

Mechanically actuated valves VMEF

FESTO



Characteristics



Innovative

- Small and compact for a wide range of pneumatic applications
- Numerous selectable valve functions: 3/2-way and 5/2-way functions
- Flow rates up to 1200 l/min
- Outstanding pneumatic performance for a wide range of applications
- Low weight
- Minimal actuating forces

Versatile

- Flexibility of the pneumatic working ports provides a practical solution to different requirements
- Round silencer for ducted exhaust air
- Suitable for vacuum in some cases
- Reverse operation possible in some cases
- Actuation: direct and piloted
- Pressure range from vacuum to 10 bar possible.
- Version:
 - Stem actuated valve
 - Roller lever valve
 - Roller lever valve with idle return

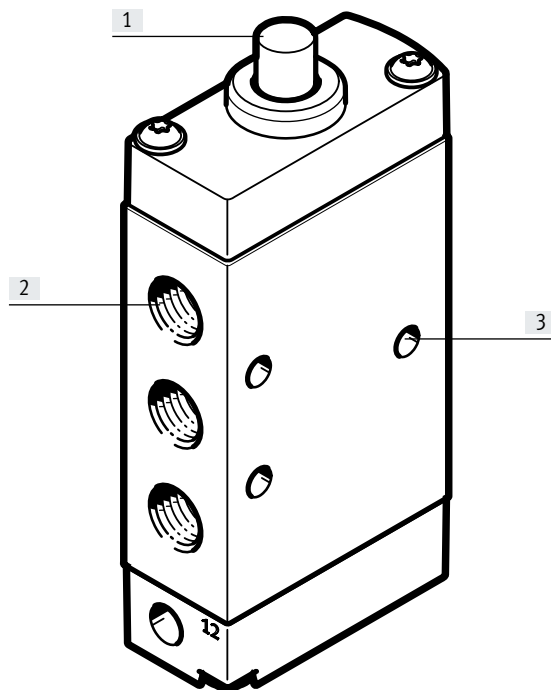
Reliable

- Durable thanks to tried-and-tested piston spool and disc seat valves
- Sturdy thanks to metal housing and connecting thread or connectors

Easy to install

- To be mounted via through-holes (stem actuated valves are also suitable for front panel mounting)
- Can be precisely adjusted using mounting kit

Characteristics



- [1] Stem as actuator
- [2] Practical connection:
via threaded connection or
connectors
- [3] Fast mounting: screwed directly
via through-hole, front panel
mounting possible

Equipment options

3/2-way valve, monostable

- Normally open/closed
- Mechanical spring
- Vacuum operation possible
- Directly controlled and pneumatically piloted
- Reversible
- Ducted exhaust air

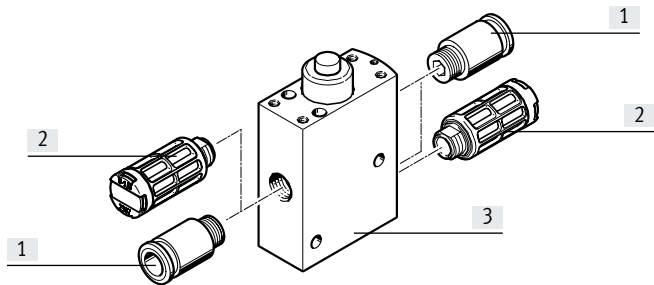
5/2-way valve, monostable

- Pneumatic spring/mechanical spring
- Vacuum operation possible
- Reversible in some cases
- Pneumatically piloted
- Ducted exhaust air

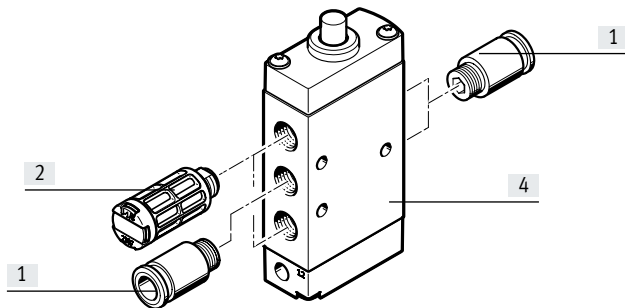
Peripherals overview

Valves, mechanically actuated

Stem actuated valve, 3/2-way valve

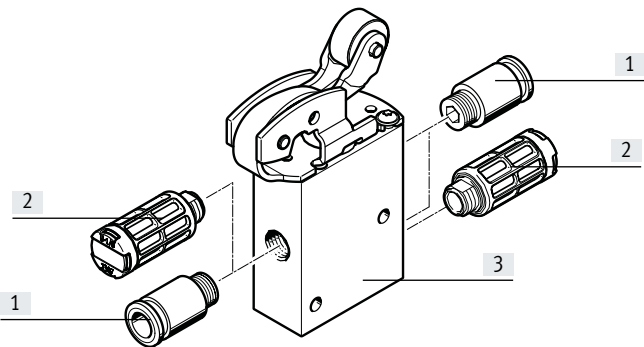


Stem actuated valve, 5/2-way valve

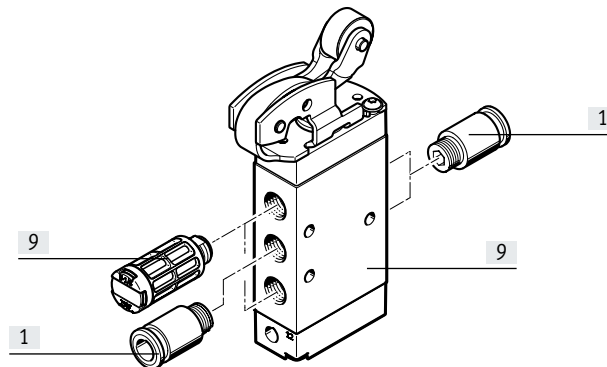


		Brief description	→ Page/Internet
[1]	Fitting	For supply air/exhaust ports (1, 3, 5) and working ports (2, 4)	32
[2]	Silencers	For exhaust ports (3, 5)	32
[3]	3/2-way valve	Stem actuated valve	9
[4]	5/2-way valve	Stem actuated valve	9

Roller lever valve, 3/2-way valve



Roller lever valve, 5/2-way valve

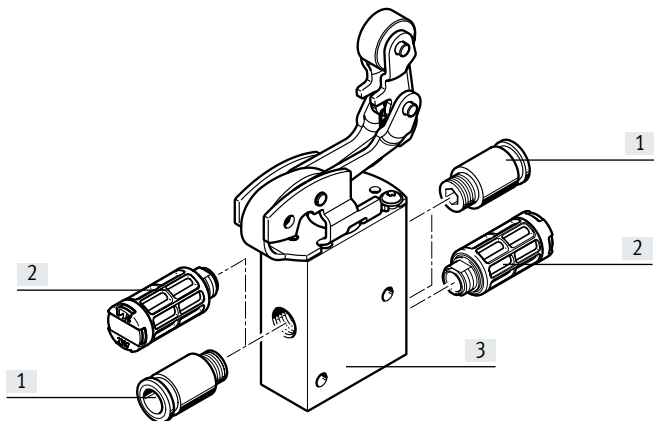


		Brief description	→ Page/Internet
[1]	Fitting	For supply air/exhaust ports (1, 3, 5) and working ports (2, 4)	32
[2]	Silencers	For exhaust ports (3, 5)	32
[3]	3/2-way valve	Stem actuated valve with roller lever attachment	18
[4]	5/2-way valve	Stem actuated valve with roller lever attachment	18

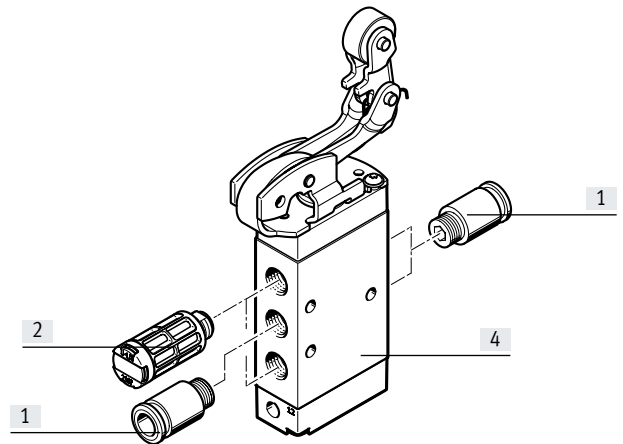
Peripherals overview

Valves, mechanically actuated

Roller lever valve with idle return, 3/2-way valve



Roller lever valve with idle return, 5/2-way valve



		Brief description	→ Page/Internet
[1]	Fitting	For supply air/exhaust ports (1, 3, 5) and working ports (2, 4)	32
[2]	Silencers	For exhaust ports (3, 5)	32
[3]	3/2-way valve	Stem actuated valve with roller lever attachment	23
[4]	5/2-way valve	Stem actuated valve with roller lever attachment	23

Characteristics – Pneumatic components

Mechanically actuated valves

Mechanically actuated valves are often used as "signal valves", and return a pneumatic signal to the controller. This signal, e.g. "end position reached", is transmitted via a stem or roller actuated valve.

This application sounds simple; it is used in smaller machines and in conveyor systems e.g. to control simple clamping and locking processes in semi-automatic assembly and manufacturing.

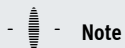
Benefits of mechanically actuated valves:

- No expensive programming
- Easy to set and connect
- No electronic controller required
- Can be controlled and measured using sensors

Valve functions Circuit symbol	Type	Description
Stem actuated valve		
	VMEF-ST-M32-M-...	3/2-way valve, monostable • Normally closed (1 → 2) • Normally open (3 → 2) • Mechanical spring return • Suitable for vacuum • Reversible
	VMEF-STC-M32-M-...	3/2-way valve, monostable • Normally closed (1 → 2) • Normally open (3 → 2) • Mechanical spring return • Pneumatically piloted, internal pilot air • Reversible
	VMEF-STCZ-M32-M-...	3/2-way valve, monostable • Normally closed (1 → 2) • Normally open (3 → 2) • Mechanical spring return • Pneumatically piloted, external pilot air • Reversible
	VMEF-S-M52-E-...	5/2-way valve, monostable • Reset via (external) pneumatic spring • Suitable for vacuum • Reversible
	VMEF-S-M52-M-...	5/2-way valve, monostable • Mechanical spring return • Suitable for vacuum • Reversible
	VMEF-SCZ-M52-E-...	5/2-way valve, monostable • Pneumatically piloted, external pilot air • Pneumatic spring return • Suitable for vacuum • Reversible
	VMEF-SCZ-M52-M-...	5/2-way valve, monostable • Pneumatically piloted, external pilot air • Mechanical spring return • Suitable for vacuum • Reversible
	VMEF-SC-M52-M-...	5/2-way valve, monostable • Pneumatically piloted, internal pilot air • Mechanical spring return

Characteristics – Pneumatic components

Valve functions		
Circuit symbol	Type	Description
Roller lever valve		
	VMEF-RT-M32-M-...	3/2-way valve, monostable • Normally closed (1 → 2) • Normally open (3 → 2) • Mechanical spring return • Directly actuated • Suitable for vacuum • Reversible
	VMEF-R-M52-M-...	5/2-way valve, monostable • Mechanical spring return • Directly actuated • Suitable for vacuum • Reversible
	VMEF-R-M52-E-...	5/2-way valve, monostable • Reset via (external) pneumatic spring • Directly actuated • Suitable for vacuum • Reversible
Roller lever valve with idle return		
	VMEF-KT-M32-M-...	3/2-way valve, monostable • Normally closed (1 → 2) • Normally open (3 → 2) • Mechanical spring return • Directly actuated • Suitable for vacuum • Reversible
	VMEF-K-M52-M-...	5/2-way valve, monostable • Mechanical spring return • Directly actuated • Suitable for vacuum • Reversible

**Note**

A filter must be installed upstream of valves operated in vacuum mode. This prevents any foreign matter in the intake air getting into the valve (e.g. when operating a suction cup with connector).

Type codes

001	Series	
VMEF	Mechanically actuated valve	

002	Actuation type	
S	Stem actuated valve	
R	Roller lever valve	
K	Roller lever valve with idle return	

003	Design principle	
	Piston spool	
T	Poppet valve	

004	Type of control	
	Directly actuated	
C	Indirectly actuated	

005	Pilot air	
	Internal	
Z	External	

006	Valve function	
M32	3/2-way valve, normally closed or open	
M52	5/2-way valve, single solenoid/monostable	

007	Reset method for monostable/single solenoid valves	
E	Pneumatic spring, external	
M	Mechanical spring	

008	Pneumatic connection	
G18	G1/8	
G14	G1/4	
N18	1/8 NPT	
N14	1/4 NPT	

Data sheet – Stem actuated valve

-  Flow rate
750 ... 1200 l/min
-  Pressure
-0.95 ... +10 bar
-  Temperature range
-10 ... +60°C

**General technical data**

Design	Stem actuated valve	
Width	[mm]	20
Type of control	Directly actuated or piloted	
Max. actuating speed		
• Directly actuated	[m/s]	0.6
• Piloted	[m/s]	0.3
Note regarding use	Do not use as mechanical stop	
Actuation type	Mechanical	
Mounting	With through-hole	
Sealing principle	Soft	
Flow direction	Reversible	
Mounting position	Any	
Max. switching frequency	[Hz]	3

Technical data – Disc seat valve

Type	VMEF-ST-M32 ... 18	VMEF-STC ... -M32 ... 18	VMEF-ST-M32 ... 14	VMEF-STC ... -M32 ... 14
Version	Disc seat valve			
Standard nominal flow rate	1 → 2 [l/min]	750	870	870
	3 → 2 [l/min]	665	750	750
Valve function	3/2-way valve, monostable			
Overlap	Zero overlap			
Type of control	Directly actuated	Piloted	Directly actuated	Piloted
Reset method	Mechanical spring			
Pneumatic connection 1, 2, 3	G1/8	G1/8	G1/4	G1/4
Pilot air port 12/14	–	M5	–	M5
Pilot air supply	–	Internal or external	–	Internal or external
Nominal width	[mm]	5.6	6.0	6.0
Actuating force at 6 bar				
• Normally closed	[N]	46	46	14
• Normally open	[N]	82	82	14

Data sheet – Stem actuated valve

Technical data – Piston spool valve				
Type	VMEF-S-M52-E ... 18	VMEF-S-M52-M ... 18	VMEF-S-M52-E ... 14	VMEF-S-M52-M ... 14
Version	Piston spool valve			
Standard nominal flow rate 1 → 2 [l/min]	750	750	1200	1200
Valve function	5/2-way valve, monostable			
Overlap	Positive overlap			
Type of control	Directly actuated			
Reset method	Pneumatic spring	Mechanical spring	Pneumatic spring	Mechanical spring
Pneumatic port 1, 2, 3, 4, 5	G1/8	G1/8	G1/4	G1/4
Pilot air port 12/14	M5	–	M5	–
Nominal width [mm]	5.2	5.2	7.0	7.0
Actuating force at 6 bar [N]	28	34	48	43

Technical data – Piston spool valve				
Type	VMEF-SC ... M52-E ... 18	VMEF-S...-M52-M ... 18	VMEF-SC ... M52-E ... 14	VMEF-S...-M52-M ... 14
Version	Piston spool valve			
Standard nominal flow rate 1 → 2 [l/min]	750	750	1200	1200
Valve function	5/2-way valve, monostable			
Overlap	Positive overlap			
Type of control	Piloted			
Reset method	Pneumatic spring	Mechanical spring	Pneumatic spring	Mechanical spring
Pneumatic port 1, 2, 3, 4, 5	G1/8	G1/8	G1/4	G1/4
Pilot air port 12/14	M5	M5	M5	M5
Pilot air supply	External	Internal or external	External	Internal or external
Nominal width [mm]	5.2	5.2	7.0	7.0
Actuating force at 6 bar [N]	14	14	14	14

Data sheet – Stem actuated valve

Materials						
Housing	Anodised wrought aluminium alloy					
Cover	Reinforced PA (VMEF-STC....M32-, VMEF...-M52-)					
Seal	NBR					
Note on materials	RoHS-compliant					
Operating and environmental conditions						
Type	VMEF-ST-M32- ... VMEF-STCZ-M32- ...		VMEF-STC-M32- ...		VMEF-S-M52- ... VMEF-SCZ-M52- ...	VMEF-SC-M52- ...
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]					
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)					
Operating pressure range	[bar]	-0.95 ... 10		2.5 ... 10		-0.95 ... 10 2.5 ... 10
With internal or external pilot air		Internal	External	Internal	External	-
NC valves	[bar]	3.5 ... 10	3.0 ... 10	3.0 ... 10	2.5 ... 10	-
NO valves	[bar]	3.5 ... 10	3.0 ... 10	3.5 ... 10	2.5 ... 10	-
Operating pressure range	[psi]	-14 ... 145		36 ... 145		36 ... 145 -14 ... 145
With internal or external pilot air		Internal	External	Internal	External	-
NC valves	[psi]	51 ... 145	44 ... 145	44 ... 145	36 ... 145	-
NO valves	[psi]	51 ... 145	44 ... 145	51 ... 145	36 ... 145	-
Pilot pressure range	[bar]	-		-		2.5 ... 10 2.5 ... 10
Temperature of medium	[°C]	-10 ... +60				
Ambient temperature	[°C]	-10 ... +60				
Corrosion resistance CRC ¹⁾		2				

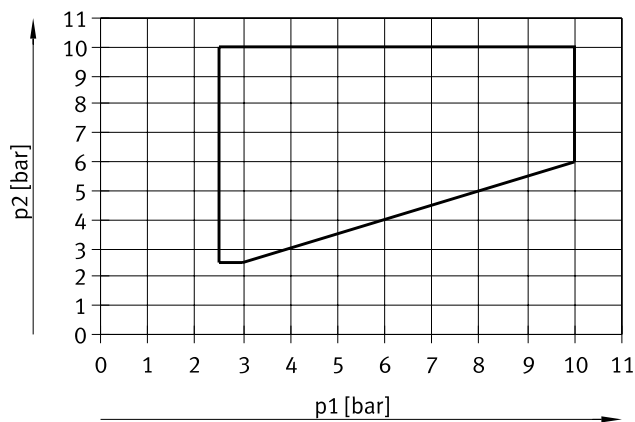
1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Data sheet – Stem actuated valve

Pilot pressure p2 as a function of external pneumatic spring pressure p1

For piston spool valves VMEF-...-M52...18



The framed area shows the operating area for internal and external pilot air.

For piston spool valves VMEF-...-M52...14

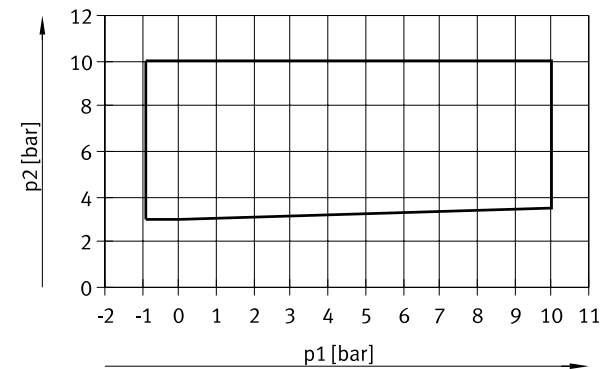


The framed area shows the operating area for internal and external pilot air.

Pilot pressure p2 as a function of supply pressure p1

For disc seat valves VMEF-...-M32...

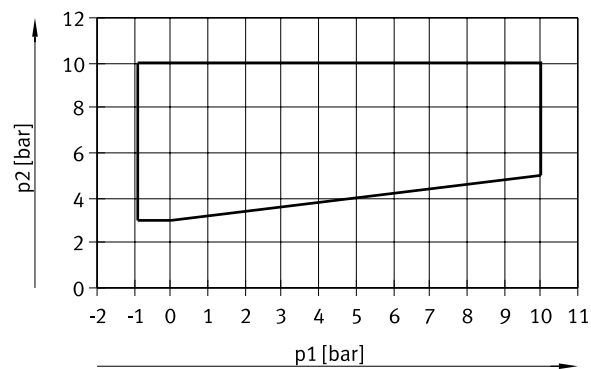
(normally closed)



The framed area shows the operating area for external pilot air.

For disc seat valves VMEF-...-M32...

(normally open)



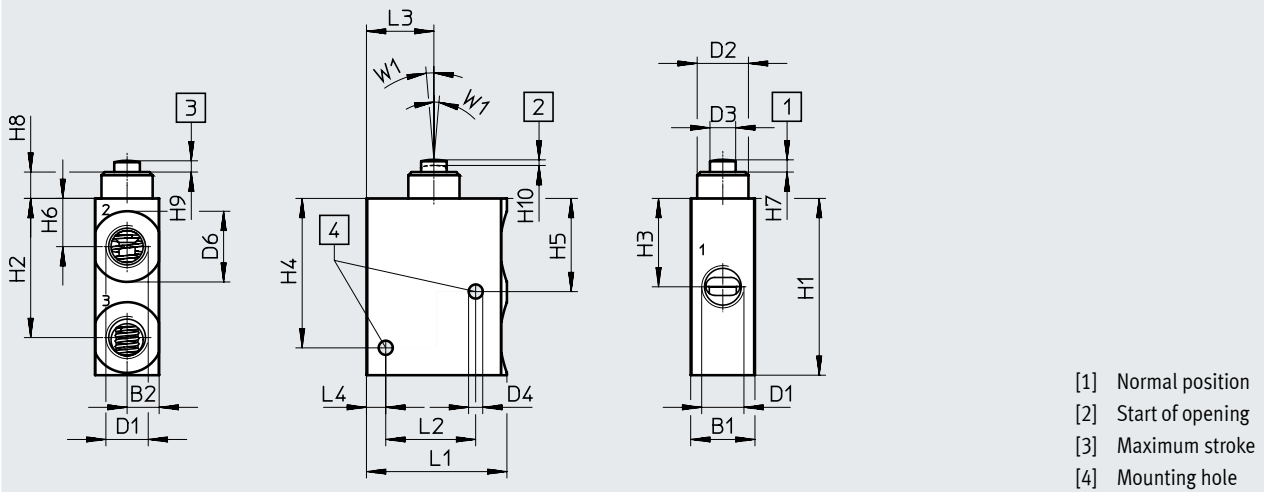
The framed area shows the operating area for external pilot air.

Data sheet – Stem actuated valve

Dimensions

Download CAD data → www.festo.com

3/2-way valve



Type	B1	B2	D1	D2 Ø	D3 Ø	D4 Ø	D6 Ø	L1	L2	L3	L4
VMEF-ST-M32-M-G18	20	10	G1/8	16.0	8.0	4.4	16.5	43.7	28	21	6
VMEF-ST-M32-M-G14			G1/4				22				

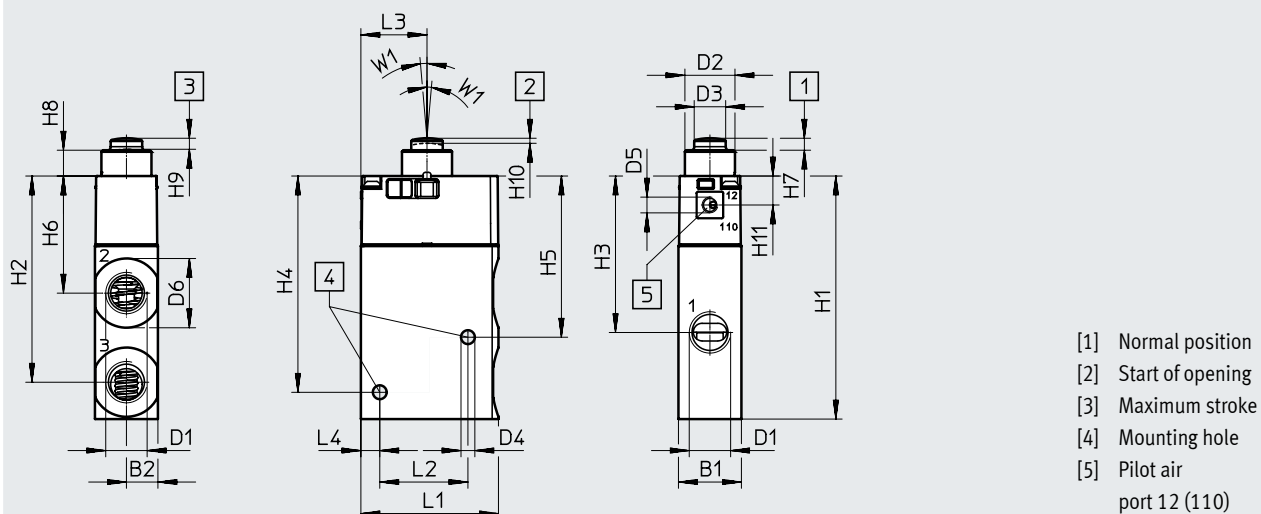
Type	H1	H2	H3	H4	H5	H6	H7 ±0.2	H8	H9 ±0.3	H10 ±0.3	W1
VMEF-ST-M32-M-G18	55	43.3	27.5	46.5	29	15	3.8	8.2	3.5	1.8	5°
VMEF-ST-M32-M-G14											

Data sheet – Stem actuated valve

Dimensions

Download CAD data → www.festo.com

3/2-way valve and 3/2-way valve with external pilot air supply



Type	B1	B2	D1	D2 ø	D3 ø	D4 ø	D5	D6 ø	L1	L2	L3	L4
VMEF-STC-M32-M-G18	20	10	G1/8	15.9	10	4.4	–	16.5	43.7	28	21	6
VMEF-STC-M32-M-G14			G1/4					22				
VMEF-STCZ-M32-M-G18			G1/8				M5	16.5				
VMEF-STCZ-M32-M-G14			G1/4					22				

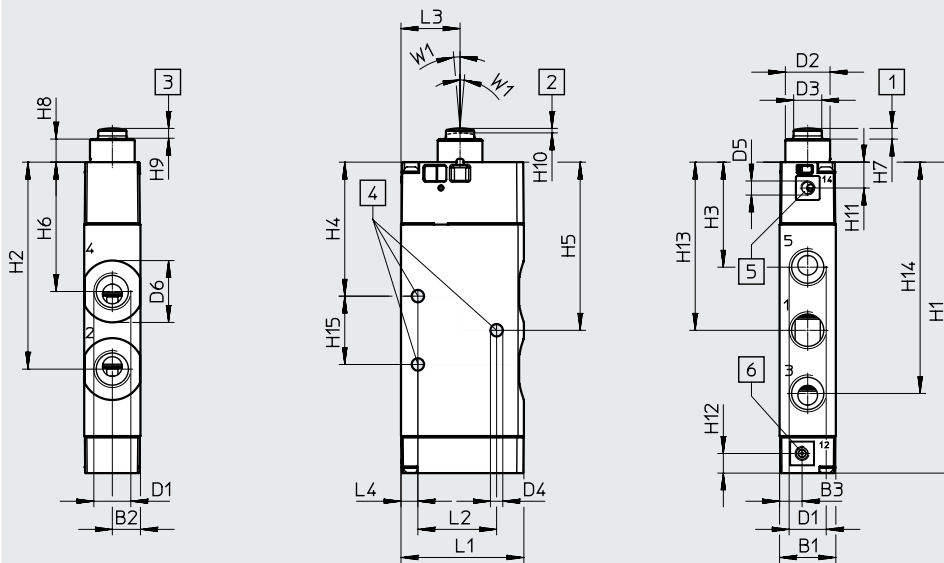
Type	H1	H2	H3	H4	H5	H6	H7 ±0.15	H8	H9 ±0.15	H10 ±0.4	H11	W1
VMEF-STC-M32-M-G18	77.2	65.5	49.7	68.7	51.2	37.2	3.8	8.2	3.5	1.6	9.2	5°
VMEF-STC-M32-M-G14												
VMEF-STCZ-M32-M-G18												
VMEF-STCZ-M32-M-G14												

Data sheet – Stem actuated valve

Dimensions

Download CAD data → www.festo.com

5/2-way valve and 5/2-way valve with external pilot air supply



- [1] Normal position
- [2] Start of opening
- [3] Maximum stroke
- [4] Mounting hole
- [5] Pilot air port 14
- [6] Pilot air port 12

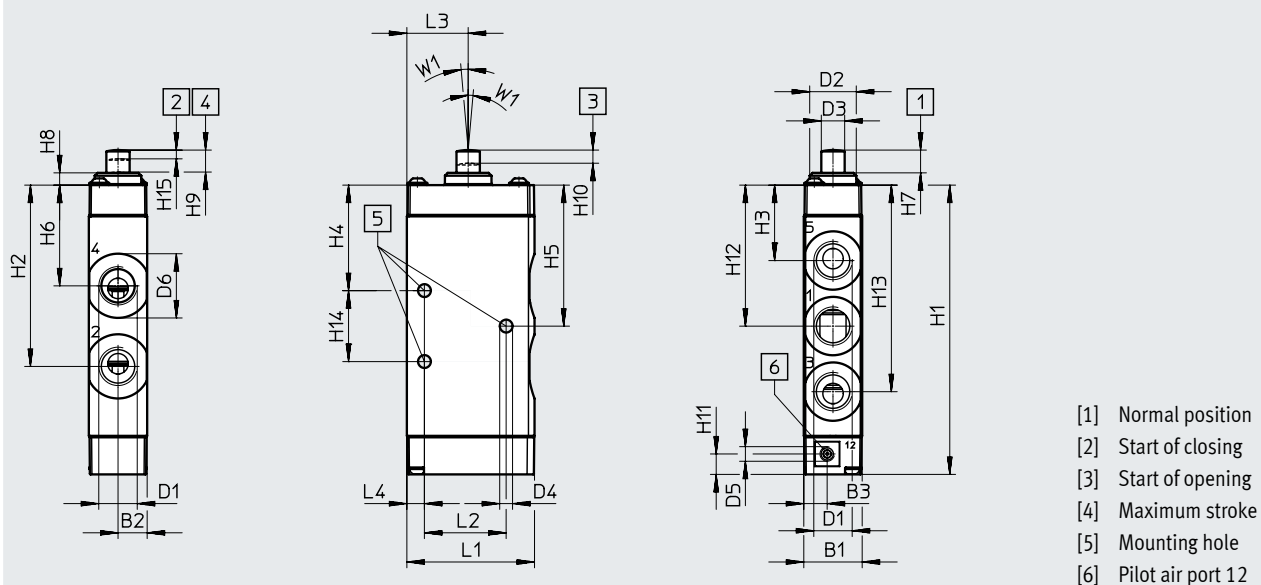
Type	B1	B2	B3	D1	D2 ø	D3 ø	D4 ø	D5	D6 ø	L1	L2	L3	L4
VMEF-SC-M52-M-G18	20	10	8	G1/8	15.9	10	4.4	–	16.5	43.7	28	21	6
VMEF-SCZ-M52-M-G18				G1/8				M5					
VMEF-SCZ-M52-E-G18				G1/8				–	22				
VMEF-SC-M52-M-G14				G1/4				M5					
VMEF-SCZ-M52-M-G14				G1/4									
VMEF-SCZ-M52-E-G14				G1/4									

Type	H1	H2	H3	H4	H5	H6	H7 ±0.15	H8	H9 ±0.15	H10 ±0.4	H11	H12	H13	H14	H15	W1
VMEF-SC-M52-M-G18	94.1	61.4	34.6	42.6	51.6	41.8	3.8	8.2	3.5	1.6	9.2	7	51.6	68.6	18	5°
VMEF-SCZ-M52-M-G18																
VMEF-SCZ-M52-E-G18																
VMEF-SC-M52-M-G14	110.6	73.6	37.4	47.7	59.8	46							59.8	82.3	24.3	
VMEF-SCZ-M52-M-G14																
VMEF-SCZ-M52-E-G14																

Data sheet – Stem actuated valve

Dimensions

5/2-way valve

Download CAD data → www.festo.com

Type	B1	B2	B3	D1	D2 Ø	D3 Ø	D4 Ø	D5	D6 Ø	L1	L2	L3	L4	H1	H2
VMEF-S-M52-M-G18	20	10	8	G1/8	16	8	4.4	–	16.5	43.7	28	21	6	82.6	49.9
VMEF-S-M52-E-G18								M5							
VMEF-S-M52-M-G14				G1/4				–	22					99.1	62.1
VMEF-S-M52-E-G14								M5							

Type	H3	H4	H5	H6	H7 ±0.15	H8	H9 ±0.15	H10 ±0.15	H11	H12	H13	H14	H15 ±0.15	W1
VMEF-S-M52-M-G18	23.1	31.1	40.1	30.3	7.8	4.2	7.5	4.2	7	40.1	57.1	18	3	5°
VMEF-S-M52-E-G18														
VMEF-S-M52-M-G14	25.9	36.2	48.3	34.5				4.5		48.3	70.8	24.3		
VMEF-S-M52-E-G14														

Directly actuated stem actuated valves VMEF-S-... can be extended to form a roller lever or roller lever valve with idle return using the actuator attachment VAOM-R4-20-... Actuator attachments are available for 3/2-way and 5/2-way valves. → page 28

Using the mounting kit VAME-R4-20-PA, the valve can be moved in the actuation direction. This enables the correct switching point to be set. → page 33

Note

- When screwing the actuator attachment VAOM-R4-20-... onto the valve, ensure that the prescribed torque of 1.5 Nm ± 10% is observed.
- A new actuator attachment VAOM-R4-20-... can only be mounted on a directly actuated basic valve three times.

Data sheet – Stem actuated valve

Ordering data						
Type of control	Pilot air	Reset	Flow rate [l/min]	Weight [g]	Part no.	Type
3/2-way valves						
Direct	–	Mechanical	750	116	8031295	VMEF-ST-M32-M-G18
			870	110	8031300	VMEF-ST-M32-M-G14
Piloted	Internal	Mechanical	750	131	8031331	VMEF-STC-M32-M-G18
			870	124	8031332	VMEF-STC-M32-M-G14
	External	Mechanical	750	131	8031335	VMEF-STCZ-M32-M-G18
			870	124	8031336	VMEF-STCZ-M32-M-G14
5/2-way valves						
Direct	–	Mechanical	750	145	8031297	VMEF-S-M52-M-G18
		Pneumatic	750	144	8031299	VMEF-S-M52-E-G18
		Mechanical	1200	178	8031302	VMEF-S-M52-M-G14
		Pneumatic	1200	177	8031304	VMEF-S-M52-E-G14
Piloted	Internal	Mechanical	1200	184	8031319	VMEF-SC-M52-M-G14
			750	151	8031320	VMEF-SC-M52-M-G18
	External	Pneumatic	1200	183	8031323	VMEF-SCZ-M52-E-G14
			750	150	8031324	VMEF-SCZ-M52-E-G18
		Mechanical	1200	184	8031327	VMEF-SCZ-M52-M-G14
			750	151	8031328	VMEF-SCZ-M52-M-G18

Data sheet – Roller lever valve

-  Flow rate
750 ... 1200 l/min
-  Pressure
-0.95 ... 10 bar
-  Temperature range
-10 ... +60°C

**General technical data**

Design	Roller lever
Width [mm]	20
Type of control	Directly actuated
Note regarding use	Risk of pinching
Actuation type	Mechanical
Mounting	With through-hole
Sealing principle	Soft
Flow direction	Reversible
Mounting position	Any
Max. switching frequency [Hz]	3
Max. actuating speed for side actuation [m/s]	1.4
Cam angle in angular degrees	30

Technical data – Disc seat valve

Type	VMEF-RT-M32-...18	VMEF-RT-M32-...14
Version	Disc seat valve	
Standard nominal flow rate 1 → 2 [l/min]	750	870
Valve function	3/2-way valve, monostable	
Overlap	Zero overlap	
Reset method	Mechanical spring	
Pneumatic connection 1, 2, 3	G1/8	G1/4
Nominal width [mm]	5.6	6
Max. stroke limit (hard) [mm]	6.3	
Actuating force [N]	35.2	

Technical data – Piston spool valve

Type	VMEF-R-M52-E-...18	VMEF-R-M52-M-...18	VMEF-R-M52-E-...14	VMEF-R-M52-M-...14
Version	Piston spool valve			
Standard nominal flow rate 1 → 2 [l/min]	750		1200	
Valve function	5/2-way valve, monostable			
Overlap	Positive overlap			
Reset method	Pneumatic spring	Mechanical spring	Pneumatic spring	Mechanical spring
Max. switching frequency [Hz]	3			
Pneumatic connection 1, 2, 3	G1/8	G1/8	G1/4	G1/4
Nominal width [mm]	5.2	5.2	7	7
Max. stroke limit (hard) [mm]	11.6			
Actuating force [N]	38			

Data sheet – Roller lever valve

Materials	
Housing	Anodised wrought aluminium alloy
Cover	Reinforced PA (VMEF...-M52-)
Actuator attachment	Galvanised steel
Seal	NBR
Note on materials	RoHS-compliant
Operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure range [bar]	-0.95 ... 10
Temperature of medium [°C]	-10 ... +60
Ambient temperature [°C]	-10 ... +60
Note on ambient temperature	Influence of heat on wear
Corrosion resistance CRC ¹⁾	1

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

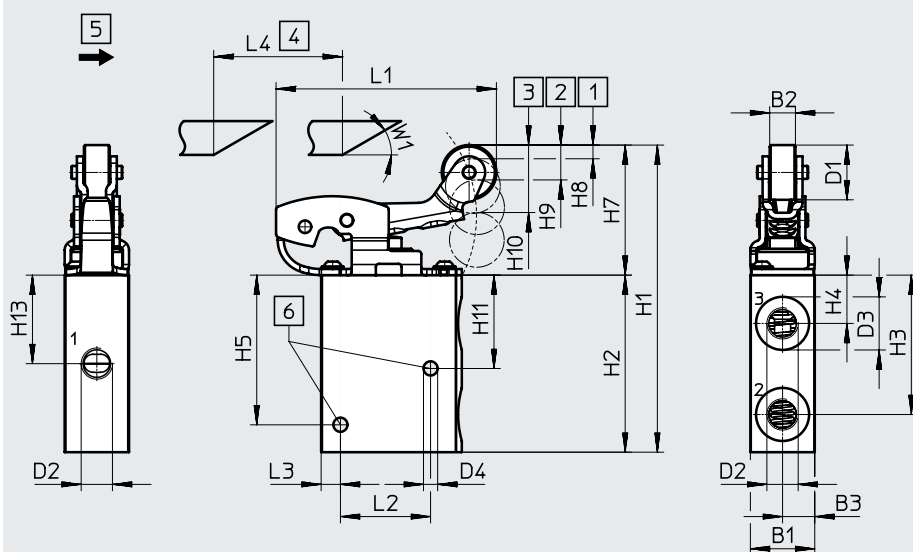
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Data sheet – Roller lever valve

Dimensions

Download CAD data → www.festo.com

3/2-way valve



- [1] Start of opening
- [2] Max. opening
- [3] Max. stroke
- [4] Cam operating path
- [5] Actuation direction
- [6] Mounting hole

Type	B1	B2	B3	D1 Ø	D2	D3	D4 Ø	L1	L2	L3	L4 min.
VMEF-RT-M32-M-G18	20	8	10	17	G1/8	16.5	4.4	68.5	28	6	40
VMEF-RT-M32-M-G14					G1/4	22					

Type	H1	H2	H3	H4	H5	H7	H8	H9	H10	H11	H13	W1
VMEF-RT-M32-M-G18	91.9	55	43.3	15	46.5	39	5.3	6.3	10.2	29	27.5	30°
VMEF-RT-M32-M-G14												



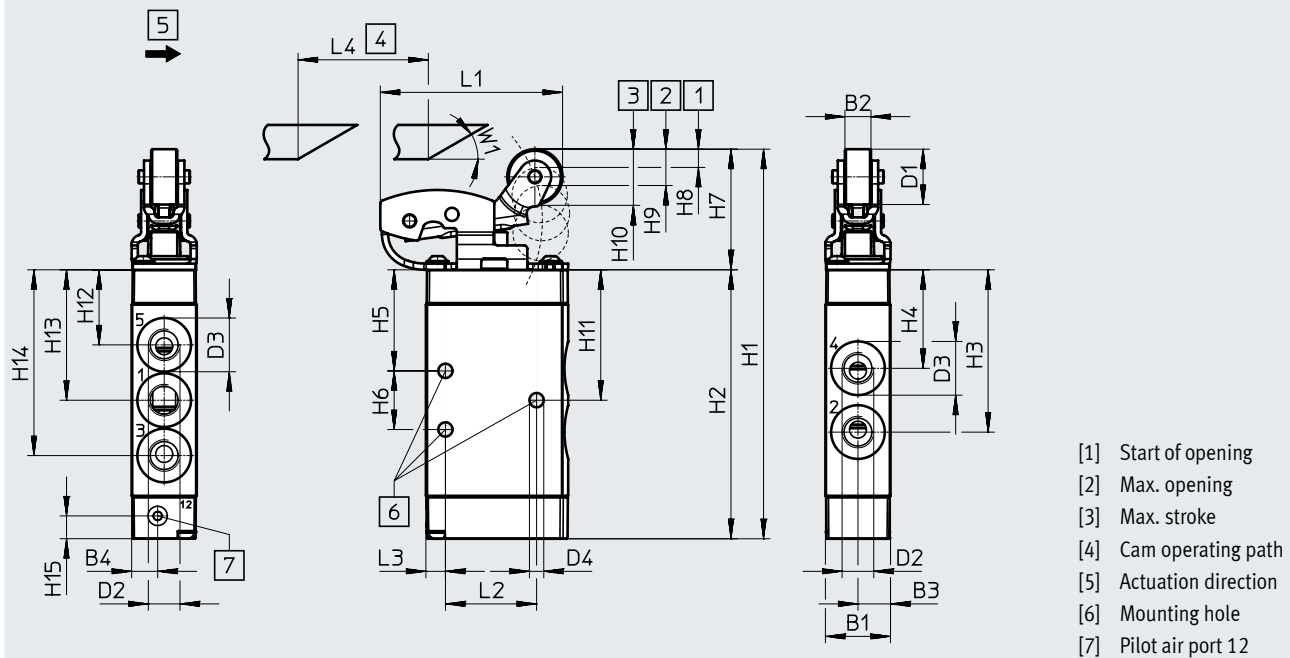
Note

Roller lever valves can be actuated by a cam from either side, i.e. from the left (forwards movement) or from the right (backwards movement).

Data sheet – Roller lever valve

Dimensions

5/2-way valve

Download CAD data → www.festo.com

Type	B1	B2	B3	B4	D1 ø	D2	D3	D4	L1	L2	L3	L4 min.	H1	H2
VMEF-R-M52-...G18	20	8	10	8	17	G1/8	16.5	4.4	56	28	6	40	119.6	82.6
VMEF-R-M52-...G14						G1/4	22						136.1	99.1

Type	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	W1
VMEF-R-M52-...G18	49.9	30.3	31.1	18	37.2	6	4.9	11.4	40.1	23.1	40.1	57.1	7	30°
VMEF-R-M52-...G14	62.1	34.5	36.2	24.3					48.3	25.9	48.3	70.8		

If required, actuator attachments VAOM-R4-20-... can be used as spare parts for existing directly actuated roller lever valves. → page 28

Using the mounting kit VAME-R4-20-PA, the valve can be moved in the actuation direction. This enables the correct switching point to be set. → page 33

**Note**

When screwing the actuator attachment VAOM-R4-20-... onto the valve, ensure that the prescribed torque of 1.5 Nm ± 10% is observed.

Data sheet – Roller lever valve

Ordering data					
Type of control	Reset	Flow rate [l/min]	Weight [g]	Part no.	Type
3/2-way valves					
Direct	Mechanical	750	209	8049239	VMEF-RT-M32-M-G18
		870	204	8047095	VMEF-RT-M32-M-G14
5/2-way valves					
Direct	Pneumatic	750	240	8047092	VMEF-R-M52-E-G18
	Mechanical	750	240	8049238	VMEF-R-M52-M-G18
	Pneumatic	1200	272	8047093	VMEF-R-M52-E-G14
	Mechanical	1200	272	8047094	VMEF-R-M52-M-G14

Data sheet – Roller lever valve

-  Flow rate
750 ... 1200 l/min
-  Pressure
-0.95 ... 10 bar
-  Temperature range
-10 ... +60°C

**General technical data**

Design	Roller lever with idle return	
Width	[mm]	20
Type of control	Directly actuated	
Note regarding use	Risk of pinching	
Actuation type	Mechanical	
Mounting	With through-hole	
Sealing principle	Soft	
Flow direction	Reversible	
Mounting position	Any	
Max. switching frequency	[Hz]	3
Max. actuating speed for side actuation	[m/s]	0.7
Cam angle in angular degrees	30	

Technical data – Disc seat valve

Type	VMEF-KT-M32-...18		VMEF-KT-M32-...14
Version	Disc seat valve		
Standard nominal flow rate	1 → 2 [l/min]	750	870
Valve function	3/2-way valve, monostable		
Overlap	Zero overlap		
Reset method	Mechanical spring		
Pneumatic connection 1, 2, 3	G1/8	G1/4	
Nominal width	[mm]	5.6	6
Max. stroke limit (hard)	[mm]	11	
Actuating force	[N]	32.7	

Technical data – Piston spool valve

Type	VMEF-K-M52-M-...18		VMEF-K-M52-M-...14
Version	Piston spool valve		
Standard nominal flow rate	1 → 2 [l/min]	750	1200
Valve function	5/2-way valve, monostable		
Overlap	Positive overlap		
Reset method	Mechanical spring		
Pneumatic connection 1, 2, 3	G1/8	G1/4	
Nominal width	[mm]	5.2	7
Max. stroke limit (hard)	[mm]	11.8	
Actuating force	[N]	23.5	

Data sheet – Roller lever valve

Materials	
Housing	Anodised wrought aluminium alloy
Cover	Reinforced PA (VMEF...-M52-)
Actuator attachment	Galvanised steel
Seal	NBR
Note on materials	RoHS-compliant
Operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure range [bar]	-0.95 ... 10
Temperature of medium [°C]	-10 ... +60
Ambient temperature [°C]	-10 ... +60
Note on ambient temperature	Influence of heat on wear
Corrosion resistance CRC ¹⁾	1

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

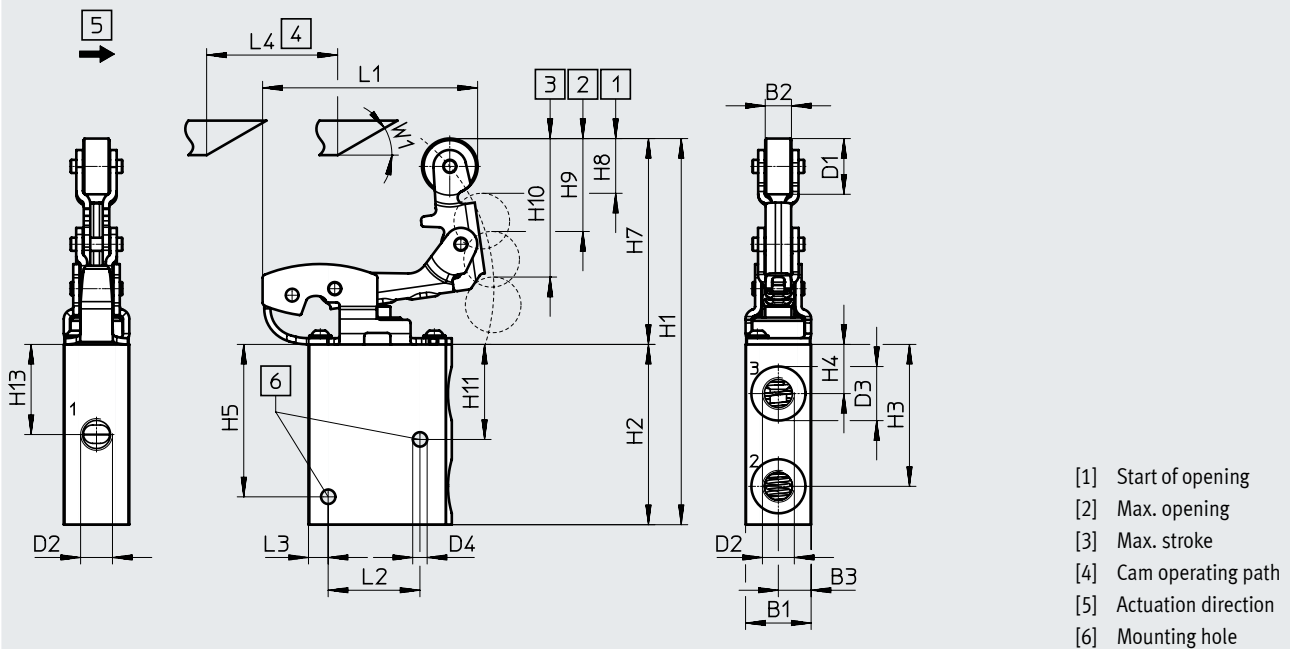
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Data sheet – Roller lever valve

Dimensions

Download CAD data → www.festo.com

3/2-way valve



Type	B1	B2	B3	D1 Ø	D2	D3	D4 Ø	L1	L2	L3	L4 min.
VMEF-KT-M32-M-G18	20	8	10	17	G1/8	16.5	4.4	65.6	28	6	40
VMEF-KT-M32-M-G14					G1/4	22					

Type	H1	H2	H3	H4	H5	H7	H8	H9	H10	H11	H13	W1
VMEF-KT-M32-M-G18	117.2	55	43.3	15	46.5	63	5	5.5	10.9	29	27.5	30°
VMEF-KT-M32-M-G14												

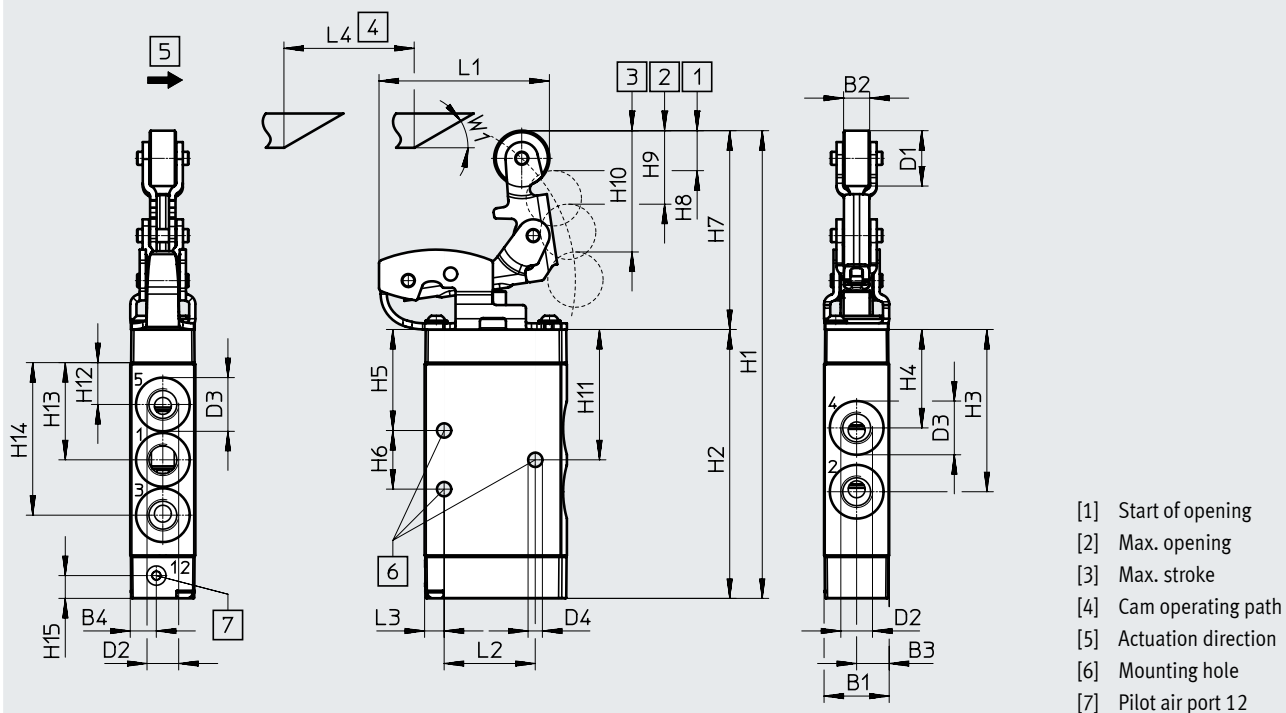
**Note**

Roller lever valves with idle return can only be actuated by a cam from one side, i.e. only in one direction (forwards movement). If control is applied from the other direction (backwards movement), the valve is not actuated.

Data sheet – Roller lever valve

Dimensions

5/2-way valve

Download CAD data → www.festo.com

Type	B1	B2	B3	B4	D1 Ø	D2	D3	D4	L1	L2	L3	L4 min.	H1	H2
VMEF-K-M52-...G18	20	8	10	8	17	G1/8	16.5	4.4	52.4	28	6	40	143.5	82.6
VMEF-K-M52-...G14						G1/4	22						160	99.1

Type	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	W1
VMEF-K-M52-...G18	49.9	30.3	31.1	18	61	6.7	4.5	11.2	40.1	23.1	40.1	57.1	7	30°
VMEF-K-M52-...G14	62.1	34.5	36.2	24.3					48.3	25.9	48.3	70.8		

If required, actuator attachments VAOM-R4-20-... can be used as spare parts for existing directly actuated roller lever valves. → page 28

Using the mounting kit VAME-R4-20-PA, the valve can be moved in the actuation direction. This enables the correct switching point to be set. → page 33

 Note

When screwing the actuator attachment VAOM-R4-20-... onto the valve, ensure that the prescribed torque of 1.5 Nm ± 10% is observed.

Data sheet – Roller lever valve

Ordering data					
Type of control	Reset	Flow rate [l/min]	Weight [g]	Part no.	Type
3/2-way valves					
Direct	Mechanical	750	227	8049241	VMEF-KT-M32-M-G18
		870	218	8047103	VMEF-KT-M32-M-G14
5/2-way valves					
Direct	Mechanical	750	255	8049240	VMEF-K-M52-M-G18
		1200	286	8047102	VMEF-K-M52-M-G14

Data sheet – Actuator attachments

Actuator attachments as replacement or extension option for directly actuated stem actuated valves:

- Roller lever
- Roller lever with idle return



General technical data		
Type	VAOM-R4-20-D1-...	VAOM-R4-20-D2-...
Version	Roller lever	Roller lever with idle return
Width [mm]	20	
Type of control	Directly actuated	
Actuation	Mechanical	
Mounting position	Screwed onto valve, in the movement plane	
Mounting	Screwed with self-tapping screws	
Ambient temperature [°C]	–10 ... +60	
Materials		
Actuator attachment	Galvanised steel	
Note on materials	RoHS-compliant	
Corrosion resistance CRC ¹⁾	1	

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Actuator attachments for valves

With the actuator attachments VAOM, it is possible to extend stem actuated valves from the series VMEF. If an actuator attachment VAOM is screwed onto the corresponding stem actuated valve from the series VMEF, it creates a roller lever or roller lever valve with idle return.

- Roller lever valves can be actuated by a cam from either side, i.e. from the left (forwards movement) or from the right (backwards movement).
- Roller lever valves with idle return can only be actuated by a cam from one side, i.e. only in one direction (forwards movement). If control is applied from the other direction (backwards movement), the valve is not actuated.

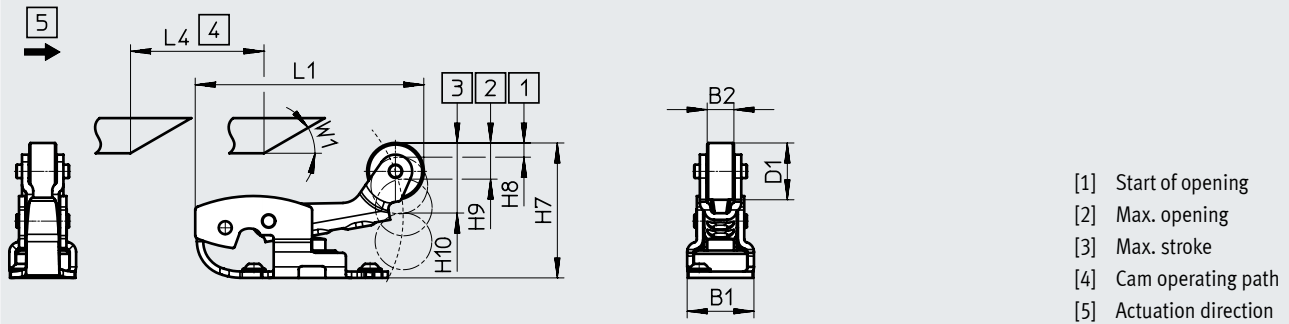
The actuator attachment VAOM can also be used to replace mechanically worn attachments for roller lever or roller lever valves with idle return.

Data sheet – Actuator attachments

Dimensions

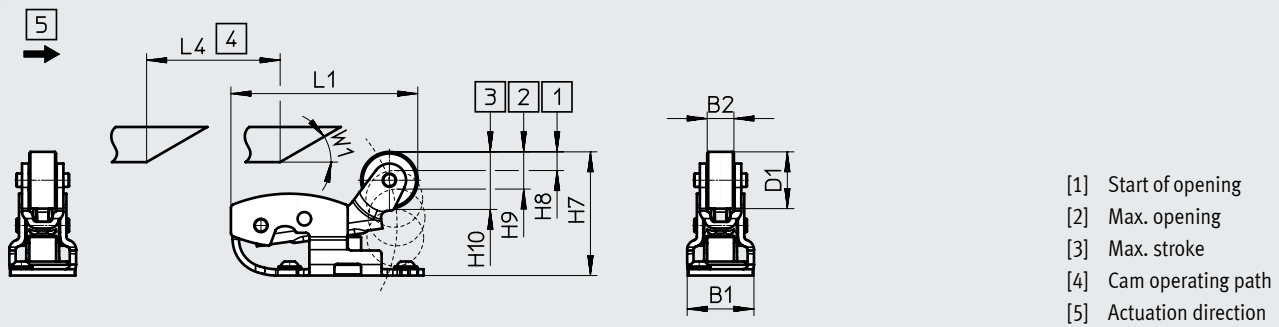
Download CAD data → www.festo.com

Roller lever for 3/2-way valves



Type	B1	B2	D1 Ø	L1	L4 min.	H7 ±0.1	H8 ±0.1	H9 ±0.1	H10 ±0.1	W1
VAOM-R4-20-D1-32	20	8	17	68.5	40	36.9	2.9	2.9	6.3	30°

Roller lever for 5/2-way valves



Type	B1	B2	D1 Ø	L1	L4 min.	H7 ±0.2	H8 ±0.3	H9 ±0.2	H10 ±0.1	W1
VAOM-R4-20-D1-52	20	8	17	56	40	37	7.3	7.6	11.6	30°

Data sheet – Actuator attachments

Dimensions

Download CAD data → www.festo.com

Roller lever with idle return for 3/2-way valves

[1] Start of opening

[2] Max. opening

[3] Max. stroke

[4] Cam operating path

[5] Actuation direction

Type	B1	B2	D1 Ø	L1	L4 min.	H7 ±0.2	H8 ±0.2	H9 ±0.2	H10 ±0.1	W1
VAOM-R4-20-D2-32	20	8	17	65.6	40	62.2	5.9	5.8	11.1	30°

Roller lever with idle return for 5/2-way valves

[1] Start of opening

[2] Max. opening

[3] Max. stroke

[4] Cam operating path

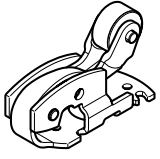
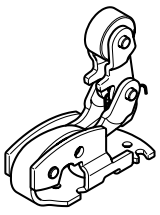
[5] Actuation direction

Type	B1	B2	D1 Ø	L1	L4 min.	H7 ±0.1	H8 ±0.3	H9 ±0.3	H10 ±0.1	W1
VAOM-R4-20-D2-52	20	8	17	52.4	40	60.9	7.4	7.7	11.8	30°

Note

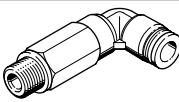
- When screwing the actuator attachment VAOM-R4-20-... onto the valve, ensure that the prescribed torque of 1.5 Nm ± 10% is observed.
- An actuator attachment VAOM-R4-20-... can only be mounted on a directly actuated basic valve three times.

Data sheet – Actuator attachments

Ordering data				
	Description	Part no.	Type	PU ¹⁾
Roller lever				
	For 3/2-way valves, with mounting screws	8049235	VAOM-R4-20-D1-32	1
	For 5/2-way valves, with retaining screws	8049233	VAOM-R4-20-D1-52	1
Roller lever with idle return				
	For 3/2-way valves, with mounting screws	8049237	VAOM-R4-20-D2-32	1
	For 5/2-way valves, with retaining screws	8049236	VAOM-R4-20-D2-52	1

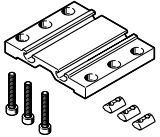
1) Packaging unit

Accessories

Ordering data				Part no.	Type	PU ¹⁾
Description						
Push-in fitting, straight						
	With internal hex	Connecting thread M5 for tubing O.D.	4 mm	153315	QSM-M5-4-I	10
		Connecting thread G1/8 for tubing O.D.	4 mm	186106	QS-G1/8-4-I	10
				133008	QS-G1/8-4-I-100	100
			6 mm	186107	QS-G1/8-6-I	10
				133009	QS-G1/8-6-I-100	100
			8 mm	186109	QS-G1/8-8-I	10
			133010	QS-G1/8-8-I-100	100	
		Connecting thread G1/4 for tubing O.D.	6 mm	186108	QS-G1/4-6-I	10
			8 mm	186110	QS-G1/4-8-I	10
			10 mm	186112	QS-G1/4-10-I	10
	With external hex	Connecting thread M5 for tubing O.D.	3 mm	153302	QSM-M5-3	10
			4 mm	153304	QSM-M5-4	10
			6 mm	153306	QSM-M5-6	10
		Connecting thread G1/8 for tubing O.D.	4 mm	186095	QS-G1/8-4	10
			6 mm	186096	QS-G1/8-6	10
		Connecting thread G1/4 for tubing O.D.	6 mm	186097	QS-G1/4-6	10
			8 mm	186099	QS-G1/4-8	10
			10 mm	186101	QS-G1/4-10	10
			12 mm	186350	QS-G1/4-12	10
		Push-in fitting, angled				
	With external hex	Connecting thread G1/8 for tubing O.D.	4 mm	186116	QSL-G1/8-4	10
				132048	QSL-G1/8-4-100	100
			6 mm	186117	QSL-G1/8-6	10
				132049	QSL-G1/8-6-100	100
			8 mm	186119	QSL-G1/8-8	10
			132050	QSL-G1/8-8-50	50	
		Connecting thread G1/4 for tubing O.D.	8 mm	186120	QSL-G1/4-8	10
				132052	QSL-G1/4-8-50	50
			10 mm	186122	QSL-G1/4-10	10
				132053	QSL-G1/4-10-50	50
12 mm	186351		QSL-G1/4-12	10		
	132054	QSL-G1/4-12-20	20			
Push-in fitting, angled, long						
	With external hex	Connecting thread G1/8 for tubing O.D.	4 mm	186127	QSL-G1/8-4	10
				133015	QSL-G1/8-4-100	100
			6 mm	186128	QSL-G1/8-6	10
				133016	QSL-G1/8-6-100	100
			8 mm	186130	QSL-G1/8-8	10
				133017	QSL-G1/8-8-100	100
Silencer						
	Polymer design	With connecting thread	G1/8	2307	U-1/8	1
				534222	U-1/8-50	50
			G1/4	2316	U-1/4	1
				534223	U-1/4-20	20
	Metal version	With connecting thread	G1/8	6841	U-1/8-B	1
			G1/4	6842	U-1/4-B	1

1) Packaging unit

Accessories

Ordering data	Description	Part no.	Type
Mounting kit for switching point adjustment			
	Mounting kit set for valves VMEF comprising: • 1x mounting plate 60 x 70 mm • 3x socket head screws to ISO 4762 M4x25 8.8 • 3x slot nuts	8060046	VAME-R4-20-PA