turning of seal by 180°
- 3 Unducted pilot air venting (as supplied)

Solenoid valves VSVA, ISO 15407-1

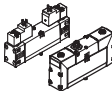
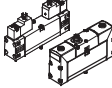
Key features

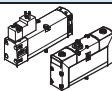
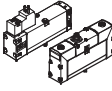
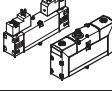
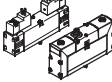
Application of 2x 3/2-way valve as 5/4-way valve																			
Code	Circuit symbol	Value table	Equivalent circuit symbol	Function															
K		<table><tr><th>Y1</th><th>Y2</th><th>A</th></tr><tr><td>0</td><td>0</td><td></td></tr><tr><td>0</td><td>1</td><td></td></tr><tr><td>1</td><td>0</td><td></td></tr><tr><td>1</td><td>1</td><td></td></tr></table>	Y1	Y2	A	0	0		0	1		1	0		1	1			• Normally exhausted • A 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 present 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><tr><th>Y1</th><th>Y2</th><th>A</th></tr><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></table>	Y1	Y2	A	0	0		0	1		1	0		1	1			• Normally closed (by combining directional control valve code K and two piloted non-return valves) • The piloted non-return 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 non-return valves leak-tight • The drive stops when the forces are in equilibrium • Leakages can only occur via the drive seals • If there is a signal present 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><tr><th>Y1</th><th>Y2</th><th>A</th></tr><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></table>	Y1	Y2	A	0	0		0	1		1	0		1	1			• Normally open • A double-acting drive connected to outputs 2 and 4 is fed 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 present 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><tr><th>Y1</th><th>Y2</th><th>A</th></tr><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></table>	Y1	Y2	A	0	0		0	1		1	0		1	1			• Normally open after output 2 • A double-acting drive connected to outputs 2 and 4 is fed with compressed air via output 2 when the valve is in the normal position. Output 4 is exhausted. The drive is thus in a clearly defined position in the initial position, as would also be the case with a single solenoid 5/2-way valve • If there is a signal present at Y1(14) and Y2(10), output 2 is exhausted and pressure is fed to output 4. The drive leaves the initial position • With this 2x 3/2-way valve a closed circuit can be created by combining it with piloted non-return valves. However, this is then selected by an active signal at Y2(10)
Y1	Y2	A																	
0	0																		
0	1																		
1	0																		
1	1																		

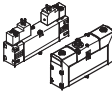
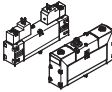
859.Solenoid valves VSVA, ISO 15407-1

Product range overview

FESTO

Function	Version	Type	Flow rate of valve	Working port on the sub-base		Operating voltage				
						[V DC]		[V AC]		
			[l/min]	G½	G¼	12	24	24	110	230
2x 3/2-way valves in one housing	Width 18 mm, single solenoid valve									
		VSVA-B-T32...A2...C...	550	■	–	■	■	■	■	■
		VSVA-B-T32...A2...R...	550	■	–	–	■	–	–	–
	Width 26 mm, single solenoid valve									
		VSVA-B-T32...A1...C...	1,250	–	■	■	■	■	■	■
		VSVA-B-T32...A1...R...	1,250	–	■	–	■	–	–	–

Function	Version	Type	Flow rate of valve	Working port on the sub-base		Operating voltage				
						[V DC]		[V AC]		
			[l/min]	G½	G¼	12	24	24	110	230
5/2-way valve, single solenoid	Width 18 mm, single solenoid valve									
		VSVA-B-M52...A2...C...	700	■	–	■	■	■	■	■
		VSVA-B-M52...A2...R...	700	■	–	–	■	–	–	–
	Width 26 mm, single solenoid valve									
		VSVA-B-M52...A1...C...	1,400	–	■	■	■	■	■	■
		VSVA-B-M52...A1...R...	1,400	–	■	–	■	–	–	–
5/2-way valve, double solenoid	Width 18 mm, double solenoid valve									
		VSVA-B-B52...A2...C...	700	■	–	■	■	■	■	■
		VSVA-B-B52...A2...R...	700	■	–	–	■	–	–	–
	Width 26 mm, double solenoid valve									
		VSVA-B-B52...A1...C...	1,400	–	■	■	■	■	■	■
		VSVA-B-B52...A1...R...	1,400	–	■	–	■	–	–	–

Function	Version	Type	Flow rate of valve	Working port on the sub-base		Operating voltage				
			[l/min]	G½	G¼	[V DC]		[V AC]		
						12	24	24	110	230
5/3-way valve, single solenoid	Width 18 mm, mid-position valve									
		VSVA-B-P53...A2...C...	650	■	–	■	■	■	■	■
		VSVA-B-P53...-A2...R...	650	■	–	–	■	–	–	–
	Width 26 mm, mid-position valve									
		VSVA-B-P53...A1...C...	1,400	–	■	■	■	■	■	■
		VSVA-B-P53...A1...R...	1,400	–	■	–	■	–	–	–

860.Solenoid valves VSVA, ISO 15407-1

Product range overview

Type	Plug			Pilot air		Pneumatic, spring return	Normal position			➔ Page/Internet
	Square	Central round		In- ter- nal	Ex- ter- nal		2x closed	2x open	1x open 1x closed	
	MEB	M8x1	M12x1							
Width 18 mm, single solenoid valve										
VSVA-B-T32...A2...C...	■	–	–	■	■	■	■	■	■	20
VSVA-B-T32...-A2...R...	–	■	■	■	■	■	■	■	■	36
Width 26 mm, single solenoid valve										
VSVA-B-T32...A1...C...	■	–	–	■	■	■	■	■	■	28
VSVA-B-T32...A1...R...	–	■	■	■	■	■	■	■	■	41

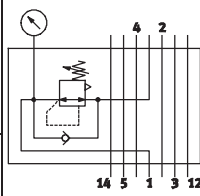
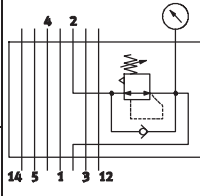
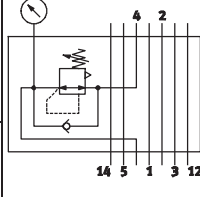
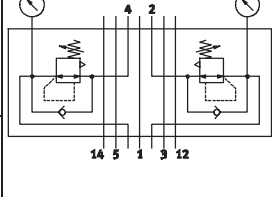
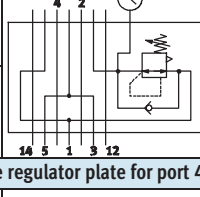
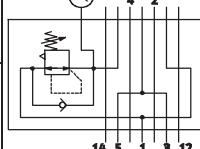
Type	Plug			Pilot air supply		Spring return		Signal processing			➔ Page/Internet
	Square	Central round		Internal	External	Pneu- matic	Mechan- ical	Single sole- noid	Double solenoid/ dominant		
	MEB	M8x1	M12x1						1st signal	At 14	
Width 18 mm, single solenoid valve											
VSVA-B-M52...A2...C...	■	–	–	■	■	■	■	■	–	–	20
VSVA-B-M52...A2...R...	–	■	■	■	■	■	■	■	–	–	36
Width 26 mm, single solenoid valve											
VSVA-B-M52...A1...C...	■	–	–	■	■	■	■	■	–	–	28
VSVA-B-M52...A1...R...	–	■	■	■	■	■	■	■	–	–	41
Width 18 mm, double solenoid valve											
VSVA-B-B52...A2...C...	■	–	–	■	■	–	–	–	■	■	20
VSVA-B-B52...A2...R...	–	■	■	■	■	–	–	–	■	■	36
Width 26 mm, double solenoid valve											
VSVA-B-B52...A1...C...	■	–	–	■	■	–	–	–	■	■	28
VSVA-B-B52...A1...R...	–	■	■	■	■	–	–	–	■	■	41

Type	Plug			Pilot air supply		Normal position			➔ Page/Internet
	Square	Central round		Internal	External	Closed	Exhausted	Open	
	MEB	M8x1	M12x1						
Width 18 mm, mid-position valve									
VSVA-B-P53...A2...C...	■	–	–	■	■	■	■	■	20
VSVA-B-P53...-A2...R...	–	■	■	■	■	■	■	■	36
Width 26 mm, mid-position valve									
VSVA-B-P53...A1...C...	■	–	–	■	■	■	■	■	28
VSVA-B-P53...-A1...R...	–	■	■	■	■	■	■	■	41

861.Solenoid valves VSVA, ISO 15407-1

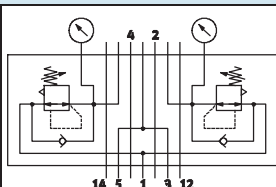
Product range overview

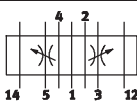
FESTO

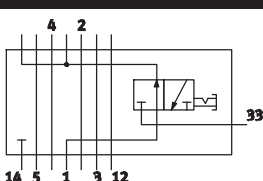
Vertical stacking – Pressure regulator plate								
Code	Circuit symbol	Type	Width		Supply pressure		Description	→ Page/Internet
			18 mm	26 mm	6 bar	10 bar		
Pressure regulator plate for port 1								
ZA		VABF-S3-...-R1C2-C-10	■	■	–	■	- Regulates the operating pressure in duct 1 upstream of the directional control valve - Cannot be combined with reversible 2x 3/2-way valves (code P, Q, R)	Width 18 46 Width 26 51
ZF		VABF-S3-...-R1C2-C-6	■	■	■	–		
Pressure regulator plate for port 2								
ZC		VABF-S3-...-R2C2-C-10	■	■	–	■	- Regulates the operating pressure in duct 2 downstream of the directional control valve - Cannot be combined with reversible 2x 3/2-way valves (code P, Q, R)	Width 18 46 Width 26 51
ZH		VABF-S3-...-R2C2-C-6	■	■	■	–		
Pressure regulator plate for port 4								
ZB		VABF-S3-...-R3C2-C-10	■	■	–	■	- Regulates the operating pressure in duct 4 downstream of the directional control valve - Cannot be combined with reversible 2x 3/2-way valves (code P, Q, R)	Width 18 46 Width 26 51
ZG		VABF-S3-...-R3C2-C-6	■	■	■	–		
Pressure regulator plate for ports 2 and 4								
ZD		VABF-S3-...-R4C2-C-10	■	■	–	■	- Regulates the operating pressure in ducts 2 and 4 downstream of the directional control valve - Cannot be combined with reversible 2x 3/2-way valves (code P, Q, R)	Width 18 46 Width 26 51
ZI		VABF-S3-...-R4C2-C-6	■	■	■	–		
Pressure regulator plate for port 2, reversible								
ZL		VABF-S3-...-R6C2-C-10	■	■	–	■	• Reversible pressure regulator for port 2	Width 18 46 Width 26 51
ZN		VABF-S3-...-R6C2-C-6	■	■	■	–		
Pressure regulator plate for port 4, reversible								
ZK		VABF-S3-...-R7C2-C-10	■	■	–	■	• Reversible pressure regulator for port 4	Width 18 46 Width 26 51
ZM		VABF-S3-...-R7C2-C-6	■	■	■	–		

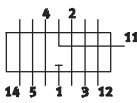
862.Solenoid valves VSVA, ISO 15407-1

Product range overview

Vertical stacking – Pressure regulator plate								
Code	Circuit symbol	Type	Width		Supply pressure		Description	➔ Page/Internet
			18 mm	26 mm	6 bar	10 bar		
Pressure regulator plate for ports 2 and 4, reversible								
ZE		VABF-S3-...-R5C2-C-10	■	■	–	■	• Reversible pressure regulator for ports 2 and 4 • Pressure regulation upstream of the valve • Redirects the operating pressure from duct 1 to ducts 3 and 5	Width 18 46 Width 26 51
ZJ		VABF-S3-...-R5C2-C-6	■	■	■	–	• Routes the exhaust air from duct 1 to ducts 3 and 5 • Can be combined with reversible 2x 3/2-way valves (code P, Q, R)	

Vertical stacking – Flow control plate							
Code	Circuit symbol	Type	Width		Description		→ Page/Internet
			18 mm	26 mm			
X		VABF-S3-...F1B1-C	■	■	Controls the flow of exhaust air downstream of the valve to ducts 3 and 5		Width 18 48 Width 26 54

Vertical stacking – Vertical shut-off plate							
Code	Circuit symbol	Type	Width		Description		→ Page/Internet
			18 mm	26 mm			
ZT		VABF-S3-...L1D1-C	■	■	2/2-way valve for shutting off the operating pressure at the valve position - Blocks ducts 12 and 14 for the valve position - Supplies the valve position with internal pilot air		Width 18 50 Width 26 56

Vertical stacking – Vertical supply plate							
Code	Circuit symbol	Type	Width		Description		→ Page/Internet
			18 mm	26 mm			
ZU		VABF-S3-...P1A3-...	■	■	Plate with port 11 for supplying individual operating pressure to a valve position		Width 18 49 Width 26 55

Solenoid valves VSVA, ISO 15407-1

Type codes

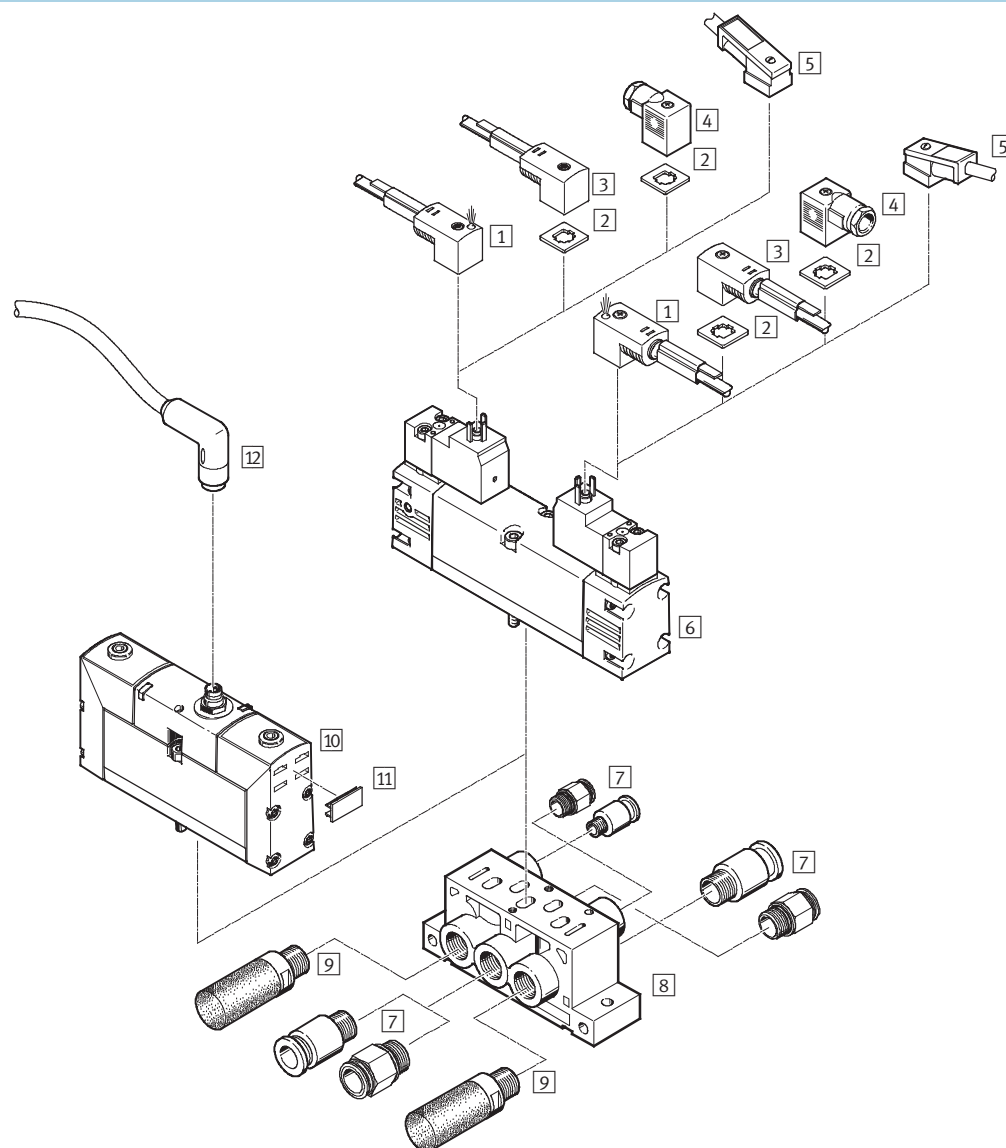
FESTO

VSVA		-	B	-	T	32	C	-	A	Z	H	-	A1	-	1	C1	
Valve family																	
VSVA	Standard valves ISO 15407-1/-2																
Valve type																	
B	Sub-base valve																
Valve function																	
M	Single solenoid																
B	Double solenoid																
D	Double solenoid with dominance at 14																
P	Double solenoid, mid-position																
T	2 single solenoid valves in one housing																
Connections / switching positions																	
32	3/2-way valve																
52	5/2-way valve																
53	5/3-way valve																
Normal position																	
C	Closed																
N	Code T with 2x closed, reverse operation																
U	Open																
F	Code T with 2x open, reverse operation																
E	Exhausted																
H	Code T with 1x open, 1x closed																
W	Code T with 1x open, 1x closed, reverse operation																
	Double solenoid valve																
Reset method																	
A	Pneumatic spring																
M	Mechanical spring																
	Double solenoid valve																
Pilot air supply																	
Z	External																
	Internal																
Manual override																	
H	Pushing (non-detenting)																
Standard																	
A1	ISO size 01, width 26 mm																
A2	ISO size 02, width 18 mm																
Operating voltage																	
1	24 V DC																
1A	24 V AC																
2A	110 V AC																
3A	230 V AC																
5	12 V DC																
Electrical connection																	
C1	Type C to DIN EN 175301-803																
R2	Central plug M8x1																
R5	Central plug M12x1																
Signal status display																	
L	LED (integrated)																

Solenoid valves VSVA, ISO 15407-1

Peripherals overview

Individual mounting



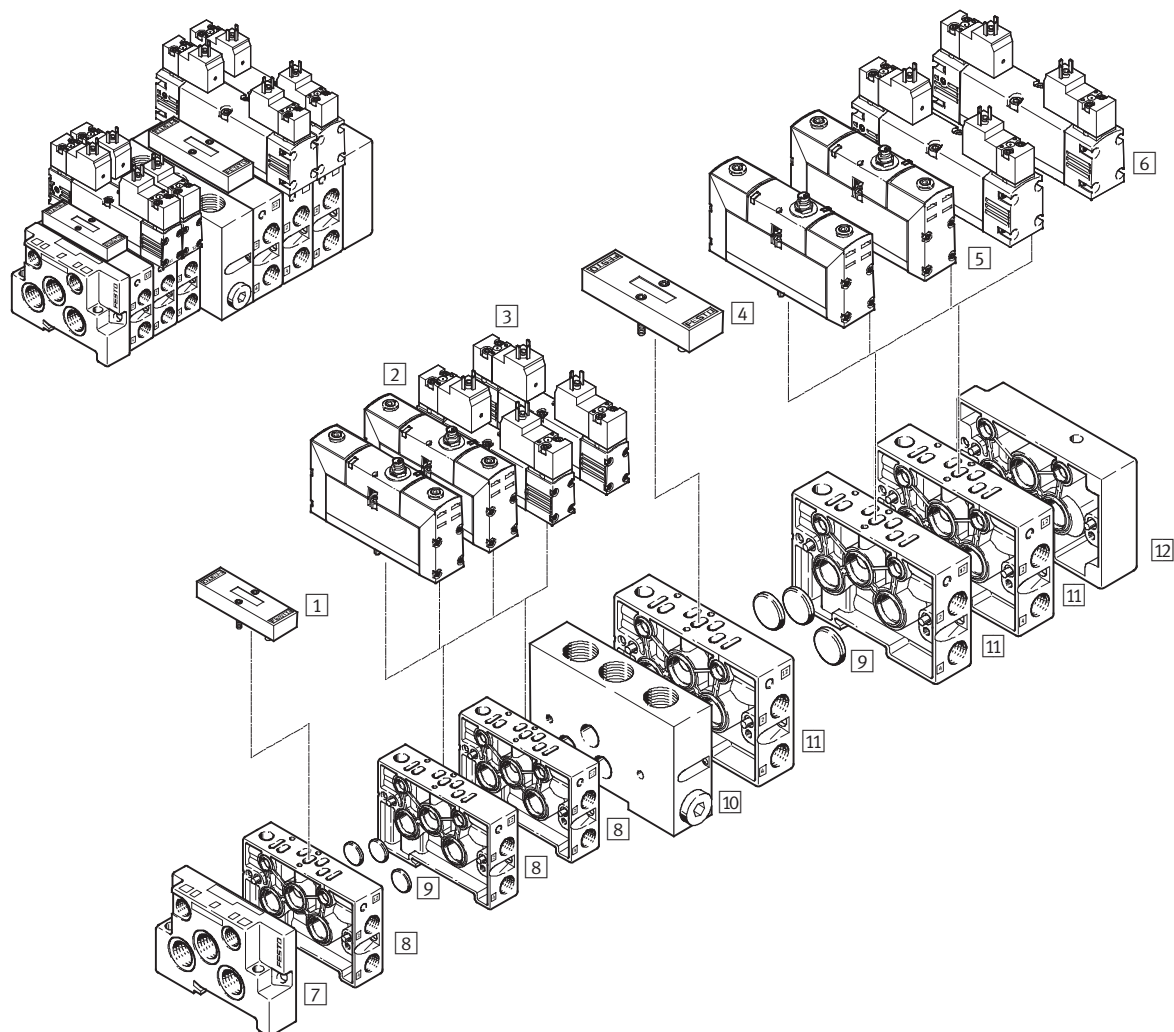
Component parts			
	Type	Brief description	→ Page/Internet
1	Plug socket with cable	KMEB1-...-LED	With PVC casing and LED
2	Illuminating seal	MEB-LD	For indicating the signal status
3	Plug socket with cable	KMEB1-...	With PVC casing
4	Plug socket	MSSD-EB	–
5	Plug socket with cable	KMEB2-...-LED	With polyurethane casing and LED
6	Solenoid valve	VSVA-...C-...	With interface to ISO 15218 and plug pattern type C
7	Push-in fitting	QS-...	For standard O.D. tubing
8	Individual sub-base	NAS-...	With lateral ports
9	Silencer	U-...	For fitting in exhaust ports
10	Solenoid valve	VSVA-...R-...	With round plug
11	Inscription labels	IBS-9x20	For identifying the VSVA valves with round plug
12	Plug socket with cable	SIM-...	For valves with round plug

Solenoid valves VSVA, ISO 15407-1

System overview

FESTO

Manifold assembly

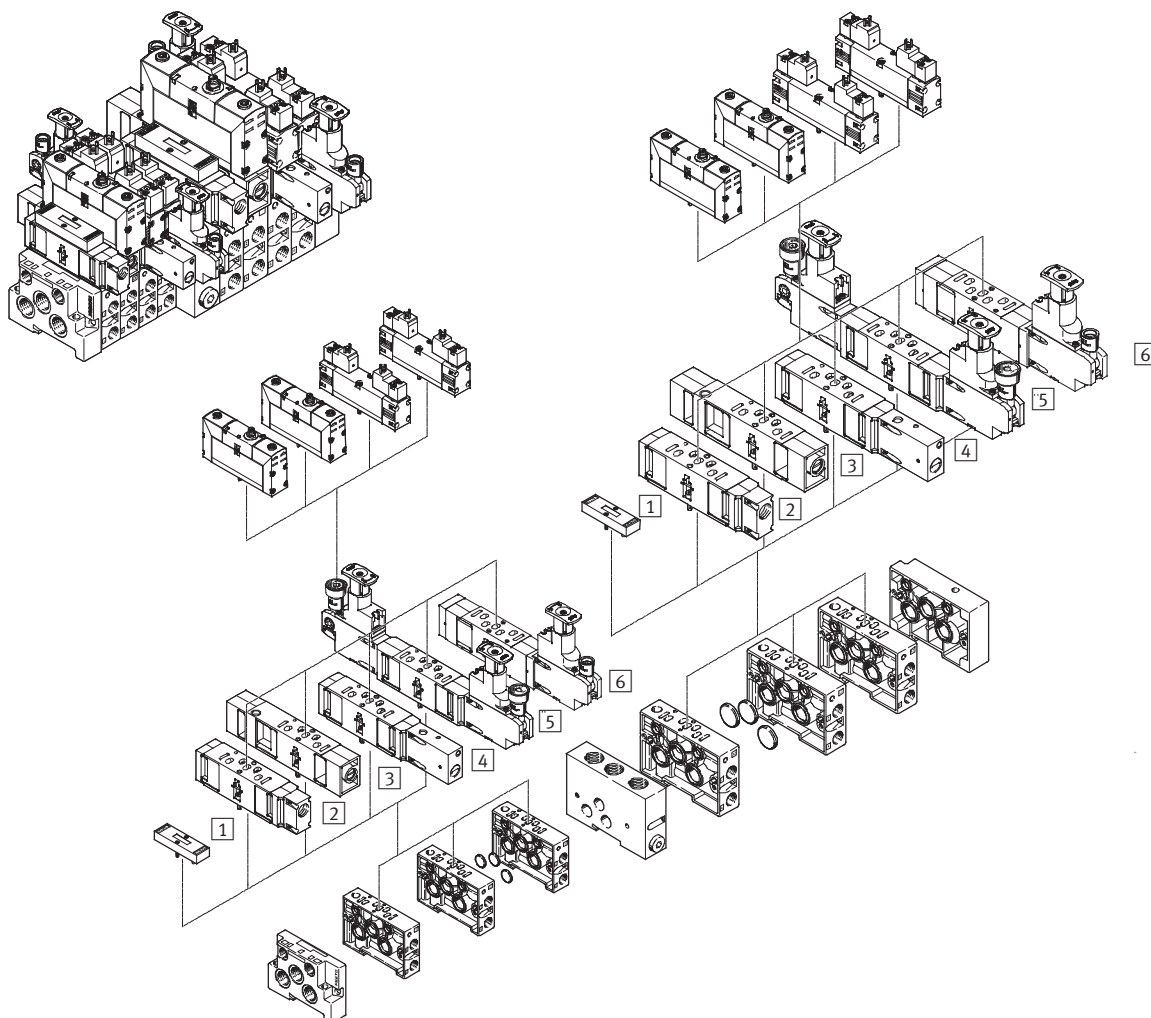


Component parts				
	Type	Brief description	➔ Page/Internet	
1	Blanking plate	NDV-02-VDMA	For width 18 mm, vacant or spare position	65
2	Solenoid valve	VSVA...A2...R...	Width 18 mm with round plug	36
3	Solenoid valve	VSVA...A2...C...	Width 18 mm with interface to ISO 15218 and plug pattern type C	20
4	Blanking plate	NDV-01-VDMA	For width 26 mm, vacant or spare position	65
5	Solenoid valve	VSVA...A1...R...	Width 26 mm with round plug	41
6	Solenoid valve	VSVA...A1...C...	Width 26 mm with interface to ISO 15218 and plug pattern type C	28
7	End plate	NEV-...	For sealing the manifold sub-bases width 18 mm	58
8	Manifold sub-base	NAW-1/8-02-VDMA	Width 18 mm with lateral ports 2 and 4	58
9	Isolating disc	NSC-...	For creating pressure zones or for sealing ports on the end plates	65
10	Intermediate plate	NZV-01/02-VDMA	For connecting width 18 mm with width 26 mm	59
11	Manifold sub-base	NAW-1/4-01-VDMA	Width 26 mm with lateral ports 2 and 4	58
12	End plate	NEV-...	For sealing the manifold sub-bases width 26 mm	58

Solenoid valves VSVA, ISO 15407-1

System overview

Manifold assembly with vertical stacking



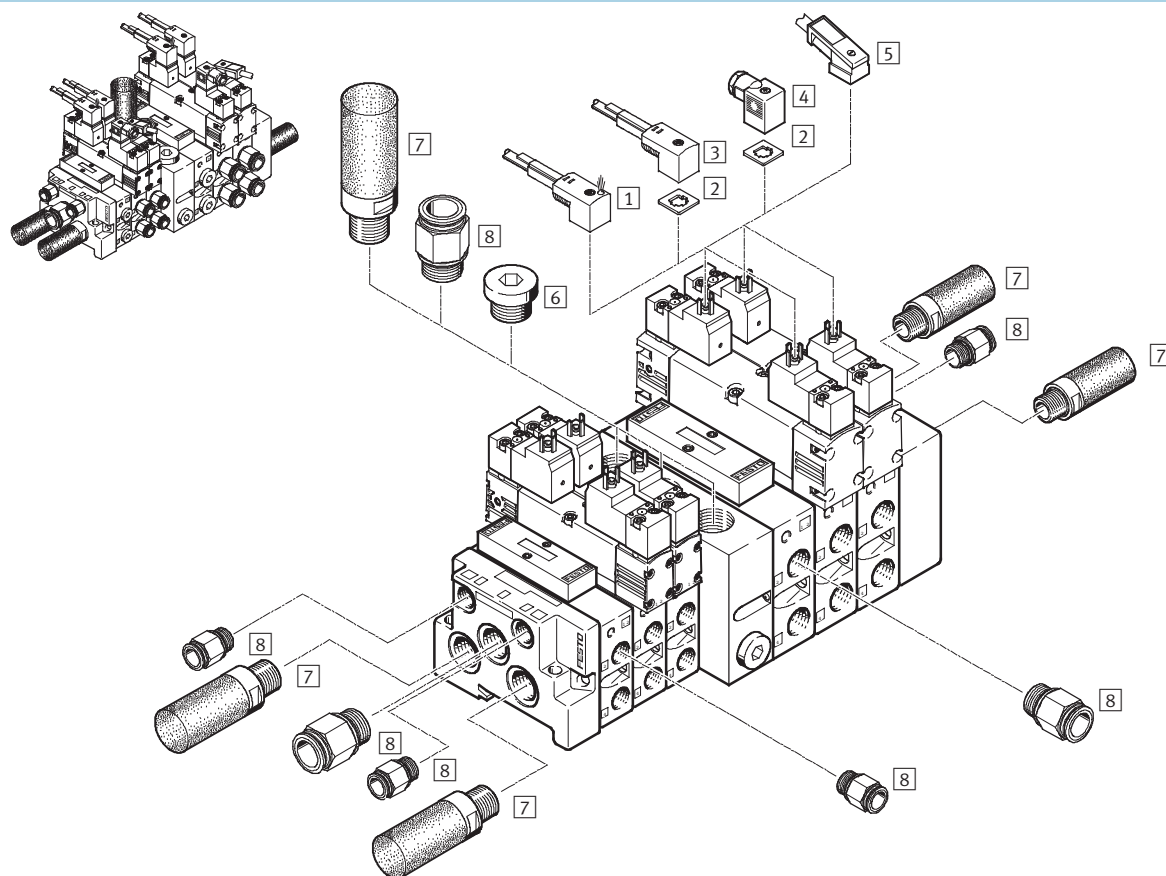
Component parts		Type	Brief description	→ Page/Internet
1	Blanking plate	NDV-...	For vacant or spare position	65
2	Vertical supply plate	VABF...P1-A3...	For intermediate air supply	49
3	Flow control plate	VABF...F1-B1...	For flow control in ducts 3 and 5	48
4	Vertical shut-off plate	VABF...L1-D1...	With switch for manual shut-off of duct 1	50, 56
5	Pressure regulator plate	VABF...R...-C2...	With two pressure regulators for working ports 2 and 4	46
6	Pressure regulator plate	VABF...R...-C2...	With one pressure regulator for working ports 2 or 4 or for duct 1	46

Solenoid valves VSVA, ISO 15407-1

Peripherals overview

FESTO

Manifold assembly, valves with square plug



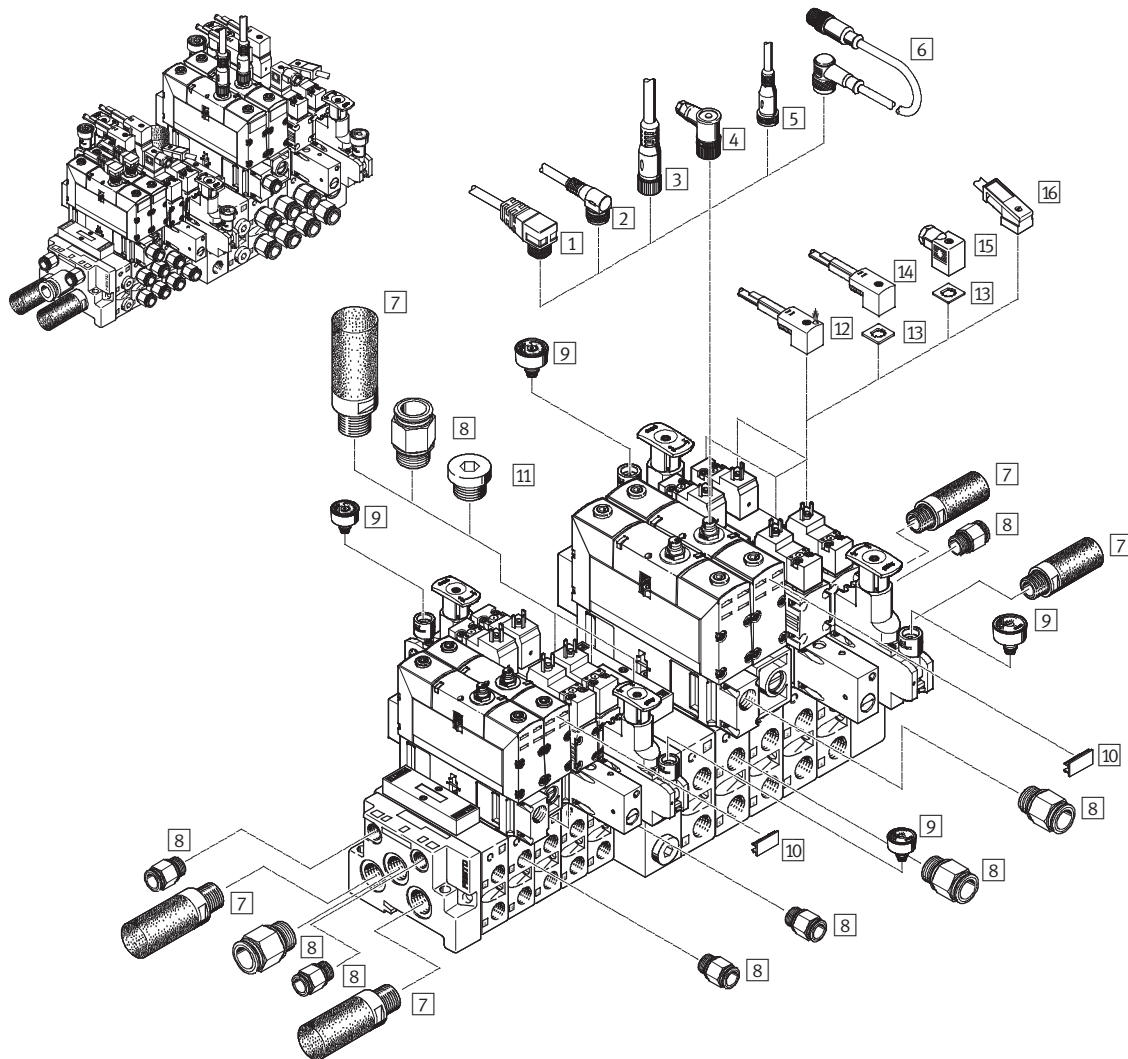
Component parts			
	Type	Brief description	→ Page/Internet
1	Plug socket with cable	KMEB1-...-LED	With PVC casing and LED
2	Illuminating seal	MEB-LD	For indicating the signal status
3	Plug socket with cable	KMEB1-...	With PVC casing
4	Plug socket	MSSD-EB	–
5	Plug socket with cable	KMEB2-...-LED	With polyurethane casing and LED
6	Blanking plugs	B-...	For sealing unused ports
7	Silencer	U-...	For fitting in exhaust ports
8	Push-in fitting	QS-...	For standard O.D. tubing

Solenoid valves VSVA, ISO 15407-1

Peripherals overview

FESTO

Manifold assembly, valves with central plug



Component parts			
	Type	Brief description	→ Page/Internet
1	Plug socket with cable	SIM-M12-4-WD...	Angled plug socket
2	Plug socket with cable	SIM-M8-4-WD...	Angled plug socket
3	Plug socket with cable	SIM-M12-4-GD...	Straight plug socket
4	Plug socket	SEA-M12-4WD...	Angled
5	Plug socket with cable	SIM-M8-4-GD...	Straight plug socket
6	Connecting cable	KM-12-M12-...	Angled socket, straight plug
7	Silencer	U-...	For fitting in exhaust ports
8	Push-in fitting	QS-...	For standard O.D. tubing
9	Pressure gauge	PAGN-26-10-P10	Can be connected to the pressure regulator plate
10	Inscription labels	IBS-9x20	For identifying the VSVA valves with round plug
11	Blanking plugs	B-...	For sealing unused ports
12	Plug socket with cable	KMEB1-...-LED	With PVC casing and LED
13	Illuminating seal	MEB-LD-...	For indicating the signal status
14	Plug socket with cable	KMEB1-...	With PVC casing
15	Plug socket	MSSD-EB	-
16	Plug socket with cable	KMEB2-...-LED	With polyurethane casing and LED

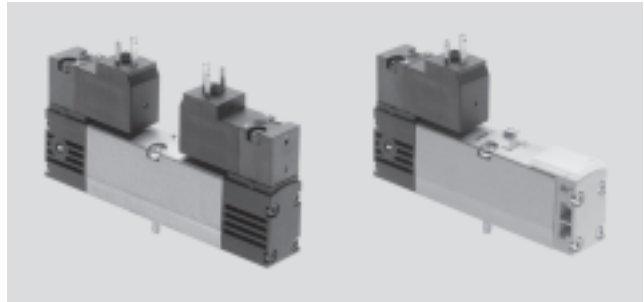
Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 18 mm

FESTO

 Flow rate
550 ... 700 l/min

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



General technical data						
Valve function	2x 3/2	5/2		5/3		
Normal position	C ¹⁾ , U ²⁾ , H ⁴⁾ , N ⁵⁾ , F ⁶⁾ , W ⁷⁾	–	–	C ¹⁾	U ²⁾	E ³⁾
Memory stability	Monostable		Bi-stable		Monostable	
Pneumatic spring reset method	Yes	Yes	–	No		
Mechanical spring reset method	No	Yes	–	Yes		
Design	Piston spool valve					
Sealing principle	Soft					
Actuation type	Solenoid					
Pilot control mode	Piloted					
Pilot interface	To ISO 15218					
Pilot air supply	Internal or external					
Direction of flow	Non-reversible	Reversible for external pilot air supply				
Exhaust function	Flow control					
Manual override	Pushing (non-detenting)					
Type of mounting	On sub-base					
Mounting position	Any					
Nominal diameter	[mm]	5				
Flow rate of valve	[l/min]	550	700		650	
Flow rate of valve on individual sub-base	[l/min]	500	600		550	
Flow rate of valve, pneumatically interlinked	[l/min]	400	550		450	
Standard nominal flow rate	[l/min]	400	550		450	
Switching time on/off, pneumatic spring	[ms]	13/21	21/19	–	–	
Switching time on/off, mechanical spring	[ms]	–	17/35	–	18/30	
Switching time on/off, for N, F and W	[ms]	21/13	–	–	–	
Changeover time	[ms]	–		15	–	
Freedom from overlap	Yes					
Width	[mm]	18				
Ports on the sub-base	1, 2, 3, 4, 5	G1/8				
	12, 14	M5				
Tightening torque, valve mounting	[Nm]	0.9 ... 1.1				
Product weight	[g]	174	127	174		
Noise level	[dB (A)]	85				
Conforms to	ISO 15407-1 and interface for pilot valve ISO 15218					
Corrosion resistance class	CRC	0 ⁸⁾				
CE mark ⁹⁾ (see declaration of conformity)	To EU Low Voltage Directive					

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

8) CRC 0: Very light or no protection, no corrosion stress. Applies to small, visually unimportant standard parts such as threaded pins, circlips, clamping sleeves, etc. that are normally only offered on the market phosphated or burnished (if applicable oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

9) With solenoid valves with 110 V AC and 230 V AC

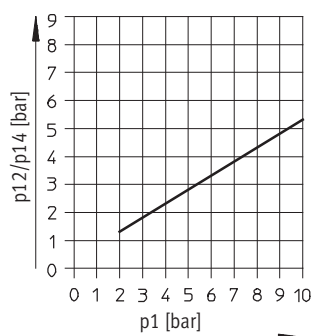
Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 18 mm

Operating and environmental conditions				
Valve function		2x 3/2	5/2	5/3
Operating medium		Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated		
Operating pressure	Internal pilot air supply [bar]	2 ... 10	2 ... 10, 3 ... 10 with mechanical spring	3 ... 10
	External pilot air supply [bar]	2 ... 10	-0.9 ... 10	
Pilot pressure with pneumatic spring [bar]		2 ... 10 ¹⁾	2 ... 10	–
Pilot pressure with mechanical spring [bar]		–	3 ... 10	3 ... 10
Ambient temperature [°C]		-5 ... +50		
Temperature of medium [°C]		-5 ... +50		
Fire protection classification to UL94		HB		
Paint-wetting impairment substances criterion		Yes (free of paint-wetting impairment substances)		

1) Pilot pressure dependent on operating pressure → Graph

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



Electrical data				
Electrical connection			Plug, square design to DIN EN 175301-803, type C	
			12 V/24 V DC/AC without protective earth conductor	110 V/230 V AC with protective earth conductor
Operating voltage	DC voltage	[V DC]	12, 24 +10%/-15%	
	AC voltage	[V AC]	24, 110, 230 +10%/-15%	
Coil characteristics	DC voltage	[W]	1.8	
	AC voltage	[VA]	2.1 at 110 V/230 V, 2.3 at 24 V	
Duty cycle			[%]	100
Protection class to EN 60529			IP65 (in combination with plug socket)	

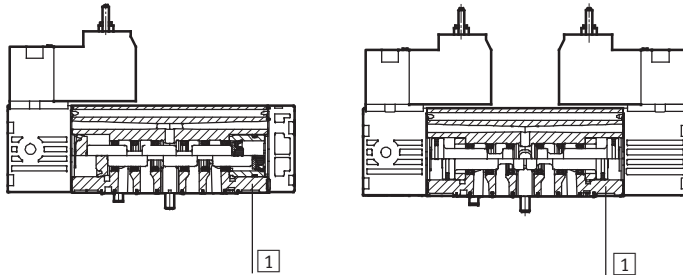
Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 18 mm

FESTO

Materials

Sectional view

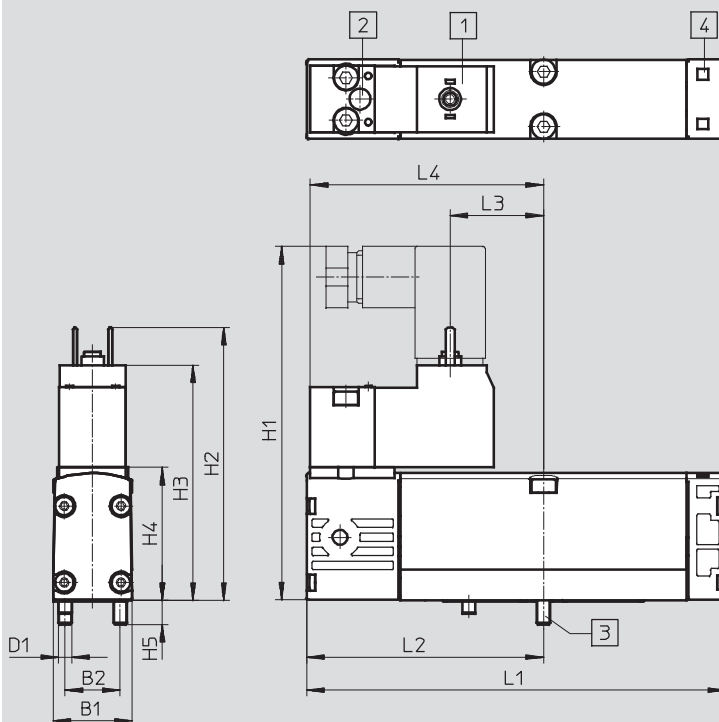


1	Housing	Die-cast aluminium
–	Seals	Nitrile rubber
–	Screws	Galvanised steel
–	Note on materials	RoHS-compliant

Dimensions

Download CAD data → www.festo.com

5/2-way valve, single solenoid



- | | | | |
|---|--|---|----------------------------|
| 1 | Connection dimensions and device plug to DIN EN 175301-803, type C | 2 | Manual override |
| | | 3 | Captive screws |
| | | 4 | Slot for inscription label |

	B1	B2	D1	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5
VSVA-B-M52...	18	12,5	M3	80,6	62,2	53,6	30,3	5,4	95,4	53,9	21,25	53,1	102,2

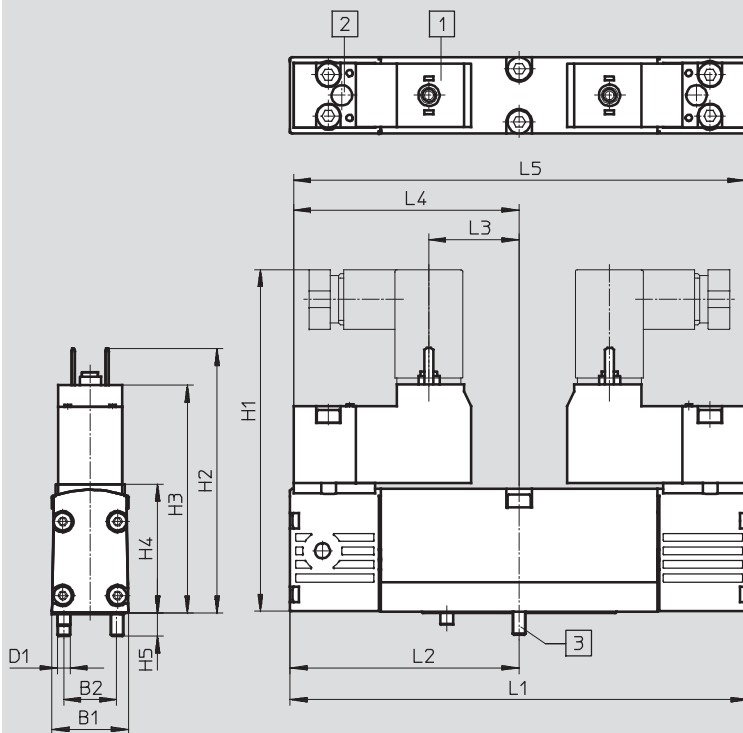
Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 18 mm

Dimensions

Download CAD data → www.festo.com

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



1 Connection dimensions and device plug to DIN EN 175301-803, type C

2 Manual override

4 Slot for inscription label

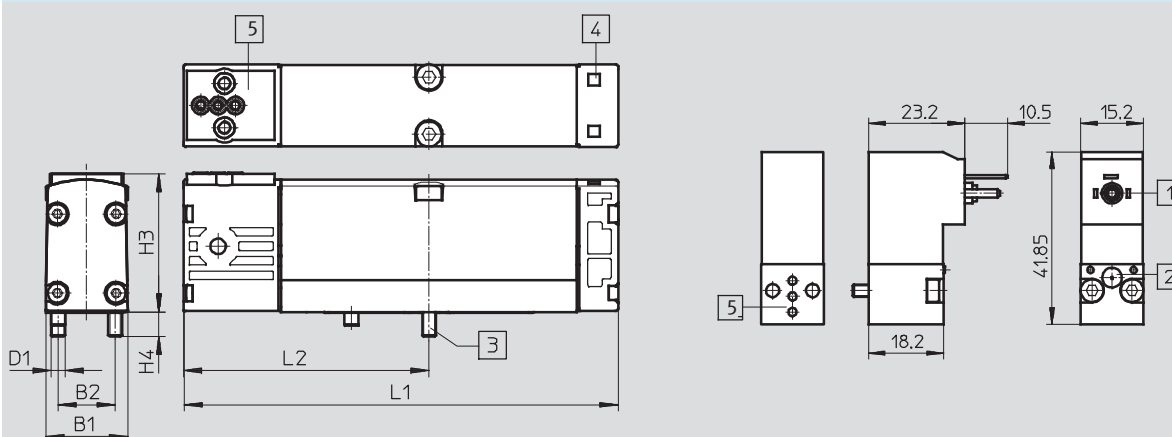
3 Captive screws

	B1	B2	D1	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5
VSVA-B-M52...	18	12,5	M3	80,6	62,2	53,6	30,3	5,4	107,8	53,9	21,25	53,1	102,2

Dimensions

Download CAD data → www.festo.com

5/2-way valve, single solenoid – Pilot valve for widths 18 mm and 26 mm



1 Connection dimensions and device plug to DIN EN 175301-803, type C

2 Manual override

4 Slot for inscription label

3 Captive screws

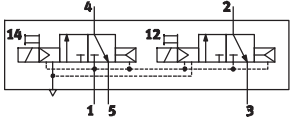
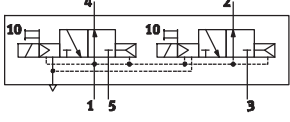
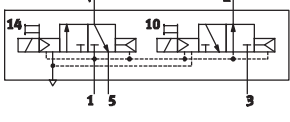
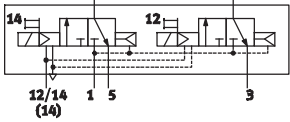
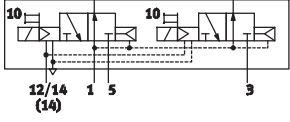
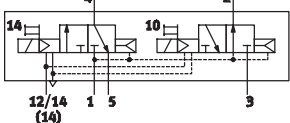
5 Pneumatic port pattern to ISO 15218

	B1	B2	D1	H4	H5	L1	L2
VSVA-B-M52...	18	12,5	M3	30,3	5,4	95,4	53,9

Solenoid valves VSVA, ISO 15407-1/plug type C

FESTO

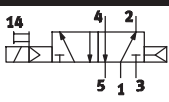
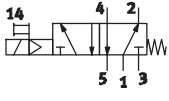
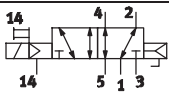
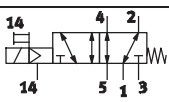
Technical data – Directional control valves width 18 mm

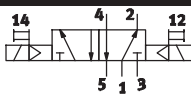
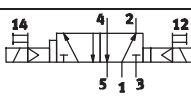
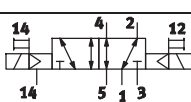
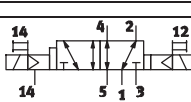
Ordering data – 2x 3/2-way valve ¹⁾							
Code	Circuit symbol	Normal position	Pilot air supply	Voltage		Part No.	Type
				V DC	V AC		
K		2x closed	Internal	24	–	546693	VSVA-B-T32C-AH-A2-1C1
				12	–	547129	VSVA-B-T32C-AH-A2-5C1
				–	230	547209	VSVA-B-T32C-AH-A2-3AC1
				–	110	547169	VSVA-B-T32C-AH-A2-2AC1
				–	24	547089	VSVA-B-T32C-AH-A2-1AC1
				–	–	–	–
N		2x open	Internal	24	–	546695	VSVA-B-T32U-AH-A2-1C1
				12	–	547131	VSVA-B-T32U-AH-A2-5C1
				–	230	547211	VSVA-B-T32U-AH-A2-3AC1
				–	110	547171	VSVA-B-T32U-AH-A2-2AC1
				–	24	547091	VSVA-B-T32U-AH-A2-1AC1
				–	–	–	–
H		1x closed 1x open	Internal	24	–	547067	VSVA-B-T32H-AH-A2-1C1
				12	–	547133	VSVA-B-T32H-AH-A2-5C1
				–	230	547213	VSVA-B-T32H-AH-A2-3AC1
				–	110	547173	VSVA-B-T32H-AH-A2-2AC1
				–	24	547093	VSVA-B-T32H-AH-A2-1AC1
				–	–	–	–
K		2x closed	External	24	–	547069	VSVA-B-T32C-AZH-A2-1C1
				12	–	547149	VSVA-B-T32C-AZH-A2-5C1
				–	230	547229	VSVA-B-T32C-AZH-A2-3AC1
				–	110	547189	VSVA-B-T32C-AZH-A2-2AC1
				–	24	547109	VSVA-B-T32C-AZH-A2-1AC1
				–	–	–	–
N		2x open	External	24	–	547071	VSVA-B-T32U-AZH-A2-1C1
				12	–	547151	VSVA-B-T32U-AZH-A2-5C1
				–	230	547231	VSVA-B-T32U-AZH-A2-3AC1
				–	110	547191	VSVA-B-T32U-AZH-A2-2AC1
				–	24	547111	VSVA-B-T32U-AZH-A2-1AC1
				–	–	–	–
H		1x closed 1x open	External	24	–	547073	VSVA-B-T32H-AZH-A2-1C1
				12	–	547153	VSVA-B-T32H-AZH-A2-5C1
				–	230	547233	VSVA-B-T32H-AZH-A2-3AC1
				–	110	547193	VSVA-B-T32H-AZH-A2-2AC1
				–	24	547113	VSVA-B-T32H-AZH-A2-1AC1
				–	–	–	–

1) 2x 3/2-way valves for reverse operation on request

Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 18 mm

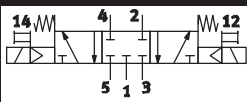
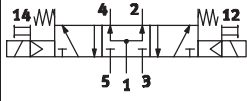
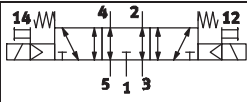
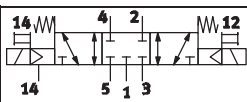
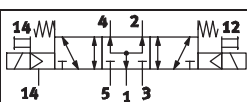
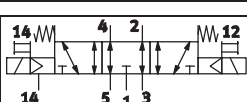
Ordering data – 5/2-way valve, single solenoid (monostable)						
Code	Circuit symbol	Reset method	Pilot air supply	Voltage		Part No. Type
				V DC	V AC	
M		Pneumatic	Internal	24	–	546701 VSVA-B-M52-AH-A2-1C1
				12	–	547139 VSVA-B-M52-AH-A2-5C1
				–	230	547219 VSVA-B-M52-AH-A2-3AC1
				–	110	547179 VSVA-B-M52-AH-A2-2AC1
				–	24	547099 VSVA-B-M52-AH-A2-1AC1
O		Mechanical spring	Internal	24	–	546703 VSVA-B-M52-MH-A2-1C1
				12	–	547141 VSVA-B-M52-MH-A2-5C1
				–	230	547221 VSVA-B-M52-MH-A2-3AC1
				–	110	547181 VSVA-B-M52-MH-A2-2AC1
				–	24	547101 VSVA-B-M52-MH-A2-1AC1
M		Pneumatic	External	24	–	547079 VSVA-B-M52-AZH-A2-1C1
				12	–	547159 VSVA-B-M52-AZH-A2-5C1
				–	230	547239 VSVA-B-M52-AZH-A2-3AC1
				–	110	547199 VSVA-B-M52-AZH-A2-2AC1
				–	24	547119 VSVA-B-M52-AZH-A2-1AC1
O		Mechanical spring	External	24	–	547081 VSVA-B-M52-MZH-A2-1C1
				12	–	547161 VSVA-B-M52-MZH-A2-5C1
				–	230	547241 VSVA-B-M52-MZH-A2-3AC1
				–	110	547201 VSVA-B-M52-MZH-A2-2AC1
				–	24	547121 VSVA-B-M52-MZH-A2-1AC1

Ordering data – 5/2-way valve, double solenoid (bi-stable)						
Code	Circuit symbol	Dominant	Pilot air supply	Voltage		Part No. Type
				V DC	V AC	
J		1st signal	Internal	24	–	546697 VSVA-B-B52-H-A2-1C1
				12	–	547135 VSVA-B-B52-H-A2-5C1
				–	230	547215 VSVA-B-B52-H-A2-3AC1
				–	110	547175 VSVA-B-B52-H-A2-2AC1
				–	24	547095 VSVA-B-B52-H-A2-1AC1
D		At 14	Internal	24	–	546699 VSVA-B-D52-H-A2-1C1
				12	–	547137 VSVA-B-D52-H-A2-5C1
				–	230	547217 VSVA-B-D52-H-A2-3AC1
				–	110	547177 VSVA-B-D52-H-A2-2AC1
				–	24	547097 VSVA-B-D52-H-A2-1AC1
J		1st signal	External	24	–	547075 VSVA-B-B52-ZH-A2-1C1
				12	–	547155 VSVA-B-B52-ZH-A2-5C1
				–	230	547235 VSVA-B-B52-ZH-A2-3AC1
				–	110	547195 VSVA-B-B52-ZH-A2-2AC1
				–	24	547115 VSVA-B-B52-ZH-A2-1AC1
D		At 14	External	24	–	547077 VSVA-B-D52-ZH-A2-1C1
				12	–	547157 VSVA-B-D52-ZH-A2-5C1
				–	230	547237 VSVA-B-D52-ZH-A2-3AC1
				–	110	547197 VSVA-B-D52-ZH-A2-2AC1
				–	24	547117 VSVA-B-D52-ZH-A2-1AC1

Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 18 mm

FESTO

Ordering data – 5/3-way valve, double solenoid (monostable)							
Code	Circuit symbol	Normal position	Pilot air supply	Voltage		Part No.	Type
				V DC	V AC		
G		Closed	Internal	24	–	546709	VSVA-B-P53C-H-A2-1C1
				12	–	547147	VSVA-B-P53C-H-A2-5C1
				–	230	547227	VSVA-B-P53C-H-A2-3AC1
				–	110	547187	VSVA-B-P53C-H-A2-2AC1
				–	24	547107	VSVA-B-P53C-H-A2-1AC1
B		Open	Internal	24	–	546705	VSVA-B-P53U-H-A2-1C1
				12	–	547143	VSVA-B-P53U-H-A2-5C1
				–	230	547223	VSVA-B-P53U-H-A2-3AC1
				–	110	547183	VSVA-B-P53U-H-A2-2AC1
				–	24	547103	VSVA-B-P53U-H-A2-1AC1
E		Exhausted	Internal	24	–	546707	VSVA-B-P53E-H-A2-1C1
				12	–	547145	VSVA-B-P53E-H-A2-5C1
				–	230	547225	VSVA-B-P53E-H-A2-3AC1
				–	110	547185	VSVA-B-P53E-H-A2-2AC1
				–	24	547105	VSVA-B-P53E-H-A2-1AC1
G		Closed	External	24	–	547087	VSVA-B-P53C-ZH-A2-1C1
				12	–	547167	VSVA-B-P53C-ZH-A2-5C1
				–	230	547247	VSVA-B-P53C-ZH-A2-3AC1
				–	110	547207	VSVA-B-P53C-ZH-A2-2AC1
				–	24	547127	VSVA-B-P53C-ZH-A2-1AC1
B		Open	External	24	–	547083	VSVA-B-P53U-ZH-A2-1C1
				12	–	547163	VSVA-B-P53U-ZH-A2-5C1
				–	230	547243	VSVA-B-P53U-ZH-A2-3AC1
				–	110	547203	VSVA-B-P53U-ZH-A2-2AC1
				–	24	547123	VSVA-B-P53U-ZH-A2-1AC1
E		Exhausted	External	24	–	547085	VSVA-B-P53E-ZH-A2-1C1
				12	–	547165	VSVA-B-P53E-ZH-A2-5C1
				–	230	547245	VSVA-B-P53E-ZH-A2-3AC1
				–	110	547205	VSVA-B-P53E-ZH-A2-2AC1
				–	24	547125	VSVA-B-P53E-ZH-A2-1AC1

Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 18 mm without pilot valve

Ordering data – 2x 3/2-way valve without pilot valve				
Constructional design	Normal position	Pilot air supply	Part No.	Type
	2x closed	Internal	546732	VSVA-B-T32C-A-A2-P1
	2x open	Internal	546734	VSVA-B-T32U-A-A2-P1

Ordering data – 5/2-way valve, single solenoid (monostable) without pilot valve				
Constructional design	Reset method	Pilot air supply	Part No.	Type
	Pneumatic	Internal	546740	VSVA-B-M52-A-A2-P1
	Mechanical spring	Internal	546742	VSVA-B-M52-M-A2-P1

Ordering data – 5/2-way double solenoid (bi-stable) valve without pilot valve				
Constructional design	Dominant	Pilot air supply	Part No.	Type
	1st signal	Internal	546736	VSVA-B-B52-A2-P1
	At 14	Internal	546738	VSVA-B-D52-A2-P1

Ordering data – 5/3-way double solenoid mid-position valve (monostable) without pilot valve				
Constructional design	Normal position	Pilot air supply	Part No.	Type
	Closed	Internal	546748	VSVA-B-P53C-A2-P1
	Open	Internal	546744	VSVA-B-P53U-A2-P1
	Exhausted	Internal	546746	VSVA-B-P53E-A2-P1

Ordering data – Pilot valve to ISO 15218							
Constructional design	Plug, square design	Protective earth conductor	Output		Voltage		Part No. Type
			[W]	[VA]	V DC	V AC	
	DIN EN 175301-803, type C	No	1,8	–	24	–	546256 VSCS-B-M32-MH-WA-1C1
		No	1,8	–	12	–	546257 VSCS-B-M32-MH-WA-5C1
	DIN EN 175301-803, type C	Yes	–	2,1	–	230	546260 VSCS-B-M32-MH-WA-3AC1
		Yes	–	2,1	–	110	546259 VSCS-B-M32-MH-WA-2AC1
		No	–	2,3	–	24	546258 VSCS-B-M32-MH-WA-1AC1

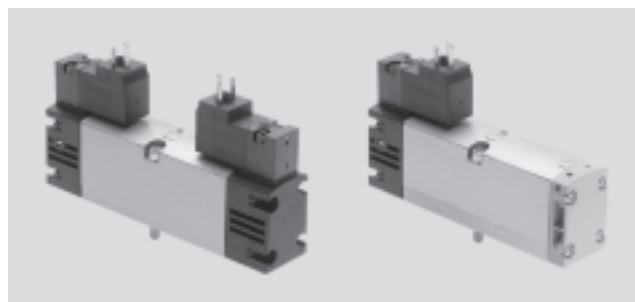
Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 26 mm

FESTO

 Flow rate
1,250 ... 1,400 l/min

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



General technical data								
Valve function		2x 3/2		5/2		5/3		
Normal position		C ¹⁾ , U ²⁾ , H ⁴⁾ , N ⁵⁾ , F ⁶⁾ , W ⁷⁾		–	–	C ¹⁾	U ²⁾	E ³⁾
Memory stability		Monostable			Bi-stable		Monostable	
Pneumatic spring reset method		Yes		Yes	–	No		
Mechanical spring reset method		No		Yes	–	Yes		
Design		Piston spool valve						
Sealing principle		Soft						
Actuation type		Electric						
Pilot control mode		Piloted						
Pilot interface		To ISO 15218						
Pilot air supply		Internal or external						
Direction of flow		Non-reversible		Reversible for external pilot air supply				
Exhaust function		Flow control						
Manual override		Pushing (non-detenting)						
Type of mounting		On sub-base						
Mounting position		Any						
Nominal diameter		[mm]	9					
Flow rate of valve		[l/min]	1,250	1,400		1,400		
Flow rate of valve on individual sub-base		[l/min]	1,000	1,100		1,100		
Flow rate of valve, pneumatically interlinked		[l/min]	900	1,100		1,000		
Standard nominal flow rate		[l/min]	900	1,100		1,000		
Switching time on/off, pneumatic spring		[ms]	20/28	35/43	–	–		
Switching time on/off, mechanical spring		[ms]	–	26/56	–	23/58		
Switching time on/off, for N, F and W		[ms]	28/20	–	–	–		
Changeover time		[ms]	–		18	–		
Freedom from overlap		Yes						
Width		[mm]	26					
Ports on the sub-base		1, 2, 3, 4, 5	G1/4					
		12, 14	M5					
Tightening torque, valve mounting		[Nm]	1.8 ... 2.2					
Product weight		[g]	305	260	305			
Noise level		[dB (A)]	85					
Conforms to		ISO 15407-1 and interface for pilot valve ISO 15218						
Corrosion resistance class		CRC	0 ⁸⁾					
CE mark ⁹⁾ (see declaration of conformity)		To EU Low Voltage Directive						

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

8) CRC 0: Very light or no protection, no corrosion stress. Applies to small, visually unimportant standard parts such as threaded pins, circlips, clamping sleeves, etc. that are normally only offered on the market phosphated or burnished (if applicable oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

9) With solenoid valves with 110 V AC and 230 V AC

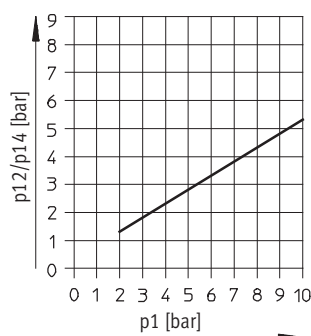
Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 26 mm

Operating and environmental conditions				
Valve function		2x 3/2	5/2	5/3
Operating medium		Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated, vacuum		
Operating pressure	Internal pilot air supply [bar]	2 ... 10	2 ... 10, 3 ... 10 with mechanical spring	3 ... 10
	External pilot air supply [bar]	2 ... 10	-0.9 ... 10	
Pilot pressure with pneumatic spring [bar]		2 ... 10 ¹⁾	2 ... 10	–
Pilot pressure with mechanical spring [bar]		–	3 ... 10	3 ... 10
Ambient temperature [°C]		-5 ... +50		
Temperature of medium [°C]		-5 ... +50		
Fire protection classification to UL94		HB		
Paint-wetting impairment substances criterion		Yes (free of paint-wetting impairment substances)		

1) Pilot pressure dependent on operating pressure → Graph

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



Electrical data				
Electrical connection		Plug, square design to DIN EN 175301-803, type C		
		12 V/24 V DC/AC without protective earth conductor		110 V/230 V AC with protective earth conductor
Operating voltage	DC voltage [V DC]	12, 24 +10%/–15%		
	AC voltage [V AC]	24, 110, 230 +10%/–15%		
Coil characteristics	DC voltage [W]	1.8		
	AC voltage [VA]	2.1 at 110 V/230 V, 2.3 at 24 V		
Duty cycle [%]		100		
Protection class to EN 60529		IP65 (in combination with plug socket)		

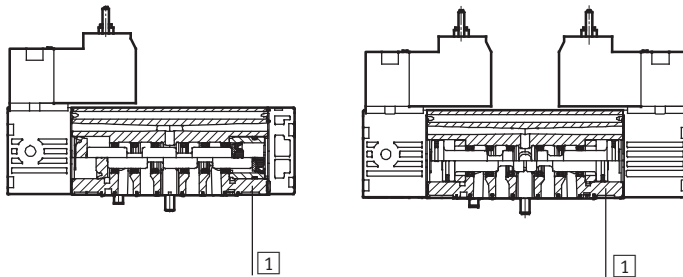
Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves 26

FESTO

Materials

Sectional view

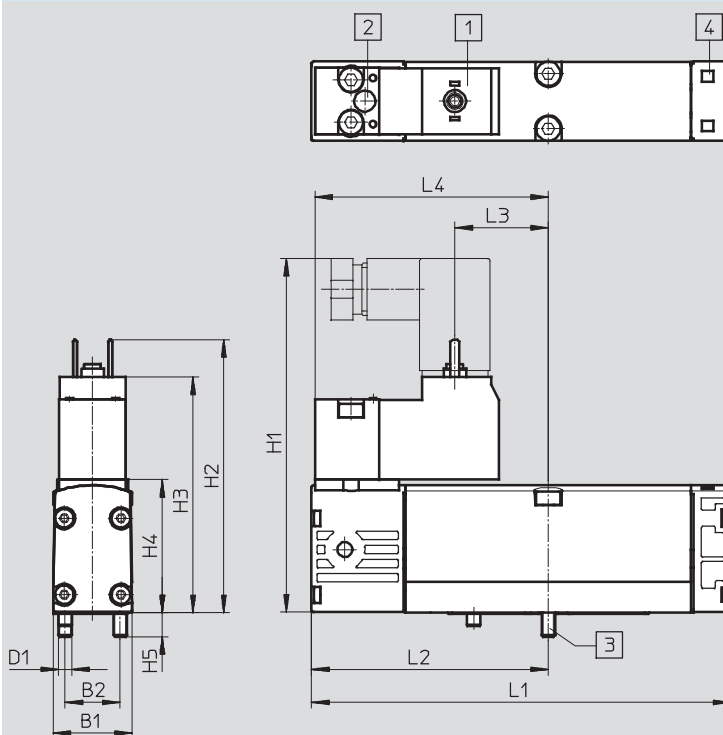


1	Housing	Die-cast aluminium
–	Seals	Nitrile rubber
–	Screws	Galvanised steel
–	Note on materials	RoHS-compliant

Dimensions

Download CAD data → www.festo.com

5/2-way valve, single solenoid



- | | | | |
|---|---|---|----------------------------|
| 1 | Connection dimensions and device plug to
DIN EN 175301-803, type C | 2 | Manual override |
| | | 3 | Captive screws |
| | | 4 | Slot for inscription label |

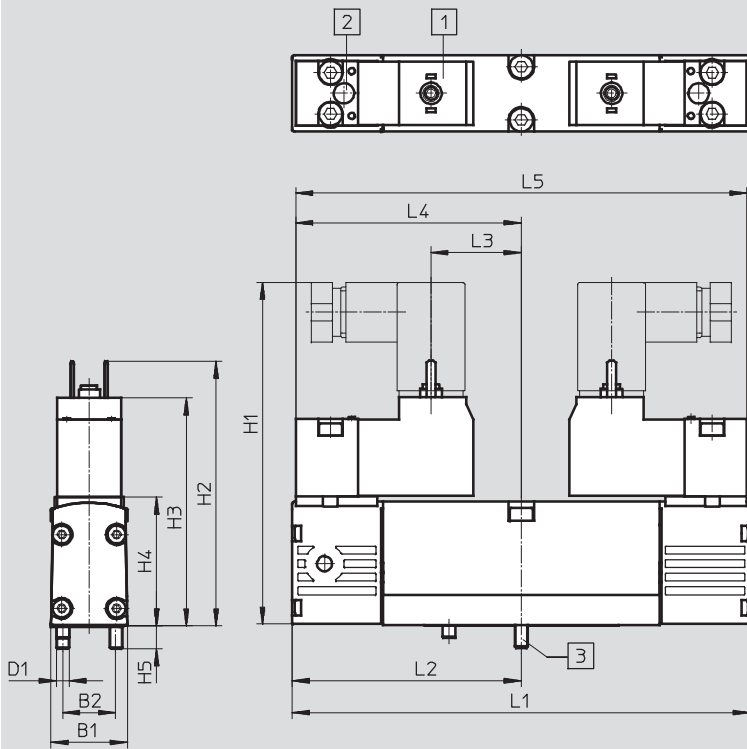
	B1	B2	D1	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5
VSVA-B-M52...	26.3	19	M4	89.2	71.2	62.6	39.3	7	113.1	63.1	29.75	61.6	123.2

Technical data – Directional control valves 26

FESTO

Download CAD data → www.festo.com

Download CAD data → www.festo.com



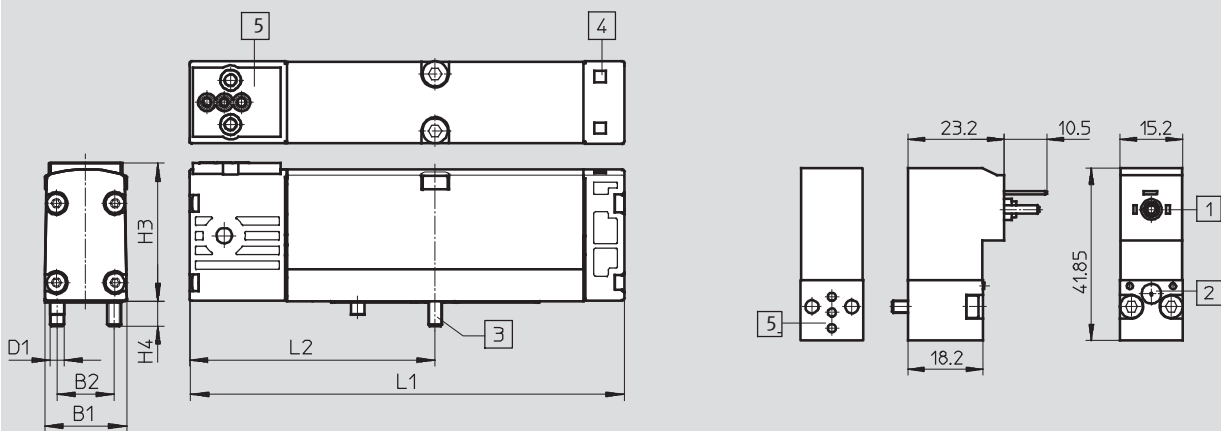
- 4 Slot for inscription label

- ### 3 Captive screws

	B1	B2	D1	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5
VSVA-B-M52...	26.3	19	M4	89.2	71.2	62.2	39.3	7	126.2	63.1	29.75	61.6	123.2

Download CAD data → www.festo.com

Download CAD data → www.festo.com



- 4 Slot for inscription label

- 3 Captive screws

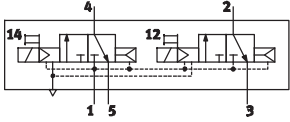
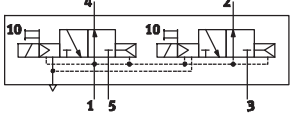
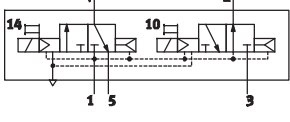
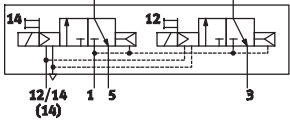
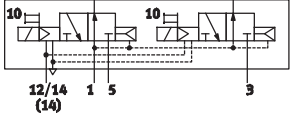
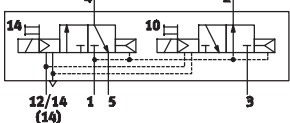
- 5 Pneumatic port pattern to ISO 15218

	B1	B2	D1	H4	H5	L1	L2
VSVA-B-M52...	26.3	19	M4	39.3	7	113.1	63.1

Solenoid valves VSVA, ISO 15407-1/plug type C

FESTO

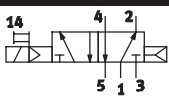
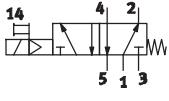
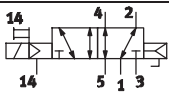
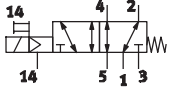
Technical data – Directional control valves width 26 mm

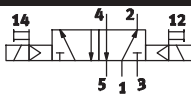
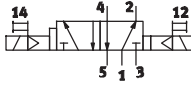
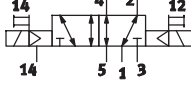
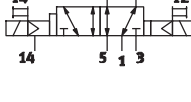
Ordering data – 2x 3/2-way valve ¹⁾							
Code	Circuit symbol	Normal position	Pilot air supply	Voltage		Part No.	Type
				V DC	V AC		
K		2x closed	Internal	24	–	546692	VSVA-B-T32C-AH-A1-1C1
				12	–	547128	VSVA-B-T32C-AH-A1-5C1
				–	230	547208	VSVA-B-T32C-AH-A1-3AC1
				–	110	547168	VSVA-B-T32C-AH-A1-2AC1
				–	24	547088	VSVA-B-T32C-AH-A1-1AC1
				–	–	–	–
N		2x open	Internal	24	–	546694	VSVA-B-T32U-AH-A1-1C1
				12	–	547130	VSVA-B-T32U-AH-A1-5C1
				–	230	547210	VSVA-B-T32U-AH-A1-3AC1
				–	110	547170	VSVA-B-T32U-AH-A1-2AC1
				–	24	547090	VSVA-B-T32U-AH-A1-1AC1
				–	–	–	–
H		1x closed 1x open	Internal	24	–	547066	VSVA-B-T32H-AH-A1-1C1
				12	–	547132	VSVA-B-T32H-AH-A1-5C1
				–	230	547212	VSVA-B-T32H-AH-A1-3AC1
				–	110	547172	VSVA-B-T32H-AH-A1-2AC1
				–	24	547092	VSVA-B-T32H-AH-A1-1AC1
				–	–	–	–
K		2x closed	External	24	–	547068	VSVA-B-T32C-AZH-A1-1C1
				12	–	547148	VSVA-B-T32C-AZH-A1-5C1
				–	230	547228	VSVA-B-T32C-AZH-A1-3AC1
				–	110	547188	VSVA-B-T32C-AZH-A1-2AC1
				–	24	547108	VSVA-B-T32C-AZH-A1-1AC1
				–	–	–	–
N		2x open	External	24	–	547070	VSVA-B-T32U-AZH-A1-1C1
				12	–	547150	VSVA-B-T32U-AZH-A1-5C1
				–	230	547230	VSVA-B-T32U-AZH-A1-3AC1
				–	110	547190	VSVA-B-T32U-AZH-A1-2AC1
				–	24	547110	VSVA-B-T32U-AZH-A1-1AC1
				–	–	–	–
H		1x closed 1x open	External	24	–	547072	VSVA-B-T32H-AZH-A1-1C1
				12	–	547152	VSVA-B-T32H-AZH-A1-5C1
				–	230	547232	VSVA-B-T32H-AZH-A1-3AC1
				–	110	547192	VSVA-B-T32H-AZH-A1-2AC1
				–	24	547112	VSVA-B-T32H-AZH-A1-1AC1
				–	–	–	–

1) 2x 3/2-way valves for reverse operation on request

Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 26 mm

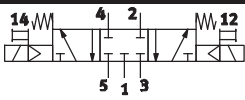
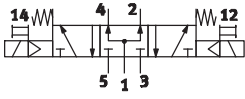
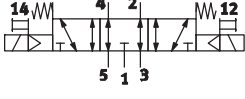
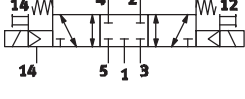
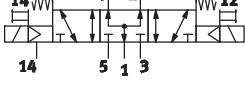
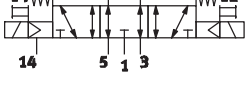
Ordering data – 5/2-way valve, single solenoid (monostable)						
Code	Circuit symbol	Reset method	Pilot air supply	Voltage		Part No. Type
				V DC	V AC	
M		Pneumatic	Internal	24	–	546700 VSVA-B-M52-AH-A1-1C1
				12	–	547138 VSVA-B-M52-AH-A1-5C1
				–	230	547218 VSVA-B-M52-AH-A1-3AC1
				–	110	547178 VSVA-B-M52-AH-A1-2AC1
				–	24	547098 VSVA-B-M52-AH-A1-1AC1
O		Mechanical spring	Internal	24	–	546702 VSVA-B-M52-MH-A1-1C1
				12	–	547140 VSVA-B-M52-MH-A1-5C1
				–	230	547220 VSVA-B-M52-MH-A1-3AC1
				–	110	547180 VSVA-B-M52-MH-A1-2AC1
				–	24	547100 VSVA-B-M52-MH-A1-1AC1
M		Pneumatic	External	24	–	547078 VSVA-B-M52-AZH-A1-1C1
				12	–	547158 VSVA-B-M52-AZH-A1-5C1
				–	230	547238 VSVA-B-M52-AZH-A1-3AC1
				–	110	547198 VSVA-B-M52-AZH-A1-2AC1
				–	24	547118 VSVA-B-M52-AZH-A1-1AC1
O		Mechanical spring	External	24	–	547080 VSVA-B-M52-MZH-A1-1C1
				12	–	547160 VSVA-B-M52-MZH-A1-5C1
				–	230	547240 VSVA-B-M52-MZH-A1-3AC1
				–	110	547200 VSVA-B-M52-MZH-A1-2AC1
				–	24	547120 VSVA-B-M52-MZH-A1-1AC1

Ordering data – 5/2-way valve, double solenoid (bi-stable)						
Code	Circuit symbol	Dominance	Pilot air supply	Voltage		Part No. Type
				V DC	V AC	
J		1st signal	Internal	24	–	546696 VSVA-B-B52-H-A1-1C1
				12	–	547134 VSVA-B-B52-H-A1-5C1
				–	230	547214 VSVA-B-B52-H-A1-3AC1
				–	110	547174 VSVA-B-B52-H-A1-2AC1
				–	24	547094 VSVA-B-B52-H-A1-1AC1
D		At 14	Internal	24	–	546698 VSVA-B-D52-H-A1-1C1
				12	–	547136 VSVA-B-D52-H-A1-5C1
				–	230	547216 VSVA-B-D52-H-A1-3AC1
				–	110	547176 VSVA-B-D52-H-A1-2AC1
				–	24	547096 VSVA-B-D52-H-A1-1AC1
J		1st signal	External	24	–	547074 VSVA-B-B52-ZH-A1-1C1
				12	–	547154 VSVA-B-B52-ZH-A1-5C1
				–	230	547234 VSVA-B-B52-ZH-A1-3AC1
				–	110	547194 VSVA-B-B52-ZH-A1-2AC1
				–	24	547114 VSVA-B-B52-ZH-A1-1AC1
D		At 14	External	24	–	547076 VSVA-B-D52-ZH-A1-1C1
				12	–	547156 VSVA-B-D52-ZH-A1-5C1
				–	230	547236 VSVA-B-D52-ZH-A1-3AC1
				–	110	547196 VSVA-B-D52-ZH-A1-2AC1
				–	24	547116 VSVA-B-D52-ZH-A1-1AC1

Solenoid valves VSVA, ISO 15407-1/plug type C

FESTO

Technical data – Directional control valves width 26 mm

Ordering data – 5/3-way valve, double solenoid (monostable)							
Code	Circuit symbol	Normal position	Pilot air supply	Voltage		Part No.	Type
				V DC	V AC		
G		Closed	Internal	24	–	546708	VSVA-B-P53C-H-A1-1C1
				12	–	547146	VSVA-B-P53C-H-A1-5C1
				–	230	547226	VSVA-B-P53C-H-A1-3AC1
				–	110	547186	VSVA-B-P53C-H-A1-2AC1
				–	24	547106	VSVA-B-P53C-H-A1-1AC1
B		Open	Internal	24	–	546704	VSVA-B-P53U-H-A1-1C1
				12	–	547142	VSVA-B-P53U-H-A1-5C1
				–	230	547222	VSVA-B-P53U-H-A1-3AC1
				–	110	547182	VSVA-B-P53U-H-A1-2AC1
				–	24	547102	VSVA-B-P53U-H-A1-1AC1
E		Exhausted	Internal	24	–	546706	VSVA-B-P53E-H-A1-1C1
				12	–	547144	VSVA-B-P53E-H-A1-5C1
				–	230	547224	VSVA-B-P53E-H-A1-3AC1
				–	110	547184	VSVA-B-P53E-H-A1-2AC1
				–	24	547104	VSVA-B-P53E-H-A1-1AC1
G		Closed	External	24	–	547086	VSVA-B-P53C-ZH-A1-1C1
				12	–	547166	VSVA-B-P53C-ZH-A1-5C1
				–	230	547246	VSVA-B-P53C-ZH-A1-3AC1
				–	110	547206	VSVA-B-P53C-ZH-A1-2AC1
				–	24	547126	VSVA-B-P53C-ZH-A1-1AC1
B		Open	External	24	–	547082	VSVA-B-P53U-ZH-A1-1C1
				12	–	547162	VSVA-B-P53U-ZH-A1-5C1
				–	230	547242	VSVA-B-P53U-ZH-A1-3AC1
				–	110	547202	VSVA-B-P53U-ZH-A1-2AC1
				–	24	547122	VSVA-B-P53U-ZH-A1-1AC1
E		Exhausted	External	24	–	547084	VSVA-B-P53E-ZH-A1-1C1
				12	–	547164	VSVA-B-P53E-ZH-A1-5C1
				–	230	547244	VSVA-B-P53E-ZH-A1-3AC1
				–	110	547204	VSVA-B-P53E-ZH-A1-2AC1
				–	24	547124	VSVA-B-P53E-ZH-A1-1AC1

Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 26 mm without pilot valve

Ordering data – 2x 3/2-way valve without pilot valve				
Constructional design	Normal position	Pilot air supply	Part No.	Type
	2x closed	Internal	546731	VSVA-B-T32C-A-A1-P1
	2x open	Internal	546733	VSVA-B-T32U-A-A1-P1

Ordering data – 5/2-way valve, single solenoid (monostable) without pilot valve				
Constructional design	Reset method	Pilot air supply	Part No.	Type
	Pneumatic	Internal	546739	VSVA-B-M52-A-A1-P1
	Mechanical spring	Internal	546741	VSVA-B-M52-M-A1-P1

Ordering data – 5/2-way double solenoid (bi-stable) valve without pilot valve				
Constructional design	Dominance	Pilot air supply	Part No.	Type
	1st signal	Internal	546735	VSVA-B-B52-A1-P1
	At 14	Internal	546737	VSVA-B-D52-A1-P1

Ordering data – 5/3-way mid-position valve (monostable) without pilot valve				
Constructional design	Normal position	Pilot air supply	Part No.	Type
	Closed	Internal	546747	VSVA-B-P53C-A1-P1
	Open	Internal	546743	VSVA-B-P53U-A1-P1
	Exhausted	Internal	546745	VSVA-B-P53E-A1-P1

Ordering data – Pilot valve to ISO 15218							
Constructional design	Plug, square design	Protective earth conductor	Output		Voltage		Part No. Type
			[W]	[VA]	V DC	V AC	
	DIN EN 175301-803, type C	No	1.8	–	24	–	546256 VSCS-B-M32-MH-WA-1C1
		No	1.8	–	12	–	546257 VSCS-B-M32-MH-WA-5C1
	DIN EN 175301-803, type C	Yes	–	2.1	–	230	546260 VSCS-B-M32-MH-WA-3AC1
		Yes	–	2.1	–	110	546259 VSCS-B-M32-MH-WA-2AC1
		No	–	2.3	–	24	546258 VSCS-B-M32-MH-WA-1AC1

Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

Technical data – Directional control valves width 18 mm

FESTO

 Flow rate
650 l/min

 Voltage
24 V DC



General technical data								
Valve function		2x 3/2			5/2		5/3	
Normal position		C ¹⁾	U ²⁾	H ⁴⁾	–	–	C ¹⁾	U ²⁾ E ³⁾
Memory stability		Monostable				Bi-stable	Monostable	
Pneumatic spring reset method		Yes			Yes	–	No	
Mechanical spring reset method		No			Yes	–	Yes	
Design		Piston spool valve						
Sealing principle		Soft						
Actuation type		Electric						
Control type		Piloted						
Pilot air supply		Internal or external						
Direction of flow		Non-reversible			Reversible for external pilot air supply			
Exhaust function		Flow control						
Manual override		Non-detenting (pushing)						
Type of mounting		On sub-base						
Mounting position		Any						
Nominal size	[mm]	5						
Flow rate of valve	[l/min]	550			700		650	
Flow rate of valve on individual sub-base	[l/min]	500			600		550	
Flow rate of valve, pneumatically interlinked	[l/min]	400			550		450	
Standard nominal flow rate	[l/min]	400			550		450	
Switching time on/off, pneumatic spring	[ms]	10/22			20/25	–	–	
Switching time on/off, mechanical spring	[ms]	–			12/34	–	15/36	
Changeover time	[ms]	–				10		–
Non-overlapping		Yes						
Width	[mm]	18						
Ports on the sub-base	1, 2, 3, 4, 5	G1/8						
	12, 14	M5						
Tightening torque, valve mounting		[Nm]	0.9 ... 1.1					
Product weight		[g]	140		140	140		
Noise level		[dB (A)]	85					
Conforms to		ISO 15407-1						
Corrosion resistance class		CRC	2 ⁵⁾					
CE mark ⁶⁾ (see declaration of conformity)		To EU Low Voltage Directive						

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) Corrosion resistance class 2 as per Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

6) With solenoid valves with 110 V AC and 230 V AC

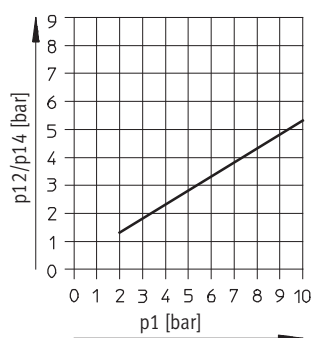
Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

Technical data – Directional control valves width 18 mm

Operating and environmental conditions			
Valve function		2x 3/2	5/2
			5/3
Operating medium		Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated, vacuum	
Operating pressure	Internal pilot air supply [bar]	3 ... 8	
	External pilot air supply [bar]	3 ... 10	-0.9 ... 10
Pilot pressure [bar]		3 ... 8 ¹⁾	3 ... 8
Ambient temperature [°C]		-5 ... +50	
Temperature of medium [°C]		-5 ... +50	
Fire protection classification to UL94		V0	
Paint-wetting impairment substances criterion		Yes (free of paint-wetting impairment substances)	

1) Pilot pressure dependent on operating pressure → Graph

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



Electrical data		
Electrical connection to IEC 60 947-5-2		Central plug, round design, M8x1 or M12x1
Coil characteristics	Voltage [V DC]	24±10% = 21.6 ... 26.4
	Output [W]	High-current phase: 2.4; low-current phase: 1 ¹⁾
Duty cycle %		100
Protection class to EN 60529		IP65 (in combination with plug socket)
Protective circuit and LED		Integrated in the valve

1) Controlled by integrated current reduction

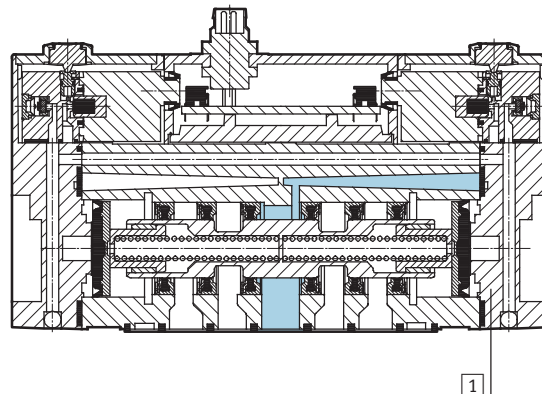
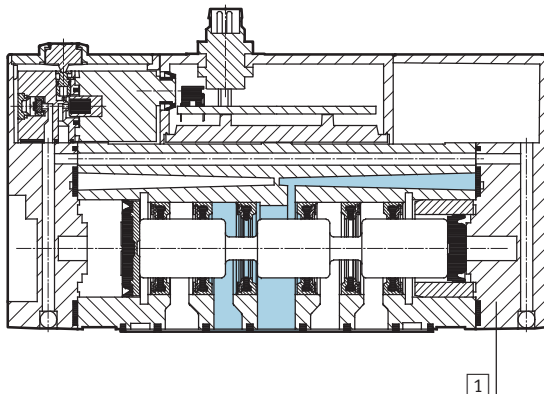
Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

Technical data – Directional control valves width 18 mm

FESTO

Materials

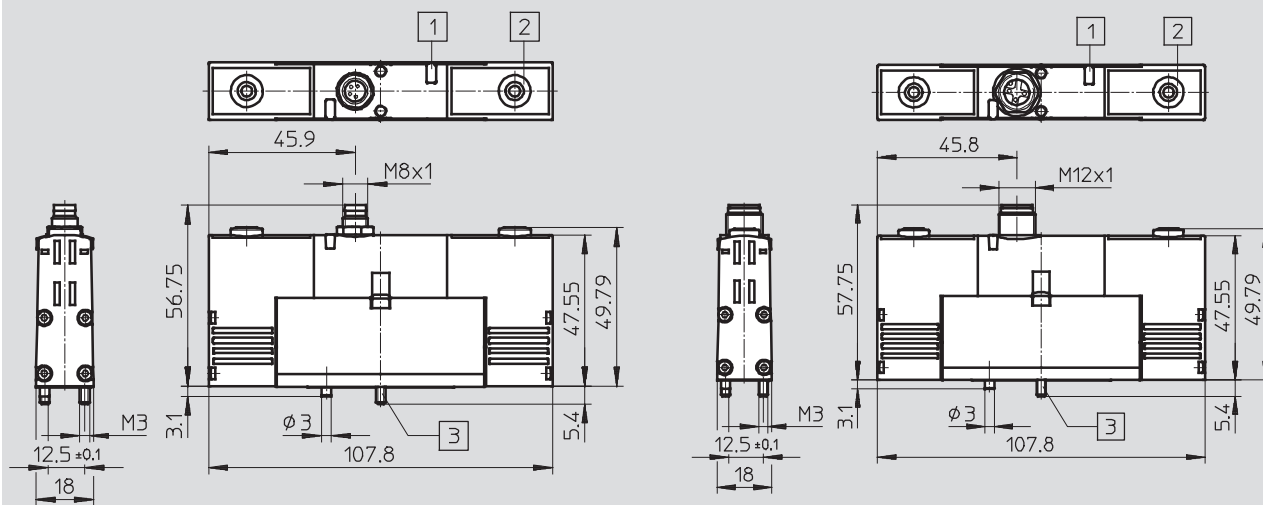
Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber

Dimensions

Download CAD data → www.festo.com



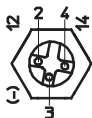
- 1 Light emitting diode (LED)
- 2 Manual override
- 3 Captive mounting screws

M8x1 – Terminal allocation



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

M12x1 – Terminal allocation

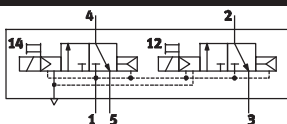
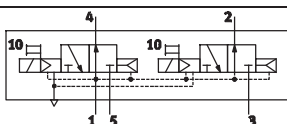
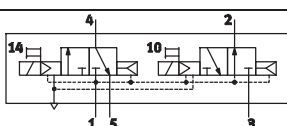
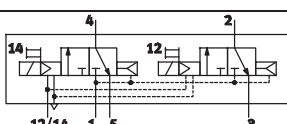
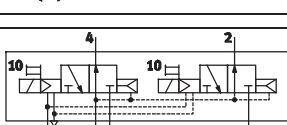
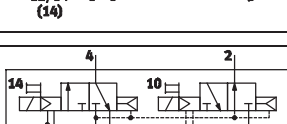


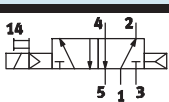
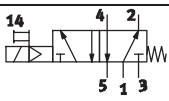
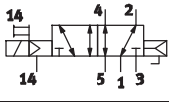
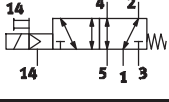
- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14

Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

FESTO

Technical data – Directional control valves width 18 mm

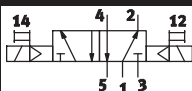
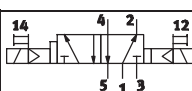
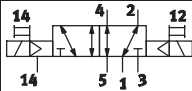
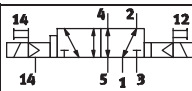
Ordering data – 2x 3/2-way valve							
Code	Circuit symbol	Normal position	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
K		2x closed	Internal	24 V DC	–	534771	VSVA-B-T32C-AH-A2-1R2L
				–	24 V DC	546764	VSVA-B-T32C-AH-A2-1R5L
N		2x open	Internal	24 V DC	–	534772	VSVA-B-T32U-AH-A2-1R2L
				–	24 V DC	546765	VSVA-B-T32U-AH-A2-1R5L
H		1x closed 1x open	Internal	24 V DC	–	534773	VSVA-B-T32H-AH-A2-1R2L
				–	24 V DC	546766	VSVA-B-T32H-AH-A2-1R5L
K		2x closed	External	24 V DC	–	534781	VSVA-B-T32C-AZH-A2-1R2L
				–	24 V DC	546774	VSVA-B-T32C-AZH-A2-1R5L
N		2x open	External	24 V DC	–	534782	VSVA-B-T32U-AZH-A2-1R2L
				–	24 V DC	546775	VSVA-B-T32U-AZH-A2-1R5L
H		1x closed 1x open	External	24 V DC	–	534783	VSVA-B-T32H-AZH-A2-1R2L
				–	24 V DC	546776	VSVA-B-T32H-AZH-A2-1R5L

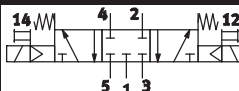
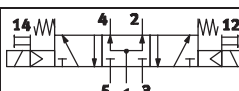
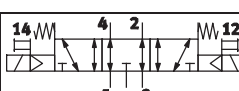
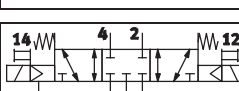
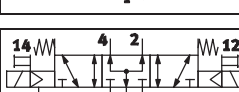
Ordering data – 5/2-way valve, single solenoid							
Code	Circuit symbol	Reset method	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
M		Pneumatic spring	Internal	24 V DC	–	534774	VSVA-B-M52-AH-A2-1R2L
				–	24 V DC	546767	VSVA-B-M52-AH-A2-1R5L
O		Mechanical spring	Internal	24 V DC	–	534775	VSVA-B-M52-MH-A2-1R2L
				–	24 V DC	546768	VSVA-B-M52-MH-A2-1R5L
M		Pneumatic spring	External	24 V DC	–	534784	VSVA-B-M52-AZH-A2-1R2L
				–	24 V DC	546777	VSVA-B-M52-AZH-A2-1R5L
O		Mechanical spring	External	24 V DC	–	534785	VSVA-B-M52-MZH-A2-1R2L
				–	24 V DC	546778	VSVA-B-M52-MZH-A2-1R5L

Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

FESTO

Technical data – Directional control valves 18

Ordering data – 5/2-way valve, double solenoid (bi-stable)							
Code	Circuit symbol	Dominant	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
J		1st signal	Internal	24 V DC	–	534776	VSVA-B-B52-H-A2-1R2L
				–	24 V DC	546769	VSVA-B-B52-H-A2-1R5L
D		At 14	Internal	24 V DC	–	534777	VSVA-B-D52-H-A2-1R2L
				–	24 V DC	546770	VSVA-B-D52-H-A2-1R5L
J		1st signal	External	24 V DC	–	534786	VSVA-B-B52-ZH-A2-1R2L
				–	24 V DC	546779	VSVA-B-B52-ZH-A2-1R5L
D		At 14	External	24 V DC	–	534787	VSVA-B-D52-ZH-A2-1R2L
				–	24 V DC	546780	VSVA-B-D52-ZH-A2-1R5L

Ordering data – 5/3-way valve, double solenoid (monostable)							
Code	Circuit symbol	Normal position	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
G		Closed	Internal	24 V DC	–	534778	VSVA-B-P53C-H-A2-1R2L
				–	24 V DC	546771	VSVA-B-P53C-H-A2-1R5L
B		Open	Internal	24 V DC	–	534780	VSVA-B-P53U-H-A2-1R2L
				–	24 V DC	546773	VSVA-B-P53U-H-A2-1R5L
E		Exhausted	Internal	24 V DC	–	534779	VSVA-B-P53E-H-A2-1R2L
				–	24 V DC	546772	VSVA-B-P53E-H-A2-1R5L
G		Closed	External	24 V DC	–	534788	VSVA-B-P53C-ZH-A2-1R2L
				–	24 V DC	546781	VSVA-B-P53C-ZH-A2-1R5L
B		Open	External	24 V DC	–	534790	VSVA-B-P53U-ZH-A2-1R2L
				–	24 V DC	546783	VSVA-B-P53U-ZH-A2-1R5L
E		Exhausted	External	24 V DC	–	534789	VSVA-B-P53E-ZH-A2-1R2L
				–	24 V DC	546782	VSVA-B-P53E-ZH-A2-1R5L

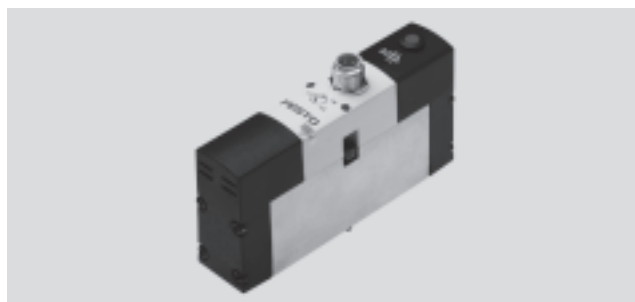
Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

FESTO

Technical data – Directional control valves width 26 mm

 Flow rate
1,250 ... 1,400 l/min

 Voltage
24 V DC



General technical data								
Valve function		2x 3/2			5/2		5/3	
Normal position		C ¹⁾	U ²⁾	H ⁴⁾	–	–	C ¹⁾	U ²⁾ E ³⁾
Memory stability		Monostable				Bi-stable	Monostable	
Pneumatic spring reset method		Yes			Yes	–	No	
Mechanical spring reset method		No			Yes	–	Yes	
Design		Piston spool valve						
Sealing principle		Soft						
Actuation type		Electric						
Pilot control mode		Piloted						
Pilot air supply		Internal or external						
Direction of flow		Non-reversible			Reversible for external pilot air supply			
Exhaust function		Flow control						
Manual override		Pushing (non-detenting)						
Type of mounting		On sub-base						
Mounting position		Any						
Nominal diameter	[mm]	9						
Flow rate of valve	[l/min]	1,250			1,400		1,400	
Flow rate of valve on individual sub-base	[l/min]	1,100			1,200		1,200	
Flow rate of valve, pneumatically interlinked	[l/min]	900			1,100		1,000	
Standard nominal flow rate	[l/min]	900			1,100		1,000	
Switching time on/off, pneumatic spring	[ms]	20/33			25/40	–	–	
Switching time on/off, mechanical spring	[ms]	–			20/52	–	20/52	
Changeover time, dominant at 1st signal	[ms]	–				15	–	
Changeover time, dominant at 14	[ms]	–				25	–	
Freedom from overlap		Yes						
Width	[mm]	26						
Ports on the sub-base	1, 2, 3, 4, 5	G1/4						
	12, 14	M5						
Tightening torque, valve mounting		[Nm] 18 ... 2.2						
Product weight	[g]	270			270	270		
Noise level	[dB (A)]	85						
Conforms to		ISO 15407-1						
Corrosion resistance class	CRC	2 ⁵⁾						

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) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

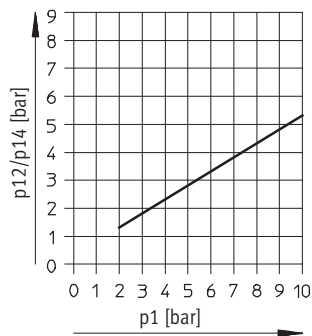
FESTO

Technical data – Directional control valves width 26 mm

Operating and environmental conditions				
Valve function		2x 3/2	5/2	5/3
Operating medium		Filtered compressed air, grade of filtration 40µm, lubricated or unlubricated, vacuum		
Operating pressure	Internal pilot air supply	[bar]	3 ... 8	3 ... 8
	External pilot air supply	[bar]	3 ... 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		
Fire protection classification to UL94		V0		

1) Pilot pressure dependent on operating pressure → Graph

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



Electrical data			
Electrical connection to IEC 60 947-5-2		Central plug, round design, M8x1 or M12x1	
Coil characteristics	Voltage	[V DC]	24±10% = 21.6 ... 26.4
	Output	[W]	High-current phase: 2.4; low-current phase: 1 ¹⁾
Duty cycle	%	100	
Protection class to EN 60529		IP65 (in combination with plug socket)	
Protective circuit and LED		Integrated in the valve	
CE mark		89/336/EEC (EMC)	

1) Controlled by integrated current reduction

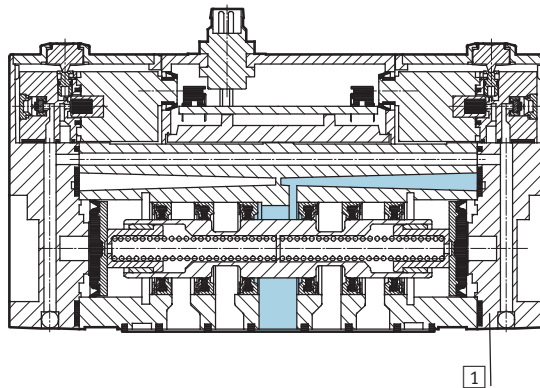
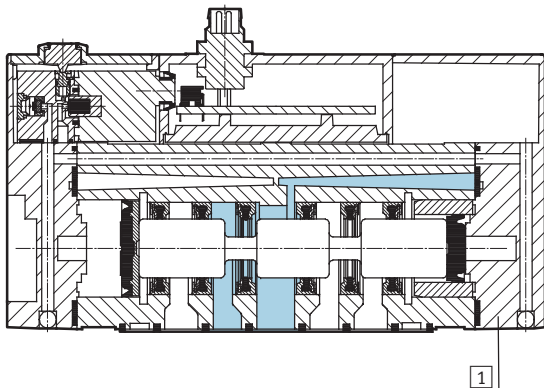
Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

FESTO

Technical data – Directional control valves width 26 mm

Materials

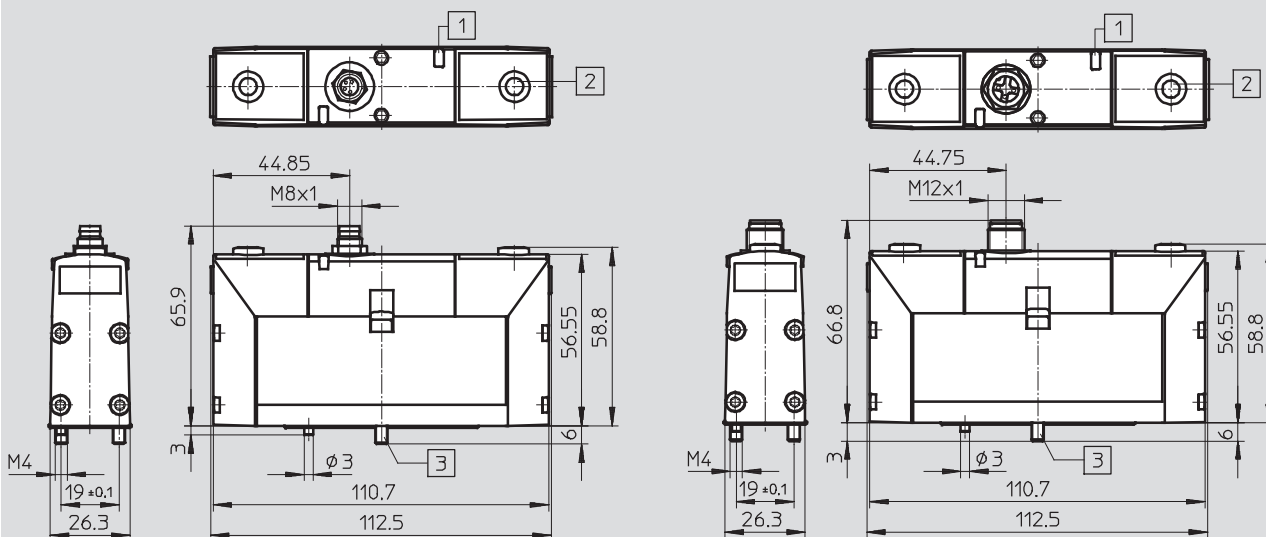
Sectional view



1	Housing	Die-cast aluminium, polyacetate
–	Seals	Nitrile rubber

Dimensions

Download CAD data → www.festo.com



1 Light emitting diode (LED)

3 Captive mounting screws

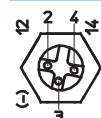
2 Manual override

M8x1 – Terminal allocation



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

M12x1 – Terminal allocation

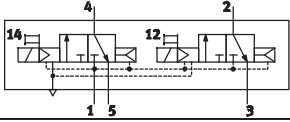
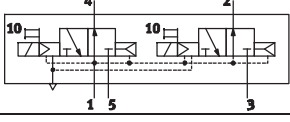
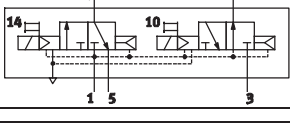
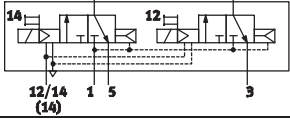
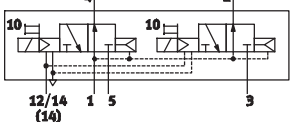
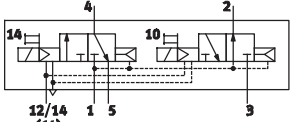


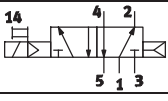
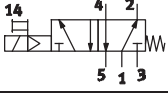
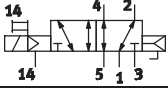
- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14

Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

FESTO

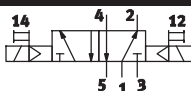
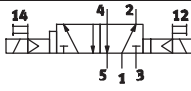
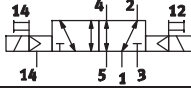
Technical data – Directional control valves width 26 mm

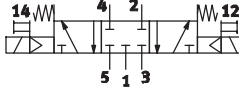
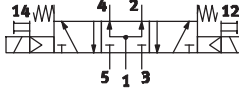
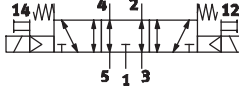
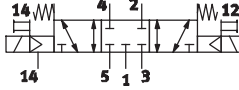
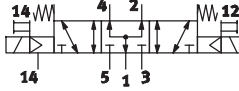
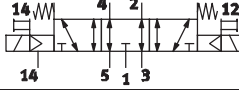
Ordering data – 2x 3/2-way valve							
Code	Circuit symbol	Normal position	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
K		2x closed	Internal	24 V DC	–	534532	VSVA-B-T32C-AH-A1-1R2L
				–	24 V DC	534552	VSVA-B-T32C-AH-A1-1R5L
N		2x open	Internal	24 V DC	–	534533	VSVA-B-T32U-AH-A1-1R2L
				–	24 V DC	534553	VSVA-B-T32U-AH-A1-1R5L
H		1x closed 1x open	Internal	24 V DC	–	534534	VSVA-B-T32H-AH-A1-1R2L
				–	24 V DC	534554	VSVA-B-T32H-AH-A1-1R5L
K		2x closed	External	24 V DC	–	534522	VSVA-B-T32C-AZH-A1-1R2L
				–	24 V DC	534542	VSVA-B-T32C-AZH-A1-1R5L
N		2x open	External	24 V DC	–	534523	VSVA-B-T32U-AZH-A1-1R2L
				–	24 V DC	534543	VSVA-B-T32U-AZH-A1-1R5L
H		1x closed 1x open	External	24 V DC	–	534524	VSVA-B-T32H-AZH-A1-1R2L
				–	24 V DC	534544	VSVA-B-T32H-AZH-A1-1R5L

Ordering data – 5/2-way valve, single solenoid (monostable)							
Code	Circuit symbol	Reset method	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
M		Pneumatic	Internal	24 V DC	–	534535	VSVA-B-M52-AH-A1-1R2L
				–	24 V DC	534555	VSVA-B-M52-AH-A1-1R5L
O		Mechanical spring	Internal	24 V DC	–	534536	VSVA-B-M52-MH-A1-1R2L
				–	24 V DC	534556	VSVA-B-M52-MH-A1-1R5L
M		Pneumatic	External	24 V DC	–	534525	VSVA-B-M52-AZH-A1-1R2L
				–	24 V DC	534545	VSVA-B-M52-AZH-A1-1R5L
O		Mechanical spring	External	24 V DC	–	534526	VSVA-B-M52-MZH-A1-1R2L
				–	24 V DC	534546	VSVA-B-M52-MZH-A1-1R5L

Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

Technical data – Directional control valves width 26 mm

Ordering data – 5/2-way valve, double solenoid (bi-stable)							
Code	Circuit symbol	Dominant	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
J		1st signal	Internal	24 V DC	–	534537	VSVA-B-B52-H-A1-1R2L
				–	24 V DC	534557	VSVA-B-B52-H-A1-1R5L
D		At 14	Internal	24 V DC	–	534538	VSVA-B-D52-H-A1-1R2L
				–	24 V DC	534558	VSVA-B-D52-H-A1-1R5L
J		1st signal	External	24 V DC	–	534527	VSVA-B-B52-ZH-A1-1R2L
				–	24 V DC	534547	VSVA-B-B52-ZH-A1-1R5L
D		At 14	External	24 V DC	–	534528	VSVA-B-D52-ZH-A1-1R2L
				–	24 V DC	534548	VSVA-B-D52-ZH-A1-1R5L

Ordering data – 5/3-way valve, double solenoid (monostable)							
Code	Circuit symbol	Normal position	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
G		Closed	Internal	24 V DC	–	534539	VSVA-B-P53C-H-A1-1R2L
				–	24 V DC	534559	VSVA-B-P53C-H-A1-1R5L
B		Open	Internal	24 V DC	–	534541	VSVA-B-P53U-H-A1-1R2L
				–	24 V DC	534561	VSVA-B-P53U-H-A1-1R5L
E		Exhausted	Internal	24 V DC	–	534540	VSVA-B-P53E-H-A1-1R2L
				–	24 V DC	534560	VSVA-B-P53E-H-A1-1R5L
G		Closed	External	24 V DC	–	534529	VSVA-B-P53C-ZH-A1-1R2L
				–	24 V DC	534549	VSVA-B-P53C-ZH-A1-1R5L
B		Open	External	24 V DC	–	534531	VSVA-B-P53U-ZH-A1-1R2L
				–	24 V DC	534551	VSVA-B-P53U-ZH-A1-1R5L
E		Exhausted	External	24 V DC	–	534530	VSVA-B-P53E-ZH-A1-1R2L
				–	24 V DC	534550	VSVA-B-P53E-ZH-A1-1R5L

Manifold components, ISO 15407-1

Vertical stacking – Width 18 mm

FESTO

Regulator plate VABF-S3-2-R ...

Material:

Housing: Die-cast aluminium

Control section: Polyamide

 Ambient temperature
–5 ... +50 °C

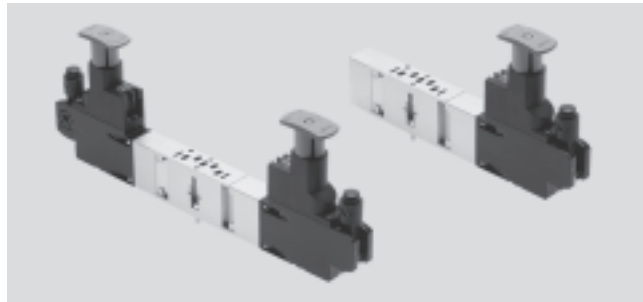
Regulating function:

Input pressure: 0.5 ... 10 bar

Pressure regulating ranges:

0.5 ... 6 bar, 0.5 ... 10 bar

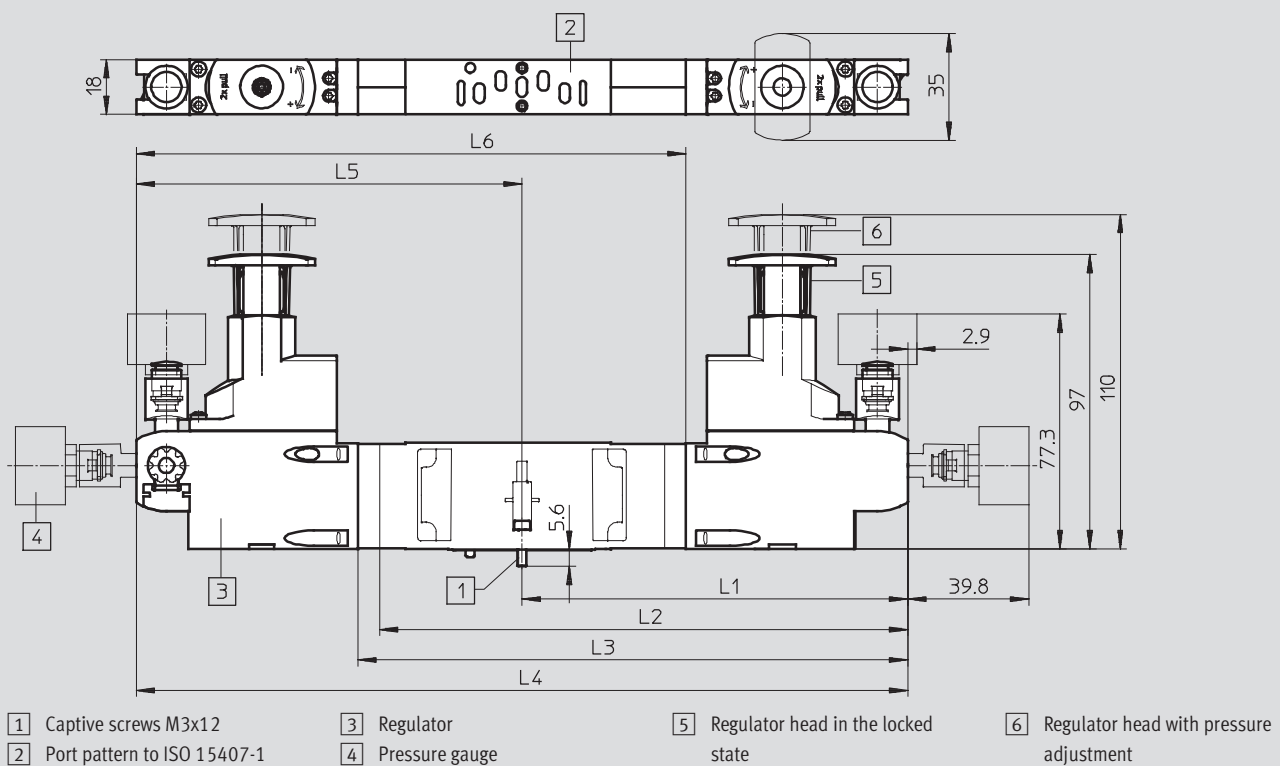
Output pressure constant with
secondary venting



Dimensions – Width 18 mm

Download CAD data → www.festo.com

Regulator plate, A regulator, B regulator, AB regulator, P regulator



Dimensions							
Type	L1	L2	L3	L4	L5	L6	Weight [g]
VABF-S3-2-R4...	126.7	–	–	253.4	–	–	650
VABF-S3-2-R5...	126.7	–	–	253.4	–	–	650
VABF-S3-2-R3...	–	–	–	–	126.7	187.7	390
VABF-S3-2-R7...	–	–	–	–	126.7	187.7	390
VABF-S3-2-R2...	126.7	–	187.7	–	–	–	390
VABF-S3-2-R6...	126.7	–	187.7	–	–	–	390
VABF-S3-2-R1...	126.7	180.6	–	–	–	–	380

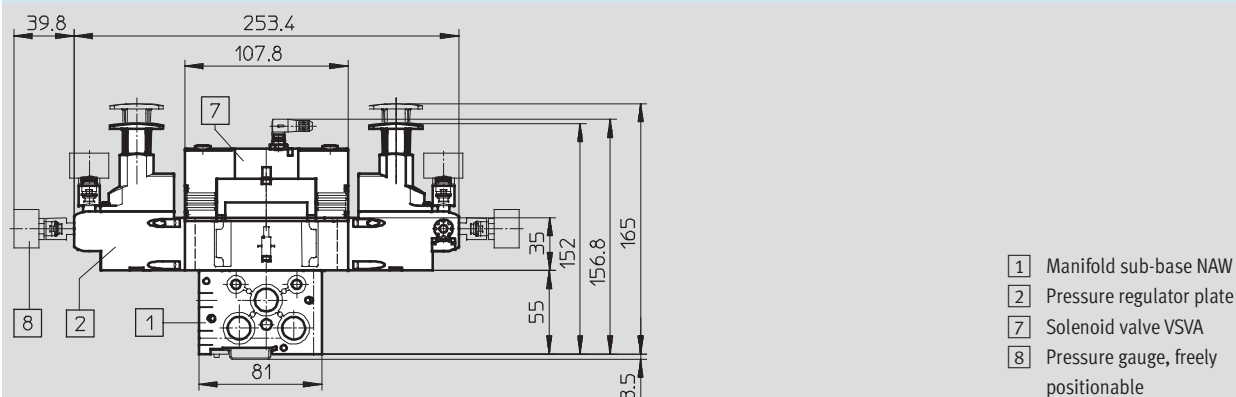
Manifold components, ISO 15407-1

Vertical stacking – Width 18 mm

Dimensions

Download CAD data → www.festo.com

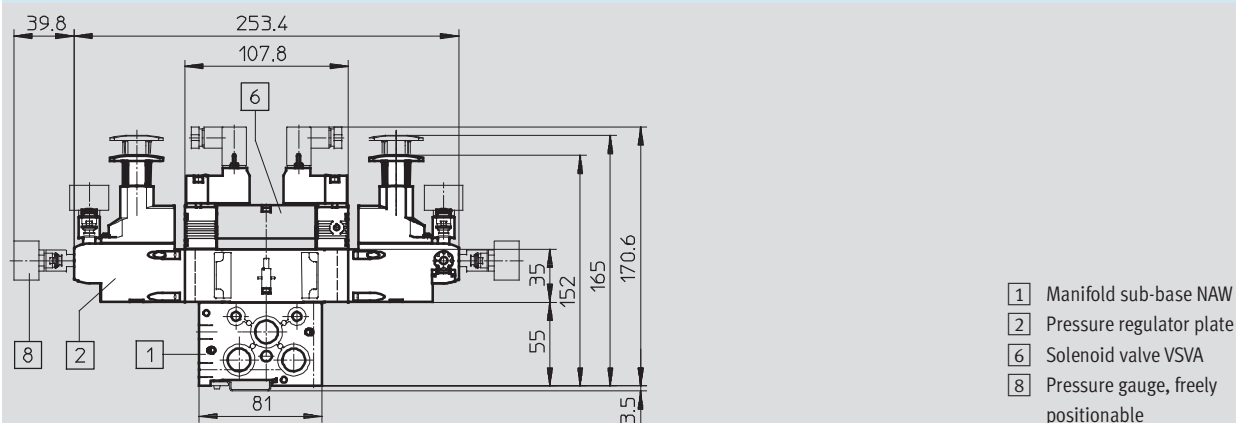
With manifold sub-base and solenoid valve (central plug)



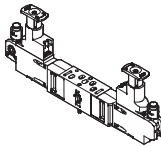
Dimensions

Download CAD data → www.festo.com

With manifold sub-base and solenoid valve (plug type C)



Ordering data

Code	Designation	For connection	Regulator	Control range	Part No.	Type
Regulator plate width 18 mm						
ZA		1	P	0.5 ... 10 bar	543526	VABF-S3-2-R1C2-C-10
ZF		1	P	0.5 ... 6 bar	543524	VABF-S3-2-R1C2-C-6
ZB		4	A	0.5 ... 10 bar	543530	VABF-S3-2-R3C2-C-10
ZG		4	A	0.5 ... 6 bar	543528	VABF-S3-2-R3C2-C-6
ZC		2	B	0.5 ... 10 bar	543534	VABF-S3-2-R2C2-C-10
ZH		2	B	0.5 ... 6 bar	543532	VABF-S3-2-R2C2-C-6
ZD		2 and 4	AB	0.5 ... 10 bar	543538	VABF-S3-2-R4C2-C-10
ZI		2 and 4	AB	0.5 ... 6 bar	543536	VABF-S3-2-R4C2-C-6
ZE		2 and 4, reversible	AB	0.5 ... 10 bar	543542	VABF-S3-2-R5C2-C-10
ZJ		2 and 4, reversible	AB	0.5 ... 6 bar	543540	VABF-S3-2-R5C2-C-6
ZL		2, reversible	B	0.5 ... 10 bar	546788	VABF-S3-2-R6C2-C-10
ZN		2, reversible	B	0.5 ... 6 bar	546786	VABF-S3-2-R6C2-C-6
ZK		4, reversible	A	0.5 ... 10 bar	546792	VABF-S3-2-R7C2-C-10
ZM		4, reversible	A	0.5 ... 6 bar	546790	VABF-S3-2-R7C2-C-6

Manifold components, ISO 15407-1

Vertical stacking – Width 18 mm

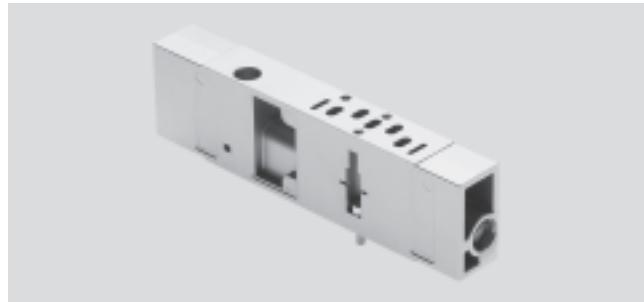
FESTO

Flow control plate VABF-S3-2-F...

Material:

Housing: Die-cast aluminium

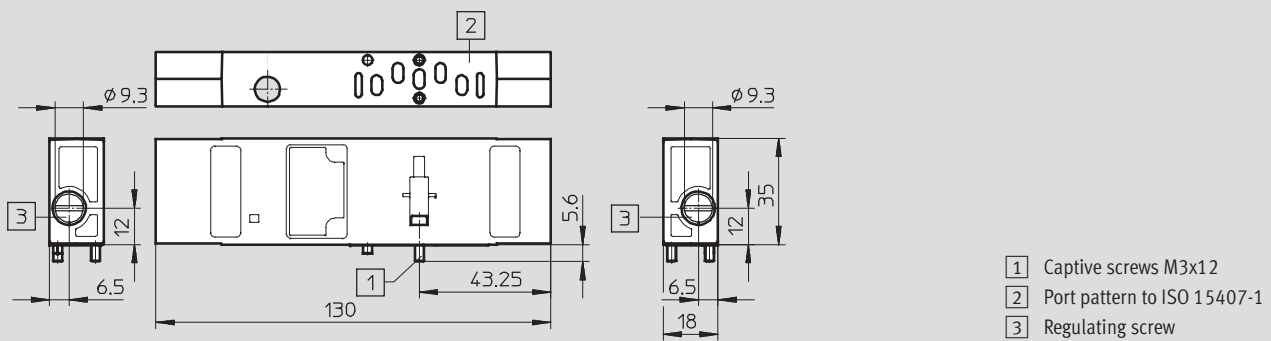
 Ambient temperature
–5 ... +50 °C



Dimensions

Download CAD data → www.festo.com

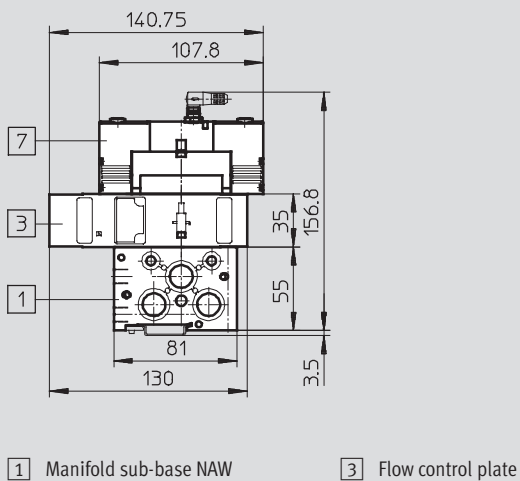
Flow control plate width 18 mm



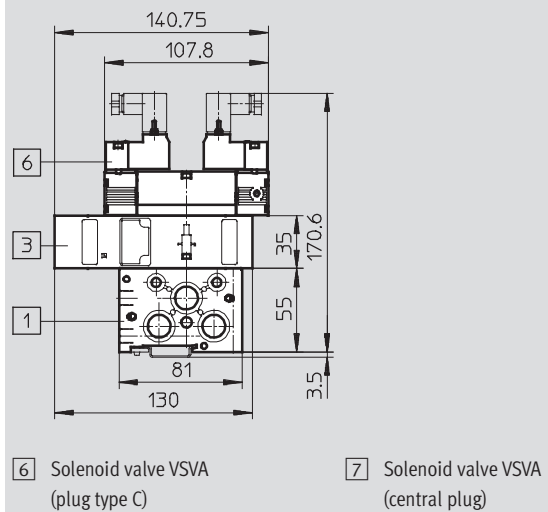
Dimensions

Download CAD data → www.festo.com

With manifold sub-base and solenoid valve (central plug)



With manifold sub-base and solenoid valve (plug type C)



Ordering data

Code	Description	Weight [g]	Part No.	Type
X	For exhaust air flow control in ducts 3 and 5 on the valve	228	543603	VABF-S3-2-F1B1-C

Manifold components, ISO 15407-1

Vertical stacking – Width 18 mm

Vertical supply plate

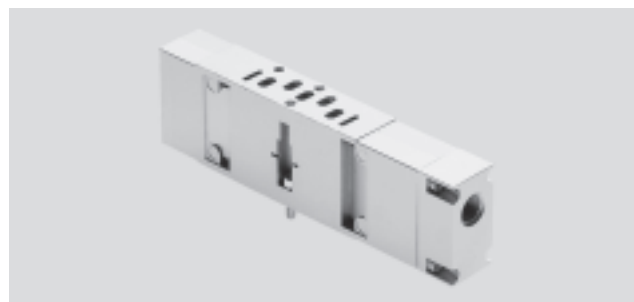
VABF-S3-2-P ...

Material:

Housing: Die-cast aluminium

-  - Ambient temperature
-5 ... +50 °C

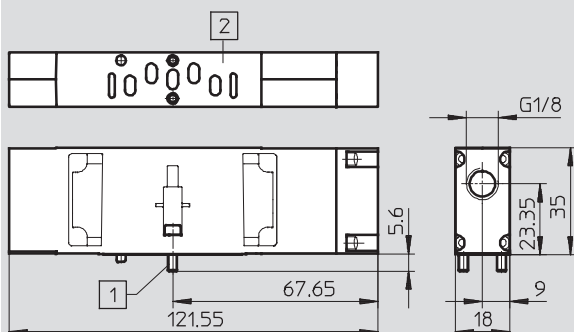
-  - Operating pressure
-0.9 ... +10 bar



Dimensions

Download CAD data → www.festo.com

Vertical supply plate width 18 mm

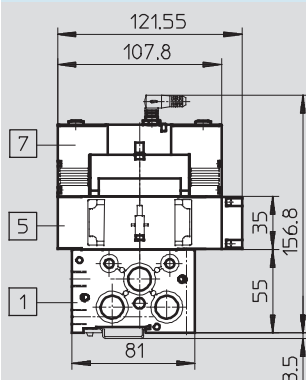


- 1 Captive screws
- 2 Port pattern to ISO 15407-1

Dimensions

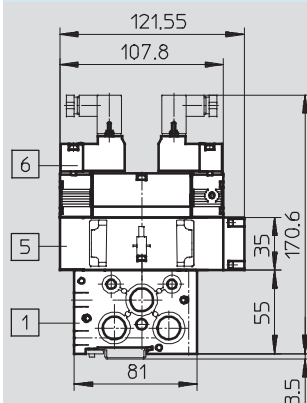
Download CAD data → www.festo.com

With manifold sub-base and solenoid valve (central plug)



- 1 Manifold sub-base NAW
- 5 Vertical supply plate

With manifold sub-base and solenoid valve (plug type C)



- 6 Solenoid valve VSVA (plug type C)
- 7 Solenoid valve VSVA (central plug)

Ordering data

Code	Description	Weight [g]	Part No.	Type
ZU	For the independent supply of a valve	146	544435	VABF-S3-2-P1A3-G18

Manifold components, ISO 15407-1

Vertical stacking – Width 18 mm

FESTO

Vertical shut-off plate

VABF-S3-2-L ...

Material:

Housing: Die-cast aluminium

 Ambient temperature
–5 ... +50 °C

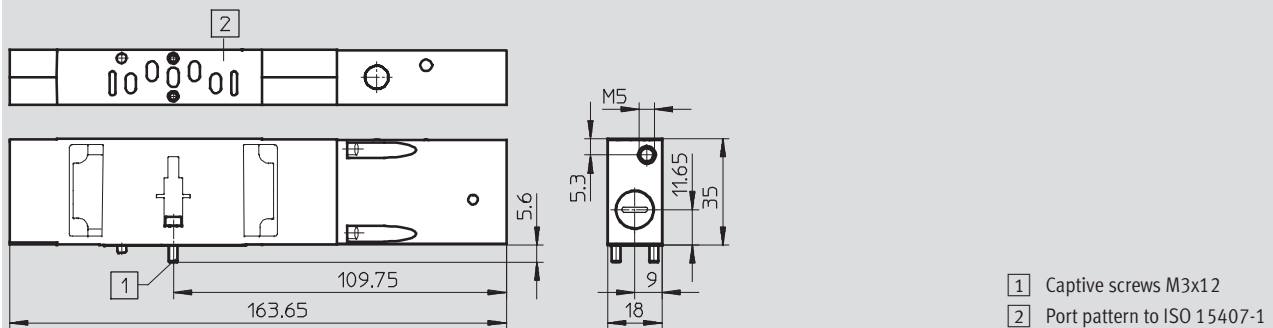
 Operating pressure
–0.9 ... +10 bar



Dimensions

Download CAD data → www.festo.com

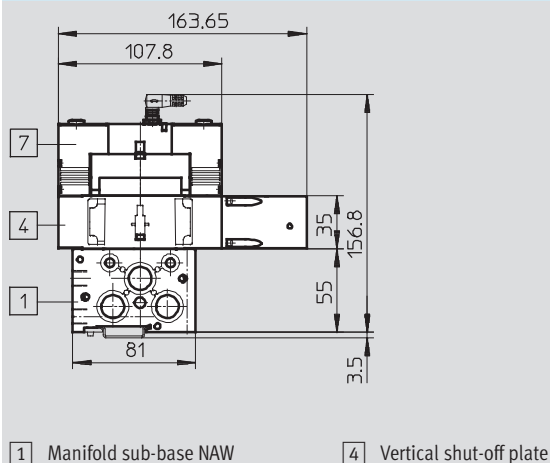
Vertical shut-off plate width 18 mm



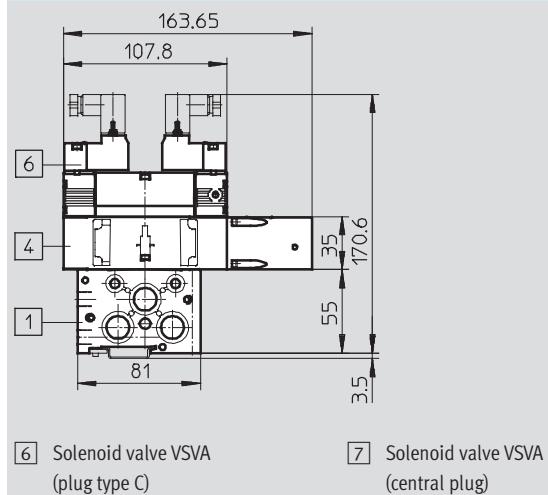
Dimensions

Download CAD data → www.festo.com

With manifold sub-base and solenoid valve (central plug)



With manifold sub-base and solenoid valve (plug type C)



Ordering data

Code	Description	Weight [g]	Part No.	Type
ZT	For shutting off a valve from the supply pressure	212	543601	VABF-S3-2-L1D1-C

Manifold components, ISO 15407-1

Vertical stacking – Width 26 mm

Regulator plate VABF-S3-1-R ...

Material:

Housing: Die-cast aluminium

Control section: Polyamide

Regulating function:

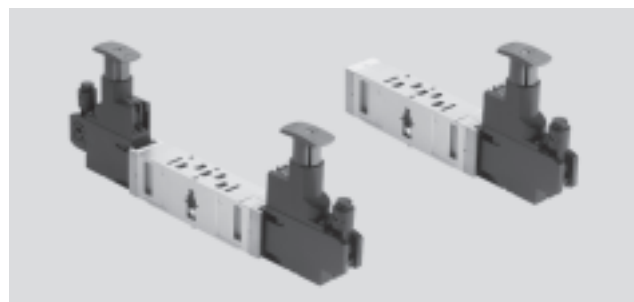
Input pressure: 0.5 ... 10 bar

Pressure regulating ranges:

0.5 ... 6 bar, 0.5 ... 10 bar

Output pressure constant with secondary venting

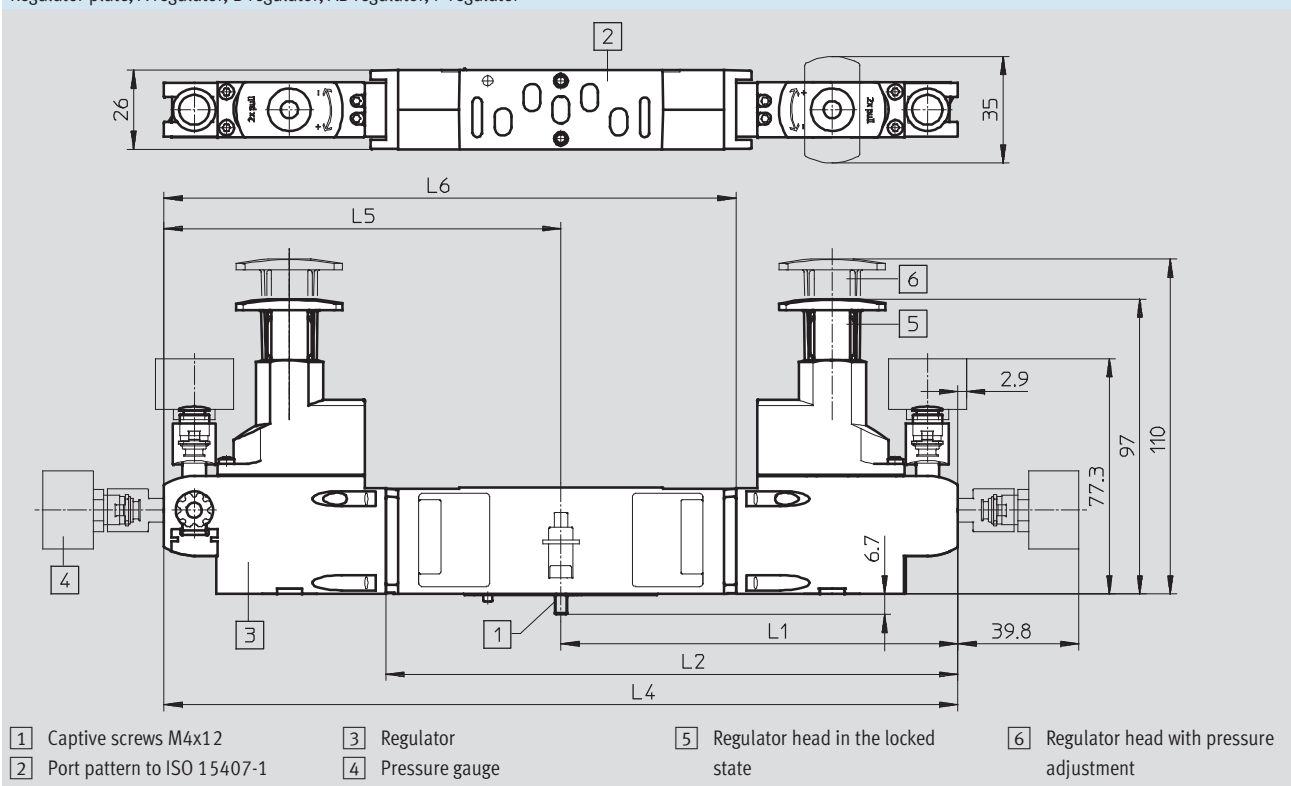
 Ambient temperature
-5 ... +50 °C



Dimensions – Width 26 mm

Download CAD data → www.festo.com

Regulator plate, A regulator, B regulator, AB regulator, P regulator



Dimensions							
Type	L1	L2	L3	L4	L5	L6	Weight [g]
VABF-S3-1-R5...	130.35	–	–	260.7	–	–	712
VABF-S3-1-R7...	–	–	–	–	130.35	192.9	452
VABF-S3-1-R6...	130.35	195	–	–	–	–	452
VABF-S3-1-R1...	130.35	183.88	–	–	–	–	439

Manifold components, ISO 15407-1

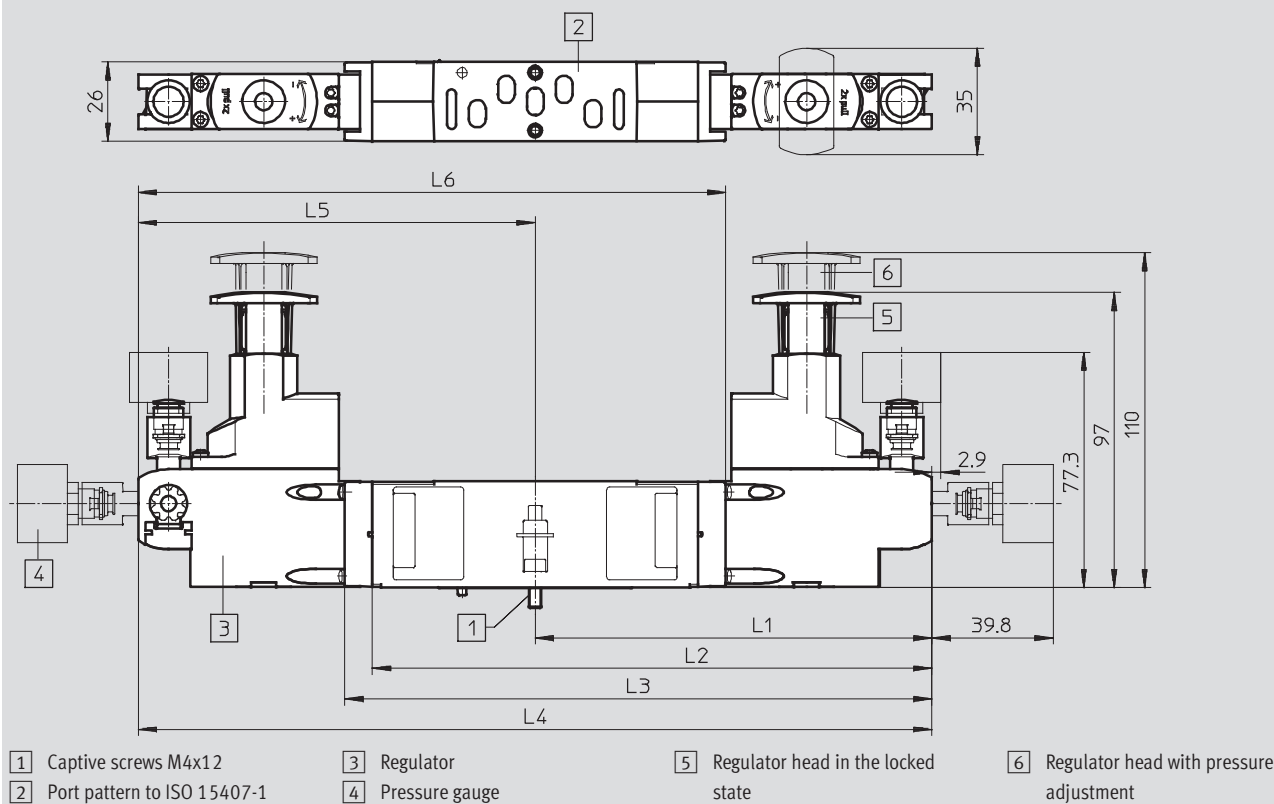
Vertical stacking – Width 26 mm

FESTO

Dimensions – Width 26 mm

Download CAD data → www.festo.com

Regulator plate, A regulator, B regulator, AB regulator



Dimensions

Type	L1	L2	L3	L4	L5	L6	Weight [g]
VABF-S3-1-R4...	130.35	–	–	260.7	–	–	712
VABF-S3-1-R3...	–	–	–	–	130.35	192.9	452
VABF-S3-1-R2...	130.35	–	192.9	–	–	–	452

Manifold components, ISO 15407-1

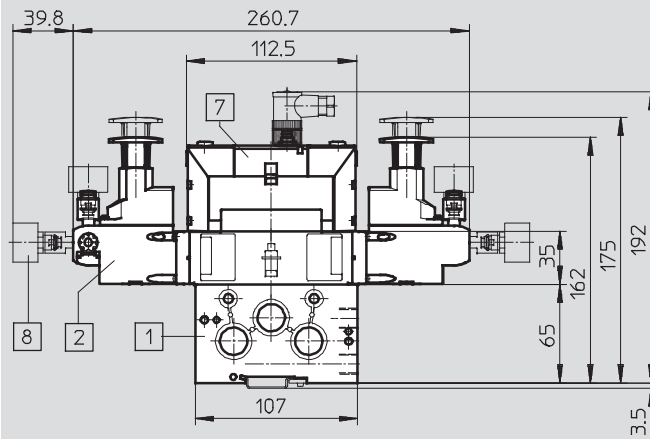
Vertical stacking – Width 26 mm

FESTO

Dimensions

Download CAD data → www.festo.com

With manifold sub-base and solenoid valve (central plug)

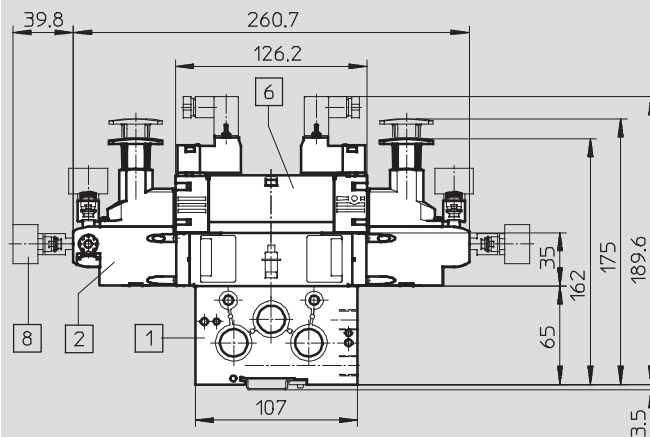


- 1 Manifold sub-base NAW
- 2 Pressure regulator plate
- 7 Solenoid valve VSVA
- 8 Pressure gauge, freely positionable

Dimensions

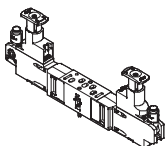
Download CAD data → www.festo.com

With manifold sub-base and solenoid valve (plug type C)



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

Ordering data

Code	Designation	For connection	Regulator	Regulating range	Part No.	Type
Regulator plate width 26 mm						
ZA		1	P	0.5 ... 10 bar	543527	VABF-S3-1-R1C2-C-10
ZF		1	P	0.5 ... 6 bar	543525	VABF-S3-1-R1C2-C-6
ZB		4	A	0.5 ... 10 bar	543531	VABF-S3-1-R3C2-C-10
ZG		4	A	0.5 ... 6 bar	543529	VABF-S3-1-R3C2-C-6
ZC		2	B	0.5 ... 10 bar	543535	VABF-S3-1-R2C2-C-10
ZH		2	B	0.5 ... 6 bar	543533	VABF-S3-1-R2C2-C-6
ZD		2 and 4	AB	0.5 ... 10 bar	543539	VABF-S3-1-R4C2-C-10
ZI		2 and 4	AB	0.5 ... 6 bar	543537	VABF-S3-1-R4C2-C-6
ZE		2 and 4, reversible	AB	0.5 ... 10 bar	543543	VABF-S3-1-R5C2-C-10
ZJ		2 and 4, reversible	AB	0.5 ... 6 bar	543541	VABF-S3-1-R5C2-C-6
ZL		2, reversible	B	0.5 ... 10 bar	546789	VABF-S3-1-R6C2-C-10
ZN		2, reversible	B	0.5 ... 6 bar	546787	VABF-S3-1-R6C2-C-6
ZK		4, reversible	A	0.5 ... 10 bar	546793	VABF-S3-1-R7C2-C-10
ZM		4, reversible	A	0.5 ... 6 bar	546791	VABF-S3-1-R7C2-C-6

Manifold components, ISO 15407-1

Vertical stacking – Width 26 mm

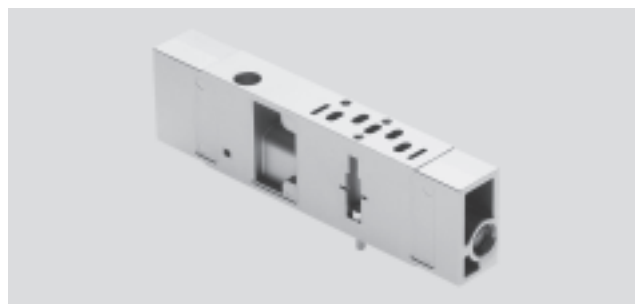
FESTO

Flow control plate VABF-S3-1-F...

Material:

Housing: Die-cast aluminium

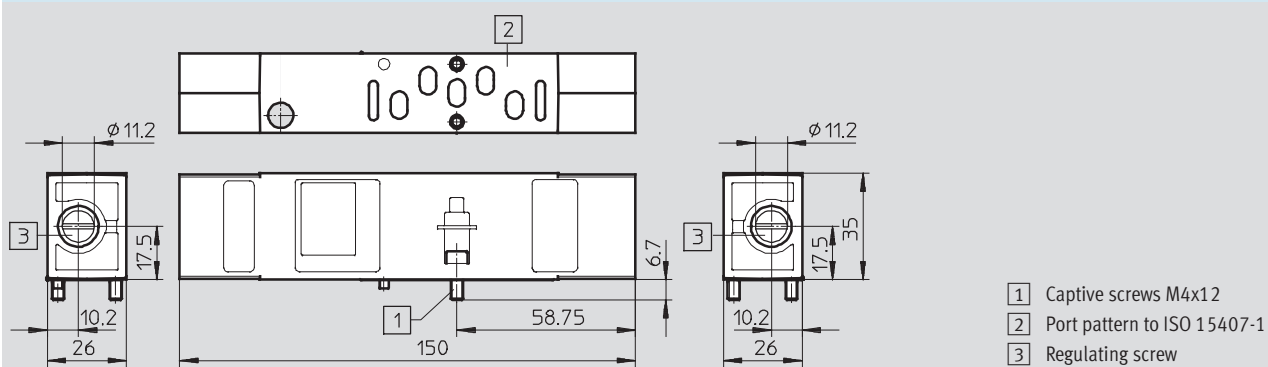
 Ambient temperature
–5 ... +50 °C



Dimensions – Width 26 mm

Download CAD data → www.festo.com

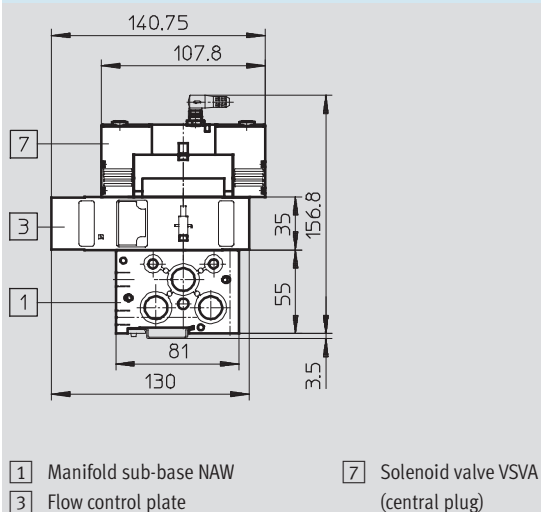
Flow control plate



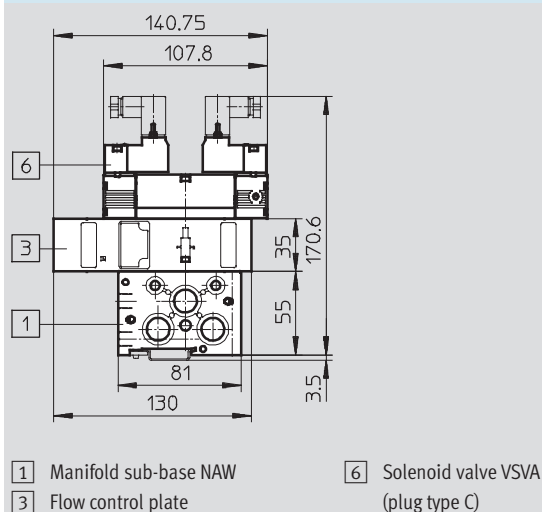
Dimensions

Download CAD data → www.festo.com

With manifold sub-base and solenoid valve (central plug)



With manifold sub-base and solenoid valve (plug type C)



Ordering data

Code	Description	Weight [g]	Part No.	Type
X	For exhaust air flow control in ducts 3 and 5 on the valve	320	543604	VABF-S3-1-F1B1-C

Manifold components, ISO 15407-1

Vertical stacking – Width 26 mm

Vertical supply plate

VABF-S3-1-P ...

Material:

Housing: Die-cast aluminium

-  - Ambient temperature
-5 ... +50 °C

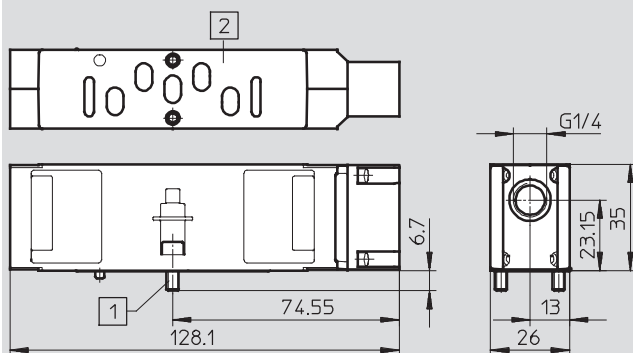
-  - Operating pressure
-0.9 ... +10 bar



Dimensions – Width 26 mm

Download CAD data → www.festo.com

Vertical supply plate

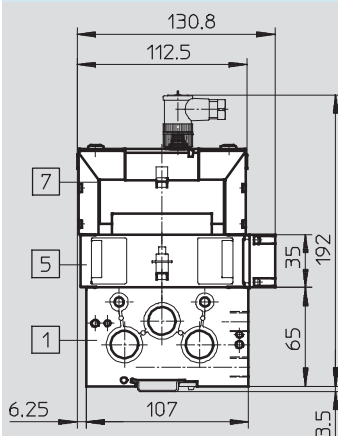


- 1 Captive screws M4x12
- 2 Port pattern to ISO 15407-1

Dimensions

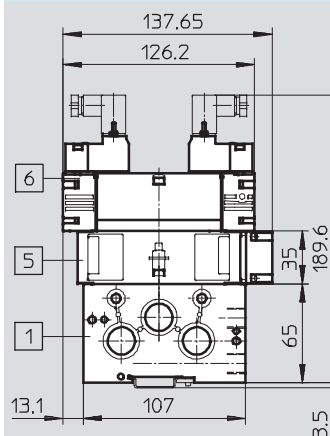
Download CAD data → www.festo.com

With manifold sub-base and solenoid valve (central plug)



- 1 Manifold sub-base NAW
- 5 Vertical supply plate
- 7 Solenoid valve VSVA (central plug)

With manifold sub-base and solenoid valve (plug type C)



- 1 Manifold sub-base NAW
- 5 Vertical supply plate
- 6 Solenoid valve VSVA (plug type C)

Ordering data

Code	Description	Weight [g]	Part No.	Type
ZU	For the independent supply of a valve	201	544434	VABF-S3-1-P1A3-G14

Manifold components, ISO 15407-1

Vertical stacking – Width 26 mm

FESTO

Vertical shut-off plate

VABF-S3-1-L ...

Material:

Housing: Die-cast aluminium

 Ambient temperature
–5 ... +50 °C

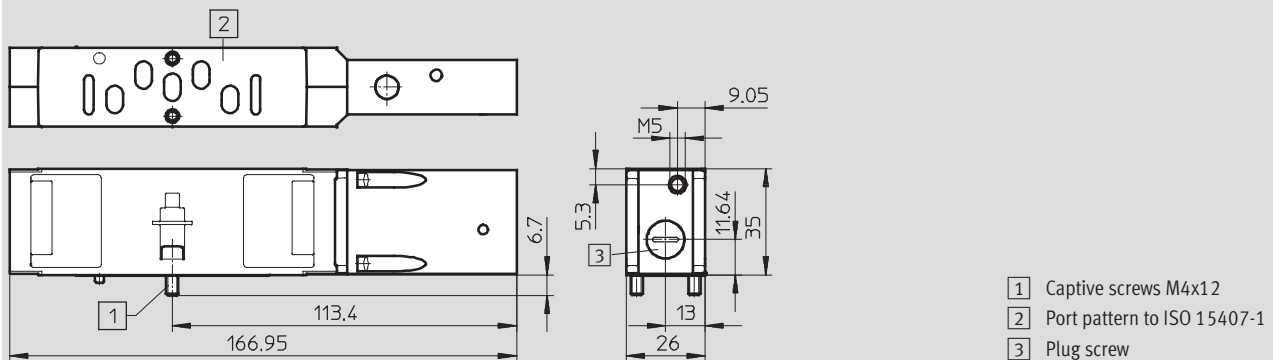
 Operating pressure
–0.9 ... +10 bar



Dimensions – Width 26 mm

Download CAD data → www.festo.com

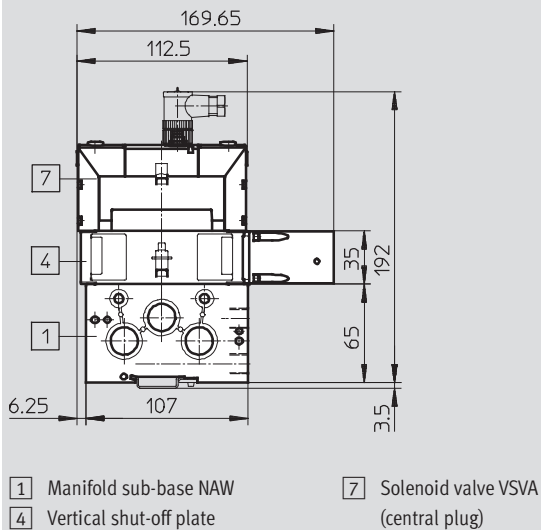
Vertical shut-off plate



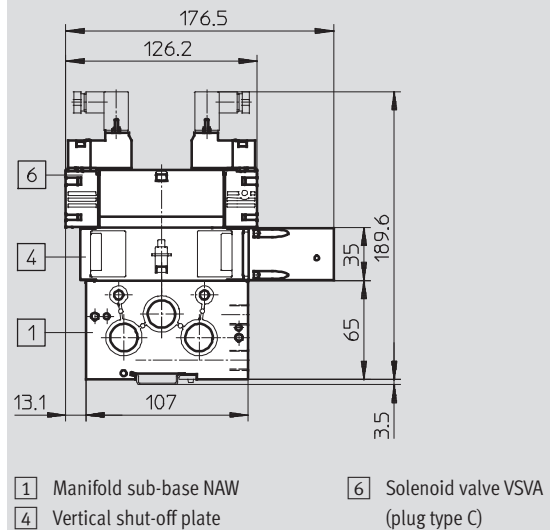
Dimensions

Download CAD data → www.festo.com

With manifold sub-base and solenoid valve (central plug)



With manifold sub-base and solenoid valve (plug type C)



Ordering data

Code	Description	Weight [g]	Part No.	Type
ZT	For shutting off a valve from the supply pressure	286	543602	VABF-S3-1-L1D1-C

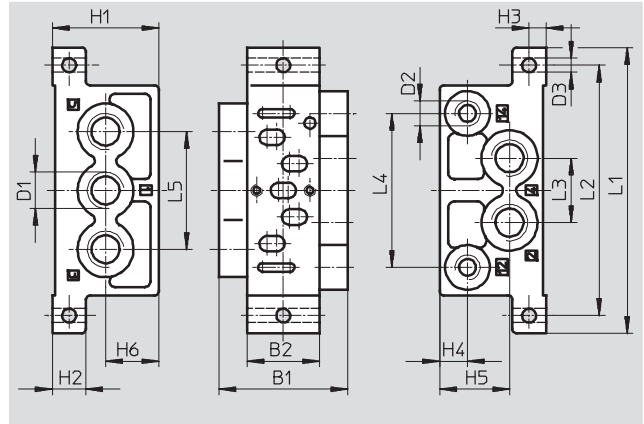
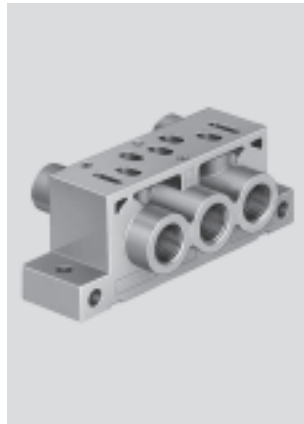
926.Sub-bases, ISO 15407-1

FESTO

Individual sub-base

Individual sub-base 927. NAS

Materials:
Die-cast aluminium



Dimensions and ordering data											
Width [mm]	B1	B2	D1	D2	D3 Ø	H1	H2	H3	H4	H5	H6
18	28.5	18	G $\frac{1}{8}$	M5	5.5	31	10	5	7	20	14.5
26	46	26	G $\frac{1}{4}$	G $\frac{1}{8}$	5	38	12	6	10	25	19

Dimensions and ordering data									
Width [mm]	L1	L2	L3	L4	L5	Weight [g]	Part No.	Type	
18	79	66.5	17	40	32	67	161115	NAS- $\frac{1}{8}$ -02-VDMA	
26	102	89.4	23	55	42	160	161109	NAS- $\frac{1}{4}$ -01-VDMA	

General technical data			
Width [mm]		18	26
Type of mounting		2 through-holes in housing	
Pneumatic connection	1, 2, 3, 4, 5	G $\frac{1}{8}$	G $\frac{1}{4}$
	12, 14	M5	G $\frac{1}{8}$

928.Manifold components, ISO 15407-1

Horizontal linking

FESTO

Manifold sub-base NAW929.

Material:

Die-cast aluminium



Ordering data – NAW for solenoid valves					
Width [mm]	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
18	G $\frac{1}{8}$	M5	130	161110	NAW-$\frac{1}{8}$-02-VDMA
26	G $\frac{1}{4}$	M5	225	161102	NAW-$\frac{1}{4}$-01-VDMA

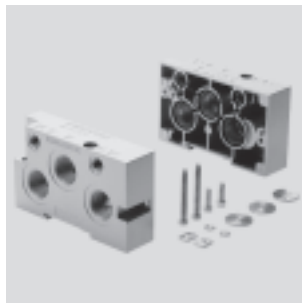
Ordering data – NAW for pneumatic valves					
Width [mm]	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
18	G $\frac{1}{8}$	M5	130	161111	NAW-$\frac{1}{8}$-02-VDMA-VL
26	G $\frac{1}{4}$	M5	225	161103	NAW-$\frac{1}{4}$-01-VDMA-VL

Dimensions → 60

End plate kit NEV930.

Material:

Die-cast aluminium



Ordering data					
Width [mm]	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
18	G $\frac{3}{8}$	G $\frac{1}{8}$	280	161112	NEV-02-VDMA
26	G $\frac{1}{2}$	G $\frac{1}{8}$	445	161104	NEV-01-VDMA

Dimensions → 60

931.Manifold components, ISO 15407-1

Horizontal linking

FESTO

End plate kit NEV932.

For combi manifold with widths of 18 and 26

Material:
Die-cast aluminium



Ordering data				
Width [mm]	Description	Weight [g]	Part No.	Type
18 and 26	One end plate of width 18 mm, one end plate of width 26 mm and fittings	372	191405	NEV-02-01-VDMA

Dimensions → 60

Intermediate plate NZV933.

For combi manifold with widths of 18 and 26

Material:
Die-cast aluminium



Dimensions

Download CAD data → www.festo.com

Technical drawing of the intermediate plate (NZV933) showing dimensions and port locations. The drawing includes a side view, a top view, and a front view.

Side View (Left):

- Overall width: $32^{+0.15}_{-0.05}$
- Overall height: 65 ± 0.3
- Port diameter: 12 ± 0.1

Top View (Right):

- Overall width: 107 ± 0.2
- Overall height: 7

Front View (Bottom):

- Overall width: 80 ± 0.1
- Overall height: 16
- Port locations (from left): 16 , 46 , 80 ± 0.1
- Port diameters: $G1/2$
- Port numbers: 1, 3, 5

Ordering data				
Width [mm]	Pneumatic connection		Weight [g]	Part No. Type
18 and 26	G1/2	–	270	161108 NZV-01/02-VDMA

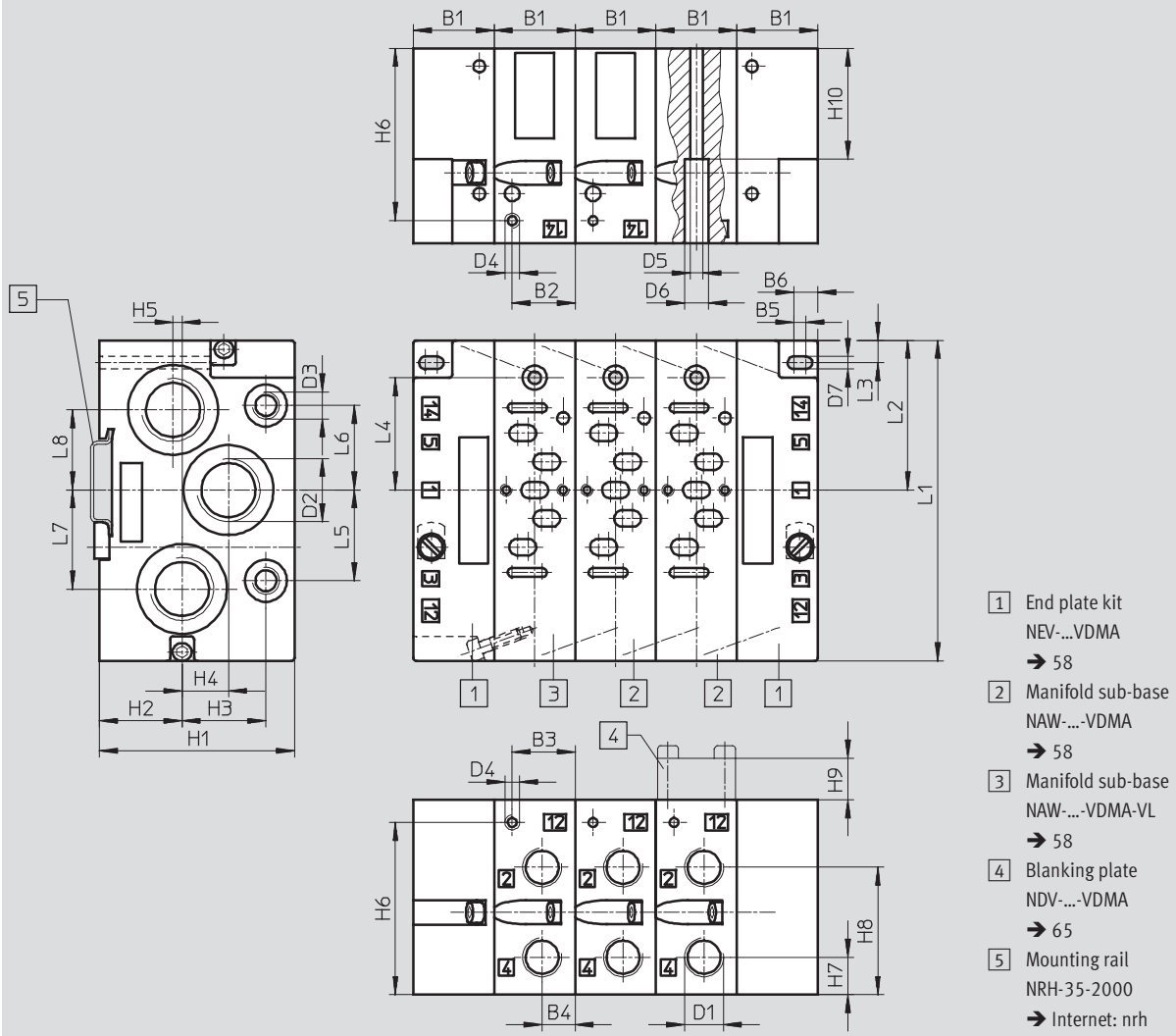
934.Manifold components, ISO 15407-1

Horizontal linking

FESTO

Dimensions – Manifold assembly

Download CAD data → www.festo.com



Width [mm]	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4
18	19	6	13	7.5	1	4.5	G $\frac{1}{8}$	G $\frac{3}{8}$	G $\frac{1}{8}$	M5
26	27	21	21	11	4	8	G $\frac{1}{4}$	G $\frac{1}{2}$	G $\frac{1}{8}$	M5

Width [mm]	D5	D6	D7	H1	H2	H3	H4	H5	H6	H7
18	3.3	6.3	4.3	55	17	28.8	18.5	–	48	10.5
26	4.2	8	4.2	65	27.5	28	15.5	3	57.5	12.5

Width [mm]	H8	H9	H10	L1	L2	L3	L4	L5	L6	L7	L8
18	35.5	12	40	81	36.5	5.6	30.9	20	20	18	18
26	42.5	14	37	107	50	7.5	37.5	30.3	28.3	33	26.8

935.Manifold components, ISO 15407-1

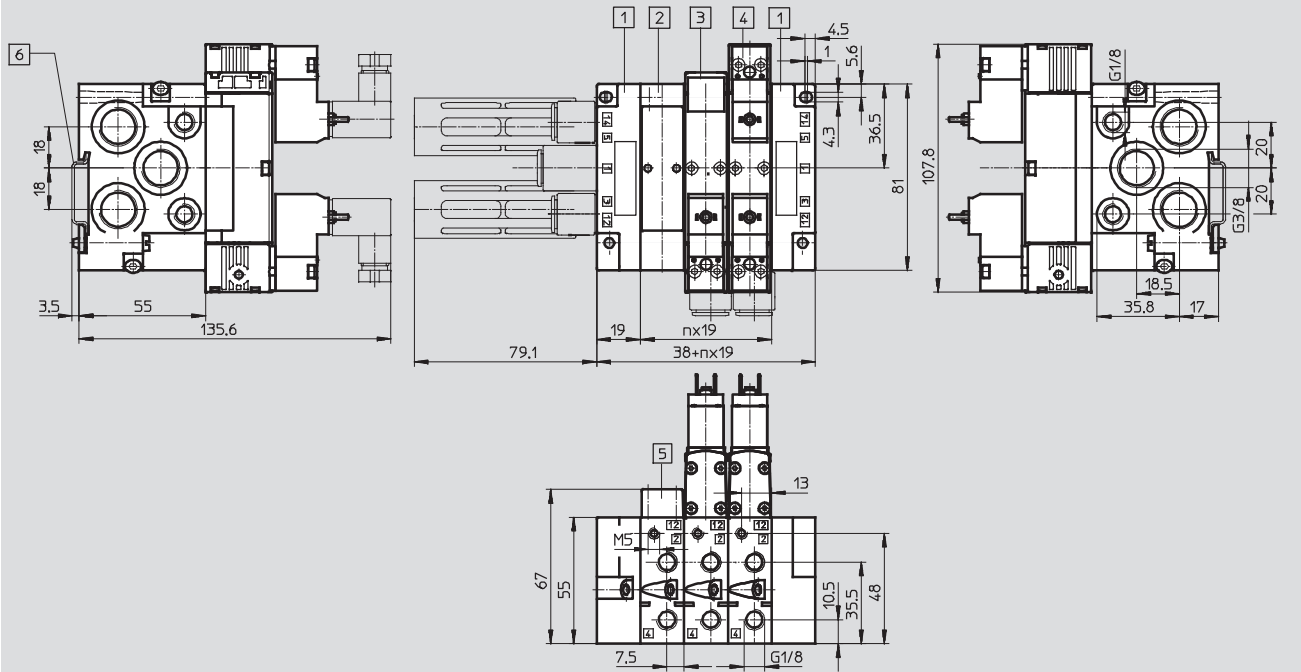
Horizontal linking

FESTO

Dimensions – Manifold assembly, width 18 mm

Download CAD data → www.festo.com

Valves with square plug, type C



- 1 End plate kit
type NEV-02-VDMA
- 2 Manifold sub-bases type
NAW-1/8-02-VDMA

- 3 Solenoid valve VSVA
(single solenoid)
- 4 Solenoid valve VSVA
(double solenoid)

- 5 Blanking plate NDV-02-VDMA

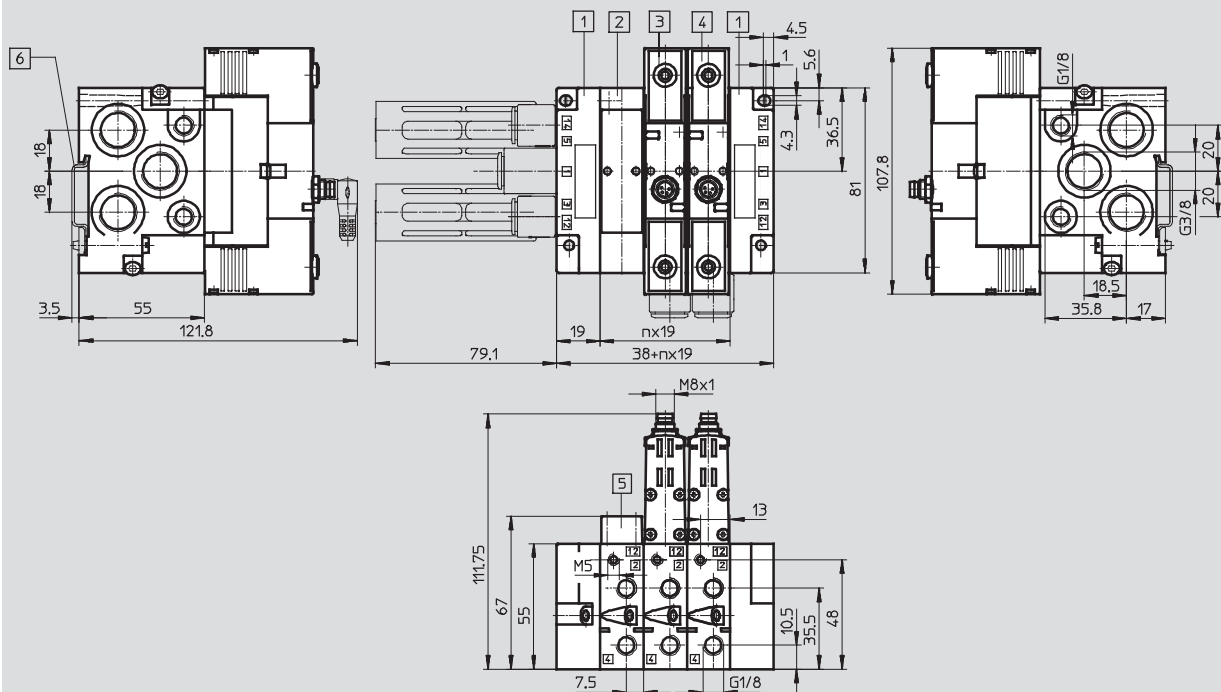
- 6 Mounting rail NRH-35-2000

Horizontal linking

FESTO

Download CAD data → www.festo.com

Valves with central plug M8x1



- | | | | |
|---|---|-------------------------------------|------------------------------------|
| 1 End plate kit
type NEV-02-VDMA | 3 Solenoid valve VSVA
(plug M8x1) | 5 Blanking plate NDV-02-VDMA | 6 Mounting rail NRH-35-2000 |
| 2 Manifold sub-bases type
NAW-1/8-02-VDMA | 4 Solenoid valve VSVA
(plug M8x1) | | |

Horizontal linking

Dimensions – Manifold assembly, width 26 mm

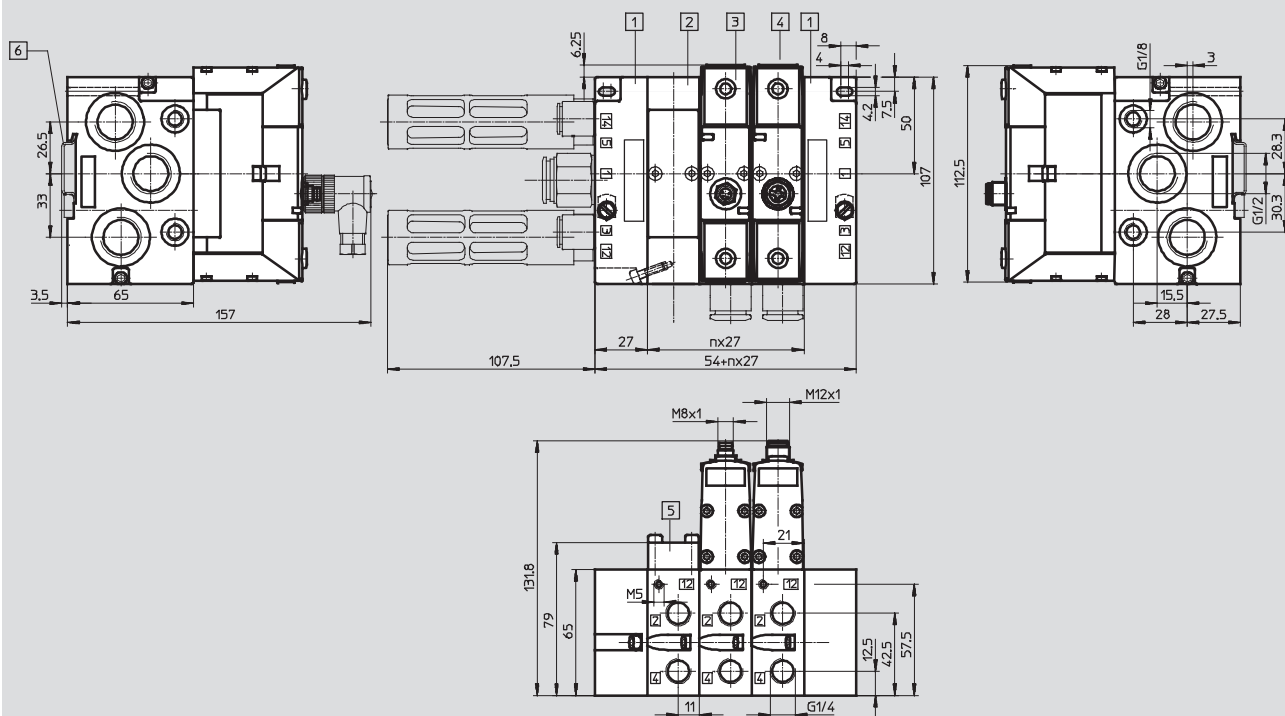
Download CAD data → www.festo.com[illegible]

Horizontal linking

Dimensions – Manifold assembly, width 26 mm

Download CAD data ➔ www.festo.com

Valves with central plug M8x1, M12x1



- | | | | |
|---|--|-------------------------------------|------------------------------------|
| 1 End plate kit
type NEV-01-VDMA | 3 Solenoid valve VSVA
(plug M8x1) | 5 Blanking plate NDV-01-VDMA | 6 Mounting rail NRH-35-2000 |
| 2 Manifold sub-bases type
NAW-1/4-01-VDMA | 4 Solenoid valve VSVA
(plug M12x1) | | |

939.Manifold components, ISO 15407-1

FESTO

Horizontal linking

Isolating disc NSC940.

Material:
Aluminium

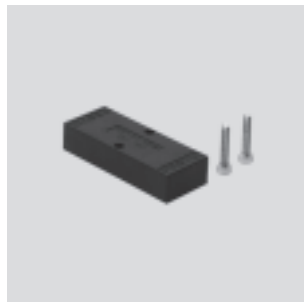


Ordering data – NSC for ports 1, 2, 3 (solenoid/pneumatic valves)			
Width [mm]	Weight [g]	Part No.	Type
18	2	161113	NSC-3/8-02-VDMA
26	2	161105	NSC-1/2-01-VDMA

Ordering data – NSC for ports 12, 14 (pneumatic valves)			
Width [mm]	Weight [g]	Part No.	Type
18	2	161106	NSC-1/8-01-VDMA
26	2	161106	NSC-1/8-01-VDMA

Blanking plate NDV941.

Material:
Polymer
Free of copper and PTFE



Ordering data			
Width [mm]	Weight [g]	Part No.	Type
18	22	161114	NDV-02-VDMA
26	36	161107	NDV-01-VDMA

Dimensions →

Pneumatic valves, VSPA, ISO 15407-1

FESTO

Product range overview

Function	Variant	Type	Flow rate of valve	Working port on sub-base		Normal position			→ Page/Internet
			[l/min]	G $\frac{1}{8}$	G $\frac{1}{4}$	2x closed (C)	2x open (U)	1x (C) 1x (U) C/U=H	
2x3/2-way valves, monostable	Width 18 mm, pneumatically actuated valve								
		VSPA-B-T32...A2	550	■	–	■	■	■	71
	Width 26 mm, pneumatically actuated valve								
		VSPA-B-T32...A1	1,250	–	■	■	■	■	74

Function	Variant	Type	Flow rate of valve	Working port on sub-base		Reset method		→ Page/Internet
			[l/min]	G⅜	G¼	Pneumatic spring	Mechanical spring	
5/2-way valves, monostable	Width 18 mm, pneumatically actuated valve							
		VSPA-B-B52...A2	700	■	–	■	■	71
	Width 26 mm, pneumatically actuated valve							
		VSPA-B-B52...A1	1,400	–	■	■	■	74

Function	Variant	Type	Flow rate of valve	Working port on sub-base		Dominant		→ Page/Internet
			[l/min]	G1/8	G1/4	1st signal	At 14	
5/2-way valves, bi-stable	Width 18 mm, pneumatically actuated valve							
		VSPA-B-M52...A2	700	■	–	■	■	71
	Width 26 mm, pneumatically actuated valve							
		VSPA-B-M52...A1	1,400	–	■	■	■	74

Function	Variant	Type	Flow rate of valve	Working port on sub-base		Normal position			→ Page/Internet
			[l/min]	G⅜	G⅜	Closed	Exhausted	Open	
5/3-way valves, monostable	Width 18 mm, pneumatically actuated mid-position valve								
		VSPA-B-P53...A2	650	■	–	■	■	■	71
	Width 26 mm, pneumatically actuated mid-position valve								
		VSPA-B-P53...A1	1,400	–	■	■	■	■	74

Pneumatic valves, VSPA, ISO 15407-1

Type codes

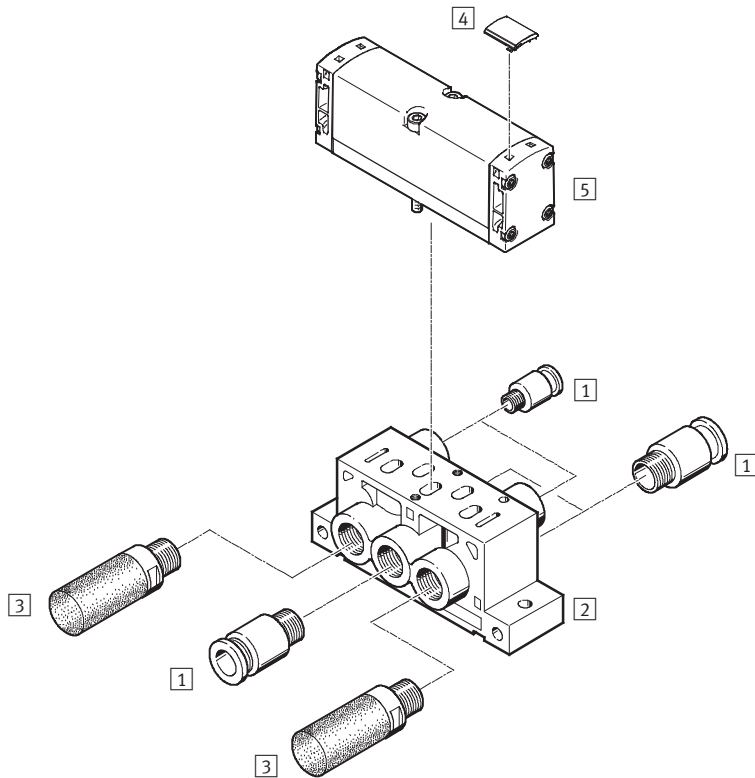
		VSPA	-	B	-	M	52		-	A	-	A1
Valve family												
VSPA	Standard valves ISO 15407-1/-2											
Valve type												
B	Sub-base valve											
Valve function												
M	Monostable											
B	Bi-stable											
D	Bi-stable with dominance at 14											
P	Monostable, mid-position											
T	2 monostable valves in one housing											
Connections / switching positions												
32	3/2-way valve											
52	5/2-way valve											
53	5/3-way valve											
Normal position												
C	Closed											
U	Open											
E	Exhausted											
H	Code T with 1x open, 1x closed											
	Bi-stable valve											
Reset method												
A	Pneumatic spring											
M	Mechanical spring											
	Bi-stable valve											
Standard												
A1	ISO size 01, width 26											
A2	ISO size 02, width 18											

Pneumatic valves VSPA, ISO 15407-1

Peripherals overview

FESTO

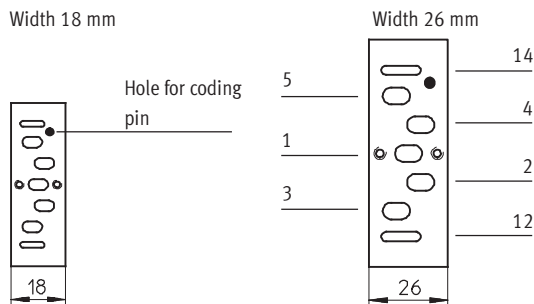
Individual mounting



Accessories			
	Type	Brief description	→ Page/Internet
1	Push-in fitting	QS-...	For connecting compressed air tubing with standard external diameters
2	Individual sub-base	NAS-...	With lateral ports
–	Individual sub-base	NAU-...	With ports underneath
3	Silencer	U-...	For fitting in exhaust ports
4	Inscription label holder	ASCF-...	For identifying the valves
5	Pneumatic valve	VSPA-...	Port pattern to ISO 15407-1

Port pattern on sub-base to ISO 15407-1

Standard updates given below

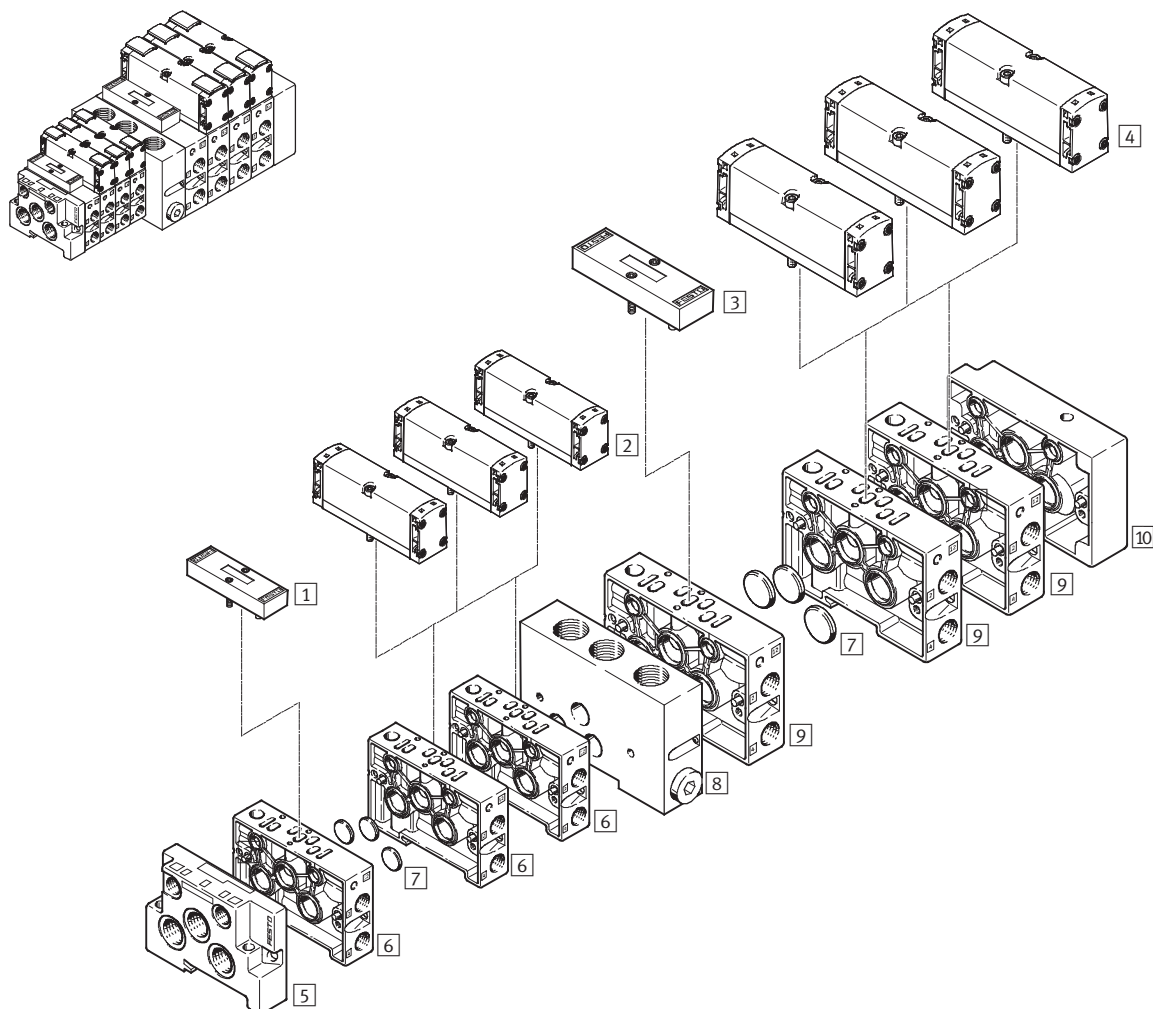


Pneumatic valves VSPA, ISO 15407-1

FESTO

Peripherals overview

Manifold assembly



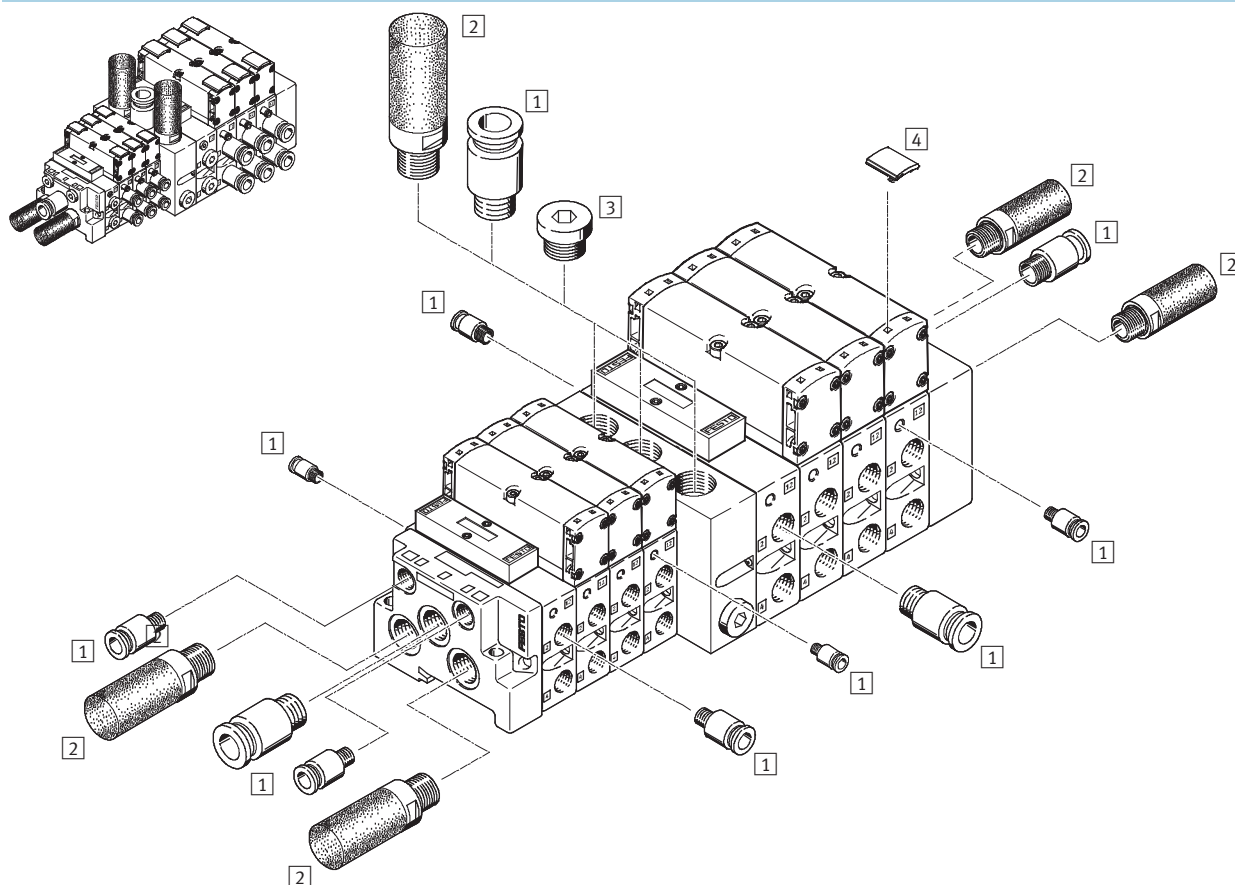
Component parts			
	Type	Brief description	→ Page/Internet
1	Blanking plate	NDV-02-VDMA	For width 18, vacant or spare position
2	Pneumatic valve	VSPA...A2	Width 18
3	Blanking plate	NDV-01-VDMA	For width 26, vacant or spare position
4	Pneumatic valve	VSPA...A1	Width 26
5	End plate	NEV-...	For sealing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

Pneumatic valves VSPA, ISO 15407-1

Peripherals overview

FESTO

Manifold assembly



Accessories			
	Type	Brief description	→ Page/Internet
1	Push-in fitting	QS-...	For connecting compressed air tubing with standard external diameters
2	Silencer	U-...	For fitting in exhaust ports
3	Blanking plugs	B-...	For fitting in exhaust ports
4	Inscription label holder	ASCF-...	For identifying the valves

Pneumatic valves VSPA, ISO 15407-1

Technical data – Directional control valves width 18 mm

FESTO

Flow rate
550 ... 750 l/min



General technical data				
Valve function	2x 3/2	5/2		5/3
Normal position	C ¹⁾ , U ²⁾ , H ⁴⁾	–	–	C ¹⁾ , U ²⁾ , E ³⁾
Memory stability	Monostable	Monostable	Bi-stable	Monostable
Pneumatic spring reset method	Yes	Yes	–	No
Mechanical spring reset method	No	Yes	–	Yes
Design	Piston spool valve			
Sealing principle	Soft			
Actuation type	Pneumatic			
Pilot control mode	Direct			
Direction of flow	Non-reversible	Reversible		
Exhaust function	Flow control			
Type of mounting	On sub-base			
Mounting position	Any			
Nominal diameter	[mm]	5		
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 valve, pneumatically interlinked	[l/min]	400	550	450
Standard nominal flow rate	[l/min]	400	550	450
Switching time on/off, pneumatic spring	[ms]	10/15	11/20	–
Switching time on/off, mechanical spring	[ms]	–	8/18	–
Changeover time	[ms]	–	6	–
Changeover time (dominant)	[ms]	–	6	–
Width	[mm]	18		
Ports on the sub-base	1, 2, 3, 4, 5	G1/8		
	12, 14	M5		
Tightening torque, valve mounting	[Nm]	0.68 ... 0.92		
Product weight	[g]	80		
Conforms to		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

Operating and environmental conditions			
Valve function	2x3/2	5/2	5/3
Operating medium	Filtered compressed air, grade of filtration 40µm, lubricated or unlubricated		
Operating pressure [bar]	2 ... 10	−0.9 ... 10	
Pilot pressure [bar]	2 ... 10	3 ... 10 single solenoid; 2 ... 10 double solenoid	3 ... 10
Ambient temperature [°C]	−10 ... +60		
Temperature of medium [°C]	−10 ... +60		
Fire protection classification to UL94	HB		

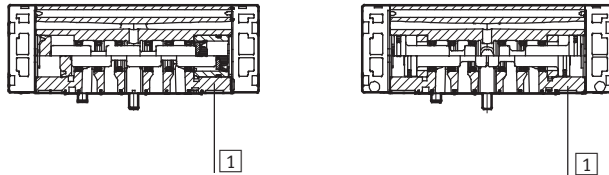
Pneumatic valves, VSPA, ISO 15407-1

Technical data – Directional control valves width 18 mm

FESTO

Materials

Sectional view

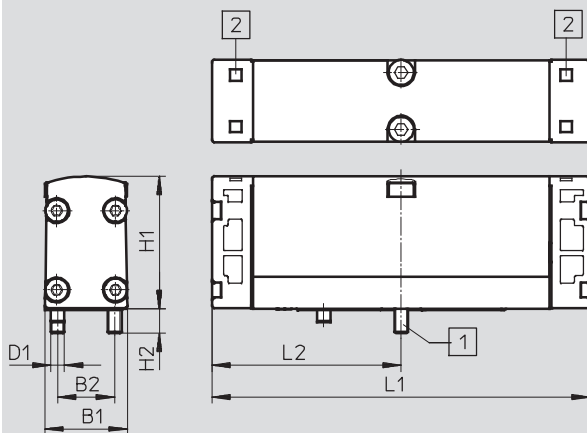


1	Housing	Die-cast aluminium
–	Seals	Nitrile rubber
–	Screws	Galvanised steel

Dimensions

Download CAD data → www.festo.com

Width 18



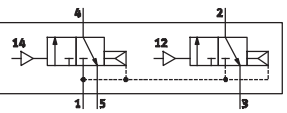
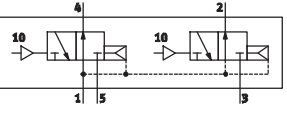
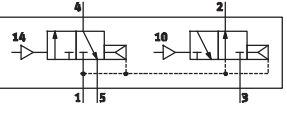
1 Captive screws 2 Slot for inscription label

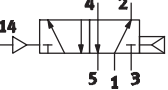
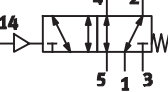
	B1	B2	D1	H1	H2	L1	L2
VSPA-B-...	18	12.5	M3	29	5.4	83	41.5

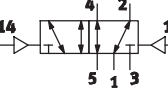
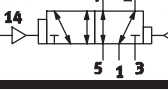
Pneumatic valves, VSPA, ISO 15407-1

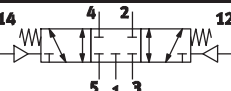
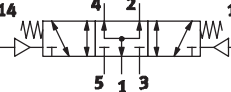
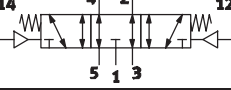
Technical data – Directional control valves 18

FESTO

Ordering data – 2x3/2-way valve, width 18				
Code	Circuit symbol	Normal position	Part No.	Type
K		2x closed	546721	VSPA-B-T32C-A2
N		2x open	546722	VSPA-B-T32U-A2
H		1x closed 1x open	546723	VSPA-B-T32H-A2

Ordering data – 5/2-way (monostable) valve, width 18				
Code	Circuit symbol	Reset method	Part No.	Type
M		Pneumatic	546726	VSPA-B-M52-A-A2
O		Mechanical spring	546727	VSPA-B-M52-M-A2

Ordering data – 5/2-way (bi-stable) valve, width 18				
Code	Circuit symbol	Dominant	Part No.	Type
J		1st signal	546724	VSPA-B-B52-A2
D		At 14	546725	VSPA-B-D52-A2

Ordering data – 5/3-way (monostable) valve, width 18				
Code	Circuit symbol	Normal position	Part No.	Type
G		Closed	546730	VSPA-B-P53C-A2
B		Open	546728	VSPA-B-P53U-A2
E		Exhausted	546729	VSPA-B-P53E-A2

Pneumatic valves VSPA, ISO 15407-1

Technical data – Directional control valves width 26 mm

FESTO

Flow rate
1,250 ... 1,400 l/min



General technical data				
Valve function	2x 3/2	5/2		5/3
Normal position	C ¹⁾ , U ²⁾ , H ⁴⁾	–	–	C ¹⁾ , U ²⁾ , E ³⁾
Memory stability	Monostable	Monostable	Bistable	Monostable
Pneumatic spring reset method	Yes	Yes	–	No
Mechanical spring reset method	No	Yes	–	Yes
Design	Piston spool valve			
Sealing principle	Soft			
Actuation type	Pneumatic			
Pilot control mode	Direct			
Direction of flow	Non-reversible	Reversible		
Exhaust function	Flow control			
Type of mounting	On sub-base			
Mounting position	Any			
Nominal diameter	[mm]	9		
Flow rate of valve	[l/min]	1,250	1,400	1,400
Flow rate of valve on individual sub-base	[l/min]	1,000	1,100	1,100
Flow rate of valve, pneumatically interlinked	[l/min]	900	1,100	1,000
Standard nominal flow rate	[l/min]	900	1,100	1,000
Switching time on/off, pneumatic spring	[ms]	15/28	18/30	–
Switching time on/off, mechanical spring	[ms]	–	10/35	13/32
Changeover time	[ms]	–	10	–
Changeover time (dominant)	[ms]	–	10	–
Width	[mm]	26		
Ports on the sub-base	1, 2, 3, 4, 5	G1/4		
	12, 14	M5		
Tightening torque, valve mounting	[Nm]	1.62 ... 2.18		
Product weight	[g]	180		
Conforms to	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

Operating and environmental conditions			
Valve function	2x3/2	5/2	5/3
Operating medium	Filtered compressed air, grade of filtration 40µm, lubricated or unlubricated		
Operating pressure [bar]	2 ... 10	–0.9 ... 10	–0.9 ... 10
Pilot pressure [bar]	2 ... 10	2 ... 10 double solenoid; 3 ... 10 single solenoid	3 ... 10
Ambient temperature [°C]	–10 ... +60		
Temperature of medium [°C]	–10 ... +60		
Fire protection classification to UL94	HB		

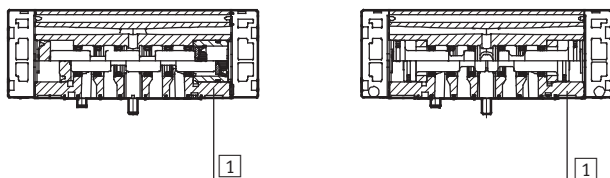
Pneumatic valves, VSPA, ISO 15407-1

Technical data – Directional control valves width 26 mm

FESTO

Materials

Sectional view

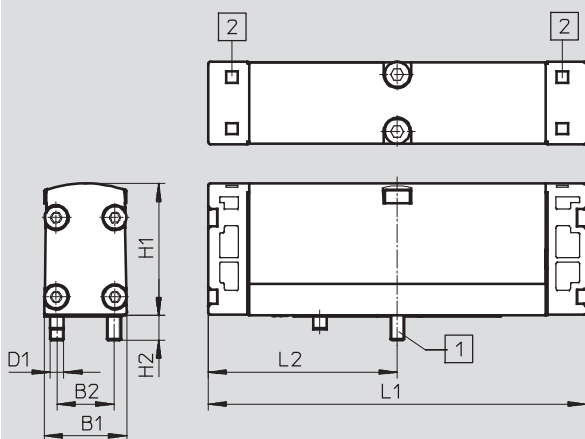


1	Housing	Die-cast aluminium
–	Seals	Nitrile rubber
–	Screws	Galvanised steel

Dimensions

Download CAD data → www.festo.com

Width 18



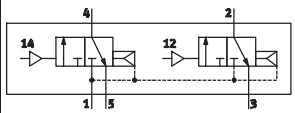
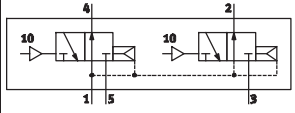
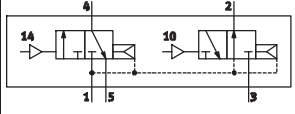
1 Captive screws 2 Slot for inscription label

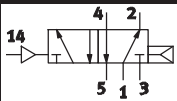
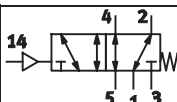
	B1	B2	D1	H1	H2	L1	L2
VSPA-B-...	26.2	19	M4	38	7	100	50

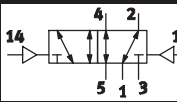
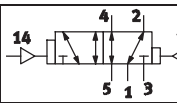
Pneumatic valves, VSPA, ISO 15407-1

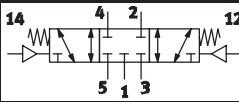
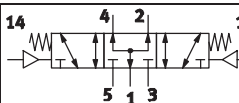
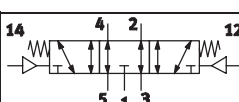
Technical data – Directional control valves width 26 mm

FESTO

Ordering data – 2x3/2-way valve, width 26				
Code	Circuit symbol	Normal position	Part No.	Type
K		2x closed	546711	VSPA-B-T32C-A1
N		2x open	546712	VSPA-B-T32U-A1
H		1x closed 1x open	546713	VSPA-B-T32H-A1

Ordering data – 5/2-way valve (monostable), width 26				
Code	Circuit symbol	Reset method	Part No.	Type
M		Pneumatic	546716	VSPA-B-M52-A-A1
O		Mechanical spring	546717	VSPA-B-M52-M-A1

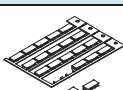
Ordering data – 5/2-way (bi-stable) valve, width 26				
Code	Circuit symbol	Dominant	Part No.	Type
J		1st signal	546714	VSPA-B-B52-A1
D		At 14	546715	VSPA-B-D52-A1

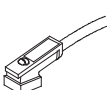
Ordering data – 5/3-way (monostable) valve, width 26				
Code	Circuit symbol	Normal position	Part No.	Type
G		Closed	546720	VSPA-B-P53C-A1
B		Open	546718	VSPA-B-P53U-A1
E		Exhausted	546719	VSPA-B-P53E-A1

Solenoid/pneumatic valves, ISO 15407-1

Accessories

FESTO

Ordering data			
		Part No.	Type
Pressure gauge		Technical data → Internet: pagn	
	With cartridge connection for regulator, 10 bar	543487	PAGN-26-16-P10
	With cartridge connection for regulator, 6 bar	543488	PAGN-26-10-P10
Cartridge for regulator plate			
	For tubing O.D. 4 mm	172972	QSP10-4
	For tubing O.D. 3/16"	172975	QSP10-3/16U
Blanking plug		Technical data → Internet: b	
	Pack of 10	3570	B-3/8
Silencer		Technical data → Internet: u	
	For port 12	6841	U-1/8-B
	For ports 3 and 5 with width of 18 mm	6843	U-3/8-B
	For ports 3 and 5 with width of 26 mm	6844	U-1/2-B
Inscription label		Technical data → Internet: ibs	
	Inscription label for valves VSVA (24 in frames included in scope of delivery)	18182	IBS-9x20
Inscription label holder		Technical data → Internet: ascf	
	Clip-on inscription label holder for valve cap (pack of 5)	540888	ASCF-T-S6

Ordering data – Plug sockets, plug sockets with cable for plug pattern DIN EN 175301-803, type C				
	Voltage [V]	Cable length [m]	Switching status display via LED	Part No. Type
Plug socket without cable				Technical data → Internet: mssd
	–	–	–	151687 MSSD-EB
	–	–	–	539712 MSSD-EB-M12
Plug socket without cable with insulation displacement technology				
	–	–	–	192745 MSSD-EB-S-M14
Plug socket with cable				Technical data → Internet: kmeb
	24 DC	2.5	■	151688 KMEB-1-24-2,5-LED
	24 DC	5	■	151689 KMEB-1-24-5-LED
	24 DC	10	■	193457 KMEB-1-24-10-LED
	To 240	2.5	–	151690 KMEB-1-230AC-2,5
	To 240	5	–	151691 KMEB-1-230AC-5
	24 DC	2.5	■	174844 KMEB-2-24-2,5-LED
	24 DC	5	■	174845 KMEB-2-24-5-LED
	To 240	2.5	–	174846 KMEB-2-230-2,5
	To 240	5	–	174847 KMEB-2-230-5

Solenoid/pneumatic valves, ISO 15407-1

Accessories

FESTO

Ordering data – Illuminating seal for plug pattern DIN EN 175301-803, type C				Technical data → Internet: meb-ld	
	Voltage		Part No.	Type	
	[V DC]	[V AC]			
	12 ... 24	–	151717	MEB-LD-12-24DC	
	–	230	151718	MEB-LD-230AC	

Ordering data – Plug sockets, plug sockets with cable for valves with central plug M12x1					
	Voltage	Cable length [m]	Part No.	Type	
Plug socket without cable			Technical data → Internet: sea		
	–	–	185498	SEA-M12-4WD-PG7	
Plug socket with cable			Technical data → Internet: km-12		
	–	1	185499	KM-12-M12-GSWD-1-4	

Ordering data – Connecting cables					
	Voltage	Cable length [m]	Switching status display via LED	Part No.	Type
Connecting cable M8x1, 4-pin, straight socket/open end				Technical data ➔ Internet: nebu	
	24 V DC	2.5	–	541342	NEBU-M8G4-K-2,5-LE4
		5	–	541343	NEBU-M8G4-K-5-LE4
Connecting cable M8x1, 4-pin, straight angled socket/open end					
	24 V DC	2.5	–	541344	NEBU-M8W4-K-2,5-LE4
		5	–	541345	NEBU-M8W4-K-5-LE4
Connecting cable M12x1, 4-pin, straight socket/open end				Technical data ➔ Internet: nebu	
	24 V DC	2.5	–	550326	NEBU-M12G5-K-2,5-LE4
		5	–	541328	NEBU-M12G5-K-5-LE4
Connecting cable M12x1, 4-pin, straight angled socket/open end					
	24 V DC	2.5	–	550325	NEBU-M12W5-K-2,5-LE4
		5	–	541329	NEBU-M12W5-K-5-LE4

Solenoid/pneumatic valves, ISO 15407-1

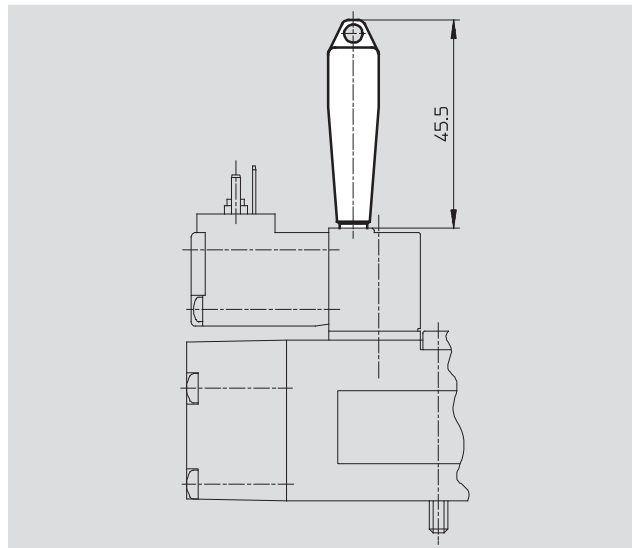
FESTO

Accessories

Manual override tool AHB

Material:

Polymer

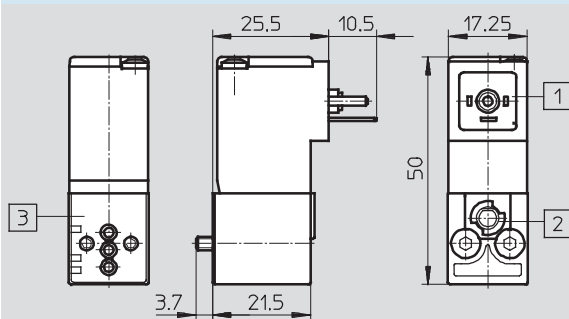


Ordering data			
For pilot valve	Weight [g]	Part No.	Type
VSCS-B-M32-MT	5	157601	AHB-MEB

Dimensions

Download CAD data → www.festo.com

Pilot valve for widths of 18 mm and 26 mm



1 Connection dimensions and device plug to DIN EN 175301-803, type C

2 Manual override, non-detenting and detenting via tool

3 Pneumatic port pattern to ISO 15218

Ordering data – Pilot valves to ISO 15218

Design	Properties	Output		Voltage		Part No.	Type
		[W]	[VA]	[V DC]	[V AC]		
	Plug, square design C to DIN EN 175301-803. Manual override, non-detenting and detenting via tool	1.5	–	24	–	546262	VSCS-B-M32-MT-WA-1C1
				12	24	546261	VSCS-B-M32-MT-WA-5WC1
		–	–	230	–	546264	VSCS-B-M32-MT-WA-3AC1
				110	–	546263	VSCS-B-M32-MT-WA-2AC1

Valve terminal type 16 VTIA – Electrical part

FESTO

Ordering data – Modular products

M Mandatory data				O Options	
Module No.	Valve terminal, electrical part	Electrical connection	Voltage	Connecting cable	User's manual
546835	16E	ZSR8 ZSR12	24DC	GA, GB, GD, GE	D, E, F, I, S
Order example					
546835	16E	-	24DC	+	-
1	2	3	4	5	6

Ordering table				Condi- tions	Code	Enter code
M	1	Module No.	546 835			
	2	Valve terminal, electrical part	Valve terminal type 16, VTIA		16E	16E
	3	Electrical connection	Central plug M8		-ZSR8	
	4	Voltage	24 V DC		-24DC	-24DC
O	5	Electrical accessories			+	+
		Connecting cable	2.5 m, round plug socket, straight	1	GA	
			5 m, round plug socket, straight		GB	
			2.5 m, round plug socket, angled	1	GD	
			5 m, round plug socket, angled		GE	
	6	User's manual	German		-D	
			English		-E	
			French		-F	
			Italian		-I	
			Spanish		-S	

1 GA Only with electrical connection (3) ZSR8

Valve terminal type 16 VTIA – Electrical part

Ordering data – Modular products

M Mandatory data				O Options	
Module No.	Valve terminal, electrical part	Electrical connection	Voltage	Connecting cable	User's manual
546835	16E	DINC	12DC, 24DC, 24AC, 110AC, 230AC	GG, GH, GJ, GK, GL	D, E, F, I, S
Order example					
546835	16E	- DINC	-	+	-
1	2	3	4	5	6

Ordering table				Condi- tions	Code	Enter code
M	1	Module No.	546 835			
	2	Valve terminal, electrical part	Valve terminal type 16, VTIA		16E	16E
	3	Electrical connection	Pilot interface ISO 15218		-DINC	-DINC
	4	Voltage	12 V DC		-12DC	
			24 V DC		-24DC	
			24 V AC		-24AC	
			110 V AC		-110AC	
			230 V AC		-230AC	
O	5	Electrical accessories			+	+
	5	Connecting cable	Polyurethane	2.5 m, plug socket with cable, EN 175301 type C, LED	1	GG
				5 m, plug socket with cable, EN 175301 type C, LED	1	GH
				10 m, plug socket with cable, EN 175301 type C, LED	1	GJ
		Polyvinyl chloride		2.5 m, plug socket with cable, EN 175301 type C, up to 230 V AC		GK
				5 m, plug socket with cable, EN 175301 type C, up to 230 V AC		GL
	6	User's manual	German		-D	
			English		-E	
			French		-F	
			Italian		-I	
			Spanish		-S	

1 GG, GH, GJ Not with electrical connection (3) 24AC, 110AC, 230AC

Valve terminal type 16 VTIA – Pneumatic part

Ordering data – Modular products

M Mandatory data →				
Module No.	Valve terminal, pneumatic part	Manual override	Pilot air supply	Type of connection
546835	16P	N, T	P, S	G
Order example				
546835				G
1	2	3	4	5

Ordering table							
Width			18 mm	26 mm	Condi- tions	Code	Enter code
</							

1 T Only with electrical connection DINC (pilot interface ISO 15218)

Valve terminal type 16 VTIA – Pneumatic part

Ordering data – Modular products

→ ☐ Options		☐ M		☐ O		☐ M		→ ☐ O	
Pneumatic supply to valve terminal	Pneumatic supply connection position	Configuration of pneumatic connections	Exhaust position	Additional supply/removal	Reverse operation				
S, V	TL, TR, TB	M, N, G	EL, ER, EB	E	Z				
6	7	8	9	10	11				

Ordering table							
Width			18 mm	26 mm	Condi- tions	Code	Enter code
						-	
	6	Pneumatic supply to valve terminal	Silencer and QS push-in fittings			S	
			QS push-in fittings			V	
	7	Pneumatic supply connection position	Left			TL	
			Right			TR	
			At both sides			TB	
	8	Configuration of pneumatic connections	QS push-in fittings, large			M	
			QS push-in fittings, small			N	
			QS push-in fittings, large and small mixed			G	
	9	Exhaust position	Left			EL	
			Right			ER	
			At both sides			EB	
	10	Additional supply/removal	Supply to adapter plate			-E	
	11	Reverse operation	Reverse operation as of valve position 00			-Z	

2 S, V Only with configuration of pneumatic connections (8) M, N, G

3 M, N, G Only with pneumatic valve terminal supply (6) S, V.
 Sizes of pneumatic connections → Table on page 87

Valve terminal type 16 VTIA – Pneumatic part

Ordering data – Modular products

FESTO

M

Mandatory data

→

→

0

Options

Pneumatic manifold sub-bases 00 ... 15

12 Type of manifold sub-base: A, B, AK, BK

13 Compressed air supply/duct separation: S, T, R, V, SV, VS, TV, VT, RV, VR

14 Reverse operation: Z

Module position

00

01

02

03

04

05

06

07

08

09

10

11

12

13

14

15

12 + 13 + 14

Ordering table					
Width		18 mm	26 mm	Condi- tions	Code
M	Pneumatic manifold sub-bases			4	-
	12 Type of sub-base 00 ... 15	Manifold sub-base 1/8"	-	5 6	A
		-	Manifold sub-base 1/4"	6	B
		Manifold sub-base with QS push-in fittings, small	-	5 7	AK
		-	Manifold sub-base with QS push-in fittings, small	7	BK
O	13 Adapter plate for changing size/duct separation 00 ... 14	Duct separation 1, 3, 5		8 9	S
		Duct separation 1		8 10	T
		Duct separation 3, 5		8 11	R
		Adapter plate		12	V
		Adapter plate with duct separation 1, 3, 5 at left		8 9 12	SV
		Adapter plate with duct separation 1, 3, 5 at right		8 9 12	VS
		Adapter plate with duct separation 1 at left		8 10 12	TV
		Adapter plate with duct separation 1 at right		8 10 12	VT
		Adapter plate with duct separation 3, 5 at left		8 11 12	RV
		Adapter plate with duct separation 3, 5 at right		8 11 12	VR
				13	Z
	14 Reverse operation 00 ... 15	Subsequent valve positions permitted for reverse operation		13	Z

4 Manifold sub-bases must be equipped throughout without any gaps

5 **A, AK** Not permitted if B, BK, was previously selected in the sequence.

Note direction of change in size

6 **A, B** Not with configuration of pneumatic connections (8) N

7 **AK, BK** Not with configuration of pneumatic connections (8) M

8 **S, T, R, SV, VS, TV, VT, RV, VR**

No pressure-free zones may be created.

Adapter plate only permitted once

9 **S, SV, VS** With duct separation S... without a combination of sizes, supply and exhaust at both sides is required.

With duct separation S... with a combination of sizes and without supply to the adapter plate, supply and exhaust at both sides is required

10 **T, TV, VT** With duct separation T... without a combination of sizes, supply at both sides is required.

With duct separation T... with a combination of sizes and without supply to the adapter plate, supply at both sides is required

11 **R, RV, VR** With duct separation R... without a combination of sizes, exhaust at both sides is required.

With duct separation R... with a combination of sizes and without supply to the adapter plate, exhaust at both sides is required

12 **V, SV, VS, TV, VT, RV, VR**

Must be selected if additional supply/removal (10) E was selected.

At least one subsequent manifold sub-base (12) B or BK must be selected

Only directly after adapter plate for changing size/duct separation (13) S, SV, VS (duct separation 1, 3, 5) and pneumatic supply connection position (7) TB

(supply at both sides), exhaust position (9) EB (exhaust at both sides)

or after adapter plate for changing size/duct separation (13) SV (adapter plate with duct separation 1, 3, 5 at left) and additional supply/removal (10) E (supply to adapter plate) with pneumatic supply connection position (7) TL

(supply at left) and exhaust position (9) EL (exhaust at left)

or directly after adapter plate for changing size/duct separation (13) VS (adapter plate with duct separation 1, 3, 5 at right) and additional supply/removal (10) E (supply to adapter plate) with pneumatic supply connection position (7) TR (supply at right) and exhaust position (9) ER (exhaust at right).

Not with pilot air supply (4) P (internal pilot air supply)

13 **Z**

Valve terminal type 16 VTIA – Pneumatic part

Ordering data – Modular products

→ M Options →															
Pneumatic valve positions 00 ... 15															
15 Valve position 00 ... 15: M, O, J, D, N, K, H, B, G, E, L															
Options															
16 Pressure regulator for position 00 ... 15: ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN															
17 Pressure gauge for position 00 ... 15: T, U															
18 Flow control plate 00 ... 15: X															
19 Vertical pressure shut-off plate for position 00 ... 15: ZT															
20 Vertical supply plate for position 00 ... 15: ZU															
Valve position															
00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
M	M	M	O	O	O	J	J	E	E						
15 + 16 + 17 + 18 + 19 + 20															

Ordering table						
Width		18 mm	26 mm	Condi- tions	Code	Enter code
↓		Pneumatic valve positions 00 ... 15			-	-
M	15	Valve position 00 ... 15	5/2-way valve, single solenoid with pneumatic spring return		M	Enter equip- ment selection for valve posi- tions in order code
			5/2-way valve, single solenoid with spring return		O	
			5/2-way valve, double solenoid		J	
			5/2-way valve, double solenoid with dominant signal		D	
			2x 3/2-way valve, normally open		N	
			2x 3/2-way valve, normally closed		K	
			2x 3/2-way valve, 1x normally closed, 1x normally open		H	
			5/3-way valve, mid-position pressurised		B	
			5/3-way valve, mid-position closed		G	
			5/3-way valve, mid-position exhausted		E	
			Vacant position		L	
O	16	Pressure regulator for valve position 00 ... 15 Input pressure 10 bar Input pressure 6 bar	Pressure regulator plate for port 1	14	ZA	
			Pressure regulator plate for port 4		ZB	
			Pressure regulator plate for port 2		ZC	
			Pressure regulator plate for port 4/2		ZD	
			Pressure regulator plate for port 4/2, reversible	14 15	ZE	
			Pressure regulator plate for port 4, reversible	14 15	ZK	
			Pressure regulator plate for port 2, reversible	14 15	ZL	
			Pressure regulator plate for port 1	14	ZF	
			Pressure regulator plate for port 4		ZG	
			Pressure regulator plate for port 2		ZH	
			Pressure regulator plate for port 4/2		ZI	
			Pressure regulator plate for port 4/2, reversible	14 15	ZJ	
			Pressure regulator plate for port 4, reversible	14 15	ZM	
			Pressure regulator plate for port 2, reversible	14 15	ZN	
↓						

14 ZA, ZE, ZK, ZL, ZF, ZJ, ZM, ZN

Not permitted in zones with reverse operation

15 ZE, ZK, ZL, ZJ, ZM, ZN

Not with valves (15) N, K, H (2x 3/2-way valve)

Valve terminal type 16 VTIA – Pneumatic part

FESTO

Ordering data – Modular products

➔ 0 Options

Pneumatic accessories

 ...B

+

21

Ordering table					
Width	18 mm	26 mm	Condi- tions	Code	Enter code
↓ 0	17	Pressure gauge for valve position 00 ... 15	Pressure gauge, 10 bar	16 T	Enter equipment selection for valve positions in order code
			Pressure gauge, 6 bar	17 U	
	18	Flow control plate for valve position 00 ... 15	Flow control plate	X	
	19	Vertical pressure shut-off plate for valve position 00 ... 15	Pressure separator plate on valve assembly	ZT	
	20	Vertical supply plate for valve position 00 ... 15	Compressed-air supply on valve	ZU	
	21	Pneumatic accessories		+	+
		Inscription label holder for valves	5 ... 50	18 ...B	

16 **T** Only with pressure regulator (16) ZA, ZB, ZC, ZD, ZE, ZK, ZL
17 **U** Only with pressure regulator (16) ZF, ZG, ZH, ZI, ZJ, ZM, ZN

18 **B** Only with electrical connection ZSR8, ZSR12

Valve terminal type 16 VTIA – Pneumatic part

Ordering data – Modular products

Sizes of pneumatic connections					
		Code	Duct	Width	
				18 mm	26 mm
8		Configuration of pneumatic connections			
7	Pneumatic supply connection position TL, TR, TB	M	1, 3, 5	G $\frac{1}{2}$ (QS-G $\frac{1}{2}$ -16)	G $\frac{1}{2}$ (QS-G $\frac{1}{2}$ -16)
		G	1, 3, 5	G $\frac{1}{2}$ (QS-G $\frac{1}{2}$ -16)	G $\frac{1}{2}$ (QS-G $\frac{1}{2}$ -16)
		N	1, 3, 5	G $\frac{1}{2}$ (QS-G $\frac{1}{2}$ -12)	G $\frac{1}{2}$ (QS-G $\frac{1}{2}$ -12)
9	Exhaust position EL, ER, EB	M	12, 14	G $\frac{1}{4}$ (QS-G $\frac{1}{4}$ -10)	G $\frac{1}{4}$ (QS-G $\frac{1}{4}$ -10)
		G	12, 14	G $\frac{1}{4}$ (QS-G $\frac{1}{4}$ -10)	G $\frac{1}{4}$ (QS-G $\frac{1}{4}$ -10)
		N	12, 14	G $\frac{1}{4}$ (QS-G $\frac{1}{4}$ -8)	G $\frac{1}{4}$ (QS-G $\frac{1}{4}$ -8)
12	Type of manifold sub-base A, B	M	2, 4	G $\frac{1}{8}$ (QS-G $\frac{1}{8}$ -8)	G $\frac{1}{4}$ (QS-G $\frac{1}{4}$ -10)
		N	2, 4	G $\frac{1}{8}$ (QS-G $\frac{1}{8}$ -6)	G $\frac{1}{4}$ (QS-G $\frac{1}{4}$ -8)

Product Range and Company Overview

A Complete Suite of Automation Services

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



Custom Automation Components
Complete custom engineered solutions



Custom Control Cabinets
Comprehensive engineering support and on-site services



Complete Systems
Shipment, stocking and storage services

The Broadest Range of Automation Components

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



Electromechanical
Electromechanical actuators, motors, controllers & drives



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



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

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

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

Quality Assurance, ISO 9001 and ISO 14001 Certifications

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

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



© Copyright 2008, Festo Corporation. While every effort is made to ensure that all dimensions and specifications are correct, Festo cannot guarantee that publications are completely free of any error, in particular typing or printing errors. Accordingly, Festo cannot be held responsible for the same. For Liability and Warranty conditions, refer to our "Terms and Conditions of Sale", available from your local Festo office. All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of Festo. All technical data subject to change according to technical update.



Printed on recycled paper at New Horizon Graphic, Inc., FSC certified as an environmentally friendly printing plant.

Festo North America

Festo Regional Contact Center

5300 Explorer Drive
Mississauga, Ontario L4W 5G4
Canada

USA Customers:

For ordering assistance,

Call: 1.800.99.FESTO (1.800.993.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: customer.service@us.festo.com

For technical support,

Call: 1.866.GO.FESTO (1.866.463.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: product.support@us.festo.com

Canadian Customers:

Call: 1.877.GO.FESTO (1.877.463.3786)

Fax: 1.877.FX.FESTO (1.877.393.3786)

Email: festo.canada@ca.festo.com

USA Headquarters

Festo Corporation
395 Moreland Road
P.O. Box 18023
Hauppauge, NY 11788, USA
www.festo.com/us

USA Sales Offices

Appleton

North 922 Tower View Drive, Suite N
Greenville, WI 54942, USA

Boston

120 Presidential Way, Suite 330
Woburn, MA 01801, USA

Chicago

1441 East Business Center Drive
Mt. Prospect, IL 60056, USA

Dallas

1825 Lakeway Drive, Suite 600
Lewisville, TX 75057, USA

Detroit – Automotive Engineering Center

2601 Cambridge Court, Suite 320
Auburn Hills, MI 48326, USA

New York

395 Moreland Road
Hauppauge, NY 11788, USA

Silicon Valley

4935 Southfront Road, Suite F
Livermore, CA 94550, USA

United States



USA Headquarters, East: Festo Corp., 395 Moreland Road, Hauppauge, NY 11788

Phone: 1.631.435.0800; Fax: 1.631.435.8026;

Email: info@festo-usa.com

www.festo.com/us

Canada



Headquarters: Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4

Phone: 1.905.624.9000; Fax: 1.905.624.9001;

Email: festo.canada@ca.festo.com

www.festo.ca

Mexico



Headquarters: Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquahuac,
54020 Tlalneapantla, Edo. de México

Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;

Email: festo.mexico@mx.festo.com

www.festo.com/mx

Central USA

Festo Corporation
1441 East Business
Center Drive
Mt. Prospect, IL 60056, USA
Phone: 1.847.759.2600
Fax: 1.847.768.9480



Western USA

Festo Corporation
4935 Southfront Road,
Suite F
Livermore, CA 94550, USA
Phone: 1.925.371.1099
Fax: 1.925.245.1286



Festo Worldwide

Argentina Australia Austria Belarus Belgium Brazil Bulgaria Canada Chile China Colombia Croatia Czech Republic Denmark
Estonia Finland France Germany Great Britain Greece Hong Kong Hungary India Indonesia Iran Ireland Israel Italy Japan Latvia
Lithuania Malaysia Mexico Netherlands New Zealand Norway Peru Philippines Poland Romania Russia Serbia Singapore
Slovakia Slovenia South Africa South Korea Spain Sweden Switzerland Taiwan Thailand Turkey Ukraine United States Venezuela

www.festo.com