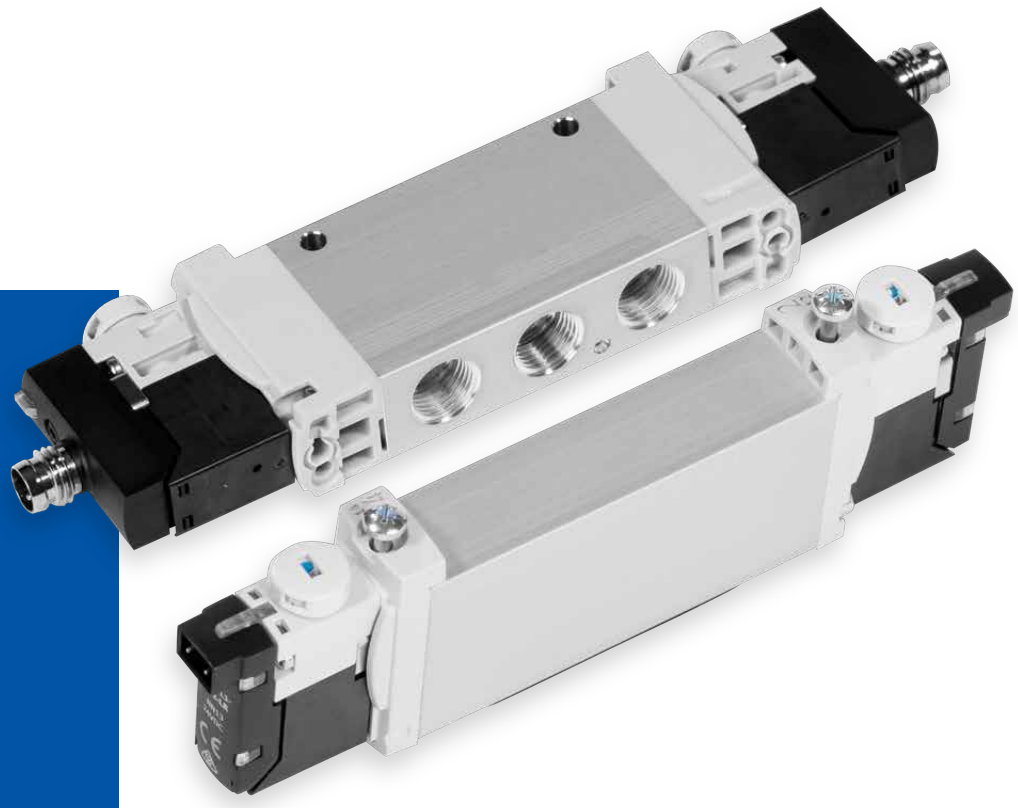
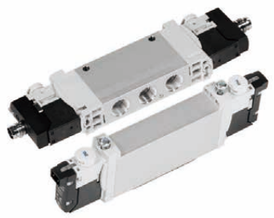


2.3 Solenoid valves VMDA

The VMDA series universal directional control valve is designed with minimal space to meet maximum flow requirements, providing rich valve functions and meeting various application requirements.



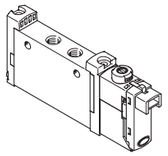
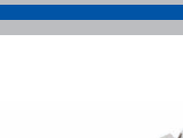
Summary

The VMDA series universal directional control valve is designed with minimal space to meet maximum flow requirements, providing rich valve functions and meeting various application requirements.

Features

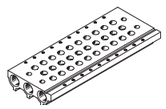
· Compact design and easy to operation
· Many valve functions,it can meet a variety of application needs
· The connection mode can be easily replaced by the electrical interface plug-in
· For plate valve set, can be set as inner or outer pilot
· LED display, quick troubleshooting

Product Range overview ·Individual valves

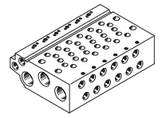
Type	Description	Size	Working port	Function 1) and flow rate[l/min]							
				23R	23U	23H	25M	25B	35C	35P	35E
VMDA-L	In-line valve as individual valve In-line valves are designed to be used without being linked pneumatically. All pneumatic connections are on the valve and can be equipped with fittings/tubing. The electrical connection is established via different E-boxes.										
		10	M5	150	150	150	220	220	210	210	210
		14	G1/8	650	600	650	780	780	650	600	600
		18	G1/4	1000	1000	1000	1300	1380	1200	1000	1000
VMDA-S	Semi in-line valves for manifold assembly The supply ports (1, 3 and 5) for semi in-line valves are connected to the valve by common pneumatic links (e.g. sub-base). The working ports (2, 4) are on the valve. The electrical connection is established via different E-boxes.										
		10	M5	150	150	150	220	220	210	210	210
		14	G1/8	620	580	580	730	730	620	580	580
		18	G1/4	1000	1000	1000	1300	1380	1200	1000	1000
VMDA-B	Sub-base valves for manifold assembly The supply ports (1, 3 and 5) for semi in-line valves are connected to the valve by common pneumatic links (e.g. sub-base).										
		10	M5	150	150	150	210	210	200	200	200
		14	G1/8	540	510	540	580	580	540	510	510
		18	G1/4	800	800	800	1000	1000	950	950	950

Note 1）：Valve function code details see-model selection

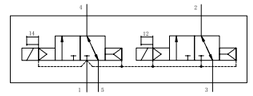
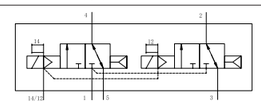
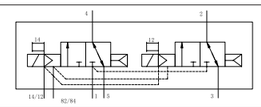
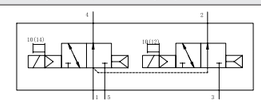
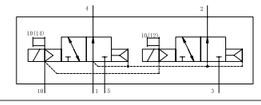
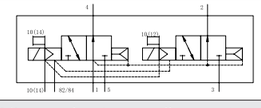
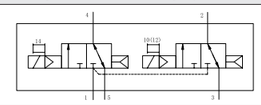
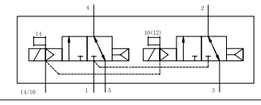
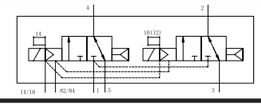
·Manifold rail

Design principle	Type	For size	Description
Manifold rail VB- ... -S- ...，For in-line valves			
	10S	Size M5	• For in-line valves M5,G1/8 and G1/4 • For 2x 3/2-way, 5/2-way and 5/3-way valves • 2 to 10 and 12, 14, 16 valve positions
	14S	Size G1/8	
	18S	Size G1/4	

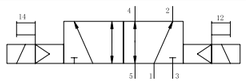
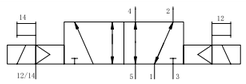
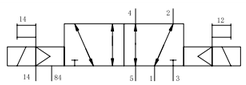
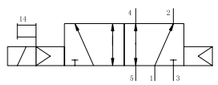
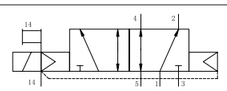
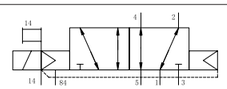
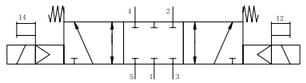
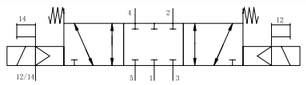
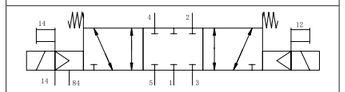
-Product Range overview -·Manifold rail

Design principle	Type	For size	Description
Manifold rail VB ,For sub-base valves			
	10W	Size M5	• For sub-base valves 10A, 10, 14 and 18 • Manifold rail with M5,G1/8 and G1/4 working ports • For 2x 3/2-way, 5/2-way and 5/3-way valves • 2 to 10, 12, 14 and 16 valve positions • The sub-base valves are always supplied with external pilot air. The pilot air is set via the manifold rail.
	14W	Size G1/8	
	18W	Size G1/4	

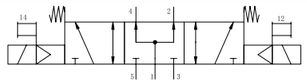
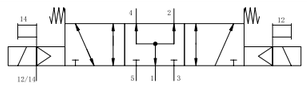
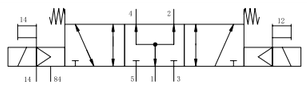
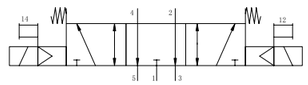
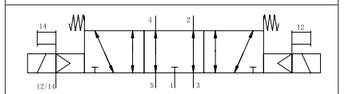
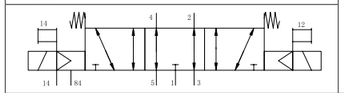
Valve function overview

Valve	Valve code	Description	VMDA-L, VMDA-B		
			Size		
			M5	G1/8	G1/4
2x 3/2-way valve, normally closed, pneumatic spring					
	23R	In-line valve, pilot air supply Internal	■	■	■
		In-line valve, pilot air supply External	■	■	–
		Sub-base valve, external pilot air supply	■	■	■
2x 3/2-way valve, normally open, pneumatic spring					
	23U	In-line valve, pilot air supply Internal	■	■	■
		In-line valve, pilot air supply External	■	■	–
		Sub-base valve, external pilot air supply	■	■	■
2x 3/2-way valve, 1x normally open, 1x normally closed, pneumatic spring					
	23H	In-line valve, pilot air supply Internal	■	■	■
		In-line valve, pilot air supply External	■	■	–
		Sub-base valve, external pilot air supply	■	■	■

-Valve function overview

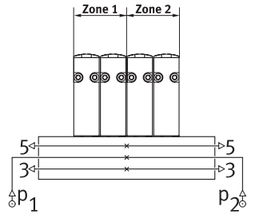
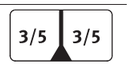
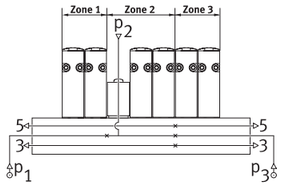
Valve	Valve code	Description	VMDA-L, VMDA-B		
			Size		
			M5	G1/8	G1/4
5/2-way valve, double solenoid					
	25M	In-line valve, pilot air supply Internal	■	■	■
		In-line valve, pilot air supply External	■	■	■
		Sub-base valve, external pilot air supply	■	■	■
5/2-way valve, single solenoid, pneumatic spring					
	25B	In-line valve, pilot air supply Internal	-	■	-
		In-line valve, external pilot air supply	-	■	-
		Sub-base valve，external pilot air supply	-	■	-
5/3-way valve, mid-position closed					
	35C	In-line valve, pilot air supply Internal	■	■	■
		In-line valve, external pilot air supply	■	■	■
		Sub-base valve，external pilot air supply	■	■	■

-Valve function overview

Valve	Valve code	Description	VMDA-L, VMDA-B		
			Size		
			M5	G1/8	G1/4
5/3-way valve, mid-position pressured					
	35P	In-line valve, pilot air supply Internal	■	■	■
		In-line valve, external pilot air supply	■	■	■
		Sub-base valve，external pilot air supply	■	■	■
5/3-way valve, mid-position exhausted					
	35E	In-line valve, pilot air supply Internal	■	■	■
		In-line valve, external pilot air supply	■	■	■
		Sub-base valve，external pilot air supply	■	■	■

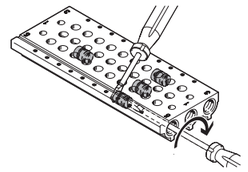
·Creating pressure zones and separating exhaust air

Compressed air is supplied and exhausted via the manifold rail and via supply plates. Pressure zones are created by isolating the internal supply ducts between the manifold sub-bases by appropriate duct separation.
Pressure zone separation can be used for the following ducts: ◆ Duct 1 ◆ Duct 3 ◆ Duct 5

Duct separation	
Sketch map	Description
	Pressure zones can be freely configured with the VMDA. The following duct separations are possible: Duct 1 closed  Duct 1, 3, 5 closed  Duct 3, 5 closed 
	The number of pressure zones is limited only by the number of valve positions on the manifold rail. Note that each supply plate occupies one valve position.

·Separator Installation

As the separators are only fitted from one side using a slotted screwdriver, several pressure zones can be created in one profile.

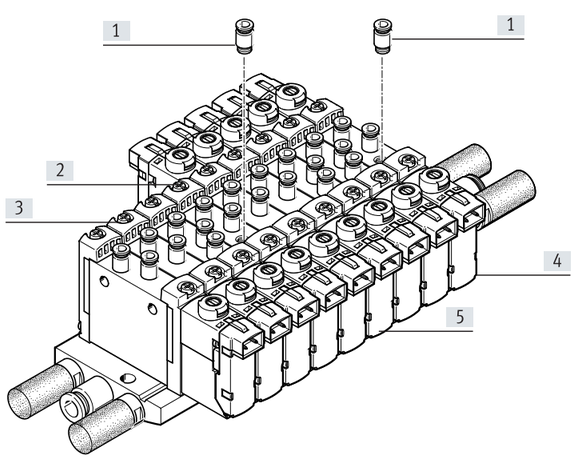


-Valve function overview

· Pilot air supply

Internal pilot air supply	External pilot air supply	Pilot exhaust air
Internal pilot air supply can be chosen with an operating pressure between 0.15 ... 0.8 MPa, 0.25 ... 0.8 MPa, or 0.3 ... 0.8 MPa (depending on the valve used).The pilot air supply is branched from duct 1 (compressed air supply) using an internal connection.	External pilot air supply is required for vacuum operation. The port for external pilot air supply (port 12/14) is located on the valve in the case of in-line valves and on the manifold rail in the case of sub-base valves.	With in-line valves, the pilot exhaust air escapes via exhaust holes. With sub-base valves, the pilot air is exhausted via duct 82/84 of the manifold rail.

Pilot air supply with in-line and semi in-line valves

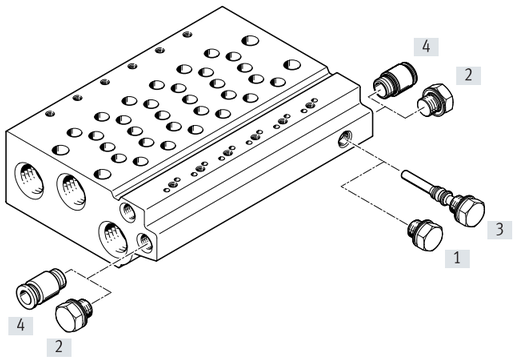


[1]Push-in fitting for external pilot air supply at port 12/14
[2]Single solenoid valve with external pilot air supply
[3]Single solenoid valve with internal pilot air supply
[4]Double solenoid valve with external pilot air supply
[5]Double solenoid valve with internal pilot air supply

The internal pilot air is branched from port 1 in the valve body. The external pilot air (port 12/14) is supplied individually at each valve housing

Note:
Semi in-line valves cannot be supplied centrally with pilot air via the manifold rail.

Pilot air supply with sub-base valves



[1]Blanking plug, short, with internal pilot air
[2] Blanking plug for duct 12/14 with internal pilot air
[3] Blanking plug, long, with external pilot air
[4] Push-in fitting in duct 12/14 with external pilot air

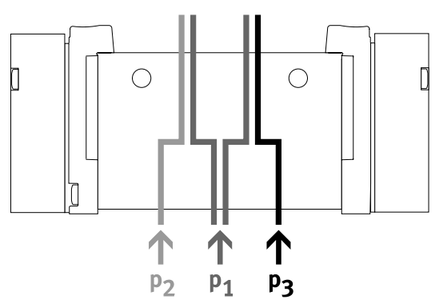
The manifold rails for sub-base valves have an internal connection between duct 12/14 and duct 1. By inserting a blanking plug into this connection, it is possible to switch between internal and external pilot air.

-Valve function overview

· Operation with different pressures

Vacuum operation	Reverse operation
The 3/2-way valves are available in a design with two valves in one valve body and with pneumatic spring return. With these valves, the force for the return movement is obtained from port 1.Vacuum operation is therefore only possible at port 3 and 5, not at port 1. With external pilot air supply, vacuum can be connected at port 1, 3, 5 of the 5/2-way and 5/3-way valves. (Note Pressure must be available at port 1)	The 3/2-way valves with pneumatic spring are not suitable for reverse operation, since at least the minimum pilot pressure must be available at duct 1.

Pressure divider (internal pilot air)



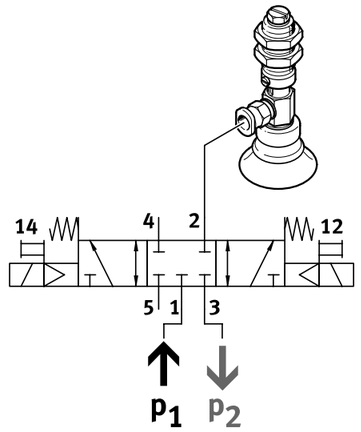
If two different pressures are required. Different pressures can be supplied at duct 1, 3 and 5.

Advantages:Any pressure or vacuum can be connected at ducts 3 and 5 both with external and internal pilot air.

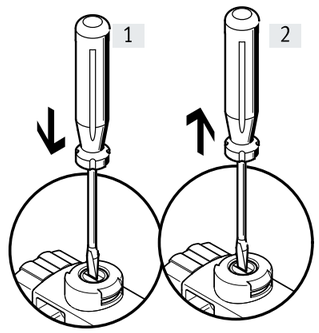
Note:
With internal pilot air supply, the minimum pilot pressure must be adhered to in duct 1
With 2x 3/2-way valves without spring return, the minimum pilot pressure must always be adhered to in duct 1

· Manual override

Vacuum, ejector pulse and normal position	Manual override with automatic reset (Non-detenting)



Vacuum, ejector pulse and normal position with internal pilot air can be achieved by connecting vacuum at duct 3 and pressure for the ejector pulse at duct 1.



[1]Press in the plunger of the MO with a pointed object or screwdriver. The pilot valve switches and actuates the main valve .
[2]Remove the pointed object or screwdriver. The spring force pushes the plunger of the manual override back.
The pilot valve returns to its normal position as does the main single solenoid valve (not the case with double solenoid valve code).

Model selection

VMDA	-L	10	-23R	-A	Z	G18	Q18	U	-R8
Solenoid valve	①	②	③	④	⑤	⑥	⑦	⑧	⑨

①	-Directional control valve type	S	Semi-inline valve	B	Sub-base valve	L	In-line valve
②	Size	10	10mm	14	14mm	18	18mm
③	-Valve function						
	3/2-way valve（23R/U/H）	23R	2x3/2-way valve, normally closed	23U	2x3/2-way valve, normally open	23H	2x3/2-way valve, 1x normally closed, 1x normally open
	5/2-way valve(25M/B)	25M	5/2-way valve, single solenoid	25B	5/2-way valve, double solenoid		
	5/3-way valve(35C/P/E)	35C	Mid-position closed	35P	Mid-position pressured	35E	Mid-position exhausted
④	-Reset method for single solenoid valves	A	Pneumatic spring	M	Mechanical spring	H	Mixed, pneumatic/mechanical spring
⑤	Pilot air	Blank	Internal	Z	External		
⑥	Pneumatic connection	M5	M5	G18	G1/8	G14	G1/4	F	Flange/sub-base
⑦	Push-in connector	Q6	6mm	Q18	1/8"	Q14	1/4"	Blank	No fitting
⑧	Exhaust	U	Silencer			Blank	No fitting	J	With fitting
⑨	-Electrical connection	H2	Connection pattern H, horizontal plug					R8	M8,3-pin

Solenoid valves VMDA-L10 and VMDA-S10, in-line valves M5

·Technical parameter

General technical data												
Valve function	23-A			23-M			25M-H	25B	25M-M	35C/P/E		
Normally position	R	U	H	R	U	H	-	-	-	C	P	E
Stable position	Monostable							Bisstable	Monostable			
Pneumatic spring return	Yes			No			Yes	-	No	-		
Mechanical spring return	No			Yes			Yes	-	Yes	Yes		
Vacuum operation at port 1	No			With internal pilot supply								
Design	Piston spool											
Sealing principle	Soft											
Auction type	Electrical											
Type of control	Piloted											
Pilot air supply	Internal and External											
Exhaust function	Can be throttled											
Manual override	Dententing											
Type of mounting	Optionally via through-holes 1) or on manifold rail											
Mounting position	Any											
Signal status indication	LED											
Nominal width [mm]	2.7			1.9	1.8		3.2		2.2	3.2		
Standard nominal flow rate [l/min]	150			135	125	125	220		190	210		
Flow rate on manifold rail [l/min]	150			135	125	125	220		190	210		
Changeover time [ms]	6/16			8/11			7/19	-	8/24	10/30		
Switching time on/off [ms]	-							7	-	15		
Size [mm]	10											
Connection 1,2,3,4,5	M5											
Connection 12/14	M3											

Note 1）If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

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- Solenoid valves VMDA-L10 and VMDA-S10, in-line valves M5

-·Technical parameter

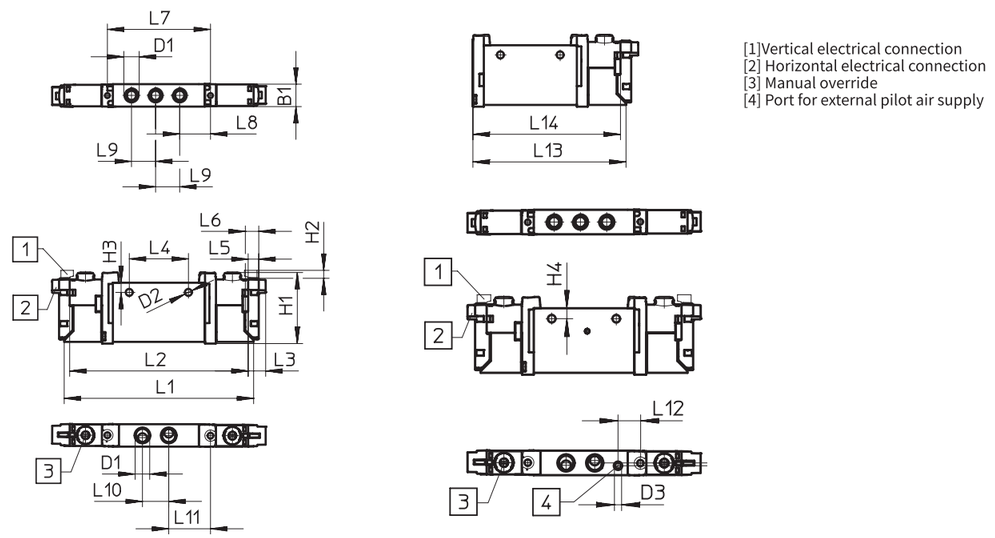
Operation and environment condition							
Valve of function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Operating media		Compressed air to ISO 8573-1:2010 [7:4:4]					
Operating pressure MPa	Internal	0.15 ... 0.8	0.25 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
	External	0.15 ... 1	–0.09 ... 1	–0.09 ... 1	–0.09 ... 1	–0.09 ... 0.8	–0.09 ... 1
Pilot pressure MPa		0.15 ... 0.8	0.2 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
Ambient temperature°C		– 5 ... +60					
Temperature of medium °C		– 5 ... +60					

Electrical date							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Electrical connection		Via E-box					
Operating voltage	[V DC]	24 ±10%					
Power	[W]	1, reduced to 0.35 with holding current reduction					
Duty cycle	[%]	100					
Degree of protection to EN 60529		IP40 (with plug socket), IP65 (with M8)					

Information on materials						
Valve function	23-A	23-M	25M-H	25B	25M-M	35C/P/E
Housing	Wrought aluminium alloy					
Seals	HNBR, NBR					

·Dimension

2x3/2-way、5/2-way and 5/3-way valve



[1]Vertical electrical connection
[2] Horizontal electrical connection
[3] Manual override
[4] Port for external pilot air supply

- Solenoid valves VMDA-L10 and VMDA-S10, in-line valves M5

-·Dimension

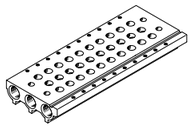
-2x3/2-way、5/2-way and 5/3-way valve

Type	B1	B2	D1	D2	D3	H1	H2	H3	L1	L2	L3	L4
VMDA-L10 -...-M5...	10.2	–	M5	3.2	M3	32.5	3.6	4.4	86.5	81.5	8	27
VMDA-S10 -...-M5...												

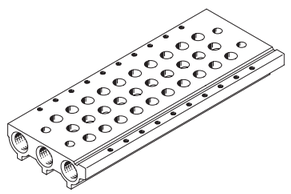
Type	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
VMDA-L10 -...-M5...	4.85	6.15	47	14	11	12	19	–	69.2	66.7
VMDA-S10 -...-M5...										

·Manifold rails assembly（Solenoid valves VMDA-S10，in-line valves M5）

Technical data-Manifold rails

Manifold rail VB-	Connection	Material	Operating pressure [MPa]	Max. tightening torque for assembly [Nm]		
	1,3,5			Valve	H-rail	Wall
	G1/8	Wrought aluminium alloy	0.15...0.8	0.45	1.5	3

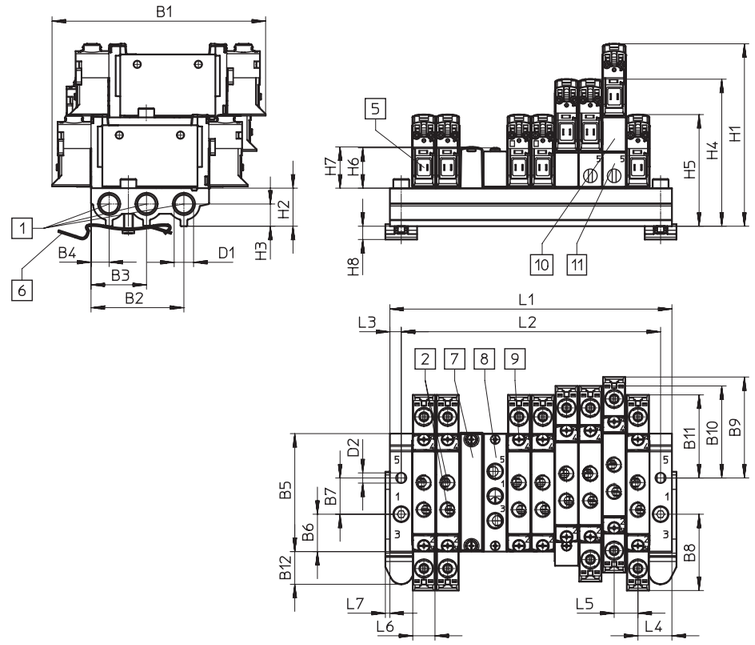
Ordering data – Manifold rail

Manifold rail-VB	For size	Valve position	Type
	M5	2 valve positions	VB-L1-10S-G18-2
		3 valve positions	VB-L1-10S-G18-3
		4 valve positions	VB-L1-10S-G18-4
		5 valve positions	VB-L1-10S-G18-5
		6 valve positions	VB-L1-10S-G18-6
		7 valve positions	VB-L1-10S-G18-7
		8 valve positions	VB-L1-10S-G18-8
		9 valve positions	VB-L1-10S-G18-9
		10 valve positions	VB-L1-10S-G18-10
		12 valve positions	VB-L1-10S-G18-12
		14 valve positions	VB-L1-10S-G18-14
		16 valve positions	VB-L1-10S-G18-16

- Solenoid valves VMDA-L10 and VMDA-S10, in-line valves M5

-·Manifold rails assembly（Solenoid valves VMDA-S10，in-line valves M5）

Manifold assembly Dimensions



[1] Ports 1, 3 and 5: G1/8
[2] Ports 1, 2, 3, 4 and 5 on the valve: M7 or M5
[5] Electrical connection for E-boxes and accessories
[6] H-rail mounting (two M4x20 screws are required for mounting)
[7] Cover plate
[8] Supply plate
[9] Valves/cover plate mounting on manifold rail: M2 thread
[10] Vertical pressure supply plate
[11] Vertical pressure exhaust plate

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
VBL-L1-10S-G18	94.3	41	24.5	8	52.1	16.5	16	33.7	44.6	40.7	36.7	14.4

Type	D1	D2	D5	H1	H2	H3	H4	H5	H6	H7	H8	L3	L4	L5	L6	L7
VBL-L1-10S-G18	G1/8	4.5	8	80.6	16.8	9.8	64.9	49.3	17.8	18	5.9	5	15	10.5	10.3	2

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16	22
L1	40.5	51	61.5	72	82.5	93	103.5	114	124.5	145.5	166.5	187.5	250.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	135.5	156.5	177.5	240.5

Solenoid valves VMDA-L14 and VMDA-S14, in-line valves G1/8

·Technical parameter

General technical data												
Valve function	23-A			23-M			25M-H	25B	25M-M	35C/P/E		
Normally position	R	U	H	R	U	H	-	-	-	C	P	E
Stable position	Monostable							Bisstable	Monostable			
Pneumatic spring return	Yes			No			Yes	-	No	-		
Mechanical spring return	No			Yes			Yes	-	Yes	Yes		
Vacuum operation at port 1	No			With internal pilot supply								
Design	Piston spool											
Sealing principle	Soft											
Auction type	Electrical											
Type of control	Piloted											
Pilot air supply	Internal and External											
Exhaust function	Can be throttled											
Manual override	Dententing											
Type of mounting	Optionally via through-holes [1] or on manifold rail											
Mounting position	Any											
Nominal width [mm]	4.6			4.3			5.6					
Standard nominal flow rate [l/min]	560	600	590	550	500		780			650	560	
Flow rate on manifold rail [l/min]	560	580		520	480		680	700		620	560	
Changeover time [ms]	9/25			12/18			14/22	-	13/37	12/40		
Switching time on/off [ms]	-							8	-	14		
Size [mm]	14											
Connection 1, 2, 3, 4,5	G1/8											
Connection 12/14	M5											

Note 1) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

Operation and environment condition							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Operating media		Compressed air to ISO 8573-1:2010 [7:4:4]					
Operating pressure MPa	Internal	0.15 ... 0.8	0.3 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
	External VMDA...	0.15 ... 1	–0.09 ... 1	–0.09 ... 1	–0.09 ... 1	–0.09 ... 0.8	–0.09 ... 1
Pilot pressure [1] MPa	Internal	0.15 ... 0.8	0.35 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
	External VMDA...	0.15 ... 0.8	0.3 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
Ambient temperature ℃		– 5 ... +60					
Temperature of medium ℃		– 5 ... +60					

Note 1) Minimum pilot pressure 50% of operating pressure

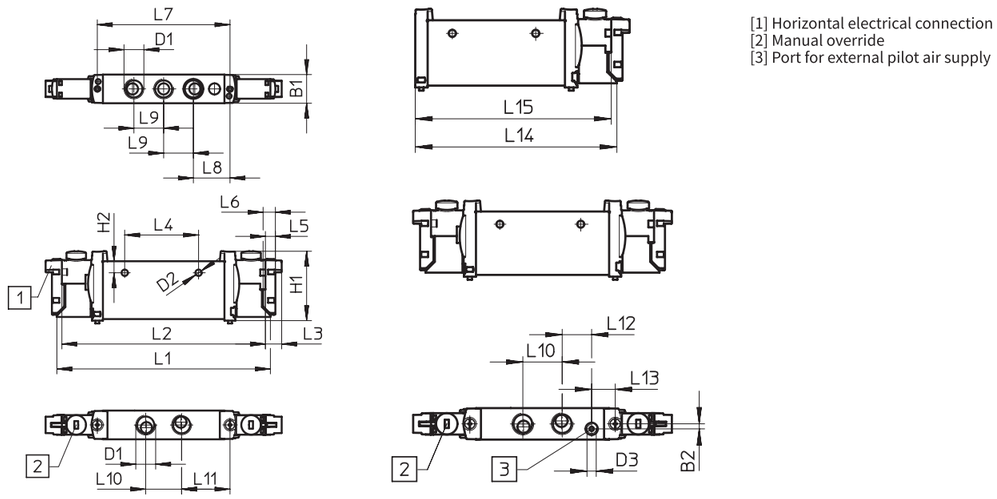
-Solenoid valves VMDA-L14 and VMDA-S14, in-line valves G1/8

-·Technical parameter

Electrical date							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Electrical connection		Via E-box					
Operating voltage	[V DC]	24 ±10%					
Power	[W]	1, reduced to 0.35 with holding current reduction					
Duty cycle	[%]	100					
Degree of protection to EN 60529		IP40 (with plug socket), IP65 (with M8)					
Information on materials							
Housing		Wrought aluminium alloy					
Seals		HNBR, NBR					

·Dimension

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



[1] Horizontal electrical connection
[2] Manual override
[3] Port for external pilot air supply

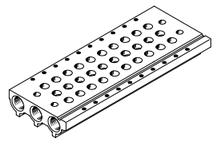
Type	B1	B2	D1	D2Ø	D3	H1	H2	L1	L2	L3	L4	L5	L6
VMDA-L14-...-G18...	14.4	2.3	G1/8	3.2	–	34.8	5.8	107	102	8	37	4.85	6.2
VMDA-S14-...-G18...													

Type	L7	L8	L9	L10	L11	L12	L13	L14	L15
VMDA-L14-...-G18...	66.5	18.35	14.9	18	24.3	13.5	10.8	89.4	87
VMDA-S14-...-G18...									

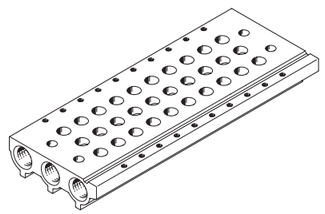
-Solenoid valves VMDA-L14 and VMDA-S14, in-line valves G1/8

-·Dimension

Ordering data - Manifold rail

Technical data-Manifold rails	Connection	Material	Operating pressure[MPa]	Max. tightening torque for assembly [Nm]		
	1,3,5			Valve	H-rail	Wall
	G1/4	Wrought aluminium alloy	0.15...0.8	0.65	1.5	3

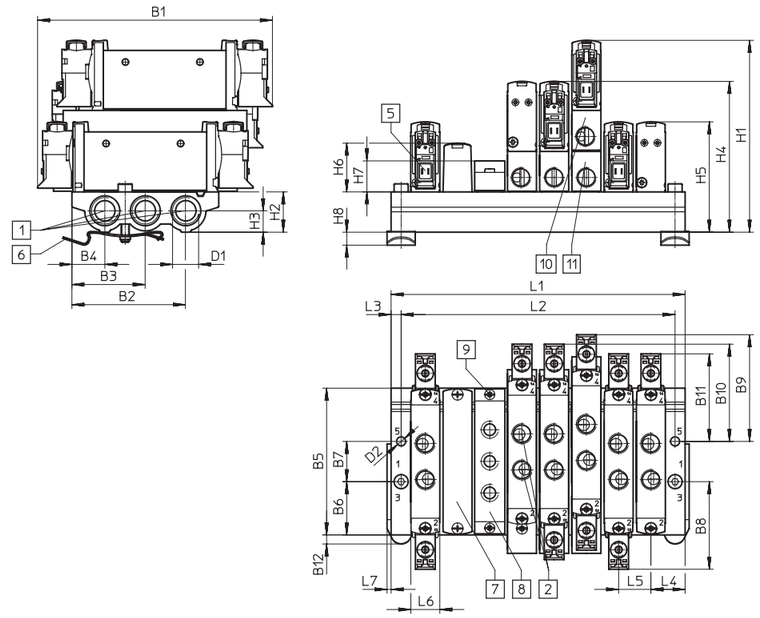
Ordering data - Manifold rail

Manifold rail-VB	For size	Valve position	Type
	G1/8	2 valve positions	VB-L1-14S-G14-2
		3 valve positions	VB-L1-14S-G14-3
		4 valve positions	VB-L1-14S-G14-4
		5 valve positions	VB-L1-14S-G14-5
		6 valve positions	VB-L1-14S-G14-6
		7 valve positions	VB-L1-14S-G14-7
		8 valve positions	VB-L1-14S-G14-8
		9 valve positions	VB-L1-14S-G14-9
		10 valve positions	VB-L1-14S-G14-10
		12 valve positions	VB-L1-14S-G14-12
		14 valve positions	VB-L1-14S-G14-14
		16 valve positions	VB-L1-14S-G14-16

-Solenoid valves VMDA-L14 and VMDA-S14, in-line valves G1/8

-·Dimension

Manifold assembly Dimensions



[1] Ports 1, 3 and 5: G1/4 （At both ends)
[2] Ports 1, 2, 3, 4 and 5 on the valve: G1/8
[5] Electrical connection for E-boxes and accessories
[6] H-rail mounting (two M4x25 screws are required for mounting)
[7] Cover plate
[8] Supply plate， Ports 1, 3 and 5: G1/8
[9] Valves/cover plate mounting on manifold rail: M2.5 thread
[10] Vertical pressure supply plate
[11] Vertical pressure exhaust plate

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	D1	D2
VB-L1-14S-G14	116.6	56.6	36.5	16.4	72.9	26.5	20	43.5	53.1	48.3	43.5	4.5	G1/4	4.5

Type	H1	H2	H3	H4	H5	H6	H7	H8	L3	L4	L5	L6	L7
VB-L1-14S-G14	95.3	20	10.6	74.9	54.8	23.9	15.4	6.5	5	17	16	14.5	2

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16	22
L1	50	66	82	98	114	130	146	162	178	210	242	274	306
L2	40	56	72	88	104	120	136	152	168	200	232	264	296

Solenoid valves VMDA-L18 and VMDA-S18, in-line valves G1/4

·Technical parameter

General technical data												
Valve function	23-A			23-M			25M-H	25B	25M-M	35C/P/E		
Normally position	R	U	H	R	U	H	-	-	-	C	P	E
Stable position	Monostable							Bisstable	Monostable			
Pneumatic spring return	Yes			No			Yes	-	No	-		
Mechanical spring return	No			Yes			Yes	-	Yes	Yes		
Vacuum operation at port 1	No			With internal pilot supply								
Design	Piston spool											
Sealing principle	Soft											
Auction type	Electrical											
Type of control	Piloted											
Pilot air supply	Internal and External											
Exhaust function	Can be throttled											
Manual override	Dententing											
Type of mounting	Optionally via through-holes [1] or on manifold rail											
Mounting position	Any											
Nominal width [mm]	5.7						6.9	7.3	6.9	6.5	6.3	
Standard nominal flow rate [l/min]	880	970	950	870	990	920	1300	1380	1300	1200	1000	910
Flow rate on manifold rail [l/min]	780	980	820	780	960	820	1300	1370	1300	1180	1220	1050
Changeover time [ms]	13/25			13/22			15/31	-	10/45	15/48		
Switching time on/off [ms]	-							11	-	29		
Size [mm]	18											
Connection 1,2,3,4,5	G1/4											
Connection 12/14	M5											

Note 1) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

Operation and environment condition							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Operating media		Compressed air to ISO 8573-1:2010 [7:4:4]					
Operating pressureMPa	Internal	0.15 ... 0.8	0.3 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
	External VMDA...	0.15 ... 1	–0.09 ... 1				
Pilot pressure MPa		0.15 ... 0.8	0.2 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
Ambient temperature ℃		– 5 ... +60					
Temperature of medium ℃		– 5 ... +60					

Note 1) Minimum pilot pressure 50% of operating pressure

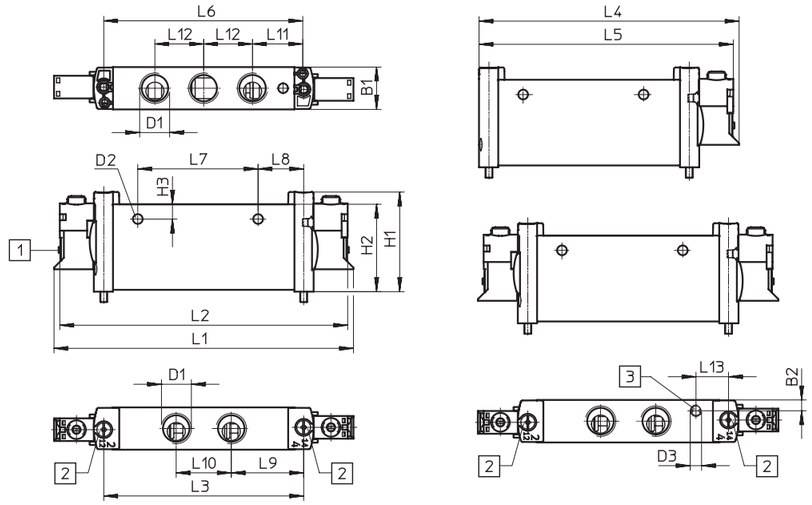
-Solenoid valves VMDA-L18 and VMDA-S18, in-line valves G1/4

- ·Technical parameter

Electrical date							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Electrical connection		Via E-box					
Operating voltage	[V DC]	24 ±10%					
Power	[W]	1, reduced to 0.35 with holding current reduction					
Duty cycle	[%]	100					
Degree of protection to EN 60529		IP40 (with plug socket), IP65 (with M8)					
Information on materials							
Housing		Wrought aluminium alloy					
Seals		HNBR, NBR					

·Dimension

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



[1] Electrical connection without E-box
[2] Retaining screw
[3] Port for external pilot air supply

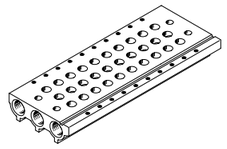
Type	B1	B2	D1	D2	D3	H1	H2	H3	L1	L2	L3	L4	L5
VMDA-L18-...	18.3	4.5	G1/4	Φ4.2	M5	43.1	37.8	6.4	129.4	124.4	86.4	112.2	109.7
VMDA-S18-...													

Type	L6	L7	L8	L9	L10	L11	L12	L13
VMDA-L18-...	86	52	19.7	31.3	23.8	21.7	21.1	14
VMDA-S18-...								

-Solenoid valves VMDA-L18 and VMDA-S18, in-line valves G1/4

·Manifold rails assembly

Technical data-Manifold rails

Manifold rail VB-	Connection	Material	Operating pressure[MPa]	Max. tightening torque for assembly [Nm]		
	1,3,5			Valve	H-rail	Wall
	G3/8	Wrought aluminium alloy	-0.09...1	1.18	1.5	3

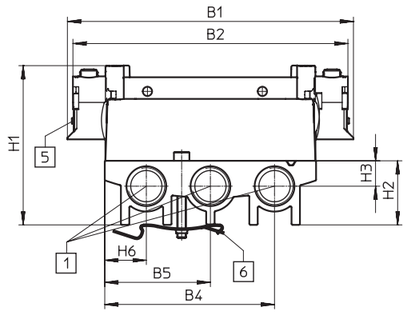
Ordering data - Manifold rail

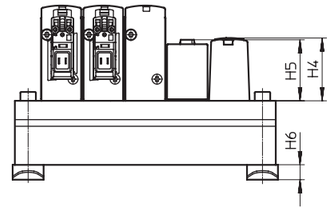
Manifold rail-VB	For size	Valve position	Type
	G1/4	2 valve positions	VB-L1-18S-G38-2
		3 valve positions	VB-L1-18S-G38-3
		4 valve positions	VB-L1-18S-G38-4
		5 valve positions	VB-L1-18S-G38-5
		6 valve positions	VB-L1-18S-G38-6
		7 valve positions	VB-L1-18S-G38-7
		8 valve positions	VB-L1-18S-G38-8
		9 valve positions	VB-L1-18S-G38-9
		10 valve positions	VB-L1-18S-G38-10
		12 valve positions	VB-L1-18S-G38-12
		14 valve positions	VB-L1-18S-G38-14
		16 valve positions	VB-L1-18S-G38-16

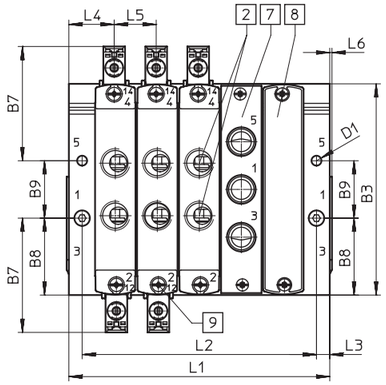
-Solenoid valves VMDA-L18 and VMDA-S18, in-line valves G1/4

-·Manifold rails assembly

Manifold assembly Dimensions







[1] Ports 1, 3 and 5: G3/8 (at both ends)
[2] Ports 2 and 4: G1/4
[5] Electrical connection for E-boxes and accessories
[6] H-rail mounting (two M4x35 screws are required for mounting)
[7] Cover plate
[8] Supply plate, ports 1, 3 and 5: G1/4
[9] Valves/cover plate mounting on manifold rail: M3 thread

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	D1
VB-L1-18S-G38	129.4	124.4	95.6	76.8	47.8	18.8	51.7	34.8	26	4.5

Type	H1	H2	H3	H4	H5	H6	L3	L4	L5	L6
VB-L1-18S-G38	72.1	29	11.5	28.4	27.6	6.5	6	20.5	19	1

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1	61	80	99	118	137	156	175	194	213	251	289	327
L2	49	68	87	106	125	144	163	182	201	239	277	315

Solenoid valves VMDA-B10, sub-base valves M5

·Technical parameter

General technical data												
Valve function	23-A			23-M			25M-H	25B	25M-M	35C/P/E		
Normally position	R	U	H	R	U	H	-	-	-	C	P	E
Stable position	Monostable							Bistable	Monostable			
Pneumatic spring return	Yes			No			Yes	-	No	-		
Mechanical spring return	No			Yes			Yes	-	Yes	Yes		
Vacuum operation at port 1	No			With external pilot air supply								
Design	Piston spool											
Sealing principle	Soft											
Auction type	Electrical											
Type of control	Piloted											
Pilot air supply	Internal and External， can be selected via sub-base											
Exhaust function	Can be throttled											
Manual override	Dententing											
Type of mounting	Optionally via through-holes [1] or on manifold rail											
Mounting position	Any											
Nominal width [mm]	2.7			1.8	1.7		4		2.3	3.5		
Standard nominal flow rate [l/min]	170			150	140		330		285	300		
Flow rate on manifold rail [l/min]	150			130	120		210		180	200		
Changeover time [ms]	6/16			8/11			7/19	-	8/24	11/30		
Switching time on/off [ms]	-							7		14		
Size [mm]	10											
Connection 1,3,5	G1/8 in manifold rail											
Connection 2,4	M5 in manifold rail											
Connection 12/14， 82/84	M5 in manifold rail											

Note 1）If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

Operation and environment condition							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Operating media		Compressed air to ISO 8573-1:2010 [7:4:4]					
Operating pressure MPa	Internal	0.15 ... 0.8	0.25 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
	External	0.15 ... 1	–0.09 ... 1			–0.09 ... 0.8	–0.09 ... 1
Pilot pressure MPa		0.15 ... 0.8	0.2 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
Ambient temperature ℃		– 5 ... +60					
Temperature of medium ℃		– 5 ... +60					

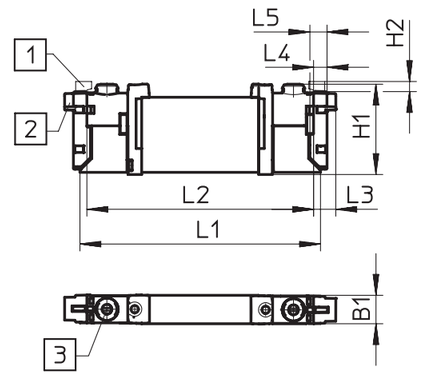
-Solenoid valves VMDA-B10, sub-base valves M5

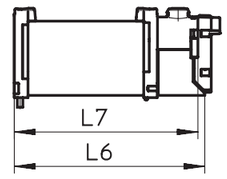
-·Technical parameter

Electrical date							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Electrical connection		Via E-box					
Operating voltage	[V DC]	24 ±10%					
Power	[W]	1, reduced to 0.35 with holding current reduction					
Duty cycle	[%]	100					
Degree of protection to EN 60529		IP40 (with plug socket), IP65 (with M8)					
Information on materials							
Housing		Wrought aluminium alloy					
Seals		HNBR, NBR					

·Dimension

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





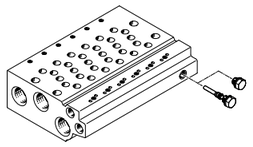
[1] Vertical electrical connection
[2] Horizontal electrical connection
[3] Manual override

Type	B1	H1	H2	L1	L2	L3	L4	L5	L6	L7
VMDA-B10 -...-F...	10.2	32.5	3.6	86.5	81.5	8	4.85	6.15	69.2	66.7

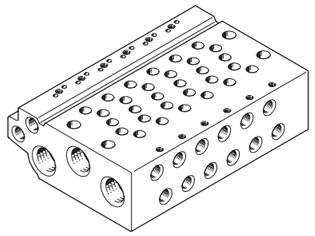
-Solenoid valves VMDA-B10, sub-base valves M5

·Manifold rails assembly

Technical data-Manifold rails

Manifold rails -VB	Connection			Material	Operating pressure [MPa]	Max. tightening torque for assembly [Nm]		
	1,3,5	2，4	12/14,82/84			Valve	H-rail	Wall
	G1/8	M5	M5	Wrought aluminium alloy	-0.09...1	0.45	1.5	3

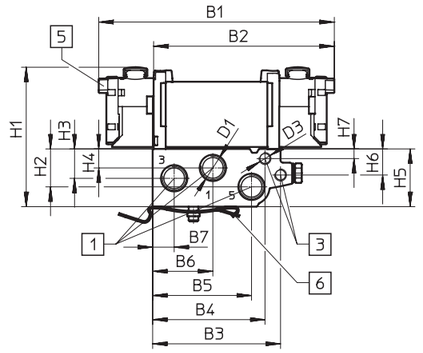
Ordering data - Manifold rail

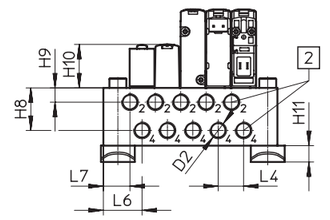
Manifold rail-VB	For size	Valve position	Type
	B10 (M5)	2 valve positions	VB-L1-10W-G18-2
		3 valve positions	VB-L1-10W-G18-3
		4 valve positions	VB-L1-10W-G18-4
		5 valve positions	VB-L1-10W-G18-5
		6 valve positions	VB-L1-10W-G18-6
		7 valve positions	VB-L1-10W-G18-7
		8 valve positions	VB-L1-10W-G18-8
		9 valve positions	VB-L1-10W-G18-9
		10 valve positions	VB-L1-10W-G18-10
		12 valve positions	VB-L1-10W-G18-12
		14 valve positions	VB-L1-10W-G18-14
		16 valve positions	VB-L1-10W-G18-16

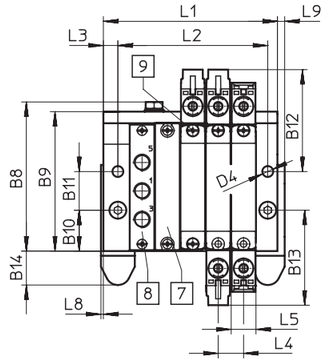
-Solenoid valves VMDA-B10, sub-base valves M5

-·Manifold rails assembly

Manifold assembly Dimensions







[1] Ports 1, 3 and 5: G1/8 (at both ends)
[2] Ports 2，4: M5
[3] Ports 12，14: M5
[5] Electrical connection for E-boxes and accessories
[6] H-rail mounting (two M4x30 screws are required for mounting)
[7] Cover plate
[8] Supply plate, ports 1, 3 and 5: M5
[9] Valves/cover plate mounting on manifold rail: M2 thread

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
VB-L1 10-...-G18	97.5	74.8	52.9	46.5	40.9	24.9	8.9	61.7	57.7	16.9	16	42.2

Type	B13	B14	D1	D2	D3	D4	D5	H1	H2	H3	H4
VB-L1 10-...-G18	39.3	14.1	G1/8	M5	M5	4.5	Ø 6	56.4	15.7	12.2	7.9

Type	H5	H6	H7	H8	H9	H10	H11	L3	L4	L5	L6	L7	L8	L9
VB-L1 10-...-G18	23.9	10.8	4	17.6	5.9	18	6.8	6	10.5	10.3	16	11.9	1	3

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16	22
L1	40.5	51	61.5	72	82.5	93	103.5	114	124.5	145.5	166.5	187.5	250.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	135.5	156.5	177.5	240.5

Solenoid valves VMDA-B14, sub-base valves G1/8

·Technical parameter

General technical data												
Valve function	23-A			23-M			25M-H	25B	25M-M	35C/P/E		
Normally position	R	U	H	R	U	H	-	-	-	C	P	E
Stable position	Monostable							Bistable	Monostable			
Pneumatic spring return	Yes			No			Yes	-	No	-		
Mechanical spring return	No			Yes			Yes	-	Yes	Yes		
Vacuum operation at port 1	No			With external pilot air supply								
Design	Piston spool											
Sealing principle	Soft											
Auction type	Electrical											
Type of control	Piloted											
Pilot air supply	External, internal											
Exhaust function	Can be throttled											
Manual override	Non-detenting											
Type of mounting	Manifold rail											
Mounting position	Any											
Nominal width [mm]	4.6			4.3			5.6					
Standard nominal flow rate [l/min]	600		580	470	450		630	680		600	580	
Flow rate on manifold rail [l/min]	510			430	410		520	570		520	500	460
Changeover time [ms]	8/23			15/11			14/22	-	13/40	12/40		
Switching time on/off [ms]	-							8		20		
Size [mm]	14											
Connection 1, 3, 5	G1/4 in manifold rail											
Connection 2,4,	G1/8 in manifold rail											
Connection 12/14,82/84	M5 in manifold rail											

Note 1) If several valves are to be screwed together via the through-holes to form a block, a minimum distance of 0.3 mm must be ensured by inserting spacers.

Operation and environment condition							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Operating media		Compressed air to ISO 8573-2010 [7:4:4]					
Operating pressure	[MPa]						
Internal	[MPa]	0.15 ... 0.8	0.35 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	
External		0.15 ... 1	–0.09 ... 1		-0.09...0.8	–0.09 ... 1	
Pilot pressure [1)]	[MPa]	0.15 ... 0.8	0.3 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	
Ambient temperature	[° C]	– 5 ... +50					
Temperature of medium	[° C]	– 5 ... +50					

Note 1) Minimum pilot pressure 50% of operating pressure

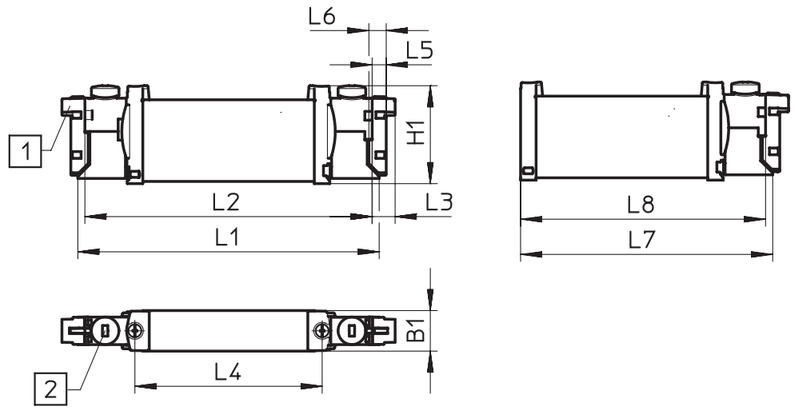
-Solenoid valves VMDA-B14, sub-base valves G1/8

-·Technical parameter

Electrical date							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Electrical connection		Via E-box					
Operating voltage	[V DC]	24 ±10%					
Power	[W]	1, reduced to 0.35 with holding current reduction					
Duty cycle	[%]	100					
Degree of protection to EN 60529		IP40 (with plug socket), IP65 (with M8)					
Information on materials							
Housing		Wrought aluminium alloy					
Seals		HNBR, NBR					

·Dimension

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



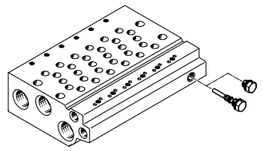
[1] Horizontal electrical connection
[2] Manual override

Type	B1	H1	L1	L2	L3	L4	L5	L6	L7	L8
VMDA-B14 -...-F ...	14	34.8	107	102	8	66.5	4.9	6.2	89.5	87

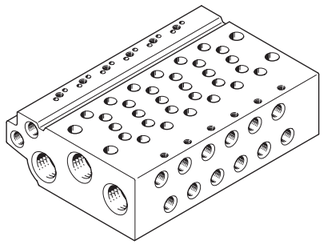
-Solenoid valves VMDA-B14, sub-base valves G1/8

·Manifold rails assembly

Technical data-Manifold rails

Technical data-Manifold rails	Connection			Material	Operating pressure [MPa]	Max. tightening torque for assembly [Nm]		
	1,3,5	2，4	12/14,82/84			Valve	H-rail	Wall
	G1/4	G1/8	M5	Wrought aluminium alloy	-0.09...1	0.65	1.5	3

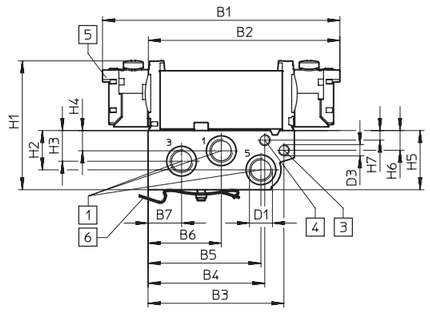
Ordering data - Manifold rail

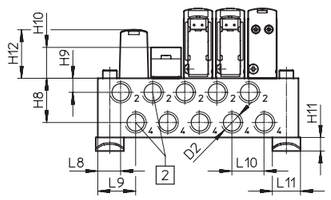
Manifold rail-VB	For size	Valve position	Type
	B14 (G1/8)	2 valve positions	VB-L1-14W-G14-2
		3 valve positions	VB-L1-14W-G14-3
		4 valve positions	VB-L1-14W-G14-4
		5 valve positions	VB-L1-14W-G14-5
		6 valve positions	VB-L1-14W-G14-6
		7 valve positions	VB-L1-14W-G14-7
		8 valve positions	VB-L1-14W-G14-8
		9 valve positions	VB-L1-14W-G14-9
		10 valve positions	VB-L1-14W-G14-10
		12 valve positions	VB-L1-14W-G14-12
		14 valve positions	VB-L1-14W-G14-14
		16 valve positions	VB-L1-14W-G14-16

-Solenoid valves VMDA-B14, sub-base valves G1/8

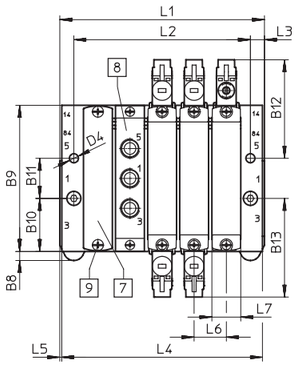
-·Manifold rails assembly

Manifold assembly Dimensions





[1] Ports 1, 3 and 5: G1/4 (at both ends)
[2] Ports 2，4: G1/8
[3] Ports 12，14: M5
[4] Ports 82，84: M5
[5] Electrical connection for E-boxes and accessories
[6] H-rail mounting (two M4x35 screws are required for mounting)
[7] Cover plate
[8] Supply plate, ports 1, 3 and 5: G1/8
[9] Valves/cover plate mounting on manifold rail: M2.5 thread



Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
VB-L1-14W-G14	118.3	95.1	67.7	58.2	56.3	36.6	16.7	4.5	72.9	26.5	20	49.1

Type	B13	D1	D2	D3	D4	H1	H2	H3	H4	H5
VB-L1-14W-G14	49.1	G1/4	G1/8	M5	Ø4.5	64.3	19.6	15.3	10.1	29.5

Type	H6	H7	H8	H9	H10	H11	H12	L3	L5	L6	L7	L8	L9	L10	L11
VB-L1-14W-G14	9.8	4.8	22.1	7	15.4	6.8	23.9	6	1	16	14.4	11.3	18.5	16	14

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1	56.3	72.3	88.3	104.3	120.3	136.3	152.3	168.3	184.3	216.3	248.3	280.3
L2	40	56	72	88	104	120	136	152	168	200	232	264
L4	54.3	70.3	86.3	102.3	118.3	134.3	150.3	166.3	182.3	214.3	246.6	278.3

Solenoid valves VMDA-B18 sub-base valves G1/4

·Technical parameter

General technical data												
Valve function		23-A			23-M			25M-H	25B	25M-M	35C/P/E	
Normally position		R	U	H	R	U	H	-	-	-	C	P	E
Stable position		Monostable							Bistable	Monostable			
Pneumatic spring return		Yes			No			Yes	-	No	-		
Mechanical spring return		No			Yes			Yes	-	Yes	Yes		
Vacuum operation at port 1		No			With external pilot air supply								
Design		Piston spool											
Sealing principle		Soft											
Auction type		Electrical											
Type of control		Piloted											
Pilot air supply		Internal/external											
Exhaust function		Can be throttled											
Manual override		Non-detenting											
Type of mounting		Manifold rail											
Mounting position		Any											
Nominal width [mm]		5.7						6.9	7.3	6.9	6.5		
Standard nominal flow rate [l/min]		900						1150			1080		
Flow rate on manifold rail [l/min]		800						1000			950		
Changeover time [ms]		13/27			15/22			15/31	-	10/45	15/48		
Switching time on/off [ms]		-							11	-	29		
Size [mm]		18											
Connection	1, 3,5	G3/8 on manifold rail											
	2, 4	G1/4 on manifold rail											
	12/14, 82/84	M5 on manifold rail											

Operation and environment condition							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Operating media		Compressed air to ISO 8573-1:2010 [7:4:4]					
Operating pressure MPa	Internal	0.15 ... 0.8	0.3 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
	External	0.15 ... 1	–0.09 ... 1				
Pilot pressure [1] MPa		0.15 ... 0.8	0.2 ... 0.8	0.25 ... 0.8	0.15 ... 0.8	0.3 ... 0.8	0.3 ... 0.8
Ambient temperature °C		– 5 ... +60					
Temperature of medium °C		– 5 ... +60					

Note 1) Minimum pilot pressure 50% of operating pressure

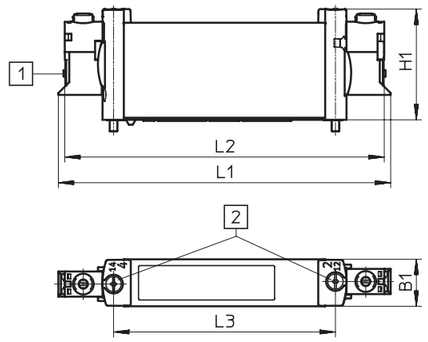
-Solenoid valves VMDA-B18 sub-base valves G1/4

-·Technical parameter

Electrical date							
Valve function		23-A	23-M	25M-H	25B	25M-M	35C/P/E
Electrical connection		Via E-box					
Operating voltage	[V DC]	24 ±10%					
Power	[W]	1, reduced to 0.35 with holding current reduction					
Duty cycle	[%]	100					
Degree of protection to EN 60529		IP40 (with plug socket), IP65 (with M8)					
Information on materials							
Housing		Wrought aluminium alloy					
Seals		HNBR, NBR					

·Dimension

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



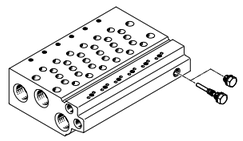
[1]Horizontal electrical connection
[2] Manual override

Type	B1	H1	L1	L2	L3	L4	L5
VMDA-B18 -...-F...	18.3	43.1	129.4	124.4	86.4	112.2	109.7

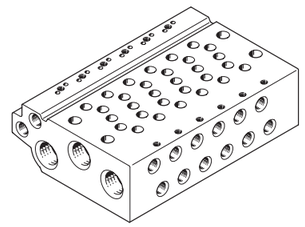
-Solenoid valves VMDA-B18 sub-base valves G1/4

·Manifold rails assembly

Technical data-Manifold rails

Technical data-Manifold rails	Connection			Material	Operating pressure [MPa]	Max. tightening torque for assembly [Nm]		
	1,3,5	2，4	12/14,82/84			Valve	H-rail	Wall
	G3/8	G1/4	M5	Wrought aluminium alloy	-0.09...1	1.18	1.5	3

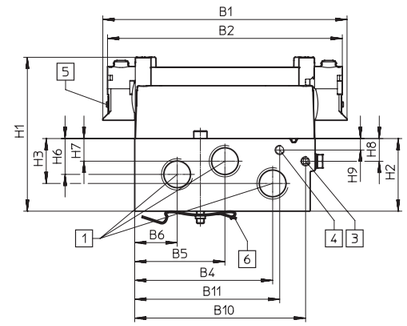
Ordering data - Manifold rail

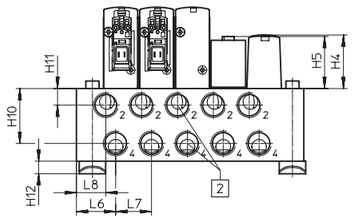
Manifold rail-VB	For size	Valve position	Type
	B18 (G1/4)	2 valve positions	VB-L1-18W-G38-2
		3 valve positions	VB-L1-18W-G38-3
		4 valve positions	VB-L1-18W-G38-4
		5 valve positions	VB-L1-18W-G38-5
		6 valve positions	VB-L1-18W-G38-6
		7 valve positions	VB-L1-18W-G38-7
		8 valve positions	VB-L1-18W-G38-8
		9 valve positions	VB-L1-18W-G38-9
		10 valve positions	VB-L1-18W-G38-10
		12 valve positions	VB-L1-18W-G38-12
		14 valve positions	VB-L1-18W-G38-14
		16 valve positions	VB-L1-18W-G38-16

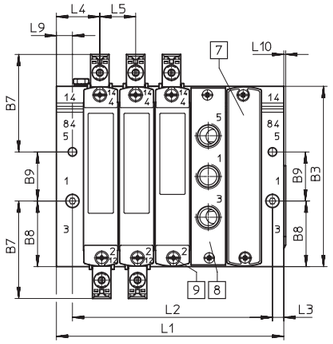
-Solenoid valves VMDA-B18 sub-base valves G1/4

-·Manifold rails assembly

Manifold assembly Dimensions







[1] Ports 1, 3 and 5: G3/8 (at both ends)
[2] Ports 2，4: G1/4
[3] Ports 12，14: M5
[4] Ports 82，84: M5
[5] Electrical connection for E-boxes and accessories
[6] H-rail mounting (two M4x40 screws are required for mounting)
[7] Cover plate
[8] Supply plate, ports 1, 3 and 5: G1/4
[9] Valves/cover plate mounting on manifold rail: M3 thread

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	D1
VB-L1-18W-G38	129.4	124.4	95.6	73.1	47.8	22.5	51.7	34.8	26	90.6	76.8	4.5

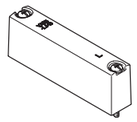
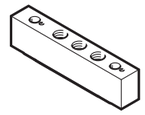
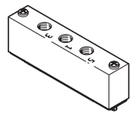
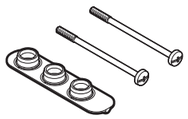
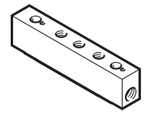
Type	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12
VB-L1-18W-G38	81.6	38.5	11.5	28.4	27.6	19	12	12.1	6.1	29.1	8.8	6.5

Type	L3	L4	L5	L6	L7	L8	L9	L10
VB-L1-18W-G38	6	23	19	20.8	19	15.6	8.5	1

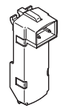
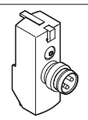
Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1	63.5	82.5	101.5	120.5	139.5	158.5	177.5	196.5	215.5	253.5	291.5	329.5
L2	49	68	87	106	125	144	163	182	201	239	277	315

Accessories

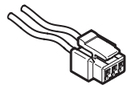
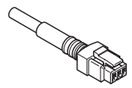
· Optional accessories

Name	Cover plant	Separator	Vertical pressure supply plate
Sketch map			
Description	For valve position on manifold rail	For creating pressure zones	Port 1:VMDA-S14,sub-base G1/8
Name	Supply plate	Seals	Vertical pressure exhaust plate
Sketch map			
Description	For additional air supply and exhaust via a valve position	Sub-base valve VMDA-L for sub-base valve M5	Port 3 5:VMDA-S14,sub-base valve G1/8

· E-boxes

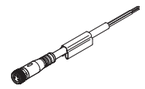
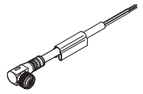
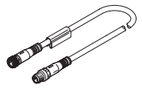
Code	Design	Plug	Voltage [V DC]	Power [W]	Ambient temperature [° C]	Additional functions
H2		NEBV-H1	12/24	1	– 5 ... +50	Spark arresting, bipolar, IP40
R8		NEBU-M8 ...	12/24	1	– 5 ... +60	Spark arresting, bipolar, IP65

· Plug socket with cable-For E-box code H2

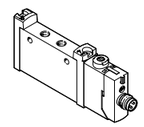
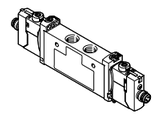
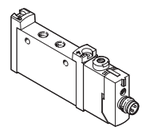
	Description		Description	Length [m]
	Not sheathed, open end 2-pin socket		Sheathed, open end 2-pin socket	0.5
				1
				2.5
				5

- Accessories

· Connecting cable, open end-For E-box code R8

	Description	Length [m]
	Open end 3-pin, straight socket, M8x1	2.5
		5
	Open end 3-pin, straight socket, M8x1	2.5
		5
	3-pin, straight socket, M8x1	0.5
		1
		2.5
		5
		10

· Core Range

	Description		Type
In-line valve M5, with E-box R8			
	5/3-way valve		
	Internal pilot air supply	Mid-position closed, mechanical spring return	VMDA-L10-35C-M5-R8
In-line valve G1/8, with E-box R8			
	5/3-way valve		
	Internal pilot air supply	Mid-position closed, mechanical spring return	VMDA-L14-35C--G18-R8
In-line valve G1/4, with E-box R8			
	5/3-way valve		
	Internal pilot air supply	Mid-position closed, mechanical spring return	VMDA-L18-35C-G14-R8
	5/2-way valve, single solenoid		
	Internal pilot air supply	Pneumatic/mechanical spring return	VMDA-L18-25M-H-G14-R8
		Mechanical spring return	VMDA-L18-25M-M-G14-R8
	2x 3/2-way valve		
	Internal pilot air supply	Normally closed, pneumatic spring return	VMDA-L18-23R-A-G14-R8

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