

Mechanically actuated valves VMEF, NPT

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

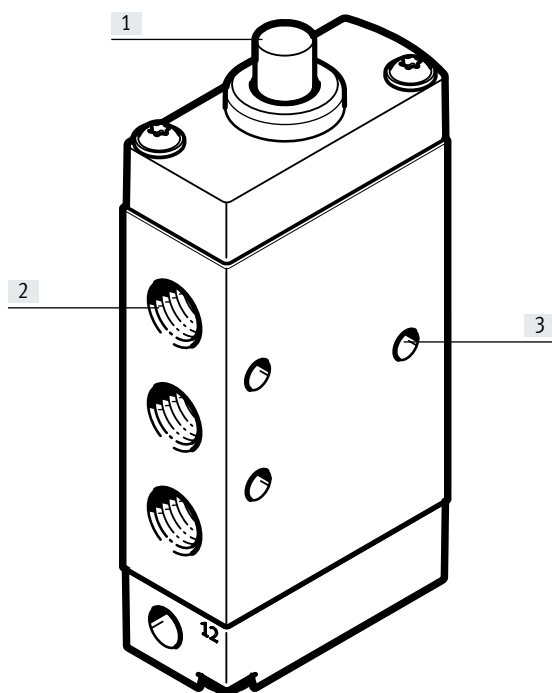
Reliable

- 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

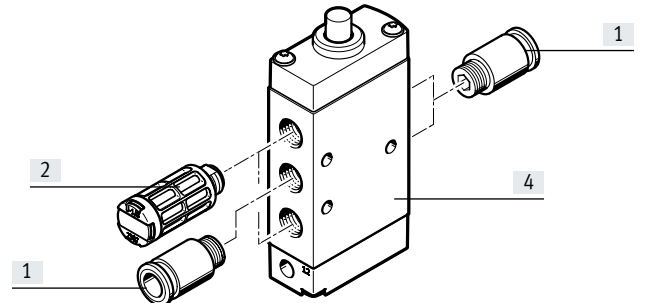
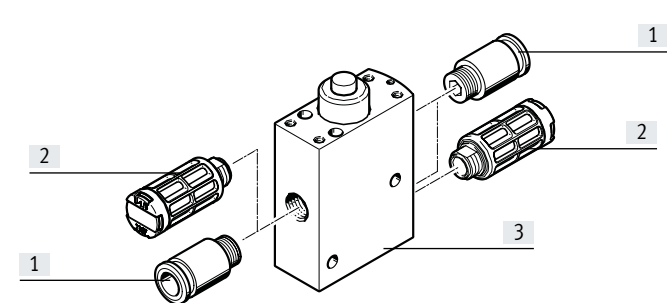
5/2-way valve, monostable

- Pneumatic spring/mechanical
spring
- Vacuum operation possible

- Reversible in some cases
- Pneumatically piloted
- Ducted exhaust air

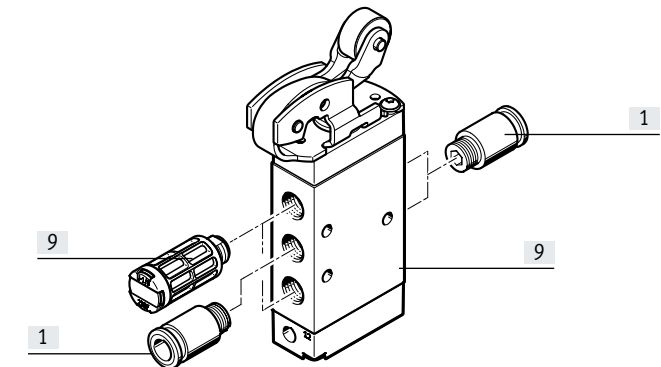
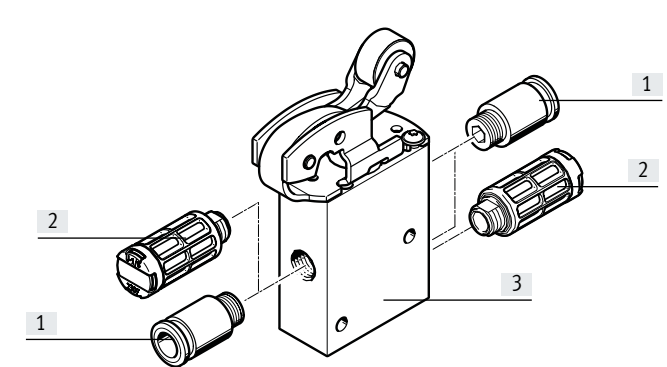
Peripherals overview

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)	29
[2]	Silencer	For exhaust ports (3, 5)	29
[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
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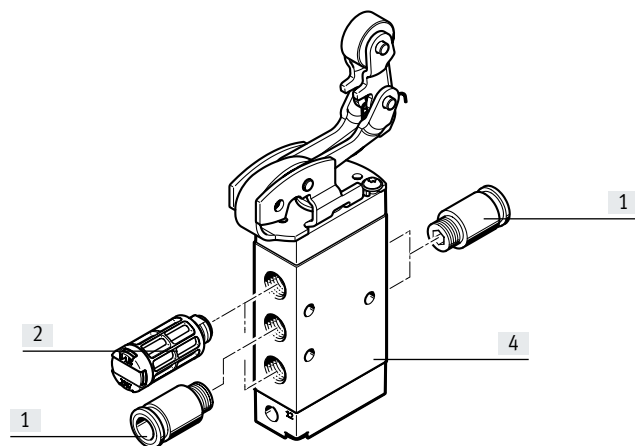
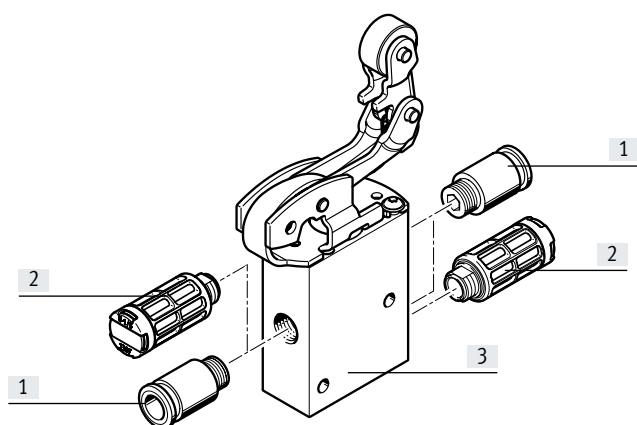
	Brief description		→ Page/Internet
[1]	Fitting	For supply air/exhaust ports (1, 3, 5) and working ports (2, 4)	29
[2]	Silencer	For exhaust ports (3, 5)	29
[3]	3/2-way valve	Stem actuated valve with roller lever attachment	17
[4]	5/2-way valve	Stem actuated valve with roller lever attachment	17

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)	29
[2]	Silencer	For exhaust ports (3, 5)	29
[3]	3/2-way valve	Stem actuated valve with roller lever attachment	21
[4]	5/2-way valve	Stem actuated valve with roller lever attachment	21

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.

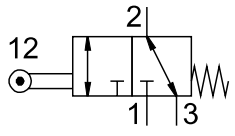
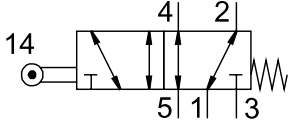
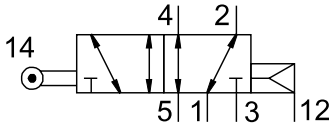
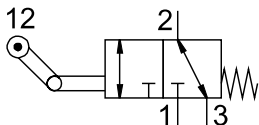
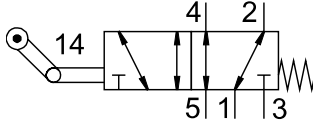
This application sounds simple; it is used in smaller machines and in conveyor systems e.g. to control simple clamping and locking processes in semi-automatic assembly and manufacturing.

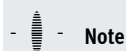
Benefits of mechanically actuated valves:

- 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 <ul style="list-style-type: none"> • Normally closed (1 → 2) • Normally open (3 → 2) • Mechanical spring return • Suitable for vacuum • Reversible
	VMEF-STC-M32-M-...	3/2-way valve, monostable <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Reset via (external) pneumatic spring • Suitable for vacuum • Reversible
	VMEF-S-M52-M-...	5/2-way valve, monostable <ul style="list-style-type: none"> • Mechanical spring return • Suitable for vacuum • Reversible
	VMEF-SCZ-M52-E-...	5/2-way valve, monostable <ul style="list-style-type: none"> • Pneumatically piloted, external pilot air • Pneumatic spring return • Suitable for vacuum • Reversible
	VMEF-SCZ-M52-M-...	5/2-way valve, monostable <ul style="list-style-type: none"> • Pneumatically piloted, external pilot air • Mechanical spring return • Suitable for vacuum • Reversible
	VMEF-SC-M52-M-...	5/2-way valve, monostable <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Mechanical spring return • Directly actuated • Suitable for vacuum • Reversible
	VMEF-R-M52-E-...	5/2-way valve, monostable <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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	

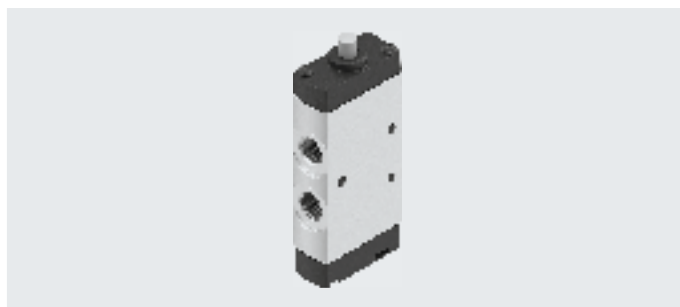
006	Valve function	
M32	3/2-way valve, normally closed or open	
M52	5/2-way valve, single solenoid/monostable	

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	750	870
	3 → 2 [l/min]	665	665	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	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT
Pilot air port 12/14	–	M5	–	M5
Pilot air supply	–	Internal or external	–	Internal or external
Nominal width [mm]	5.6	5.6	6.0	6.0
Actuating force at 6 bar				
• Normally closed [N]	46	14	46	14
• Normally open [N]	82	14	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	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT
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-SCZ-M52-E ... 18	VMEF-S...-M52-M ... 18	VMEF-SCZ-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	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT
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

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 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 NC valves [bar]	Internal 3.5 ... 10	External 3.0 ... 10	Internal 3.0 ... 10	External 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 NC valves [psi]	Internal 51 ... 145	External 44 ... 145	Internal 44 ... 145	External 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					

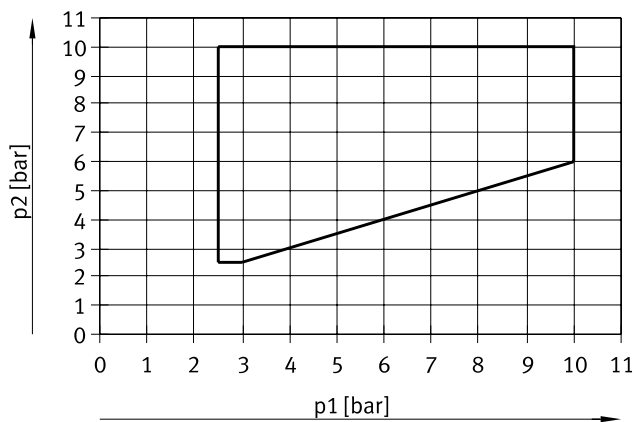
1) Corrosion resistance class CRC 2 to Festo standard FN 940070

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

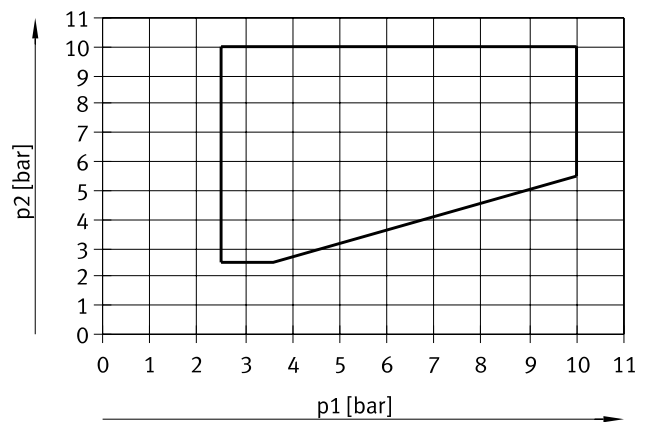
Pilot pressure p_2 as a function of external pneumatic spring pressure p_1

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

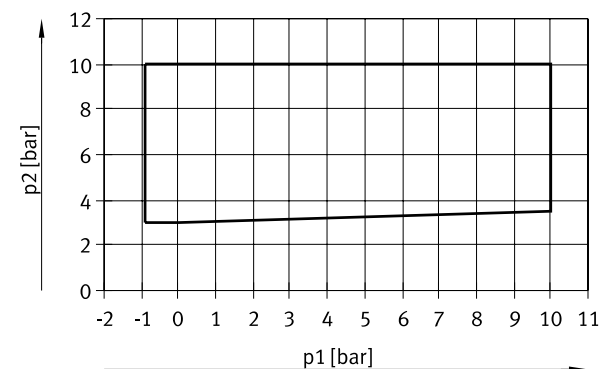


The framed area shows the operating area for internal and external pilot air.

Pilot pressure p_2 as a function of supply pressure p_1

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

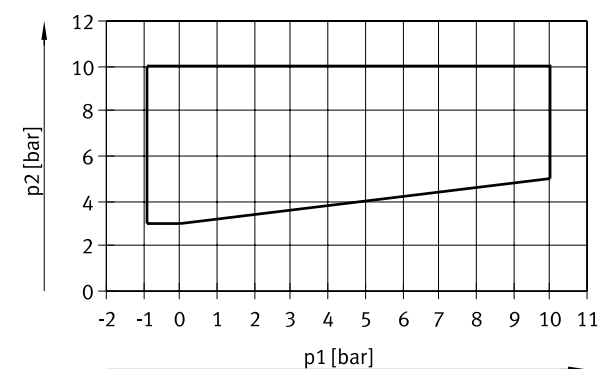
(normally closed)



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

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

(normally open)



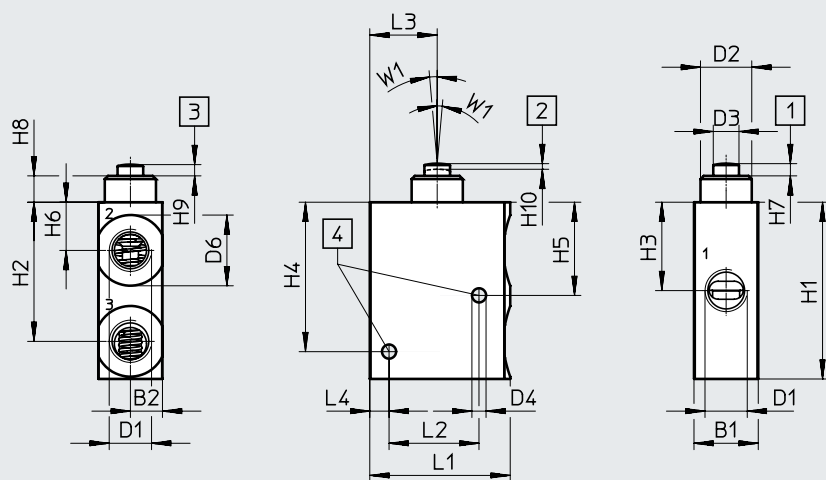
The framed area shows the operating range for external pilot air.

Data sheet – Stem actuated valve

Dimensions

Download CAD data → www.festo.com

3/2-way valve



- [1] Normal position
- [2] Start of opening
- [3] Maximum stroke
- [4] Mounting hole

Type	B1	B2	D1	D2 Ø	D3 Ø	D4 Ø	D6 Ø	L1	L2	L3	L4
VMEF-ST-M32-M-N18	20	10	1/8 NPT	16.0	8.0	4.4	16.5	43.7	28	21	6
VMEF-ST-M32-M-N14			1/4 NPT				22				

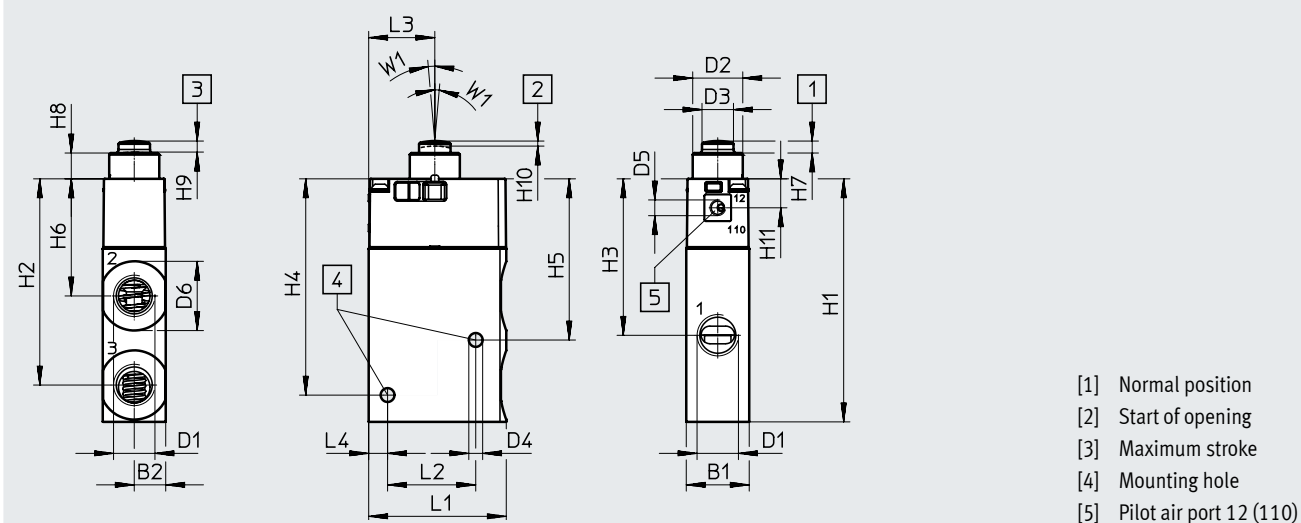
Type	H1	H2	H3	H4	H5	H6	H7 ±0.2	H8	H9 ±0.3	H10 ±0.3	W1
VMEF-ST-M32-M-N18	55	43.3	27.5	46.5	29	15	3.8	8.2	3.5	1.8	5°
VMEF-ST-M32-M-N14											

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
VMF-STC-M32-M-N18	20	10	1/8 NPT	15.9	10	4.4	-	16.5	43.7	28	21	6
VMF-STC-M32-M-N14			1/4 NPT					22				
VMF-STCZ-M32-M-N18			1/8 NPT				M5	16.5				
VMF-STCZ-M32-M-N14			1/4 NPT					22				

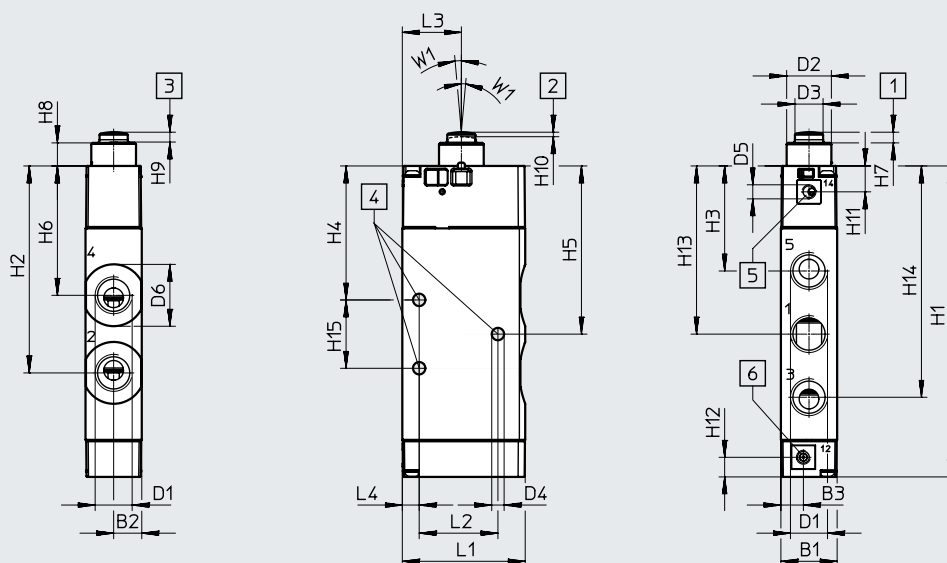
Type	H1	H2	H3	H4	H5	H6	H7 ±0.15	H8	H9 ±0.15	H10 ±0.4	H11	W1
VMF-STC-M32-M-N18	77.2	65.5	49.7	68.7	51.2	37.2	3.8	8.2	3.5	1.6	9.2	5°
VMF-STC-M32-M-N14												
VMF-STCZ-M32-M-N18												
VMF-STCZ-M32-M-N14												

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

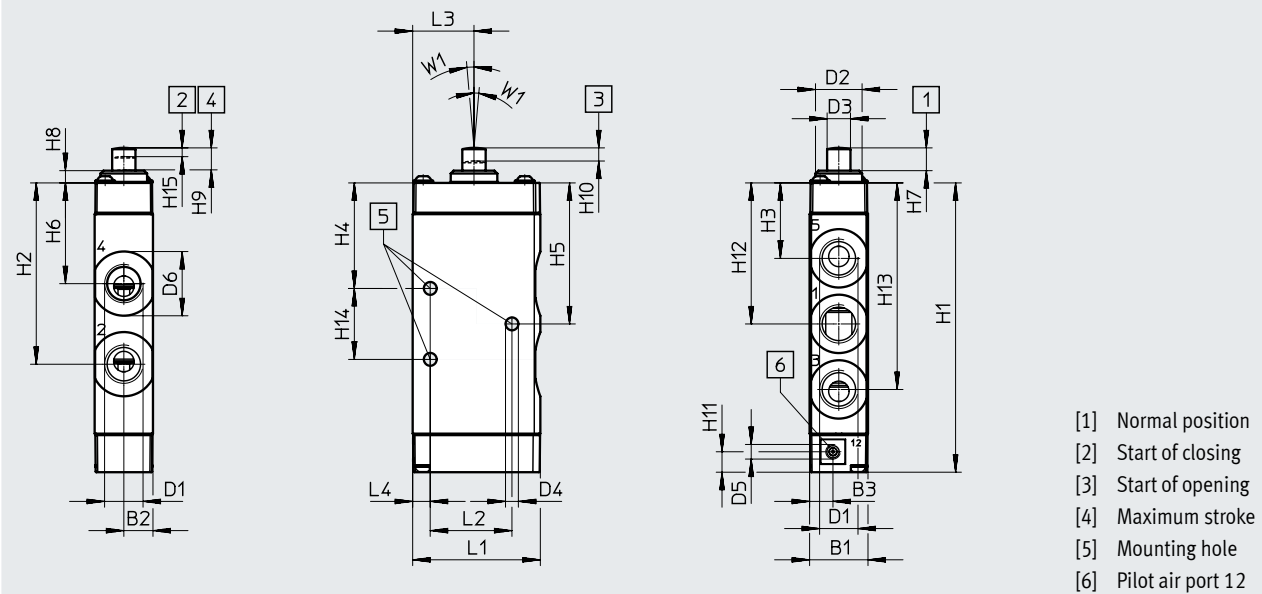
Type	B1	B2	B3	D1	D2 ø	D3 ø	D4 ø	D5	D6 ø	L1	L2	L3	L4
VMEF-SC-M52-M-N18	20	10	8	1/8 NPT	15.9	10	4.4	–	16.5	43.7	28	21	6
VMEF-SCZ-M52-M-N18				1/8 NPT				M5					
VMEF-SCZ-M52-E-N18				1/8 NPT									
VMEF-SC-M52-M-N14				1/4 NPT				–	22				
VMEF-SCZ-M52-M-N14				1/4 NPT				M5					
VMEF-SCZ-M52-E-N14				1/4 NPT									

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-N18	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-N18																
VMEF-SCZ-M52-E-N18																
VMEF-SC-M52-M-N14	110.6	73.6	37.4	47.7	59.8	46							59.8	82.3	24.3	
VMEF-SCZ-M52-M-N14																
VMEF-SCZ-M52-E-N14																

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			
VMEFS-M52-M-N18	20	10	8	1/8 NPT	16	8	4.4	–	16.5	43.7	28	21	6	82.6	49.9			
VMEFS-M52-E-N18				1/4 NPT				M5						99.1	62.1			
VMEFS-M52-M-N14								–	22									
VMEFS-M52-E-N14								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-N18	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-N18														
VMEF-S-M52-M-N14	25.9	36.2	48.3	34.5				4.5		48.3	70.8	24.3		
VMEF-S-M52-E-N14														

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 25

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 29




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 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	8031305	VMEF-ST-M32-M-N18
			870	110	8031310	VMEF-ST-M32-M-N14
Piloted	Internal	Mechanical	750	131	8031333	VMEF-STC-M32-M-N18
			870	124	8031334	VMEF-STC-M32-M-N14
	External	Mechanical	750	131	8031337	VMEF-STCZ-M32-M-N18
			870	124	8031338	VMEF-STCZ-M32-M-N14
5/2-way valves						
Direct	–	Mechanical	750	145	8031307	VMEF-S-M52-M-N18
		Pneumatic	750	144	8031309	VMEF-S-M52-E-N18
		Mechanical	1200	178	8031312	VMEF-S-M52-M-N14
		Pneumatic	1200	177	8031314	VMEF-S-M52-E-N14
Piloted	Internal	Mechanical	1200	184	8031321	VMEF-SC-M52-M-N14
			750	151	8031322	VMEF-SC-M52-M-N18
	External	Pneumatic	1200	183	8031325	VMEF-SCZ-M52-E-N14
			750	150	8031326	VMEF-SCZ-M52-E-N18
		Mechanical	1200	184	8031329	VMEF-SCZ-M52-M-N14
			750	151	8031330	VMEF-SCZ-M52-M-N18

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	1/8 NPT	1/4 NPT
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	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT
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 (VMF...-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 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

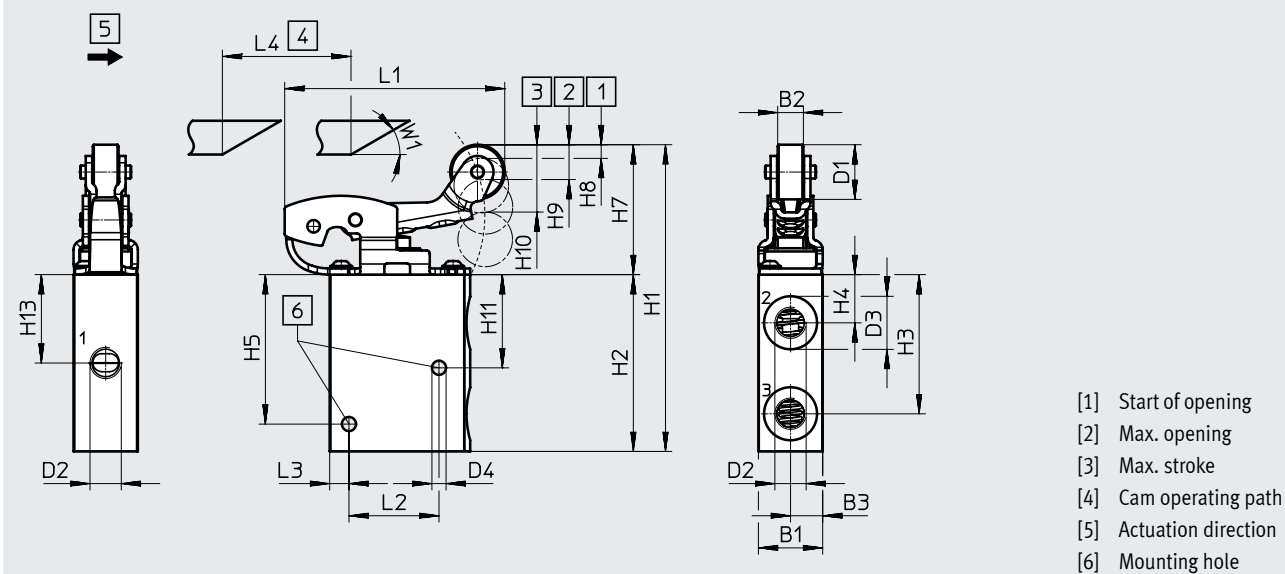
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

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-RT-M32-M-N18	20	8	10	17	1/8 NPT	16.5	4.4	68.5	28	6	40
VMEF-RT-M32-M-N14					1/4 NPT	22					

Type	H1	H2	H3	H4	H5	H7	H8	H9	H10	H11	H13	W1
VMEF-RT-M32-M-N18	91.9	55	43.3	15	46.5	39	5.3	6.3	10.2	29	27.5	30°
VMEF-RT-M32-M-N14												

Note

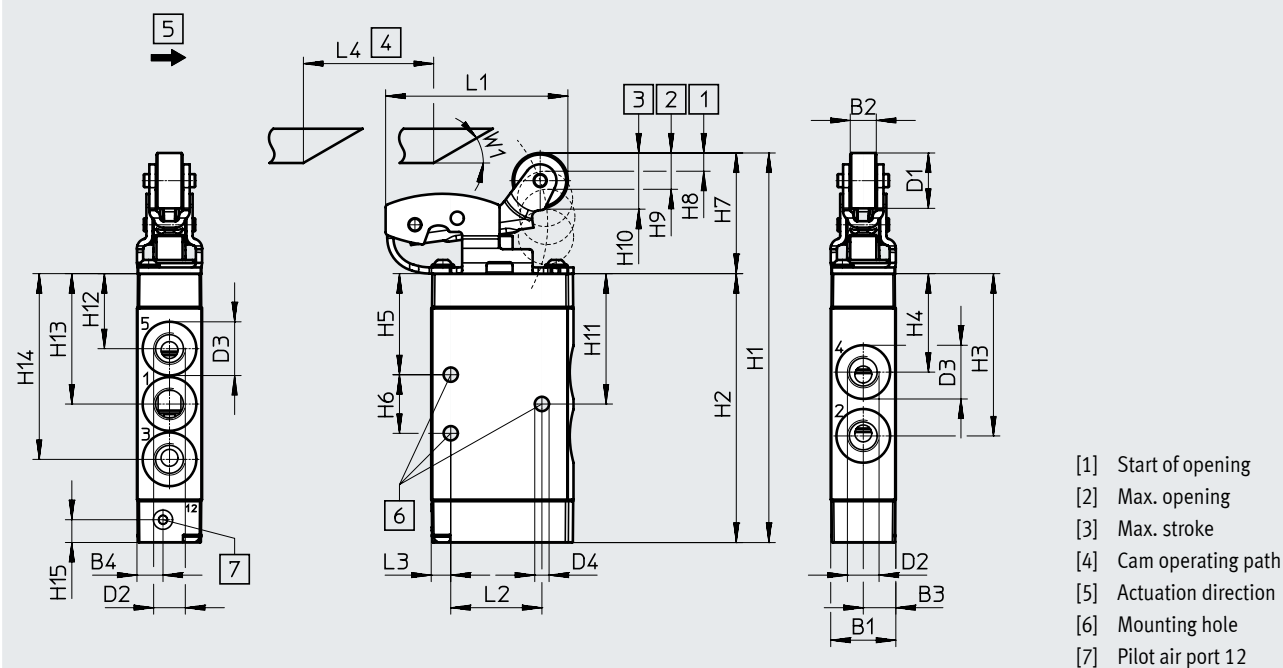
Roller lever valves can be actuated by a cam from either side, i.e. from the left (forwards movement) or from the right (backwards movement).

Data sheet – Roller lever valve

Dimensions

Download CAD data → www.festo.com

5/2-way valve

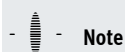


Type	B1	B2	B3	B4	D1 Ø	D2	D3	D4	L1	L2	L3	L4 min.	H1	H2
VMEF-R-M52-...N18	20	8	10	8	17	1/8 NPT	16.5	4.4	56	28	6	40	119.6	82.6
VMEF-R-M52-...N14						1/4 NPT	22						136.1	99.1

Type	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	W1
VMEF-R-M52-...N18	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-...N14	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 25

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 29






Note

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

Ordering data

Type of control	Reset	Flow rate [l/min]	Weight [g]	Part no.	Type
3/2-way valves					
Direct	Mechanical	750	209	8047098	VMEF-RT-M32-M-N18
	Mechanical	870	204	8047101	VMEF-RT-M32-M-N14
5/2-way valves					
Direct	Pneumatic	750	240	8047096	VMEF-R-M52-E-N18
	Mechanical	750	240	8047097	VMEF-R-M52-M-N18
	Pneumatic	1200	272	8047099	VMEF-R-M52-E-N14
	Mechanical	1200	272	8047100	VMEF-R-M52-M-N14

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
Valve function	3/2-way valve, monostable	
Overlap	Zero overlap	
Reset method	Mechanical spring	
Pneumatic connection 1, 2, 3	1/8 NPT	1/4 NPT
Nominal width	[mm]	5.6
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
Valve function	5/2-way valve, monostable	
Overlap	Positive overlap	
Reset method	Mechanical spring	
Pneumatic connection 1, 2, 3	1/8 NPT	1/4 NPT
Nominal width	[mm]	5.2
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 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

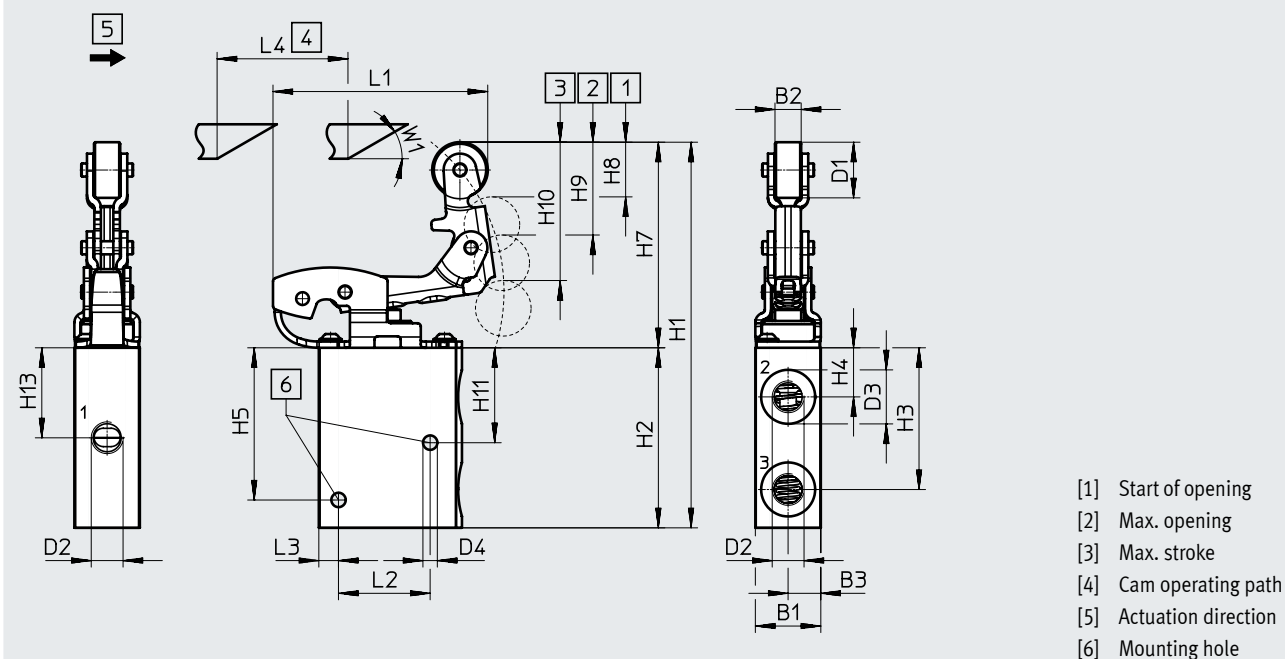
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Data sheet – Roller lever valve

Dimensions

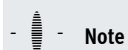
Download CAD data → www.festo.com

3/2-way valve



Type	B1	B2	B3	D1 Ø	D2	D3	D4 Ø	L1	L2	L3	L4 min.
VMEF-KT-M32-M-N18	20	8	10	17	1/8 NPT	16.5	4.4	65.6	28	6	40
VMEF-KT-M32-M-N14					1/4 NPT	22					

Type	H1	H2	H3	H4	H5	H7	H8	H9	H10	H11	H13	W1
VMEF-KT-M32-M-N18	117.2	55	43.3	15	46.5	63	5	5.5	10.9	29	27.5	30°
VMEF-KT-M32-M-N14												

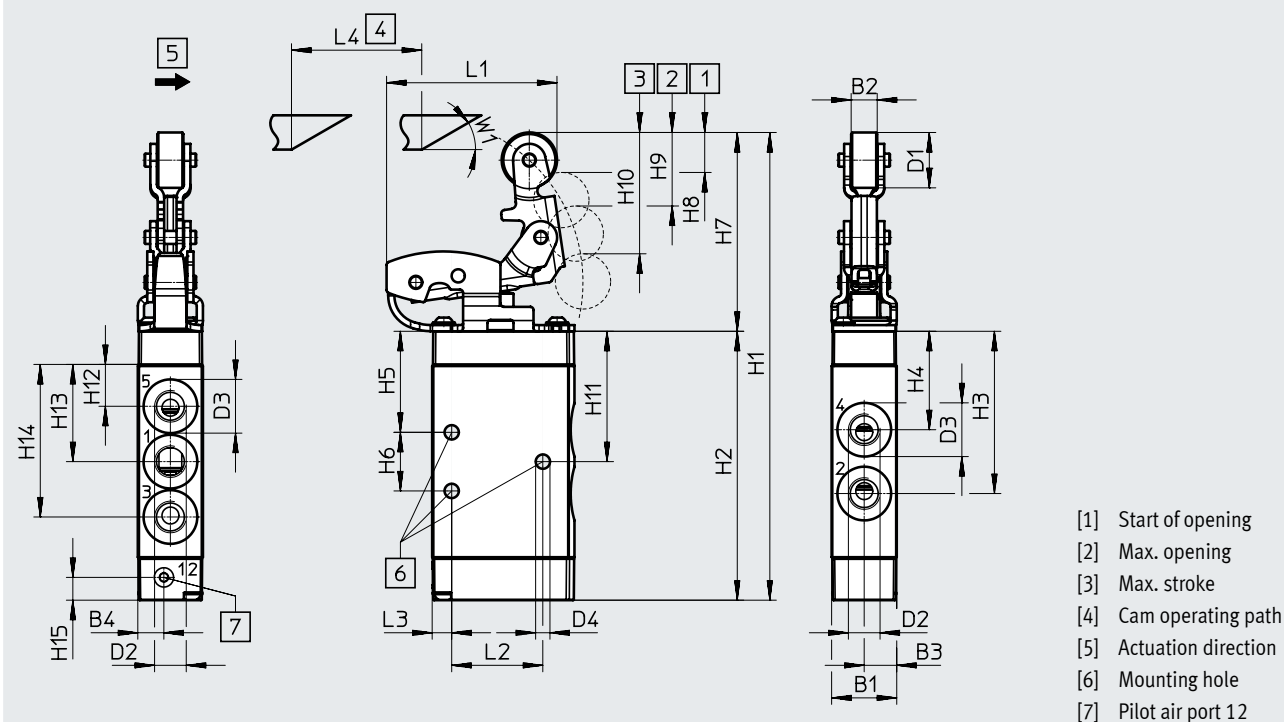
**Note**

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

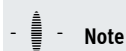
Download CAD data → www.festo.com

Type	B1	B2	B3	B4	D1 Ø	D2	D3	D4	L1	L2	L3	L4 min.	H1	H2
VMEF-K-M52-...N18	20	8	10	8	17	1/8 NPT	16.5	4.4	52.4	28	6	40	143.5	82.6
VMEF-K-M52-...N14						1/4 NPT	22						160	99.1

Type	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	W1
VMEF-K-M52-...N18	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-...N14	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 25

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 29

**Note**

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

Ordering data

Type of control	Reset	Flow rate [l/min]	Weight [g]	Part no.	Type
3/2-way valves					
Direct	Mechanical	750	227	8047105	VMEF-KT-M32-M-N18
		870	218	8047107	VMEF-KT-M32-M-N14
5/2-way valves					
Direct	Mechanical	750	255	8047104	VMEF-K-M52-M-N18
		1200	286	8047106	VMEF-K-M52-M-N14

Data sheet – Actuator attachments

Actuator attachments as replacement or extension option for 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.

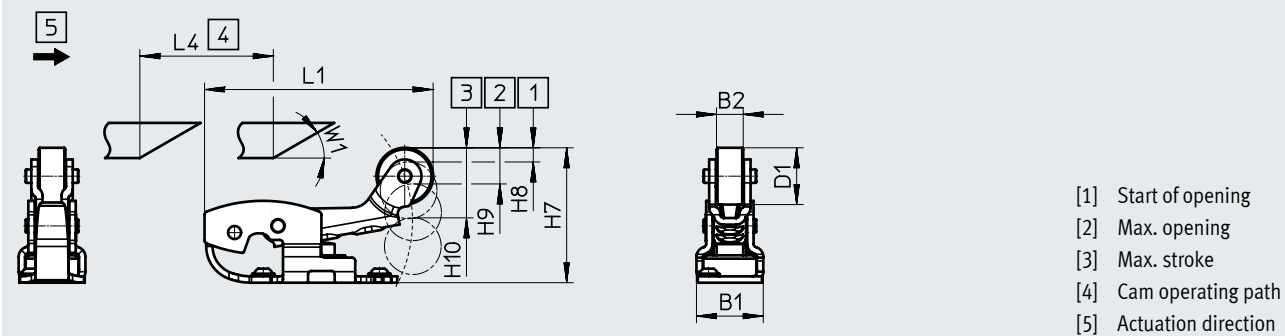
- Roller lever valves can be actuated by a cam from either side, i.e. from the left (forwards movement) or from the right (backwards movement).
- Roller lever valves with idle return can only be actuated by a cam from one side, i.e. only in one direction (forwards movement). If control is applied from 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

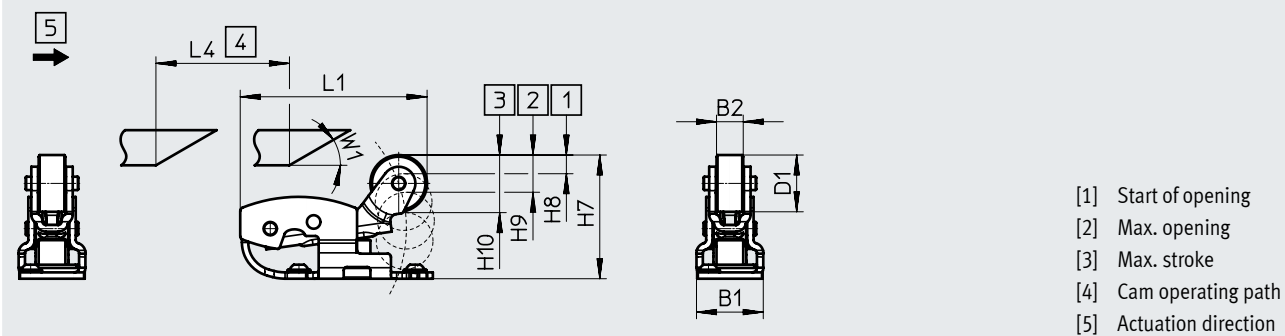
Dimensions Download CAD data → www.festo.com

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



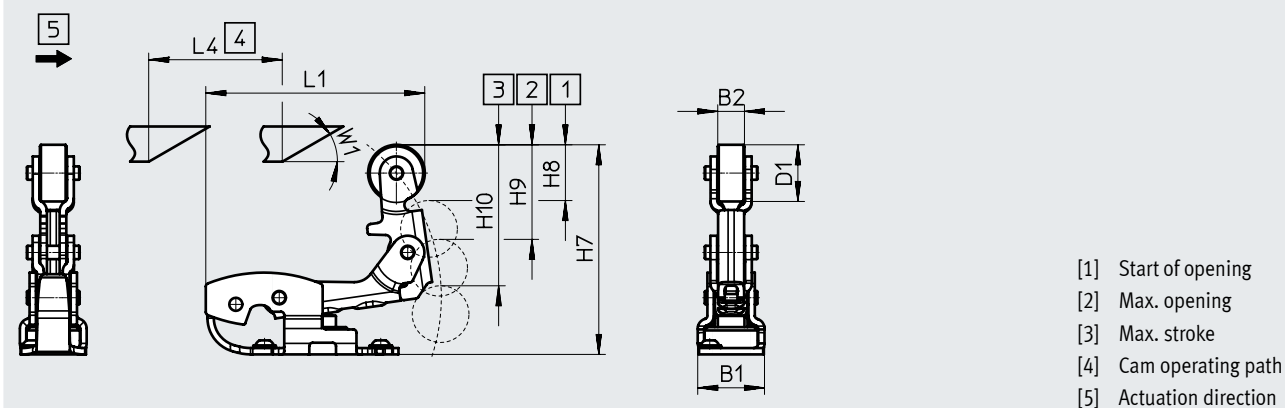
Type	B1	B2	D1 Ø	L1	L4 min.	H7 ±0.2	H8 ±0.3	H9 ±0.2	H10 ±0.1	W1
VAOM-R4-20-D1-52	20	8	17	56	40	37	7.3	7.6	11.6	30°

Data sheet – Actuator attachments

Dimensions

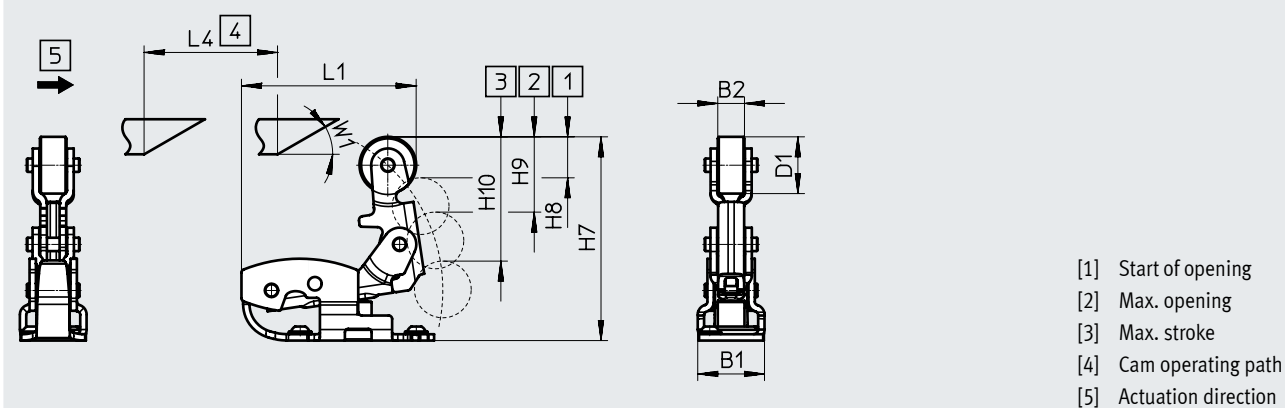
Download CAD data → www.festo.com

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



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

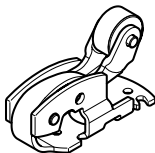
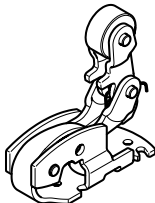


Type	B1	B2	D1 Ø	L1	L4 min.	H7 ±0.1	H8 ±0.3	H9 ±0.3	H10 ±0.1	W1
VAOM-R4-20-D2-52	20	8	17	52.4	40	60.9	7.4	7.7	11.8	30°

Note


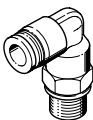
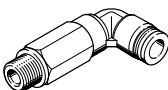
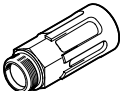
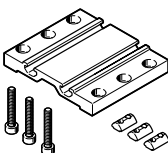
- When screwing the actuator attachment VAOM-R4-20-... onto the valve, ensure that the prescribed torque of 1.5 Nm ± 10% is observed.
- An actuator attachment VAOM-R4-20-... can only be mounted on a basic valve three times.

Data sheet – Actuator attachments

Ordering data		Description	Part no.	Type	PU ¹⁾
Roller lever					
	For 3/2-way valves, with retaining 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 retaining 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		Description		Part no.	Type	PU ¹⁾
Push-in fitting, straight						
	With internal hex	Connecting thread 10-32 UNF for tubing O.D.	5/32"	572312	QBM-10-32-UNF-5/32-I-U	10
		Connecting thread 1-8 NPT for tubing O.D.	5/32"	572317	QB-1/8-5/32-I-U	10
			1/4"	572318	QB-1/8-1/4-I-U	10
			5/16"	572319	QB-1/8-5/16-I-U	10
		Connecting thread 1-4 NPT for tubing O.D.	5/16"	572321	QB-1/4-5/16-I-U	10
			3/8"	572322	QB-1/4-3/8-I-U	10
			1/2"	567771	QB-1/4-1/2-U	10
Push-in fitting, angled						
	With external hex	Connecting thread 1-8 NPT for tubing O.D.	5/32"	533290	QBL-1/8-5/32-U	10
			1/4"	533292	QBL-1/8-1/4-U	10
			5/16"	533293	QBL-1/8-5/16-U	10
		Connecting thread 1-4 NPT for tubing O.D.	5/16"	533296	QBL-1/4-5/16-U	10
			3/8"	533297	QBL-1/4-3/8-U	5
			1/2"	567775	QBL-1/4-1/2-U	5
Push-in fitting, angled, long						
	With external hex	Connecting thread 1-8 NPT for tubing O.D.	5/32"	564668	QBLL-1/8-5/32-U	10
			1/4"	564670	QBLL-1/8-1/4-U	10
			5/16"	564671	QBLL-1/8-5/16-U	10
Silencer						
	Metal version	With connecting thread	1/8 NPT	12638	U-1/8-B-NPT	1
			1/4 NPT	12639	U-1/4-B-NPT	1
Mounting kit for switching point adjustment						
	Mounting kit set for valves VMEF comprising:			8060046	VAME-R4-20-PA	
	<ul style="list-style-type: none">• 1x mounting plate 60 x 70 mm• 3x socket head screws to ISO 4762 M4x25 8.8• 3x slot nuts					

1) Packaging unit