

Pneumatic valves VUWG

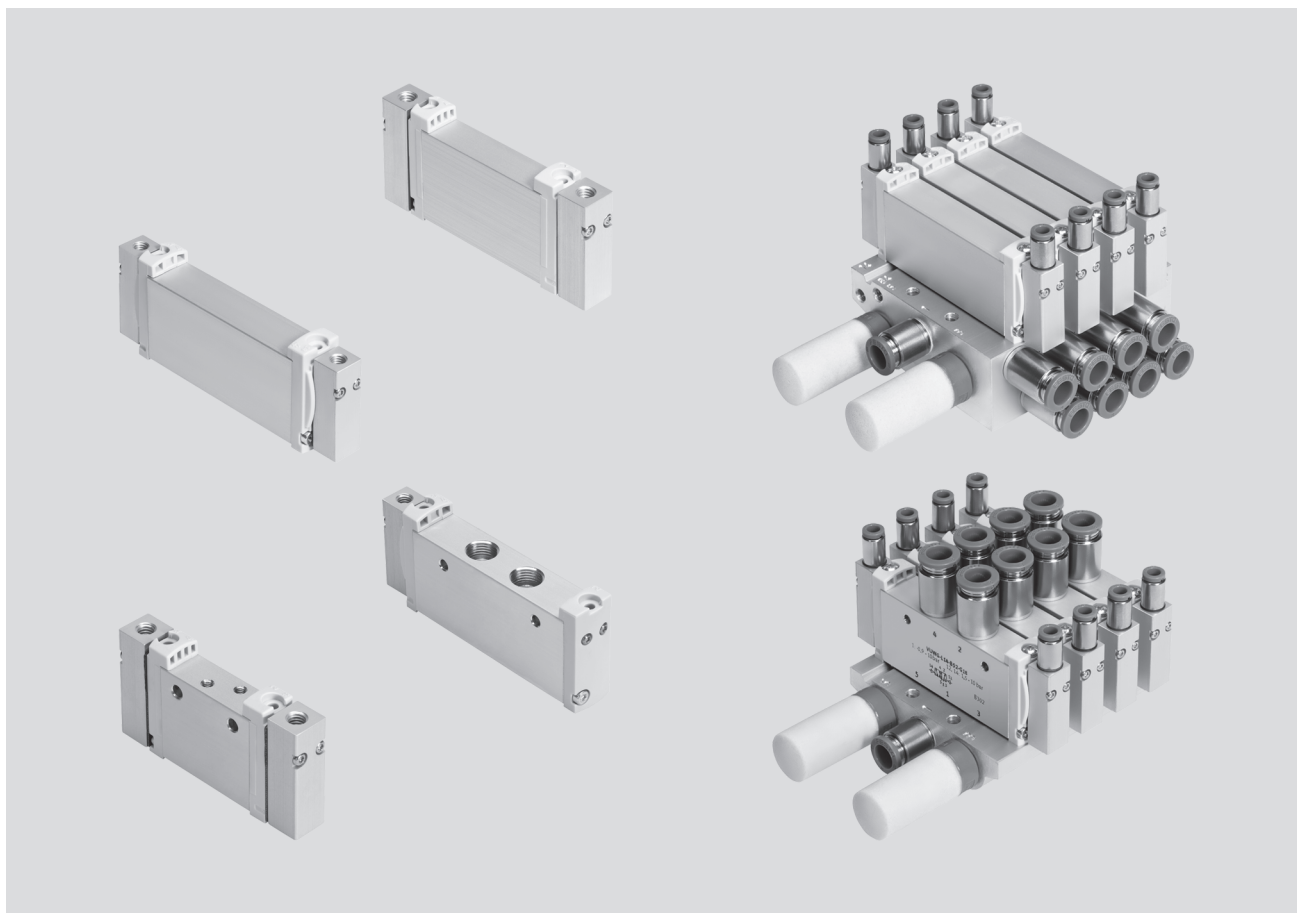
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Pneumatic valves VUWG

Key features

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Innovative

- Various connection sizes (M3, M5, M7, G $\frac{1}{8}$)
- Maximum pressure 10 bar
- 2x3/2-way valve in one valve housing

Versatile

- Wide range of valve functions
- In-line valves can be used as individual valves or manifold valves
- M5/M7 in-line valves can be mixed on one manifold rail
- Identical sub-base valves for M5 or M7 manifold rail
- Manifolds with pressure zones
- Choice of quick plug connectors

Reliable

- Sturdy and durable metal components
 - Valves
 - Manifold rails
- Convenient servicing thanks to valves that can be replaced quickly and easily

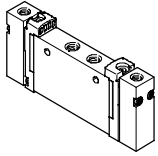
Easy to mount

- Secure mounting on wall or H-rail
- Easy mounting thanks to captive screws and seals

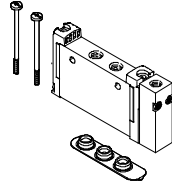
Pneumatic valves VUWG

Key features – Pneumatic components

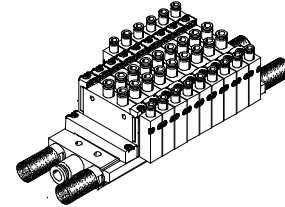
Individual valves and valve manifolds



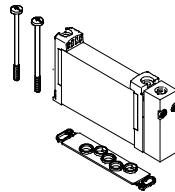
VUWG-L in-line valve as individual valve



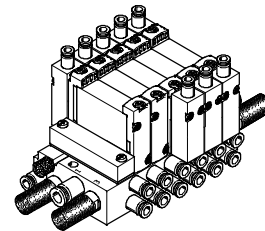
VUWG-S in-line valve for manifold assembly



VUWG-S valve manifold consisting of in-line valves



VUWG-B sub-base valve for manifold assembly

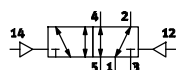


VUWG-B valve manifold consisting of sub-base valves

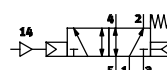
Functions



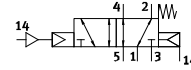
T32C: 2x3/2-way valve with external pilot air supply, 2x normally closed



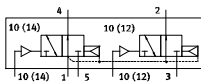
B52: 5/2-way double pilot valve with external pilot air supply



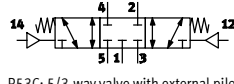
M52: 5/2-way single pilot valve (in-line valve), external pilot air supply, mechanical/pneumatic spring, size 10A/10



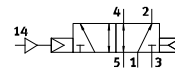
M52: 5/2-way single pilot valve (sub-base), external pilot air supply, mechanical/pneumatic spring, size 10A/10



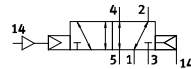
T32U: 2x3/2-way valve with external pilot air supply, 2x normally open



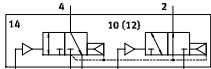
P53C: 5/3-way valve with external pilot air supply, mid-position closed



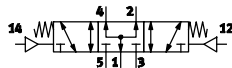
M52: 5/2-way single pilot valve (in-line valve), external pilot air supply, pneumatic spring, size 14



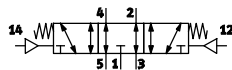
M52: 5/2-way single pilot valve (sub-base), external pilot air supply, pneumatic spring size 14



T32H: 2x3/2-way valve with external pilot air supply, 1x normally closed, 1x normally open



P53U: 5/3-way valve with external pilot air supply, mid-position pressurised



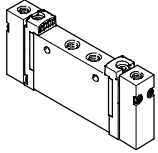
P53E: 5/3-way valve with external pilot air supply, mid-position exhausted

Pneumatic valves VUWG

Key features – Pneumatic components

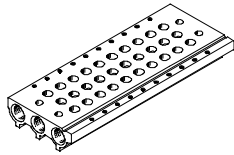
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VUWG basic valves



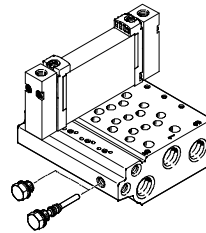
- Width 10 mm and 14 mm
- 2x3/2-way, 5/2-way and 5/3-way valves
- In-line valves
- Sub-base valves

Manifold rail for in-line valves



- For in-line valves M3, M5, M7 and G 1/8, width 10/14
- For 2x3/2-way, 5/2-way and 5/3-way valves
- 2 to 10 and 12, 14, 16 valve positions

Manifold rail for sub-base valves



- For sub-base valves 10, 10A and 14, width 10/14
- Manifold rail with M5/M7 or G 1/8 working lines
- For 2x3/2-way, 5/2-way and 5/3-way valves
- 2 to 10, 12, 14 and 16 valve positions
- The sub-base valves always have external pilot air. The pilot air is set via the manifold rail. A short (for internal pilot air) and long (for external pilot air) blanking plug are included with the manifold rail for this purpose



Note

Port 84 must not be sealed by a blanking plug when connecting a sub-base valve.

Blanking plate for vacant position



- For covering unused valve positions

Supply plate



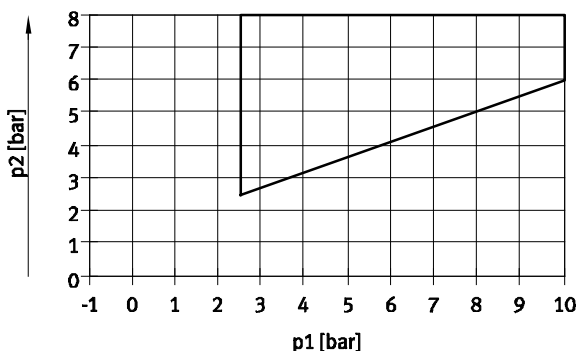
- For additional air supply and exhaust via a valve position

Separator for pressure zones



- For creating multiple pressure zones in a valve manifold

Pilot pressure p₂ as a function of operating pressure p₁



This graph applies to the 2x3/2-way valves and 5/2-way single pilot valves with air spring:

- T32CA, T32UA, T32HA,
- M52a, M52r



Note

The compressed air for the air springs is supplied from port 1 (operating pressure). To ensure reliable valve switching, the minimum pressure as per the graph must always be adhered to for the pilot pressure.

Pneumatic valves VUWG

Key features – Pneumatic components

Creating pressure zones and separating exhaust air

Compressed air is supplied and exhausted via the manifold rail and via supply plates.

The position of the supply plates and duct separations can be freely selected with the VUWG.

Pressure zones are created by isolating the internal supply ducts between the manifold sub-bases by means of appropriate duct separation.

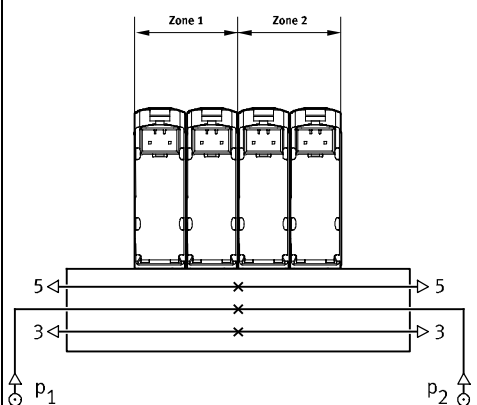
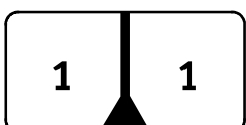
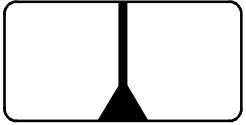
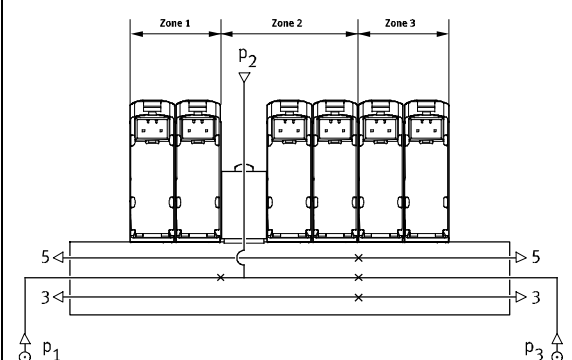
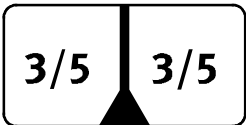
Pressure zone separation can be used for the following ducts:

- Duct 1
- Duct 3
- Duct 5

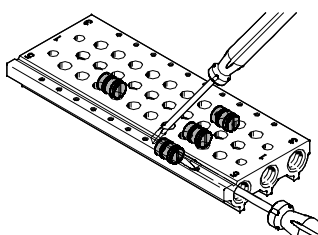


Note

- Use separators if the exhaust air pressures are high
- Use at least one supply plate/supply for each pressure zone

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

Separator VABD



Note

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

Pneumatic valves VUWG

Key features – Pneumatic components

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Operation with different pressures

Vacuum operation

Note the following with vacuum operation:

- M52 in-line valves with pneumatic spring and pneumatic/mechanical spring reset (vacuum only at 3/5)
- T32 valves with pneumatic spring reset (vacuum only at 3/5)

If external pilot air via duct 14 is used, M52 sub-base valves (B) can be used without restriction.

The remaining valve types can be used without restriction for vacuum.

Reverse operation

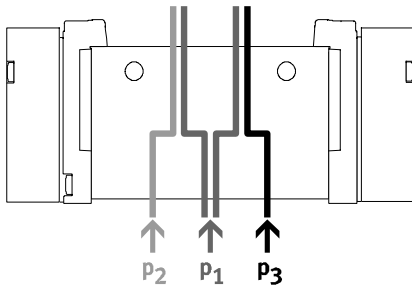
The valves with pneumatic spring are not suitable for reverse operation, since at least the minimum pilot pressure must be present in duct 1.



Note

Pressure must be present at port 1.

Pressure deflector (internal pilot air)



- If two different pressures are required.

- Different pressures can be supplied at ducts 1, 3 and 5.



Note

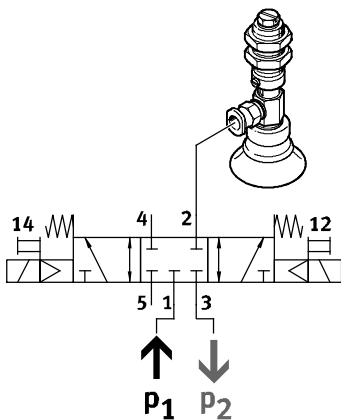
- With internal pilot air, the minimum pilot pressure must be adhered to in duct 1
- With 2x3/2-way valves without

spring return, the minimum pilot pressure must always be adhered to in duct 1

Advantages

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

Vacuum, ejector pulse and normal position

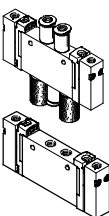
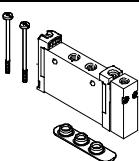


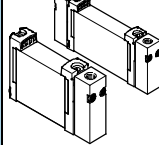
Vacuum, ejector pulse and normal position with internal pilot air can be achieved by connecting vacuum

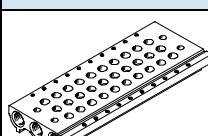
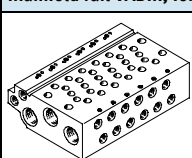
at duct 3 and pressure for the ejector pulse at duct 1.

Pneumatic valves VUWG/valve terminals type 26 VTUG

Product range overview

Design		Working line	Type code	Functions and flow rate [l/min]								→ Page/ Internet
				T32C	T32U	T32H	M52	B52	P53C	P53U	P53E	
In-line valve as individual valve	VUWG-L											
		M3	10A	–	–	–	■ 100	■ 100	■ 90	■ 90	■ 90	9
		M5	10	■ 150	■ 150	■ 150	■ 220	■ 220	■ 210	■ 210	■ 210	15
		M7	10	■ 190	■ 190	■ 190	■ 380	■ 380	■ 320	■ 320	■ 320	15
		G1/8	14	■ 650	■ 600	■ 650	■ 780	■ 780	■ 650	■ 600	■ 600	23
In-line valve for manifold assembly	VUWG-S											
		M3	10A	–	–	–	■ 100	■ 100	■ 90	■ 90	■ 90	12
		M5	10	■ 150	■ 150	■ 150	■ 220	■ 220	■ 210	■ 210	■ 210	20
		M7	10	■ 170	■ 170	■ 170	■ 340	■ 340	■ 300	■ 300	■ 300	20
		G1/8	14	■ 580	■ 580	■ 580	■ 700	■ 700	■ 600	■ 600	■ 600	26

Design		Working line	Type code	Functions and flow rate [l/min]								→ Page/ Internet
				T32C	T32U	T32H	M52	B52	P53C	P53U	P53E	
Sub-base valve	VUWG-B											
		–	10A	–	–	–	■ 100	■ 100	■ 90	■ 90	■ 90	29
		–	10	■ 150	■ 150	■ 150	■ 210	■ 210	■ 200	■ 200	■ 200	35
		–	10	■ 160	■ 160	■ 160	■ 270	■ 270	■ 250	■ 250	■ 250	35
		–	14	■ 540	■ 510	■ 540	■ 580	■ 580	■ 540	■ 510	■ 510	41

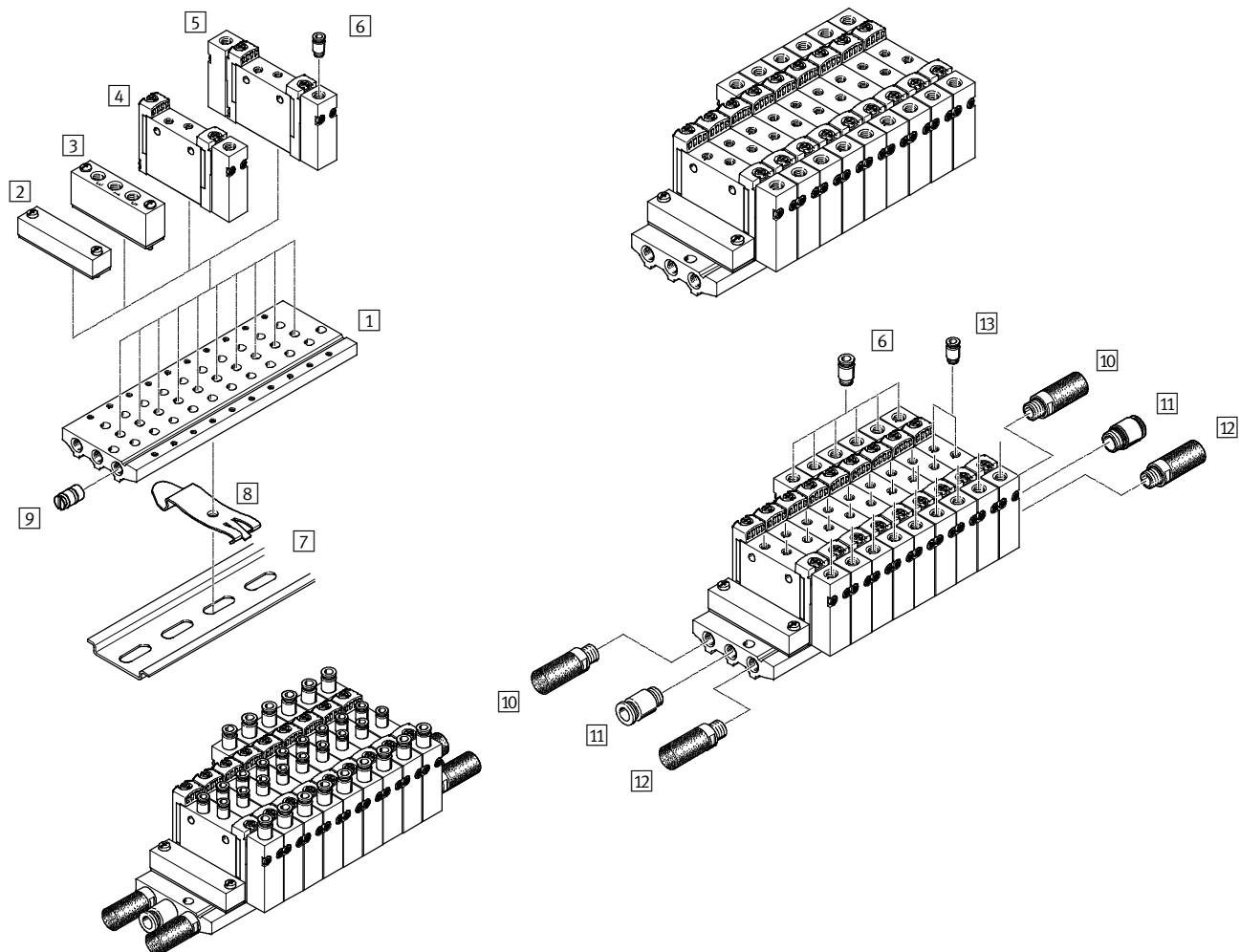
Design	Working line	Type code	Description	→ Page/ Internet
Manifold rail	Manifold rail VABM- ... -S- ... , for in-line valves (manifold assembly)			
		–	Valve size M3, M5, M7, G1/8	vabm
	Manifold rail VABM, for sub-base valves			
		–	10AW Connection size M3	vabm
		–	10W Connection size M5	
		–	10HW Connection size M7	
		–	14W Connection size G1/8	

Pneumatic valves VUWG-L10A, in-line valves M3

System overview

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Manifold assembly



Manifold assembly and accessories			
	Type	Brief description	→ Page/Internet
1	Manifold rail	VABM-L1-10AS-M5	For 2 to 10, 12, 14 and 16 valve positions
2	Blanking plate	VABB-L1-10A	For covering an unused valve position
3	Supply plate	VABF-L1-10-P3A4- M5	For air supply port 1 and ports 3 and 5
4	Pneumatic valve	VUWG	Single pilot pneumatic valve
5	Pneumatic valve	VUWG	Double pilot pneumatic valve
6	Push-in fitting	QS	For adapter plate for port 12 or 14
7	H-rail	NRH-35-2000	For mounting the valve manifold
8	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail
9	Separator	VABD-4.2-B	For creating pressure zones
10	Silencer	U	For port 3
11	Push-in fitting	QS	For port 1
12	Silencer	U	For port 5
13	Push-in fitting	QS	For ports 2 and 4

Pneumatic valves VUWG-L10A, in-line valves M3

Technical data

Function

5/2-way, single pilot

5/2-way, double pilot

5/3-way, closed, exhausted,
pressurised

 Width 10 mm

 Flow rate
90 ... 100 l/min


General technical data							
Valve function		5/2-way, single pilot	5/2-way, double pilot	5/2M-way	5/3-way		
Normal position		–	–	–	C ¹⁾	U ²⁾	E ³⁾
Pneumatic spring reset method		Yes ⁵⁾	–	No	No		
Mechanical spring reset method		Yes ⁵⁾	–	Yes	Yes		
Vacuum operation at port 1		No	Yes	Yes	Yes		
Design		Piston spool valve					
Sealing principle		Soft					
Actuation type		Pneumatic					
Type of control		Direct					
Pilot air supply		External					
Exhaust function		With flow control					
Type of mounting		Optionally via through-holes ⁷⁾ or on manifold rail					
Mounting position		Any					
Standard nominal flow rate	[l/min]	100		80	90		
Switching time on/off	[ms]	7/15	–	5/16	8/25		
Changeover time	[ms]	–	5	–	14		
Width	[mm]	10					
Port	1, 2, 3, 4, 5	M3					
	12, 14	M5					
Product weight	[g]	37	41	34	40.5		
Corrosion resistance class	CRC	2 ⁶⁾					

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

5) Combined reset method

6) 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.

7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

Pneumatic valves VUWG-L10A, in-line valves M3

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Technical data

Operating and environmental conditions				
Valve function	5/2-way, single pilot	5/2-way, double pilot	5/2M-way	5/3-way
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]			
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)			
Operating pressure [bar]	2.5 ... 10	-0.9 ... 10	-0.9 ... 8	-0.9 ... 10
Pilot pressure ¹⁾ [bar]	2.5 ... 10	1.5 ... 10	3 ... 10	
Ambient temperature [°C]	-5 ... +60			
Temperature of medium [°C]	-5 ... +50			

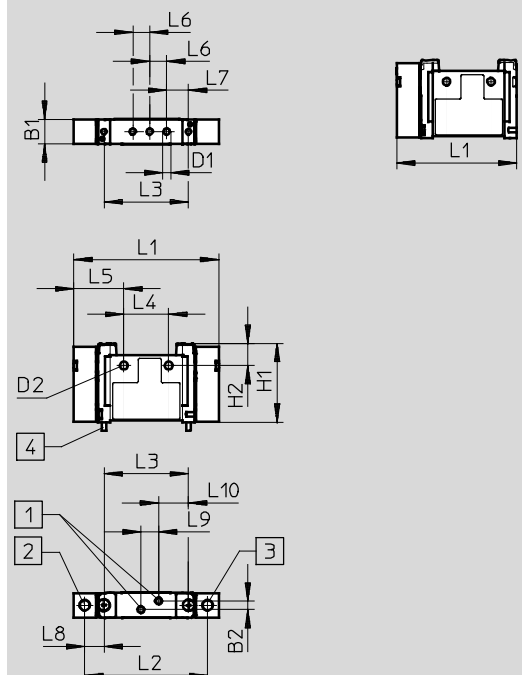
1) Note operating pressure/pilot pressure graph → page 4

Information on materials	
Housing	Anodised aluminium
Seals	HNBR, NBR
Note on materials	RoHS-compliant

Dimensions

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

Download CAD data → www.festo.com



1 Ports 2, 4: M3

2 Port 14: M5

3 Port 12: M5

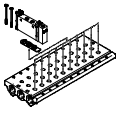
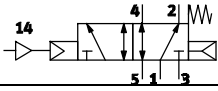
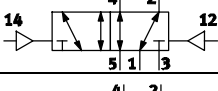
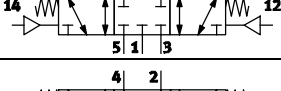
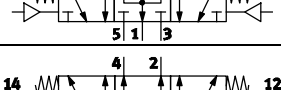
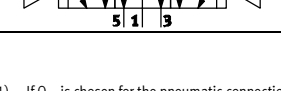
4 M2.5 mounting screw

Type	B1	B2	D1	D2	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
VUWG-L-10A-...	10.3	3.6	M3	3.2	32.5	9.1	59.9	50.7	34.9	18.5	20.7	7	9	7.9	7.3	12.4
VUWG-L-10A-M52...							49.9									

Pneumatic valves VUWG-L10A and VUWG-S10A, in-line valves M3

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Order code

VUWG	-	10A	-		-		-		
Valve design									
In-line, individual valve		L							Exhausting with VUWG-L
									QN Via fitting ¹⁾
In-line, manifold valve incl. seal and screws		S							U Silencer
									- M3
Width									
10 mm		10A							
Valve functions									
									M52
									B52
									P53C
									P53U
									P53E

- 1) If Q... is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5 (only possible with Q3)
- 2) Flow rate applies to 5/2-way individual valve

Pneumatic connection	Flow rate [l/min] ²⁾
M3 Thread M3	100
Q3 Push-in connector 3 mm/M3	80
Q4 Push-in connector 4 mm/M3	100
T18 Push-in connector 1/8"	80
T532 Push-in connector 5/32"	100

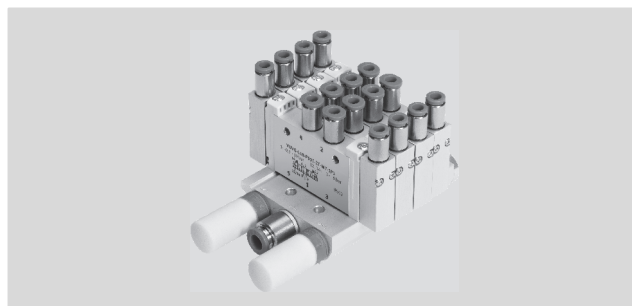
Reset method	
M	Mechanical spring for M52
R	Pneu./mech. spring for M52
-	With B52 and P53

Pneumatic valves VUWG-S10A, in-line valves M3

Manifold assembly

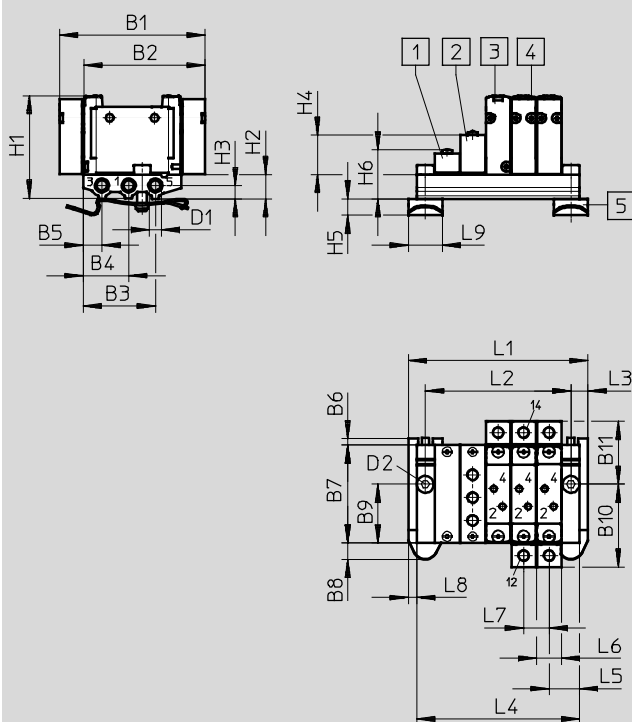
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In-line valves for
manifold assembly



Dimensions

Download CAD data → www.festo.com



1 Blanking plate VABB-L1-10A-S
2 Supply plate
VABF-L1-10A-P3A4-M5

3 Single pilot pneumatic valve
4 Double pilot pneumatic valve

5 H-rail mounting (two M4x15
screws to DIN 912 are required
for mounting)

Type												
VABM-L1-10AS-M5	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	D1
	59.9	49.9	29.7	18.7	7.7	2.95	40.3	6.75	24.2	34	25.9	M5
	D2	H1	H2	H3	H4	H5	H6	L3	L5	L6	L7	L8
	Ø 4.5	42.5	10	5.5	16.2	6.8	20.3	7	12.5	10.3	10.5	3.5
	L9											
	14											

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	42.5	53	63.5	74	84.5	95	105.5	116	126.5	147.5	168.5	189.5
L2 [mm]	28.5	39	49.5	60	70.5	81	91.5	102	112.5	133.5	154.5	175.5
L4 [mm]	35.5	46	56.5	67	77.5	88	98.5	109	119.5	140.5	161.5	182.5

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Ordering data

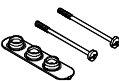
Technical data – Manifold rails							
	Port	CRC	Material ²⁾	Operating pressure	Max. tightening torque for assembly [Nm]		
	1, 3, 5			[bar]	Valve	H-rail	Wall
	M5	2 ¹⁾	Wrought aluminium alloy	-0.9 ... 10	0.45	1.5	3

- 1) 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.
- 2) Note on materials: RoHS-compliant

Order code – Manifold rails

VABM	-	L1	-	10A	S	-	M5	-	
Manifold assembly parts									Number of valve positions
Manifold rail	VABM								2 to 10, 12, 14 and 16
Valve series									Ports 1, 3, 5
VUWG		L1					M5	M5	
Valve width									
10 mm				10A					
Manifold rail with ports 1, 3, 5									
For M3 in-line valves						S			

Ordering data – Accessories

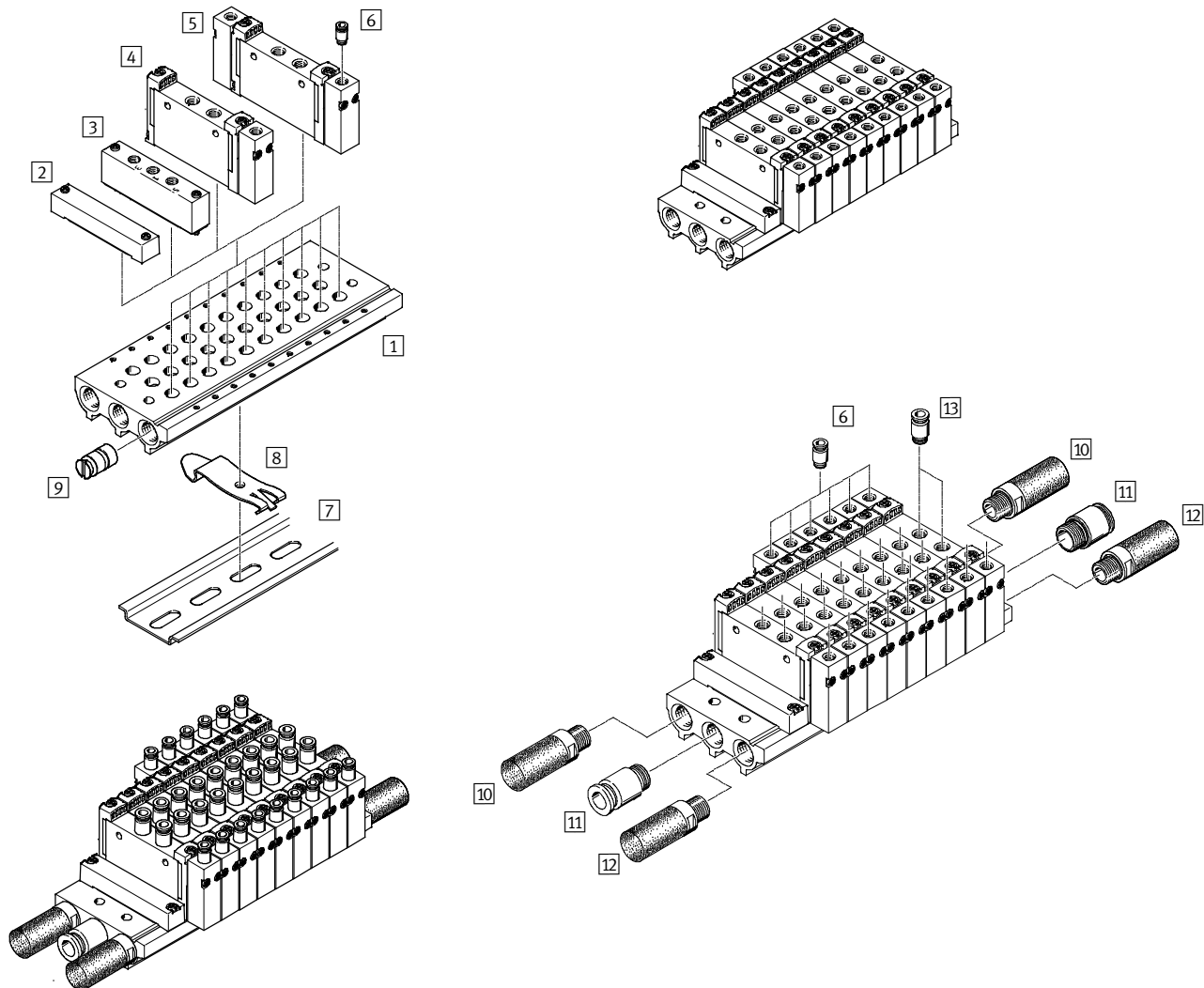
Blanking plate			Type
	For manifold rail for M3 in-line valves	Incl. screws and seal	Technical data → Internet: vabb VABB-L1-10A
Separator			Technical data → Internet: vabd
	For manifold rail for M3 in-line valves	Separator for pressure zones	VABD-4.2-B
Supply plate			Technical data → Internet: vabf
	For manifold rail for M3 in-line valves	Incl. screws and seal	VABF-L1-10A-P3A4-M5
Seals for in-line valves			Technical data → Internet: vabd
	M3	10 seals and 20 screws	VABD-L1-10AX-S-M3

Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M5/M7

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System overview

Manifold assembly



Manifold assembly and accessories				
	Type	Brief description	➔ Page/Internet	
1	Manifold rail	VABM-L1-10S-G18	For 2 to 10, 12, 14 and 16 valve positions	21
2	Blanking plate	VABB-L1-10-S	For covering an unused valve position	21
3	Supply plate	VABF-L1-10-P3A4	For air supply port 1 and ports 3 and 5	21
4	Pneumatic valve	VUWG	Single pilot pneumatic valve	15
5	Pneumatic valve	VUWG	Double pilot pneumatic valve	15
6	Push-in fitting	QS	For adapter plate for port 12 or 14	46
7	H-rail	NRH-35-2000	For mounting the valve manifold	46
8	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	46
9	Separator	VABD-8-B	For creating pressure zones	46
10	Silencer	U	For port 3	46
11	Push-in fitting	QS	For port 1	46
12	Silencer	U	For port 5	46
13	Push-in fitting	QS	For ports 2 and 4	46

Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M5

Technical data

Function

2x3/2C, 2x3/2U, 2x3/2H

5/2-way, single pilot

5/2-way, double pilot

5/3C, 5/3U, 5/3E

 Width 10 mm

 Flow rate
150 ... 220 l/min


General technical data								
Valve function	2x3/2-way, single pilot			5/2-way, single pilot	5/2-way, double pilot	5/3-way, single pilot		
Normal position	C ¹⁾	U ²⁾	H ⁴⁾	–	–	C ¹⁾	U ²⁾	E ³⁾
Pneumatic spring reset method	Yes			Yes ⁵⁾	–	No		
Mechanical spring reset method	No			Yes ⁵⁾	–	Yes		
Vacuum operation at port 1	No				Yes			
Design	Piston spool valve							
Sealing principle	Soft							
Actuation type	Pneumatic							
Type of control	Direct							
Pilot air supply	External							
Exhaust function	With flow control							
Type of mounting	Optionally via through-holes ⁷⁾ or on manifold rail							
Mounting position	Any							
Standard nominal flow rate	[l/min]	150		220		210		
Switching time on/off	[ms]	6/16		7/19		10/30		
Changeover time	[ms]	–				7	16	
Width	[mm]	10						
Port	1, 2, 3, 4, 5	M5						
	12, 14	M5						
Product weight	[g]	48		45		48		
Corrosion resistance class	CRC	2 ⁶⁾						

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

5) Combined reset method

6) 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.

7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M5

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Technical data

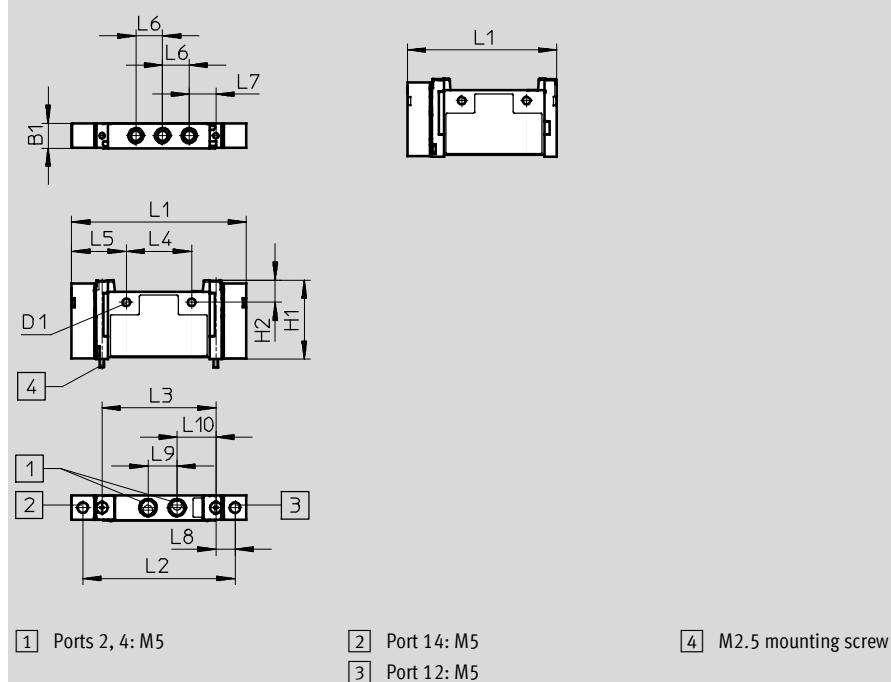
Operating and environmental conditions				
Valve function	2x3/2-way	5/2-way, single pilot	5/2-way, double pilot	5/3-way
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]			
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)			
Operating pressure [bar]	1.5 ... 10	2.5 ... 10	-0.9...10	
Pilot pressure [bar]	1.5 ... 10 ¹⁾	2.5 ... 10 ¹⁾	1.5 ... 10	3 ... 10
Ambient temperature [°C]	-5 ... +60			
Temperature of medium [°C]	-5 ... +50			

1) Note operating pressure/pilot pressure graph → page 4

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

Dimensions Download CAD data → www.festo.com

2x3/2-way, 5/2-way and 5/3-way valve



Type	B1	D1	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
VUWG-L-10-...	10.2	3.2	32.5	9.1	72	62.8	47	27	22.5	11	11	7.9	12	16
VUWG-L-10-M52-...					62									

Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M7

Technical data

Function

2x3/2C, 2x3/2U, 2x3/2H

5/2-way, single pilot

5/2-way, double pilot

5/3C, 5/3U, 5/3E

 Width 10 mm

 Flow rate
190 ... 380 l/min


General technical data										
Valve function	2x3/2-way, single pilot			2x3/2M-way			5/2-way, single pilot	5/2-way, double pilot	5/2M-way	5/3-way, single pilot
Normal position	C ¹⁾	U ²⁾	H ⁴⁾	C ¹⁾	U ²⁾	H ⁴⁾	–	–	–	C ¹⁾ U ²⁾ E ³⁾
Pneumatic spring reset method	Yes			No			Yes ⁵⁾	–	No	No
Mechanical spring reset method	No			Yes			Yes ⁵⁾	–	Yes	Yes
Vacuum operation at port 1	No			Yes			No	Yes	Yes	Yes
Design	Piston spool valve									
Sealing principle	Soft									
Actuation type	Pneumatic									
Type of control	Direct									
Pilot air supply	External									
Exhaust function	With flow control									
Type of mounting	Optionally via through-holes ⁷⁾ or on manifold rail									
Mounting position	Any									
Standard nominal flow rate	[l/min]	190		150		380		380	320	320
Switching time on/off	[ms]	6/16		6/7		7/19		–	7/16	10/30
Changeover time	[ms]	–		–		–		7	–	16
Width	[mm]	10								
Port	1, 2, 3, 4, 5	M7								
	12, 14	M5								
Product weight	[g]	48		51		45		48	41	48
Corrosion resistance class	CRC	2 ⁶⁾								

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

5) Combined reset method

6) 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.

7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M7

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Technical data

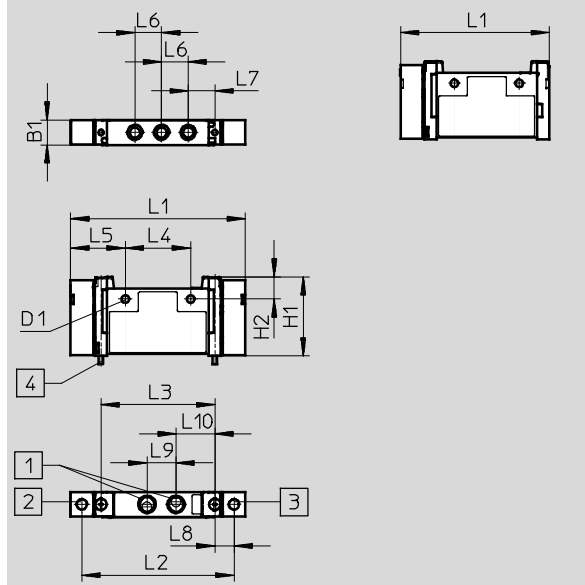
Operating and environmental conditions						
Valve function	2x3/2-way	2x3/2M-way	5/2-way, single pilot	5/2-way, double pilot	5/2M-way	5/3-way
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]					
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Operating pressure [bar]	1.5 ... 10	-0.9 ... 10	2.5 ... 10	-0.9 ... 10	-0.9 ... 8	-0.9 ... 10
Pilot pressure ¹⁾ [bar]	1.5 ... 10	2 ... 10	2.5 ... 10	1.5 ... 10	3 ... 10	3 ... 10
Ambient temperature [°C]	-5 ... +60					
Temperature of medium [°C]	-5 ... +50					

1) Note operating pressure/pilot pressure graph → page 4

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

Dimensions

2x3/2-way, 5/2-way and 5/3-way valve



1 Ports 2, 4: M7

2 Port 14: M5

3 Port 12: M5

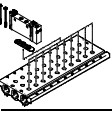
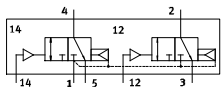
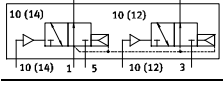
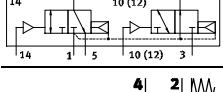
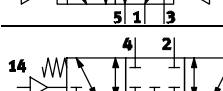
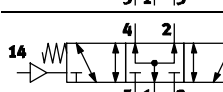
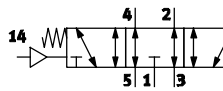
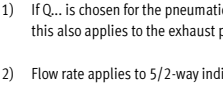
4 M2.5 mounting screw

Download CAD data → www.festo.com

Type	B1	D1	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
VUWG-L-10 -...-	10.2	3.2	32.5	9.1	72	62.8	47	27	22.5	11	11	7.9	12	16
VUWG-L-10-M52 ...					62									

Pneumatic valves VUWG-L10 and VUWG-S10, in-line valves M5/M7

Order code

VUWG	-	10	-
Valve design			
In-line, individual valve		L	
			
In-line valve, manifold valve incl. seal and screws		S	
			
Width			
10 mm		10	
Valve functions			
			T32C
			T32U
			T32H
			M52
			B52
			P53C
			P53U
			P53E

1) If Q... is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5

2) Flow rate applies to 5/2-way individual valve

		Exhausting with VUWG-L
QN	QS if QS ¹⁾	
U	Silencer	
-	M5 and M7	
Pneumatic connection		Flow rate [l/min]²⁾
M5	Thread M5	220
Q3	Push-in connector 3 mm/M5	100
Q4	Push-in connector 4 mm/M5	200
Q6	Push-in connector 6 mm/M5	220
T14	Push-in connector 1/4"	220
T18	Push-in connector 1/8"	100
T316	Push-in connector 3/16"	200
T532	Push-in connector 5/32"	200
M7	Thread M7	380
Q4H	Push-in connector 4 mm/M7	220
Q6H	Push-in connector 6 mm/M7	330
T14H	Push-in connector 1/4", M7	330
T316H	Push-in connector 3/16", M7	200
Reset method		
A	Pneumatic spring for T32 and M52	
M	Mechanical spring for T32 and M52	
R	Pneu./mech. spring for M52	
-	With B52 and P53	

Pneumatic valves VUWG-S10, in-line valves M5/M7

Manifold assembly

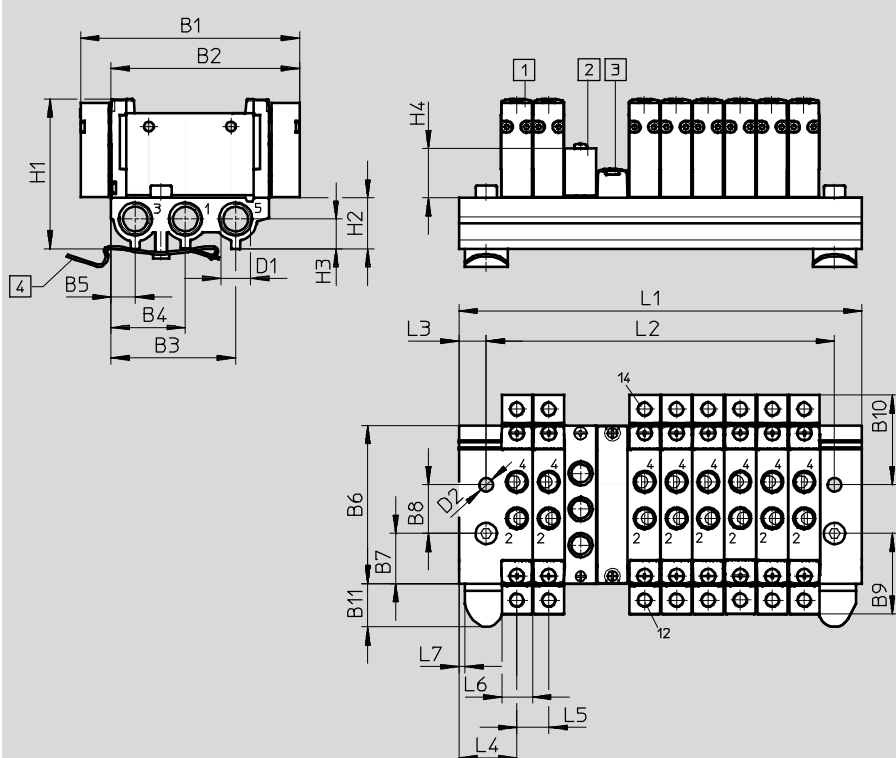
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In-line valves for
manifold assembly



Dimensions

Download CAD data → www.festo.com



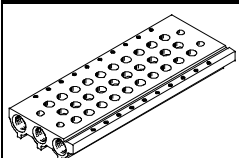
- 1 Pneumatic valve
 2 Supply plate M5 or M7 for 1, 3, 5
 3 Blanking plate VABB-L1-10-S
 4 H-rail mounting (two M4x20 screws to DIN 912 are required)

Type											
VABM-L1-10S-G18	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
	72	62	41	24.5	8	52	16.5	16	26.5	29.5	14.45
	D1	D2	H1	H2	H3	H4	H4	L3	L4	L5	L6
	G $\frac{1}{8}$	4.5	49.3	16.8	7	16.2	16.2	9	19	10.5	10.3
	L7										
	2										

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16	22
L1 [mm]	48.5	59	69.5	80	90.5	101	111.5	122	132.5	153.5	174.5	195.5	258.5
L2 [mm]	30.5	41	51.5	62	72.5	83	93.5	104	114.5	135.5	156.5	177.5	240.5

Pneumatic valves VUWG-S10, in-line valves M5/M7

Ordering data

Technical data – Manifold rails							
	Port	CRC	Material ²⁾	Operating pressure	Max. tightening torque for assembly [Nm]		
	1, 3, 5			[bar]	Valve	H-rail	Wall
	G $\frac{1}{8}$	2 ¹⁾	Wrought aluminium alloy	–0.9 ... 10	0.45	1.5	3

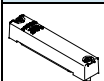
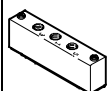
1) Corrosion resistance class 2 according to Festo standard 940 070

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.

2) Note on materials: RoHS-compliant

Order code – Manifold rails

VABM	-	L1	-	10	S	-	G18	-	
Manifold assembly parts									Number of valve positions
Manifold rail		VABM							2 to 10, 12, 14 and 16
Valve series									Ports 1, 3, 5
VUWG		L1					G18	G$\frac{1}{8}$	
Valve width									
10 mm				10					
Manifold rail with ports 1, 3, 5									
For M5 and M7 in-line valves					S				

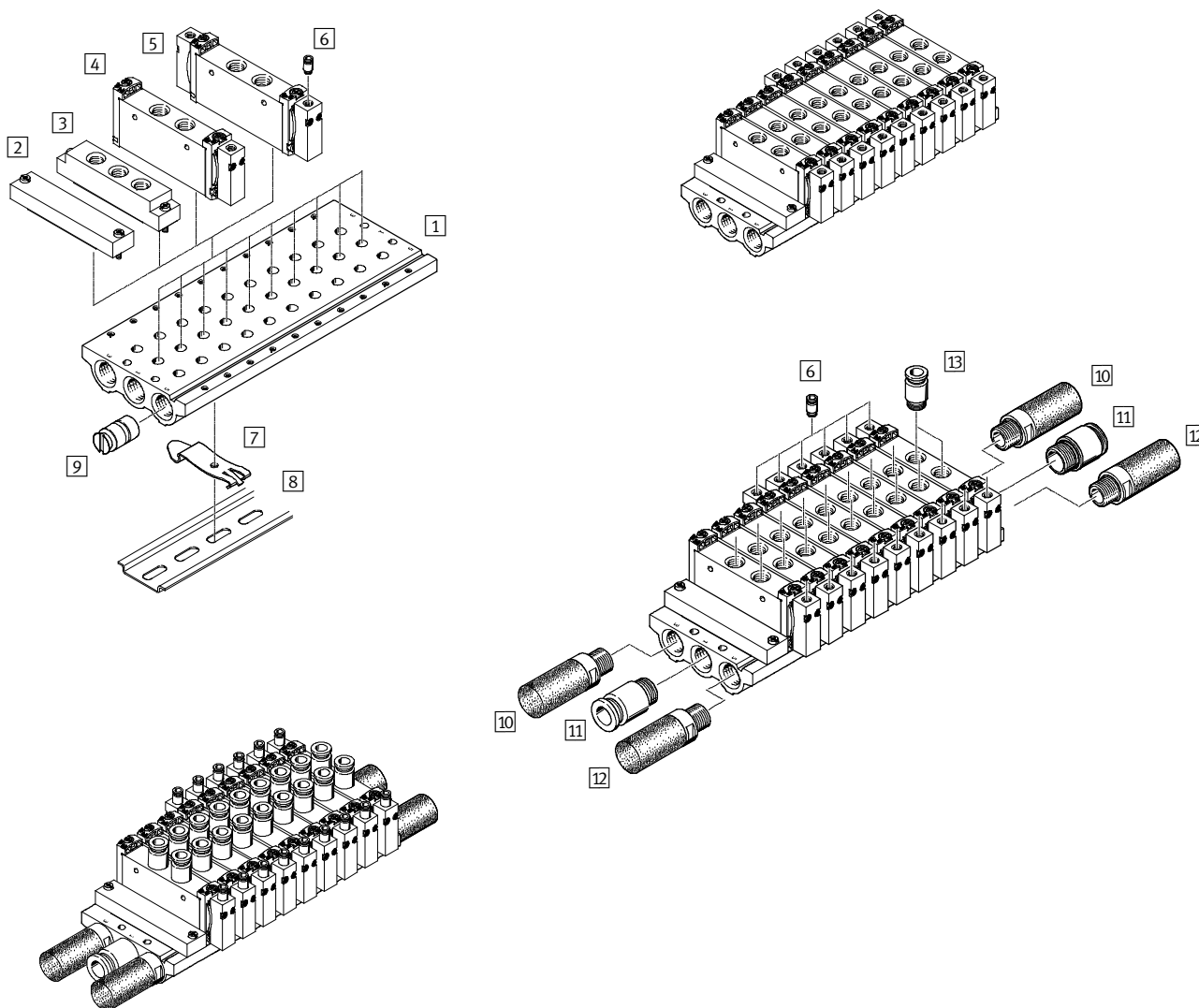
Ordering data – Accessories				Type
Blanking plate				Technical data → Internet: vabb
	For manifold rail for M5/M7 in-line valves	Incl. screws and seal		VABB-L1-10-S
Separator				Technical data → Internet: vabd
	For manifold rail for M5/M7 in-line valves	Separator for pressure zones		VABD-8-B
Supply plate				Technical data → Internet: vabf
	For manifold rail for M5 in-line valves	Incl. screws and seal		VABF-L1-10-P3A4-M5
	For manifold rail for M7 in-line valves			VABF-L1-10-P3A4-M7
Seals for in-line valves				Technical data → Internet: vabd
	M5	10 seals and 20 screws		VABD-L1-10X-S-M5
	M7			VABD-L1-10X-S-M7

Pneumatic valves VUWG-L14 and VUWG-S14, in-line valves G1/8

System overview

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Manifold assembly



Manifold assembly and accessories			
	Type	Brief description	→ Page/Internet
1	Manifold rail	VABM-L1-14S-G14	For 2 to 10, 12, 14 and 16 valve positions
2	Blanking plate	VABB-L1-14	For covering an unused valve position
3	Supply plate	VABF-L1-14-P3A4-G18	For air supply port 1 and ports 3 and 5
4	Pneumatic valve	VUWG	Single pilot pneumatic valve
5	Pneumatic valve	VUWG	Double pilot pneumatic valve
6	Push-in fitting	QS	For adapter plate for port 12 or 14
7	H-rail	NRH-35-2000	For mounting the valve manifold
8	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail
9	Separator	VABD-10-B	For creating pressure zones
10	Silencer	U	For port 3
11	Push-in fitting	QS	For port 1
12	Silencer	U	For port 5
13	Push-in fitting	QS	For ports 2 and 4

Pneumatic valves VUWG-L14 and VUWG-S14, in-line valves G1/8

Technical data

Function

2x3/2C, 2x3/2U, 2x3/2H

5/2-way, single pilot

5/2-way, double pilot

5/3C, 5/3U, 5/3E

 Width 14 mm

 Flow rate
580 ... 780 l/min


General technical data																
Valve function		2x3/2-way, single pilot			2x3/2M-way			5/2-way, single pilot		5/2-way, double pilot		5/2M-way		5/3-way, single pilot		
Normal position		C ¹⁾	U ²⁾	H ⁴⁾	C ¹⁾	U ²⁾	H ⁴⁾	–	–	–		C ¹⁾	U ²⁾	E ³⁾		
Pneumatic spring reset method		Yes			No			Yes		–		No		No		
Mechanical spring reset method		No			Yes			No		–		Yes		Yes		
Vacuum operation at port 1		No			Yes			No		Yes		Yes		Yes		
Design		Piston spool valve														
Sealing principle		Soft														
Actuation type		Pneumatic														
Type of control		Direct														
Pilot air supply		External														
Exhaust function		With flow control														
Type of mounting		Optionally via through-holes ⁷⁾ or on manifold rail														
Mounting position		Any														
Standard nominal flow rate		[l/min]	650	600	650	430	410	410	780	780	780		650	600	600	
Switching time on/off		[ms]	8/23			9/13			14/28		–		12/32		12/40	
Changeover time		[ms]	–			–			–		8		–		20	
Width		[mm]	14													
Port		1, 2, 3, 4, 5	G1/8													
		14	M5													
Product weight		[g]	85			77			75		81		67		81	
Corrosion resistance class		CRC	2 ⁶⁾													

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

6) 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.

7) If several valves are to be screwed together via the through-holes to form a block, a minimum gap of 0.3 mm must be ensured by placing spacer discs between them.

Pneumatic valves VUWG-L14 and VUWG-S14, in-line valves G¹/₈

FESTO

Technical data

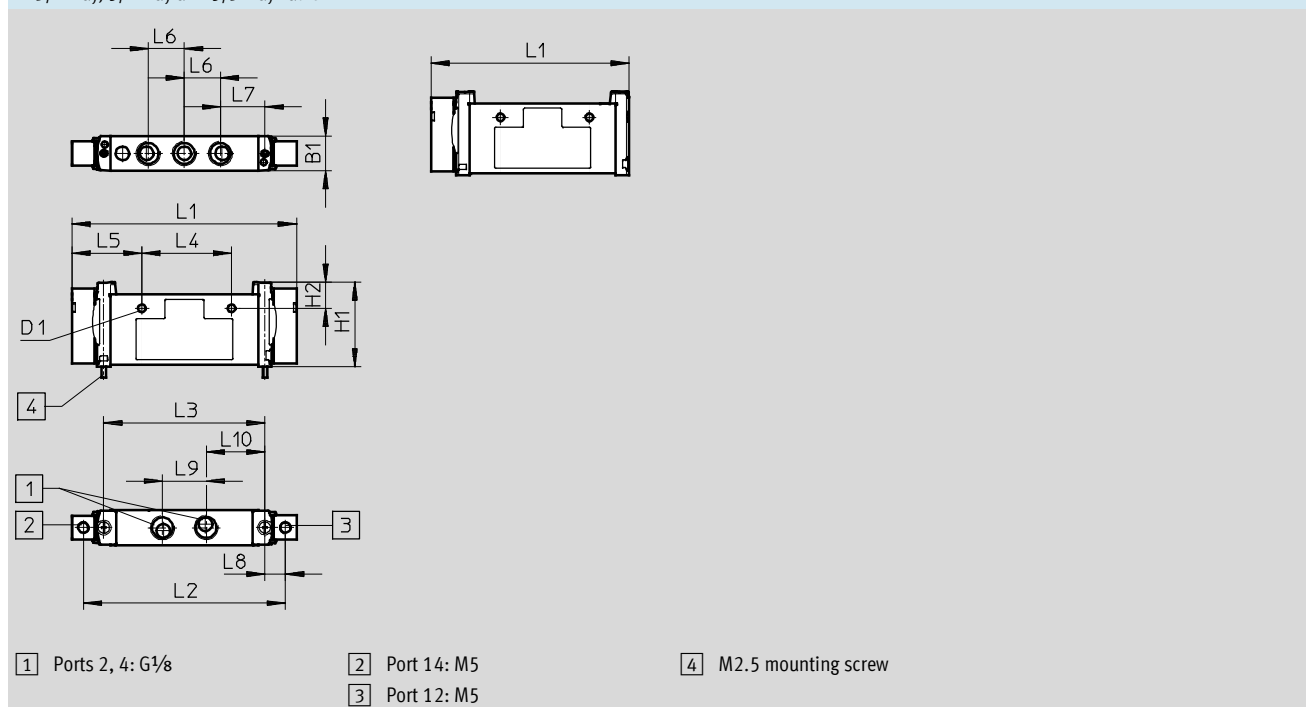
Operating and environmental conditions						
Valve function	2x3/2-way	2x3/2M-way	5/2-way, single pilot	5/2-way, double pilot	5/2M-way	5/3-way
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]					
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Operating pressure [bar]	1.5 ... 10	-0.9 ... 10	2.5 ... 10	-0.9 ... 10	-0.9 ... 8	-0.9 ... 10
Pilot pressure ¹⁾ [bar]	1.5 ... 10	2 ... 10	2.5 ... 10	1.5 ... 10	3 ... 10	3 ... 10
Ambient temperature [°C]	-5 ... +60					
Temperature of medium [°C]	-5 ... +50					

1) Note operating pressure/pilot pressure graph → page 4

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

Dimensions Download CAD data → www.festo.com

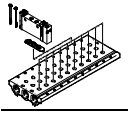
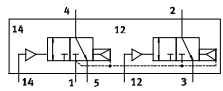
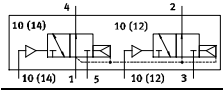
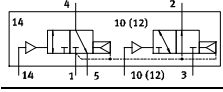
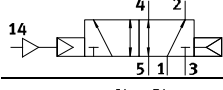
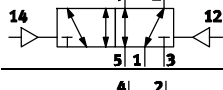
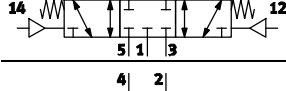
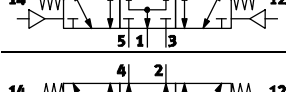
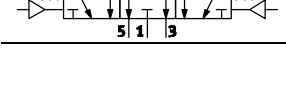
2x3/2-way, 5/2-way and 5/3-way valve



Type	B1	D1	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
VUWG-L14-...	14.4	3.2	34.8	10.8	92.6	83.4	66.5	37	28.8	14.9	18.35	8.45	18	24.25
VUWG-L14-M52 ...					82.25									

Pneumatic valves VUWG-L14 and VUWG-S14, in-line valves G1/8

Order code

VUWG	-	14	-		-		-		
Valve design									
In-line, individual valve		L							Exhausting with VUWG-L
									QN QS if QS ¹⁾
In-line, manifold valve incl. seal and screws		S							U Silencer
									- G1/8
Width									
14 mm		14							
Valve functions									
								T32C	
								T32U	
								T32H	
								M52	
								B52	
								P53C	
								P53U	
								P53E	

1) If Q... is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5

2) Flow rate applies to 5/2-way individual valve

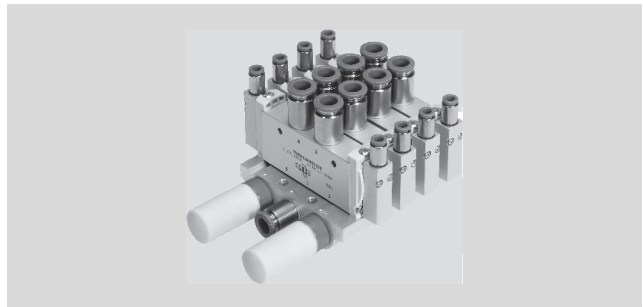
Reset method	
A	Pneumatic spring for T32 and M52
M	Mechanical spring for T32 and M52
-	With B52 and P53

Pneumatic valves VUWG-S14, in-line valves G1/8

Manifold assembly

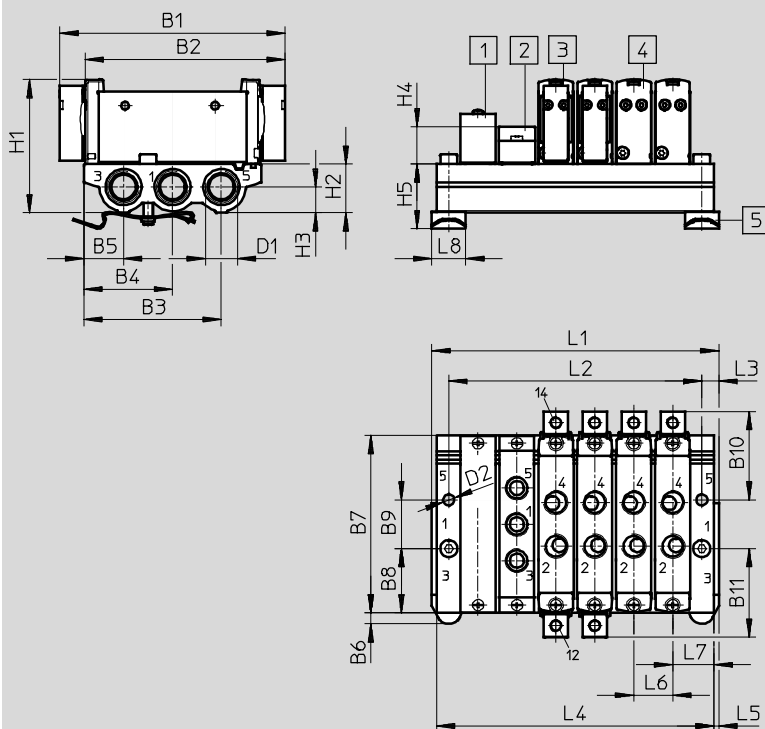
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In-line valves for
manifold assembly



Dimensions

Download CAD data → www.festo.com



- | | | |
|--|---------------------------------------|--|
| 1 Blanking plate
VABB-L1-14 | 3 Double pilot pneumatic valve | 5 H-rail mounting
(two M4x25 screws to DIN 912
are required for mounting) |
| 2 Supply plate
VABF-L1-14-P3A4-G18 | 4 Single pilot pneumatic valve | |

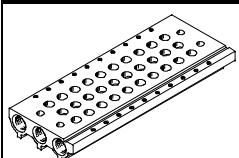
Type												
VABM-L1-14S-G14	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	D1
	92.6	82.3	56.6	36.5	16.4	4.5	72.9	26.45	20	36.3	36.3	G1/4
	D2	H1	H2	H3	H4	H5	L3	L5	L6 ¹⁾	L7		
	Ø 4.5	54.8	20	10.6	15.4	26.4	7	2	16	17		

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	54	70	86	98	118	134	150	166	182	214	246	278
L2 [mm]	40	56	72	88	104	120	136	152	168	200	232	264
L4 [mm]	50	66	82	98	114	130	146	162	178	210	242	274

1) Grid dimension

Pneumatic valves VUWG-S14, in-line valves G1/8

Ordering data

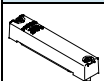
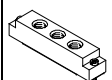
Technical data – Manifold rails							
	Port	CRC	Material ²⁾	Operating pressure	Max. tightening torque for assembly [Nm]		
	1, 3, 5			[bar]	Valve	H-rail	Wall
	G1/4	2 ¹⁾	Wrought aluminium alloy	–0.9 ... 10	0.65	1.5	3

1) 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.

2) Note on materials: RoHS-compliant

Order code – Manifold rails							
VABM	-	L1	-	14	S	-	G14
Manifold assembly parts							Number of valve positions
Manifold rail		VABM					2 to 10, 12, 14 and 16
Valve series							Ports 1, 3, 5
VUWG		L1					G14 G1/4
Valve width							
14 mm				14			
Manifold rail with ports 1, 3, 5							
For G 1/8 in-line valves					S		

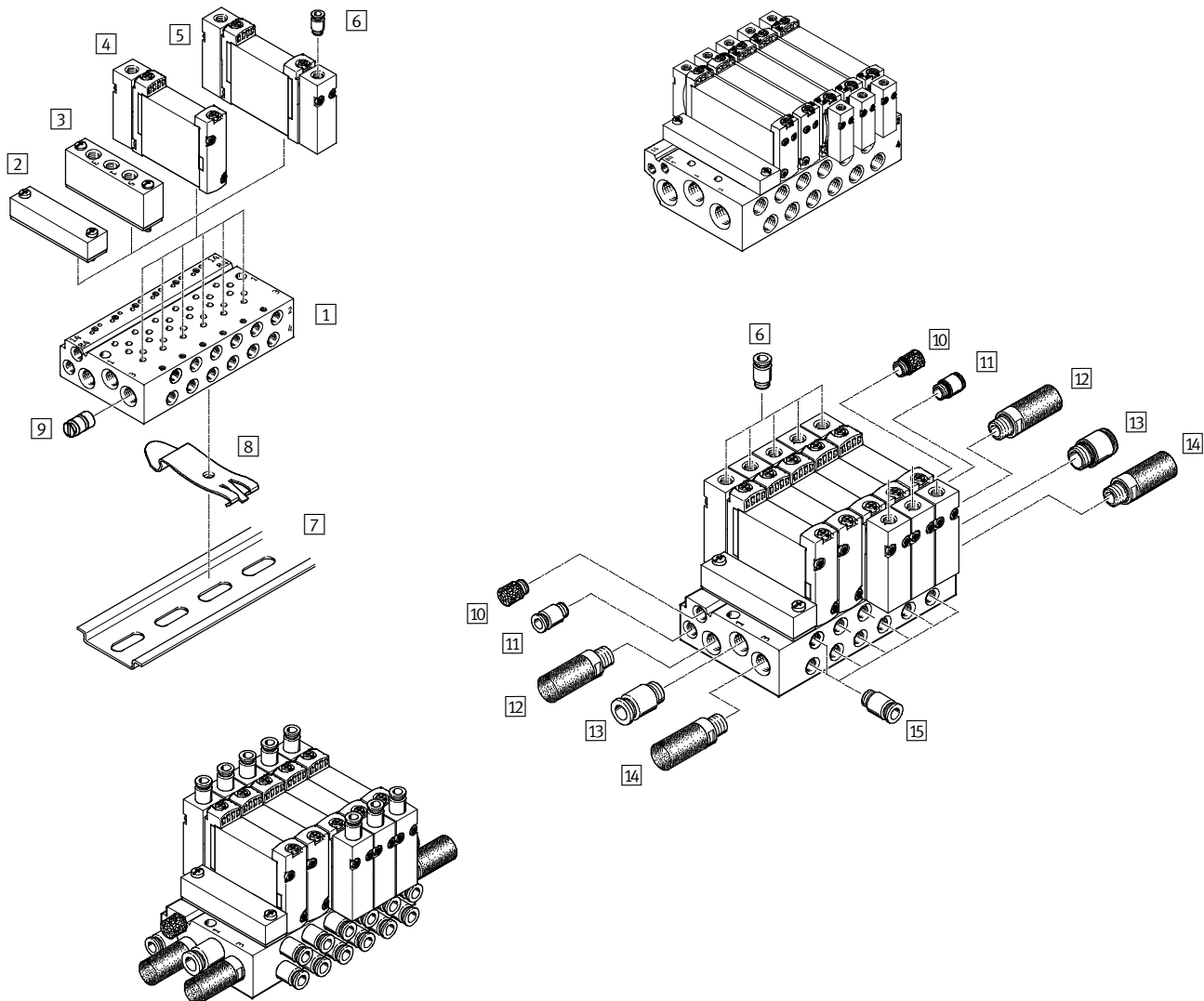
Ordering data – Accessories				Type
Blanking plate				Technical data → Internet: vabb
	For manifold rail for M5/M7 in-line valves	Incl. screws and seal		VABB-L1-14
Separator				Technical data → Internet: vabd
	For manifold rail for G 1/8 in-line valves	Separator for pressure zones		VABD-10-B
Supply plate				Technical data → Internet: vabf
	For manifold rail for G 1/8 in-line valves	Incl. screws and seal		VABF-L1-14-P3A4-G18
Seals for in-line valves				Technical data → Internet: vabd
	G1/8	10 seals and 20 screws		VABD-L1-14X-S-G18

Pneumatic valves VUWG-B10A, sub-base valves

System overview

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Manifold assembly



Manifold assembly and accessories				
	Type	Brief description	➔ Page/Internet	
1	Manifold rail	VABM-L1-10AW-M7	For 2 to 10, 12, 14 and 16 valve positions	33
2	Blanking plate	VABB-L1-10A	For covering an unused valve position	33
3	Supply plate	VABF-L1-10A-P3A4-M5	For air supply port 1 and ports 3 and 5	33
4	Pneumatic valve	VUWG	Single pilot pneumatic valve	29
5	Pneumatic valve	VUWG	Double pilot pneumatic valve	29
6	Push-in fitting	QS	For adapter plate for port 12 or 14	46
7	H-rail	NRH-35-2000	For mounting the valve manifold	46
8	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	46
9	Separator	VABD-4.2-B	For creating pressure zones	33
10	Silencer	U	For port 84	46
11	Push-in fitting	QS	For port 14	46
12	Silencer	U	For port 5	46
13	Push-in fitting	QS	For port 1	46
14	Silencer	U	For port 3	46
15	Push-in fitting	QS	For ports 2 and 4	46

Pneumatic valves VUWG-B10A, sub-base valves

Technical data

Function

5/2-way, single pilot

5/2-way, double pilot

5/3-way, closed, exhausted,
pressurised


Width 10 mm


Flow rate
90 ... 100 l/min


General technical data						
Valve function		5/2-way, single pilot	5/2-way, double pilot	5/3		
Normal position		–	–	C ¹⁾	U ²⁾	E ³⁾
Pneumatic spring reset method		Yes	–	Yes		
Mechanical spring reset method		Yes	–	No		
Vacuum operation at port 1		No	Yes	Yes		
Design		Piston spool valve				
Sealing principle		Soft				
Actuation type		Pneumatic				
Type of control		Direct				
Pilot air supply		External				
Exhaust function		With flow control				
Type of mounting		On manifold rail				
Mounting position		Any				
Standard nominal flow rate	[l/min]	100		90		
Switching time on/off	[ms]	7/15	–	8/25		
Changeover time	[ms]	–	5	14		
Width	[mm]	10				
Port	1, 3, 5	M5/M7				
	2, 4	M3				
	12, 14, 82/84	M5				
Product weight	[g]	37	40	40		
Corrosion resistance class	CRC	2 ⁶⁾				

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

5) Combined reset method

6) 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.

Pneumatic valves VUWG-B10A, sub-base valves

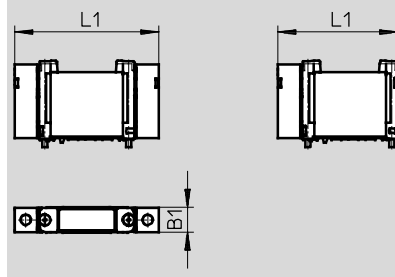
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Technical data

Operating and environmental conditions			
Valve function	5/2-way, single pilot	5/2-way, double pilot	5/3-way
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]		
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)		
Operating pressure [bar]	-0.9 ... 10	-0.9 ... 10	-0.9 ... 10
Pilot pressure [bar]	2.5 ... 10 ¹⁾	1.5 ... 10	3 ... 10
Ambient temperature [°C]	-5 ... +60		
Temperature of medium [°C]	-5 ... +50		

1) Note operating pressure/pilot pressure graph → page 4

Information on materials	
Housing	Anodised aluminium
Seals	HNBR, NBR
Note on materials	RoHS-compliant

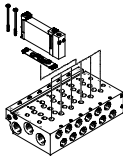
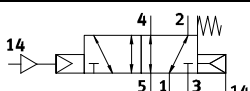
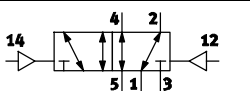
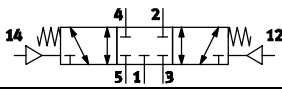
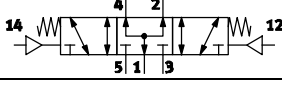
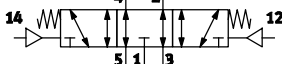
Dimensions	Download CAD data → www.festo.com
5/2-way and 5/3-way valve	
	

Type	B1	L1
VUWG-B10A-...	10.3	59.9
VUWG-B10A-M52...		49.9

1) Only with external pilot air

Pneumatic valves VUWG-B10A, sub-base valves

Order code

VUWG	-	B	10A	-		-
Valve design						
Sub-base, manifold valve incl. seal and screws		B				
						
Width						
10 mm		10A				
Valve functions						
				M52		
				B52		
				P53C		
				P53U		
				P53E		

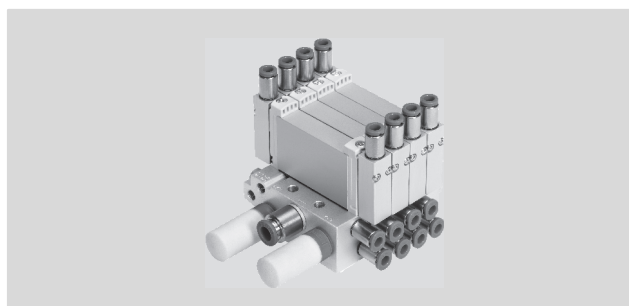
	-	F
Pneumatic connection		
F	In the manifold rail	
Reset method		
R	Pneu./mech. spring for M52	
-	With B52 and P53	

Pneumatic valves VUWG-B10A, sub-base valves

Manifold assembly

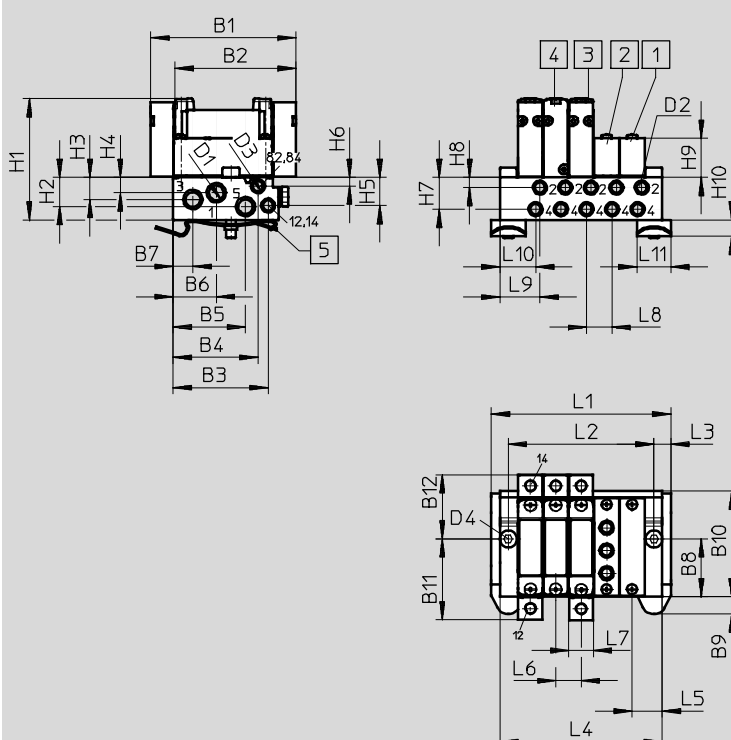
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Sub-base valve for
manifold assembly
M5 connection



Dimensions

Download CAD data → www.festo.com



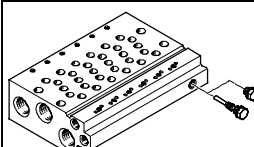
- | | | |
|---|---------------------------------------|---|
| 1 Blanking plate VABB-L1-10A | 3 Double pilot pneumatic valve | 5 H-rail mounting (two M4x25 screws to DIN 912 are required) |
| 2 Supply plate VABF-L1-10A-P3A4-M5 | 4 Single pilot pneumatic valve | |

Type												
VABM-L1-10AW-M7	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
	59.9	49.9	39.1	35	29.8	17.8	8.2	24	7.15	43.5	33.45	26.45
	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	D1	D2
	50	12	9.1	6.3	11.6	3.6	13.1	4.2	16.2	6.8	M7	M5
	D3	D4	L3	L5	L6	L7	L8	L9	L10	L11		
	M5	Ø 4.5	7	12.5	10.5	10.2	10.5	16.5	14.7	11		

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16
L1 [mm]	42.5	53	63.5	74	84.5	96	106.5	116	126.5	147.5	168.5	189.5
L2 [mm]	28.5	39	49.5	60	70.5	81	91.5	102	112.5	133.5	154.5	175.5
L4 [mm]	35.5	46	56.5	67	77.5	89	99.5	109	119.5	140.5	161.5	182.5

Pneumatic valves VUWG-B10A, sub-base valves

Ordering data

Technical data – Manifold rails ¹⁾									
	Port			CRC	Material ³⁾	Operating pressure [bar]	Max. tightening torque for assembly [Nm]		
	2, 4	1, 3, 5	12/14, 82/84				Valve	H-rail	Wall
	M5	M7	M5	2 ²⁾	Wrought aluminium alloy	-0.9 ... 10	0.45	1.5	1.5

1) Blanking plugs are included with the manifold rail.

2) 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.

3) Note on materials: RoHS-compliant

Order code – Manifold rails M3

VABM	-	L1	-	10A	W	-	M7	-	
Manifold assembly parts							Number of valve positions		
Manifold rail		VABM					2 to 10, 12, 14 and 16		
Valve series							Ports 1, 3, 5		
VUWG		L1					M7	M7	
Valve width									
10 mm				10A					
Rail with ports 1, 2, 3, 4, 5, 12/14, 82/84									
Port 2 and 4 in M5					W				

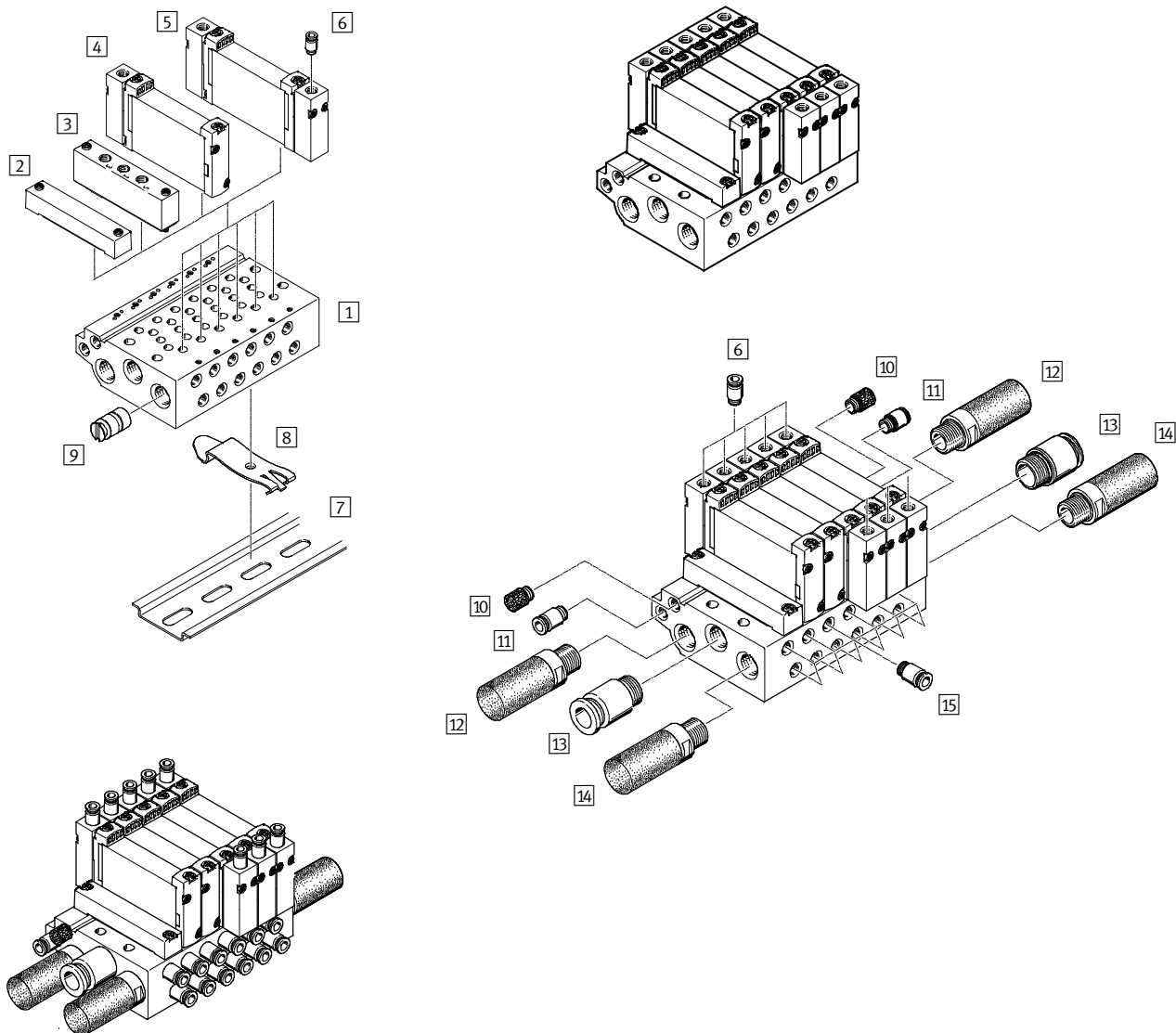
Ordering data – Accessories				Type
Blanking plate				Technical data → Internet: vabb
	For manifold rail 10AW	Incl. screws and seal		VABB-L1-10A
Separator				Technical data → Internet: vabd
	For manifold rail 10AW	Separator for pressure zones		VABD-4.2-B
Supply plate				Technical data → Internet: vabf
	For manifold rail 10AW	Incl. screws and seal		VABF-L1-10A-P3A4-M5
Seals				Technical data → Internet: vabd
	For sub-base valves B10A	10 seals and 20 screws		VABD-L1-10AB-S-M3

Pneumatic valves VUWG-B10, sub-base valves

System overview

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Manifold assembly



Manifold assembly and accessories				
		Type	Brief description	➔ Page/Internet
1	Manifold rail	VABM-L1-10W-G18	For 2 to 10, 12, 14 and 16 valve positions	39
2	Blanking plate	VABB-L1-10-W	For covering an unused valve position	39
3	Supply plate	VABF-L1-10-P3A4-M5	For air supply port 1 and ports 3 and 5	39
4	Pneumatic valve	VUWG	Single pilot pneumatic valve	35
5	Pneumatic valve	VUWG	Double pilot pneumatic valve	35
6	Push-in fitting	QS	For adapter plate for port 12 or 14	46
7	H-rail	NRH-35-2000	For mounting the valve manifold	46
8	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail	46
9	Separator	VABD-6-B	For creating pressure zones	39
10	Silencer	U	For port 84	46
11	Push-in fitting	QS	For port 14	46
12	Silencer	U	For port 5	46
13	Push-in fitting	QS	For port 1	46
14	Silencer	U	For port 3	46
15	Push-in fitting	QS	For ports 2 and 4	46

Pneumatic valves VUWG-B10, sub-base valves

Technical data

Function

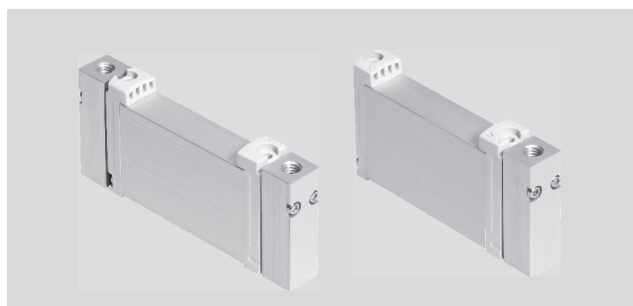
2x3/2C, 2x3/2U, 2x3/2H

5/2-way, single pilot

5/2-way, double pilot

5/3C, 5/3U, 5/3E

 Width 10 mm

 Flow rate
150 ... 270 l/min


General technical data									
Valve function		2x3/2-way, single pilot			5/2-way, single pilot	5/2-way, double pilot	5/3-way, single pilot		
Normal position		C ¹⁾	U ²⁾	H ⁴⁾	–	–	C ¹⁾	U ²⁾	E ³⁾
Pneumatic spring reset method		Yes			Yes ⁵⁾	–	No		
Mechanical spring reset method		No			Yes ⁵⁾	–	Yes		
Vacuum operation at port 1		No				Yes			
Design		Piston spool valve							
Sealing principle		Soft							
Actuation type		Pneumatic							
Type of control		Direct							
Pilot air supply		External							
Exhaust function		With flow control							
Type of mounting		On manifold rail							
Mounting position		Any							
Flow rate on manifold rail M5	[l/min]	150			220			200	
Flow rate on manifold rail M7	[l/min]	160			270			250	
Switching time on/off	[ms]	6/16			7/19		–		10/30
Changeover time	[ms]	–			7		16		
Width	[mm]	10							
Port	1, 3, 5	G1/8							
	2, 4	M5/M7							
	12/14, 82/84	M5							
Product weight	[g]	48			45		48		
Corrosion resistance class	CRC	2 ⁶⁾							

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

5) Combined reset method

6) 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.

Pneumatic valves VUWG-B10, sub-base valves

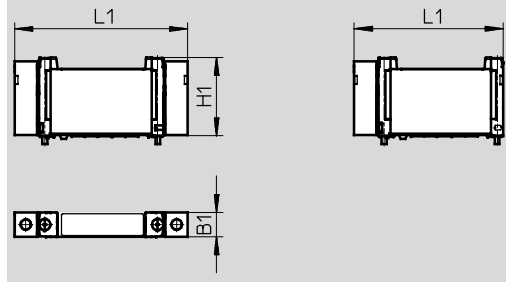
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Technical data

Operating and environmental conditions				
Valve function	2x3/2-way	5/2-way, single pilot	5/2-way, double pilot	5/3-way
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]			
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)			
Operating pressure [bar]	1.5 ... 10	−0.9 ... 10	−0.9 ... 10	
Pilot pressure [bar]	1.5 ... 10 ¹⁾	2.5 ... 10 ¹⁾	1.5 ... 10	3 ... 10
Ambient temperature [°C]	−5 ... +60			
Temperature of medium [°C]	−5 ... +60			

1) Note operating pressure/pilot pressure graph → page 4

Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

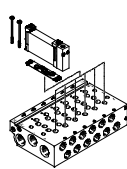
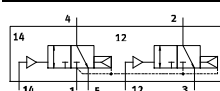
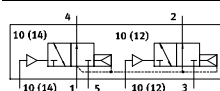
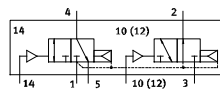
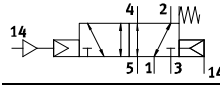
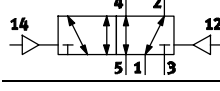
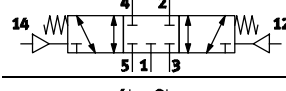
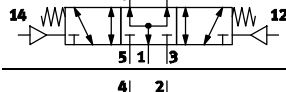
Dimensions	Download CAD data → www.festo.com
2x3/2-way, 5/2-way and 5/3-way valve	
	

Type	B1	H1	L1
VUWG-B10-...	10.3	32.5	72
VUWG-B10-M52-...			62

1) Only with external pilot air

Pneumatic valves VUWG-B10, sub-base valves

Order code

VUWG	-	B	10	-		-
Valve design						
Sub-base, manifold valve incl. seal and screws			B			
						
Width						
10 mm			10			
Valve functions						
			T32C			
			T32U			
			T32H			
			M52			
			B52			
			P53C			
			P53U			
			P53E			

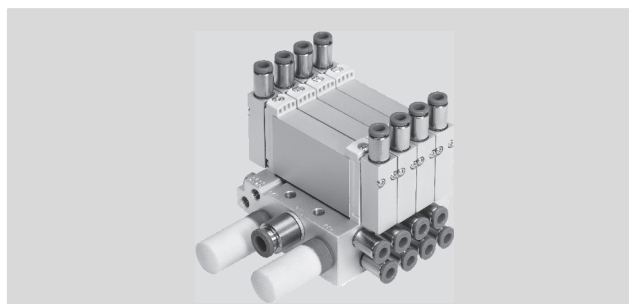
	-	F
Pneumatic connection		
F	In the manifold rail	
Reset method		
R	Pneu./mech. spring for M52	
-	With B52 and P53	

Pneumatic valves VUWG-B10, sub-base valves

Manifold assembly

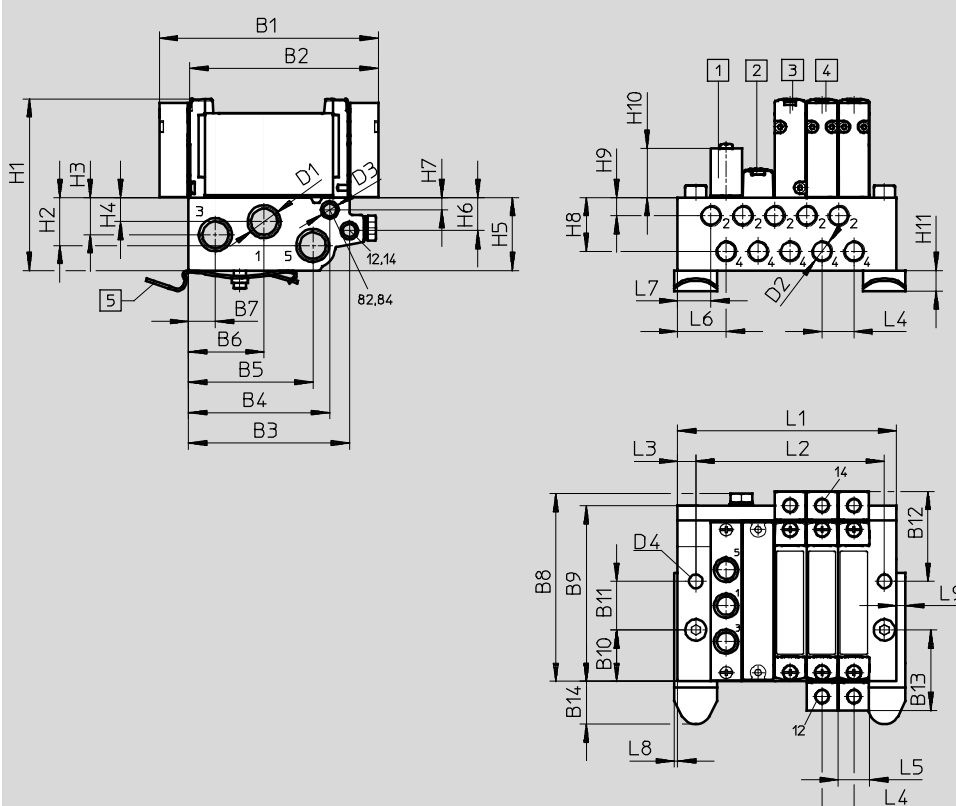
Sub-base valve for
manifold assembly
M5 or M7 connection

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Dimensions

Download CAD data → www.festo.com



- 1 Supply plate
VABF-L1-10-P3A4-M5
- 2 Blanking plate
VABB-L1-10-W

- 3 Single pilot pneumatic valve,
VUWG-B10-M52
- 4 Double pilot pneumatic valve,
VUWG-B10

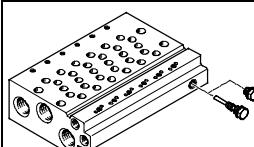
- 5 H-rail mounting (2x M4x30
screws to DIN 912 are
required)

Type												
VABM-L1-...G18	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
	72	62	52.9	46.5	40.9	24.9	8.9	62	57.7	16.9	16	29.5
	B13	B14	D1	D2	D3	D4	H1	H2	H3	H4	H5	H6
	26.5	14.1	G $\frac{1}{8}$	M5	M5	4.5	56.4	15.7	12.2	7.9	23.9	10.8
	H7	H8	H9	H10	H11	L3	L4	L5	L6	L7	L8	L9
	4	17.6	5.9	16.2	6.8	4	10.5	10.3	16	11	1	3
	L8	L9	L15									
	1	3	10									

Valve positions	2	3	4	5	6	7	8	9	10	12	14	16	22
L1 [mm]	48.5	59	69.5	80	90.5	101	111.5	122	132.5	153.5	174.5	195.5	258.5
L2 [mm]	30.5	41	51.5	62	72.5	83	93.5	104	114.5	135.5	156.5	177.5	240.5

Pneumatic valves VUWG-B10, sub-base valves

Ordering data

Technical data – Manifold rails ¹⁾									
	Port			CRC	Material ³⁾	Operating pressure [bar]	Max. tightening torque for assembly [Nm]		
	2, 4	1, 3, 5	12/14, 82/84				Valve	H-rail	Wall
	M5 or M7	G $\frac{1}{8}$	M5	2 ²⁾	Wrought aluminium alloy	-0.9 ... 10	0.45	1.5	3

1) Blanking plugs are included with the manifold rail.

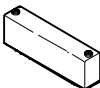
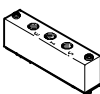
2) Corrosion resistance class 2 according to Festo standard 940 070

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.

3) Note on materials: RoHS-compliant

Order code – Manifold rails M5 and M7

VABM	-	L1	-	10	-	G18	-	
Manifold assembly parts					Number of valve positions			
					2 to 10, 12, 14 and 16			
Manifold rail	VABM					Ports 1, 3, 5		
Valve series					G18	G1/8		
VUWG		L1						
Valve width								
10 mm						10		
Manifold rail with ports 1, 2, 3, 4, 5, 12/14, 82/84								
Ports 2 and 4 in M5						W		
Ports 2 and 4 in M7						HW		

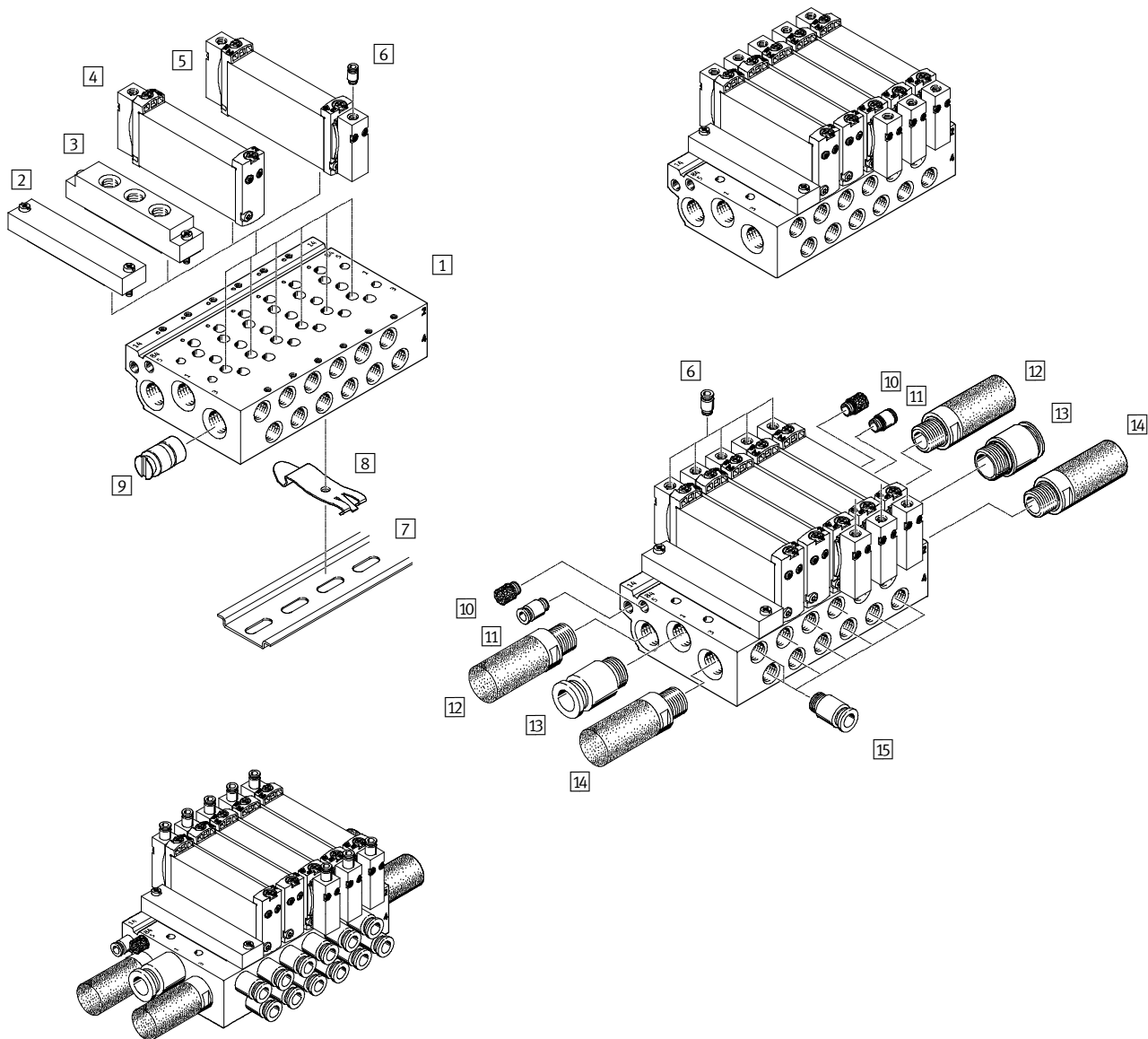
Ordering data – Accessories			
			Type
Blanking plate			Technical data → Internet: vabb
	For manifold rail 10W/10HW, sub-base valves	Incl. screws and seal	VABB-L1-10-W
Separator			Technical data → Internet: vabd
	For manifold rail 10W and 10HW, sub-base valves	Separator for pressure zones	VABD-6-B
Supply plate			Technical data → Internet: vabf
	For manifold rail 10W	Incl. screws and seal	VABF-L1-10-P3A4-M5
	For manifold rail 10HW		VABF-L1-10-P3A4-M7
Seals			Technical data → Internet: vabd
	For sub-base valves B10	10 seals and 20 screws	VABD-L1-10B-S-M7

Pneumatic valves VUWG-B14, sub-base valves

System overview

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Manifold assembly



Manifold assembly and accessories			
	Type	Brief description	→ Page/Internet
1	Manifold rail	VABM-L1-14W-G14	For 2 to 10, 12, 14 and 16 valve positions
2	Blanking plate	VABB-L1-14	For covering an unused valve position
3	Supply plate	VABF-L1-14-P3A4-G18	For air supply port 1 and ports 3 and 5
4	Pneumatic valve	VUWG	Single pilot pneumatic valve
5	Pneumatic valve	VUWG	Double pilot pneumatic valve
6	Push-in fitting	QS	For adapter plate for port 12 or 14
7	H-rail	NRH-35-2000	For mounting the valve manifold
8	H-rail mounting	VAME-T-M4	2 pieces for fitting the valve manifold on an H-rail
9	Separator	VABD-10-B	For creating pressure zones
10	Silencer	U	For port 84
11	Push-in fitting	QS	For port 14
12	Silencer	U	For port 5
13	Push-in fitting	QS	For port 1
14	Silencer	U	For port 3
15	Push-in fitting	QS	For ports 2 and 4

Pneumatic valves VUWG-B14, sub-base valves

Technical data

Function

2x3/2C, 2x3/2U, 2x3/2H

5/2-way, single pilot

5/2-way, double pilot

5/3C, 5/3U, 5/3E

 Width 14 mm

 Flow rate
510 ... 580 l/min


General technical data									
Valve function		2x3/2-way, single pilot			5/2-way, single pilot	5/2-way, double pilot	5/3-way, single pilot		
Normal position		C ¹⁾	U ²⁾	H ⁴⁾	–	–	C ¹⁾	U ²⁾	E ³⁾
Pneumatic spring reset method		Yes				–	No		
Mechanical spring reset method		No				–	Yes		
Vacuum operation at port 1		No			Yes				
Design		Piston spool valve							
Sealing principle		Soft							
Actuation type		Pneumatic							
Type of control		Direct							
Pilot air supply		External							
Exhaust function		With flow control							
Type of mounting		On manifold rail							
Mounting position		Any							
Standard nominal flow rate	[l/min]	540	510	540	580			540	510
Switching time on/off	[ms]	8/23			14/28		–	12/40	
Changeover time	[ms]	–					8	20	
Width	[mm]	14							
Port	1, 3, 5	G ¹ / ₄							
	2.4	G ¹ / ₈							
	12/14, 82/84	M5							
Product weight	[g]	83			75	81			
Corrosion resistance class	CRC	2 ⁶⁾							

1) C = Normally closed

2) U = Normally open

3) E = Normally exhausted

4) H = 2x3/2-way valve in one housing with 1x normally closed and 1x normally open

6) 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.

Pneumatic valves VUWG-B14, sub-base valves

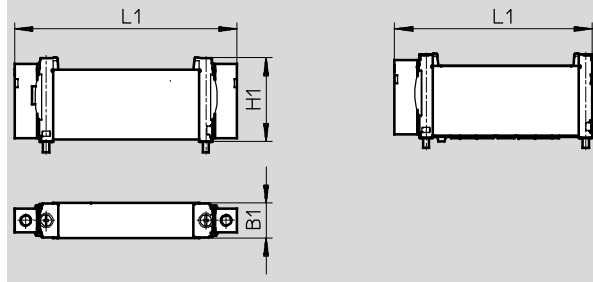
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Technical data

Operating and environmental conditions				
Valve function	2x3/2-way	5/2-way, single pilot	5/2-way, double pilot	5/3-way
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]			
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)			
Operating pressure [bar]	1.5 ... 10	-0.9 ... 10		
Pilot pressure [bar]	1.5 ... 10 ¹⁾	2.5 ... 10 ¹⁾	1.5 ... 10	3 ... 10
Ambient temperature [°C]	-5 ... +60			
Temperature of medium [°C]	-5 ... +50			

1) Note operating pressure/pilot pressure graph → page 4

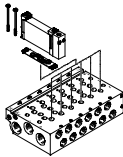
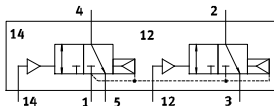
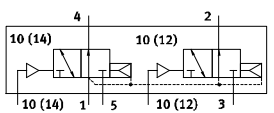
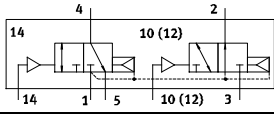
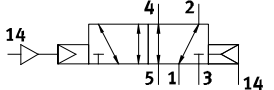
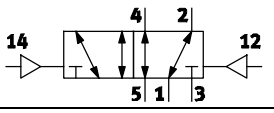
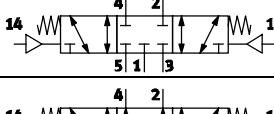
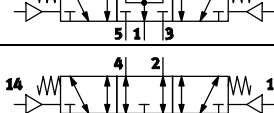
Information on materials	
Housing	Wrought aluminium alloy
Seals	HNBR, NBR
Note on materials	RoHS-compliant

Dimensions	Download CAD data → www.festo.com
2x3/2-way, 5/2-way and 5/3-way valve	
	

Type	B1	H1	L1
VUWG-B14-...	14.4	34.8	92.6
VUWG-B14-M52-...			82.3

Pneumatic valves VUWG-B14, sub-base valves

Order code

VUWG	-	B	14	-		-	F
Valve design				Pneumatic connection			
Sub-base, manifold valve incl. seal and screws				F In the manifold rail			
				Reset method			
				R Pneu./mech. spring for T32 and M52			
Width				-			
10 mm				With B52 and P53			
Valve functions							
				T32C			
				T32U			
				T32H			
				M52			
				B52			
				P53C			
				P53U			
				P53E			

1) If Q... is chosen for the pneumatic connection, this also applies to the exhaust ports 3 and 5

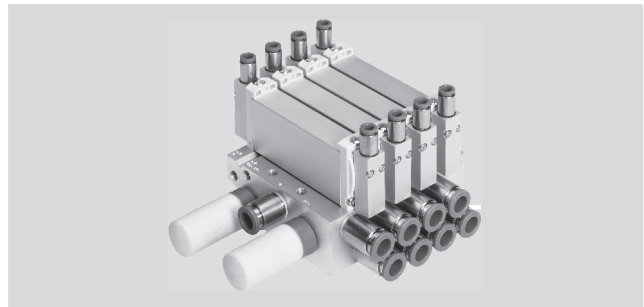
2) Flow rate applies to 5/2-way individual valve

Pneumatic valves VUWG-B14, sub-base valves

Manifold assembly

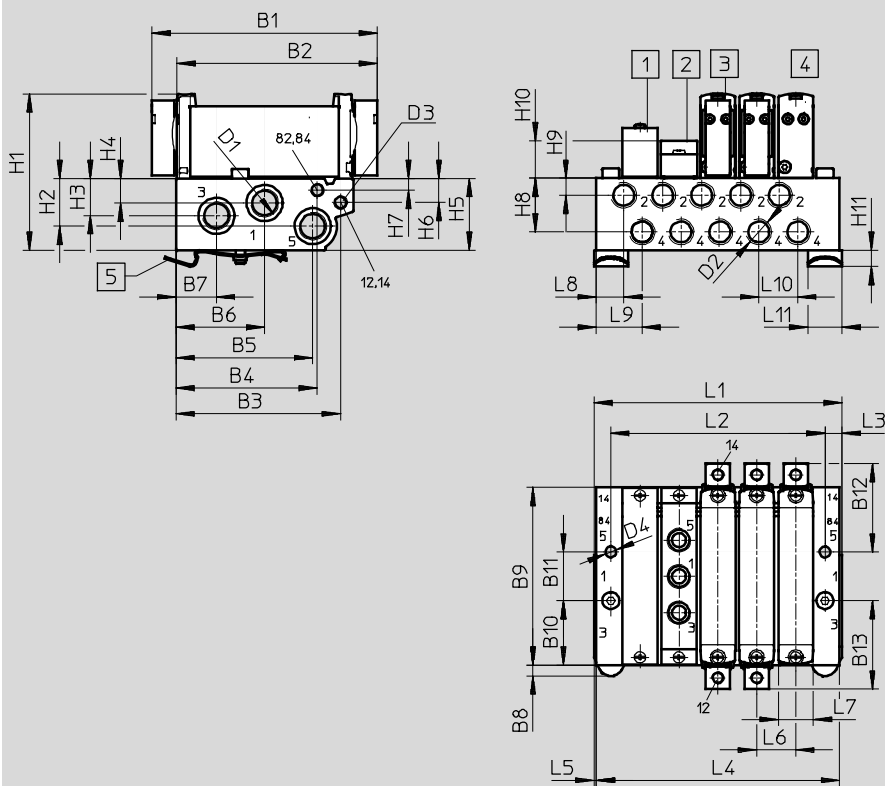
Sub-base valve for
manifold assembly
G $\frac{1}{8}$ connection

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Dimensions

Download CAD data → www.festo.com



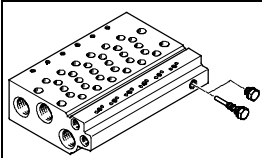
- | | | |
|------------------------------------|--------------------------------|--|
| 1 Blanking plate VABB-L1-14 | 3 Double pilot pneumatic valve | 5 H-rail mounting (two M4x25 screws to DIN 912 are required) |
| 2 Supply plate VABF-L1-14-P3A4-G18 | 4 Single pilot pneumatic valve | |

Type												
VUWG-B14 -...-F- ...	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
	92.6	82.3	67.7	58.2	56.3	36.6	16.7	4.5	72.9	26.5	20	36.3
	B13	D1	D2	D3	D4	H1	H2	H3	H4	H5	H6	H7
	36.3	G $\frac{1}{4}$	G $\frac{1}{8}$	M5	Ø 4.5	64.3	19.6	15.3	10.1	29.5	9.8	4.8
	H8	H9	H10	H11	L3	L5	L6	L7	L8	L9	L10	L11
	22.1	7	15.4	6.8	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 [mm]	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 [mm]	40	56	72	88	104	120	136	152	168	200	232	264
L4 [mm]	54.3	70.3	86.3	102.3	118.3	134.3	150.3	166.3	182.3	214.3	246.6	278.3

Pneumatic valves VUWG-B14, sub-base valves

Ordering data

Technical data – Manifold rails ¹⁾									
	Port			CRC	Material ³⁾	Operating pressure [bar]	Max. tightening torque for assembly [Nm]		
	2, 4	1, 3, 5	12/14, 82/84				Valve	H-rail	Wall
	G $\frac{1}{8}$	G $\frac{1}{4}$	M5	2 ²⁾	Wrought aluminium alloy	-0.9 ... 10	0.65	1.5	3

1) Blanking plugs are included with the manifold rail.

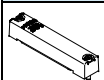
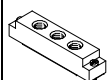
2) Corrosion resistance class 2 according to Festo standard 940 070

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.

3) Note on materials: RoHS-compliant

Order code – Manifold rails G $\frac{1}{8}$

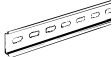
VABM	-	L1	-	14	W	-	G14	-	
Manifold assembly parts									Number of valve positions
Manifold rail		VABM							2 to 10, 12, 14 and 16
Valve series									Ports 1, 3, 5
VUWG		L1					G14	G $\frac{1}{4}$	
Valve width									
14 mm				14					
Manifold rail with ports 1, 2, 3, 4, 5, 12/14, 82/84									
Ports 2 and 4 in G $\frac{1}{8}$									W

Ordering data – Accessories				Type
Blanking plate				Technical data → Internet: vabb
	For manifold rail 14W, sub-base valves	Incl. screws and seal		VABB-L1-14
Separator				Technical data → Internet: vabd
	For manifold rail 14W, sub-base valves	Separator for pressure zones		VABD-10-B
Supply plate				Technical data → Internet: vabf
	For manifold rail 14W	Incl. screws and seal		VABF-L1-14-P3A4-G18
Seals				Technical data → Internet: vabd
	For sub-base valves B14	10 seals and 20 screws		VABD-L1-14B-S-G18

Pneumatic valves VUWG

Accessories

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Ordering data			
	Description		Type
Blanking plug Technical data → Internet: b			
	For manifold rail and valve		B-M5-B
			B-M7
	For manifold rail		B-1/8
			B-1/4
Blanking plug Technical data → Internet: qsc			
	For valve		QSC-F-G1/8-I
Reducing nipple			
			D-M5I-M7A-ISK
Fittings Technical data → Internet: qs			
	For tubing Ø 3 mm	100 pieces	QSM-M3-3-I-R-100
	For tubing Ø 4 mm		QSM-M3-4-I-R-100
	For tubing Ø 3 mm		QSM-M5-3-I-R100
	For tubing Ø 4 mm		QSM-M5-4-I-R100
	For tubing Ø 6 mm		QSM-M5-6-I-R100
	For tubing Ø 6 mm		QSM-M7-6-I-R100
	For tubing Ø 3 mm	10 pieces	QSM-M5-3-I
	For tubing Ø 4 mm		QSM-M5-4-I
	For tubing Ø 6 mm		QSM-M5-6-I
	For tubing Ø 4 mm		QSM-M7-4-I
	For tubing Ø 6 mm		QSM-M7-6-I
	For tubing Ø 4 mm	10 pieces	QS-G1/8-4-I
	For tubing Ø 6 mm		QS-G1/8-6-I
	For tubing Ø 8 mm		QS-G1/8-8-I
	For tubing Ø 10 mm		QS-G1/8-10-I
	For tubing Ø 6 mm	10 pieces	QS-G1/4-6-I
	For tubing Ø 8 mm		QS-G1/4-8-I
	For tubing Ø 10 mm		QS-G1/4-10-I
Silencer Technical data → Internet: uc			
	For thread M5		U-M5
	For thread M7		UC-M7
	For thread G1/8		UC-1/8
	For thread G1/4		UC-1/4
H-rail Technical data → Internet: nrh			
	To EN 60715, 35 x 7.5 (WxH)	2 m	NRH-35-2000
H-rail mounting Technical data → Internet: vame			
	-	2 pieces	VAME-T-M4