

Solenoid valves, to ISO 5599-1

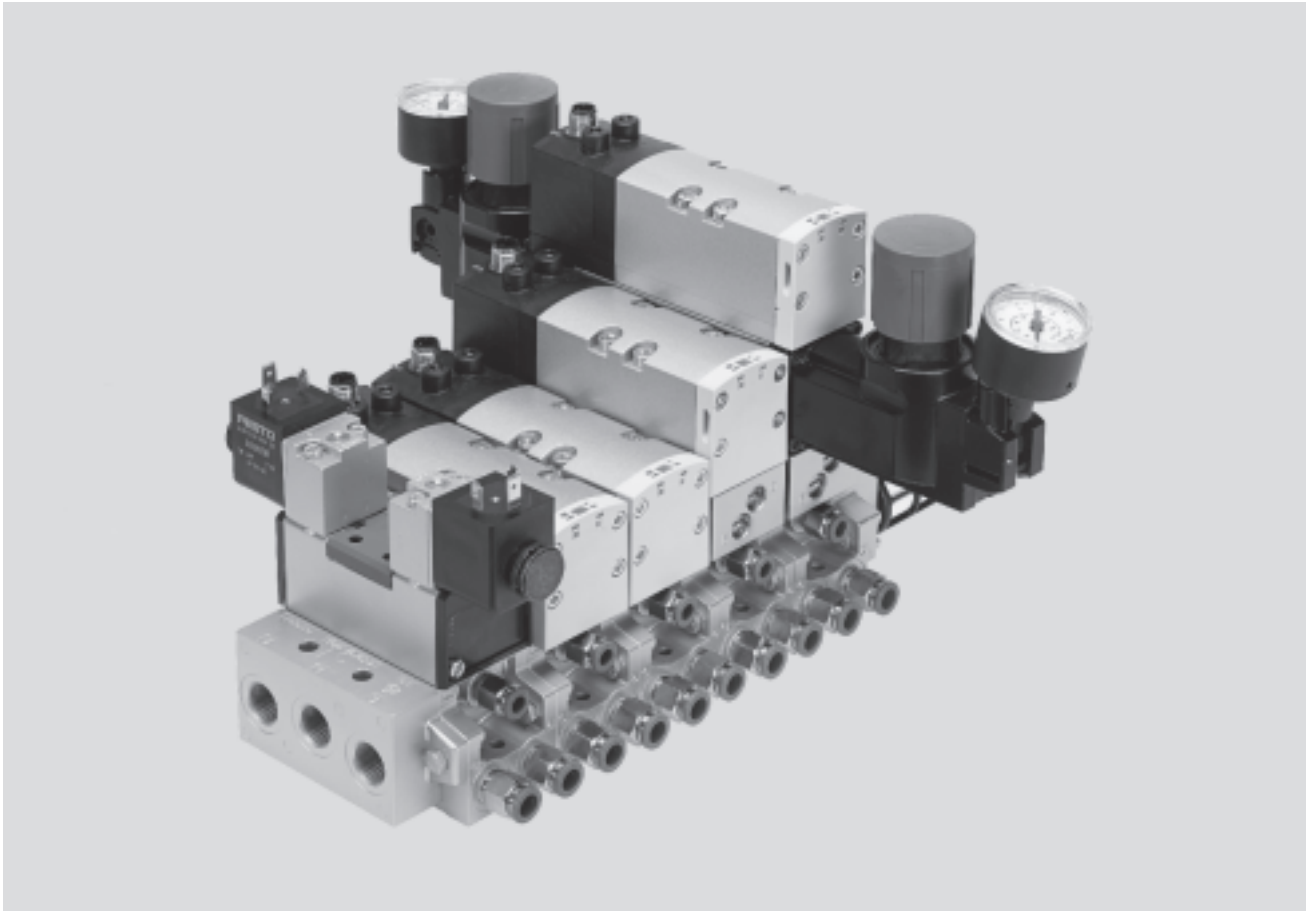
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Solenoid valves, to ISO 5599-1

Key features

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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 pressure shut-off plate
- Reverse operation
- Vacuum operation

Versatile

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

Reliable

- Sturdy and durable metal components
 - Valves
 - 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 quickly and easily
- Manual override
- Durable thanks to tried-and-tested piston spool valves

Easy to mount

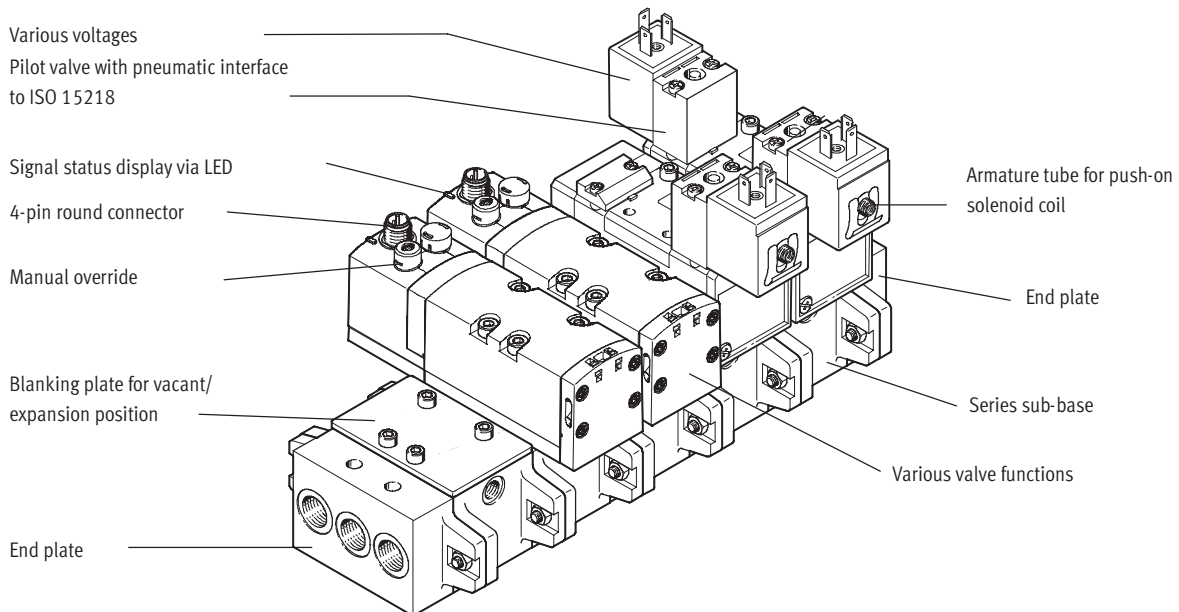
- Plug-in pressure gauges on the pressure regulator plate

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Individual valve manifold



Equipment options

5/2-way valve

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

2x 3/2-way valve, single solenoid

- Normally open
- Normally closed
- 1x normally open, 1x normally closed

- All reversible 2x 3/2-way valves can be ordered using the modular system part number 565 448, as can 2x 2/2-way valves

5/3-way valve, single 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 significant pressure fluctuations in the power section. Power section and pneumatic control section are decoupled
- For heavily 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 and pressure zone separation 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

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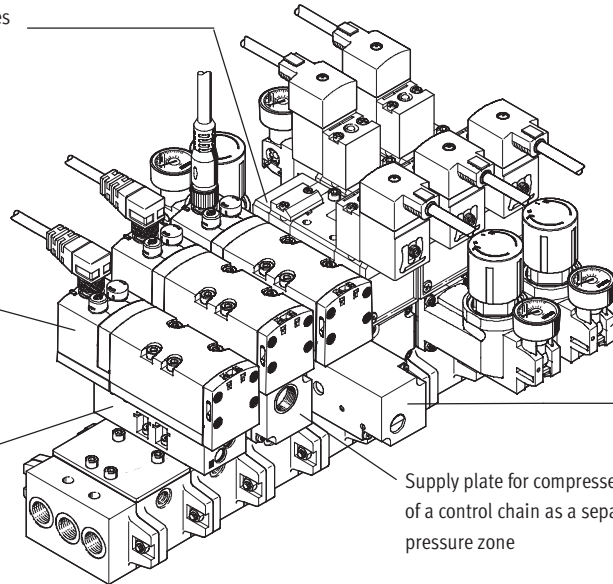
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Valve manifold with vertical stacking

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

Solenoid valve with central round plug

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



Pressure regulator for adjusting the force of the actuated drive

Pressure shut-off plate for solenoid valve replacement during operation

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

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 at which the exhaust air flow rate at exhausts 5 or 3 can be adjusted. This enables the movement of the drive to be initiated and the desired speed to be set at the manifold using the manual override.

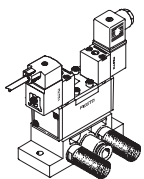
Vertical pressure shut-off plate

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

Vertical supply plate

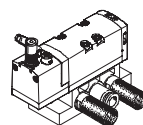
- As additional air supply for one valve
- To supply a third pressure zone

Individual connection with square plug



The directional control valve has a pilot control to ISO 15218. The solenoid coil pushed onto the armature tube can be chosen in different designs and operating voltages.

Individual connection with central round plug

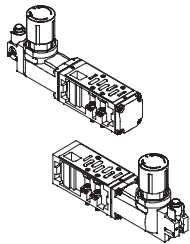


The electrical connection is established via a standardised M12 socket 24 V DC (EN 61076-2-101).

Solenoid valves, to ISO 5599-1

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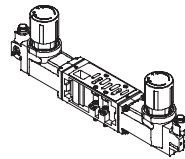
Pressure regulator plate with one pressure regulator



Versions

- Width 42
- For pressure regulation at the supply input 1 (P). Set pressure is the same for outputs 2 and 4
- For pressure regulation at the working port 4 (A)
 - The pressure regulator for reverse operation is supplied via port 1 of the sub-base and supplies port 5 on the directional control valve
 - The directional control valve vents via port 1 to ports 3 and 5 of the sub-base
- For pressure regulation at the working port 2 (B)
 - Input 3 is supplied here in reverse operation

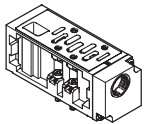
Pressure regulator plate with two pressure regulators



Versions

- Width 42 mm
- For pressure regulation at 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 ports 3 and 5 of the sub-base

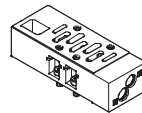
Vertical supply plate



Versions

- Width 42 mm
- As intermediate supply
 - For one valve
 - To supply a third pressure zone
- Can be equipped with a directional control valve

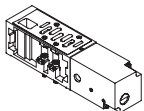
Flow control plate



Versions

- Width 42 mm
- Exhaust air restrictors in ducts 3 and 5
 - The flow control plates function as supply air restrictors for pressure zones that are formed via ducts 3 and 5

Vertical pressure shut-off plate



Versions

- Width 42 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



Version

- Can be connected to the pressure regulator plates

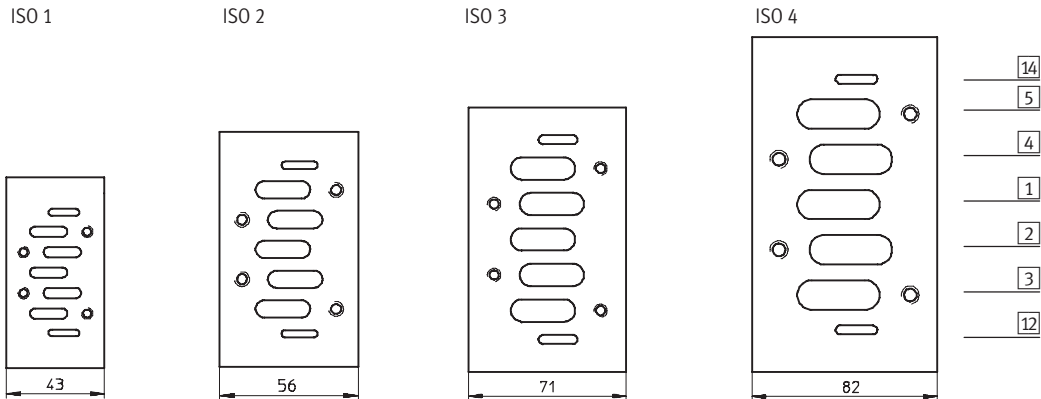
Solenoid valves, to ISO 5599-1

Key features

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Port pattern on sub-base to ISO 5599-1

Defined interface between valve and sub-base



Sub-base port designations

	Solenoid valves
14	Control section
5	Power section
4	Power section
1	Power section
2	Power section
3	Power section
12	Control section

External pilot air supply for pilot valves 12 and 14
Exhaust port 5
Working line 4
Working air supply connection 1
Working line 2
Exhaust port 3
Exhaust port for pilot air from 12 and 14

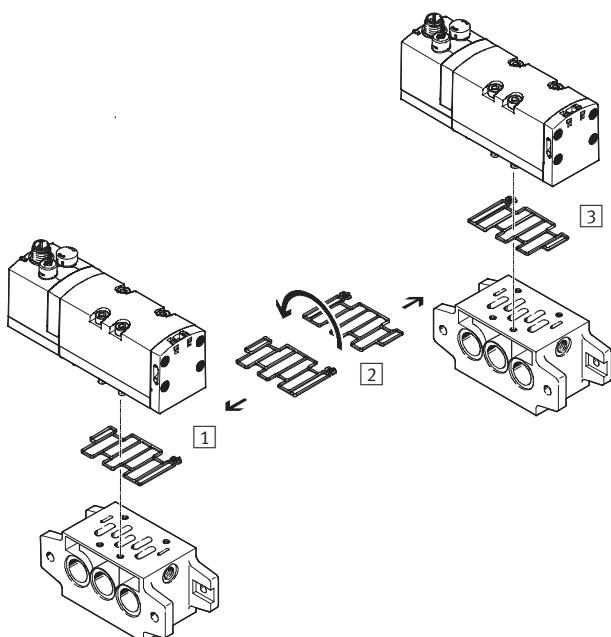
VSVA

Conversion of pilot air venting

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

and manifold block, exhaust air (pilot air) can be diverted into pilot duct 12

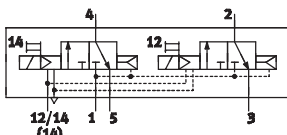
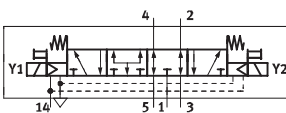
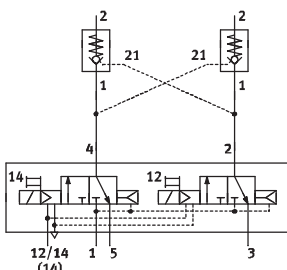
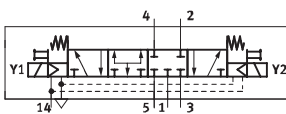
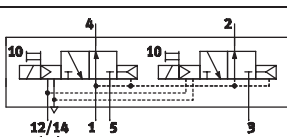
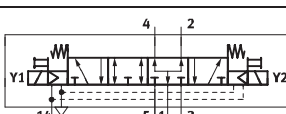
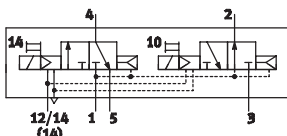
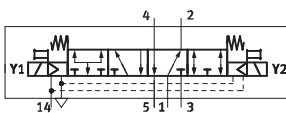
and can thus be contained and silenced (see illustration).



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

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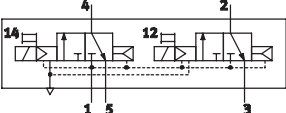
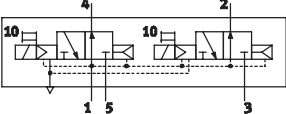
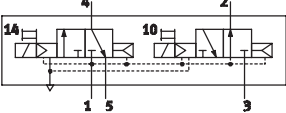
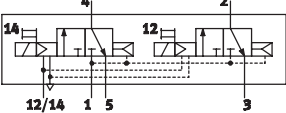
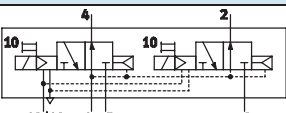
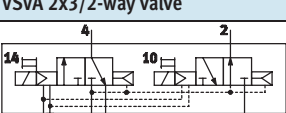

Key features

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

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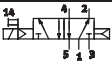
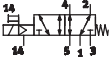
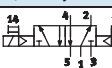
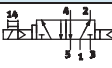
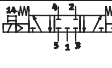
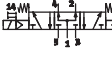
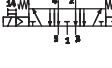
Product range overview

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











ISO size/width	Circuit symbol	Normal position	Pilot air supply	Plug	Operating voltage [V DC]	→ Page/ Internet
1/42 mm	VSVA 2x3/2-way valve 	2x closed	Internal	M12x1 round	24	25
	VSVA 2x3/2-way valve 	2x open	Internal	M12x1 round	24	25
	VSVA 2x3/2-way valve 	1x closed, 1x open	Internal	M12x1 round	24	25
	VSVA 2x3/2-way valve 	2x closed	External	M12x1 round	24	25
	VSVA 2x3/2-way valve 	2x open	External	M12x1 round	24	25
	VSVA 2x3/2-way valve 	1x closed, 1x open	External	M12x1 round	24	25
	VSVA 2x3/2-way valve 	1x closed, 1x open	External	M12x1 round	24	25

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Product range overview

ISO size/width	Circuit symbol	Solenoid coil	Operating voltage									→ Page/ Internet	
			[V DC]			[V AC]							
			12	24	42	24	42	48	110	230	240		
1/42 mm	5/2-way valve, single solenoid with pneumatic spring												
		N1	–	■	–	–	–	–	–	■	■	–	25
		F	■	■	■	■	■	■	■	■	■	■	
		VSVA	–	■	–	–	–	–	–	–	–	–	
		D ¹⁾	–	■	–	–	–	–	–	–	–	–	
	5/2-way valve, single solenoid with mechanical spring												
		N1	–	■	–	–	–	–	–	■	■	–	25
		F	■	■	■	■	■	■	■	■	■	■	
		VSVA	–	■	–	–	–	–	–	–	–	–	
	5/2-way valve, double solenoid												
		N1	–	■	–	–	–	–	–	■	■	–	25
		F	■	■	■	■	■	■	■	■	■	■	
		VSVA	–	■	–	–	–	–	–	–	–	–	
		D ¹⁾	–	■	–	–	–	–	–	–	–	–	
	5/2-way valve, double solenoid with dominant signal at 14												
		N1	–	■	–	–	–	–	–	■	■	–	25
		F	■	■	■	■	■	■	■	■	■	■	
		VSVA	–	■	–	–	–	–	–	–	–	–	
		D ¹⁾	–	■	–	–	–	–	–	–	–	–	
	5/3-way valve, single solenoid, normally closed, mid-position valve												
		N1	–	■	–	–	–	–	–	■	■	–	25
		F	■	■	■	■	■	■	■	■	■	■	
		VSVA	–	■	–	–	–	–	–	–	–	–	
		D ¹⁾	–	■	–	–	–	–	–	–	–	–	
5/3-way valve, single solenoid, normally open, mid-position valve													
	N1	–	■	–	–	–	–	–	■	■	–	25	
	F	■	■	■	■	■	■	■	■	■	■		
	EB	–	■	–	–	–	–	–	–	–	–		
	D ¹⁾	–	■	–	–	–	–	–	–	–	–		
5/3-way valve, single solenoid, normally exhausted, mid-position valve													
	N1	–	■	–	–	–	–	–	■	■	–	25	
	F	■	■	■	■	■	■	■	■	■	■		
	VSVA	–	■	–	–	–	–	–	–	–	–		
	D ¹⁾	–	■	–	–	–	–	–	–	–	–		

1) Only with internal pilot air supply

Solenoid valves, to ISO 5599-1				
Solenoid coil	N1 ¹⁾	F ¹⁾	VSVA	D
Function				
5/2-way valve, single solenoid				
5/2-way valve, double solenoid				
5/3-way valve, single solenoid				

1) Coil with required voltage must be ordered separately

Solenoid valves VSVA, to ISO 5599-1

Type codes for valves with round plug

FESTO

		VSVA	-	B	-	T	32	C	-	A	Z	D	-	D1	-	1	R5	L
Valve series																		
VSVA	Standard valves to ISO 5599-1																	
Valve type																		
B	Sub-base valve																	
Valve function																		
M	Single solenoid																	
B	Double solenoid																	
D	Double solenoid with dominance at 14																	
P	Single solenoid, mid-position																	
T	2 single solenoid valves in one housing																	
Connections/switching positions																		
22	2/2-way valve																	
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																	
	Double solenoid valve																	
Reset method																		
A	Pneumatic spring																	
M	Mechanical spring																	
	Double solenoid valve																	
Pilot air supply																		
Z	External																	
	Internal																	
Manual override																		
D	Non-detenting/detenting																	
Standard																		
D1	ISO size 1, width 42 mm																	
Operating voltage																		
1	24 V DC																	
Electrical connection																		
R5	Central plug M12x1																	
Signal status display																		
L	LED (integrated)																	

Solenoid valves, to ISO 5599-1

Type codes for valves with square plug

FESTO

		MN1H	-	5/3	G	-	D-1	-		-		-		-	C	-	
Type																	
MN1H	Single solenoid, for N1 solenoid coil																
MFH	Single solenoid, for F solenoid coil																
MDH	Single solenoid, with D solenoid coil																
JMN1H	Double solenoid, for N1 solenoid coil																
JMN1DH	Double solenoid, for N1 solenoid coil, with dominant signal at 14																
JMFH	Double solenoid, for F solenoid coil																
JMFDH	Double solenoid, for F solenoid coil, with dominant signal at 14																
JMDH	Double solenoid, with D solenoid coil																
Valve function																	
5/2	5/2-way valve																
5/3	5/3-way valve																
Normal position																	
G	Closed																
E	Exhausted																
B	Pressurised																
Size																	
D-1	ISO size 1																
D-2	ISO size 2																
D-3	ISO size 3																
¾-D-4	ISO size 4																
Electrical connection, operating voltage																	
Plug, square design to DIN EN 175301-803, type A																	
24DC	24 V DC																
Pilot air supply																	
	Internal																
S	External																
Reset method																	
FR	Mechanical spring																
	Pneumatic spring																
Generation																	
C	C series																
CT	Free of copper and PTFE (being discontinued)																

Solenoid valves, to ISO 5599-1

Type codes for valves with round plug

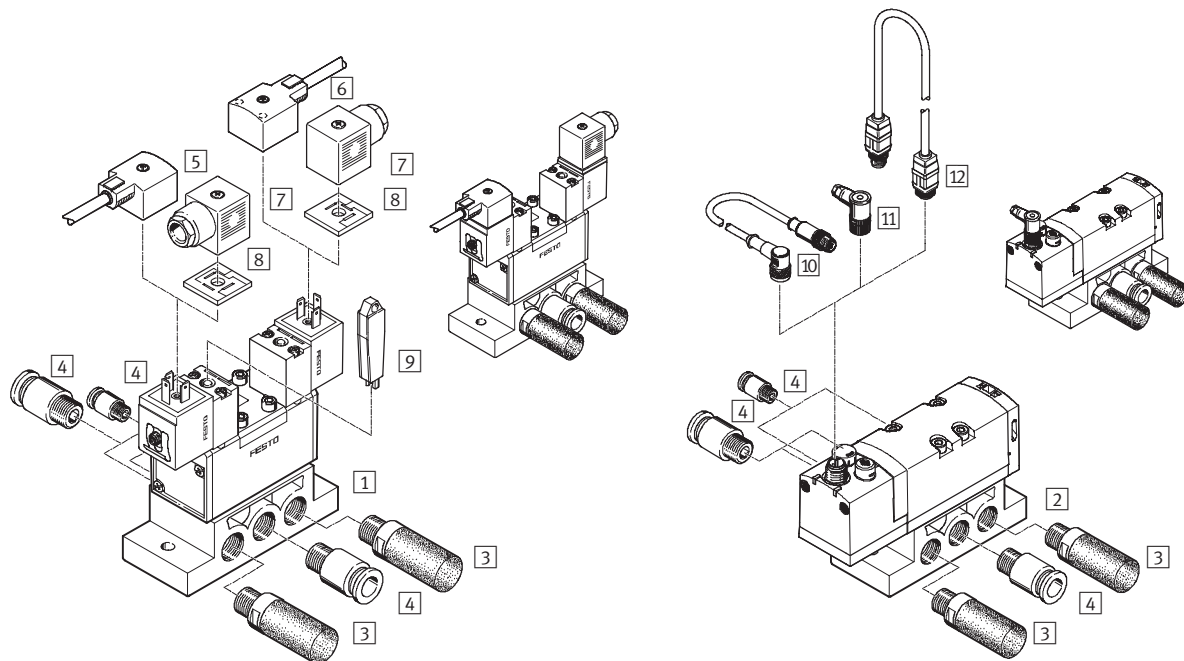
		MDH	–	5/3	G	–	D-1	–		–		–		–	C	–	
Type																	
MDH	Single solenoid, with D solenoid coil																
JMDH	Double solenoid, for D solenoid coil																
JMDDH	Double solenoid, for D solenoid coil, with dominant signal at 14																
Valve function																	
5/2	5/2-way valve																
5/3	5/3-way valve																
Normal position																	
G	Closed																
E	Exhausted																
B	Pressurised																
Size																	
D-1	ISO size 1																
D-2	ISO size 2																
D-3	ISO size 3																
Electrical connection, operating voltage																	
Central plug, round design, M12x1																	
ZSR	24 V DC																
Individual plug, round design, M12x1																	
M12	24 V DC																
Pin allocation																	
	2-pin to VDMA																
D	4-pin to Desina																
Pilot air supply																	
	Internal																
S	External																
Reset method																	
FR	Mechanical spring Pneumatic spring																
Generation																	
C	C series																

Solenoid valves, to ISO 5599-1

Peripherals overview

FESTO

Individual mounting with square plug or round plug



Component parts				
		Type	Brief description	➔ Page/ Internet
1	Solenoid valve on individual sub-base	MN1H-..., NAS	Port pattern to ISO 5599-1, corresponding solenoid coils ➔ 45	35
2	Solenoid valve on individual sub-base	VSVA..., NAS	Port pattern to ISO 5599-1	
3	Silencer	U	For fitting in exhaust ports	u
4	Push-in fitting	QS	For connecting compressed air tubing with standard O.D.	qs
5	Plug socket with cable	KMC-...	Without LED	45
6	Plug socket with cable	KMC-...LED	With LED	
7	Plug socket	MSSD-C		
8	Illuminating seal	M...-LD	For indicating the signal status	
9	Manual override	AHB	Tool for detenting manual override	
10	Connecting cable	NEBU		
11	Plug socket	SAE		
12	Plug socket with cable	KM		

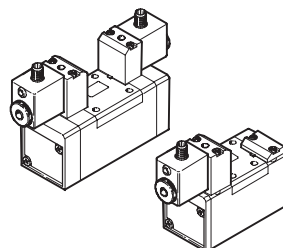
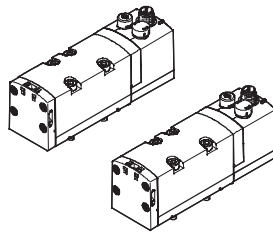
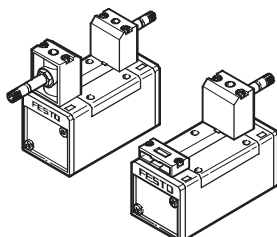
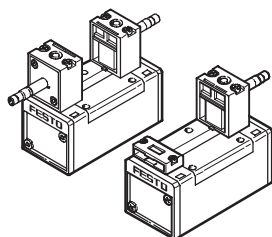
Variants

MN1H, JMN1H

MFH, JMFH

VSVA (width 42 mm)

MDH, JMDH

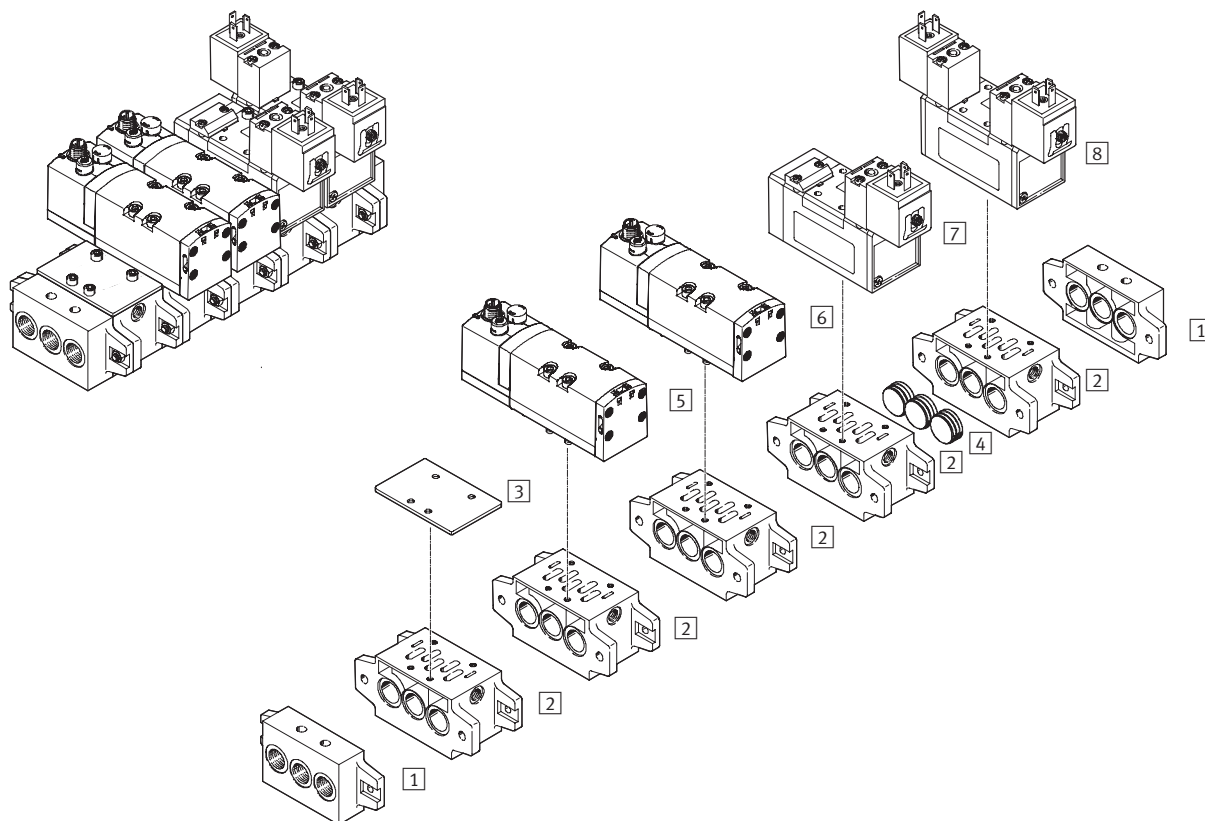


Solenoid valves, to ISO 5599-1

System overview

FESTO

Manifold assembly without vertical stacking



Component parts			
	Type	Brief description	→ Page/ Internet
1 End plate kit	NEV	With ports for air supply 1 and exhausts 3 and 5	35
2 Manifold sub-base	NAV	With ports 2 and 4 underneath	
3 Blanking plate	NDV	For sealing unused manifold sub-bases	
4 Isolating disc	NSC	For sealing the common lines 1, 3, 5 between end plates and manifold sub-bases or between 2 manifold sub-bases, e.g. for different working pressures	
5 Solenoid valve	VSVA	Port pattern to ISO 5599-1, all functions	25
6 Solenoid valve	VSVA		
7 Solenoid valve	MN1H	Port pattern to ISO 5599-1, corresponding solenoid coils → 45	17
8 Solenoid valve	JMN1H		

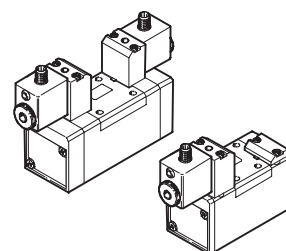
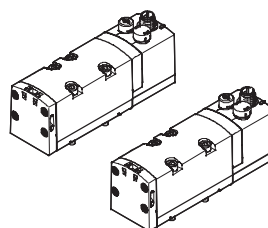
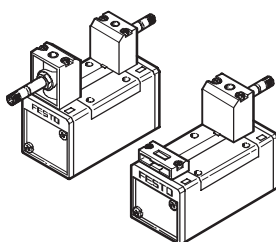
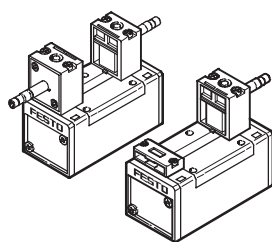
Variants

MN1H, JMN1H

MFH, JMFH

VSVA (width 42 mm)

MDH, JMDH

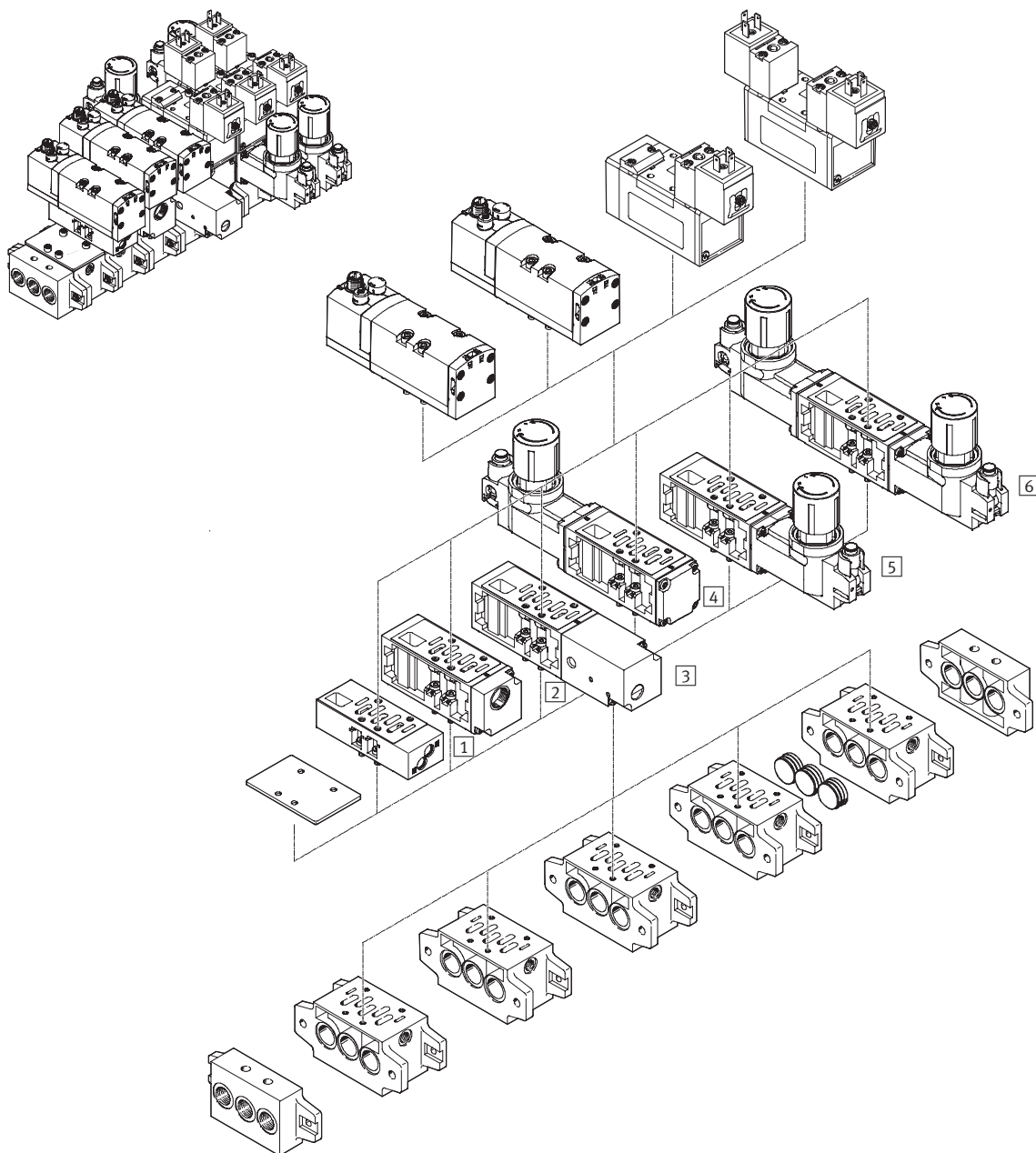


Solenoid valves, to ISO 5599-1

System overview

FESTO

Manifold assembly with vertical stacking



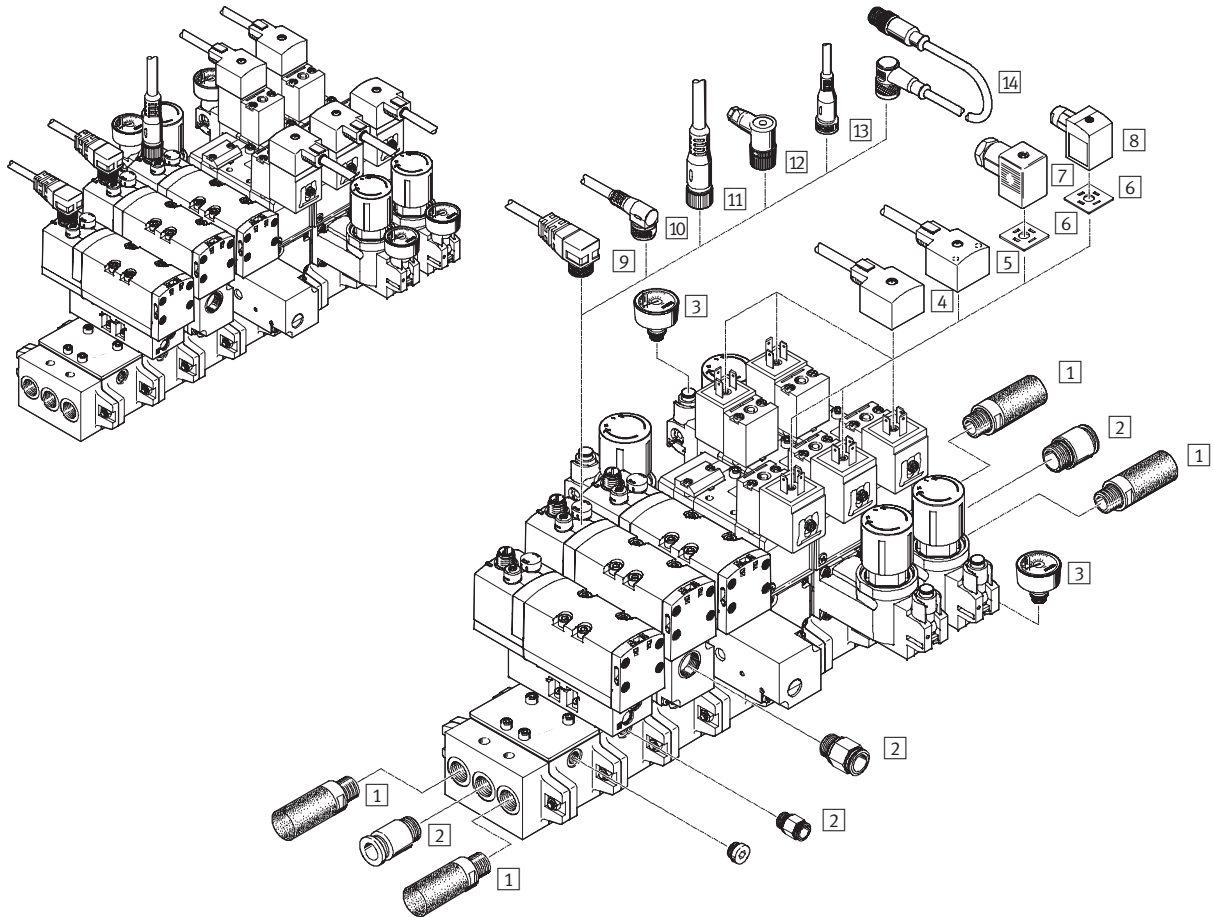
Component parts				
		Type	Brief description	➔ Page/ Internet
1	Flow control plate	VABF-S1-1-F1B1-C164	Controls the flow of exhaust air in 3 and 5	42
2	Vertical supply plate	VABF-S1-1-L1D1-C	Supplies the mounted valve with air	43
3	Vertical pressure shut-off plate	VABF-S1-1-P1A3-G38	Switch for shutting off the air supply 1 to the valve	44
4	Regulator plate P	VABF-S1-1-R1...	Regulates input 1	39
5	Regulator plate B	VABF-S1-1-R3...	Regulates output 2	
6	Regulator plate AB	VABF-S1-1-R4...	Regulates outputs 2 and 4 individually	

Solenoid valves, to ISO 5599-1

Peripherals overview

FESTO

Accessories





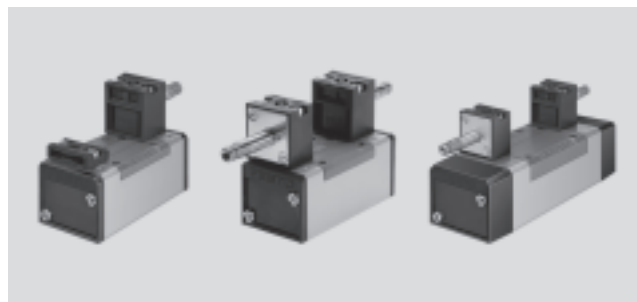
Component parts				
	Type	Brief description	➔ Page/ Internet	
1	Silencer	U	For fitting in exhaust ports	u
2	Push-in fitting	QS	For connecting compressed air tubing with standard O.D.	qs
3	Pressure gauge	PAGN	With push-in connector	45
4	Plug socket with cable	KMC-...	Without LED	
5	Plug socket with cable	KMC-...LED	With LED	
6	Illuminating seal	M...-LD	For indicating the signal status	
7	Plug socket	MSSD-C-M16	With screw terminal connection	
8	Plug socket	MSSD-C-S-M16	With insulation displacement connection	
9	Plug socket with cable	NEBU		
10	Connecting cable	NEBU		
11	Plug socket with cable	NEBU		
12	Plug socket	SAE		
13	Connecting cable	NEBU		km
14	Plug socket with cable	KM-12-M12-GSWD-1-4		

Solenoid valves MN1H, JMN1H, JMN1DH, to ISO 5599-1

FESTO

Technical data – Width 42 mm

-  Flow rate
1,200 l/min
-  Voltage
24 V DC
110, 230 V AC



General technical data					
Valve function	5/2-way		5/3-way		
Normal position	–	–	G ¹⁾	B ²⁾	E ³⁾
Memory stability	Monostable	Bistable	Monostable		
Pneumatic spring reset method	Yes	–	No		
Mechanical spring reset method	Yes	–	Yes		
Design	Piston spool valve				
Sealing principle	Soft				
Actuation type	Electrical				
Type of control	Piloted				
Pilot interface	To ISO 15218				
Pilot air supply	Internal or external				
Direction of flow	Reversible with external pilot air supply				
Exhaust function	Flow control				
Manual override	Non-detenting, detenting with tool				
Type of mounting	On sub-base				
Mounting position	Any				
Nominal size	[mm]	8			
Standard nominal flow rate	[l/min]	1,200			
Switching time on/off, pneumatic spring	[ms]	23/32	–	–	
Switching time on/off, mechanical spring	[ms]	17/39	–	20/44	20/46
Changeover time	[ms]	–	18	–	
Switching time with dominance at 14 (12/14)	[ms]	–	18/15	–	
Width	[mm]	42			
Grid dimension	[mm]	43			
Ports on the sub-base	1, 2, 3, 4, 5	G¼			
	12, 14	M5			
Tightening torque, valve mounting	[Nm]				
Noise level	[dB (A)]	85			
Conforms to	ISO 5599-1 and interface for pilot valve ISO 15218				
Certification	Germanischer Lloyd				
Corrosion resistance class	CRC	2 ⁴⁾			
Product weight	[g]	450	610	650	

1) G = Normally closed

2) B = Normally open

3) E = Normally exhausted

4) Corrosion resistance class 2 according 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 MN1H, JMN1H, JMN1DH, to ISO 5599-1

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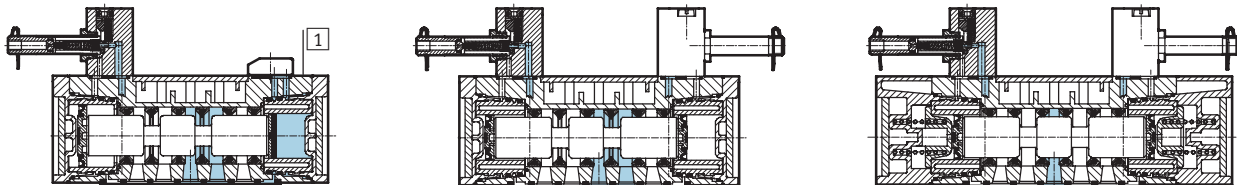
Technical data – Width 42 mm

Operating and environmental conditions				
Reset method			Pneumatic	Mechanical
Operating medium			Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated, vacuum	
Operating pressure	Internal pilot air supply	[bar]	2 ... 10	3 ... 10
	External pilot air supply	[bar]	–0.9 ... +16	–0.9 ... +16
Pilot pressure		[bar]	2 ... 10	3 ... 10
Ambient temperature		[°C]	–5 ... +50	
Temperature of medium		[°C]	–5 ... +50	

Electrical data				
N1 solenoid coil				
Electrical connection			Plug, square design to EN 175301-803, type A	
Operating voltage	DC voltage	[V DC]	24	
	AC voltage	[V AC]	110/230 (50 ... 60 Hz)	
Coil characteristics	DC voltage	[W]	2.5	
	AC voltage	[VA]	Pull: 7.5 Hold: 5	
Protection class to EN 60 529			IP65	

Materials

Sectional view



1	Housing	Die-cast aluminium
–	Seals	NBR (nitrile rubber)
Note on materials		Designs free of copper and PTFE → Ordering data RoHS-compliant

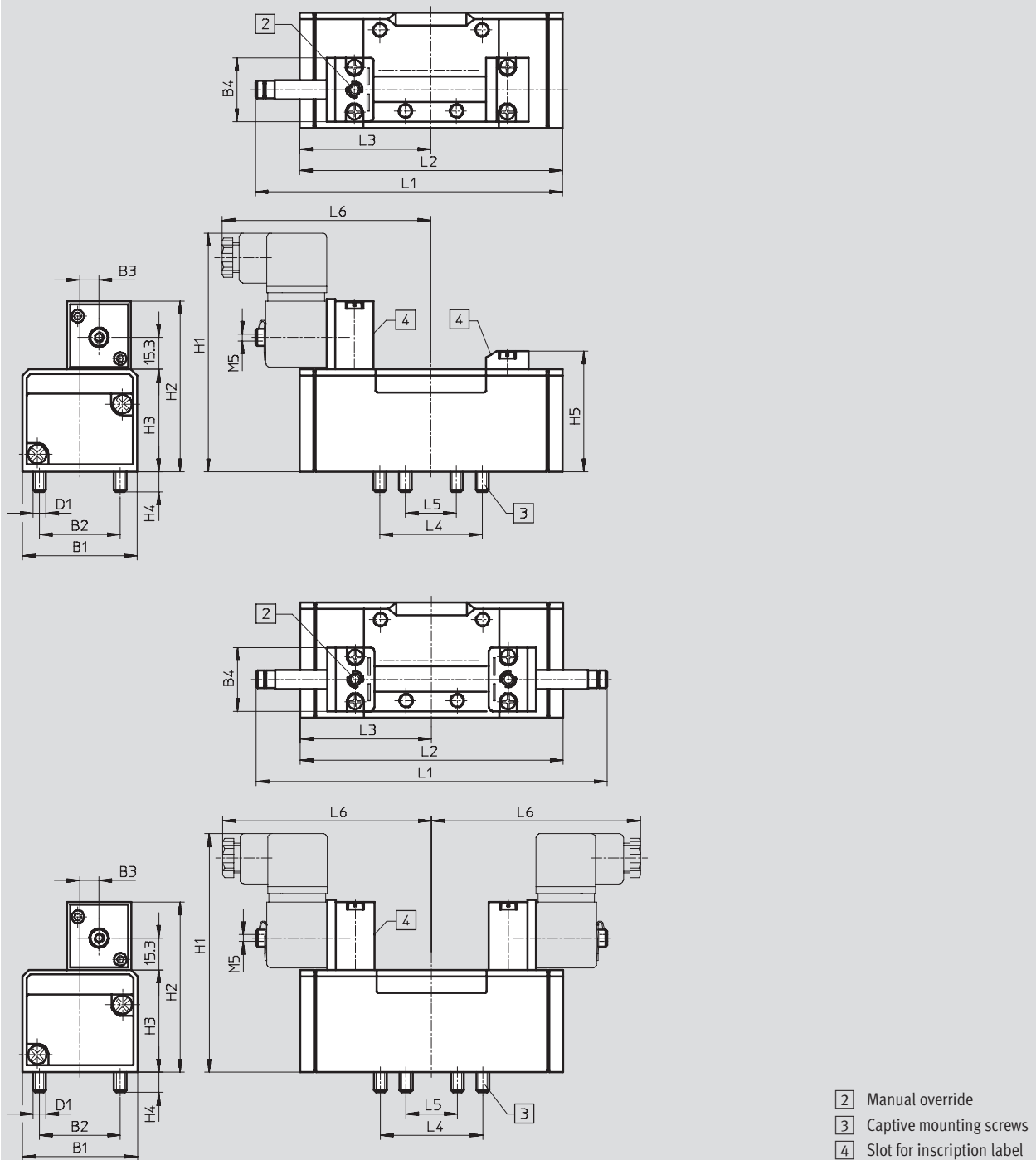
Solenoid valves MN1H, JMN1H, JMN1DH, to ISO 5599-1

Technical data – Width 42 mm

FESTO

Dimensions

Download CAD data → www.festo.com



Type	B1	B2	B3	B4	D1	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6
MN1H-5/2-...	42	28	6	30	M5	106	74	38	9	46.5	117.5	87.6	43.8	36	18	89
JMN1H-5/2-...											147.3					
MN1H-5/3-...												108.4				
MN1H-5/2-...-FR											128	98				

Solenoid valves MN1H, JMN1H, JMN1DH, to ISO 5599-1

FESTO

Ordering data – Width 42 mm

Ordering data – Solenoid valves without solenoid coil ¹⁾ , internal pilot air supply			
Circuit symbol	Description	Part No.	Type
5/2-way valve, single solenoid			
	Pneumatic reset	159688	MN1H-5/2-D-1-C
		184637	MN1H-5/2-D-1-C-CT ²⁾
	Mechanical reset	159687	MN1H-5/2-D-1-FR-C
		184638	MN1H-5/2-D-1-FR-C-CT ²⁾
5/2-way valve, double solenoid			
	–	159690	JMN1H-5/2-D-1-C
	With dominant signal at 14	159691	JMN1DH-5/2-D-1-C
5/3-way valve, single solenoid			
	Normally closed	159681	MN1H-5/3G-D-1-C
		184658	MN1H-5/3G-D-1-C-CT ²⁾
	Normally exhausted	159683	MN1H-5/3E-D-1-C
		184652	MN1H-5/3E-D-1-C-CT ²⁾
	Normally open	159685	MN1H-5/3B-D-1-C
		184650	MN1H-5/3B-D-3-C-CT ²⁾

1) N1 solenoid coils → 45

2) Free of copper and PTFE

Ordering data – Solenoid valves without solenoid coil ¹⁾ , external pilot air supply			
Circuit symbol	Description	Part No.	Type
5/2-way valve, single solenoid			
	Pneumatic reset	159686	MN1H-5/2-D-1-S-C
	Mechanical reset	159716	MN1H-5/2-D-1-FR-S-C
5/2-way valve, double solenoid			
	–	159689	JMN1H-5/2-D-1-S-C
	With dominant signal at 14	159717	JMN1DH-5/2-D-1-S-C
5/3-way valve, single solenoid			
	Normally closed	159680	MN1H-5/3G-D-1-S-C
	Normally exhausted	159682	MN1H-5/3E-D-1-S-C
	Normally open	159684	MN1H-5/3B-D-1-S-C



1) N1 solenoid coils → 45

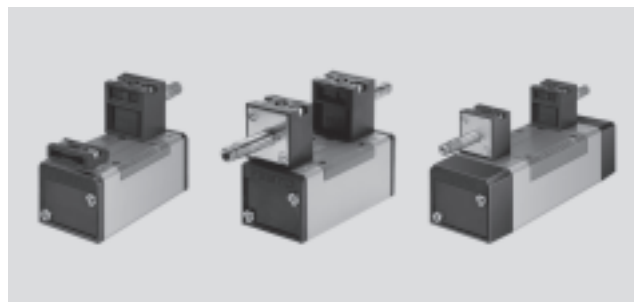
2) Free of copper and PTFE

Solenoid valves MFH, JMFH, JMFDH, to ISO 5599-1

FESTO

Technical data – Width 42 mm

-  Flow rate
1,200 l/min
-  Voltage
12, 24, 42, 48 V DC
24, 42, 48, 110, 230,
240 V AC



General technical data					
Valve function		5/2-way		5/3-way	
Normal position		–	–	G ¹⁾	B ²⁾ E ³⁾
Memory stability		Monostable	Bistable	Monostable	
Pneumatic spring reset method		Yes	–	No	
Mechanical spring reset method		Yes	–	Yes	
Design		Piston spool valve			
Sealing principle		Soft			
Actuation type		Electrical			
Type of control		Piloted			
Pilot interface		To ISO 15218			
Pilot air supply		Internal or external			
Direction of flow		Reversible with external pilot air supply			
Exhaust function		Flow control			
Manual override		Non-detenting, detenting with tool			
Type of mounting		On sub-base			
Mounting position		Any			
Nominal size [mm]		8			
Standard nominal flow rate [l/min]		1,200			
Switching time on/off, pneumatic spring [ms]		23/35	–	–	
Switching time on/off, mechanical spring [ms]		16/45	–	18/35	18/36
Changeover time [ms]		–	16	–	
Switching time with dominance at 14 (12/14) [ms]		–	16/13	–	
Width [mm]		42			
Grid dimension [mm]		43			
Ports on the sub-base		1, 2, 3, 4, 5		G¼	
		12, 14		M5	
Noise level [dB (A)]		85			
Conforms to		ISO 5599-1 and interface for pilot valve ISO 15218			
Certification		Germanischer Lloyd			
Corrosion resistance class CRC		2 ⁴⁾			
Product weight [g]		550	600	630	

1) G = Normally closed

2) B = Normally open

3) E = Normally exhausted

4) Corrosion resistance class 2 according 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 MFH, JMFH, JMFDH, to ISO 5599-1

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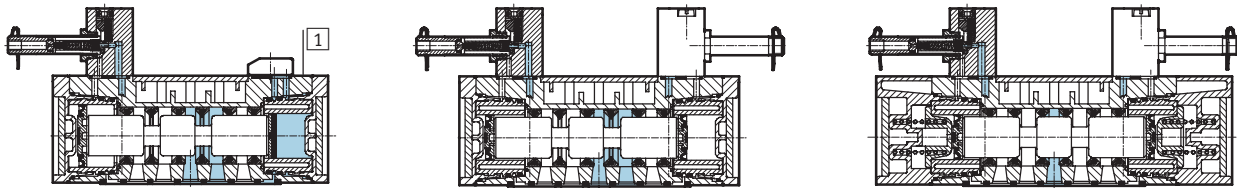
Technical data – Width 42 mm

Operating and environmental conditions				
Reset method			Pneumatic	Mechanical
Operating medium			Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated, vacuum	
Operating pressure	Internal pilot air supply	[bar]	2 ... 10	3 ... 10
	External pilot air supply	[bar]	–0.9 ... +16	–0.9 ... +16
Pilot pressure		[bar]	2 ... 10	3 ... 10
Ambient temperature		[°C]	–5 ... +40	
Temperature of medium		[°C]	–10 ... +60	

Electrical data				
F solenoid coil				
Electrical connection			Plug vanes for plug sockets MSSD-F, KMF	
Operating voltage	DC voltage	[V DC]	12, 24, 42, 48	
	AC voltage	[V AC]	24, 42, 48, 110, 230, 240 (50 ... 60 Hz)	
Coil characteristics	DC voltage	[W]	4.5	
	AC voltage	[VA]	Pull: 7.5 Hold: 6	
Protection class to EN 60529			IP65	

Materials

Sectional view



1	Housing	Die-cast aluminium
–	Seals	NBR (nitrile rubber)
Note on materials		RoHS-compliant

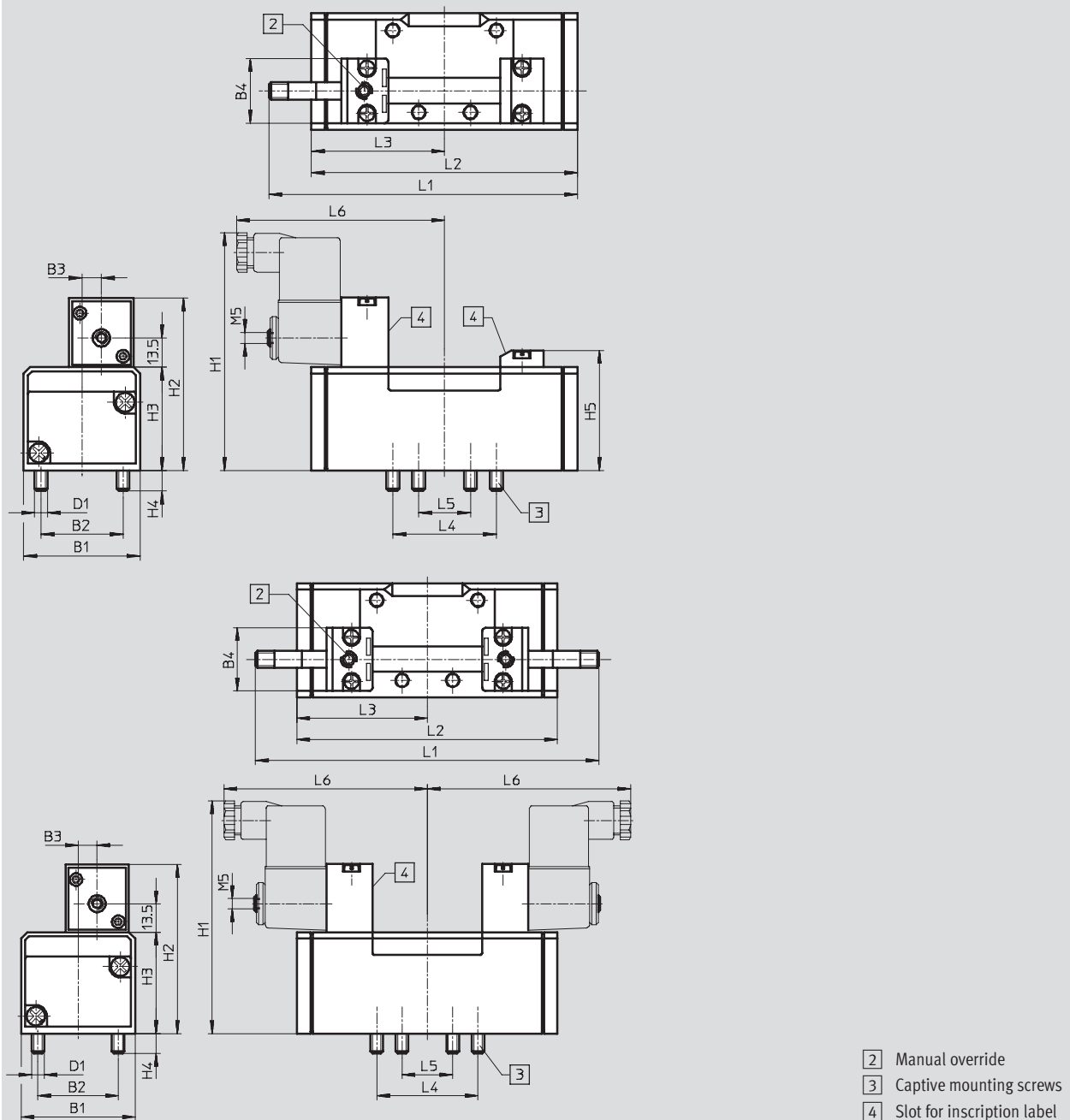
Solenoid valves MFH, JMFH, JMFDH, to ISO 5599-1

Technical data – Width 42 mm

FESTO

Dimensions

Download CAD data → www.festo.com

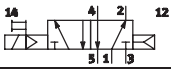
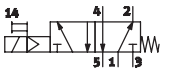
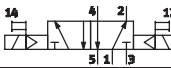
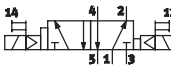
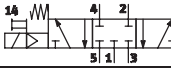
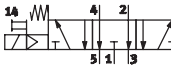
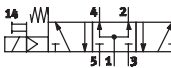


Type	B1	B2	B3	B4	D1	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6
MFH-5/2-...	42	28	6	30	M5	100	70.3	38	9	46.5	115	87.6	43.8	36	18	89
MFH-5/2-...-FR										125.6	98					
JMFH-5/2-...				30						-	142.6	87.6				
MFH-5/3-...				30								108.4				


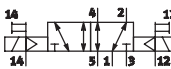
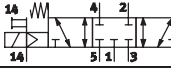
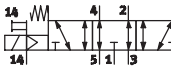
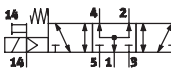
Solenoid valves MFH, JMFH, JMFDH, to ISO 5599-1

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Ordering data – Width 42 mm

Ordering data – Solenoid valves without solenoid coil ¹⁾ , internal pilot air supply			
Circuit symbol	Description	Part No.	Type
5/2-way valve, single solenoid			
	Pneumatic reset	150981	MFH-5/2-D-1-C
	Mechanical reset	151016	MFH-5/2-D-1-FR-C
5/2-way valve, double solenoid			
	–	150980	JMFH-5/2-D-1-C
	With dominant signal at 14	151019	JMFDH-5/2-D-1-C
5/3-way valve, single solenoid			
	Normally closed	150982	MFH-5/3G-D-1-C
	Normally exhausted	150983	MFH-5/3E-D-1-C
	Normally open	150984	MFH-5/3B-D-1-C


1) F solenoid coils → 45

Ordering data – Solenoid valves without solenoid coil ¹⁾ , external pilot air supply			
Circuit symbol	Description	Part No.	Type
5/2-way valve, single solenoid			
	Pneumatic reset	152562	MFH-5/2-D-1-S-C
5/2-way valve, double solenoid			
	–	152563	JMFH-5/2-D-1-S-C
5/3-way valve, single solenoid			
	Normally closed	152564	MFH-5/3G-D-1-S-C
	Normally exhausted	152565	MFH-5/3E-D-1-S-C
	Normally open	152566	MFH-5/3B-D-1-S-C

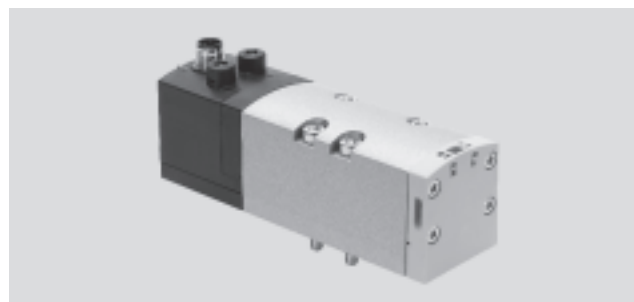
1) F solenoid coils → 45

Solenoid valves VSVA, to ISO 5599-1/central plug M12x1

Technical data – Width 42 mm

 Flow rate
1,100 ... 1,300 l/min

 Voltage
24 V DC



General technical data									
Valve function		2x 3/2-way			5/2-way		5/3-way		
Normal position		C ¹⁾	U ²⁾	H ⁴⁾	–	–	C ¹⁾	U ²⁾	E ³⁾
Memory stability		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		Electrical							
Type of control		Piloted							
Pilot air supply		Internal or external							
Direction of flow		Non-reversible			Reversible with external pilot air supply				
Exhaust function		Flow control, external or via vertically stacked flow control plate							
Manual override		Non-detenting, detenting							
Type of mounting		On sub-base							
Mounting position		Any							
Nominal size		[mm]	11						
Flow rate of valve		[l/min]	1,400			1,800		1,700	
Flow rate of valve on individual sub-base		[l/min]	1,200			1,400		1,400	
Flow rate of pneumatically interlinked valve		[l/min]	1,100			1,300		1,300	
Standard nominal flow rate		[l/min]	1,100			1,300		1,300	
Switching time on/off, pneumatic spring		[ms]	20/38			27/45	–	–	
Switching time on/off, mechanical spring		[ms]	–			22/60	–	22/65	
Changeover time, dominance at 1st signal		[ms]	–				16	–	
Changeover time, dominance at 14		[ms]	–				19	–	
Non-overlapping		Yes							
Width		[mm]	42						
Grid dimension		[mm]	43						
Ports on the sub-base		1, 2, 3, 4, 5		G1¼, end plates G¾					
		12, 14		M5					
Pilot exhaust air		82/84		Either ducted (12) or unducted (standard)					
Product weight		[g]	442			426	439	456	
Conforms to		ISO 5599-1							
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 according 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, to ISO 5599-1/central plug M12x1

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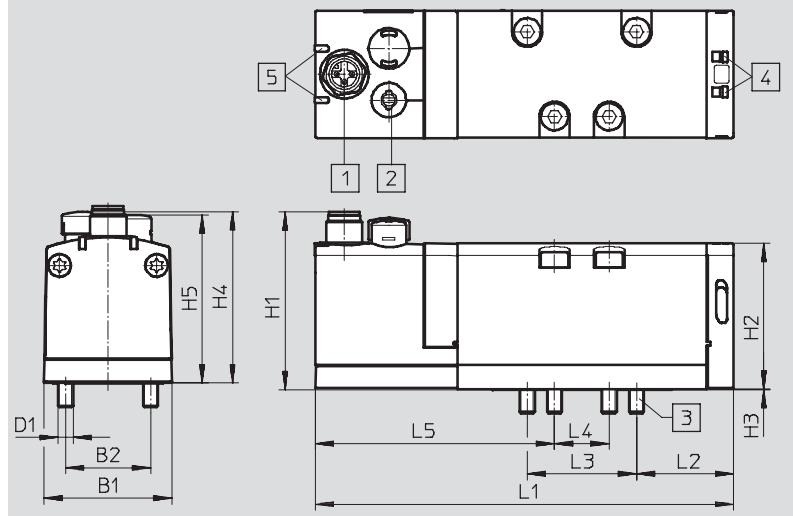
Technical data – Directional control valves, width 26 mm

Operating and environmental conditions			
Valve function		2x 3/2-way	5/2-way
Operating medium		Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated, vacuum	
Operating pressure	Internal pilot air supply [bar]	3 ... 10	
	External pilot air supply [bar]	3 ... 10	–0.9 ... 10
Pilot pressure ¹⁾ [bar]		3 ... 10	
Ambient temperature [°C]		–5 ... +50	
Temperature of medium [°C]		–5 ... +50	
Information on materials	Seals	FPM, NBR	
	Housing	Die-cast aluminium, PA	
	Screws	Galvanised steel	
	Note	RoHS-compliant	

1) Minimum pilot pressure 50% of the operating pressure

Electrical data			
Valve function		2x 3/2-way	5/2-way
Electrical connection to IEC 60 947-5-2		Central plug, round design M12x1, 4-pin	
Coil characteristics	Voltage [V DC]	24±10% = 21.6 ... 26.4	
	Output [W]	1.3	1.6
Duty cycle %		100	
Protection class to EN 60529		IP65 EN 60529 and NEMA4 (in combination with a plug socket)	
Protective circuit and LED		Integrated in the valve	

Dimensions



Download CAD data → www.festo.com

1 Plug, 4-pin

2 Manual override

3 Captive screws M5x48

4 Slot for inscription label

5 LED

Type												
VSVA-B-...-D1-1R5L	B1	B2	D1	H1	H2	H3	H4	H5	L1	L2	L3	L4
	42	28	M5	58.3	48	0.25	46.6	55.3	137.8	32	36	18
	L5											
	69.3											

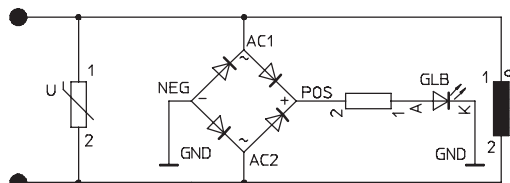
Solenoid valves VSVA, to ISO 5599-1/central plug M12x1

Technical data – Directional control valves, width 42 mm

Protective circuit

Each VSVA solenoid coil is protected with a spark arresting protective circuit as well as against polarity reversal.

24 V DC version (width 42 mm)



M12x1 – Pin allocation

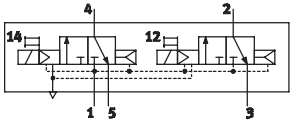
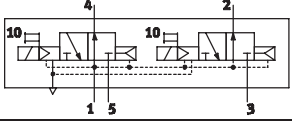
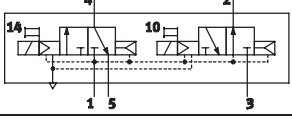
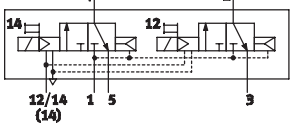
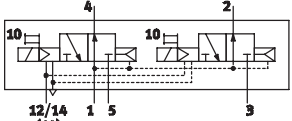
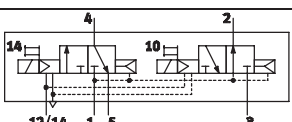


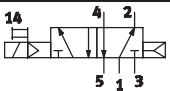
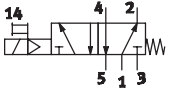
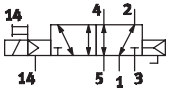
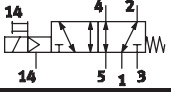
- 2 Signal (+) solenoid 12
- 3 com (-)
- 4 Signal (+) solenoid 14

Solenoid valves VSVA, to ISO 5599-1/central plug M12x1

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Ordering data – Width 42 mm

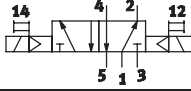
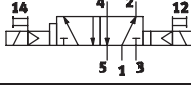
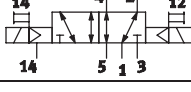

Ordering data – 2x 3/2-way valve						
Code	Circuit symbol	Normal position	Pilot air supply	Plug	Part No.	Type
				M12x1		
K		2x closed	Internal	24 V DC	561359	VSVA-B-T32C-AD-D1-1R5L
N		2x open	Internal	24 V DC	561360	VSVA-B-T32U-AD-D1-1R5L
H		1x closed, 1x open	Internal	24 V DC	561361	VSVA-B-T32H-AD-D1-1R5L
K		2x closed	External	24 V DC	561369	VSVA-B-T32C-AZD-D1-1R5L
N		2x open	External	24 V DC	561370	VSVA-B-T32U-AZD-D1-1R5L
H		1x closed, 1x open	External	24 V DC	561371	VSVA-B-T32H-AZD-D1-1R5L

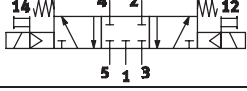
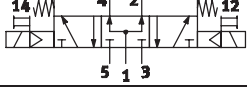
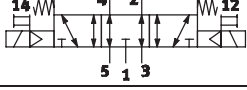
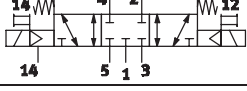
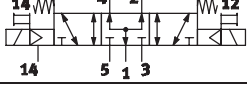
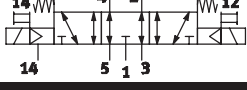
Ordering data – 5/2-way valve, single solenoid						
Code	Circuit symbol	Reset method	Pilot air supply	Plug	Part No.	Type
				M12x1		
M		Pneumatic	Internal	24 V DC	561362	VSVA-B-M52-AD-D1-1R5L
O		Mechanical spring	Internal	24 V DC	561363	VSVA-B-M52-MD-D1-1R5L
M		Pneumatic	External	24 V DC	561372	VSVA-B-M52-AZD-D1-1R5L
O		Mechanical spring	External	24 V DC	561373	VSVA-B-M52-MZD-D1-1R5L

Solenoid valves VSVA, to ISO 5599-1/central plug M12x1

Ordering data – Width 42 mm

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Ordering data – 5/2-way valve, double solenoid						
Code	Circuit symbol	Dominance	Pilot air supply	Plug	Part No.	Type
				M12x1		
J		1st signal	Internal	24 V DC	561364	VSVA-B-B52-D-D1-1R5L
D		At 14	Internal	24 V DC	561365	VSVA-B-B52-D-D1-1R5L
J		1st signal	External	24 V DC	561374	VSVA-B-B52-ZD-D1-1R5L
D		At 14	External	24 V DC	561375	VSVA-B-B52-ZD-D1-1R5L

Ordering data – 5/3-way valve						
Code	Circuit symbol	Normal position	Pilot air supply	Plug	Part No.	Type
				M12x1		
G		Closed	Internal	24 V DC	561366	VSVA-B-P53C-D-D1-1R5L
B		Open	Internal	24 V DC	561368	VSVA-B-P53U-D-D1-1R5L
E		Exhausted	Internal	24 V DC	561367	VSVA-B-P53E-D-D1-1R5L
G		Closed	External	24 V DC	561376	VSVA-B-P53C-ZD-D1-1R5L
B		Open	External	24 V DC	561378	VSVA-B-P53U-ZD-D1-1R5L
E		Exhausted	External	24 V DC	561377	VSVA-B-P53E-ZD-D1-1R5L

Solenoid valves MDH-M12, to ISO 5599-1

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Technical data – Width 42 mm

Flow rate
1,200 l/min

Voltage
24 V DC



General technical data					
Valve function		5/2-way		5/3-way	
Normal position		–	–	G ¹⁾	B ²⁾ E ³⁾
Memory stability		Monostable	Bistable	Monostable	
Pneumatic spring reset method		Yes	–	No	
Mechanical spring reset method		Yes	–	Yes	
Design		Piston spool valve			
Sealing principle		Soft			
Actuation type		Electrical			
Type of control		Piloted			
Pilot interface		To ISO 15218			
Pilot air supply		Internal or external			
Direction of flow		Reversible with external pilot air supply			
Exhaust function		Flow control			
Manual override		Non-detenting			
Type of mounting		On sub-base			
Mounting position		Any			
Nominal size	[mm]	8			
Standard nominal flow rate	[l/min]	1,200			
Switching time on/off, pneumatic spring	[ms]	25/36	–	–	
Switching time on/off, mechanical spring	[ms]	20/42	–	25/55	
Changeover time	[ms]	–	18	–	
Switching time with dominance at 14 (12/14)	[ms]	–	18	–	
Width	[mm]	42			
Grid dimension	[mm]	43			
Ports on the sub-base	1, 2, 3, 4, 5	G¼, end plates G¾			
	12, 14	M5			
Conforms to		ISO 5599-1 and interface for pilot valve ISO 15218			
Product weight	[g]	420	550	580	

- 1) G = Normally closed
2) B = Normally open
3) E = Normally exhausted

Operating and environmental conditions					
Reset method			Pneumatic spring		Mechanical spring
Operating medium			Dried compressed air, lubricated or unlubricated, grade of filtration 40 µm, vacuum		
Operating pressure	Internal pilot air supply	[bar]	2 ... 10		3 ... 10
	External pilot air supply	[bar]	–0.9 ... +16		
Pilot pressure		[bar]	2 ... 10		3 ... 10
Ambient temperature		[°C]	–10 ... +50		
Temperature of medium		[°C]	–10 ... +50		

Solenoid valves MDH-M12, to ISO 5599-1

Technical data – Width 42 mm

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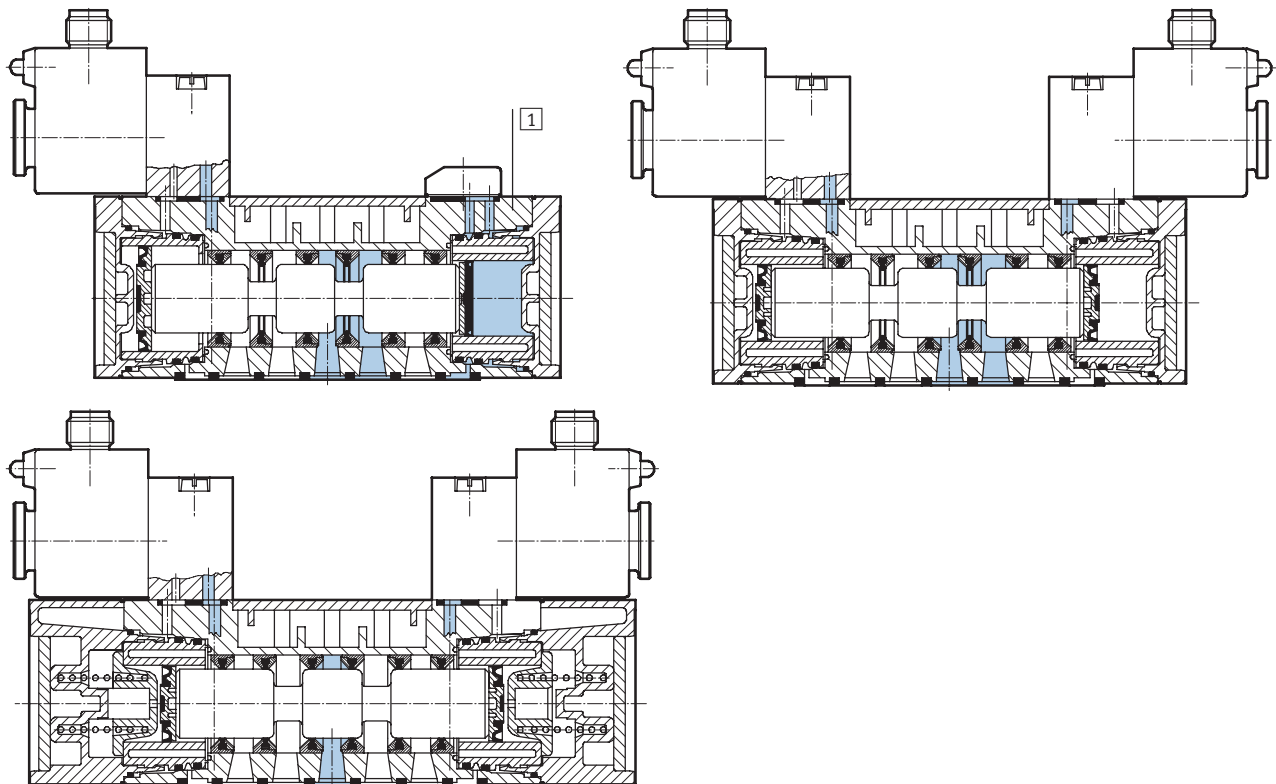
Electrical data

D solenoid coil with round plug M12x1

Electrical connection	Design	M12X1
Coil characteristics	DC voltage	[V DC] 21.6...26.4
	Output	[W] 2.7
Duty cycle		[%] 100
Protection class to EN 60 529		IP65

Materials

Sectional view



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

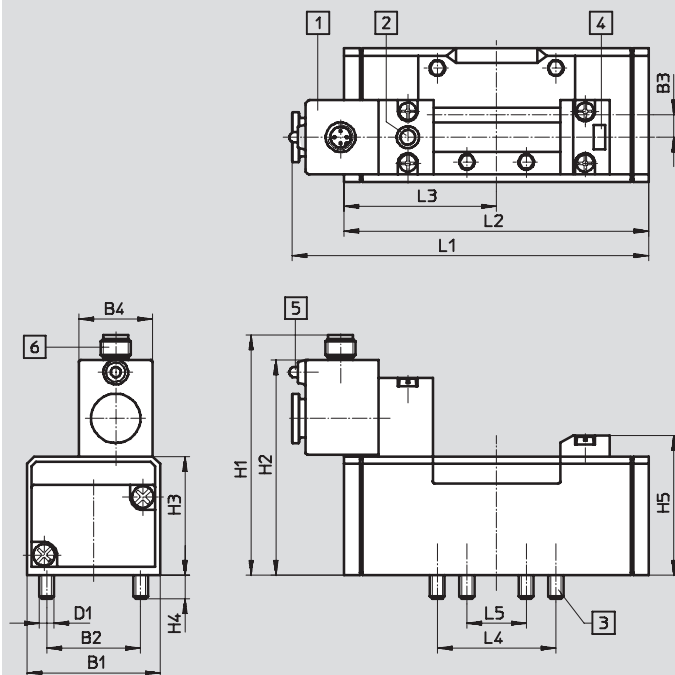
Solenoid valves MDH-M12, to ISO 5599-1

Technical data – Width 42 mm

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Dimensions

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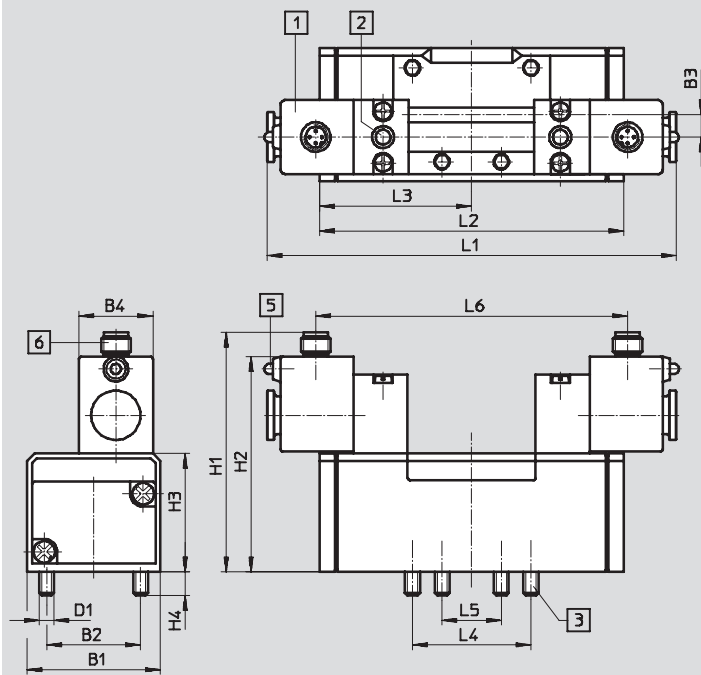


- 1 Solenoid coil can be repositioned by 90° regardless of manual override
- 2 Manual override
- 3 Captive mounting screws
- 4 Slot for inscription label
- 5 LED display
- 6 Device plug M12x1
Coil, 2-pin to VDMA
Coil, 4-pin to Desina

Type	B1	B2	B3	B4	D1	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5
MDH-5/2-...	42	28	6	30	M5	87.2	77.3	38	9	46.5	121.8	87.6	43.8	36	18
MDH-5/2-...-FR											132.2	98			

Dimensions

Download CAD data → www.festo.com



- 1 Solenoid coil can be repositioned by 90° regardless of manual override
- 2 Manual override
- 3 Captive mounting screws
- 5 LED display
- 6 Device plug M12x1
Coil, 2-pin to VDMA
Coil, 4-pin to Desina

Type	B1	B2	B3	B4	D1	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6
JMDH-5/2-...	42	28	6	30	M5	87.2	77.2	38	9	148	87.6	43.8	36	18	108.5

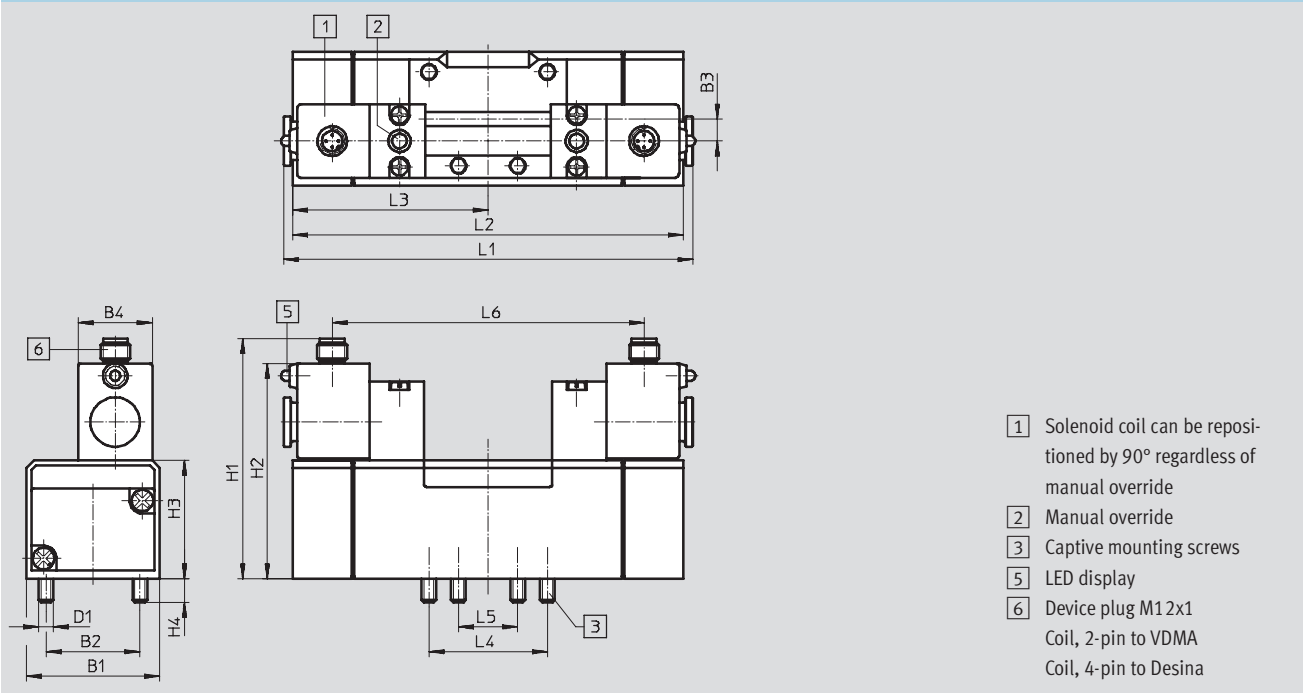
Solenoid valves MDH-M12, to ISO 5599-1

Technical data – Width 42 mm



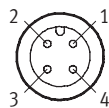
Dimensions

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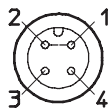
Type	B1	B2	B3	B4	D1	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6
MDH-5/3-...	42	28	6	30	M5	87.2	77.2	38	9	148	108.4	54.3	36	18	108.5

M12 plug – Pin allocation, 2-pin to VDMA



- 1 Unused
- 2 Unused
- 3 com (-)
- 4 Signal (+)

M12 plug – Pin allocation, 4-pin to Desina

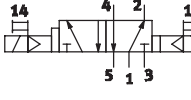
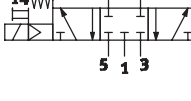


- 1 Connected with 2
- 2 Connected with 1
- 3 com (-)
- 4 Signal (+)

Solenoid valves MDH-M12, to ISO 5599-1

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Ordering data – Width 42 mm

Ordering data						
Circuit symbol	Description	ISO size	Coil, 2-pin to VDMA		Coil, 4-pin to Desina	
Part No.	Type	Part No.	Type	Part No.	Type	
	Reset method: – Pneumatic Pilot air supply: – Internal	1	197 125	MDH-5/2-D-1-M12-C	540803	MDH-5/2-D-1-M12D-C
	Reset method: – Pneumatic Pilot air supply: – External	1	533 332	MDH-5/2-D-1-S-M12-C	540810	MDH-5/2-D-1-S-M12D-C
	Reset method: – Mechanical Pilot air supply: – Internal	1	533 010	MDH-5/2-D-1-FR-M12-C	540804	MDH-5/2-D-1-FR-M12D-C
	Reset method: – Mechanical Pilot air supply: – External	1	533 761	MDH-5/2-D-1S-FR-M12-C	540811	MDH-5/2-D-1S-FR-M12D-C
	Pilot air supply: – Internal	1	532 687	JMDH-5/2-D-1-M12-C	540809	JMDH-5/2-D-1-M12D-C
	Pilot air supply: – Internal Dominance: – Signal at 14	1	539 079	JMDH-5/2-D-1-M12-C	540808	JMDH-5/2-D-1-M12D-C
	Normal position: – Closed Pilot air supply: – Internal	1	525 307	MDH-5/3G-D-1-M12-C	540806	MDH-5/3G-D-1-M12D-C
	Normal position: – Exhausted Pilot air supply: – Internal	1	197 126	MDH-5/3E-D-1-M12-C	540805	MDH-5/3E-D-1-M12D-C
	Normal position: – Pressurised Pilot air supply: – Internal	1	533 005	MDH-5/3B-D-1-M12-C	540807	MDH-5/3B-D-1-M12D-C

Manifold components, to ISO 5599-1

FESTO

Horizontal stacking for width 42 mm

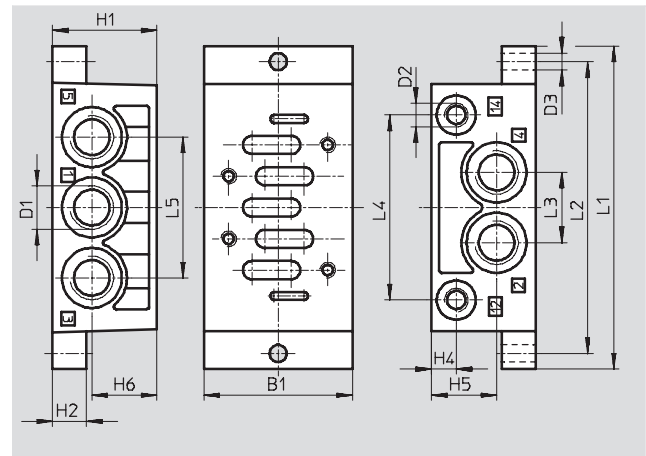
Individual sub-base NAS

Ports at side

Material:

Size 1, 2, 3

Die-cast aluminium



Dimensions and ordering data																	
ISO size/width	B1	D1	D2	D3 Ø	H1	H2	H4	H5	H6	L1	L2	L3	L4	L5	Weight [g]	Part No.	Type
1/42	48	G¼	G⅛	5.5	32	10	9	20.3	20.3	110	98	23	60	46	190	9484	NAS-¼-1A-ISO ¹⁾

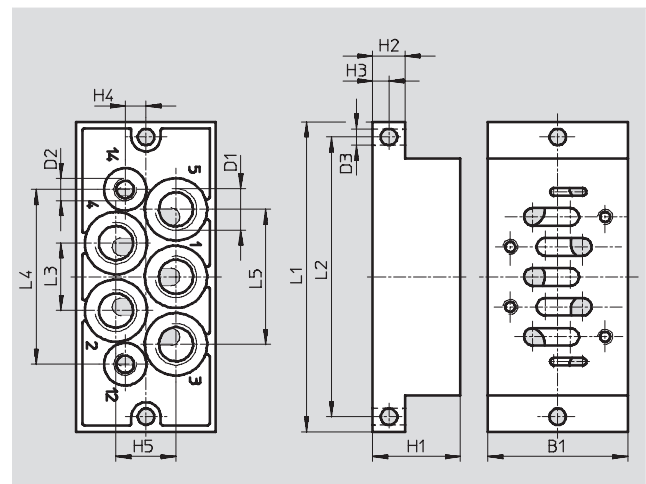
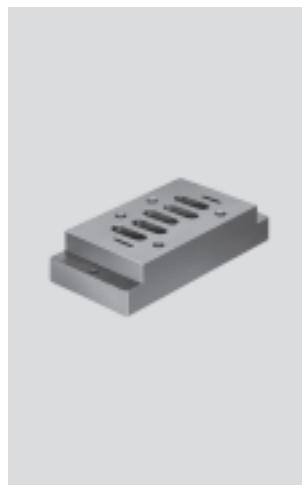
1) Free of copper and PTFE

Individual sub-base NAU

Ports underneath

Material:

Die-cast aluminium



Dimensions and ordering data																	
ISO size/width	B1	D1	D2	D3 Ø	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	Weight [g]	Part No.	Type
1/42	46	G¼	G⅛	5.5	30	10	5	7.5	20	110	98	23	60.7	46	280	9485	NAU-¼-1B-ISO ¹⁾

1) Free of copper and PTFE

Manifold components, to ISO 5599-1

Horizontal stacking for width 42 mm

FESTO

Manifold sub-base NAV

Ports underneath

Material:

Die-cast aluminium



Ordering data					
ISO size/width	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
1/42	G $\frac{1}{4}$	G $\frac{1}{8}$	240	10173	NAV-$\frac{1}{4}$-1C-ISO

Dimensions → 38

90° connection plate NAW

Ports at side and underneath

Material:

Die-cast aluminium



Ordering data					
ISO size/width	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
1/42	G $\frac{1}{4}$	G $\frac{1}{8}$	360	11304	NAW-$\frac{1}{4}$-1E-ISO¹⁾

Dimensions → 38

1) Free of copper and PTFE

Manifold sub-base with 90° connections NAVW

Ports at side and underneath

Material:

Die-cast aluminium



Ordering data					
ISO size/width	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
1/42	G $\frac{1}{4}$	G $\frac{1}{8}$	320	152789	NAVW-$\frac{1}{4}$-1-ISO

Dimensions → 38

Manifold components, to ISO 5599-1

Horizontal stacking for width 42 mm

FESTO

End plate kit NEV

Material:

Die-cast aluminium



Ordering data				
ISO size	Pneumatic connection		Weight [g]	Part No. Type
	1, 2, 3, 4, 5	12, 14		
1	G3/8	–	280	10174 NEV-1DA/DB-ISO¹⁾

Dimensions → 38

1) Free of copper and PTFE

- - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Blanking plate NDV

Material:

Steel



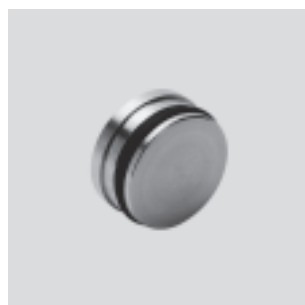
Ordering data			
ISO size/width	Weight [g]	Part No.	Type
1/42	113	9489	NDV-1-ISO

Dimensions → 38

Isolating disc NSC

Material:

Wrought aluminium alloy



Ordering data				
ISO size/width	Pneumatic connection		Weight [g]	Part No. Type
	1, 2, 3	12, 14		
1/42	1/4	–	6	11550 NSC-1/4-1-ISO¹⁾

Dimensions → 38

1) Free of copper and PTFE

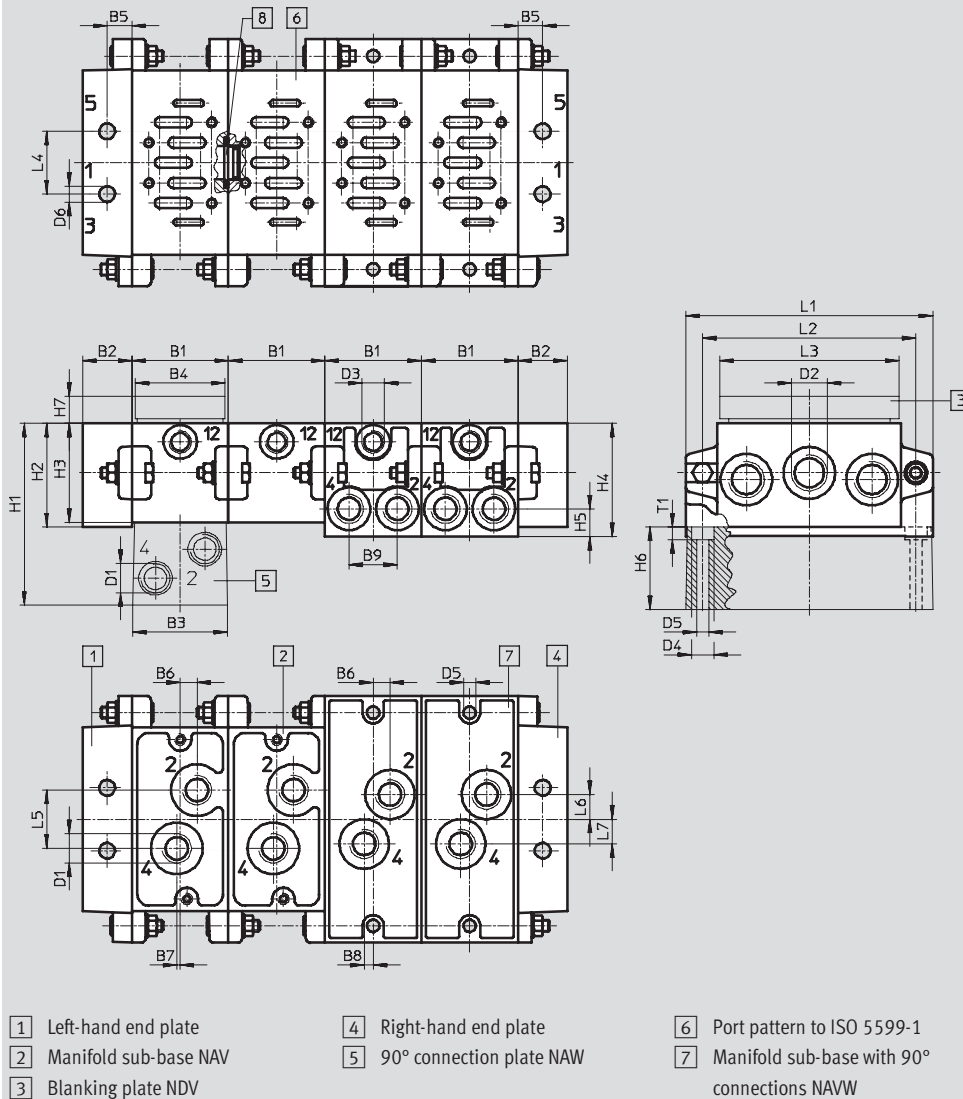
Manifold components, to ISO 5599-1

Horizontal stacking for width 42 mm

FESTO

Dimensions – Manifold assembly

Download CAD data → www.festo.com/en/engineering



- | | | | |
|-------------------------|----------------------------|---|----------------------|
| 1 Left-hand end plate | 4 Right-hand end plate | 6 Port pattern to ISO 5599-1 | 8 Isolating disc NSC |
| 2 Manifold sub-base NAV | 5 90° connection plate NAW | 7 Manifold sub-base with 90° connections NAVW | |
| 3 Blanking plate NDV | | | |

ISO size/width	B1	B2	B3	B4	B5	B6	B7	B8	B9	D1	D2	D3	D4	D5	D6
1/42	43	22	42	40	11	7.5	1.5	4	21.6	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{8}$	10	5.5	7

ISO size/width	H1	H2	H3	H4	H5	H6	H7	L1	L2	L3	L4	L5	L6	L7	T1
1/42	81	46	44	50.5	12.5	37	5	110	95	80	28	26	11	11	5.7

• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Manifold components, to ISO 5599-1

Vertical stacking – Width 42 mm

FESTO

Regulator plate

VABF-S1-1-R ...

Regulating function:

Supply pressure: 0.5 ... 10 bar

Materials:

Housing: Die-cast aluminium

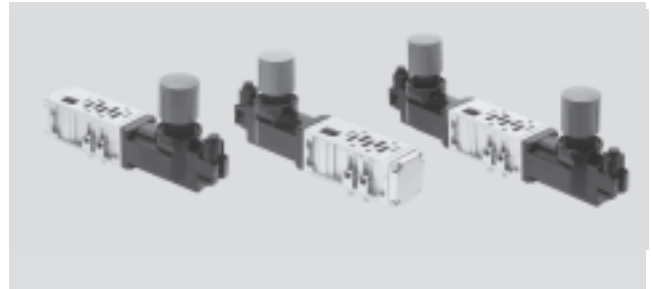
Control section: PA

Pressure regulating ranges:

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

Output pressure constant
with secondary venting

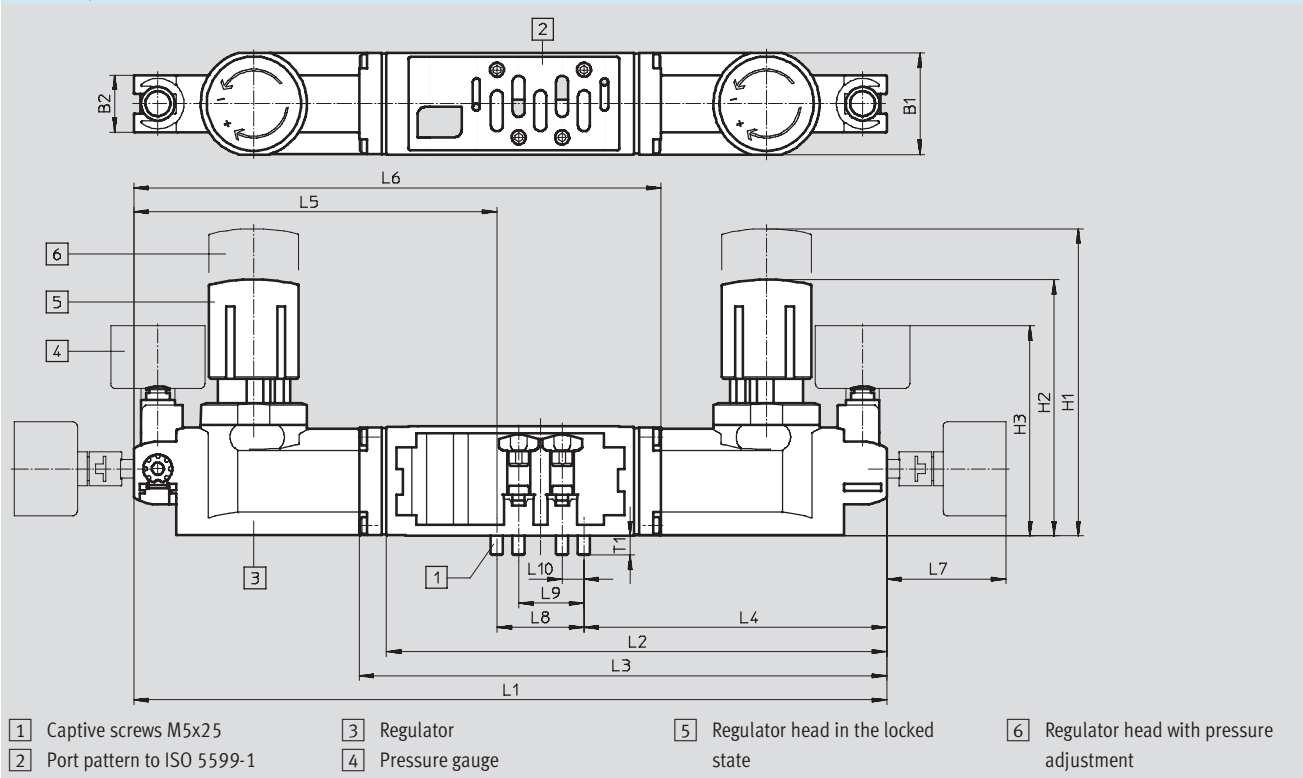
 Temperature range
–5 ... +50 °C



Dimensions

Download CAD data → www.festo.com/en/engineering

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



Type	B1	B2	H1	H2	H3	L1	L2	L3	L4	L5	L6	L7
VABF-S1-1-R1...	21.1	23.6	127.2	106.1	87.5	–	207.1	–	125.3	–	–	49.35
VABF-S1-1-R4(5)...						316.6	–		–			
VABF-S1-1-R3(7)...						–			125.3	150.3	216.1	
VABF-S1-1-R2(6)...								216.2		–	–	
	L8	L9	L10	T1	Weight [g]							
VABF-S1-1-R1...	36	27	9	7.9	640							
VABF-S1-1-R4(5)...					920							
VABF-S1-1-R3(7)...					640							
VABF-S1-1-R2(6)...												

Manifold components, to ISO 5599-1

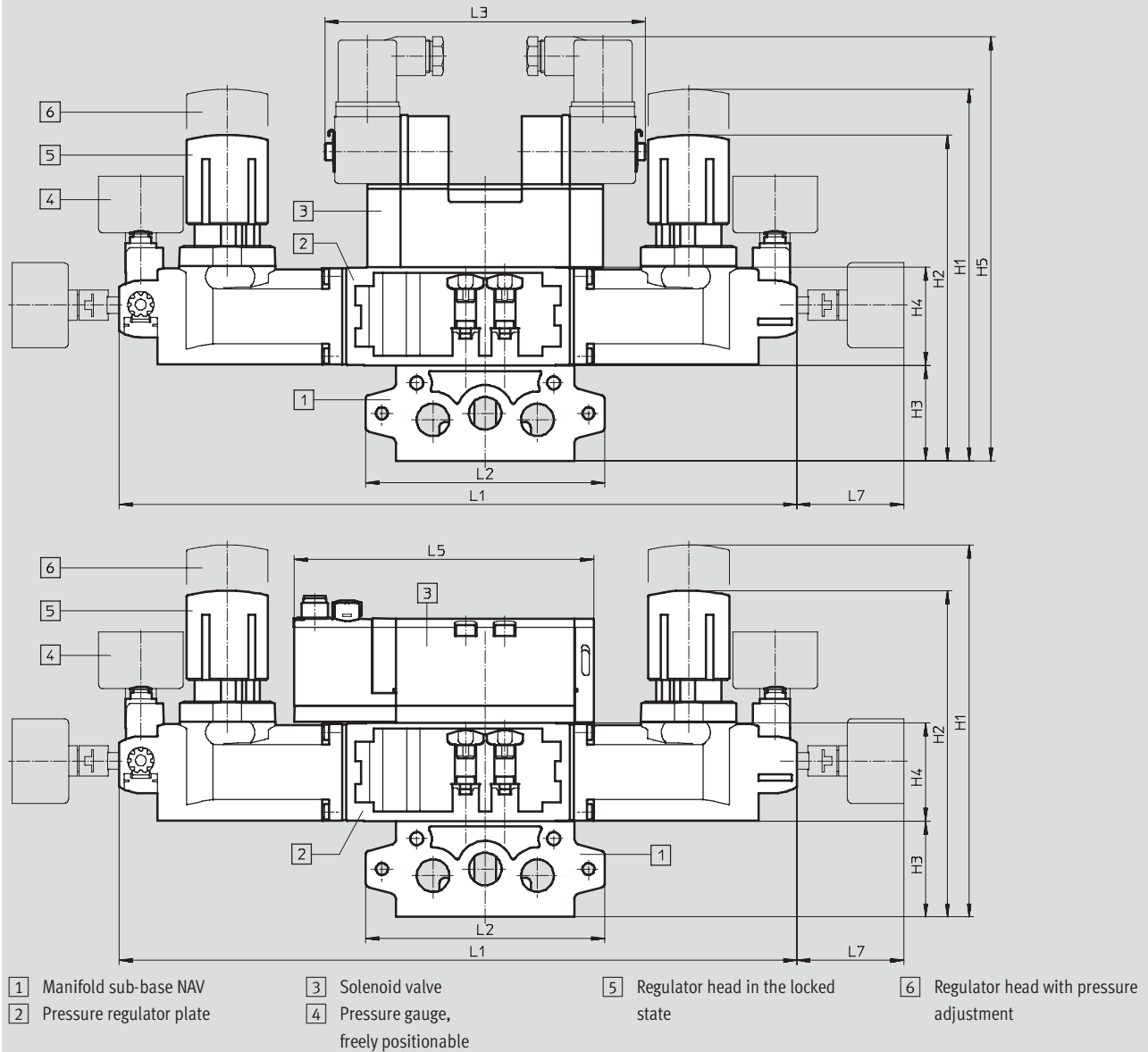
Vertical stacking – Width 42 mm

FESTO

Dimensions

Download CAD data → www.festo.com/en/engineering

Regulator plate with manifold sub-base and solenoid valve



Type										
VABF-S1-1-R...	H1	H2	H3	H4	H5	L1	L2	L3	L5	L7
	171.1	150.1	44	45.3	195.3	311.6	110	147.3	137.8	49.35

Manifold components, to ISO 5599-1

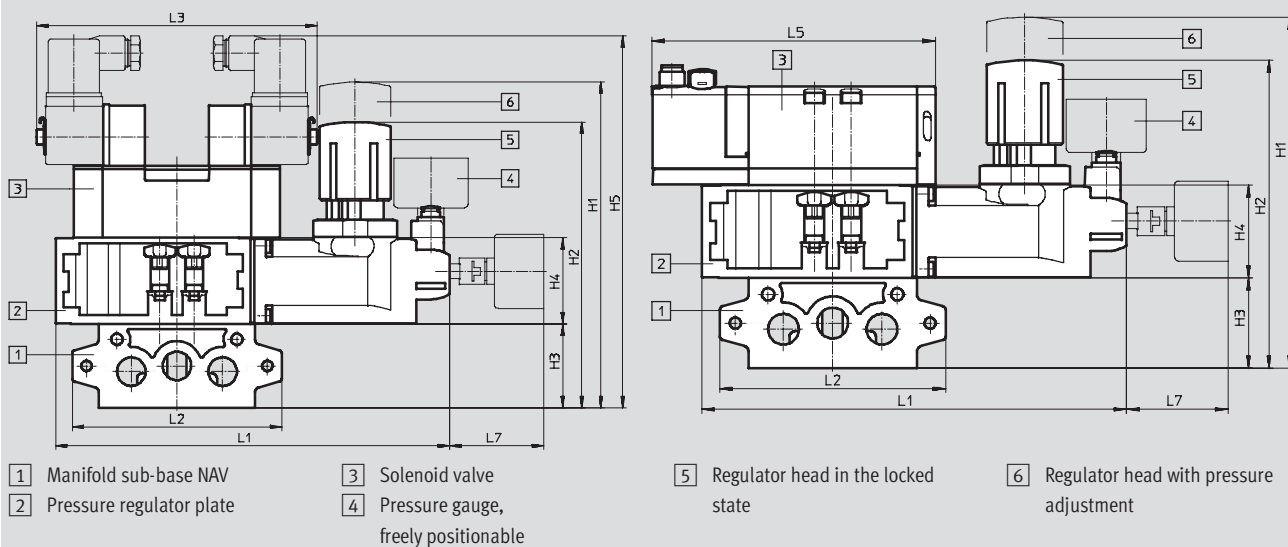
Vertical stacking – Width 42 mm

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Dimensions


Download CAD data → www.festo.com/en/engineering

Regulator plate with manifold sub-base and solenoid valve



Type											
VABF-S1-1-R...	H1	H2	H3	H4	H5	L1	L2	L3	L5	L7	
	171.1	150.1	44	45.3	195.3	207.1	110	147.3	137.8	49.35	

Ordering data

Code		For port	Regulator	Regulation range	Part No.	Type
Regulator plate, width 42 mm						
ZA		1	P	0.5 ... 10 bar	546818	VABF-S1-1-R1C2-C-10
ZF		1	P	0.5 ... 6 bar	546817	VABF-S1-1-R1C2-C-6
ZB		4	A	0.5 ... 10 bar	546822	VABF-S1-1-R2C2-C-10
ZG		4	A	0.5 ... 6 bar	546821	VABF-S1-1-R2C2-C-6
ZC		2	B	0.5 ... 10 bar	546820	VABF-S1-1-R3C2-C-10
ZH		2	B	0.5 ... 6 bar	546819	VABF-S1-1-R3C2-C-6
ZD		2 and 4	AB	0.5 ... 10 bar	546824	VABF-S1-1-R4C2-C-10
ZI		2 and 4	AB	0.5 ... 6 bar	546823	VABF-S1-1-R4C2-C-6
ZE		2 and 4, reversible	AB	0.5 ... 10 bar	546826	VABF-S1-1-R5C2-C-10
ZJ		2 and 4, reversible	AB	0.5 ... 6 bar	546825	VABF-S1-1-R5C2-C-6
ZL		2, reversible	B	0.5 ... 10 bar	546828	VABF-S1-1-R6C2-C-10
ZN		2, reversible	B	0.5 ... 6 bar	546827	VABF-S1-1-R6C2-C-6
ZK		4, reversible	A	0.5 ... 10 bar	546830	VABF-S1-1-R7C2-C-10
ZM		4, reversible	A	0.5 ... 6 bar	546829	VABF-S1-1-R7C2-C-6


Manifold components, to ISO 5599-1

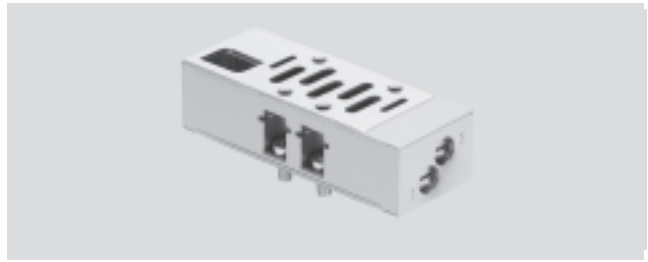
Vertical stacking – Width 42 mm

FESTO

Flow control plate VABF-S1-1-F1B1-C

Material:
Housing: Die-cast aluminium

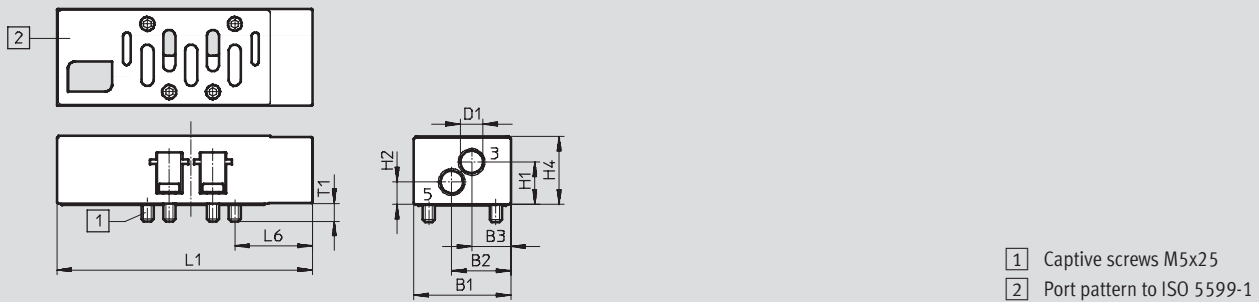
 Temperature range
–5 ... +50 °C



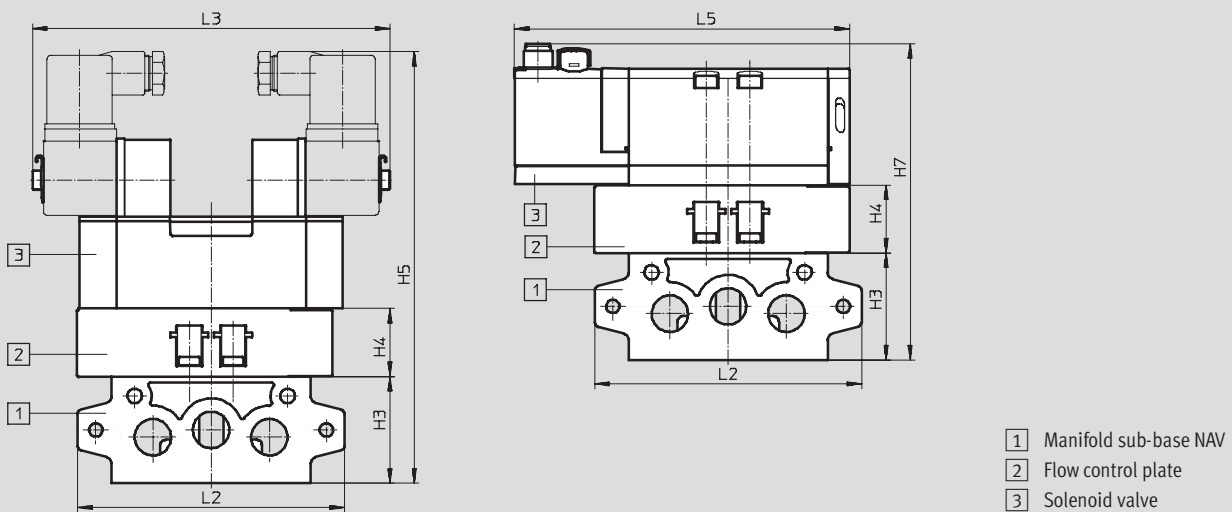
Dimensions

Download CAD data → www.festo.com/en/engineering

Flow control plate



Flow control plate with manifold sub-base and solenoid valve



Type												
VABF-S1-1-F1B1-C	B1	B2	B3	∅ D1	H1	H2	H3	H4	H5	H7	L1	L2
	39.9	24.3	16.05	9.3	17.5	9.2	44	28	178	130.3	105.3	110
	L3	L5	L6	T1								
	147.3	137.8	32	7.3								

Ordering data

Code	Description	Weight [g]	Part No.	Type
X	For exhaust air flow control in ports 3 and 5 of the valve	220	549102	VABF-S1-1-F1B1-C

Manifold components, to ISO 5599-1

Vertical stacking – Width 42 mm


FESTO


Vertical supply plate

VABF-S1-1-P1A3-G38

Material:

Housing: Die-cast aluminium

-  - Temperature range
-5 ... +50 °C

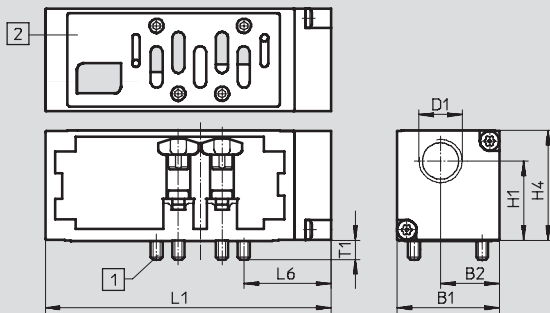
-  - Pressure
-0.9 ... +10 bar



Dimensions

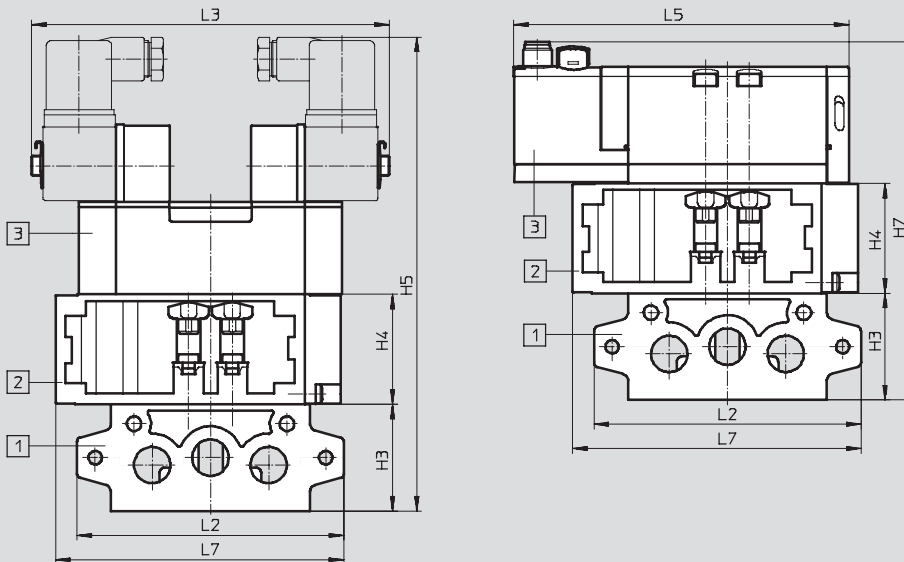
Download CAD data → www.festo.com/en/engineering

Vertical supply plate



- 1 Captive screws M5x25
- 2 Port pattern to ISO 5599-1

Vertical supply plate with manifold sub-base and solenoid valve



- 1 Manifold sub-base NAV
- 2 Vertical supply plate
- 3 Solenoid valve

Type												
VABF-S1-1-P1A3-G38	B1	B2	D1	H1	H3	H4	H5	H7	L1	L2	L3	L5
	42.1	24.2	G3/8	32.7	44	45.3	195.3	147.6	117.6	110	147.3	137.8
	L6	L7	T1									
	35.8	118.8	7.9									

Ordering data

Code	Description	Weight [g]	Part No.	Type
ZU	For the independent working air supply of a valve	340	549100	VABF-S1-1-P1A3-G38

Manifold components, to ISO 5599-1


Vertical stacking – Width 42 mm


FESTO

Vertical pressure shut-off plate VABF-S1-1-L1D1-C

Material:

Housing: Die-cast aluminium

 Temperature range
-5 ... +50 °C

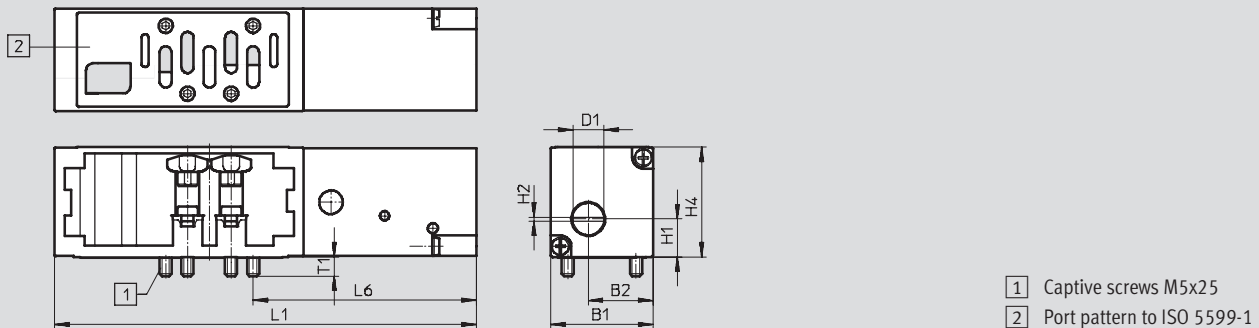
 Pressure
-0.9 ... +10 bar



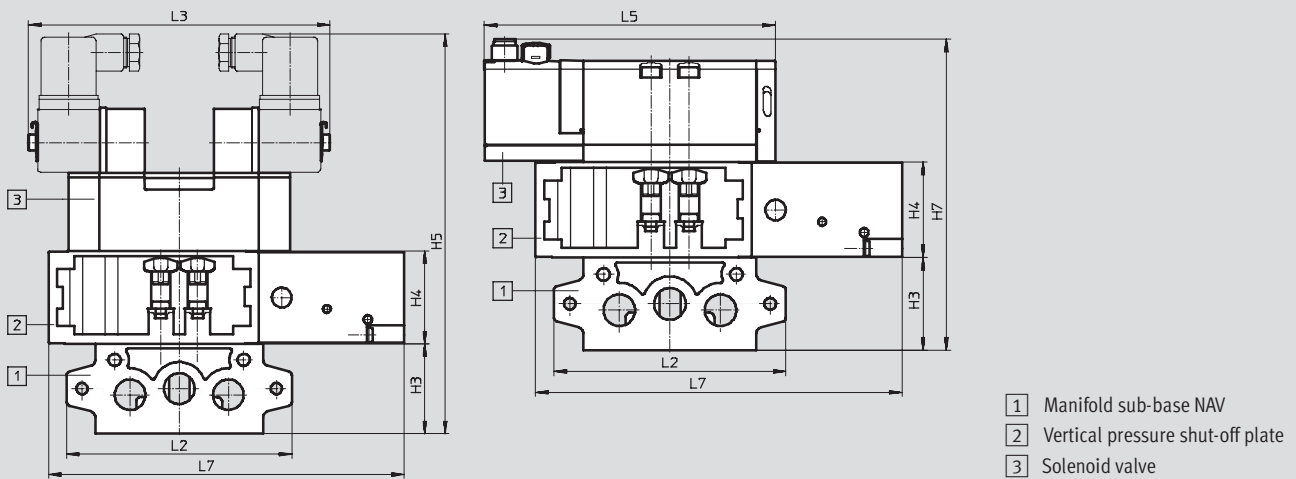
Dimensions

Download CAD data → www.festo.com/en/engineering

Vertical pressure shut-off plate



Vertical pressure shut-off plate with manifold sub-base and solenoid valve



Type												
VABF-S1-1-L1D1-C	B1	B2	D1	H1	H2	H3	H4	H5	H7	L1	L2	L3
	42.1	26.7	12.8	15.6	1.6	44	45.3	195.3	147.6	173.8	110	147.3
	L5	L6	L7	T1								
	137.8	96	173.8	7.9								

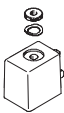

Ordering data



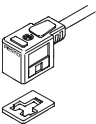
Code	Description	Weight [g]	Part No.	Type
ZT	For shutting off a valve from the supply pressure	600	549103	VABF-S1-1-L1D1-C


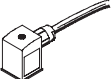
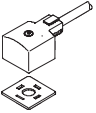
Solenoid valves, to ISO 5599-1

Accessories

FESTO

Ordering data – Solenoid coils			
	Voltage	Part No.	Type
F solenoid coils for valves MFH, JMFH			
	12 V DC	34410	MSFG-12DC-OD
	24 V DC and 42 V AC, 50 ... 60 Hz	34411	MSFG-24/42-50/60-OD
	42 V DC	34413	MSFG-42DC-OD
	24 V AC	34415	MSFG-24AC-OD
	48 V AC, 50 ... 60 Hz	34418	MSFW-48AC-OD
	110 V AC, 50 ... 60 Hz and 120 V AC, 60 Hz	34420	MSFW-110AC-OD
	230 V AC, 50 ... 60 Hz and 240 V AC, 60 Hz	34422	MSFW-230AC-OD
	240 V AC, 50 ... 60 Hz	34424	MSFW-240AC-OD
N1 solenoid coils for valves MN1H, JMN1H			
	24 V DC	123060	MSN1G-24DC-OD
	12 V DC and 24 V AC, 50 ... 60 Hz	170152	MSN1W-24AC/12DC
	110 V AC, 50 ... 60 Hz	123061	MSN1W-110AC-OD
	230 V AC, 50 ... 60 Hz	123062	MSN1W-230AC-OD



Ordering data – Plug sockets, plug sockets with cable for F solenoid coils					
	Voltage	Cable length [m]	Switching status display via LED	Part No.	Type
Plug socket					
	–	–	–	34431	MSSD-F
	–	–	–	59710	MSSD-F-M16
Plug socket with insulation displacement technology					
	–	–	–	192746	MSSD-F-S-M16
Plug socket with cable					
	24 V DC	2.5	■	30935	KMF-1-24DC-2,5-LED
	24 V DC	5	■	30937	KMF-1-24DC-5-LED
	24 V DC	10	■	193458	KMF-1-24DC-10-LED
	Up to 240 V	2.5	–	30936	KMF-1-230AC-2,5
	Up to 240 V	5	–	30938	KMF-1-230AC-5




Ordering data – Plug sockets, plug sockets with cable for N1 and D solenoid coils					
	Voltage	Cable length [m]	Switching status display via LED	Part No.	Type
Plug socket					
	–	–	–	34583	MSSD-C
Plug socket without cable with insulation displacement technology					
	–	–	–	192748	MSSD-C-S-M16
Plug socket with cable					
	24 V DC	2.5	■	30931	KMC-1-24DC-2,5-LED
	24 V DC	5	■	30933	KMC-1-24DC-5-LED
	24 V DC	10	■	193459	KMC-1-24DC-10-LED
	Up to 230 V	2.5	–	30932	KMC-1-230AC-2,5
	Up to 230 V	5	–	30934	KMC-1-230AC-5


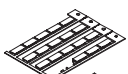


Solenoid valves, to ISO 5599-1

Accessories

FESTO

Ordering data – Illuminating seals			
	Voltage	Part No.	Type
For F solenoid coils			
	12 ... 24 V DC	19143	MF-LD-12-24DC
For N1 solenoid coils			
	12 ... 24 V DC	19145	MC-LD-12-24DC
	230 V DC/V AC	19146	MC-LD-230AC

Ordering data – Plug sockets, connecting cables for VSVA					
	Voltage	Cable length [m]	Switching status display via LED	Part No.	Type
Plug socket					Technical data → Internet: nebu
	–	–	–	185498	SEA-M12-4WD-PG7
Connecting cable M12x1, 4-pin, straight socket/open end					Technical data → Internet: nebu
	24 V DC	2.5	–	541363	NEBU-M12G5-K-2,5-LE3
		5	–	541364	NEBU-M12G5-K-5-LE3
Connecting cable M12x1, 4-pin, straight angled socket/open end					
	24 V DC	2.5	–	541367	NEBU-M12W5-K-2,5-LE3
		5	–	541370	NEBU-M12W5-K-5-LE3

Ordering data			
		Part No.	Type
Pressure gauge			
	With cartridge connection for regulator, 10 bar	543487	PAGN-26-16-P10
	With cartridge connection for regulator, 6 bar	543488	PAGN-26-10-P10
Inscription label			
	Inscription label for valves VSVA (24 in frames included in scope of delivery)	18182	IBS-9x20
Inscription label holder			
	Clip-on inscription label holder for valve cap (pack of 5 included in scope of delivery)	540888	ASCF-T-S6
Manual override			
	Tool for manual override for MN1H/MFH valves	157651	AHB-MD/MF/MV

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