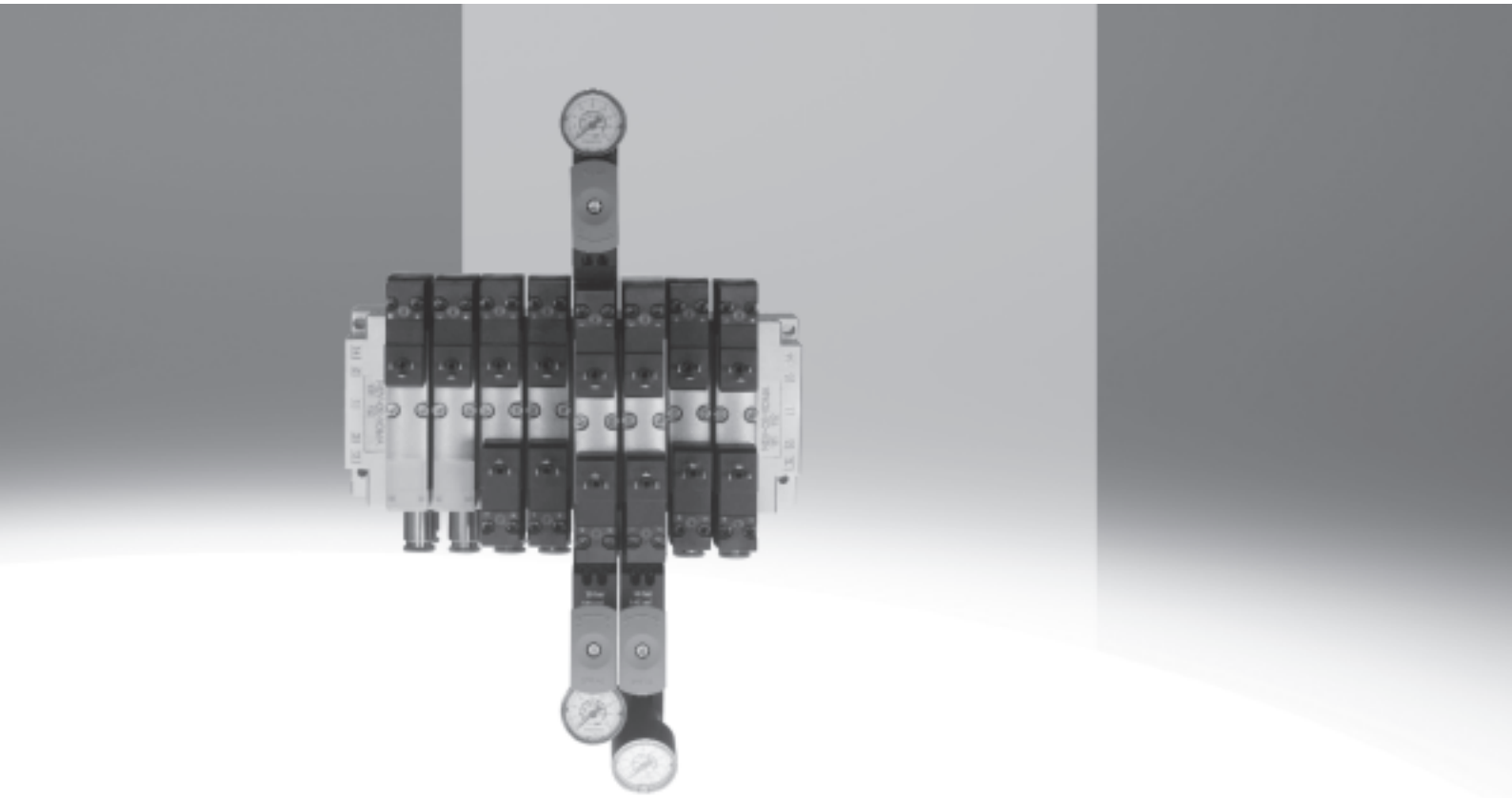
Solenoid/pneumatic valves, ISO 15407-1

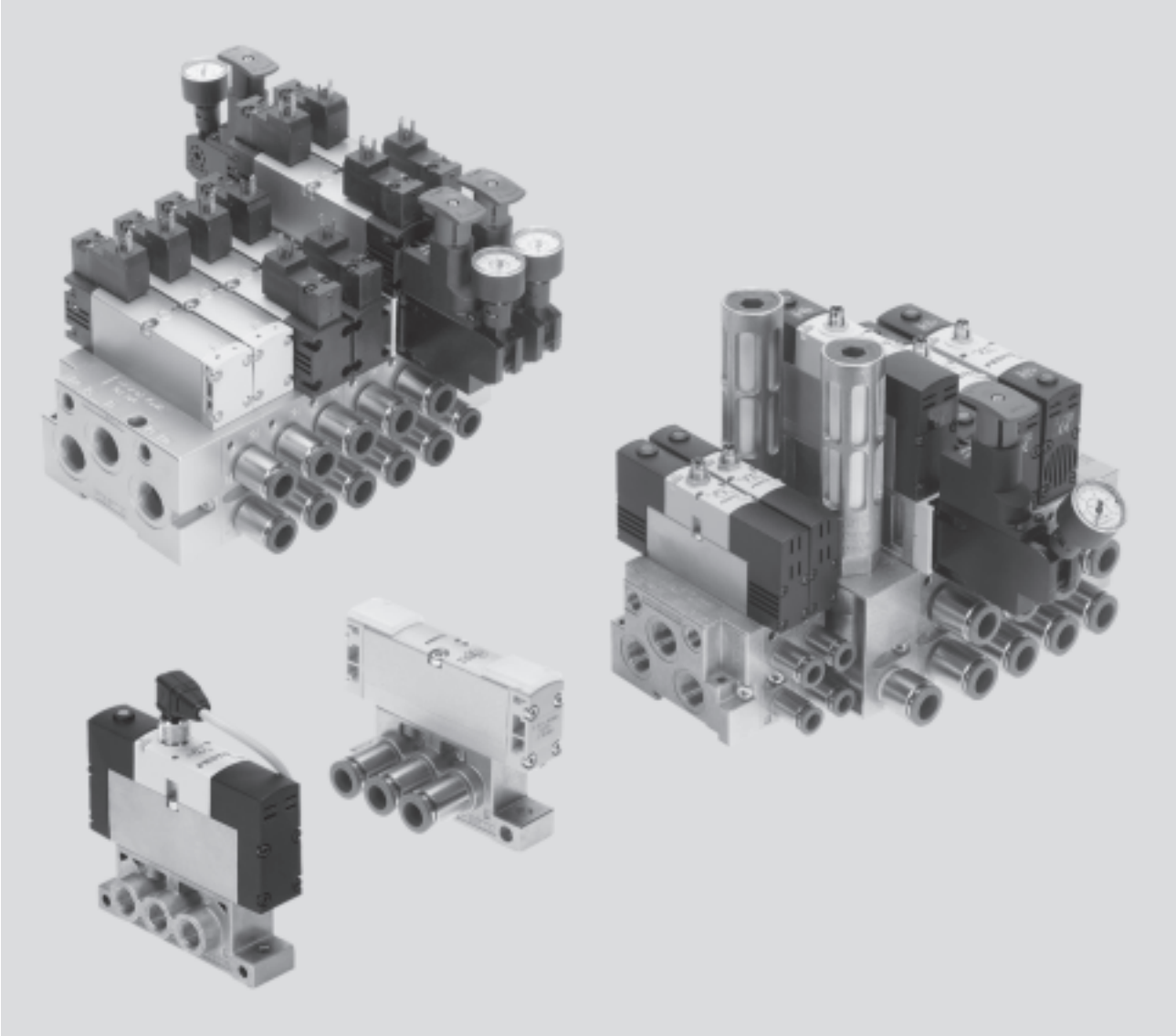
FESTO



New

Solenoid valves VSVA, ISO 15407-1

Key features



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

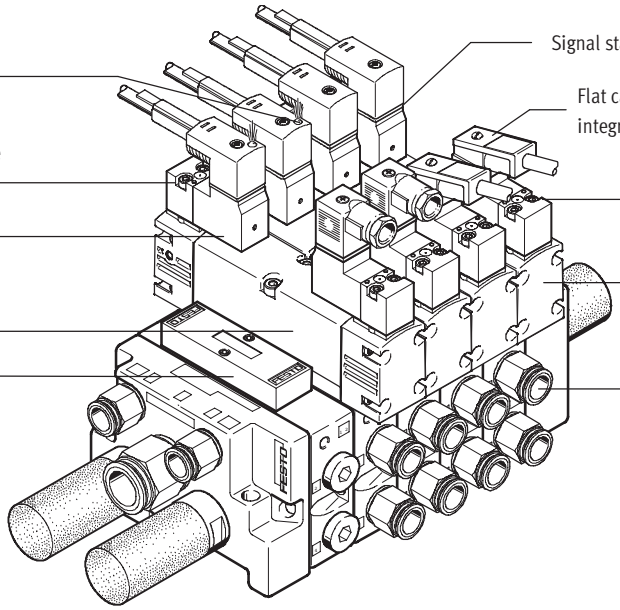
Easy to assemble

- 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

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

New

Solenoid valves VSVA, ISO 15407-1

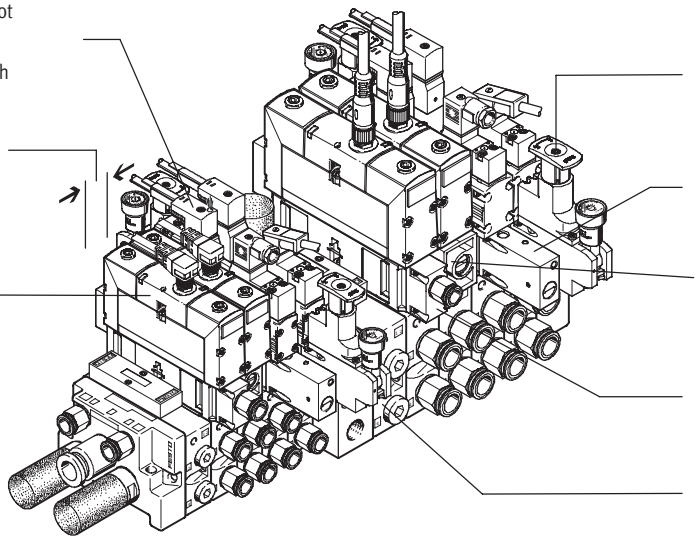
Key features

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

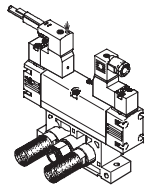
Vertical shut-off plate

- 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

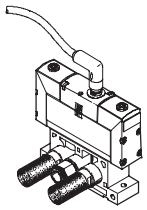
- As additional air supply for one valve
- To supply a third pressure zone

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

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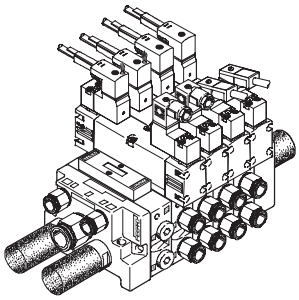
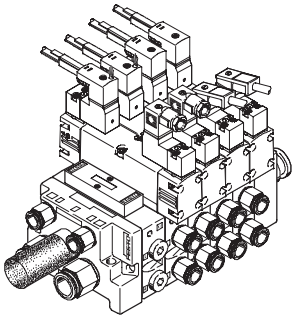
**Individual valve manifold,
directional control valves with square plug, type C**



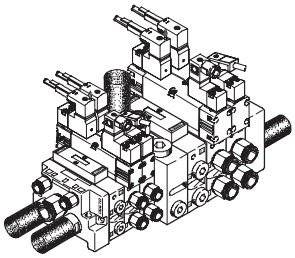
Variant
- Width 26 mm
- Vacant position
- Compressed air supply via duct 1
- External pilot air supply
- QS push-in fittings
- Venting via silencer for ducts 3 and 5

**Individual valve manifold,
pressure zones via ducts 3 and 5**



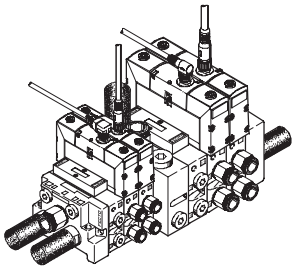
Variant
- Width 26 mm
- Vacant position
- Compressed air supply via ducts 3 and 5
- External pilot air supply
- QS push-in fittings
- Venting via silencer

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



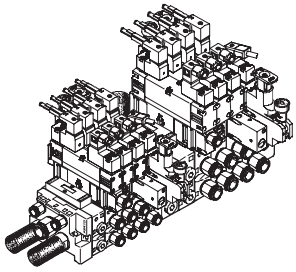
Variant
- Width 18 mm and 26 mm combined via intermediate plate
- Vacant positions
- Compressed air supply via duct 1
- External pilot air supply
- QS push-in fittings
- Venting via silencer for ducts 3 and 5 on the end plates and for duct 3 also on the intermediate plate

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



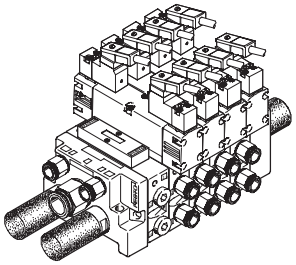
Variant
- Width 18 mm and 26 mm combined via intermediate plate
- Vacant positions
- Compressed air supply via duct 1
- Internal pilot air supply
- QS push-in fittings
- Venting via silencer for ducts 3 and 5 on the end plates and for duct 3 also on the intermediate plate

**Maximum valve manifold expansion
with all vertical stacking components**



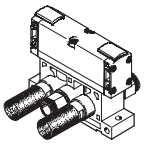
Variant
- Width 18 mm and 26 mm combined via intermediate plate
- Directional control valves with square plug
- Pressure regulators
- Flow control plates
- Shut-off plates
- Supply plates with vacant position

**Individual valve manifold
with cable routing in one direction**



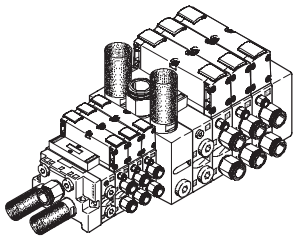
Variant
- Width 26 mm
- Solenoid coils 220 V DC
- Plug socket with cable KMEB-2
  - With plug socket with cable KMEB-1 the outgoing direction of the cable cannot be chosen with AC coils

**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**



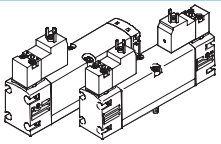
Variant
- Width 18 mm and 26 mm combined via intermediate plate
- Vacant positions
- Compressed air supply via duct 1
- QS push-in fittings
- Venting via silencer for ducts 3 and 5 on the end plates and for ducts 3 and 5 also on the intermediate plate

New

Solenoid valves VSVA, ISO 15407-1

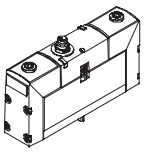
Key features

Solenoid valves with square plug, type C



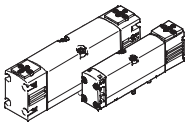
Designs
- Width 18 and 26 mm
- 2x 3/2-way, 5/2-way and 5/3-way valves
- 2x 3/2-way valves for reverse operation
- Internal or external pilot air supply available
- 12, 24 V DC, 24, 110 or 220 V AC

Solenoid valves with central round plug



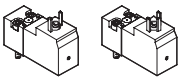
Variants
- Width 18 and 26 mm
- 2x 3/2-way, 5/2-way and 5/3-way valves
- Internal or external pilot air supply available
- 24 V DC

Basic valves with interface to ISO 15218



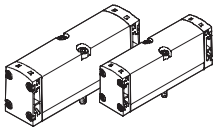
Variants
- Width 18 and 26 mm
- 2x 3/2-way, 5/2-way and 5/3-way valves
- Internal or external pilot air supply available

Pilot valve with interface to ISO 15218



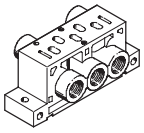
Variants
- For 12, 24 V DC and 24 V AC without protective earth conductor
- For 110 and 220 V AC with protective earth conductor
- 3/2-way valve
- Manual override, non-detenting

Pneumatically actuated directional control valves



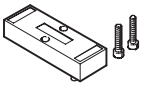
Variants
- Width 18 and 26 mm
- 2x 3/2-way, 5/2-way and 5/3-way valves
- Signal inputs 12 and 14 via the sub-base

Individual sub-base



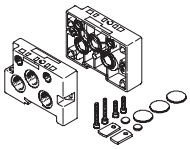
Variants
- Width 18 and 26 mm
- Ports 12 and 14 for external pilot air supply for solenoid valves and
- Ports signal inputs 12 and 14 for pneumatically actuated valves are the same

Blanking plate for vacant positions



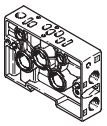
Variants
- Width 18 and 26 mm

End plate kit



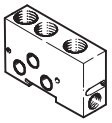
Variants
- Width 18 mm and 26 mm
- Ports 12 and 14 for external pilot air supply for solenoid valves
- For pneumatically actuated valves the signal inputs are only on the manifold sub-base suitable for this purpose

Manifold sub-base/series sub-base



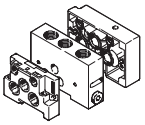
Variants
- Width 18 mm and 26 mm
- For solenoid valves
- For pneumatically actuated valves with additional ports for the signal inputs

Intermediate plate



Variant
- Adapter between width 18 mm and 26 mm
- With additional sir 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

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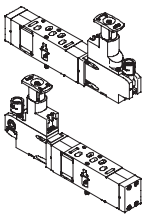
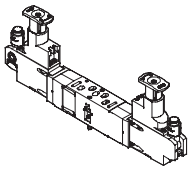
Pressure regulator plate with one pressure regulator



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

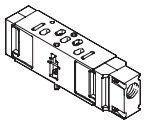
Pressure regulator plate with two pressure regulators



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.

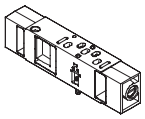
Vertical supply plate



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

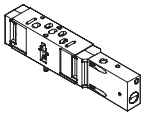
Flow control plate



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

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 gauge

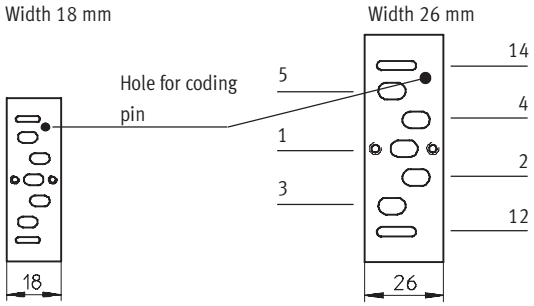
Variant

- Can be connected to the pressure regulator plates

Solenoid valves VSVA, ISO 15407-1

Key features

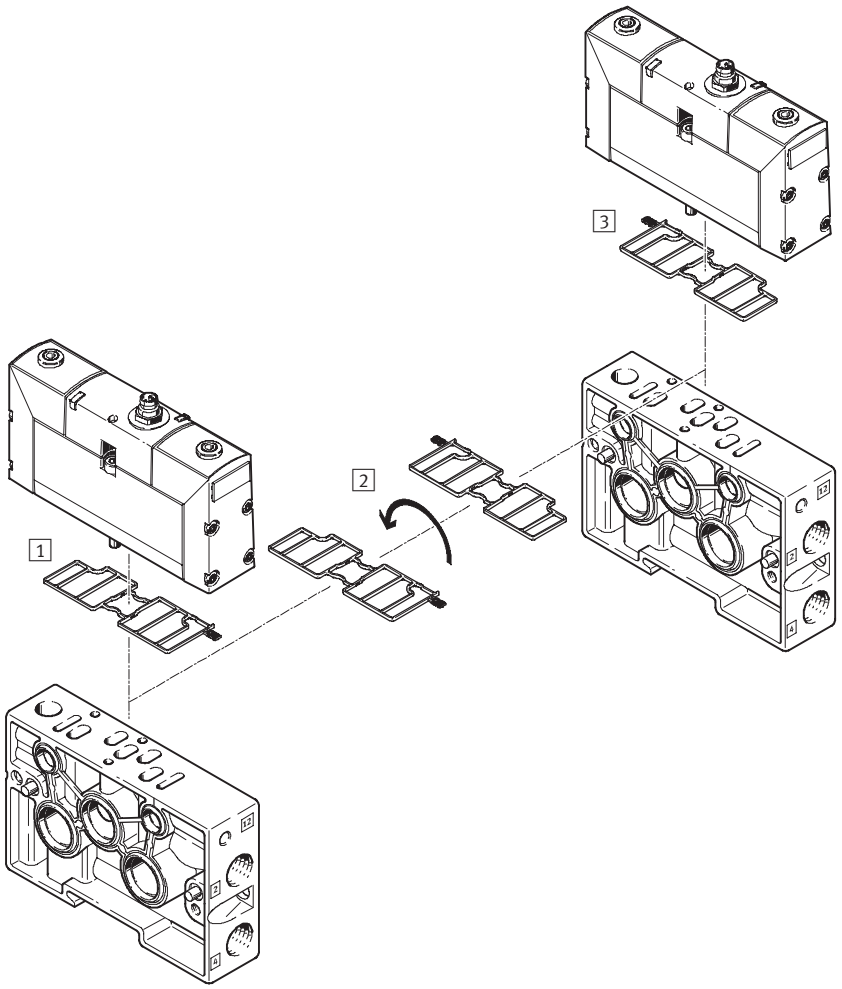
Port pattern on sub-base to ISO 15407-1



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

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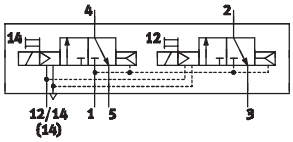
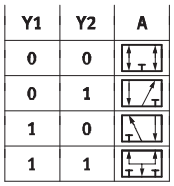
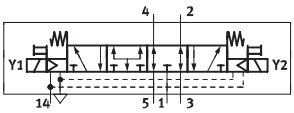
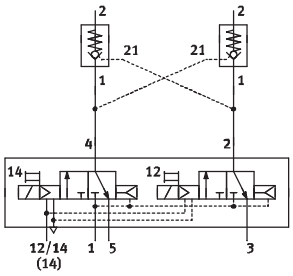
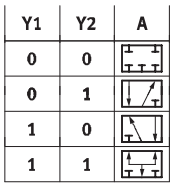
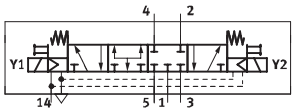
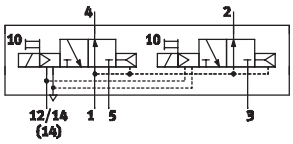
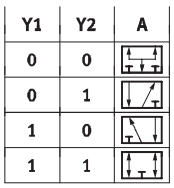
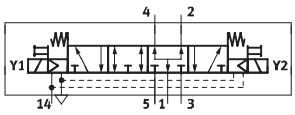
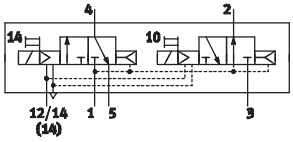
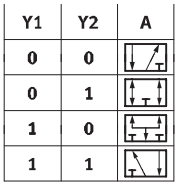
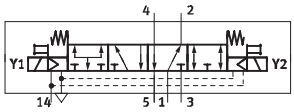
Application of 2x 3/2-way valve as 5/4-way valve

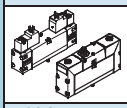
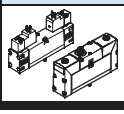
Code	Circuit symbol	Value table	Equivalent circuit symbol	Function
K				• Normally exhausted • A double-acting drive connected to outputs 2 and 4 is unpressurised when the valve is in the normal position and can be moved by an external force • If there is a signal present at Y1(14) and Y2(12), there is pressure at outputs 2 and 4
				• 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
N				• 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
H				• 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)

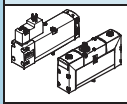
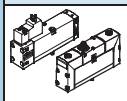
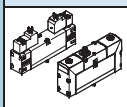
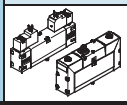
New

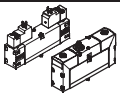
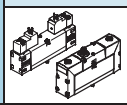
Solenoid valves VSVA, ISO 15407-1

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]	G⅛	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]	G⅛	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				
						[V DC]		[V AC]		
			[l/min]	G⅛	G¼	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	–	■	–	■	–	–	–

Solenoid valves VSVA, ISO 15407-1

Product range overview

FESTO

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

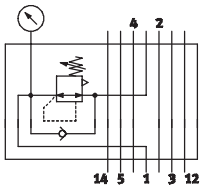
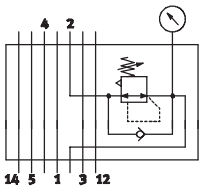
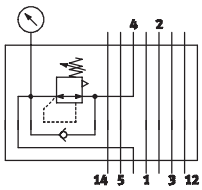
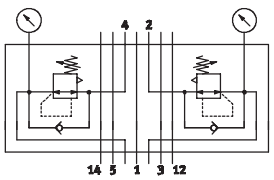
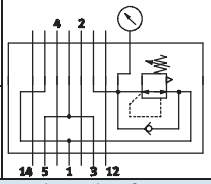
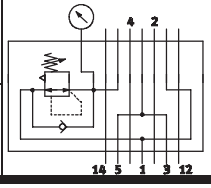
Type	Plug			Pilot air supply		Spring return		Signal processing			→ Page/Internet
	Square	Central round		Internal	External	Pneu-matic	Mechan-ical	Single sole-noid	Double solenoid/ dominant		
	MEB	M8x1	M12x1						1st signal	At 14	
Width 18 mm, single solenoid valve											
VSVA-B-M52…A2…C…	■	–	–	■	■	■	■	■	–	–	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

Solenoid valves VSVA, ISO 15407-1

Product range overview

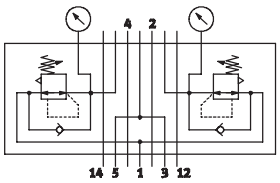
FESTO

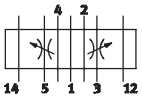
Vertical stacking – Pressure regulator plate								
Code	Circuit symbol	Type	Width		Supply pressure		Description	→ Page/Internet
			18 mm	26 mm	6 bar	10 bar		
Pressure regulator plate for port 1								
ZA		VABF-S3-...-R1C2-C-10	■	■	–	■	• Regulates the operating pressure in duct 1 upstream of the directional 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	■	■	■	–		

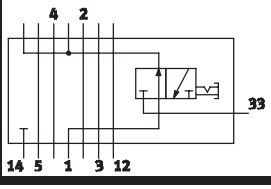
Solenoid valves VSVA, ISO 15407-1

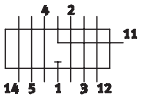
Product range overview

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 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 • 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)	Width 18 46 Width 26 51
ZJ		VABF-S3-...-R5C2-C-6	■	■	■	–		

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

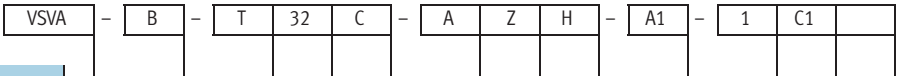
Vertical stacking – Vertical shut-off plate						
Code	Circuit symbol	Type	Width		Description	→ Page/Internet
			18 mm	26 mm		
ZT		VABF-S3-...L1D1-C	■	■	• 2/2-way valve for shutting off the operating pressure at the valve position • Blocks ducts 12 and 14 for the valve position • Supplies the valve position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



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

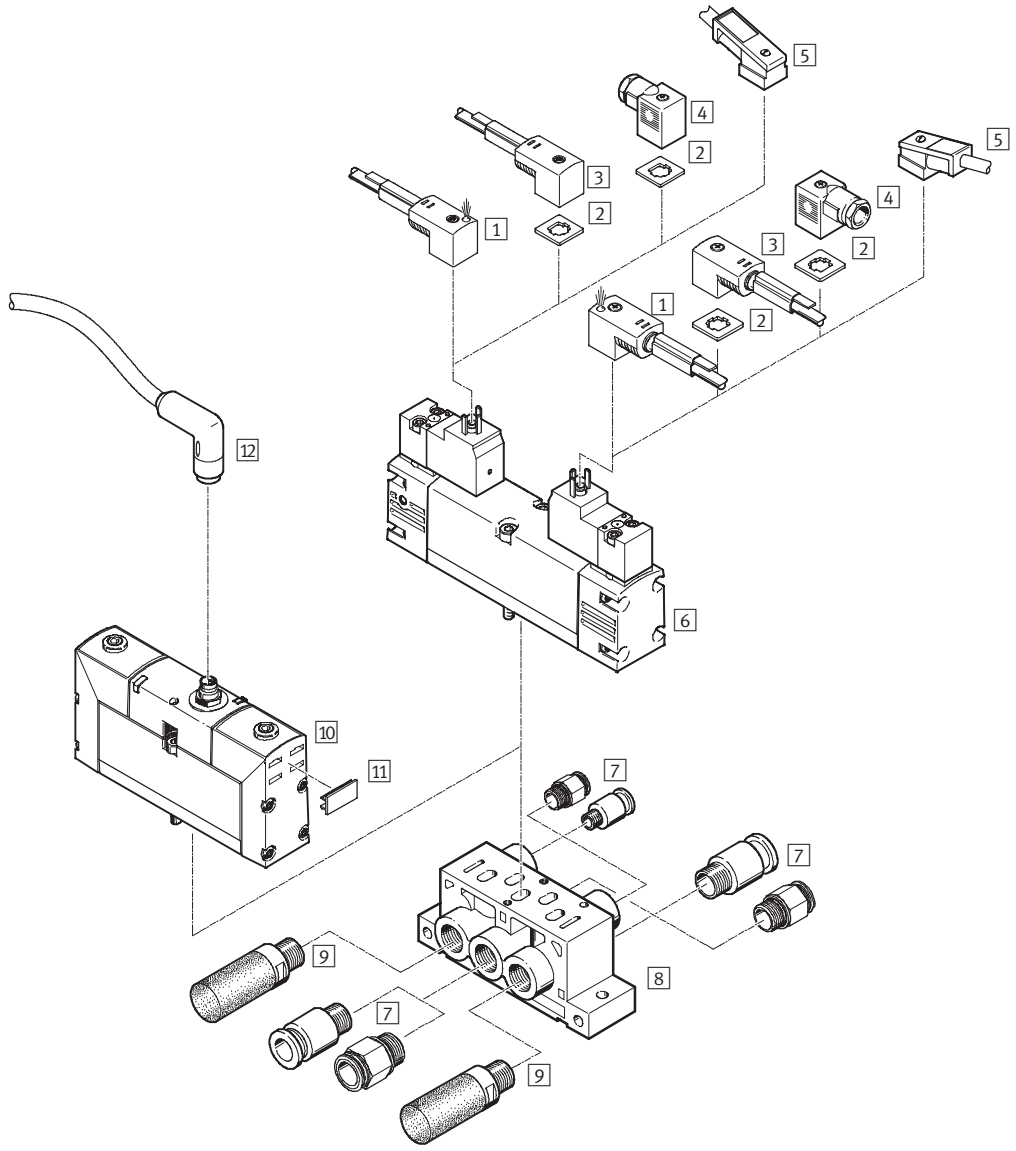
Signal status display	
L	LED (integrated)

Solenoid valves VSVA, ISO 15407-1

Peripherals overview

FESTO

Individual mounting

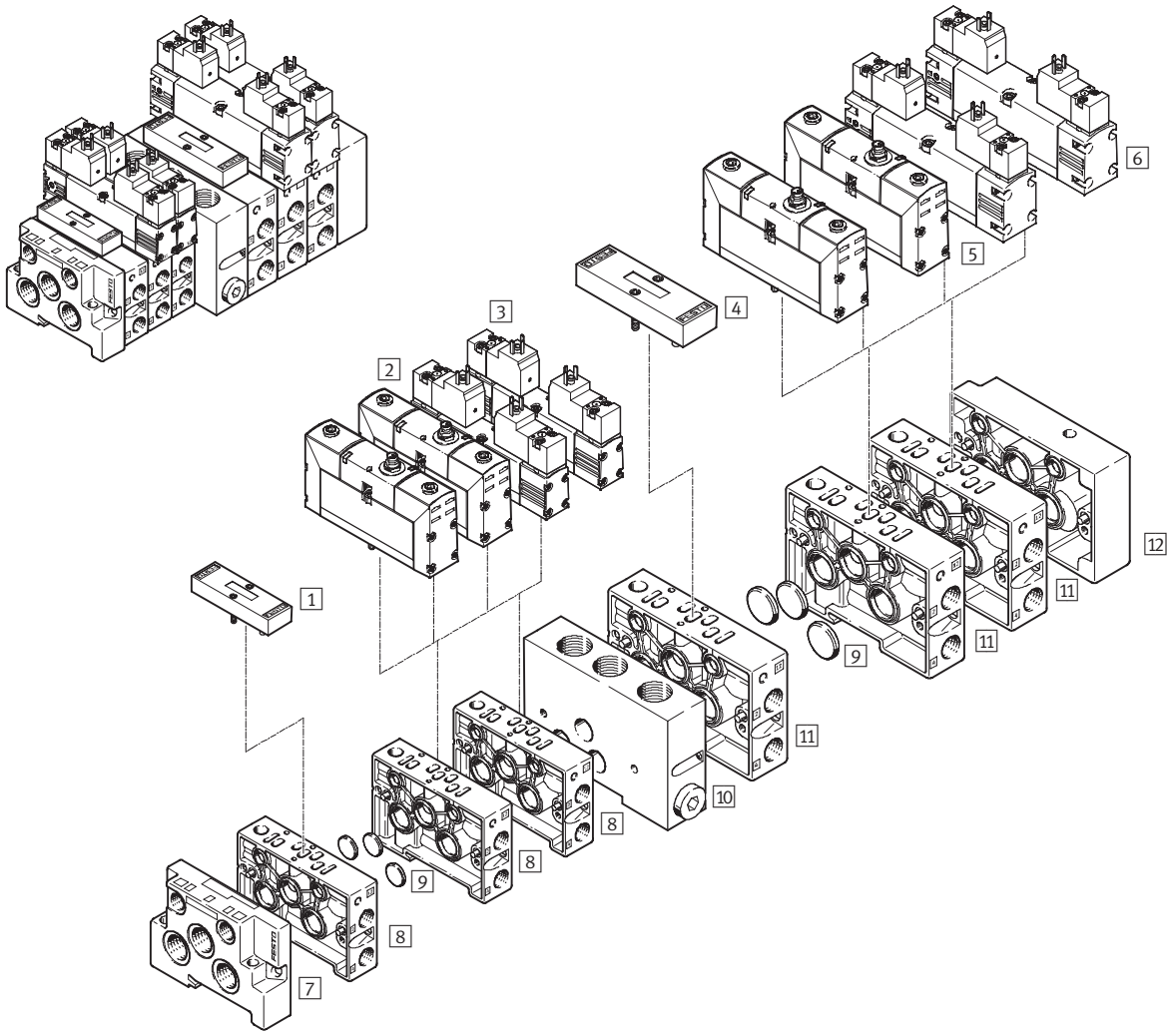


Component parts				
		Type	Brief description	➔ Page/Internet
1	Plug socket with cable	KMEB1-...-LED	With PVC casing and LED	77
2	Illuminating seal	MEB-LD	For indicating the signal status	78
3	Plug socket with cable	KMEB1-...	With PVC casing	77
4	Plug socket	MSSD-EB	–	77
5	Plug socket with cable	KMEB2-...-LED	With polyurethane casing and LED	77
6	Solenoid valve	VSVA-...C-...	With interface to ISO 15218 and plug pattern type C	20
7	Push-in fitting	QS-...	For standard O.D. tubing	–
8	Individual sub-base	NAS-...	With lateral ports	57
9	Silencer	U-...	For fitting in exhaust ports	–
10	Solenoid valve	VSVA-...R-...	With round plug	20
11	Inscription labels	IBS-9x20	For identifying the VSVA valves with round plug	77
12	Plug socket with cable	SIM-...	For valves with round plug	sim

Solenoid valves VSVA, ISO 15407-1

System overview

Manifold assembly



Component parts

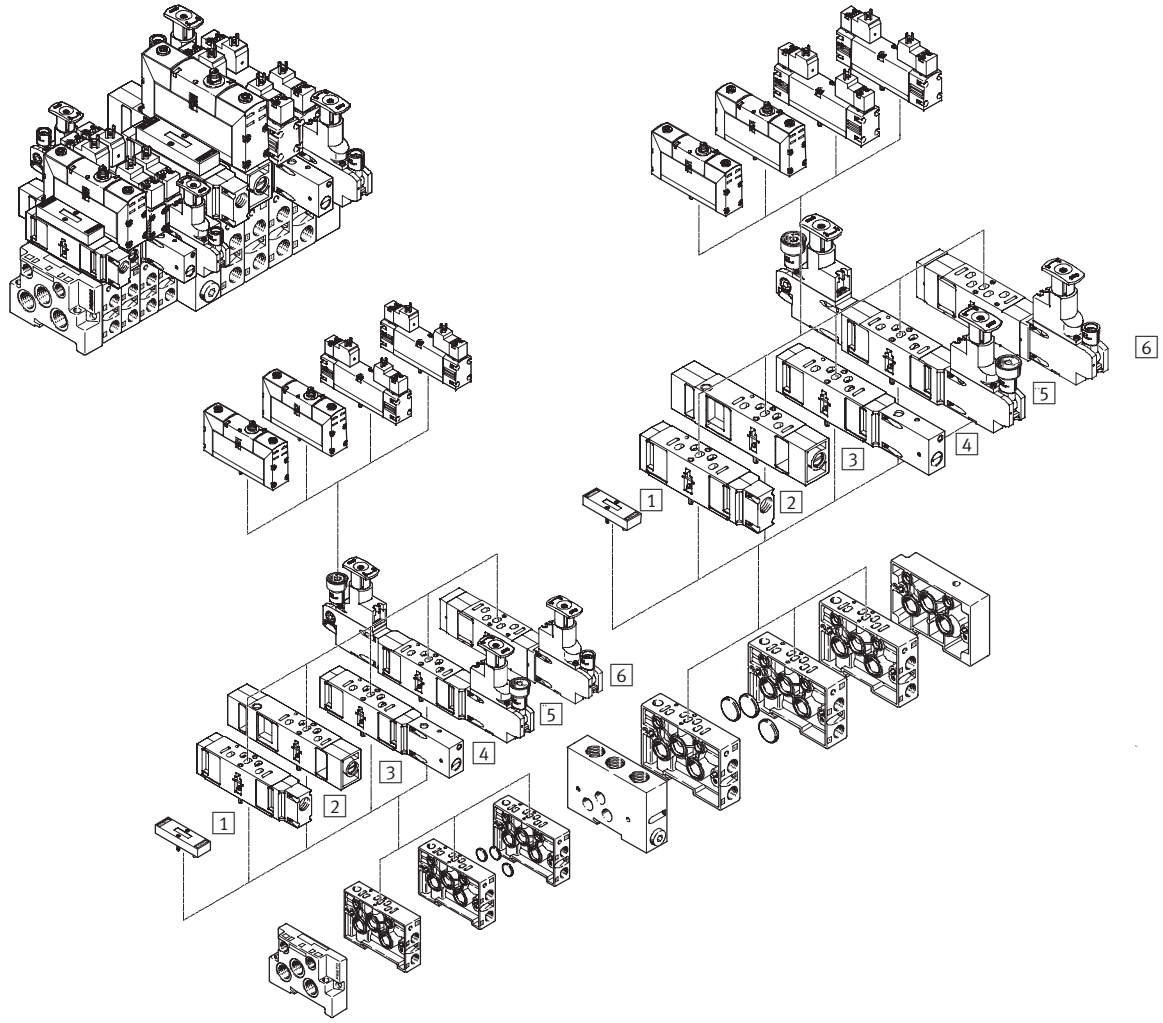
	Type	Brief description	➔ Page/Internet
1 Blanking plate	NDV-02-VDMA	For width 18 mm, vacant or spare position	65
2 Solenoid valve	VSVA...A2...R...	Width 18 mm with round plug	36
3 Solenoid valve	VSVA...A2...C...	Width 18 mm with interface to ISO 15218 and plug pattern type C	20
4 Blanking plate	NDV-01-VDMA	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-⅛-02-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-¼-01-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

FESTO

Manifold assembly with vertical stacking



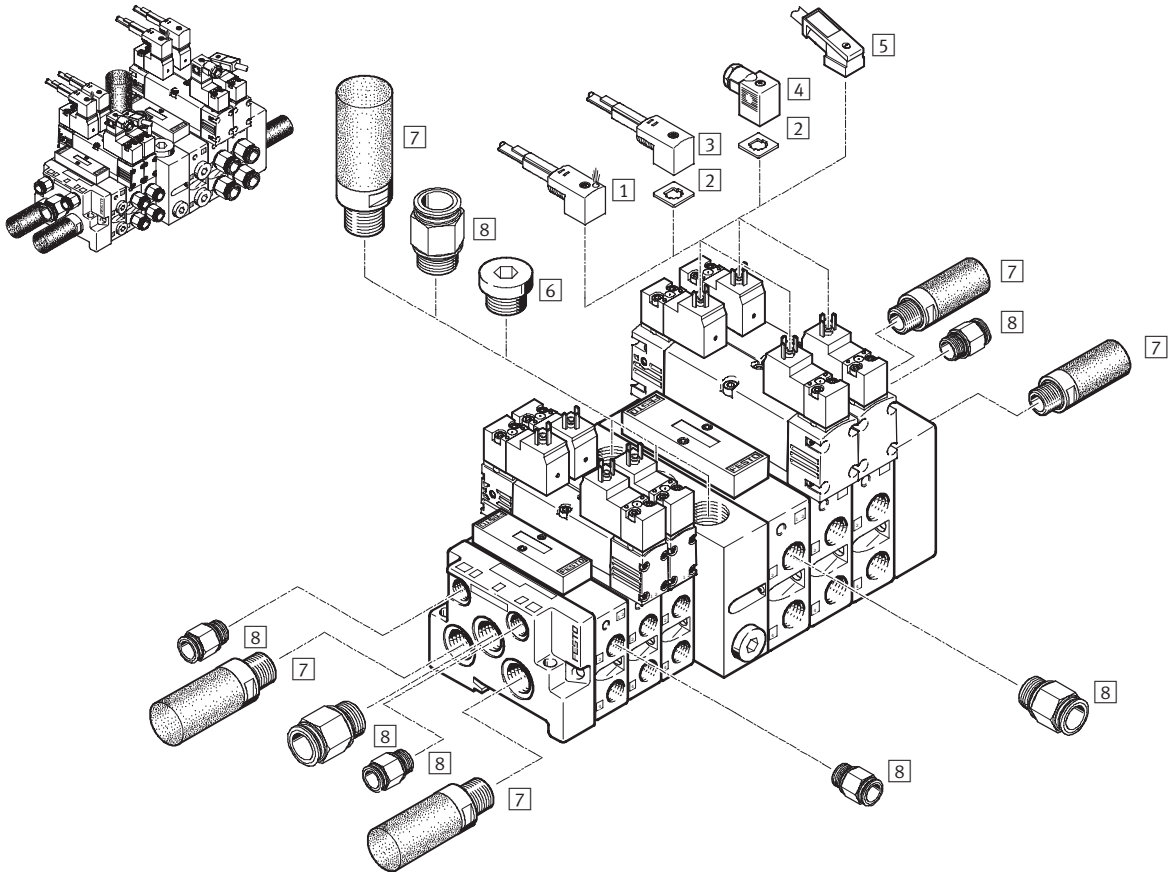
Component parts			
	Type	Brief description	➔ Page/Internet
1 Blanking plate	NDV-...	For vacant or spare position	65
2 Vertical supply plate	VABF...P1-A3...	For intermediate air supply	49
3 Flow control plate	VABF...F1-B1...	For flow control in ducts 3 and 5	48
4 Vertical shut-off plate	VABF...L1-D1...	With switch for manual shut-off of duct 1	50
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

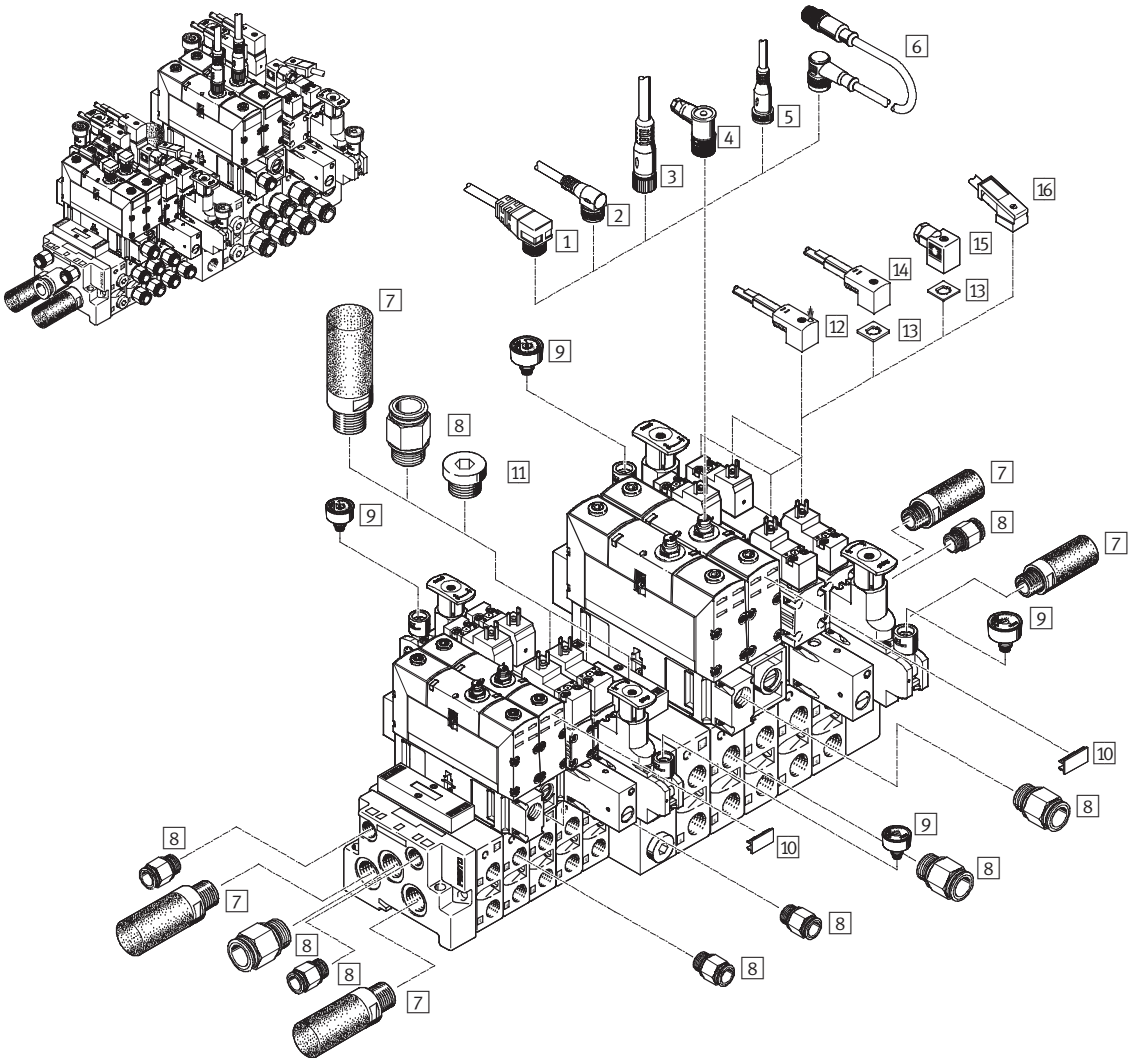
		Type	Brief description	➔ Page/Internet
1	Plug socket with cable	KMEB1-...-LED	With PVC casing and LED	77
2	Illuminating seal	MEB-LD	For indicating the signal status	78
3	Plug socket with cable	KMEB1-...	With PVC casing	77
4	Plug socket	MSSD-EB	–	77
5	Plug socket with cable	KMEB2-...-LED	With polyurethane casing and LED	77
6	Blanking plugs	B-...	For sealing unused ports	77
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	sim
2	Plug socket with cable	SIM-M8-4-WD...	Angled plug socket	sim
3	Plug socket with cable	SIM-M12-4-GD...	Straight plug socket	sim
4	Plug socket	SEA-M12-4WD...	Angled	78
5	Plug socket with cable	SIM-M8-4-GD...	Straight plug socket	sim
6	Connecting cable	KM-12-M12-...	Angled socket, straight plug	78
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	77
10	Inscription labels	IBS-9x20	For identifying the VSVA valves with round plug	77
11	Blanking plugs	B-...	For sealing unused ports	77
12	Plug socket with cable	KMEB1-...-LED	With PVC casing and LED	77
13	Illuminating seal	MEB-LD-...	For indicating the signal status	78
14	Plug socket with cable	KMEB1-...	With PVC casing	77
15	Plug socket	MSSD-EB	–	77
16	Plug socket with cable	KMEB2-...-LED	With polyurethane casing and LED	77

New

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

Technical data – Directional control valves width 18 mm

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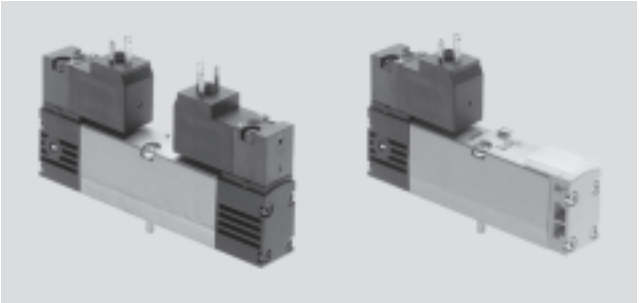
Flow rate
550 ... 700 l/min

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], N[5]	U[2], F[6]	H[4], 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		G⅛							
	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	2[8]							

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) 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/plug type C

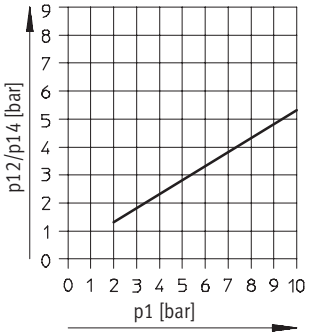
Technical data – Directional control valves width 18 mm

FESTO

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		
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		

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)	
CE mark			73/23/EEC (low voltage)	

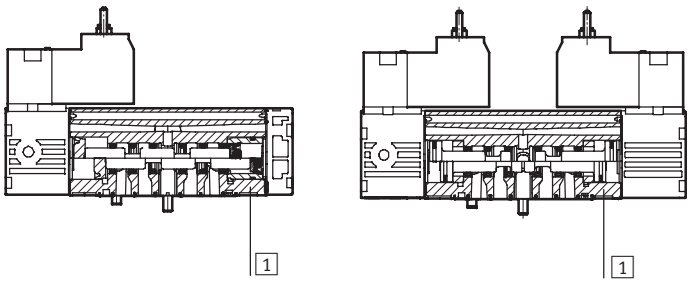
Solenoid valves VSVA, ISO 15407-1/plug type C

Technical data – Directional control valves width 18 mm

FESTO

Materials

Sectional view

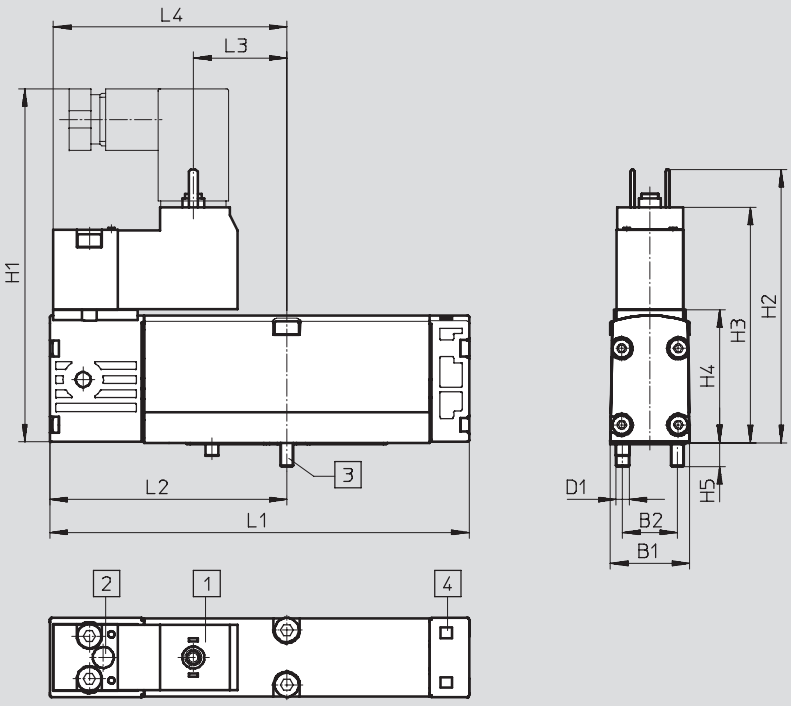


1	Housing	Die-cast aluminium
–	Seals	Nitrile rubber
–	Screws	Galvanised steel
–	Note on materials	Contains PWIS (paint wetting impairment substances)

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

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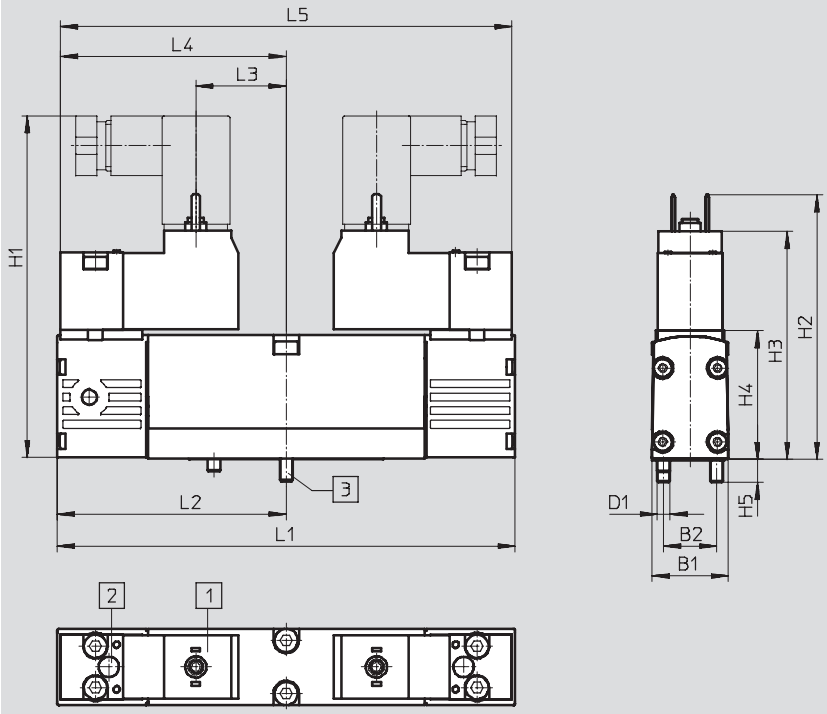
Dimensions Download CAD data ➔ **www.festo.com**

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

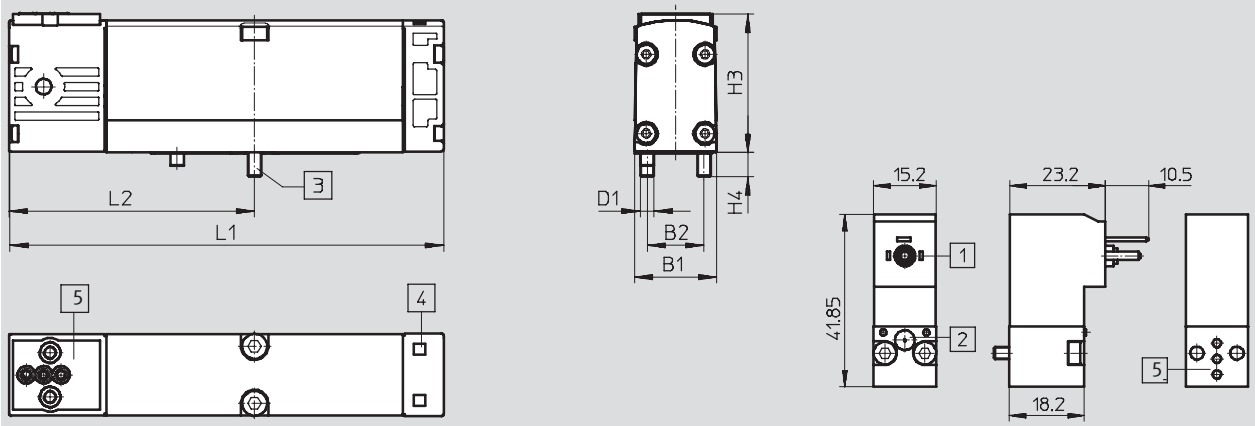


1 Connection dimensions and device plug to DIN EN 175301-803, type C
2 Manual override
3 Captive screws
4 Slot for inscription label

	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	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



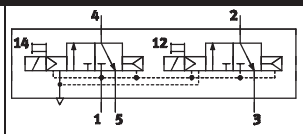
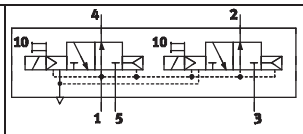
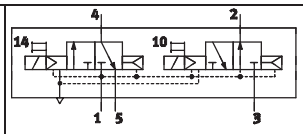
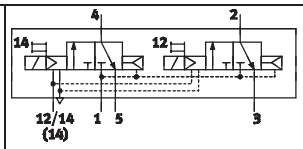
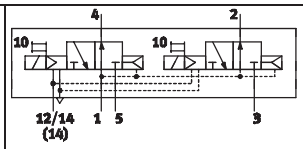
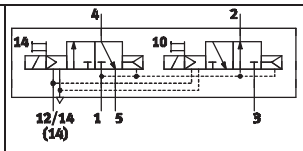
1 Connection dimensions and device plug to DIN EN 175301-803, type C
2 Manual override
3 Captive screws
4 Slot for inscription label
5 Pneumatic port pattern to ISO 15218

	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

Technical data – Directional control valves width 18 mm

FESTO

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	–	**546 693**	**VSVA-B-T32C-AH-A2-1C1**
				12	–	**547 129**	**VSVA-B-T32C-AH-A2-5C1**
				–	230	**547 209**	**VSVA-B-T32C-AH-A2-3AC1**
				–	110	**547 169**	**VSVA-B-T32C-AH-A2-2AC1**
				–	24	**547 089**	**VSVA-B-T32C-AH-A2-1AC1**
N		2x open	Internal	24	–	**546 695**	**VSVA-B-T32U-AH-A2-1C1**
				12	–	**547 131**	**VSVA-B-T32U-AH-A2-5C1**
				–	230	**547 211**	**VSVA-B-T32U-AH-A2-3AC1**
				–	110	**547 171**	**VSVA-B-T32U-AH-A2-2AC1**
				–	24	**547 091**	**VSVA-B-T32U-AH-A2-1AC1**
H		1x closed 1x open	Internal	24	–	**547 067**	**VSVA-B-T32H-AH-A2-1C1**
				12	–	**547 133**	**VSVA-B-T32H-AH-A2-5C1**
				–	230	**547 213**	**VSVA-B-T32H-AH-A2-3AC1**
				–	110	**547 173**	**VSVA-B-T32H-AH-A2-2AC1**
				–	24	**547 093**	**VSVA-B-T32H-AH-A2-1AC1**
K		2x closed	External	24	–	**547 069**	**VSVA-B-T32C-AZH-A2-1C1**
				12	–	**547 149**	**VSVA-B-T32C-AZH-A2-5C1**
				–	230	**547 229**	**VSVA-B-T32C-AZH-A2-3AC1**
				–	110	**547 189**	**VSVA-B-T32C-AZH-A2-2AC1**
				–	24	**547 109**	**VSVA-B-T32C-AZH-A2-1AC1**
N		2x open	External	24	–	**547 071**	**VSVA-B-T32U-AZH-A2-1C1**
				12	–	**547 151**	**VSVA-B-T32U-AZH-A2-5C1**
				–	230	**547 231**	**VSVA-B-T32U-AZH-A2-3AC1**
				–	110	**547 191**	**VSVA-B-T32U-AZH-A2-2AC1**
				–	24	**547 111**	**VSVA-B-T32U-AZH-A2-1AC1**
H		1x closed 1x open	External	24	–	**547 073**	**VSVA-B-T32H-AZH-A2-1C1**
				12	–	**547 153**	**VSVA-B-T32H-AZH-A2-5C1**
				–	230	**547 233**	**VSVA-B-T32H-AZH-A2-3AC1**
				–	110	**547 193**	**VSVA-B-T32H-AZH-A2-2AC1**
				–	24	**547 113**	**VSVA-B-T32H-AZH-A2-1AC1**

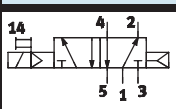
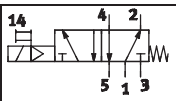
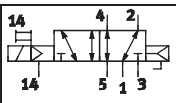
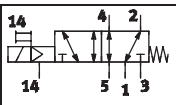
1) 2x 3/2-way valves for reverse operation on request

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

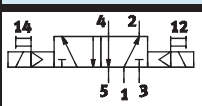
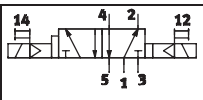
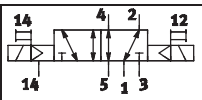
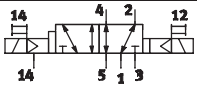
Technical data – Directional control valves width 18 mm

FESTO

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	–	**546 701**	**VSVA-B-M52-AH-A2-1C1**
				12	–	**547 139**	**VSVA-B-M52-AH-A2-5C1**
				–	230	**547 219**	**VSVA-B-M52-AH-A2-3AC1**
				–	110	**547 179**	**VSVA-B-M52-AH-A2-2AC1**
				–	24	**547 099**	**VSVA-B-M52-AH-A2-1AC1**
O		Mechanical spring	Internal	24	–	**546 703**	**VSVA-B-M52-MH-A2-1C1**
				12	–	**547 141**	**VSVA-B-M52-MH-A2-5C1**
				–	230	**547 221**	**VSVA-B-M52-MH-A2-3AC1**
				–	110	**547 181**	**VSVA-B-M52-MH-A2-2AC1**
				–	24	**547 101**	**VSVA-B-M52-MH-A2-1AC1**
M		Pneumatic	External	24	–	**547 079**	**VSVA-B-M52-AZH-A2-1C1**
				12	–	**547 159**	**VSVA-B-M52-AZH-A2-5C1**
				–	230	**547 239**	**VSVA-B-M52-AZH-A2-3AC1**
				–	110	**547 199**	**VSVA-B-M52-AZH-A2-2AC1**
				–	24	**547 119**	**VSVA-B-M52-AZH-A2-1AC1**
O		Mechanical spring	External	24	–	**547 081**	**VSVA-B-M52-MZH-A2-1C1**
				12	–	**547 161**	**VSVA-B-M52-MZH-A2-5C1**
				–	230	**547 241**	**VSVA-B-M52-MZH-A2-3AC1**
				–	110	**547 201**	**VSVA-B-M52-MZH-A2-2AC1**
				–	24	**547 121**	**VSVA-B-M52-MZH-A2-1AC1**

Ordering data – 5/2-way valve, double solenoid (bi-stable)

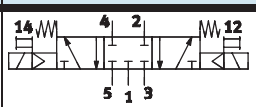
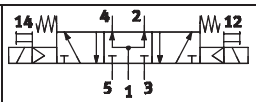
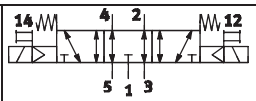
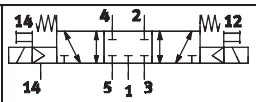
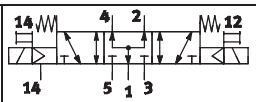
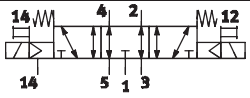
Code	Circuit symbol	Dominant	Pilot air supply	Voltage		Part No.	Type
				V DC	V AC		
J		1st signal	Internal	24	–	**546 697**	**VSVA-B-B52-H-A2-1C1**
				12	–	**547 135**	**VSVA-B-B52-H-A2-5C1**
				–	230	**547 215**	**VSVA-B-B52-H-A2-3AC1**
				–	110	**547 175**	**VSVA-B-B52-H-A2-2AC1**
				–	24	**547 095**	**VSVA-B-B52-H-A2-1AC1**
D		At 14	Internal	24		**546 699**	**VSVA-B-D52-H-A2-1C1**
				12		**547 137**	**VSVA-B-D52-H-A2-5C1**
					230	**547 217**	**VSVA-B-D52-H-A2-3AC1**
					110	**547 177**	**VSVA-B-D52-H-A2-2AC1**
					24	**547 097**	**VSVA-B-D52-H-A2-1AC1**
J		1st signal	External	24	–	**547 075**	**VSVA-B-B52-ZH-A2-1C1**
				12	–	**547 155**	**VSVA-B-B52-ZH-A2-5C1**
				–	230	**547 235**	**VSVA-B-B52-ZH-A2-3AC1**
				–	110	**547 195**	**VSVA-B-B52-ZH-A2-2AC1**
				–	24	**547 115**	**VSVA-B-B52-ZH-A2-1AC1**
D		At 14	External	24	–	**547 077**	**VSVA-B-D52-ZH-A2-1C1**
				12	–	**547 157**	**VSVA-B-D52-ZH-A2-5C1**
				–	230	**547 237**	**VSVA-B-D52-ZH-A2-3AC1**
				–	110	**547 197**	**VSVA-B-D52-ZH-A2-2AC1**
				–	24	**547 117**	**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)

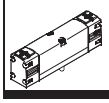
Code	Circuit symbol	Normal position	Pilot air supply	Voltage		Part No.	Type
				V DC	V AC		
G		Closed	Internal	24	–	**546 709**	**VSVA-B-P53C-H-A2-1C1**
				12	–	**547 147**	**VSVA-B-P53C-H-A2-5C1**
				–	230	**547 227**	**VSVA-B-P53C-H-A2-3AC1**
				–	110	**547 187**	**VSVA-B-P53C-H-A2-2AC1**
				–	24	**547 107**	**VSVA-B-P53C-H-A2-1AC1**
B		Open	Internal	24	–	**546 705**	**VSVA-B-P53U-H-A2-1C1**
				12	–	**547 143**	**VSVA-B-P53U-H-A2-5C1**
				–	230	**547 223**	**VSVA-B-P53U-H-A2-3AC1**
				–	110	**547 183**	**VSVA-B-P53U-H-A2-2AC1**
				–	24	**547 103**	**VSVA-B-P53U-H-A2-1AC1**
E		Exhausted	Internal	24	–	**546 707**	**VSVA-B-P53E-H-A2-1C1**
				12	–	**547 145**	**VSVA-B-P53E-H-A2-5C1**
				–	230	**547 225**	**VSVA-B-P53E-H-A2-3AC1**
				–	110	**547 185**	**VSVA-B-P53E-H-A2-2AC1**
				–	24	**547 105**	**VSVA-B-P53E-H-A2-1AC1**
G		Closed	External	24	–	**547 087**	**VSVA-B-P53C-ZH-A2-1C1**
				12	–	**547 167**	**VSVA-B-P53C-ZH-A2-5C1**
				–	230	**547 247**	**VSVA-B-P53C-ZH-A2-3AC1**
				–	110	**547 207**	**VSVA-B-P53C-ZH-A2-2AC1**
				–	24	**547 127**	**VSVA-B-P53C-ZH-A2-1AC1**
B		Open	External	24	–	**547 083**	**VSVA-B-P53U-ZH-A2-1C1**
				12	–	**547 163**	**VSVA-B-P53U-ZH-A2-5C1**
				–	230	**547 243**	**VSVA-B-P53U-ZH-A2-3AC1**
				–	110	**547 203**	**VSVA-B-P53U-ZH-A2-2AC1**
				–	24	**547 123**	**VSVA-B-P53U-ZH-A2-1AC1**
E		Exhausted	External	24	–	**547 085**	**VSVA-B-P53E-ZH-A2-1C1**
				12	–	**547 165**	**VSVA-B-P53E-ZH-A2-5C1**
				–	230	**547 245**	**VSVA-B-P53E-ZH-A2-3AC1**
				–	110	**547 205**	**VSVA-B-P53E-ZH-A2-2AC1**
				–	24	**547 125**	**VSVA-B-P53E-ZH-A2-1AC1**

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

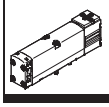
Technical data – Directional control valves width 18 mm without pilot valve

FESTO

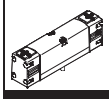
Ordering data – 2x 3/2-way valve without pilot valve

Constructional design	Normal position	Pilot air supply	Part No.	Type
	2x closed	Internal	**546 732**	**VSVA-B-T32C-A-A2-P1**
	2x open	Internal	**546 734**	**VSVA-B-T32U-A-A2-P1**

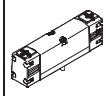
Ordering data – 5/2-way valve, single solenoid (monostable) without pilot valve

Constructional design	Reset method	Pilot air supply	Part No.	Type
	Pneumatic	Internal	**546 740**	**VSVA-B-M52-A-A2-P1**
	Mechanical spring	Internal	**546 742**	**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	**546 736**	**VSVA-B-B52-A2-P1**
	At 14	Internal	**546 738**	**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	**546 748**	**VSVA-B-P53C-A2-P1**
	Open	Internal	**546 744**	**VSVA-B-P53U-A2-P1**
	Exhausted	Internal	**546 746**	**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	–	**546 256**	**VSCS-B-M32-MH-WA-1C1**
		No	1,8	–	12	–	**546 257**	**VSCS-B-M32-MH-WA-5C1**
	DIN EN 175301-803, type C	Yes	–	2,1	–	230	**546 260**	**VSCS-B-M32-MH-WA-3AC1**
		Yes	–	2,1	–	110	**546 259**	**VSCS-B-M32-MH-WA-2AC1**
		No	–	2,3	–	24	**546 258**	**VSCS-B-M32-MH-WA-1AC1**

New

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

Technical data – Directional control valves width 26 mm

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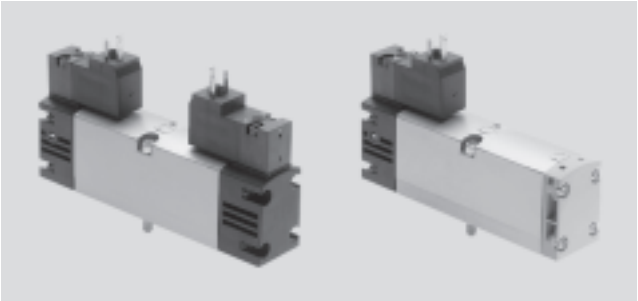
Flow rate
1,250 ... 1,400 l/min

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], N[5]	U[2], F[6]	H[4], 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		G¼							
	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	2[8]							

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) 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/plug type C

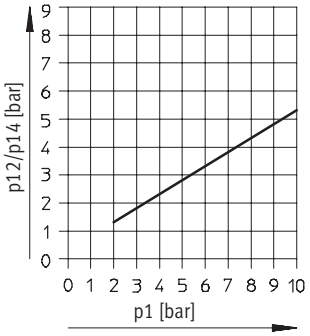
Technical data – Directional control valves width 26 mm

FESTO

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]	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		

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)



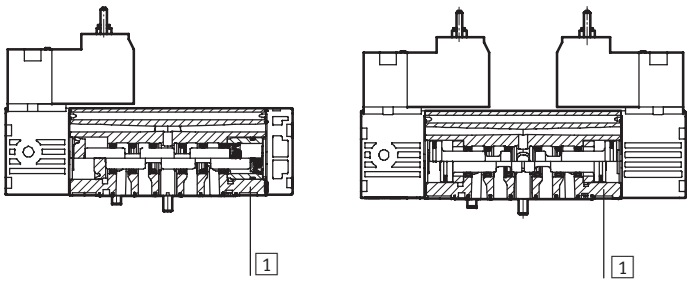
Electrical data				
Electrical connection			Plug, square design to DIN EN 175301-803, type C	
			12 V/24 V DC/AC without protective earth conductor	110 V/230 V AC with protective earth conductor
Operating voltage	DC voltage	[V DC]	12, 24 +10%/–15%	
	AC voltage	[V AC]	24, 110, 230 +10%/–15%	
Coil characteristics	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)	
CE mark			73/23/EEC (low voltage)	

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

FESTO

Materials

Sectional view

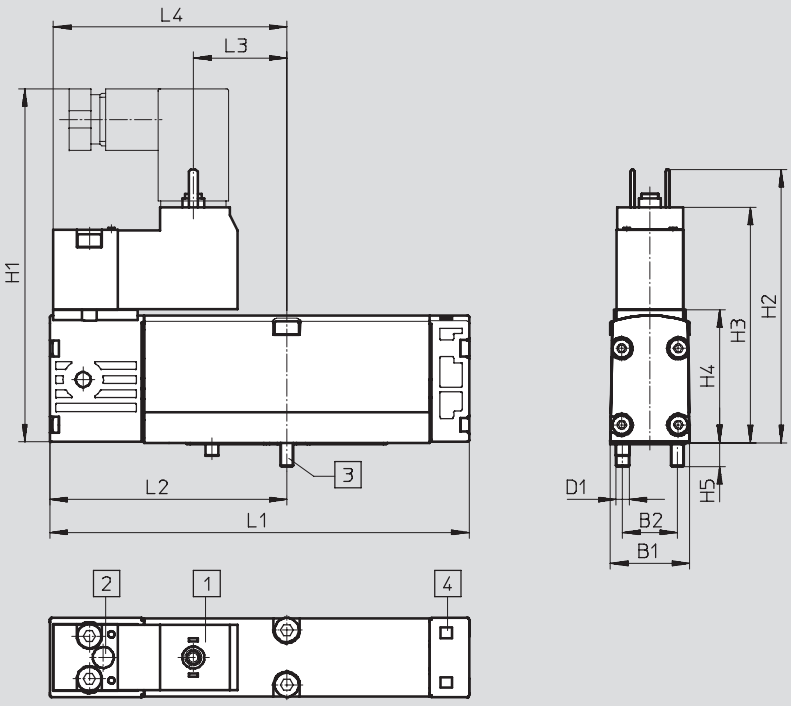


1	Housing	Die-cast aluminium
–	Seals	Nitrile rubber
–	Screws	Galvanised steel
–	Note on materials	Contains PWIS (paint wetting impairment substances)

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

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

Technical data – Directional control valves 26

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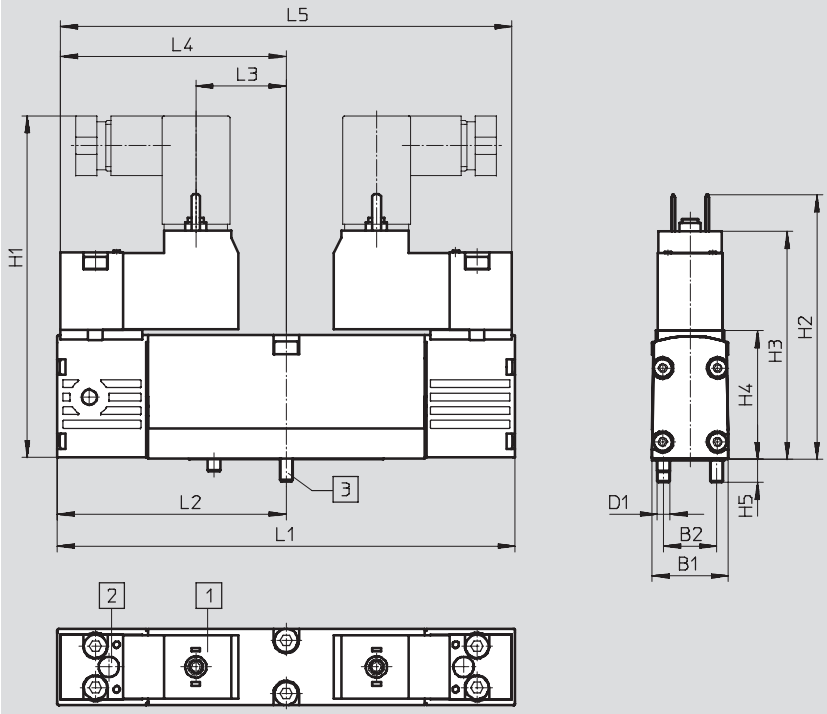
Dimensions Download CAD data ➔ **www.festo.com**

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

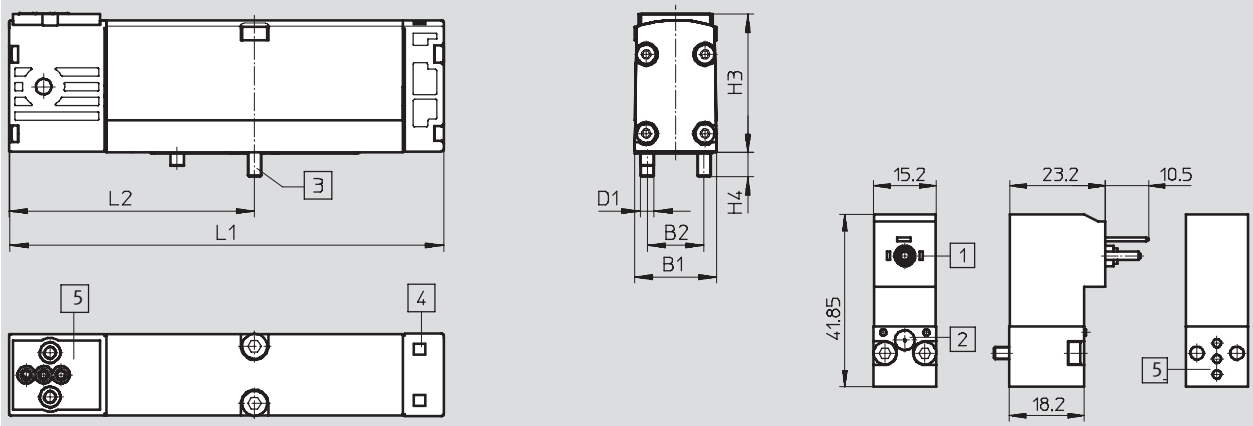


1 Connection dimensions and device plug to DIN EN 175301-803, type C
2 Manual override
3 Captive screws
4 Slot for inscription label

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

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
3 Captive screws
4 Slot for inscription label
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

Technical data – Directional control valves width 26 mm

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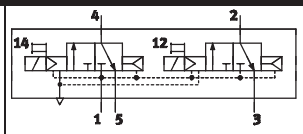
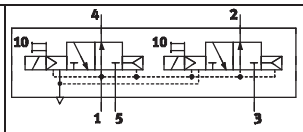
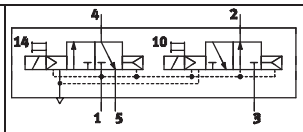
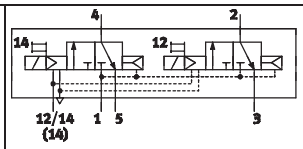
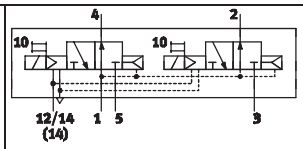
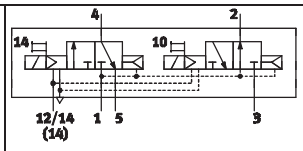
Ordering data – 2x 3/2-way valve[1)]

Code	Circuit symbol	Normal position	Pilot air supply	Voltage		Part No.	Type
				V DC	V AC		
K		2x closed	Internal	24	–	**546 692**	**VSVA-B-T32C-AH-A1-1C1**
				12	–	**547 128**	**VSVA-B-T32C-AH-A1-5C1**
				–	230	**547 208**	**VSVA-B-T32C-AH-A1-3AC1**
				–	110	**547 168**	**VSVA-B-T32C-AH-A1-2AC1**
				–	24	**547 088**	**VSVA-B-T32C-AH-A1-1AC1**
N		2x open	Internal	24	–	**546 694**	**VSVA-B-T32U-AH-A1-1C1**
				12	–	**547 130**	**VSVA-B-T32U-AH-A1-5C1**
				–	230	**547 210**	**VSVA-B-T32U-AH-A1-3AC1**
				–	110	**547 170**	**VSVA-B-T32U-AH-A1-2AC1**
				–	24	**547 090**	**VSVA-B-T32U-AH-A1-1AC1**
H		1x closed 1x open	Internal	24	–	**547 066**	**VSVA-B-T32H-AH-A1-1C1**
				12	–	**547 132**	**VSVA-B-T32H-AH-A1-5C1**
				–	230	**547 212**	**VSVA-B-T32H-AH-A1-3AC1**
				–	110	**547 172**	**VSVA-B-T32H-AH-A1-2AC1**
				–	24	**547 092**	**VSVA-B-T32H-AH-A1-1AC1**
K		2x closed	External	24	–	**547 068**	**VSVA-B-T32C-AZH-A1-1C1**
				12	–	**547 148**	**VSVA-B-T32C-AZH-A1-5C1**
				–	230	**547 228**	**VSVA-B-T32C-AZH-A1-3AC1**
				–	110	**547 188**	**VSVA-B-T32C-AZH-A1-2AC1**
				–	24	**547 108**	**VSVA-B-T32C-AZH-A1-1AC1**
N		2x open	External	24	–	**547 070**	**VSVA-B-T32U-AZH-A1-1C1**
				12	–	**547 150**	**VSVA-B-T32U-AZH-A1-5C1**
				–	230	**547 230**	**VSVA-B-T32U-AZH-A1-3AC1**
				–	110	**547 190**	**VSVA-B-T32U-AZH-A1-2AC1**
				–	24	**547 110**	**VSVA-B-T32U-AZH-A1-1AC1**
H		1x closed 1x open	External	24	–	**547 072**	**VSVA-B-T32H-AZH-A1-1C1**
				12	–	**547 152**	**VSVA-B-T32H-AZH-A1-5C1**
				–	230	**547 232**	**VSVA-B-T32H-AZH-A1-3AC1**
				–	110	**547 192**	**VSVA-B-T32H-AZH-A1-2AC1**
				–	24	**547 112**	**VSVA-B-T32H-AZH-A1-1AC1**

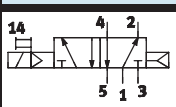
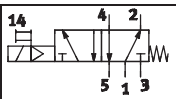
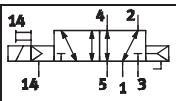
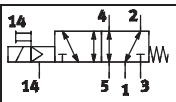
1) 2x 3/2-way valves for reverse operation on request

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

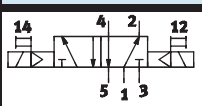
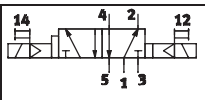
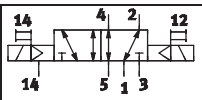
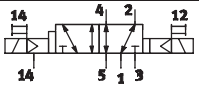
Technical data – Directional control valves width 26 mm

FESTO

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	–	**546 700**	**VSVA-B-M52-AH-A1-1C1**
				12	–	**547 138**	**VSVA-B-M52-AH-A1-5C1**
				–	230	**547 218**	**VSVA-B-M52-AH-A1-3AC1**
				–	110	**547 178**	**VSVA-B-M52-AH-A1-2AC1**
				–	24	**547 098**	**VSVA-B-M52-AH-A1-1AC1**
O		Mechanical spring	Internal	24	–	**546 702**	**VSVA-B-M52-MH-A1-1C1**
				12	–	**547 140**	**VSVA-B-M52-MH-A1-5C1**
				–	230	**547 220**	**VSVA-B-M52-MH-A1-3AC1**
				–	110	**547 180**	**VSVA-B-M52-MH-A1-2AC1**
				–	24	**547 100**	**VSVA-B-M52-MH-A1-1AC1**
M		Pneumatic	External	24	–	**547 078**	**VSVA-B-M52-AZH-A1-1C1**
				12	–	**547 158**	**VSVA-B-M52-AZH-A1-5C1**
				–	230	**547 238**	**VSVA-B-M52-AZH-A1-3AC1**
				–	110	**547 198**	**VSVA-B-M52-AZH-A1-2AC1**
				–	24	**547 118**	**VSVA-B-M52-AZH-A1-1AC1**
O		Mechanical spring	External	24	–	**547 080**	**VSVA-B-M52-MZH-A1-1C1**
				12	–	**547 160**	**VSVA-B-M52-MZH-A1-5C1**
				–	230	**547 240**	**VSVA-B-M52-MZH-A1-3AC1**
				–	110	**547 200**	**VSVA-B-M52-MZH-A1-2AC1**
				–	24	**547 120**	**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	–	**546 696**	**VSVA-B-B52-H-A1-1C1**
				12	–	**547 134**	**VSVA-B-B52-H-A1-5C1**
				–	230	**547 214**	**VSVA-B-B52-H-A1-3AC1**
				–	110	**547 174**	**VSVA-B-B52-H-A1-2AC1**
				–	24	**547 094**	**VSVA-B-B52-H-A1-1AC1**
D		At 14	Internal	24		**546 698**	**VSVA-B-D52-H-A1-1C1**
				12		**547 136**	**VSVA-B-D52-H-A1-5C1**
					230	**547 216**	**VSVA-B-D52-H-A1-3AC1**
					110	**547 176**	**VSVA-B-D52-H-A1-2AC1**
					24	**547 096**	**VSVA-B-D52-H-A1-1AC1**
J		1st signal	External	24	–	**547 074**	**VSVA-B-B52-ZH-A1-1C1**
				12	–	**547 154**	**VSVA-B-B52-ZH-A1-5C1**
				–	230	**547 234**	**VSVA-B-B52-ZH-A1-3AC1**
				–	110	**547 194**	**VSVA-B-B52-ZH-A1-2AC1**
				–	24	**547 114**	**VSVA-B-B52-ZH-A1-1AC1**
D		At 14	External	24	–	**547 076**	**VSVA-B-D52-ZH-A1-1C1**
				12	–	**547 156**	**VSVA-B-D52-ZH-A1-5C1**
				–	230	**547 236**	**VSVA-B-D52-ZH-A1-3AC1**
				–	110	**547 196**	**VSVA-B-D52-ZH-A1-2AC1**
				–	24	**547 116**	**VSVA-B-D52-ZH-A1-1AC1**

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

Technical data – Directional control valves width 26 mm

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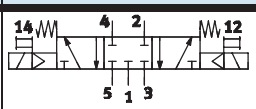
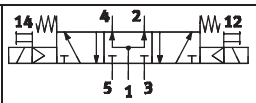
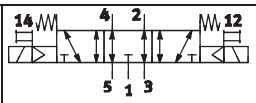
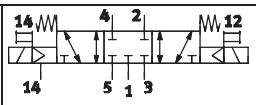
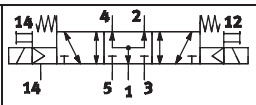
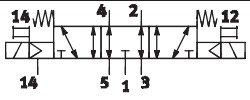
Ordering data – 5/3-way valve, double solenoid (monostable)

Code	Circuit symbol	Normal position	Pilot air supply	Voltage		Part No.	Type
				V DC	V AC		
G		Closed	Internal	24	–	**546 708**	**VSVA-B-P53C-H-A1-1C1**
				12	–	**547 146**	**VSVA-B-P53C-H-A1-5C1**
				–	230	**547 226**	**VSVA-B-P53C-H-A1-3AC1**
				–	110	**547 186**	**VSVA-B-P53C-H-A1-2AC1**
				–	24	**547 106**	**VSVA-B-P53C-H-A1-1AC1**
B		Open	Internal	24	–	**546 704**	**VSVA-B-P53U-H-A1-1C1**
				12	–	**547 142**	**VSVA-B-P53U-H-A1-5C1**
				–	230	**547 222**	**VSVA-B-P53U-H-A1-3AC1**
				–	110	**547 182**	**VSVA-B-P53U-H-A1-2AC1**
				–	24	**547 102**	**VSVA-B-P53U-H-A1-1AC1**
E		Exhausted	Internal	24	–	**546 706**	**VSVA-B-P53E-H-A1-1C1**
				12	–	**547 144**	**VSVA-B-P53E-H-A1-5C1**
				–	230	**547 224**	**VSVA-B-P53E-H-A1-3AC1**
				–	110	**547 184**	**VSVA-B-P53E-H-A1-2AC1**
				–	24	**547 104**	**VSVA-B-P53E-H-A1-1AC1**
G		Closed	External	24	–	**547 086**	**VSVA-B-P53C-ZH-A1-1C1**
				12	–	**547 166**	**VSVA-B-P53C-ZH-A1-5C1**
				–	230	**547 246**	**VSVA-B-P53C-ZH-A1-3AC1**
				–	110	**547 206**	**VSVA-B-P53C-ZH-A1-2AC1**
				–	24	**547 126**	**VSVA-B-P53C-ZH-A1-1AC1**
B		Open	External	24	–	**547 082**	**VSVA-B-P53U-ZH-A1-1C1**
				12	–	**547 162**	**VSVA-B-P53U-ZH-A1-5C1**
				–	230	**547 242**	**VSVA-B-P53U-ZH-A1-3AC1**
				–	110	**547 202**	**VSVA-B-P53U-ZH-A1-2AC1**
				–	24	**547 122**	**VSVA-B-P53U-ZH-A1-1AC1**
E		Exhausted	External	24	–	**547 084**	**VSVA-B-P53E-ZH-A1-1C1**
				12	–	**547 164**	**VSVA-B-P53E-ZH-A1-5C1**
				–	230	**547 244**	**VSVA-B-P53E-ZH-A1-3AC1**
				–	110	**547 204**	**VSVA-B-P53E-ZH-A1-2AC1**
				–	24	**547 124**	**VSVA-B-P53E-ZH-A1-1AC1**

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

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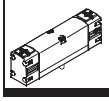
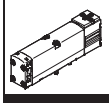
Technical data – Directional control valves width 26 mm without pilot valve

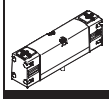
Ordering data – 2x 3/2-way valve without pilot valve

Constructional design	Normal position	Pilot air supply	Part No.	Type
	2x closed	Internal	**546 731**	**VSVA-B-T32C-A-A1-P1**
	2x open	Internal	**546 733**	**VSVA-B-T32U-A-A1-P1**

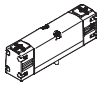
Ordering data – 5/2-way valve, single solenoid (monostable) without pilot valve

Constructional design	Reset method	Pilot air supply	Part No.	Type
	Pneumatic	Internal	**546 739**	**VSVA-B-M52-A-A1-P1**
	Mechanical spring	Internal	**546 741**	**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	**546 735**	**VSVA-B-B52-A1-P1**
	At 14	Internal	**546 737**	**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	**546 747**	**VSVA-B-P53C-A1-P1**
	Open	Internal	**546 743**	**VSVA-B-P53U-A1-P1**
	Exhausted	Internal	**546 745**	**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	–	**546 256**	**VSCS-B-M32-MH-WA-1C1**
		No	1.8	–	12	–	**546 257**	**VSCS-B-M32-MH-WA-5C1**
	DIN EN 175301-803, type C	Yes	–	2.1	–	230	**546 260**	**VSCS-B-M32-MH-WA-3AC1**
		Yes	–	2.1	–	110	**546 259**	**VSCS-B-M32-MH-WA-2AC1**
		No	–	2.3	–	24	**546 258**	**VSCS-B-M32-MH-WA-1AC1**

New

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

Technical data – Directional control valves width 18 mm

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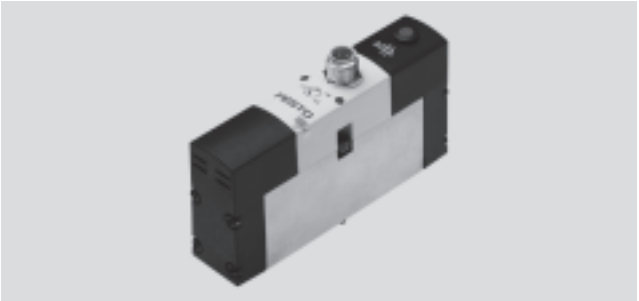
Flow rate
650 l/min

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]							

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.

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

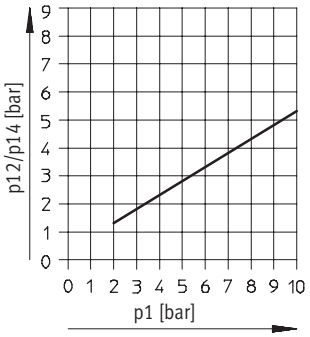
FESTO

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		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 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

Technical data – Directional control valves width 18 mm

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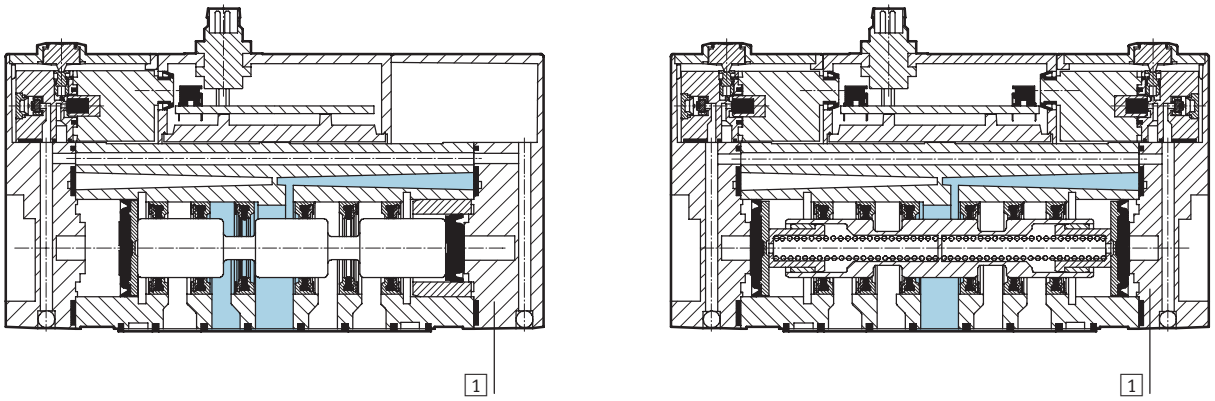
Materials

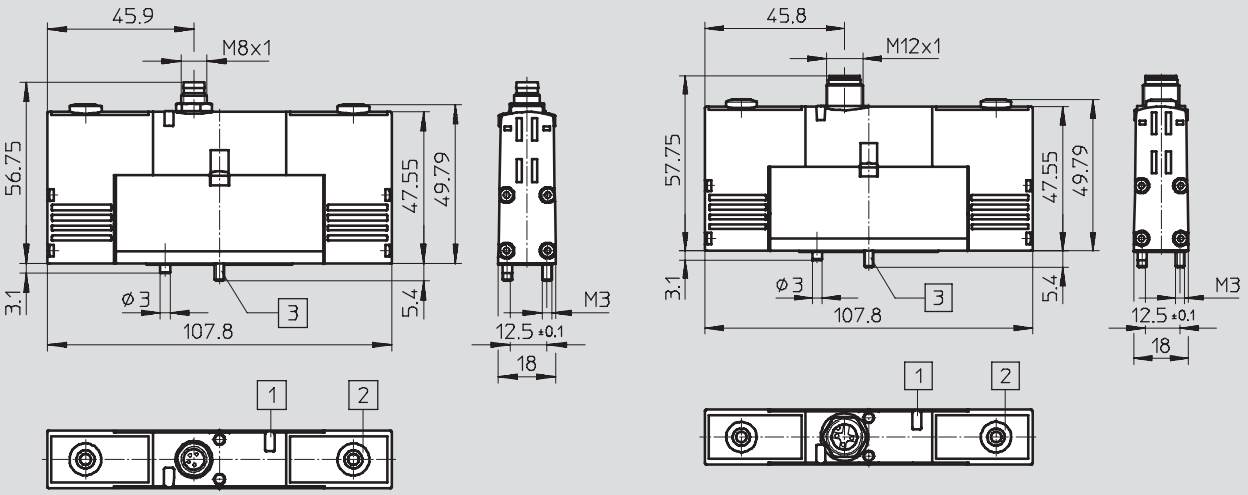
Sectional view



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

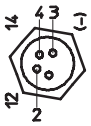
Dimensions

Download CAD data ➔ **www.festo.com**



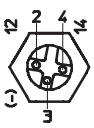
1 Light emitting diode (LED)
2 Manual override
3 Captive mounting screws

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

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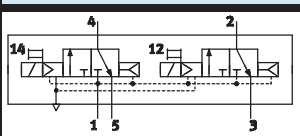
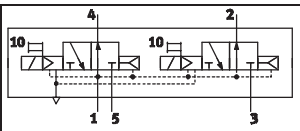
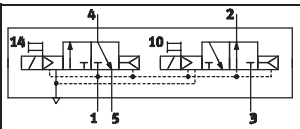
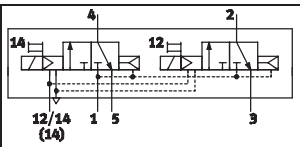
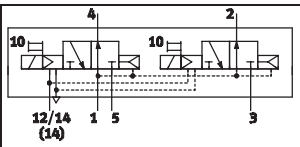
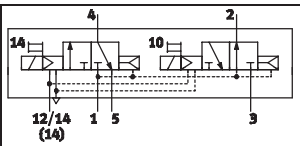
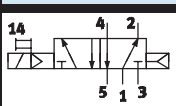
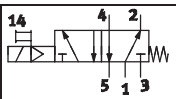
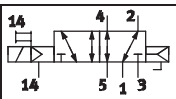
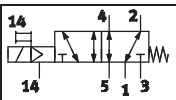
Technical data – Directional control valves width 18 mm

Ordering data – 2x 3/2-way valve

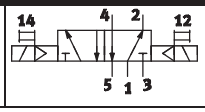
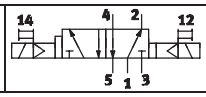
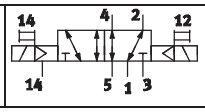
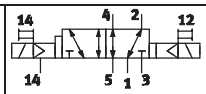
Code	Circuit symbol	Normal position	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
K		2x closed	Internal	24 V DC	–	**534 771**	**VSVA-B-T32C-AH-A2-1R2L**
				–	24 V DC	**546 764**	**VSVA-B-T32C-AH-A2-1R5L**
N		2x open	Internal	24 V DC	–	**534 772**	**VSVA-B-T32U-AH-A2-1R2L**
				–	24 V DC	**546 765**	**VSVA-B-T32U-AH-A2-1R5L**
H		1x closed 1x open	Internal	24 V DC	–	**534 773**	**VSVA-B-T32H-AH-A2-1R2L**
				–	24 V DC	**546 766**	**VSVA-B-T32H-AH-A2-1R5L**
K		2x closed	External	24 V DC	–	**534 781**	**VSVA-B-T32C-AZH-A2-1R2L**
				–	24 V DC	**546 774**	**VSVA-B-T32C-AZH-A2-1R5L**
N		2x open	External	24 V DC	–	**534 782**	**VSVA-B-T32U-AZH-A2-1R2L**
				–	24 V DC	**546 775**	**VSVA-B-T32U-AZH-A2-1R5L**
H		1x closed 1x open	External	24 V DC	–	**534 783**	**VSVA-B-T32H-AZH-A2-1R2L**
				–	24 V DC	**546 776**	**VSVA-B-T32H-AZH-A2-1R5L**

Ordering data – 5/2-way valve, single solenoid

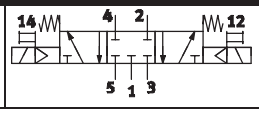
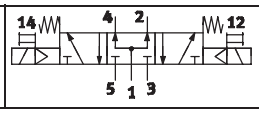
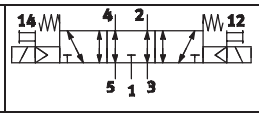
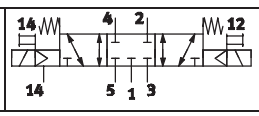
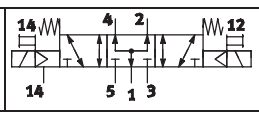
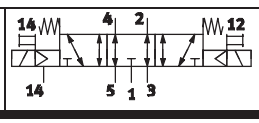
Code	Circuit symbol	Reset method	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
M		Pneumatic spring	Internal	24 V DC	–	**534 774**	**VSVA-B-M52-AH-A2-1R2L**
				–	24 V DC	**546 767**	**VSVA-B-M52-AH-A2-1R5L**
O		Mechanical spring	Internal	24 V DC	–	**534 775**	**VSVA-B-M52-MH-A2-1R2L**
				–	24 V DC	**546 768**	**VSVA-B-M52-MH-A2-1R5L**
M		Pneumatic spring	External	24 V DC	–	**534 784**	**VSVA-B-M52-AZH-A2-1R2L**
				–	24 V DC	**546 777**	**VSVA-B-M52-AZH-A2-1R5L**
O		Mechanical spring	External	24 V DC	–	**534 785**	**VSVA-B-M52-MZH-A2-1R2L**
				–	24 V DC	**546 778**	**VSVA-B-M52-MZH-A2-1R5L**

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

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	–	**534 776**	**VSVA-B-B52-H-A2-1R2L**
				–	24 V DC	**546 769**	**VSVA-B-B52-H-A2-1R5L**
D		At 14	Internal	24 V DC	–	**534 777**	**VSVA-B-D52-H-A2-1R2L**
				–	24 V DC	**546 770**	**VSVA-B-D52-H-A2-1R5L**
J		1st signal	External	24 V DC	–	**534 786**	**VSVA-B-B52-ZH-A2-1R2L**
				–	24 V DC	**546 779**	**VSVA-B-B52-ZH-A2-1R5L**
D		At 14	External	24 V DC	–	**534 787**	**VSVA-B-D52-ZH-A2-1R2L**
				–	24 V DC	**546 780**	**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	–	**534 778**	**VSVA-B-P53C-H-A2-1R2L**
				–	24 V DC	**546 771**	**VSVA-B-P53C-H-A2-1R5L**
B		Open	Internal	24 V DC	–	**534 780**	**VSVA-B-P53U-H-A2-1R2L**
				–	24 V DC	**546 773**	**VSVA-B-P53U-H-A2-1R5L**
E		Exhausted	Internal	24 V DC	–	**534 779**	**VSVA-B-P53E-H-A2-1R2L**
				–	24 V DC	**546 772**	**VSVA-B-P53E-H-A2-1R5L**
G		Closed	External	24 V DC	–	**534 788**	**VSVA-B-P53C-ZH-A2-1R2L**
				–	24 V DC	**546 781**	**VSVA-B-P53C-ZH-A2-1R5L**
B		Open	External	24 V DC	–	**534 790**	**VSVA-B-P53U-ZH-A2-1R2L**
				–	24 V DC	**546 783**	**VSVA-B-P53U-ZH-A2-1R5L**
E		Exhausted	External	24 V DC		**534 789**	**VSVA-B-P53E-ZH-A2-1R2L**
					24 V DC	**546 782**	**VSVA-B-P53E-ZH-A2-1R5L**

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

Technical data – Directional control valves width 26 mm

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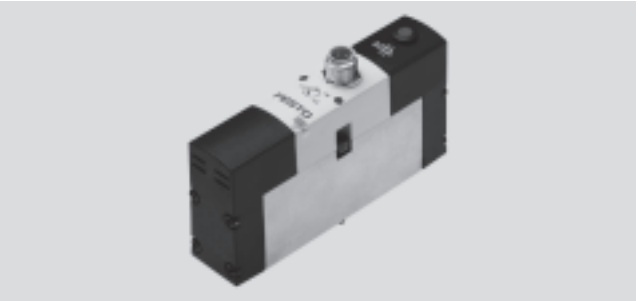
Flow rate
1,250 ... 1,400 l/min

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	G¼							
	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.

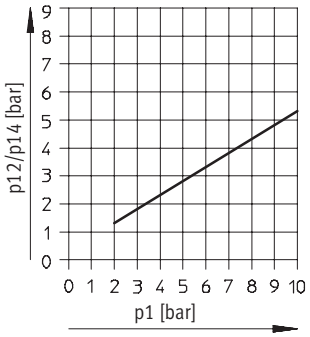
Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

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

Technical data – Directional control valves width 26 mm

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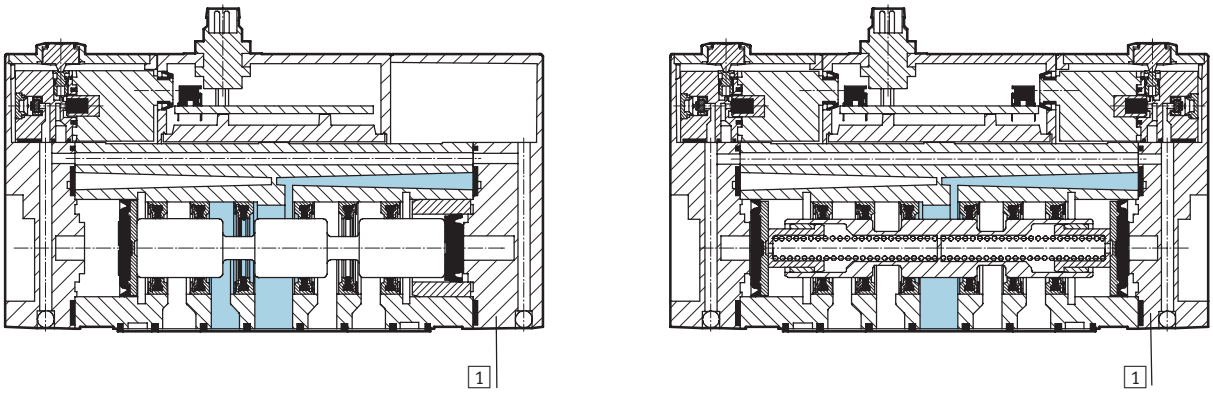
Materials

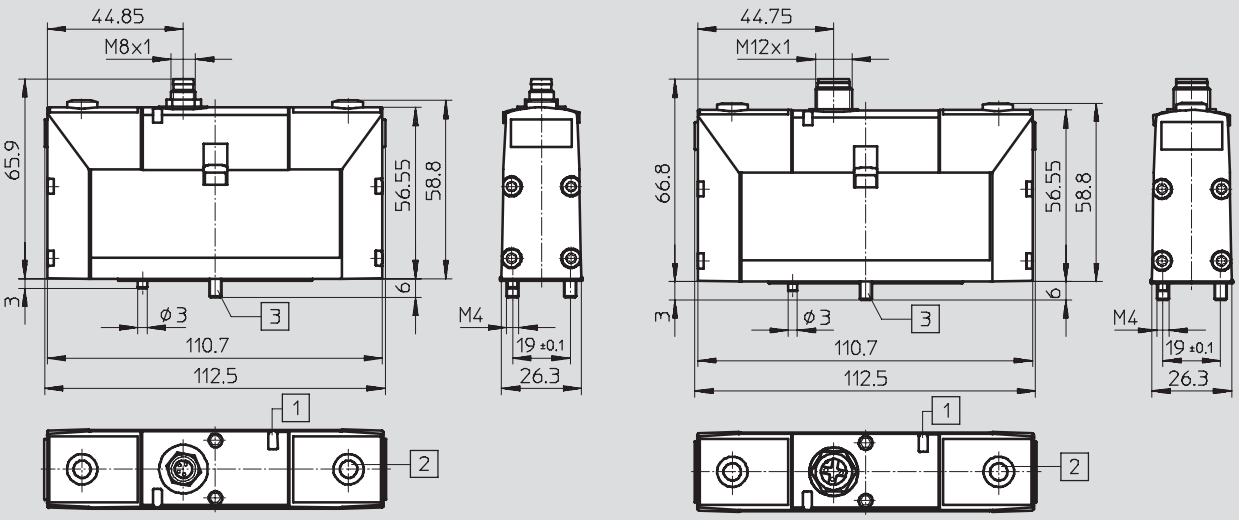
Sectional view



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

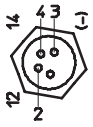
Dimensions

Download CAD data ➔ **www.festo.com**



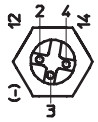
1 Light emitting diode (LED)
2 Manual override
3 Captive mounting screws

M8x1– Terminal allocation



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

M12x1 – Terminal allocation

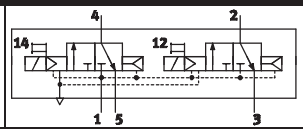
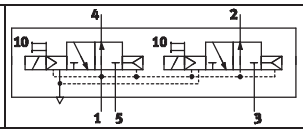
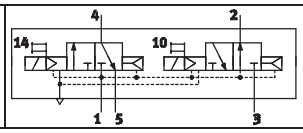
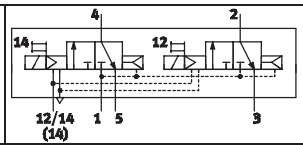
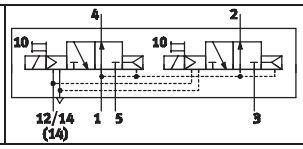
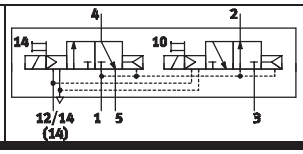


2	Signal (+) Solenoid 12
3	com (–)
4	Signal (+) Solenoid 14

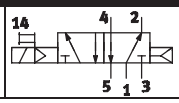
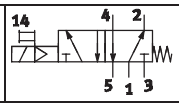
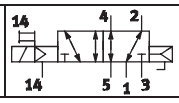
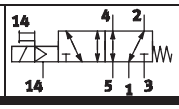
Solenoid valves VSVA, ISO 15407-1/central plug M8x1, M12x1

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	–	**534 532**	**VSVA-B-T32C-AH-A1-1R2L**
				–	24 V DC	**534 552**	**VSVA-B-T32C-AH-A1-1R5L**
N		2x open	Internal	24 V DC	–	**534 533**	**VSVA-B-T32U-AH-A1-1R2L**
				–	24 V DC	**534 553**	**VSVA-B-T32U-AH-A1-1R5L**
H		1x closed 1x open	Internal	24 V DC	–	**534 534**	**VSVA-B-T32H-AH-A1-1R2L**
				–	24 V DC	**534 554**	**VSVA-B-T32H-AH-A1-1R5L**
K		2x closed	External	24 V DC	–	**534 522**	**VSVA-B-T32C-AZH-A1-1R2L**
				–	24 V DC	**534 542**	**VSVA-B-T32C-AZH-A1-1R5L**
N		2x open	External	24 V DC	–	**534 523**	**VSVA-B-T32U-AZH-A1-1R2L**
				–	24 V DC	**534 543**	**VSVA-B-T32U-AZH-A1-1R5L**
H		1x closed 1x open	External	24 V DC	–	**534 524**	**VSVA-B-T32H-AZH-A1-1R2L**
				–	24 V DC	**534 544**	**VSVA-B-T32H-AZH-A1-1R5L**

Ordering data – 5/2-way valve, single solenoid (monostable)

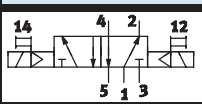
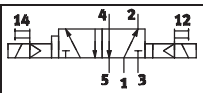
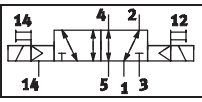
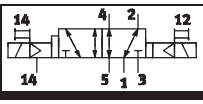
Code	Circuit symbol	Reset method	Pilot air supply	Plug		Part No.	Type
				M8x1	M12x1		
M		Pneumatic	Internal	24 V DC	–	**534 535**	**VSVA-B-M52-AH-A1-1R2L**
				–	24 V DC	**534 555**	**VSVA-B-M52-AH-A1-1R5L**
O		Mechanical spring	Internal	24 V DC	–	**534 536**	**VSVA-B-M52-MH-A1-1R2L**
				–	24 V DC	**534 556**	**VSVA-B-M52-MH-A1-1R5L**
M		Pneumatic	External	24 V DC	–	**534 525**	**VSVA-B-M52-AZH-A1-1R2L**
				–	24 V DC	**534 545**	**VSVA-B-M52-AZH-A1-1R5L**
O		Mechanical spring	External	24 V DC	–	**534 526**	**VSVA-B-M52-MZH-A1-1R2L**
				–	24 V DC	**534 546**	**VSVA-B-M52-MZH-A1-1R5L**

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

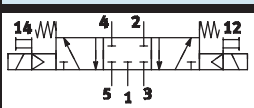
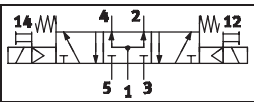
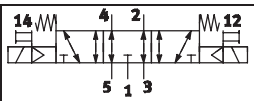
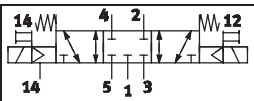
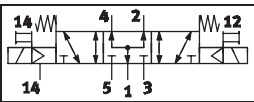
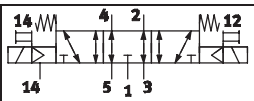
FESTO

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	–	**534 537**	**VSVA-B-B52-H-A1-1R2L**
				–	24 V DC	**534 557**	**VSVA-B-B52-H-A1-1R5L**
D		At 14	Internal	24 V DC	–	**534 538**	**VSVA-B-D52-H-A1-1R2L**
				–	24 V DC	**534 558**	**VSVA-B-D52-H-A1-1R5L**
J		1st signal	External	24 V DC	–	**534 527**	**VSVA-B-B52-ZH-A1-1R2L**
				–	24 V DC	**534 547**	**VSVA-B-B52-ZH-A1-1R5L**
D		At 14	External	24 V DC	–	**534 528**	**VSVA-B-D52-ZH-A1-1R2L**
				–	24 V DC	**534 548**	**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	–	**534 539**	**VSVA-B-P53C-H-A1-1R2L**
				–	24 V DC	**534 559**	**VSVA-B-P53C-H-A1-1R5L**
B		Open	Internal	24 V DC	–	**534 541**	**VSVA-B-P53U-H-A1-1R2L**
				–	24 V DC	**534 561**	**VSVA-B-P53U-H-A1-1R5L**
E		Exhausted	Internal	24 V DC	–	**534 540**	**VSVA-B-P53E-H-A1-1R2L**
				–	24 V DC	**534 560**	**VSVA-B-P53E-H-A1-1R5L**
G		Closed	External	24 V DC	–	**534 529**	**VSVA-B-P53C-ZH-A1-1R2L**
				–	24 V DC	**534 549**	**VSVA-B-P53C-ZH-A1-1R5L**
B		Open	External	24 V DC	–	**534 531**	**VSVA-B-P53U-ZH-A1-1R2L**
				–	24 V DC	**534 551**	**VSVA-B-P53U-ZH-A1-1R5L**
E		Exhausted	External	24 V DC	–	**534 530**	**VSVA-B-P53E-ZH-A1-1R2L**
				–	24 V DC	**534 550**	**VSVA-B-P53E-ZH-A1-1R5L**

New

Manifold components, ISO 15407-1

Vertical stacking – Width 18 mm

FESTO

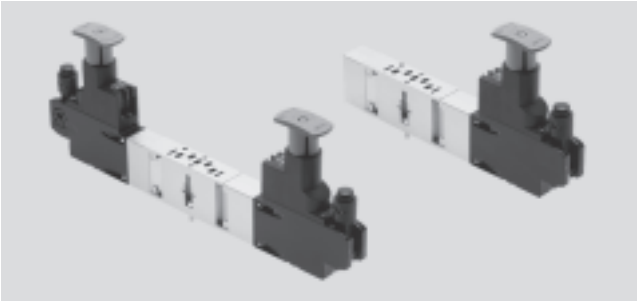
Regulator plate VABF-S3-2-R ...

Material:
Housing: Die-cast aluminium
Control section: Polyamide

Ambient temperature
–5 ... +50 °C

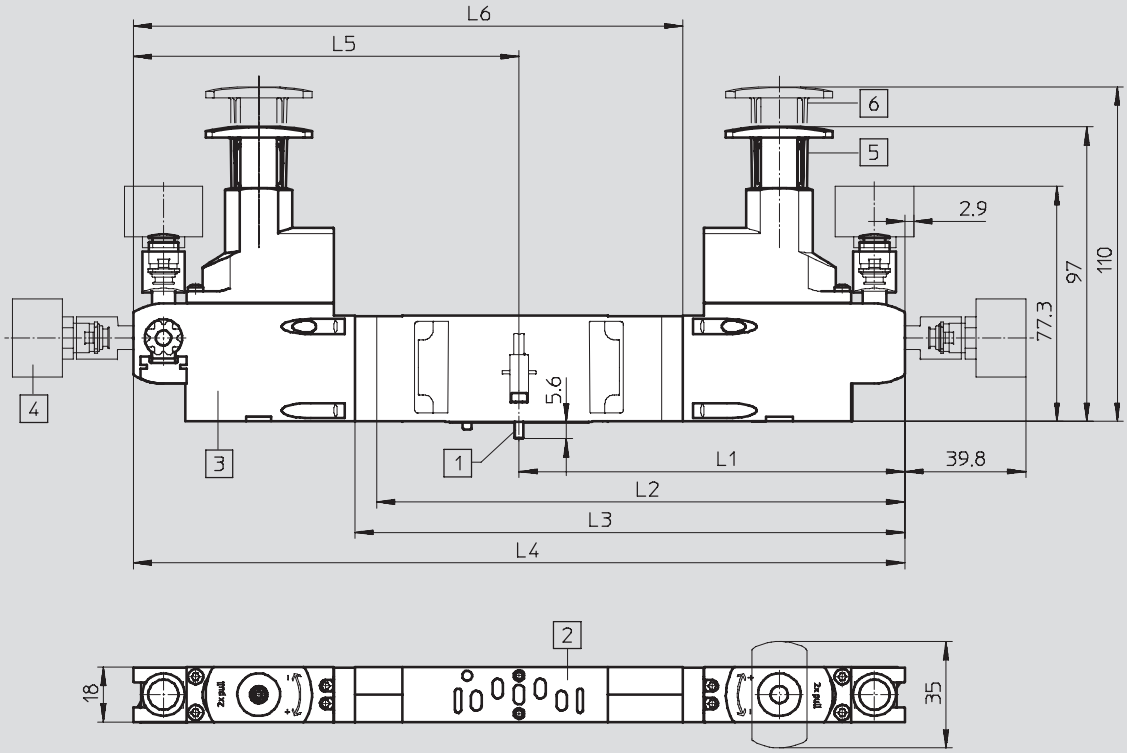
Regulating function:
Input pressure: 0.5 ... 10 bar

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



1 Captive screws M3x12
2 Port pattern to ISO 15407-1
3 Regulator
4 Pressure gauge
5 Regulator head in the locked state
6 Regulator head with pressure adjustment

Dimensions

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

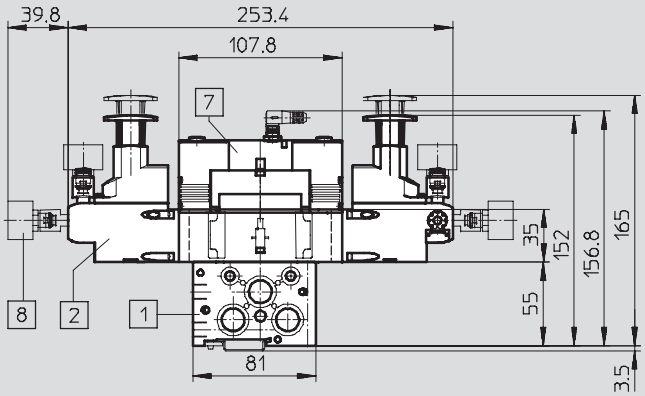
Manifold components, ISO 15407-1

Vertical stacking – Width 18 mm

FESTO

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

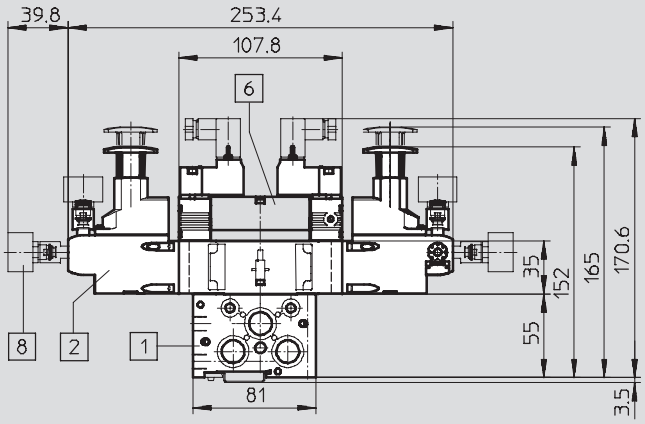
With manifold sub-base and solenoid valve (central plug)



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

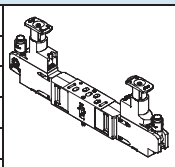
Dimensions Download CAD data ➔ **www.festo.com**

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	Control range	Part No.	Type
Regulator plate width 18 mm						
ZA		1	P	0.5 ... 10 bar	**543 526**	**VABF-S3-2-R1C2-C-10**
ZF		1	P	0.5 ... 6 bar	**543 524**	**VABF-S3-2-R1C2-C-6**
ZB		4	A	0.5 ... 10 bar	**543 530**	**VABF-S3-2-R3C2-C-10**
ZG		4	A	0.5 ... 6 bar	**543 528**	**VABF-S3-2-R3C2-C-6**
ZC		2	B	0.5 ... 10 bar	**543 534**	**VABF-S3-2-R2C2-C-10**
ZH		2	B	0.5 ... 6 bar	**543 532**	**VABF-S3-2-R2C2-C-6**
ZD		2 and 4	AB	0.5 ... 10 bar	**543 538**	**VABF-S3-2-R4C2-C-10**
ZI		2 and 4	AB	0.5 ... 6 bar	**543 536**	**VABF-S3-2-R4C2-C-6**
ZE		2 and 4, reversible	AB	0.5 ... 10 bar	**543 542**	**VABF-S3-2-R5C2-C-10**
ZJ		2 and 4, reversible	AB	0.5 ... 6 bar	**543 540**	**VABF-S3-2-R5C2-C-6**
ZL		2, reversible	B	0.5 ... 10 bar	**546 788**	**VABF-S3-2-R6C2-C-10**
ZN		2, reversible	B	0.5 ... 6 bar	**546 786**	**VABF-S3-2-R6C2-C-6**
ZK		4, reversible	A	0.5 ... 10 bar	**546 792**	**VABF-S3-2-R7C2-C-10**
ZM		4, reversible	A	0.5 ... 6 bar	**546 790**	**VABF-S3-2-R7C2-C-6**

New

Manifold components, ISO 15407-1

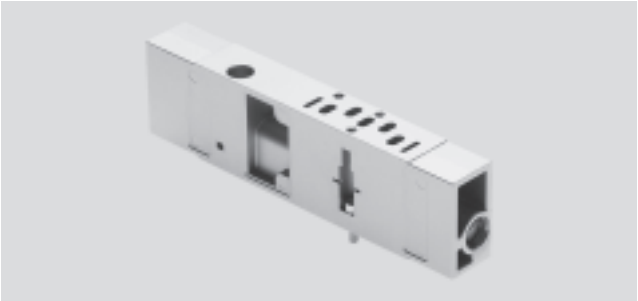
Vertical stacking – Width 18 mm

FESTO

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

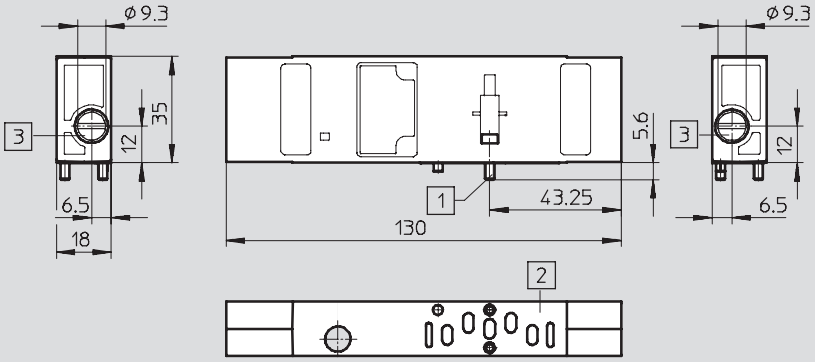
Material:
Housing: Die-cast aluminium

Ambient temperature
–5 ... +50 °C



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

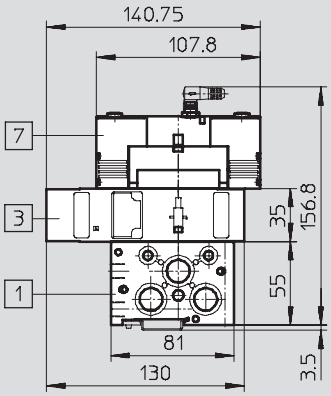
Flow control plate width 18 mm



1 Captive screws M3x12
2 Port pattern to ISO 15407-1
3 Regulating screw

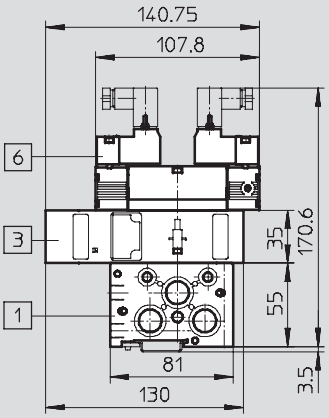
Dimensions Download CAD data ➔ **www.festo.com**

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



1 Manifold sub-base NAW
3 Flow control 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
X	For exhaust air flow control in ducts 3 and 5 on the valve	228	**543 603**	**VABF-S3-2-F1B1-C**

Manifold components, ISO 15407-1

Vertical stacking – Width 18 mm

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

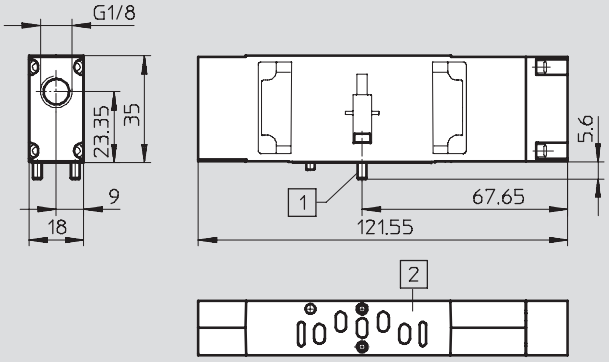
Material:
Housing: Die-cast aluminium

Ambient temperature
–5 ... +50 °C

Operating pressure
–0.9 ... +10 bar

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

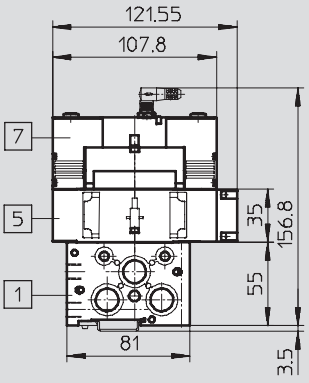
Vertical supply plate width 18 mm



1 Captive screws
2 Port pattern to ISO 15407-1

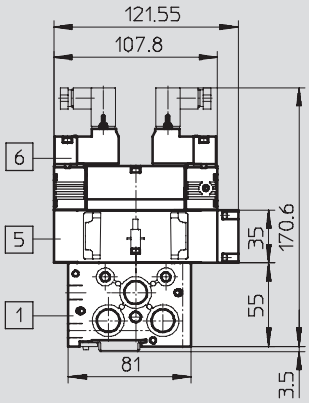
Dimensions Download CAD data ➔ **www.festo.com**

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	**544 435**	**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

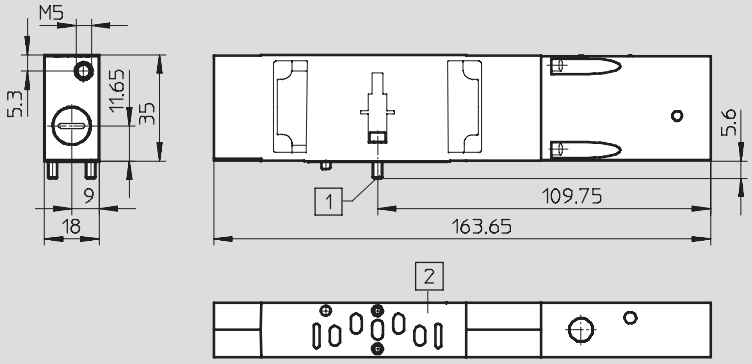
Ambient temperature
–5 ... +50 °C

Operating pressure
–0.9 ... +10 bar

Dimensions

Download CAD data ➔ **www.festo.com**

Vertical shut-off plate width 18 mm

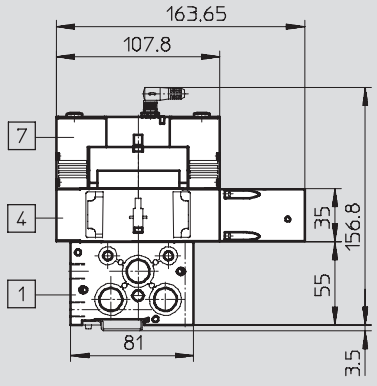


1 Captive screws M3x12
2 Port pattern to ISO 15407-1

Dimensions

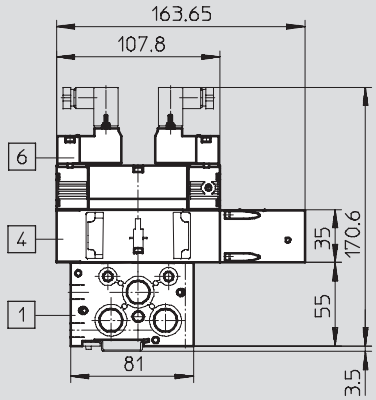
Download CAD data ➔ **www.festo.com**

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



1 Manifold sub-base NAW
4 Vertical shut-off 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
ZT	For shutting off a valve from the supply pressure	212	**543 601**	**VABF-S3-2-L1D1-C**

Manifold components, ISO 15407-1

Vertical stacking – Width 26 mm

FESTO

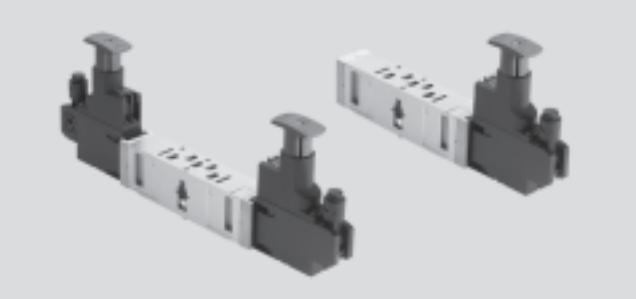
Regulator plate VABF-S3-1-R ...

Material:
Housing: Die-cast aluminium
Control section: Polyamide

Ambient temperature
–5 ... +50 °C

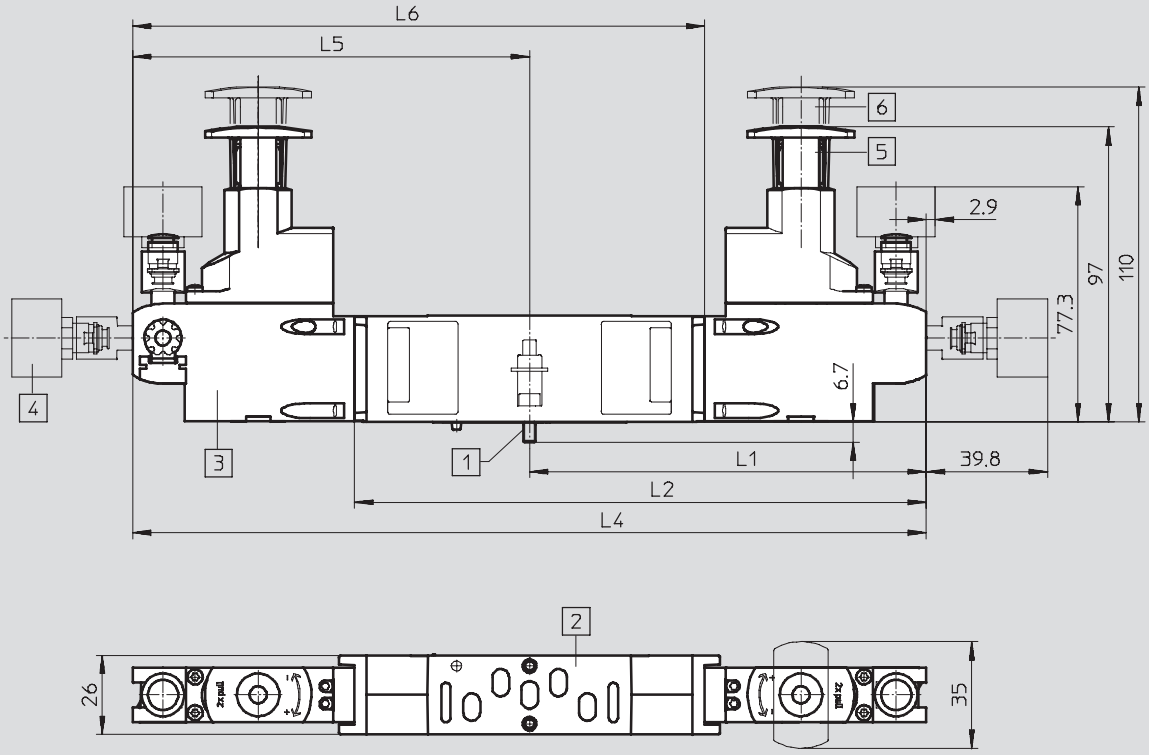
Regulating function:
Input pressure: 0.5 ... 10 bar

Pressure regulating ranges:
0.5 ... 6 bar, 0.5 ... 10 bar
Output pressure constant with secondary venting



Dimensions – Width 26 mm Download CAD data ➔ **www.festo.com**

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



1 Captive screws M4x12
2 Port pattern to ISO 15407-1
3 Regulator
4 Pressure gauge
5 Regulator head in the locked state
6 Regulator head with pressure adjustment

Dimensions

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

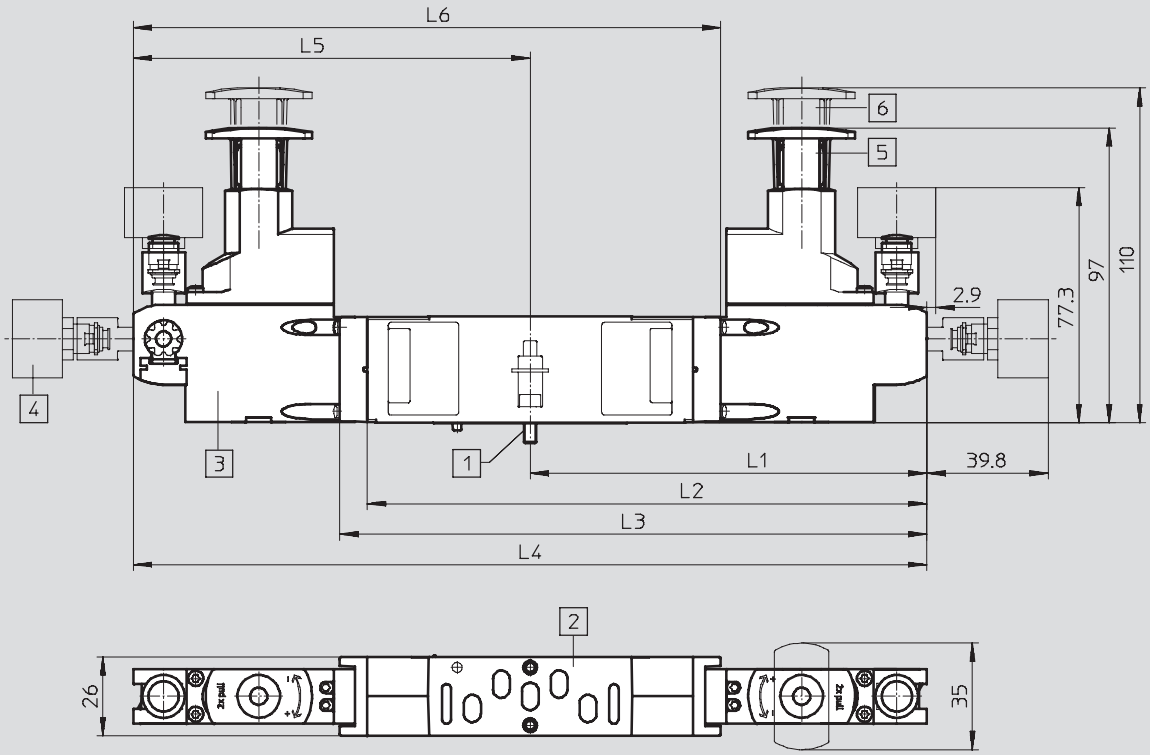
Manifold components, ISO 15407-1

Vertical stacking – Width 26 mm

FESTO

Dimensions – Width 26 mm Download CAD data ➔ **www.festo.com**

Regulator plate, A regulator, B regulator, AB regulator



1 Captive screws M4x12
2 Port pattern to ISO 15407-1
3 Regulator
4 Pressure gauge
5 Regulator head in the locked state
6 Regulator head with pressure adjustment

Dimensions

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

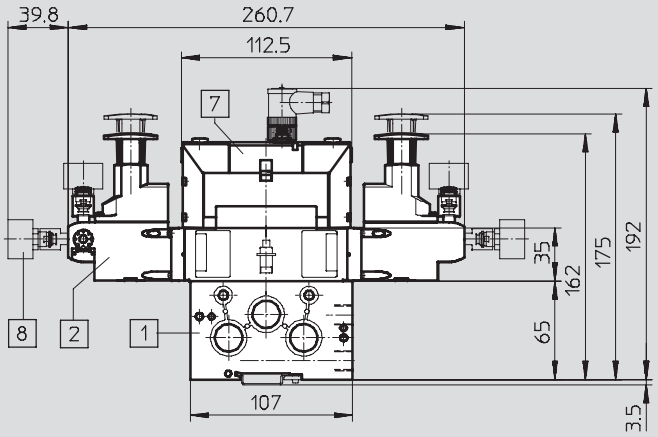
Manifold components, ISO 15407-1

Vertical stacking – Width 26 mm

FESTO

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

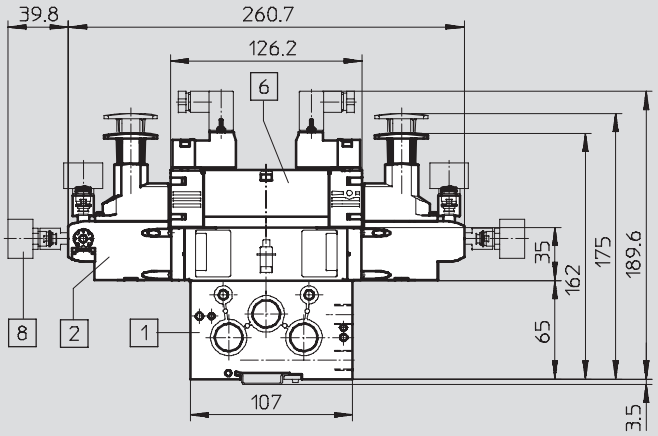
With manifold sub-base and solenoid valve (central plug)



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

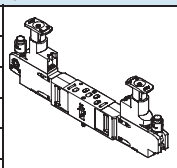
Dimensions Download CAD data ➔ **www.festo.com**

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



1 Manifold sub-base NAW
2 Pressure regulator plate
7 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	**543 527**	**VABF-S3-1-R1C2-C-10**
ZF		1	P	0.5 ... 6 bar	**543 525**	**VABF-S3-1-R1C2-C-6**
ZB		4	A	0.5 ... 10 bar	**543 531**	**VABF-S3-1-R3C2-C-10**
ZG		4	A	0.5 ... 6 bar	**543 529**	**VABF-S3-1-R3C2-C-6**
ZC		2	B	0.5 ... 10 bar	**543 535**	**VABF-S3-1-R2C2-C-10**
ZH		2	B	0.5 ... 6 bar	**543 533**	**VABF-S3-1-R2C2-C-6**
ZD		2 and 4	AB	0.5 ... 10 bar	**543 539**	**VABF-S3-1-R4C2-C-10**
ZI		2 and 4	AB	0.5 ... 6 bar	**543 537**	**VABF-S3-1-R4C2-C-6**
ZE		2 and 4, reversible	AB	0.5 ... 10 bar	**543 543**	**VABF-S3-1-R5C2-C-10**
ZJ		2 and 4, reversible	AB	0.5 ... 6 bar	**543 541**	**VABF-S3-1-R5C2-C-6**
ZL		2, reversible	B	0.5 ... 10 bar	**546 789**	**VABF-S3-1-R6C2-C-10**
ZN		2, reversible	B	0.5 ... 6 bar	**546 787**	**VABF-S3-1-R6C2-C-6**
ZK		4, reversible	A	0.5 ... 10 bar	**546 793**	**VABF-S3-1-R7C2-C-10**
ZM		4, reversible	A	0.5 ... 6 bar	**546 791**	**VABF-S3-1-R7C2-C-6**

Manifold components, ISO 15407-1

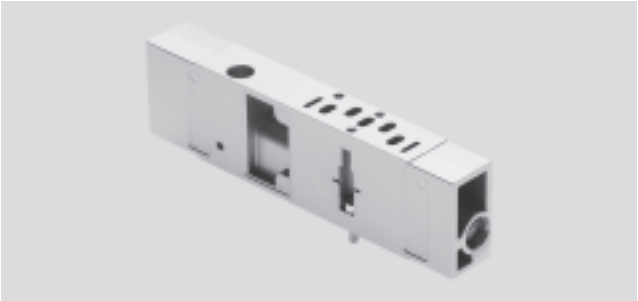
Vertical stacking – Width 26 mm

FESTO

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

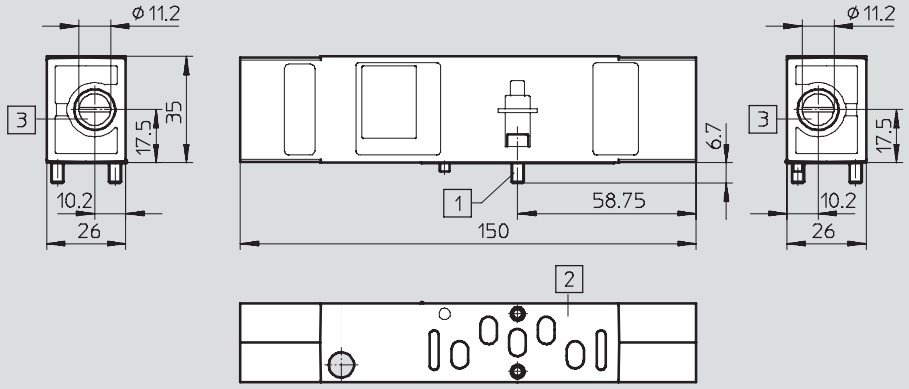
Material:
Housing: Die-cast aluminium

Ambient temperature
–5 ... +50 °C



Dimensions – Width 26 mm Download CAD data ➔ **www.festo.com**

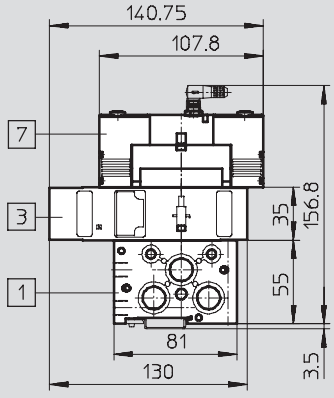
Flow control plate



1 Captive screws M4x12
2 Port pattern to ISO 15407-1
3 Regulating screw

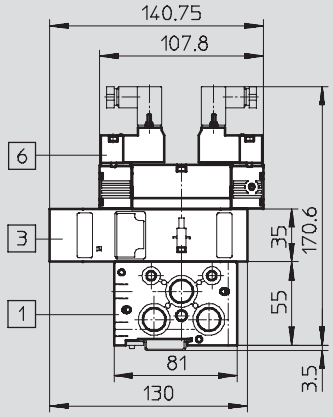
Dimensions Download CAD data ➔ **www.festo.com**

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



1 Manifold sub-base NAW
3 Flow control plate
7 Solenoid valve VSVA (central plug)

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



1 Manifold sub-base NAW
3 Flow control plate
6 Solenoid valve VSVA (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	**543 604**	**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

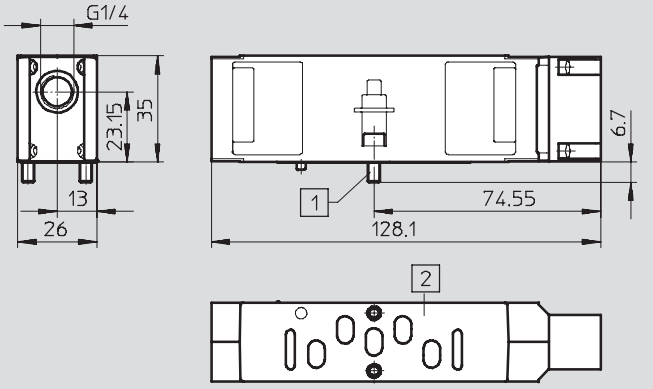
Ambient temperature
–5 ... +50 °C

Operating pressure
–0.9 ... +10 bar

Dimensions – Width 26 mm

Download CAD data ➔ **www.festo.com**

Vertical supply plate

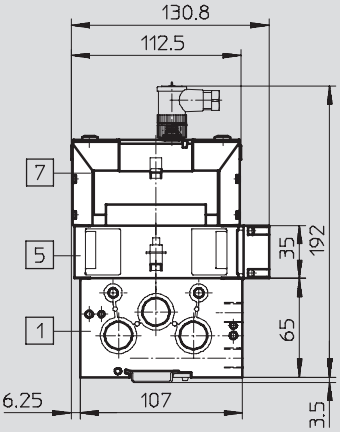


1 Captive screws M4x12
2 Port pattern to ISO 15407-1

Dimensions

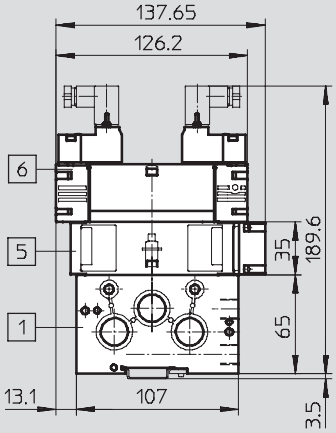
Download CAD data ➔ **www.festo.com**

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	**544 434**	**VABF-S3-1-P1A3-G14**

New

Manifold components, ISO 15407-1

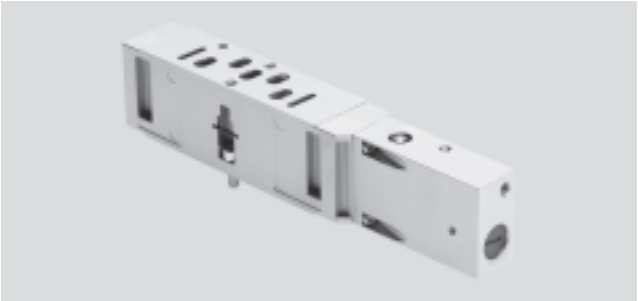
Vertical stacking – Width 26 mm

Vertical shut-off plate
VABF-S3-1-L ...

Material:
Housing: Die-cast aluminium

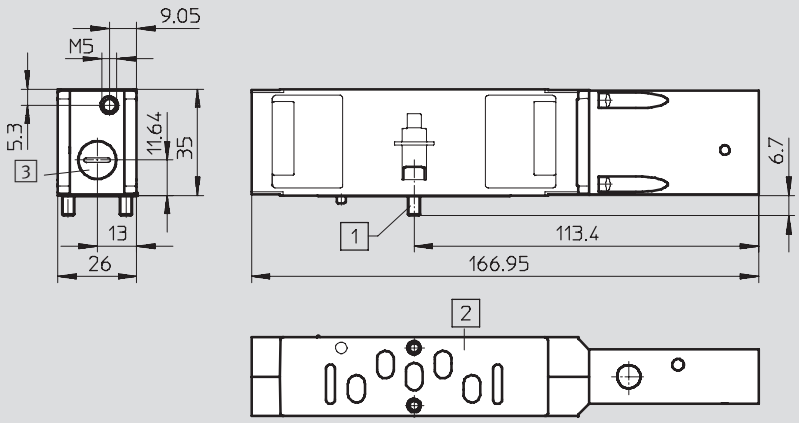
Ambient temperature
–5 ... +50 °C

Operating pressure
–0.9 ... +10 bar



Dimensions – Width 26 mm Download CAD data ➔ **www.festo.com**

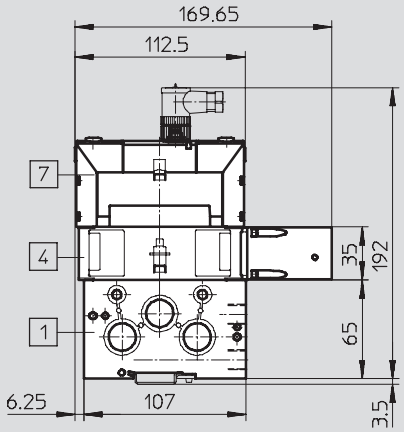
Vertical shut-off plate



1 Captive screws M4x12
2 Port pattern to ISO 15407-1
3 Plug screw

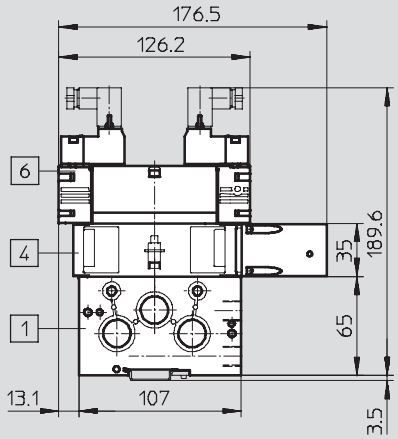
Dimensions Download CAD data ➔ **www.festo.com**

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



1 Manifold sub-base NAW
4 Vertical shut-off plate
7 Solenoid valve VSVA (central plug)

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



1 Manifold sub-base NAW
4 Vertical shut-off plate
6 Solenoid valve VSVA (plug type C)

Ordering data

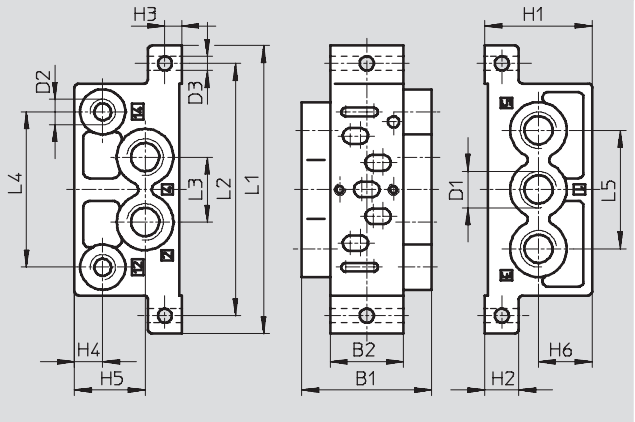
Code	Description	Weight [g]	Part No.	Type
ZT	For shutting off a valve from the supply pressure	286	**543 602**	**VABF-S3-1-L1D1-C**

Sub-bases, ISO 15407-1

Individual sub-base

Individual sub-base NAS

Materials:
Die-cast aluminium



Dimensions and ordering data											
Width [mm]	B1	B2	D1	D2	D3 ∅	H1	H2	H3	H4	H5	H6
18	28.5	18	G⅛	M5	5.5	31	10	5	7	20	14.5
26	46	26	G¼	G⅛	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	**161 115**	**NAS-⅛-02-VDMA**
26	102	89.4	23	55	42	160	**161 109**	**NAS-¼-01-VDMA**

General technical data			
Width [mm]		18	26
Type of mounting		2 through-holes in housing	2 through-holes in housing
Pneumatic connection	1, 2, 3, 4, 5	G⅛	G¼
	12, 14	M5	G⅛

Manifold components, ISO 15407-1

Horizontal linking

Manifold sub-base NAW

Material:
Die-cast aluminium

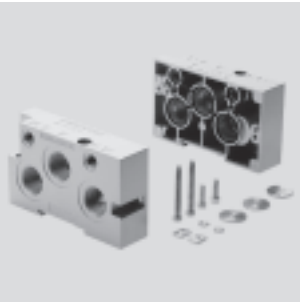
Ordering data – NAW for solenoid valves					
Width	Pneumatic connection		Weight	Part No.	Type
[mm]	1, 2, 3, 4, 5	12, 14	[g]		
18	G1/8	M5	130	**161 110**	**NAW-1/8-02-VDMA**
26	G1/4	M5	225	**161 102**	**NAW-1/4-01-VDMA**

Ordering data – NAW for pneumatic valves					
Width	Pneumatic connection		Weight	Part No.	Type
[mm]	1, 2, 3, 4, 5	12, 14	[g]		
18	G1/8	M5	130	**161 111**	**NAW-1/8-02-VDMA-VL**
26	G1/4	M5	225	**161 103**	**NAW-1/4-01-VDMA-VL**

Dimensions ➔ 60

End plate kit NEV

Material:
Die-cast aluminium



Ordering data					
Width	Pneumatic connection		Weight	Part No.	Type
[mm]	1, 2, 3, 4, 5	12, 14	[g]		
18	G3/8	G1/8	280	**161 112**	**NEV-02-VDMA**
26	G1/2	G1/8	445	**161 104**	**NEV-01-VDMA**

Dimensions ➔ 60

End plate kit NEV

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	**191 405**	**NEV-02-01-VDMA**

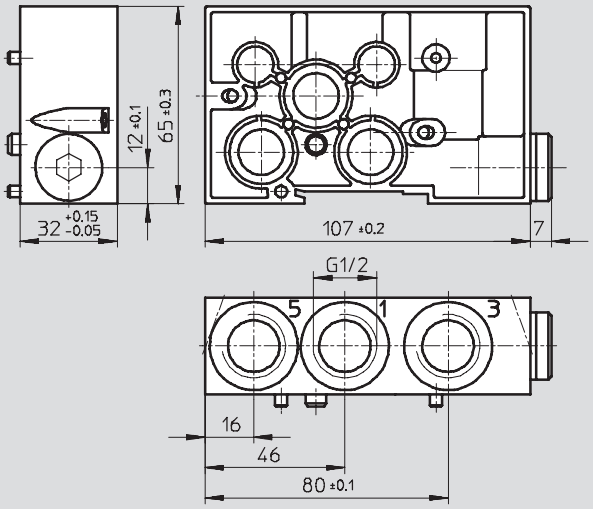
Dimensions ➔ 60

Intermediate plate NZV

For combi manifold with widths of 18 and 26

Material:
Die-cast aluminium

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

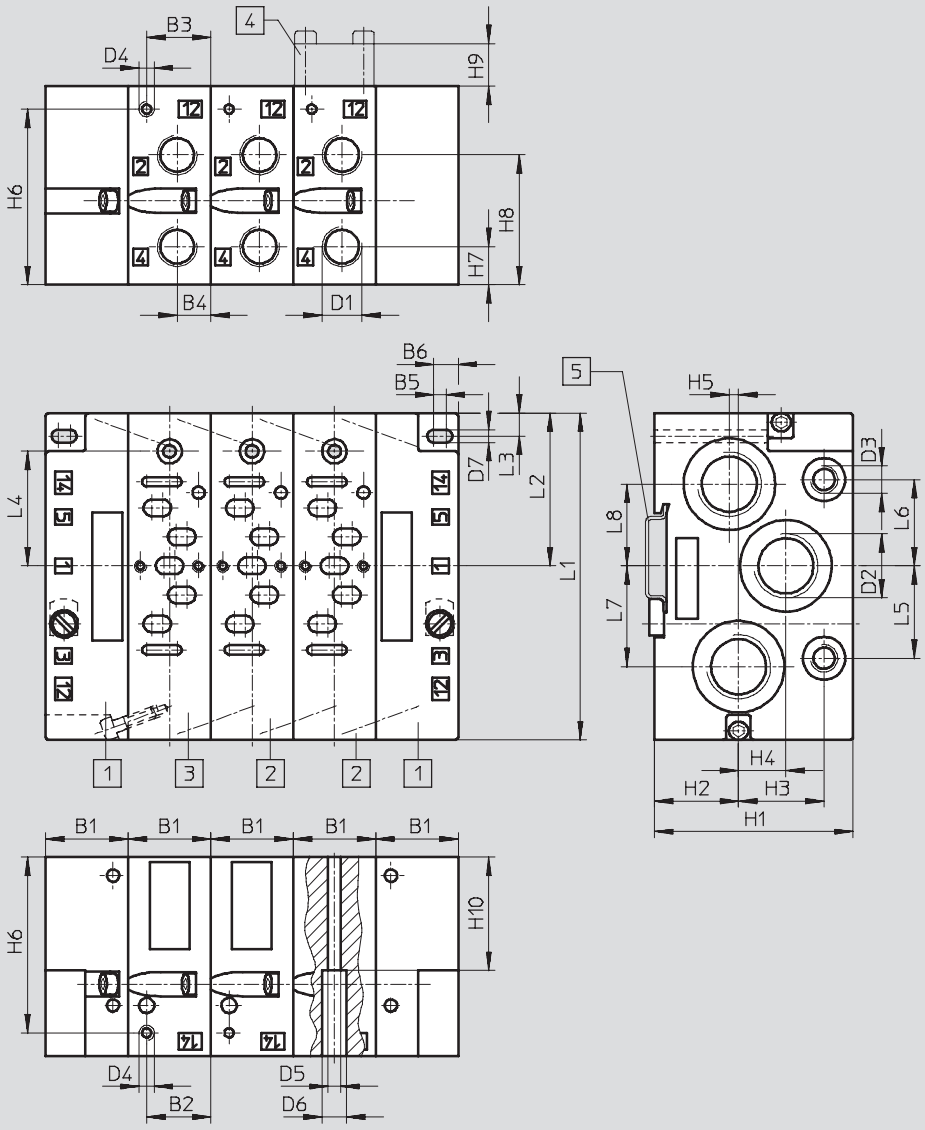


Ordering data					
Width [mm]	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
18 and 26	G½	–	270	**161 108**	**NZV-01/02-VDMA**

Manifold components, ISO 15407-1

Horizontal linking

Dimensions – Manifold assembly Download CAD data ➔ **www.festo.com**



1 End plate kit
NEV-...VDMA
➔ 58

2 Manifold sub-base
NAW-...-VDMA
➔ 58

3 Manifold sub-base
NAW-...-VDMA-VL
➔ 58

4 Blanking plate
NDV-...-VDMA
➔ 65

5 Mounting rail
NRH-35-2000
➔ 1
➔ www.festo.com

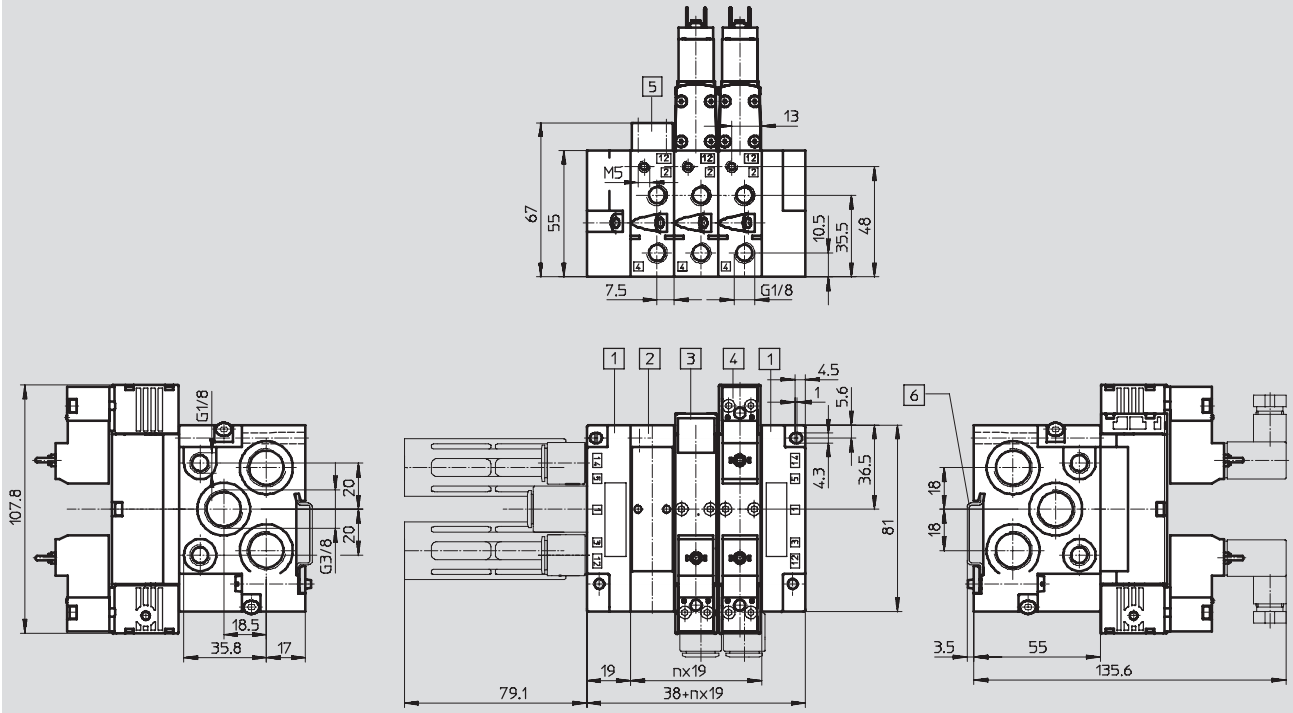
Width [mm]	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4
18	19	6	13	7.5	1	4.5	G1/8	G3/8	G1/8	M5
26	27	21	21	11	4	8	G1/4	G1/2	G1/8	M5

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

Dimensions – Manifold assembly, width 18 mm Download CAD data ➔ **www.festo.com**

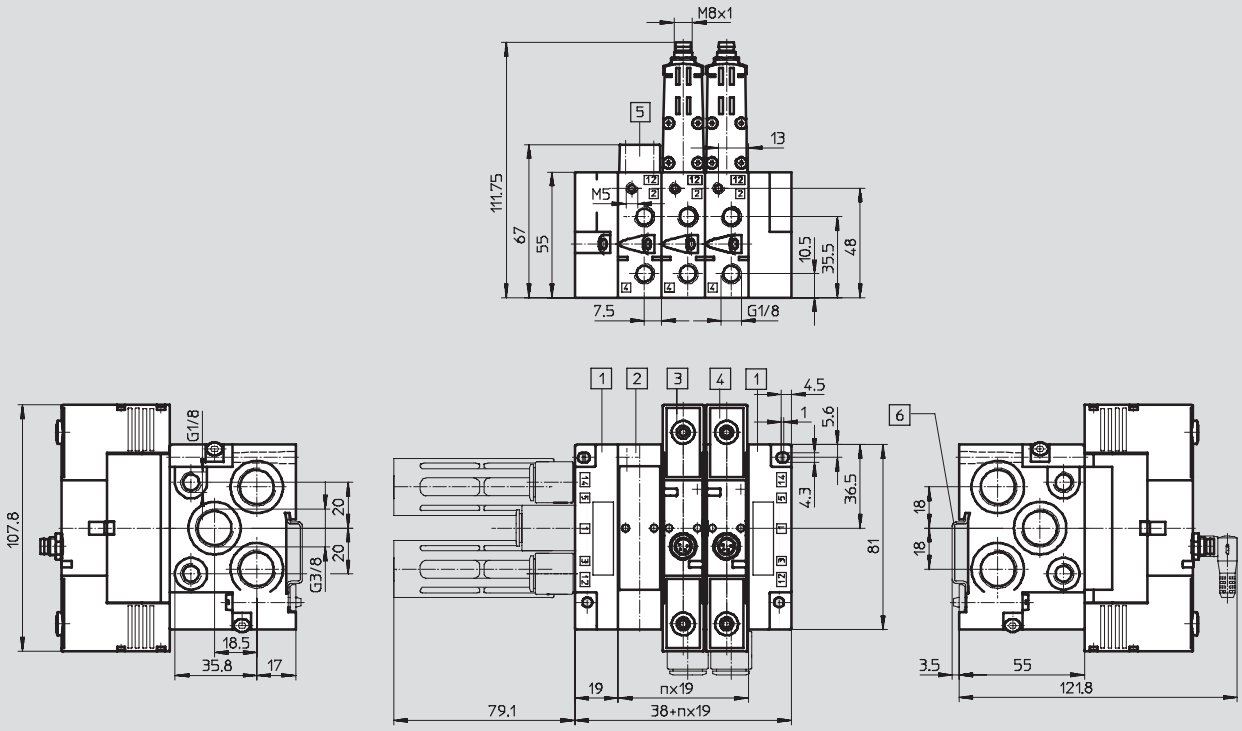
Valves with square plug, type C



1 End plate kit type NEV-02-VDMA
2 Manifold sub-bases type NAW-⅛-02-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

Dimensions – Manifold assembly, width 18 mm Download CAD data ➔ **www.festo.com**

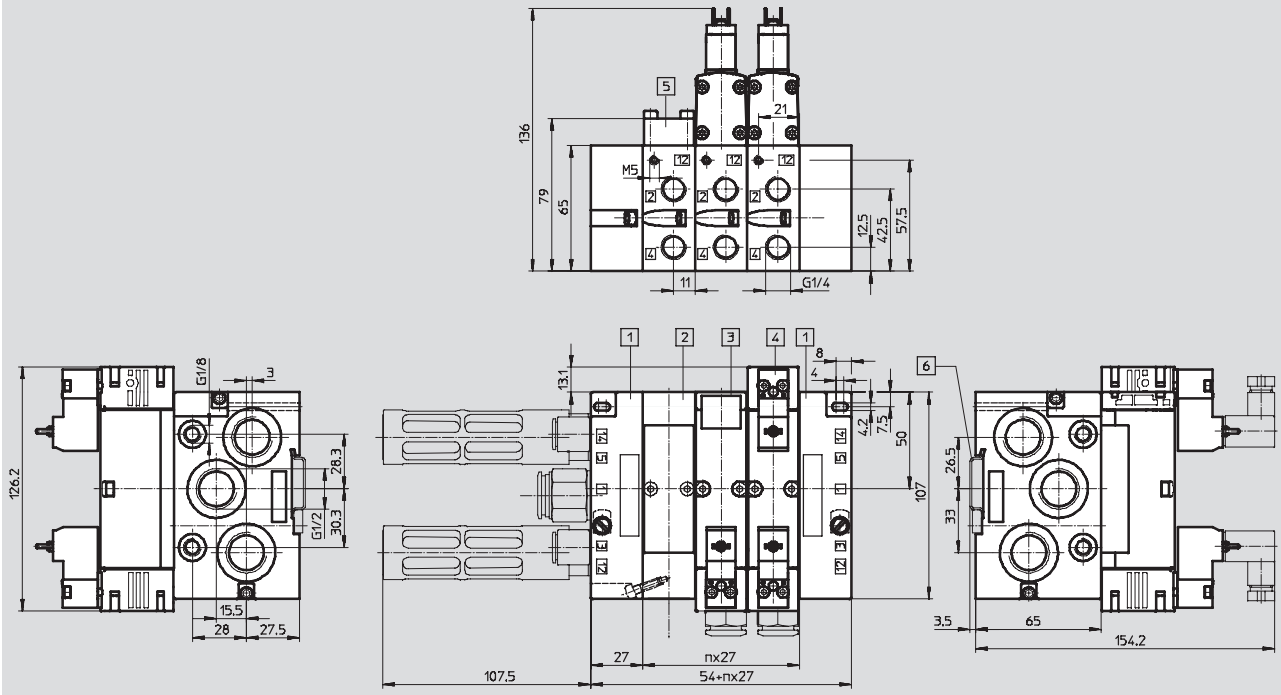
Valves with central plug M8x1



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

Dimensions – Manifold assembly, width 26 mm Download CAD data ➔ **www.festo.com**

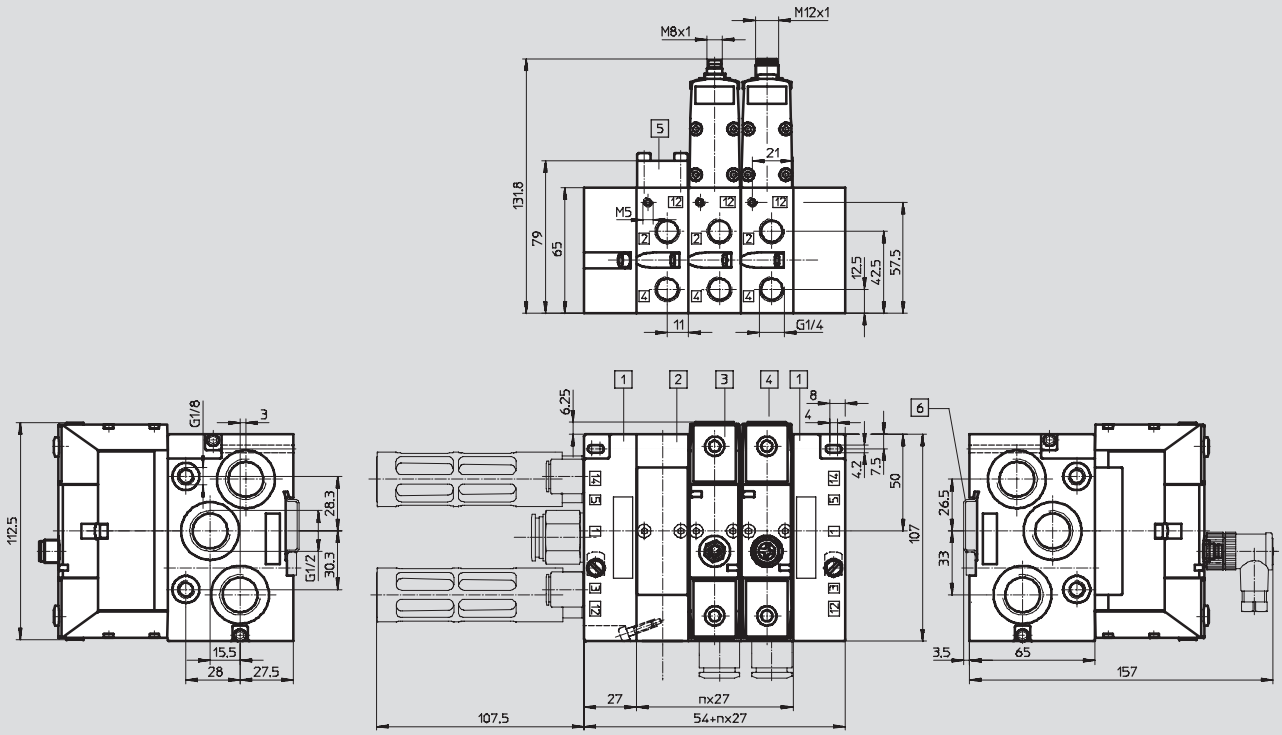
Valves with square plug, type C



1 End plate kit type NEV-01-VDMA
2 Manifold sub-bases type NAW-¼-01-VDMA
3 Solenoid valve VSVA (single solenoid)
4 Solenoid valve VSVA (double solenoid)
5 Blanking plate NDV-01-VDMA
6 Mounting rail NRH-35-2000

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
2 Manifold sub-bases type NAW-¼-01-VDMA
3 Solenoid valve VSVA (plug M8x1)
4 Solenoid valve VSVA (plug M12x1)
5 Blanking plate NDV-01-VDMA
6 Mounting rail NRH-35-2000

Isolating disc NSC

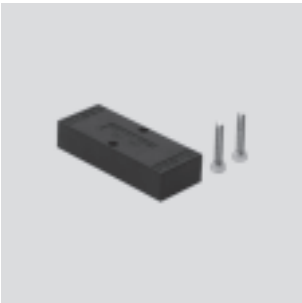
Material:
Aluminium

Ordering data – NSC for ports 1, 2, 3 (solenoid/pneumatic valves)			
Width [mm]	Weight [g]	Part No.	Type
18	2	**161 113**	**NSC-3/8-02-VDMA**
26	2	**161 105**	**NSC-1/2-01-VDMA**

Ordering data – NSC for ports 12, 14 (pneumatic valves)			
Width [mm]	Weight [g]	Part No.	Type
18	2	**161 106**	**NSC-1/8-01-VDMA**
26	2	**161 106**	**NSC-1/8-01-VDMA**

Blanking plate NDV

Material:
Polymer
Free of copper and PTFE



Ordering data			
Width [mm]	Weight [g]	Part No.	Type
18	22	**161 114**	**NDV-02-VDMA**
26	36	**161 107**	**NDV-01-VDMA**

Dimensions ➔

Pneumatic valves, VSPA, ISO 15407-1

Product range overview

FESTO

Function	Variant	Type	Flow rate of valve	Working port on sub-base		Normal position			→ Page/Internet
			[l/min]	G⅛	G¼	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

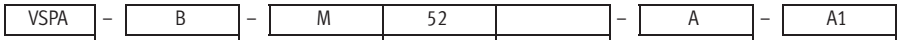
Function	Variant	Type	Flow rate of valve	Working port on sub-base		Reset method		→ Page/Internet
			[l/min]	G⅛	G¼	Pneumatic spring	Mechanical spring	
5/2-way valves, monostable	Width 18 mm, pneumatically actuated valve							
		VSPA-B-B52...A2	700	■	–	■	■	71
	Width 26 mm, pneumatically actuated valve							
		VSPA-B-B52...A1	1,400	–	■	■	■	74

Function	Variant	Type	Flow rate of valve	Working port on sub-base		Dominant		→ Page/Internet
			[l/min]	G⅛	G¼	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]	G⅛	G¼	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



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

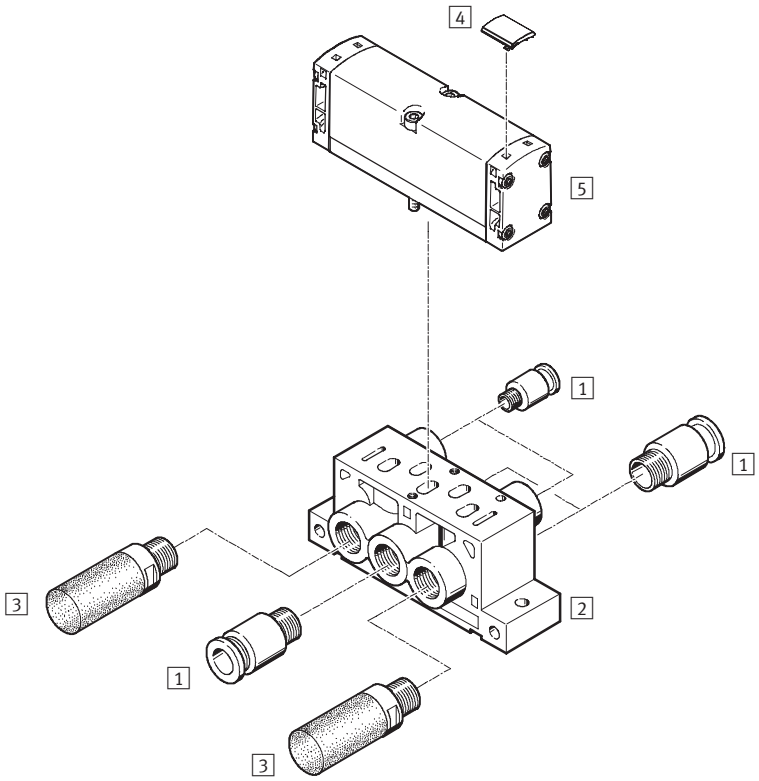
Connections / switching positions	
32	3/2-way valve
52	5/2-way valve
53	5/3-way valve

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

Individual mounting

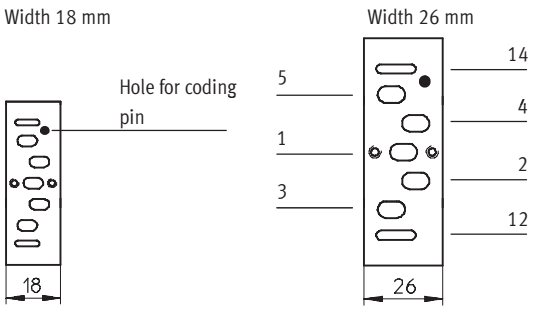


Accessories

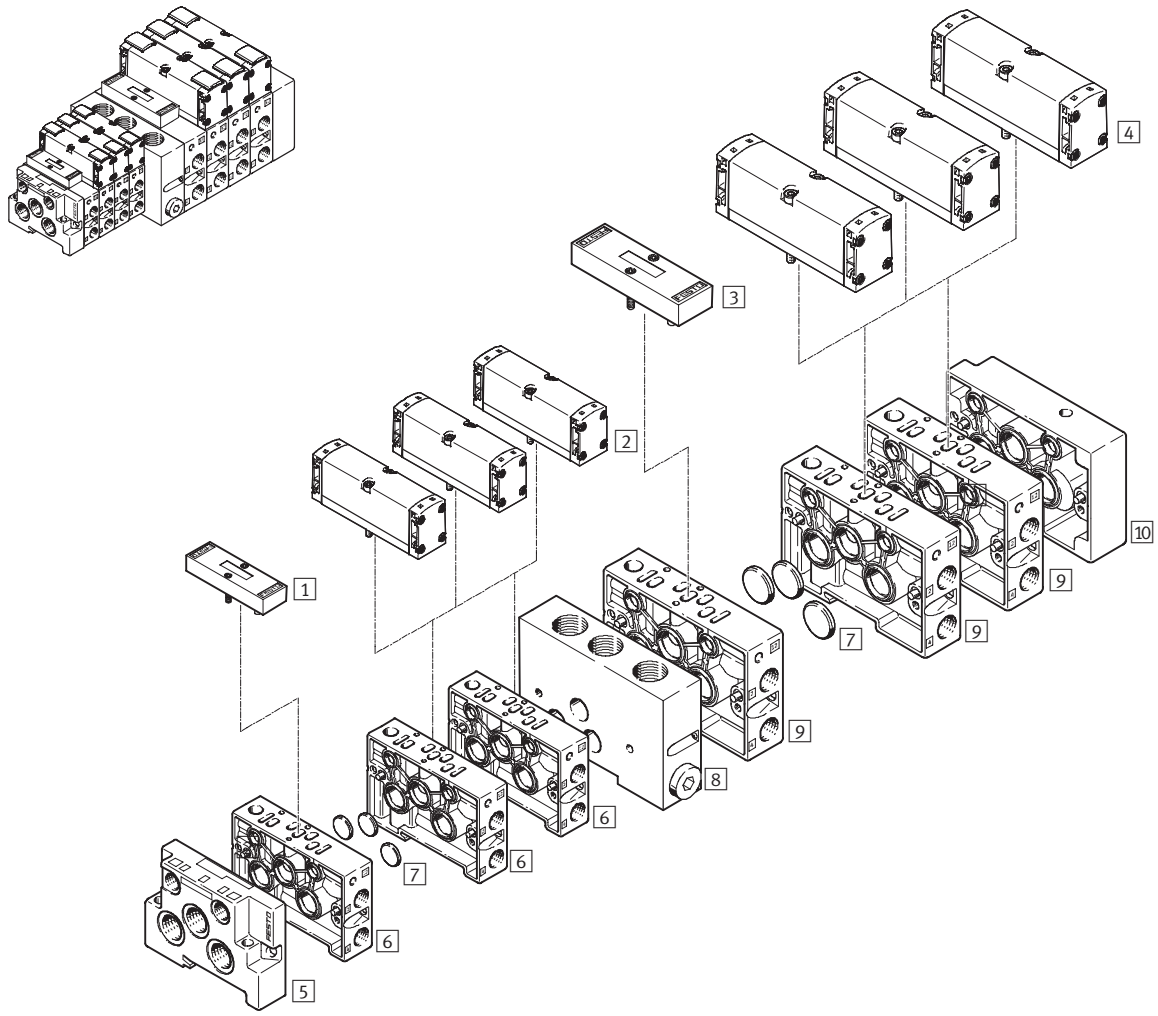
		Type	Brief description	→ Page/Internet
1	Push-in fitting	QS-...	For connecting compressed air tubing with standard external diameters	–
2	Individual sub-base	NAS-...	With lateral ports	57
–	Individual sub-base	NAU-...	With ports underneath	–
3	Silencer	U-...	For fitting in exhaust ports	–
4	Inscription label holder	ASCF-...	For identifying the valves	77
5	Pneumatic valve	VSPA-...	Port pattern to ISO 15407-1	71

Port pattern on sub-base to ISO 15407-1

Standard updates given below



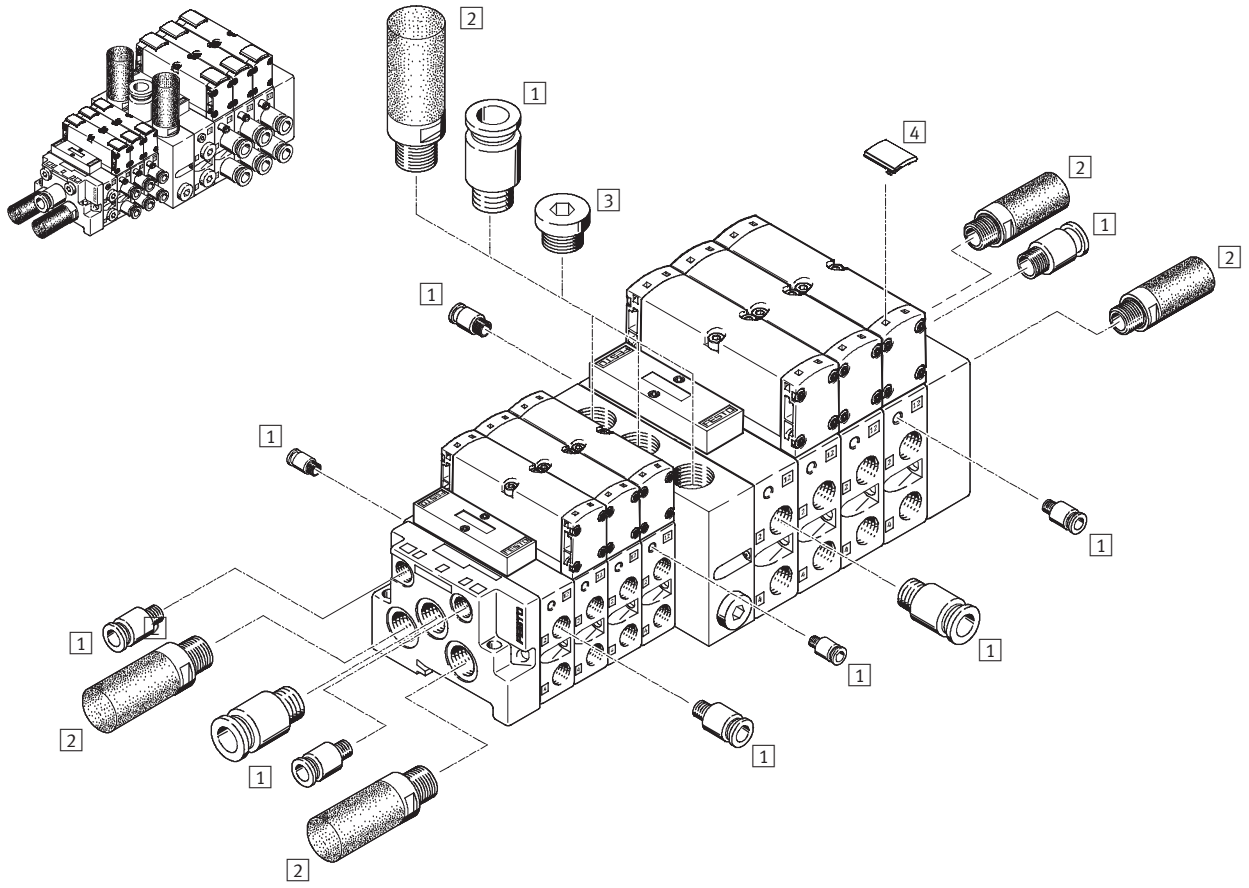
Manifold assembly



Component parts

	Type	Brief description	➔ Page/Internet
1 Blanking plate	NDV-02-VDMA	For width 18, vacant or spare position	65
2 Pneumatic valve	VSPA...A2	Width 18	71
3 Blanking plate	NDV-01-VDMA	For width 26, vacant or spare position	65
4 Pneumatic valve	VSPA...A1	Width 26	74
5 End plate	NEV-...	For sealing the manifold sub-bases width 18	58
6 Manifold sub-base	NAW-⅛-02-VDMA	Width 18 with lateral ports 2 and 4	58
7 Isolating disc	NSC-...	For creating pressure zones or for sealing ports on the end plates	65
8 Intermediate plate	NZV-01/02-VDMA	For connecting width 18 with width 26	59
9 Manifold sub-base	NAW-¼-01-VDMA	Width 26 with lateral ports 2 and 4	58
10 End plate	NEV-...	For sealing the manifold sub-bases width 26	58

Manifold assembly



Accessories

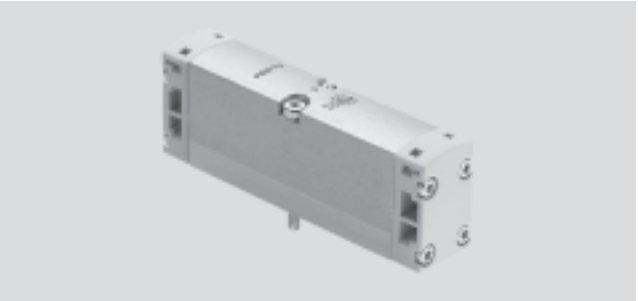
		Type	Brief description	➔ Page/Internet
1	Push-in fitting	QS-...	For connecting compressed air tubing with standard external diameters	–
2	Silencer	U-...	For fitting in exhaust ports	77
3	Blanking plugs	B-...	For fitting in exhaust ports	–
4	Inscription label holder	ASCF-...	For identifying the valves	77

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	–	9/18
Changeover time	[ms]	–		6	–
Changeover time (dominant)	[ms]	–	–	6	–
Width	[mm]	18			
Ports on the sub-base	1, 2, 3, 4, 5	G⅛			
	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		

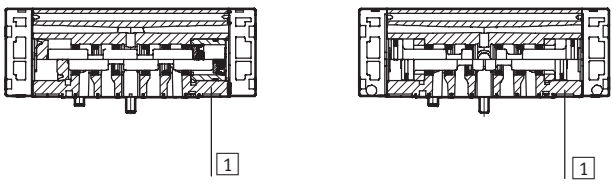
Pneumatic valves, VSPA, ISO 15407-1

Technical data – Directional control valves width 18 mm

FESTO

Materials

Sectional view

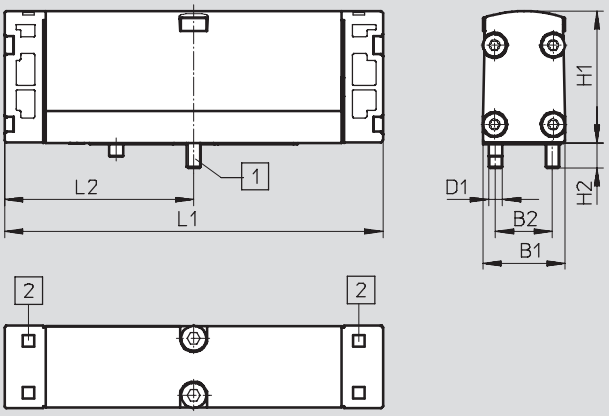


1	Housing	Die-cast aluminium
–	Seals	Nitrile rubber
–	Screws	Galvanised steel

Dimensions

Download CAD data ➔ **www.festo.com**

Width 18



1 Captive screws

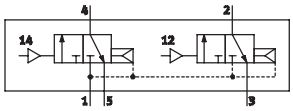
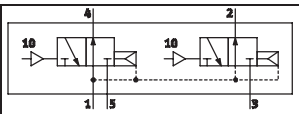
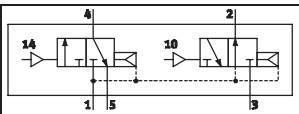
2 Slot for inscription label

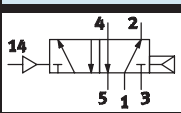
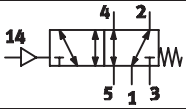
	B1	B2	D1	H1	H2	L1	L2
VSPA-B-...	18	12.5	M3	29	5.4	83	41.5

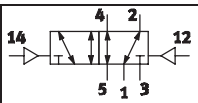
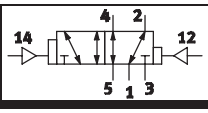
Pneumatic valves, VSPA, ISO 15407-1

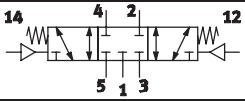
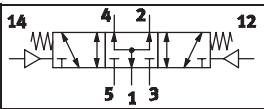
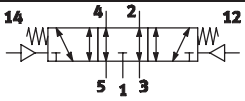
Technical data – Directional control valves 18

FESTO

Ordering data – 2x3/2-way valve, width 18				
Code	Circuit symbol	Normal position	Part No.	Type
K		2x closed	546 721	VSPA-B-T32C-A2
N		2x open	546 722	VSPA-B-T32U-A2
H		1x closed 1x open	546 723	VSPA-B-T32H-A2

Ordering data – 5/2-way (monostable) valve, width 18				
Code	Circuit symbol	Reset method	Part No.	Type
M		Pneumatic	546 726	VSPA-B-M52-A-A2
O		Mechanical spring	546 727	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	546 724	VSPA-B-B52-A2
D		At 14	546 725	VSPA-B-D52-A2

Ordering data – 5/3-way (monostable) valve, width 18				
Code	Circuit symbol	Normal position	Part No.	Type
G		Closed	546 730	VSPA-B-P53C-A2
B		Open	546 728	VSPA-B-P53U-A2
E		Exhausted	546 729	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	G¼			
	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		

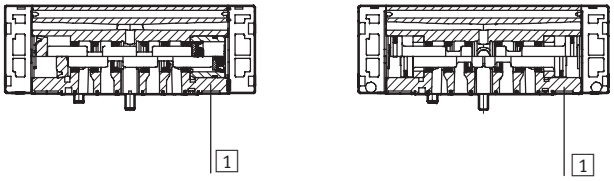
Pneumatic valves, VSPA, ISO 15407-1

Technical data – Directional control valves width 26 mm

FESTO

Materials

Sectional view

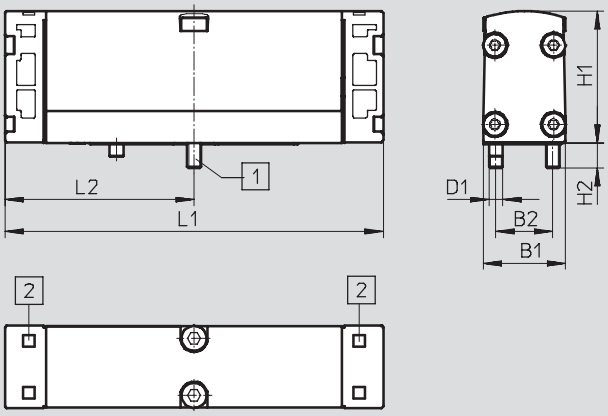


1	Housing	Die-cast aluminium
–	Seals	Nitrile rubber
–	Screws	Galvanised steel

Dimensions

Download CAD data ➔ **www.festo.com**

Width 18



1 Captive screws

2 Slot for inscription label

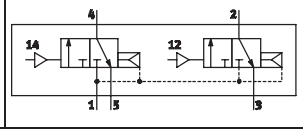
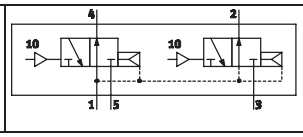
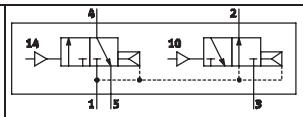
	B1	B2	D1	H1	H2	L1	L2
VSPA-B-...	26.2	19	M4	38	7	100	50

Pneumatic valves, VSPA, ISO 15407-1

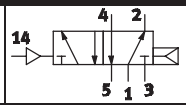
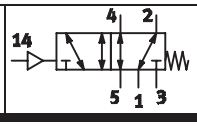
Technical data – Directional control valves width 26 mm

FESTO

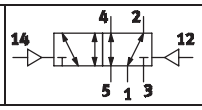
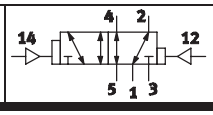
Ordering data – 2x3/2-way valve, width 26

Code	Circuit symbol	Normal position	Part No.	Type
K		2x closed	**546 711**	**VSPA-B-T32C-A1**
N		2x open	**546 712**	**VSPA-B-T32U-A1**
H		1x closed 1x open	**546 713**	**VSPA-B-T32H-A1**

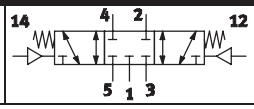
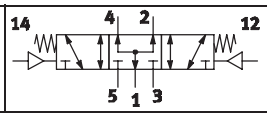
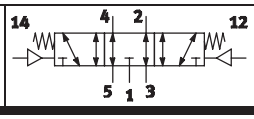
Ordering data – 5/2-way valve (monostable), width 26

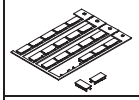
Code	Circuit symbol	Reset method	Part No.	Type
M		Pneumatic	**546 716**	**VSPA-B-M52-A-A1**
O		Mechanical spring	**546 717**	**VSPA-B-M52-M-A1**

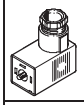
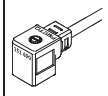
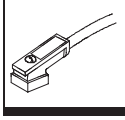
Ordering data – 5/2-way (bi-stable) valve, width 26

Code	Circuit symbol	Dominant	Part No.	Type
J		1st signal	**546 714**	**VSPA-B-B52-A1**
D		At 14	**546 715**	**VSPA-B-D52-A1**

Ordering data – 5/3-way (monostable) valve, width 26

Code	Circuit symbol	Normal position	Part No.	Type
G		Closed	**546 720**	**VSPA-B-P53C-A1**
B		Open	**546 718**	**VSPA-B-P53U-A1**
E		Exhausted	**546 719**	**VSPA-B-P53E-A1**

Ordering data			
		Part No.	Type
Pressure gauge			Technical data → Internet: pagn
	With cartridge connection for regulator, 10 bar	543 487	PAGN-26-16-P10
	With cartridge connection for regulator, 6 bar	543 488	PAGN-26-10-P10
Cartridge for regulator plate			
	For tubing O.D. 4 mm	172 972	QSP10-4
	For tubing O.D. 3/16	172 975	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)	18 182	IBS-9x20
Inscription label holder			Technical data → Internet: ascf
	Clip-on inscription label holder for valve cap (pack of 5)	540 888	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
	–	–	–	151 687	MSSD-EB
	–	–	–	539 712	MSSD-EB-M12
Plug socket without cable with insulation displacement technology					
	–	–	–	192 745	MSSD-EB-S-M14
Plug socket with cable					Technical data → Internet: kmeb
	24 DC	2.5	■	151 688	KMEB-1-24-2,5-LED
	24 DC	5	■	151 689	KMEB-1-24-5-LED
	24 DC	10	■	193 457	KMEB-1-24-10-LED
	To 240	2.5	–	151 690	KMEB-1-230AC-2,5
	To 240	5	–	151 691	KMEB-1-230AC-5
	24 DC	2.5	■	174 844	KMEB-2-24-2,5-LED
	24 DC	5	■	174 845	KMEB-2-24-5-LED
	To 240	2.5	–	174 846	KMEB-2-230-2,5
	To 240	5	–	174 847	KMEB-2-230-5

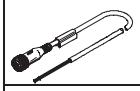
Ordering data – Illuminating seal for plug pattern DIN EN 175301-803, type C — Technical data ➔ Internet: meb-ld

	Voltage		Part No.	Type
	[V DC]	[V AC]		
	12 ... 24	–	**151 717**	**MEB-LD-12-24DC**
	–	230	**151 718**	**MEB-LD-230AC**

Ordering data – Plug sockets, plug sockets with cable for valves with central plug M12x1

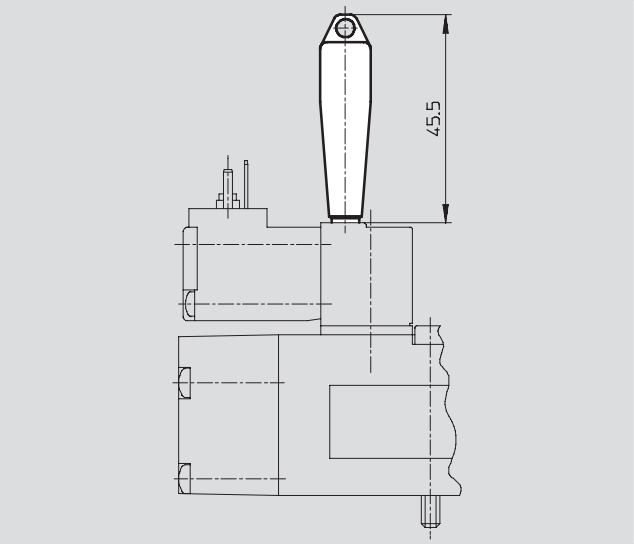
	Voltage	Cable length [m]	Part No.	Type
Plug socket without cable				Technical data ➔ Internet: sea
	–	–	**185 498**	**SEA-M12-4WD-PG7**
Plug socket with cable				Technical data ➔ Internet: km-12
	–	1	**185 499**	**KM-12-M12-GSWD-1-4**

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	–	**541 342**	**NEBU-M8G4-K-2,5-LE4**
		5	–	**541 343**	**NEBU-M8G4-K-5-LE4**
Connecting cable M8x1, 4-pin, straight angled socket/open end					
	24 V DC	2.5	–	**541 344**	**NEBU-M8W4-K-2,5-LE4**
		5	–	**541 345**	**NEBU-M8W4-K-5-LE4**
Connecting cable M12x1, 4-pin, straight socket/open end					Technical data ➔ Internet: nebu
	24 V DC	2.5	–	**541 363**	**NEBU-M12G5-K-2,5-LE3**
		5	–	**541 364**	**NEBU-M12G5-K-5-LE3**
Connecting cable M12x1, 4-pin, straight angled socket/open end					
	24 V DC	2.5	–	**541 367**	**NEBU-M12W5-K-2,5-LE3**
		5	–	**541 370**	**NEBU-M12W5-K-5-LE3**

Manual override tool AHB

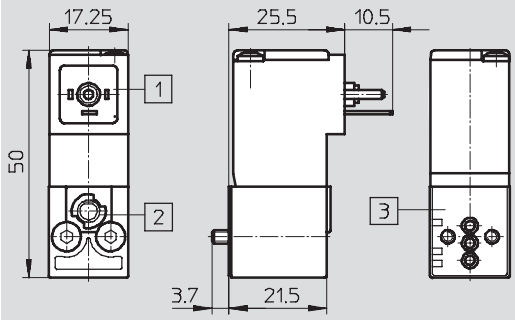
Material:
Polymer



Ordering data			
For pilot valve	Weight [g]	Part No.	Type
VSCS-B-M32-MT	5	**157 601**	**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 [W]	Output [VA]	Voltage [V DC]	Voltage [V AC]	Part No.	Type
	Plug, square design C to DIN EN 175301-803. Manual override, non-detenting and detenting via tool	1.5	–	24	–	**546 262**	**VSCS-B-M32-MT-WA-1C1**
			3/2.4	12	24	**546 261**	**VSCS-B-M32-MT-WA-5WC1**
		–		–	230	**546 264**	**VSCS-B-M32-MT-WA-3AC1**
					110	**546 263**	**VSCS-B-M32-MT-WA-2AC1**

Valve terminal type 16 VTIA – Electrical part

Ordering data – Modular products

FESTO

M Mandatory data				O Options	
Module No.	**Valve terminal, electrical part**	**Electrical connection**	**Voltage**	**Connecting cable**	**User's manual**
546 835	16E	ZSR8 ZSR12	24DC	GA, GB, GD, GE	D, E, F, I, S
Order example					
546 835	**16E**	–	**24DC**	+	–
1	**2**	**3**	**4**	**5**	**6**

Ordering table

				Conditions	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**		
			Central plug M12		**-ZSR12**		
	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

FESTO

M Mandatory data					O Options	
Module No.	**Valve terminal, electrical part**	**Electrical connection**	**Voltage**		**Connecting cable**	**User's manual**
546 835 **Order example**	16E	DINC	12DC, 24DC, 24AC, 110AC, 230AC		GG, GH, GJ, GK, GL	D, E, F, I, S
546 835	**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**				**+**		+
		Connecting cable	Polyure-thane	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

FESTO

M **Mandatory data**

Module No.	Valve terminal, pneumatic part		Manual override		Pilot air supply		Type of connection
546 835	16P		N, T		P, S		G
Order example							
546 835		–		–		–	**G**
1	**2**		**3**		**4**		**5**

Ordering table

Width			18 mm	26 mm	Condi-tions	Code		Enter code
M	**1**	Module No.	**546 835**					
	2	Valve terminal, pneumatic part	Valve terminal type 16, VTIA, modular sub-base valves to ISO 15407-1			**16P**		16P
	3	Manual override	Pushing (non-detenting)			**-N**		
			Pushing, detenting with tool		1	**-T**		
	4	Pilot air supply	Internal pilot air supply			**-P**		
			External pilot air supply			**-S**		
↓	**5**	Type of connection	G thread (standard)			**-G**		-G

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

Valve terminal type 16 VTIA – Pneumatic part

Ordering data – Modular products

FESTO

O 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
						-		-
O	**6**	Pneumatic supply to valve terminal	Silencer and QS push-in fittings		2	**S**		
			QS push-in fittings		2	**V**		
M	**7**	Pneumatic supply connection position	Left			**TL**		
			Right			**TR**		
			At both sides			**TB**		
O	**8**	Configuration of pneumatic connections	QS push-in fittings, large		3	**M**		
			QS push-in fittings, small		3	**N**		
			QS push-in fittings, large and small mixed		3	**G**		
M	**9**	Exhaust position	Left			**EL**		
			Right			**ER**		
			At both sides			**EB**		
O	**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** ➔

Pneumatic manifold sub-bases 00 ... 15

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

O **Options**

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	Conditions	Code		Enter code
M		Pneumatic manifold sub-bases			4	-		-
	12	Type of sub-base 00 ... 15	Manifold sub-base 1/8	–	5 6	A		Enter the equipment selected in the order code
			–	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		
↓	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

13 **Z** 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)

Valve terminal type 16 VTIA – Pneumatic part

Ordering data – Modular products

FESTO

→ M | O Options →

Pneumatic valve positions 00 ... 15

15 Valve position 00 ... 15: M, O, J, D, N, K, H, B, G, E, L

O 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 ... 151: 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	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		
			Input pressure 6 bar	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

Ordering data – Modular products

FESTO

➔ 0 **Options**

	Pneumatic accessories
	...B
+	
	21

Ordering table

Width		18 mm	26 mm	Conditions	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

FESTO

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	G½ (QS-G½-16)	G½ (QS-G½-16)
		G	1, 3, 5	G½ (QS-G½-16)	G½ (QS-G½-16)
		N	1, 3, 5	G½ (QS-G½-12)	G½ (QS-G½-12)
9	Exhaust position EL, ER, EB	**M**	12, 14	G¼ (QS-G¼-10)	G¼ (QS-G¼-10)
		G	12, 14	G¼ (QS-G¼-10)	G¼ (QS-G¼-10)
		N	12, 14	G¼ (QS-G¼-8)	G¼ (QS-G¼-8)
12	Type of manifold sub-base A, B	**M**	2, 4	G⅛ (QS-G⅛-8)	G¼ (QS-G¼-10)
12	Type of manifold sub-base AK, BK	**N**	2, 4	G⅛ (QS-G⅛-6)	G¼ (QS-G¼-8)